

Performance Review

University of Guelph Pension Plans

4th Quarter 2018

Prepared by:

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Pension Plans Results Overview

(Net of fees returns for the 12 months ended December 31st, 2018)

The Total Plan lost 1.3% over the last 12 months, underperforming the composite benchmark by 0.9%.

Canadian Equity

- The Canadian equity portfolio underperformed the S&P/TSX index return by 1.3% over the past year.
- Burgundy outperformed the S&P/TSX index by 0.3% while CC&L and Sionna underperformed the index by 1.3% and 0.8% respectively.
- The plan's Canadian small cap manager (Sionna) outperformed the BMO Small Cap index by 2.8% over the last year. The BMO Small Cap index returned -18.2% versus -8.9% for the S&P/TSX Capped index.

Global/Non-North American Equity

- In Canadian dollars, non-North American equities in developed markets outperformed Canada (-8.9%) and underperformed the U.S. (4.2%) with a return of -5.6%.
- LSV lagged the MSCI EAFE index by 3.9% while Tweedy Browne beat the benchmark by 3.7%. As a result, the plan's Non-North American equity underperformance during the past year was 0.2%.
- Global equities, as measured by the MSCI World ex-Canada index, returned 0.4% over the last year. The pension plan's only Global equity manager, Acadian, beat the index 1-year return by 0.8%.

U.S. Equity

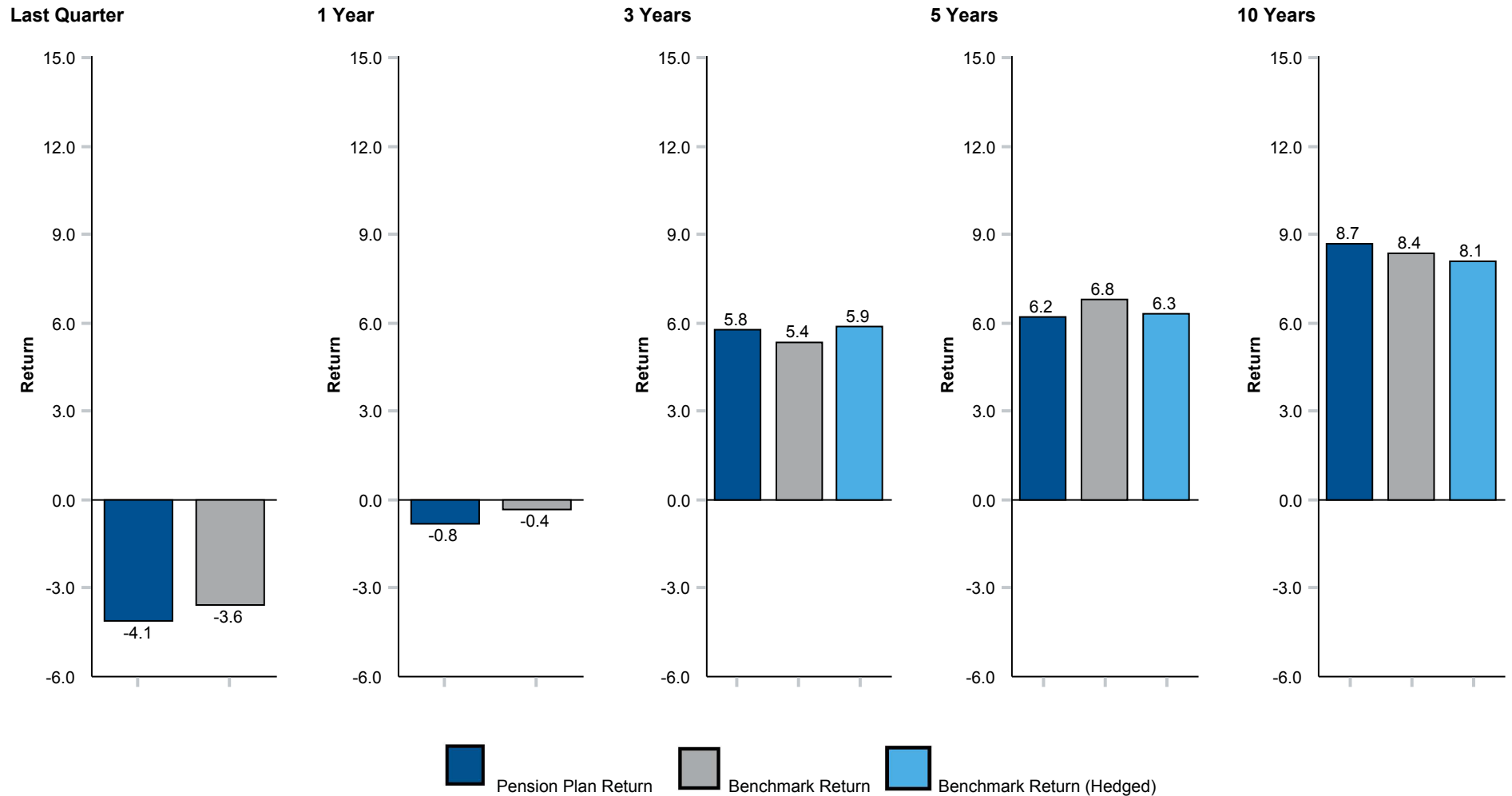
- U.S. large caps, as measured by the S&P 500, returned 4.2% in Canadian dollar terms over the last year.
- The plan's U.S. equity investments (including U.S. small- and mid-caps) generated a return of -3.0%, underperforming the S&P 500 by 7.2%.
- The plan's large cap manager (Barrow) beat the Russell 1000 Value index by 2.4%. The mid-cap portfolio managed by Wedge underperformed by 4.1% versus its index and the firm's small-cap strategy lagged the Russell 2000 Value Index by 2.4%.

Fixed Income

- The total fixed income portfolio outperformed its benchmark by 0.8%.
- Both CIBC Long-Term and Short-Term Bond strategies matched their benchmarks returns over the last year, while the Mortgage and Global High Yield Bonds mandates outperformed their indices by 2.1% and 1.5% respectively.
- The real estate portfolio managed by Greystone beat its index by 1.0%, while the new infrastructure investment managed by Brookfield beat its index by 9.8%. Short-term returns should be interpreted with caution due to the long-term nature and illiquidity of infrastructure investments.

Total Pension Portfolio Vs Composite Benchmark

As of December 31, 2018 (Gross of Fees, Annualized for Periods over 1 Year)



Returns are presented gross of fees in CAD. Current Composite Benchmark: 9.7% S&P/TSX Comp Capped + 17.4% MSCI EAFE Net (\$CAD) + 16.7% S&P 500 (\$CAD) + 7.5% MSCI EM Net (\$CAD) + 12.3% FTSE TMX ST Bond Index + 17.2% FTSE TMX LT Bond Index + 7.5% Barclays Global High Yield Index Hedged to CAD + 4.8% IPD Canada Annual Property Index + 5% CPI+5% + 1.9% FTSE TMX 91 Day T-Bill. The Hedged Benchmark has the same composition as the Composite Benchmark, but all foreign indices are 50% hedged back to Canadian dollars from December 2011 to March 2017, 37.5% hedged from April to June 2017, 25% hedged from July to September 2017, 12.5% hedged from October to December 2017, 0% hedged since January 2018.

Asset Class Performance

As of December 31, 2018 (Gross of Fees)

	Allocation		Annualized Performance(%)					Annual Performance(%)				
	Market Value (\$)	% of portfolio	Quarter To Date	1 Year	3 Years	5 Years	10 Years	1 Year Ending Dec-2017	1 Year Ending Dec-2016	1 Year Ending Dec-2015	1 Year Ending Dec-2014	1 Year Ending Dec-2013
Canadian Equity	155,502,162	10.4	-11.4	-9.8	6.1	3.8	9.0	6.4	24.6	-9.0	10.6	21.9
S&P/TSX Composite Index			-10.1	-8.9	6.4	4.1	7.9	9.1	21.1	-8.3	10.6	13.0
<i>Relative Performance</i>			-1.3	-0.9	-0.3	-0.3	1.1	-2.7	3.5	-0.7	0.0	8.9
US Equity	193,476,629	13.0	-10.5	-2.5	6.0	11.6	14.0	8.4	12.8	15.9	25.3	43.7
S&P 500 Index (CAD)			-8.6	4.2	8.6	14.1	14.3	13.8	8.1	21.6	23.9	41.3
<i>Relative Performance</i>			-1.9	-6.7	-2.6	-2.5	-0.3	-5.4	4.7	-5.7	1.4	2.4
Non-North American Equity	226,903,129	15.2	-6.6	-5.0	3.8	6.8	10.3	16.5	1.1	18.5	4.9	32.5
MSCI EAFE Composite			-7.5	-5.6	2.8	6.2	7.9	17.3	-2.0	19.4	4.1	31.5
<i>Relative Performance</i>			0.9	0.6	1.0	0.6	2.4	-0.8	3.1	-0.9	0.8	1.0
Global Equity	112,790,601	7.6	-9.6	1.9	7.2	11.6	11.9	17.2	3.2	19.0	17.9	37.9
MSCI World Ex Canada			-8.3	0.4	6.3	10.8	11.6	15.2	3.9	20.7	15.2	37.0
<i>Relative Performance</i>			-1.3	1.5	0.9	0.8	0.3	2.0	-0.7	-1.7	2.7	0.9
Emerging Market Equity	100,049,167	6.7	-2.2	--	--	--	--	--	--	--	--	--
MSCI Emerging Markets Index			-2.2	-6.5	9.0	7.3	9.5	28.7	7.7	2.4	7.0	4.3
<i>Relative Performance</i>			0.0	--	--	--	--	--	--	--	--	--
Fixed Income	538,980,960	36.1	1.0	0.9	2.1	3.7	4.3	4.5	0.9	3.6	8.8	-1.1
Fixed Income Benchmark			0.6	0.0	2.0	3.6	4.2	4.7	1.3	3.5	8.8	-1.2
<i>Relative Performance</i>			0.4	0.9	0.1	0.1	0.1	-0.2	-0.4	0.1	0.0	0.1
Real Estate	78,135,219	5.2	1.4	8.7	9.0	7.9	--	10.6	7.7	6.3	6.3	11.7
IPD Canadian Property Index			1.5	6.7	6.6	6.9	8.7	7.2	6.0	7.8	7.0	10.6
<i>Relative Performance</i>			-0.1	2.0	2.4	1.0	--	3.4	1.7	-1.5	-0.7	1.1
Infrastructure	49,186,571	3.3	5.1	21.4	--	--	--	2.1	--	--	--	--
CPI + 5%			0.6	6.6	6.7	6.6	6.6	6.9	6.5	6.6	6.5	5.7
<i>Relative Performance</i>			4.5	14.8	--	--	--	-4.8	--	--	--	--

All returns are reported gross of fees in CAD except for the Total Pension Plan where returns are displayed both net and gross of fees.

EAFE Stands for Europe, Australasia and Far East. The IPD Canadian Property Index is published quarterly with a 2-month lag, it is approximated by CIBC Mellon.

Asset Class Performance

As of December 31, 2018 (Gross of Fees)

	Allocation		Annualized Performance(%)					Annual Performance(%)				
	Market Value (\$)	% of portfolio	Quarter To Date	1 Year	3 Years	5 Years	10 Years	1 Year Ending Dec-2017	1 Year Ending Dec-2016	1 Year Ending Dec-2015	1 Year Ending Dec-2014	1 Year Ending Dec-2013
Internal Cash (STIF)*	36,671,817	2.5	1.7	2.6	2.3	3.2	1.1	2.5	1.7	3.1	6.3	-0.1
FTSE TMX Canada 91 Day T-Bill			0.5	1.4	0.8	0.8	0.8	0.6	0.5	0.6	0.9	1.0
<i>Relative Performance</i>			<i>1.2</i>	<i>1.2</i>	<i>1.5</i>	<i>2.4</i>	<i>0.3</i>	<i>1.9</i>	<i>1.2</i>	<i>2.5</i>	<i>5.4</i>	<i>-1.1</i>
Total Pension												
Gross of Fees	1,491,696,254	100.0	-4.1	-0.8	5.8	6.2	8.7	8.7	9.7	3.0	10.9	19.8
Net of Fees			-4.2	-1.3	5.2	5.7	8.2	8.2	9.1	2.6	10.5	19.3
<i>Relative Performance</i>			<i>0.1</i>	<i>0.5</i>	<i>0.6</i>	<i>0.5</i>	<i>0.5</i>	<i>0.5</i>	<i>0.6</i>	<i>0.4</i>	<i>0.4</i>	<i>0.5</i>
Composite Benchmark (Hedged)			-3.6	-0.4	5.9	6.3	8.1	10.1	8.1	3.8	10.3	16.1
<i>Relative Performance</i>			<i>-0.5</i>	<i>-0.4</i>	<i>-0.1</i>	<i>-0.1</i>	<i>0.6</i>	<i>-1.4</i>	<i>1.6</i>	<i>-0.8</i>	<i>0.6</i>	<i>3.7</i>

Cash amounts and percentages presented exclude residual manager cash balances. However, they include the proceeds of the former Banyan Private Equity position, which explains its high 5-year return.

Current Fixed Income Benchmark: 33.2% FTSE TMX ST Bond Index + 46.5% FTSE TMX LT Bond Index + 20.3% Barclays Global High Yield Hedged to CAD.

Current Composite Benchmark: 9.7% S&P/TSX Comp Capped + 17.4% MSCI EAFE Net (\$CAD) + 16.7% S&P 500 (\$CAD) + 7.5% MSCI EM Net (\$CAD) + 12.3% FTSE TMX ST Bond Index + 17.2% FTSE TMX LT Bond Index + 7.5% Barclays Global High Yield Index Hedged to CAD + 4.8% IPD Canada Annual Property Index + 5% CPI+5% + 1.9% FTSE TMX 91 Day T-Bill. The Hedged Benchmark has the same composition as the Composite Benchmark, but all foreign indices are 50% hedged back to Canadian dollars from December 2011 to March 2017, 37.5% hedged from April to June 2017, 25% hedged from July to September 2017, 12.5% hedged from October to December 2017, 0% hedged since January 2018.

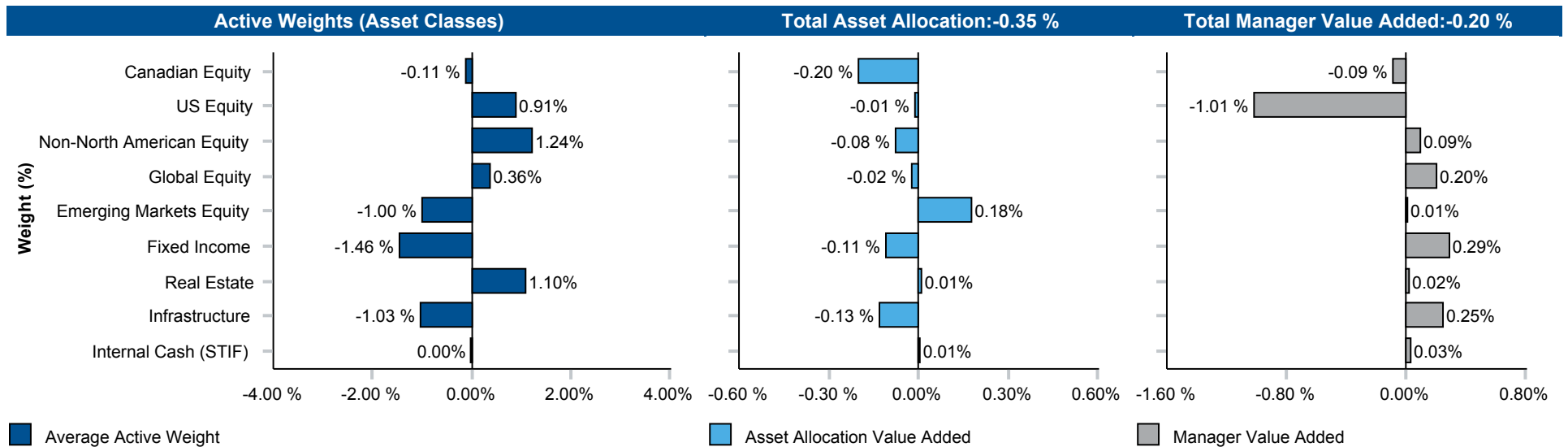
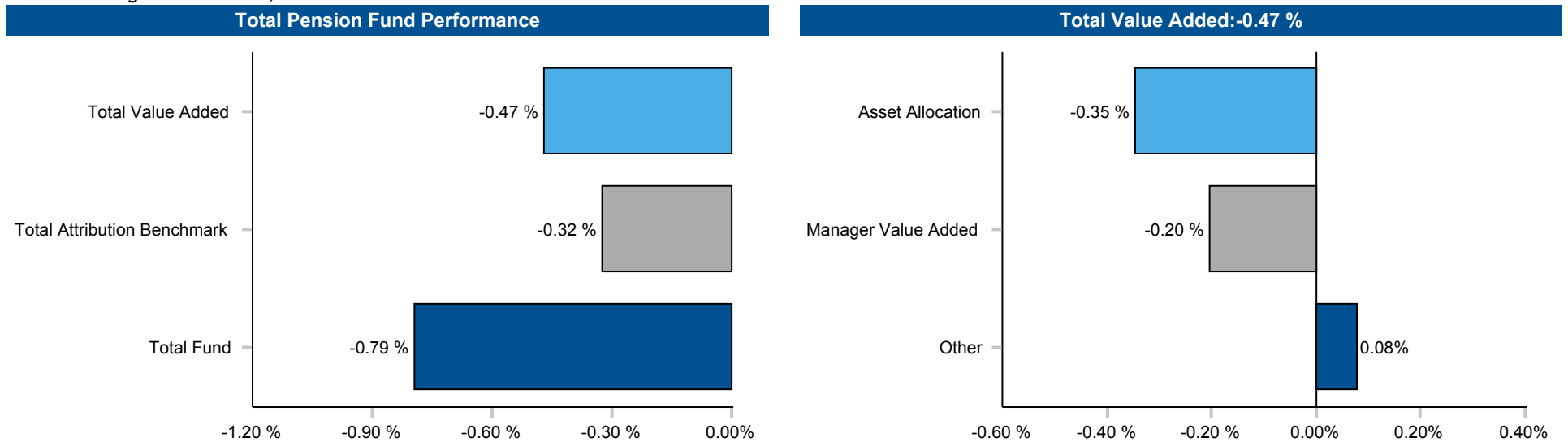
All returns are reported gross of fees in CAD except for the Total Pension Plan where returns are displayed both net and gross of fees.

EAFE Stands for Europe, Australasia and Far East. The IPD Canadian Property Index is published quarterly with a 2-month lag, it is approximated by CIBC Mellon.

Performance Attribution

Total Pension Plans Vs Attribution Benchmark

1 Year Ending December 31, 2018



Returns are presented gross of fees in CAD.

The Attribution Benchmark was created to account for small variations of asset allocation between the Total Pension Plans and their Composite Benchmark. Its current composition is as follow: 9.7% S&P/TSX Comp Capped + 12.3% S&P 500 (\$CAD) + 14.5% MSCI EAFE Net (\$CAD) + 7.3% MSCI World + 7.5 MSCI EM Net (\$CAD) + 12.3% FTSE TMX ST Bond Index + 17.2% FTSE TMX LT Bond Index + 7.5% Barclays Global High Yield Hedged to CAD + 4.8% IPD Canada Annual Property Index + 5% CPI+5% + 1.9% FTSE TMX 91 Day T-Bill.

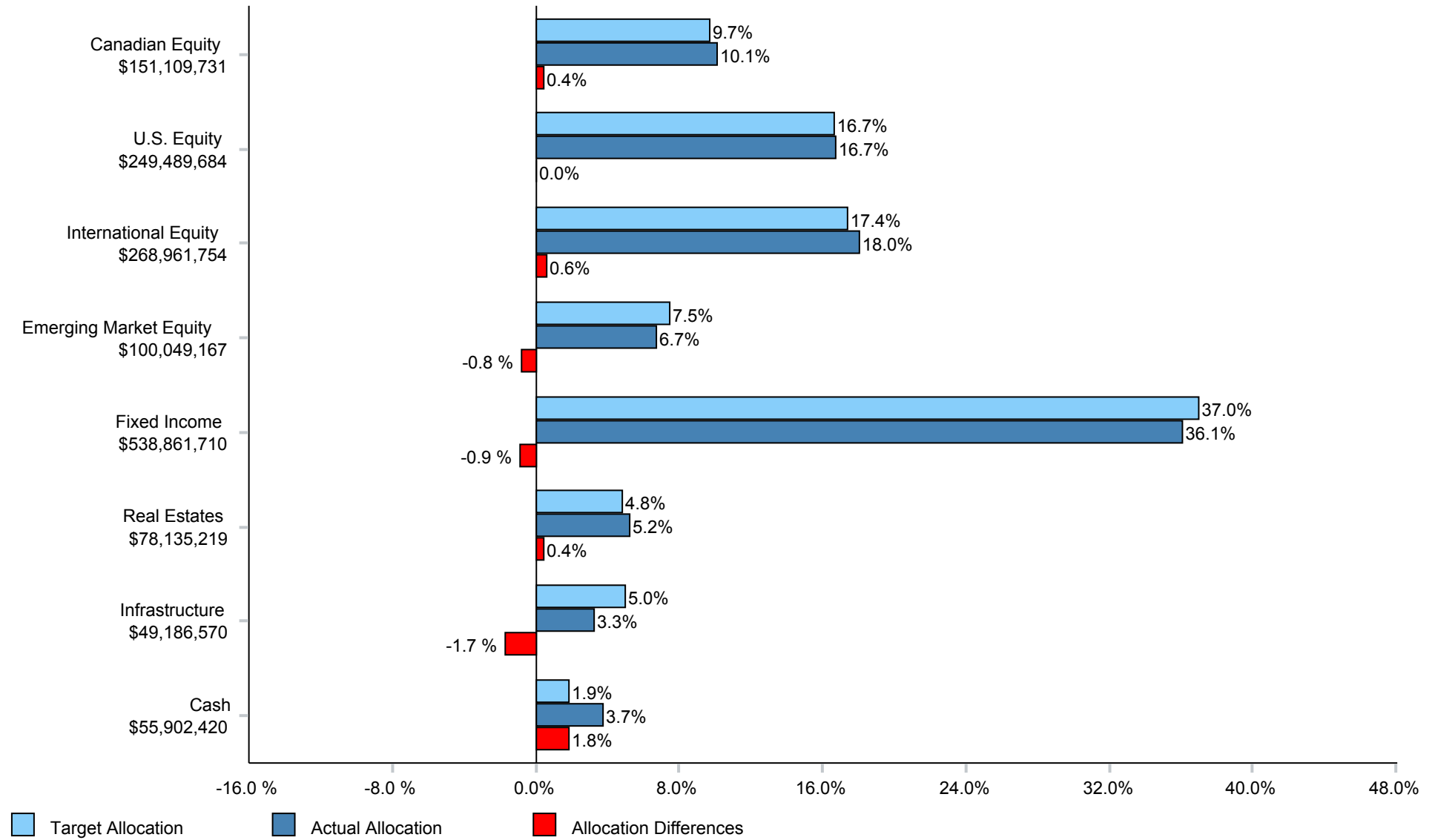
“Other” includes the effects of all other factors on the Total Pensions Plans' relative return, including rebalancing and residual trading returns. The Benchmarks do not assume currency hedging.

Pension Plans Asset Mix

Actual Allocation vs. Investment Policy Allocation

As of December 31, 2018

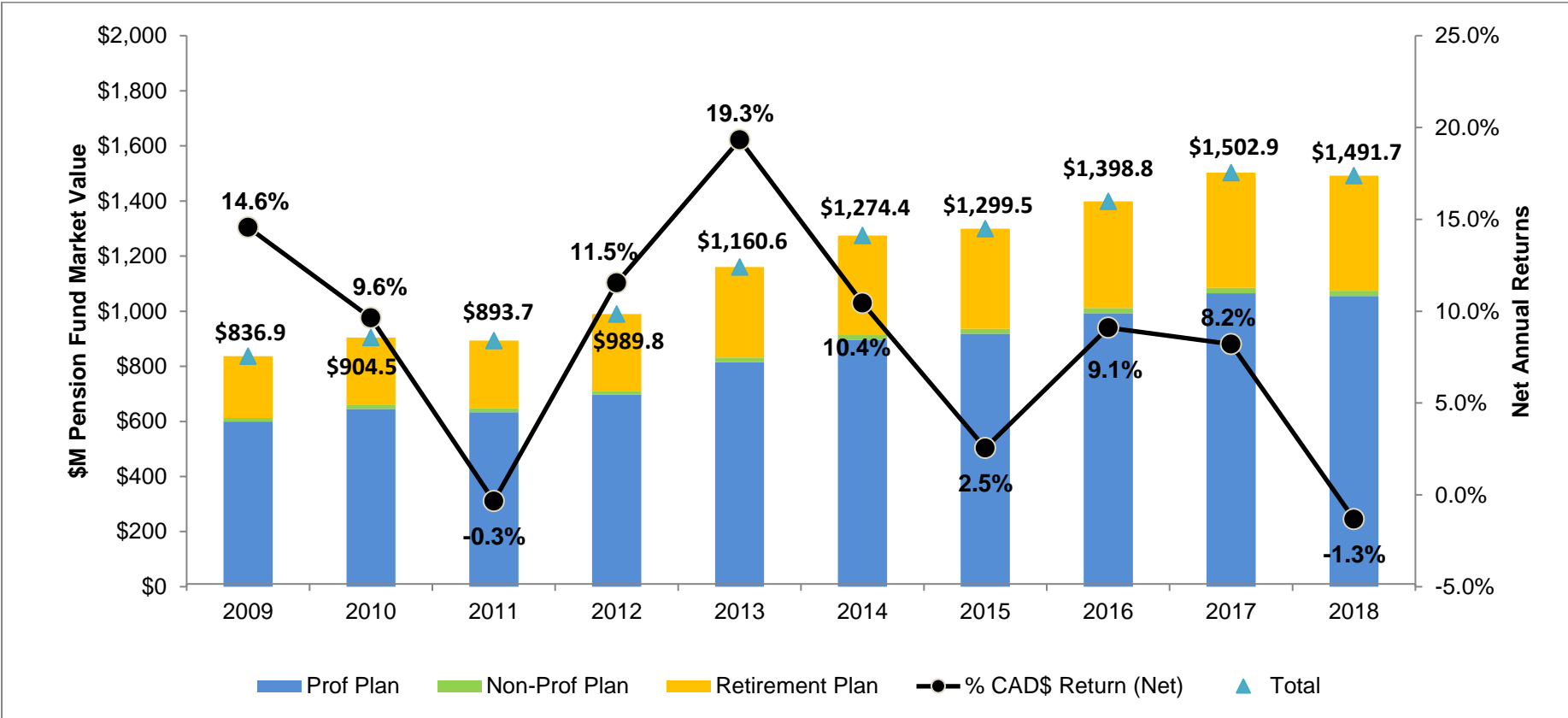
December 31, 2018 : \$1,491,696,254



Note: This actual allocation displays the aggregate managers' holdings regardless of their mandate. Cash presented includes internal cash (STIF) and manager residual cash balances (data from CIBC Mellon).

Growth of Pension Assets

December Market Values and Net 1-year Returns to December 31st of Each Year



Over the last 12 months the Total Pension portfolio decreased \$11.2 M to \$1,491.7 M consisting of:
 – Total contributions of \$87.3 M and disbursements of \$76.1 M.
 – 1-year return (net of investment management fees) of -1.3% compared to 8.2% one year ago.