

# Fresno County Employees' Retirement Association

Investment Performance Review

Period Ending: March 31, 2018



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SEATTLE 206-622-3700

LOS ANGELES 310-297-1777

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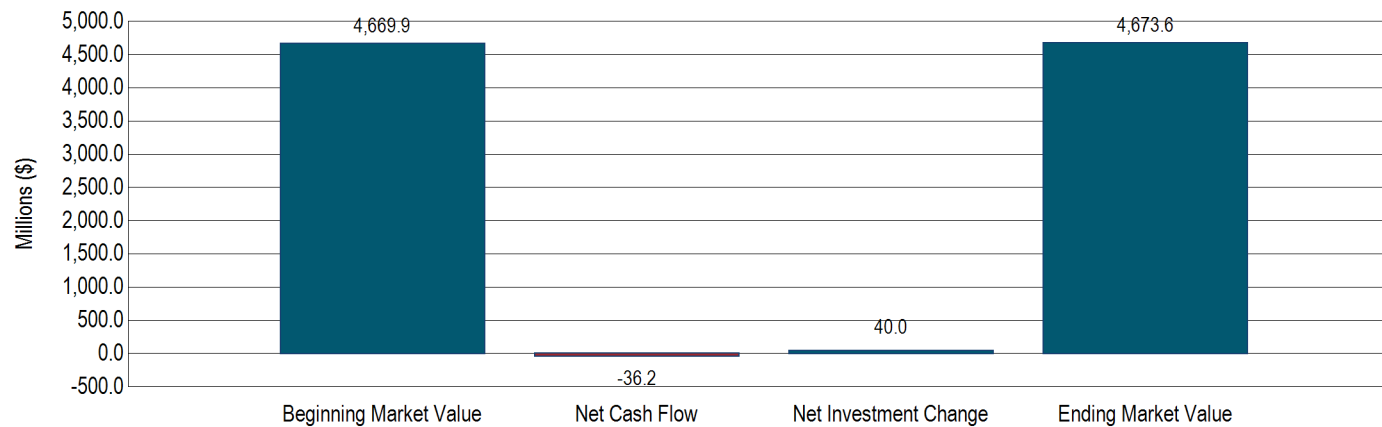
Total Fund  
Portfolio Reconciliation

Period Ending: March 31, 2018

Portfolio Reconciliation

	Last Three Months	Year-To-Date
Beginning Market Value	\$4,669,890,411	\$4,669,890,411
Net Cash Flow	-\$36,248,419	-\$36,248,419
Net Investment Change	\$39,969,364	\$39,969,364
Ending Market Value	\$4,673,611,357	\$4,673,611,357

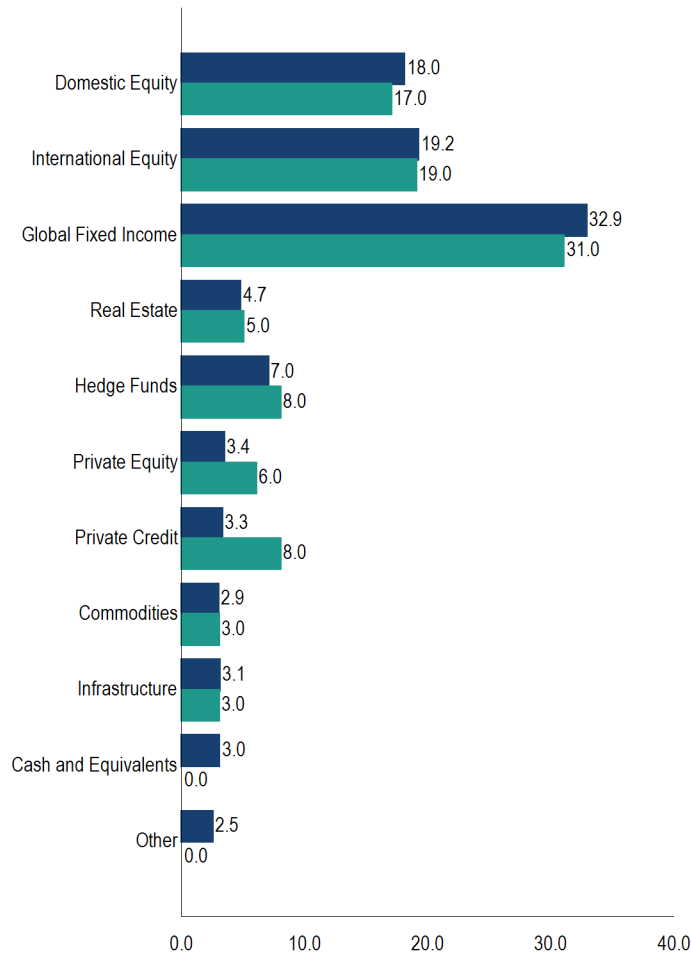
Change in Market Value  
Last Three Months



# Total Fund Asset Allocation

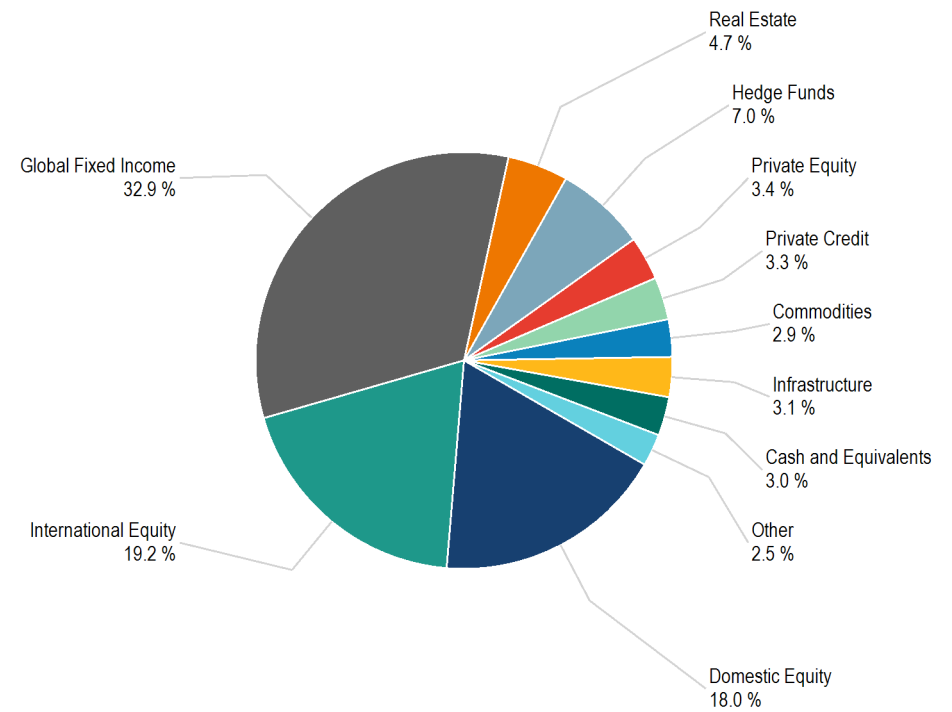
Period Ending: March 31, 2018

Actual vs Target Allocation (%)



Actual Policy

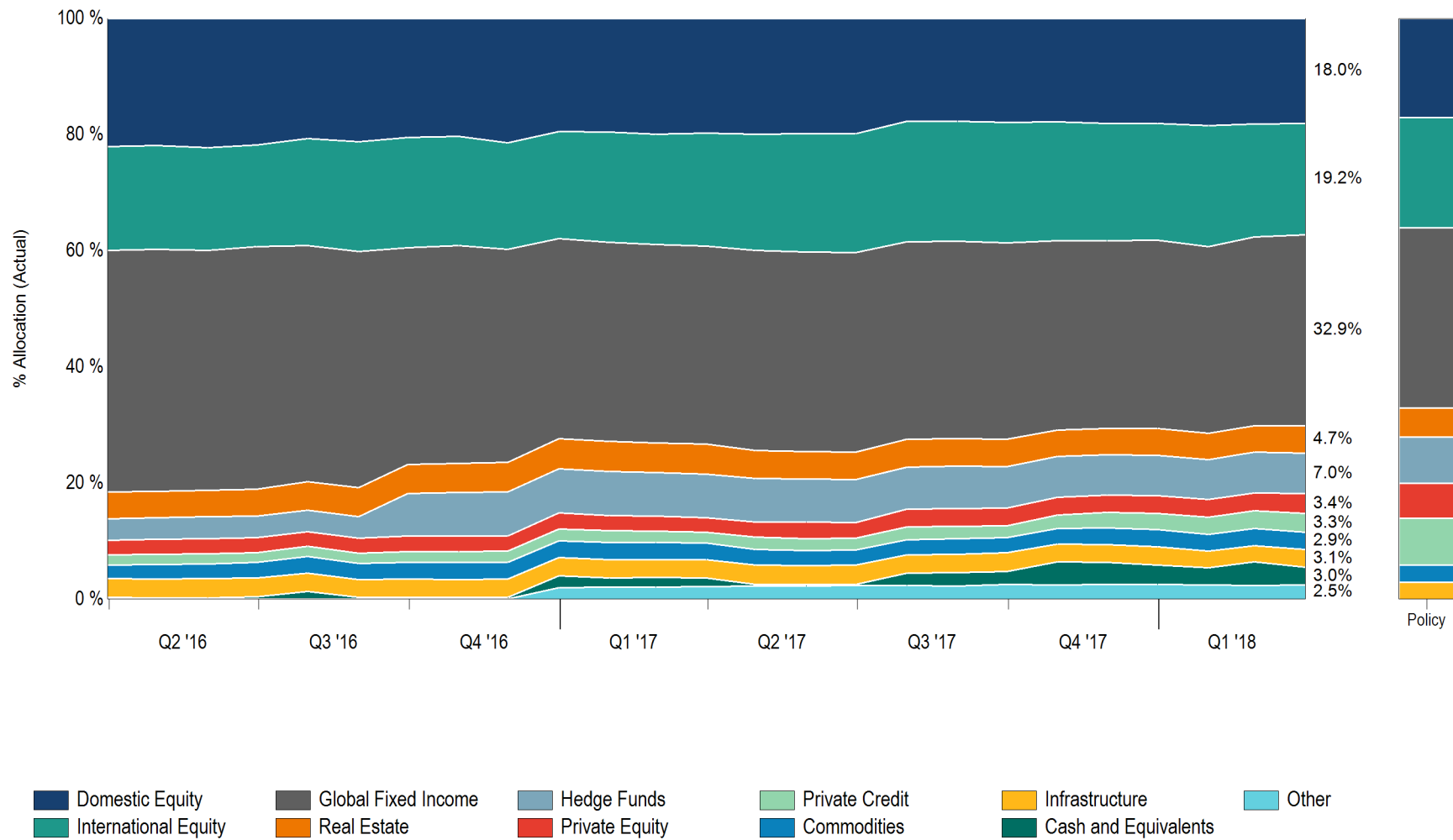
Current Allocation



Other consists of cash held for the overlay program.

# Total Fund Asset Allocation History

Period Ending: March 31, 2018



# Total Fund Executive Summary (Net of Fees)

Period Ending: March 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
<b>Total Fund</b>	<b>4,681,558,970</b>	<b>100.0</b>	<b>0.8</b>	<b>7.7</b>	<b>10.7</b>	<b>5.9</b>	<b>6.7</b>	<b>6.2</b>	<b>14.6</b>	<b>6.7</b>	<b>-2.5</b>	<b>3.5</b>	<b>16.3</b>
Policy Index			0.6	7.3	10.5	6.1	6.3	5.4	14.0	6.5	-1.7	2.6	15.6
InvestorForce Public DB > \$1B Net Rank			15	29	41	86	76	34	68	80	86	88	20
<b>Total Domestic Equity</b>	<b>844,949,499</b>	<b>18.0</b>	<b>0.1</b>	<b>12.0</b>	<b>14.4</b>	<b>8.9</b>	<b>12.5</b>	<b>--</b>	<b>20.2</b>	<b>8.9</b>	<b>1.5</b>	<b>9.8</b>	<b>36.8</b>
Russell 3000			-0.6	10.5	13.8	10.2	13.0	9.6	21.1	12.7	0.5	12.6	33.6
<b>Total International Equity</b>	<b>898,918,454</b>	<b>19.2</b>	<b>-0.6</b>	<b>10.2</b>	<b>17.0</b>	<b>6.2</b>	<b>6.4</b>	<b>--</b>	<b>28.5</b>	<b>3.0</b>	<b>-7.5</b>	<b>-2.5</b>	<b>18.7</b>
MSCI ACWI ex USA Gross			-1.1	10.4	17.0	6.7	6.4	3.2	27.8	5.0	-5.3	-3.4	15.8
<b>Total Fixed Income</b>	<b>1,538,137,716</b>	<b>32.9</b>	<b>1.3</b>	<b>3.9</b>	<b>6.1</b>	<b>3.5</b>	<b>2.9</b>	<b>--</b>	<b>8.0</b>	<b>6.7</b>	<b>-4.5</b>	<b>5.0</b>	<b>-1.1</b>
BBgBarc Global Aggregate*			1.4	4.3	7.0	3.1	1.1	3.3	7.4	2.1	-3.2	0.0	-2.0
<b>Total Real Estate</b>	<b>222,197,760</b>	<b>4.7</b>	<b>2.2</b>	<b>4.5</b>	<b>6.3</b>	<b>9.0</b>	<b>10.1</b>	<b>--</b>	<b>5.8</b>	<b>8.5</b>	<b>13.9</b>	<b>11.8</b>	<b>11.8</b>
NCREIF ODCE Net			2.0	5.6	7.1	9.0	10.4	4.2	6.7	7.8	13.9	11.5	12.9
<b>Total Infrastructure</b>	<b>143,542,719</b>	<b>3.1</b>	<b>8.8</b>	<b>16.8</b>	<b>22.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>19.0</b>	<b>6.1</b>	<b>--</b>	<b>--</b>	<b>--</b>
NCREIF ODCE Net			2.0	5.6	7.1	9.0	10.4	4.2	6.7	7.8	13.9	11.5	12.9
<b>Total Hedge Funds</b>	<b>327,675,512</b>	<b>7.0</b>	<b>1.2</b>	<b>3.6</b>	<b>4.3</b>	<b>2.4</b>	<b>3.2</b>	<b>1.9</b>	<b>4.6</b>	<b>3.0</b>	<b>0.0</b>	<b>3.1</b>	<b>7.8</b>
HFRI Fund of Funds Composite Index			0.3	4.7	5.6	1.9	3.4	1.6	7.8	0.5	-0.3	3.4	9.0
<b>Total Commodities</b>	<b>138,006,888</b>	<b>2.9</b>	<b>-0.4</b>	<b>12.6</b>	<b>5.7</b>	<b>3.6</b>	<b>-4.5</b>	<b>--</b>	<b>5.8</b>	<b>13.8</b>	<b>-12.8</b>	<b>-16.9</b>	<b>-9.4</b>
Bloomberg Commodity Index TR USD			-0.4	6.9	3.7	-3.2	-8.3	-7.7	1.7	11.8	-24.7	-17.0	-9.5
<b>Total Private Equity 1 Qtr Lagged</b>	<b>159,146,127</b>	<b>3.4</b>	<b>1.5</b>	<b>12.5</b>	<b>15.6</b>	<b>8.9</b>	<b>--</b>	<b>--</b>	<b>13.9</b>	<b>10.7</b>	<b>3.8</b>	<b>4.8</b>	<b>--</b>
Russell 2000 1 Qtr Lagged			3.3	11.9	14.6	8.4	11.5	9.9	10.9	21.3	-4.4	4.9	38.8
<b>Total Private Credit 1 Qtr Lagged</b>	<b>152,163,164</b>	<b>3.3</b>	<b>2.0</b>	<b>7.5</b>	<b>9.9</b>	<b>5.2</b>	<b>--</b>	<b>--</b>	<b>8.1</b>	<b>7.4</b>	<b>-2.5</b>	<b>6.8</b>	<b>--</b>
BBgBarc US Corp. High Yield 1 Qtr Lagged			0.5	4.7	7.5	5.5	5.2	8.4	7.0	17.1	-4.5	2.5	7.4
<b>Total Custodied Cash</b>	<b>26,879,854</b>	<b>0.6</b>	<b>0.5</b>	<b>0.7</b>	<b>0.7</b>	<b>0.4</b>	<b>0.4</b>	<b>--</b>	<b>0.3</b>	<b>0.8</b>	<b>-0.1</b>	<b>0.3</b>	<b>0.4</b>
91 Day T-Bills			0.4	0.9	1.2	0.5	0.3	0.3	0.9	0.3	0.0	0.0	0.0
<b>Total County Cash</b>	<b>114,608,502</b>	<b>2.4</b>	<b>0.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
91 Day T-Bills			0.4	0.9	1.2	0.5	0.3	0.3	0.9	0.3	0.0	0.0	0.0

Policy Index (Floating policy weights updated as of 3/31/2018. See Data Sources and Methodology for monthly policy breakout): 17% Russell 3000 Index, 31% BBgBarc Global Aggregate Index, 19% MSCI ACWI ex US, 2.6% Russell 2000, 4.7% BBgBarc US Corp. High Yield, 3.4% Private Equity Neutralized, 3.3% Private Credit Neutralized, 1.1% Real Estate Neutralized, 8% HFRI FoF Composite, 6.9% NCREIF ODCE Net, & 3% Bloomberg Commodity Index. Composite total market values reflect manager exposures and any underlying cash balances. De-risking of the Plan commenced on April 30, 2014. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

\*Prior to 3/31/2014 BBgBarc U.S. Aggregate Index and as of 4/1/2014 BBgBarc Global Aggregate Index.

# Total Fund Executive Summary (Gross of Fees)

Period Ending: March 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
<b>Total Fund</b>	<b>4,681,558,970</b>	<b>100.0</b>	<b>0.9</b>	<b>7.9</b>	<b>11.0</b>	<b>6.2</b>	<b>7.1</b>	<b>6.5</b>	<b>14.8</b>	<b>7.2</b>	<b>-2.1</b>	<b>3.8</b>	<b>16.6</b>
<i>Policy Index</i>			0.6	7.3	10.5	6.1	6.3	5.4	14.0	6.5	-1.7	2.6	15.6
<b>Total Domestic Equity</b>	<b>844,949,499</b>	<b>18.0</b>	<b>0.1</b>	<b>12.1</b>	<b>14.5</b>	<b>9.1</b>	<b>12.7</b>	<b>9.9</b>	<b>20.3</b>	<b>9.1</b>	<b>1.8</b>	<b>10.1</b>	<b>37.2</b>
<i>Russell 3000</i>			-0.6	10.5	13.8	10.2	13.0	9.6	21.1	12.7	0.5	12.6	33.6
<b>Total International Equity</b>	<b>898,918,454</b>	<b>19.2</b>	<b>-0.5</b>	<b>10.5</b>	<b>17.5</b>	<b>6.6</b>	<b>6.9</b>	<b>4.4</b>	<b>29.1</b>	<b>3.5</b>	<b>-7.1</b>	<b>-2.1</b>	<b>19.3</b>
<i>MSCI ACWI ex USA Gross</i>			-1.1	10.4	17.0	6.7	6.4	3.2	27.8	5.0	-5.3	-3.4	15.8
<b>Total Fixed Income</b>	<b>1,538,137,716</b>	<b>32.9</b>	<b>1.4</b>	<b>4.2</b>	<b>6.5</b>	<b>3.8</b>	<b>3.1</b>	<b>--</b>	<b>8.3</b>	<b>7.0</b>	<b>-4.2</b>	<b>5.1</b>	<b>-0.9</b>
<i>BBgBarc Global Aggregate*</i>			1.4	4.3	7.0	3.1	1.1	3.3	7.4	2.1	-3.2	0.0	-2.0
<b>Total Real Estate</b>	<b>222,197,760</b>	<b>4.7</b>	<b>2.2</b>	<b>4.5</b>	<b>6.3</b>	<b>9.7</b>	<b>10.8</b>	<b>4.9</b>	<b>5.8</b>	<b>9.9</b>	<b>14.8</b>	<b>12.9</b>	<b>12.4</b>
<i>NCREIF ODCE Net</i>			2.0	5.6	7.1	9.0	10.4	4.2	6.7	7.8	13.9	11.5	12.9
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<i>NCREIF ODCE Net</i>			2.0	5.6	7.1	9.0	10.4	4.2	6.7	7.8	13.9	11.5	12.9
<b>Total Hedge Funds</b>	<b>327,675,512</b>	<b>7.0</b>	<b>1.2</b>	<b>3.6</b>	<b>4.3</b>	<b>2.8</b>	<b>3.9</b>	<b>--</b>	<b>4.6</b>	<b>3.8</b>	<b>0.9</b>	<b>4.2</b>	<b>9.0</b>
<i>HFRI Fund of Funds Composite Index</i>			0.3	4.7	5.6	1.9	3.4	1.6	7.8	0.5	-0.3	3.4	9.0
<b>Total Commodities</b>	<b>138,006,888</b>	<b>2.9</b>	<b>-0.4</b>	<b>12.6</b>	<b>5.7</b>	<b>3.9</b>	<b>-4.2</b>	<b>--</b>	<b>5.8</b>	<b>14.4</b>	<b>-12.3</b>	<b>-16.7</b>	<b>-9.0</b>
<i>Bloomberg Commodity Index TR USD</i>			-0.4	6.9	3.7	-3.2	-8.3	-7.7	1.7	11.8	-24.7	-17.0	-9.5
<b>Total Private Equity 1 Qtr Lagged</b>	<b>159,146,127</b>	<b>3.4</b>	<b>1.5</b>	<b>12.5</b>	<b>15.6</b>	<b>9.3</b>	<b>--</b>	<b>--</b>	<b>13.9</b>	<b>11.8</b>	<b>3.9</b>	<b>4.8</b>	<b>--</b>
<i>Russell 2000 1 Qtr Lagged</i>			3.3	11.9	14.6	8.4	11.5	9.9	10.9	21.3	-4.4	4.9	38.8
<b>Total Private Credit 1 Qtr Lagged</b>	<b>152,163,164</b>	<b>3.3</b>	<b>2.0</b>	<b>7.5</b>	<b>9.9</b>	<b>5.9</b>	<b>--</b>	<b>--</b>	<b>8.1</b>	<b>8.7</b>	<b>-1.4</b>	<b>7.1</b>	<b>--</b>
<i>BBgBarc US Corp. High Yield 1 Qtr Lagged</i>			0.5	4.7	7.5	5.5	5.2	8.4	7.0	17.1	-4.5	2.5	7.4
<b>Total Custodied Cash</b>	<b>26,879,854</b>	<b>0.6</b>	<b>0.5</b>	<b>0.7</b>	<b>0.7</b>	<b>0.4</b>	<b>0.4</b>	<b>0.7</b>	<b>0.3</b>	<b>0.8</b>	<b>-0.1</b>	<b>0.3</b>	<b>0.4</b>
<i>91 Day T-Bills</i>			0.4	0.9	1.2	0.5	0.3	0.3	0.9	0.3	0.0	0.0	0.0
<b>Total County Cash</b>	<b>114,608,502</b>	<b>2.4</b>	<b>0.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>91 Day T-Bills</i>			0.4	0.9	1.2	0.5	0.3	0.3	0.9	0.3	0.0	0.0	0.0

Policy Index (Floating policy weights updated as of 3/31/2018. See Data Sources and Methodology for monthly policy breakout): 17% Russell 3000 Index, 31% BBgBarc Global Aggregate Index, 19% MSCI ACWI ex US, 2.6% Russell 2000, 4.7% BBgBarc US Corp. High Yield, 3.4% Private Equity Neutralized, 3.3% Private Credit Neutralized, 1.1% Real Estate Neutralized, 8% HFRI FoF Composite, 6.9% NCREIF ODCE Net, & 3% Bloomberg Commodity Index. Composite total market values reflect manager exposures and any underlying cash balances. De-risking of the Plan commenced on April 30, 2014. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

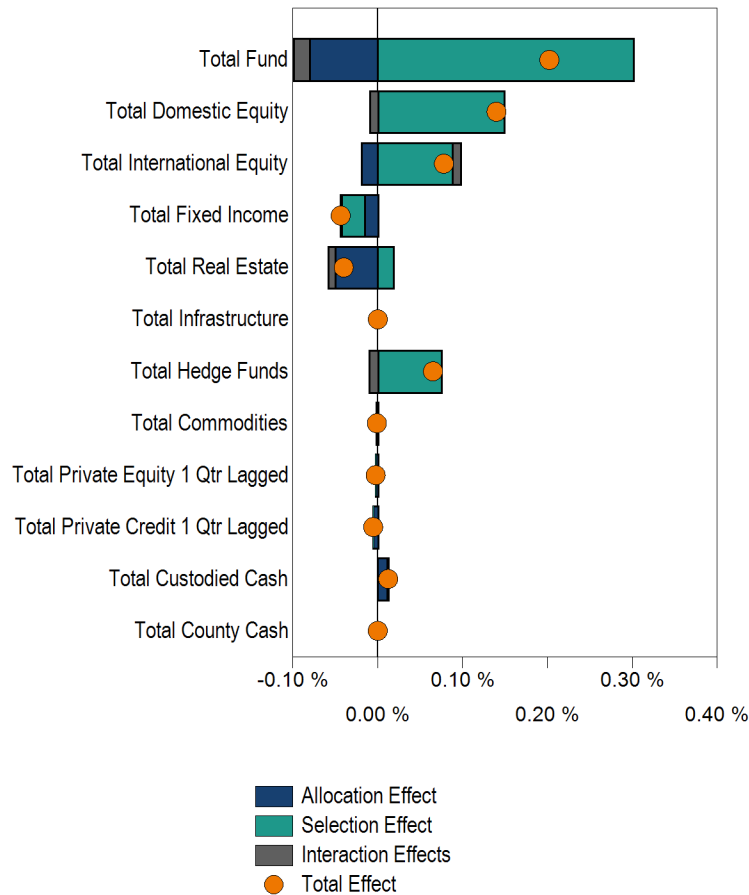
\*Prior to 3/31/2014 BBgBarc U.S. Aggregate Index and as of 4/1/2014 BBgBarc Global Aggregate Index.

# Total Fund

## Attribution Analysis - Asset Class Level (Net of Fees)

Period Ending: March 31, 2018

Attribution Effects  
Ending March 31, 2018



Performance Attribution

	Quarter	1 Yr
Wtd. Actual Return	0.90%	10.30%
Wtd. Index Return *	0.47%	10.40%
<b>Excess Return</b>	<b>0.43%</b>	<b>-0.10%</b>
Selection Effect	0.30%	-0.34%
Allocation Effect	-0.08%	0.09%
Interaction Effect	-0.02%	0.03%

\*Calculated from benchmark returns and weightings of each component.

Attribution Summary  
Last Three Months

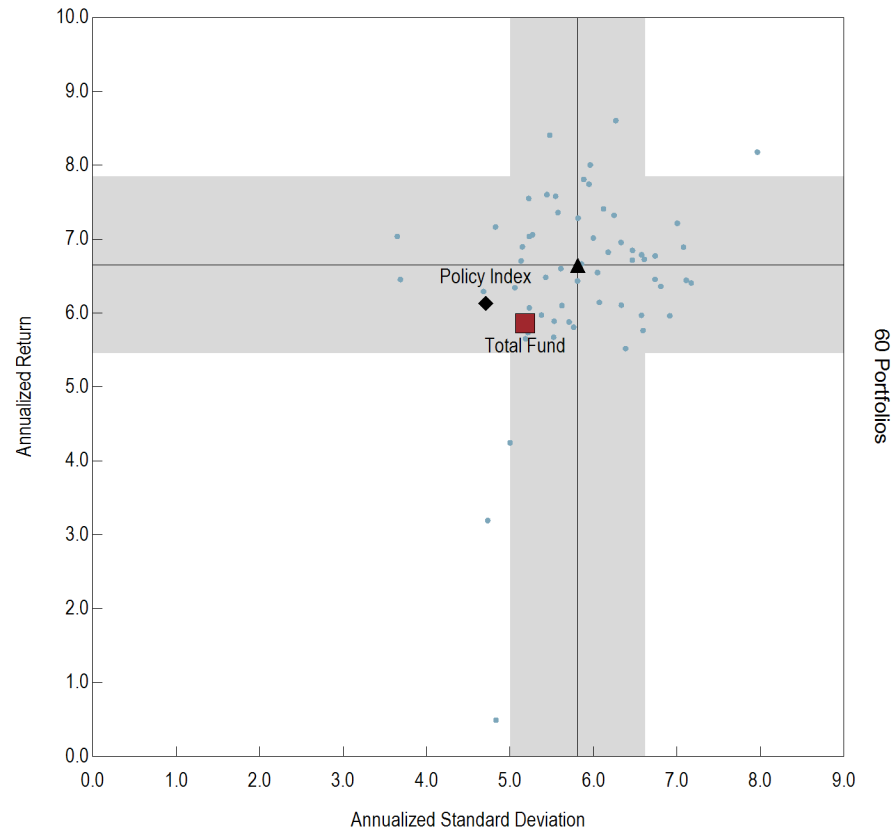
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Domestic Equity	0.12%	-0.64%	0.76%	0.15%	0.00%	-0.01%	0.14%
Total International Equity	-0.63%	-1.08%	0.45%	0.09%	-0.02%	0.01%	0.08%
Total Fixed Income	1.27%	1.36%	-0.09%	-0.03%	-0.02%	0.00%	-0.04%
Total Real Estate	2.21%	1.97%	0.24%	0.02%	-0.05%	-0.01%	-0.04%
Total Infrastructure	8.80%	1.97%	6.83%	--	--	--	--
Total Hedge Funds	1.23%	0.29%	0.94%	0.07%	0.00%	-0.01%	0.07%
Total Commodities	-0.39%	-0.40%	0.01%	0.00%	0.00%	0.00%	0.00%
Total Private Equity 1 Qtr Lagged	1.49%	1.49%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Private Credit 1 Qtr Lagged	2.04%	2.04%	0.00%	0.00%	-0.01%	0.00%	-0.01%
Total Custodied Cash	0.52%	0.38%	0.13%	0.00%	0.01%	0.00%	0.01%
Total County Cash	--	--	--	--	--	--	--
<b>Total</b>	<b>0.90%</b>	<b>0.47%</b>	<b>0.43%</b>	<b>0.30%</b>	<b>-0.08%</b>	<b>-0.02%</b>	<b>0.20%</b>

Total Fund attribution return is calculated based on the underlying composite returns and beginning of period portfolio weights, the effects of transactions during the period are not reflected in the return. The Total Fund attribution portfolio return will vary from the actual Total Fund return. The Policy Index attribution return is calculated based on the primary benchmarks for the underlying composites used in the attribution analysis and their respective beginning of month target weights. Weighted index returns shown in attribution analysis may differ from actual returns.

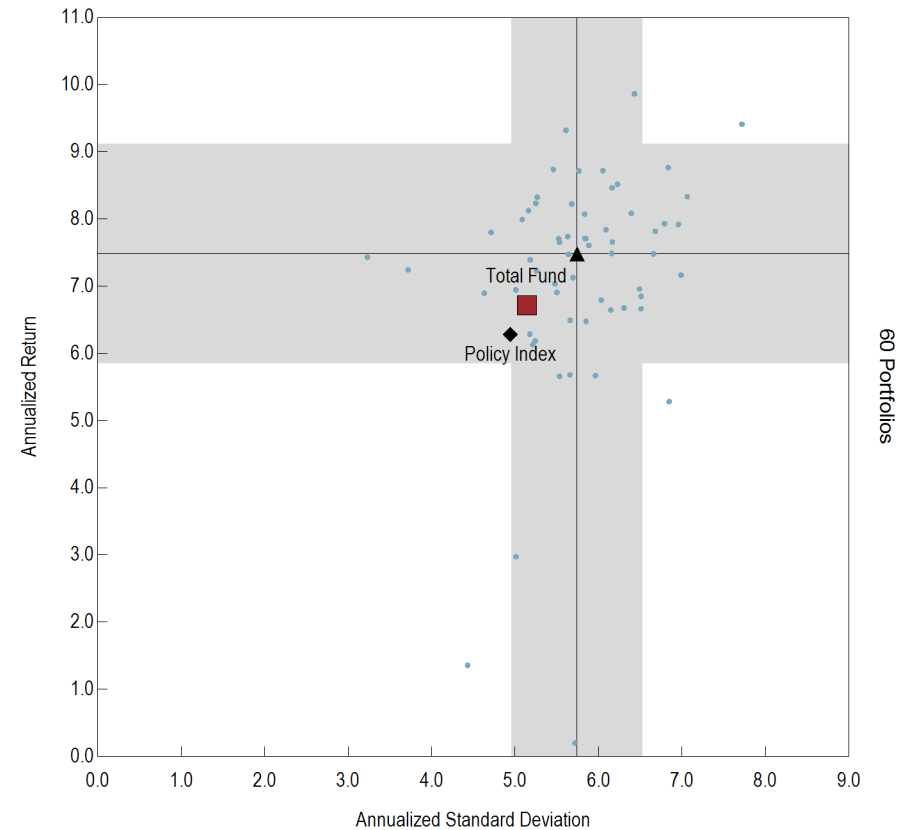
# Total Fund Risk Analysis (Net of Fees)

Period Ending: March 31, 2018

3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Total Fund	5.9%	5.2%	1.0
Policy Index	6.1%	4.7%	1.2
InvestorForce Public DB > \$1B Net Median	6.6%	5.8%	1.0

5 Years

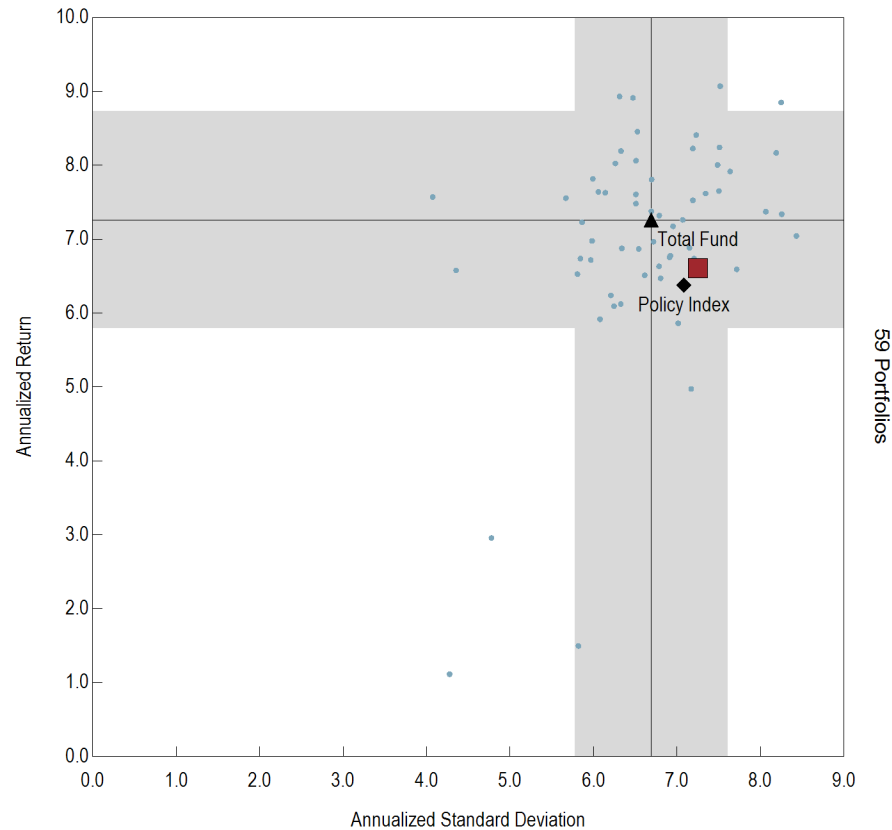
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Total Fund	6.7%	5.1%	1.2
Policy Index	6.3%	4.9%	1.2
InvestorForce Public DB > \$1B Net Median	7.5%	5.7%	1.2



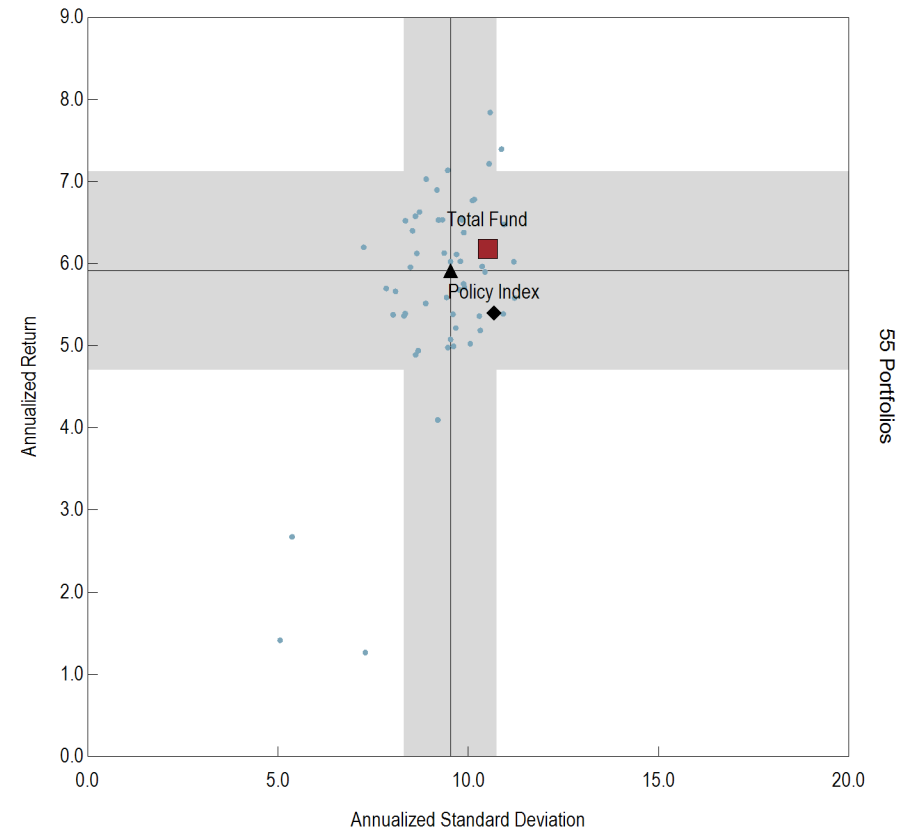
# Total Fund Risk Analysis (Net of Fees)

Period Ending: March 31, 2018

7 Years



10 Years



7 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Total Fund	6.6%	7.3%	0.9
Policy Index	6.4%	7.1%	0.9
InvestorForce Public DB > \$1B Net Median	7.3%	6.7%	1.0

10 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Total Fund	6.2%	10.5%	0.6
Policy Index	5.4%	10.7%	0.5
InvestorForce Public DB > \$1B Net Median	5.9%	9.5%	0.6

Total Fund  
Risk Analysis (Net of Fees)

Period Ending: March 31, 2018

3 Years

	Anlzd Standard Deviation	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio	Sortino Ratio
Total Fund	5.18%	-0.62%	1.06	0.92	96.92%	102.06%	-0.19	1.47%	1.03	0.78
Total Domestic Equity	8.26%	-1.71%	1.04	0.94	87.42%	95.56%	-0.63	2.10%	1.02	1.03
Total International Equity	11.54%	-0.67%	1.02	0.96	96.78%	102.93%	-0.22	2.35%	0.49	0.52
Total Domestic Fixed Income	3.17%	2.03%	0.73	0.62	117.32%	51.69%	0.79	2.17%	0.76	4.80
Total Real Estate	2.27%	-0.89%	1.10	0.52	100.36%	--	0.02	1.58%	3.77	--
Total Hedge Funds	4.00%	0.71%	0.88	0.75	109.96%	96.09%	0.24	2.04%	0.47	1.03
Total Alternative Illiquids	4.33%	3.09%	0.33	0.35	47.72%	25.63%	-0.89	6.24%	1.59	--

5 Years

	Anlzd Standard Deviation	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio	Sortino Ratio
Total Fund	5.14%	0.40%	1.01	0.93	102.05%	85.27%	0.33	1.31%	1.25	1.35
Total Domestic Equity	7.98%	-1.43%	1.07	0.93	94.61%	95.56%	-0.25	2.12%	1.53	1.64
Total International Equity	10.78%	0.13%	0.99	0.95	96.76%	94.26%	0.04	2.32%	0.57	0.73
Total Domestic Fixed Income	3.21%	1.49%	0.84	0.70	114.41%	63.24%	0.66	1.82%	0.85	1.81
Total Real Estate	2.01%	0.38%	0.93	0.47	95.98%	--	-0.24	1.46%	4.86	--
Total Hedge Funds	3.37%	0.43%	0.82	0.72	94.58%	96.09%	-0.09	1.90%	0.86	0.84
Total Alternative Illiquids	5.45%	1.28%	0.49	0.43	46.24%	25.63%	-1.22	5.52%	1.61	2.51

Total Fund  
Risk Analysis (Net of Fees)

Period Ending: March 31, 2018

7 Years

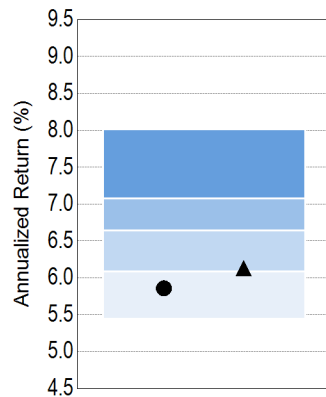
	Anlzd Standard Deviation	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio	Sortino Ratio
Total Fund	7.25%	0.17%	1.01	0.97	101.91%	97.53%	0.19	1.23%	0.88	0.88
Total Domestic Equity	12.45%	-1.53%	1.07	0.98	97.94%	108.47%	-0.32	2.06%	0.92	0.91
Total International Equity	13.25%	0.60%	0.97	0.97	98.14%	94.54%	0.22	2.13%	0.37	0.43
Total Domestic Fixed Income	3.03%	2.18%	0.70	0.52	119.40%	57.92%	0.58	2.29%	1.32	2.53
Total Real Estate	2.47%	0.90%	0.85	0.26	91.19%	--	-0.34	2.15%	3.96	--
Total Hedge Funds	3.17%	1.53%	0.58	0.60	83.12%	52.17%	0.16	2.70%	0.87	1.01
Total Alternative Illiquids	5.85%	4.22%	0.32	0.40	39.27%	29.41%	-0.67	9.05%	1.51	1.83

10 Years

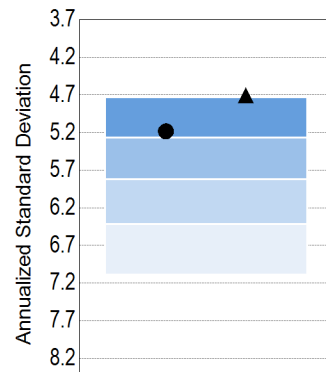
	Anlzd Standard Deviation	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio	Sortino Ratio
Total Fund	10.51%	0.91%	0.98	0.98	103.91%	94.00%	0.56	1.40%	0.56	0.72
Total Domestic Equity	--	--	--	--	--	--	--	--	--	--
Total International Equity	--	--	--	--	--	--	--	--	--	--
Total Domestic Fixed Income	--	--	--	--	--	--	--	--	--	--
Total Real Estate	--	--	--	--	--	--	--	--	--	--
Total Hedge Funds	5.70%	0.69%	0.79	0.82	81.43%	74.58%	0.13	2.75%	0.28	0.27
Total Alternative Illiquids	8.98%	1.81%	0.42	0.61	28.48%	52.12%	-0.48	11.04%	0.75	0.69

## Total Fund vs. InvestorForce Public DB &gt; \$1B Net Universe

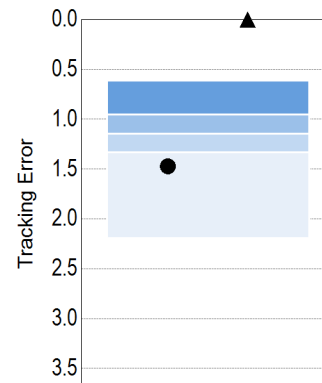
Annualized Return



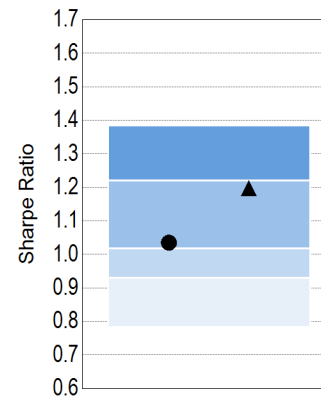
Annualized Standard Deviation



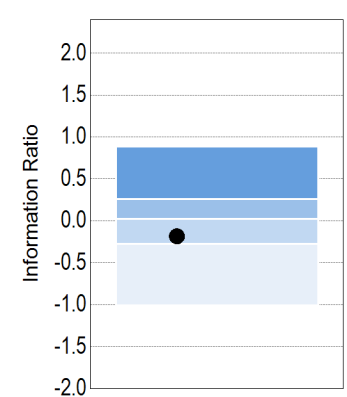
Tracking Error



Sharpe Ratio



Information Ratio



● Total Fund  
Value  
Rank  
▲ Policy Index  
Value  
Rank

5.9  
86  
6.1  
72

● Total Fund  
Value  
Rank  
▲ Policy Index  
Value  
Rank

5.2  
17  
4.7  
5

● Total Fund  
Value  
Rank  
▲ Policy Index  
Value  
Rank

1.5  
84  
0.0  
1

● Total Fund  
Value  
Rank  
▲ Policy Index  
Value  
Rank

1.0  
46  
1.2  
28

● Total Fund  
Value  
Rank  
▲ Policy Index  
Value  
Rank

-0.2  
67  
--  
--

Universe  
5th %tile  
25th %tile  
Median  
75th %tile  
95th %tile

8.0  
7.1  
6.6  
6.1  
5.5

Universe  
5th %tile  
25th %tile  
Median  
75th %tile  
95th %tile

4.7  
5.3  
5.8  
6.4  
7.1

Universe  
5th %tile  
25th %tile  
Median  
75th %tile  
95th %tile

0.6  
0.9  
1.1  
1.3  
2.2

Universe  
5th %tile  
25th %tile  
Median  
75th %tile  
95th %tile

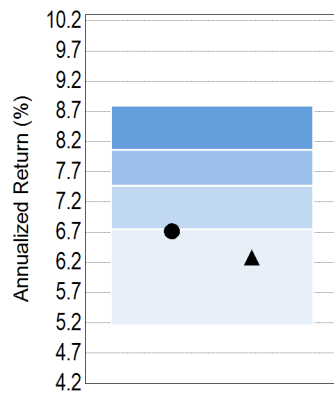
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1.2  
1.0  
0.9  
0.8

Universe  
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Median  
75th %tile  
95th %tile

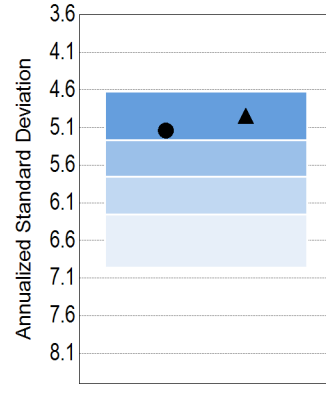
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-0.3  
-1.0

## Total Fund vs. InvestorForce Public DB &gt; \$1B Net Universe

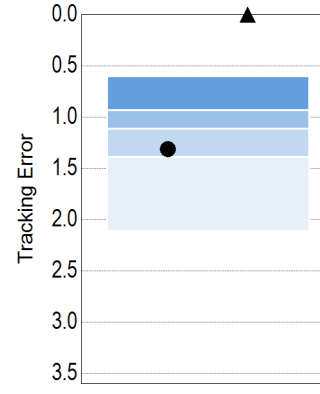
Annualized Return



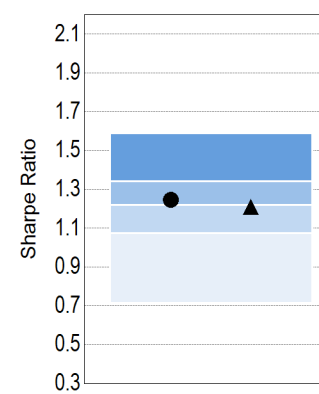
Annualized Standard Deviation



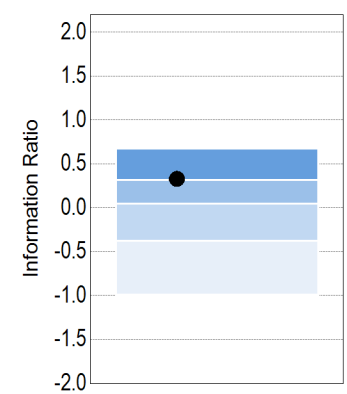
Tracking Error



Sharpe Ratio



Information Ratio



● Total Fund  
Value  
Rank  
▲ Policy Index  
Value  
Rank

6.7  
76  
6.3  
85

● Total Fund  
Value  
Rank  
▲ Policy Index  
Value  
Rank

5.1  
14  
4.9  
9

● Total Fund  
Value  
Rank  
▲ Policy Index  
Value  
Rank

1.3  
69  
0.0  
1

● Total Fund  
Value  
Rank  
▲ Policy Index  
Value  
Rank

1.2  
44  
1.2  
52

● Total Fund  
Value  
Rank  
▲ Policy Index  
Value  
Rank

0.3  
25  
--  
--

Universe  
5th %tile  
25th %tile  
Median  
75th %tile  
95th %tile

8.8  
8.1  
7.5  
6.8  
5.2

Universe  
5th %tile  
25th %tile  
Median  
75th %tile  
95th %tile

4.6  
5.3  
5.7  
6.2  
7.0

Universe  
5th %tile  
25th %tile  
Median  
75th %tile  
95th %tile

0.6  
0.9  
1.1  
1.4  
2.1

Universe  
5th %tile  
25th %tile  
Median  
75th %tile  
95th %tile

1.6  
1.3  
1.2  
1.1  
0.7

Universe  
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Median  
75th %tile  
95th %tile

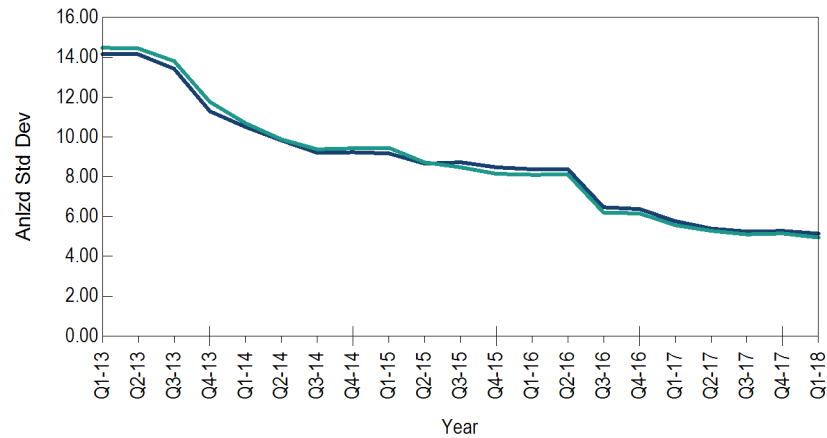
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0.1  
-0.4  
-1.0

# Total Fund

## Risk Analysis - 5 Years (Net of Fees)

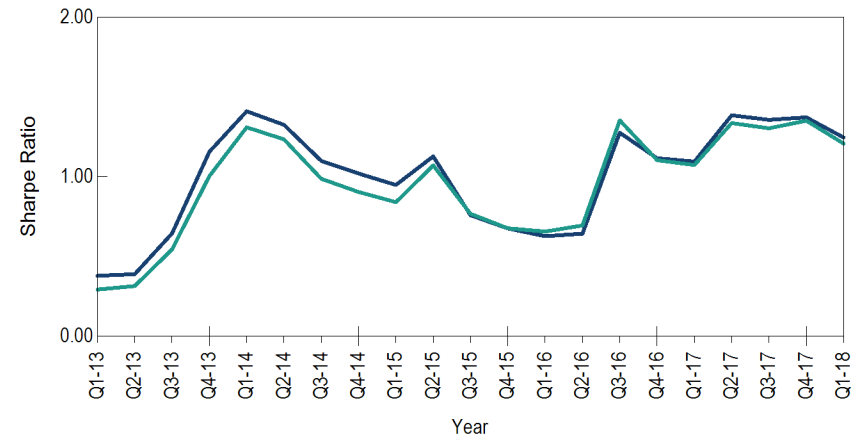
Period Ending: March 31, 2018

Rolling 5 Year Annualized Standard Deviation



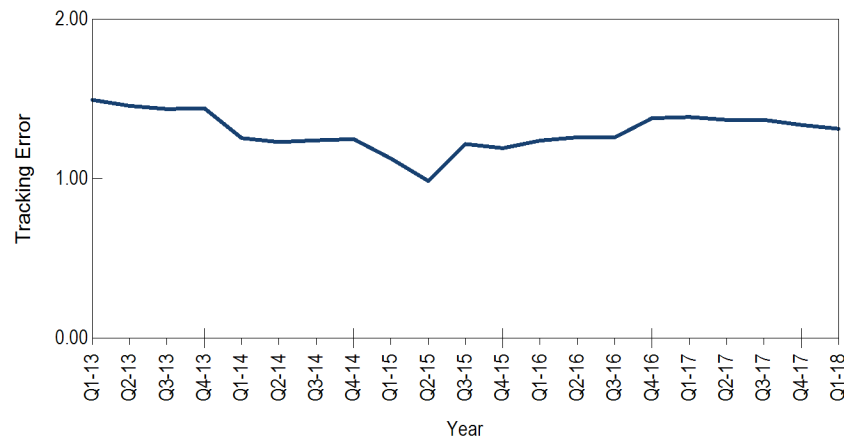
— Total Fund — Policy Index

Rolling 5 Year Sharpe Ratio



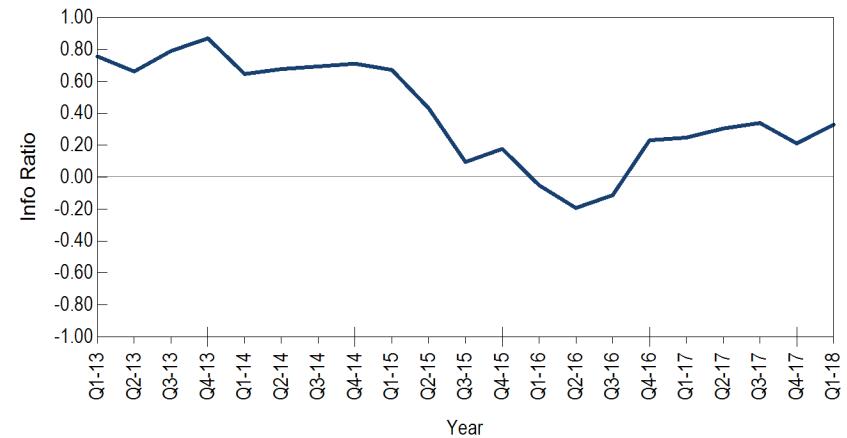
— Total Fund — Policy Index

Rolling 5 Year Tracking Error



— Total Fund

Rolling 5 Year Information Ratio



— Total Fund

# Total Fund Performance Summary (Net of Fees)

Period Ending: March 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013	Inception	Inception Date
<b>Total Fund</b>	<b>4,681,558,970</b>	<b>100.0</b>	<b>0.8</b>	<b>7.7</b>	<b>10.7</b>	<b>5.9</b>	<b>6.7</b>	<b>6.2</b>	<b>14.6</b>	<b>6.7</b>	<b>-2.5</b>	<b>3.5</b>	<b>16.3</b>	<b>7.3</b>	<b>Jun-02</b>
<i>Policy Index</i>			0.6	7.3	10.5	6.1	6.3	5.4	14.0	6.5	-1.7	2.6	15.6	6.6	Jun-02
<b>Total Fund Ex Parametric</b>	<b>4,566,226,196</b>	<b>97.5</b>	<b>0.9</b>	<b>7.5</b>	<b>10.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>13.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>11.8</b>	<b>Dec-16</b>
<i>Policy Index</i>			0.6	7.3	10.5	6.1	6.3	5.4	14.0	6.5	-1.7	2.6	15.6	11.6	Dec-16
<b>Total Domestic Equity</b>	<b>844,949,499</b>	<b>18.0</b>	<b>0.1</b>	<b>12.0</b>	<b>14.4</b>	<b>8.9</b>	<b>12.5</b>	<b>--</b>	<b>20.2</b>	<b>8.9</b>	<b>1.5</b>	<b>9.8</b>	<b>36.8</b>	<b>--</b>	<b>Mar-97</b>
<i>Russell 3000</i>			-0.6	10.5	13.8	10.2	13.0	9.6	21.1	12.7	0.5	12.6	33.6	8.4	Mar-97
SSgA S&P 500 Flagship Fund	176,174,316	3.8	-0.8	10.6	14.0	10.8	13.3	9.5	21.8	12.0	1.4	13.7	32.4	8.5	Mar-04
<i>S&amp;P 500</i>			-0.8	10.6	14.0	10.8	13.3	9.5	21.8	12.0	1.4	13.7	32.4	8.5	Mar-04
Ivy	274,855,232	5.9	4.3	19.4	24.3	11.8	15.7	--	30.0	1.4	6.7	12.7	36.6	14.1	Dec-10
<i>Russell 1000 Growth</i>			1.4	15.8	21.3	12.9	15.5	11.3	30.2	7.1	5.7	13.0	33.5	14.5	Dec-10
Aronson Johnson Ortiz	250,484,375	5.4	-2.6	9.7	11.3	6.6	10.7	8.6	16.7	9.5	-0.1	9.6	38.0	10.5	Dec-95
<i>Russell 1000 Value</i>			-2.8	5.5	6.9	7.9	10.8	7.8	13.7	17.3	-3.8	13.5	32.5	8.9	Dec-95
Systematic Small/Mid Cap Value	74,891,921	1.6	-3.3	9.5	8.1	7.3	10.5	--	12.3	22.0	-1.1	4.0	37.2	12.0	Oct-10
<i>Russell 2500 Value</i>			-2.7	5.4	5.7	7.3	9.9	9.3	10.4	25.2	-5.5	7.1	33.3	12.1	Oct-10
PIMCO StocksPLUS Small Fund	68,475,317	1.5	--	--	--	--	--	--	--	--	--	--	--	1.1	Feb-18
<i>Russell 2000</i>			-0.1	9.1	11.8	8.4	11.5	9.8	14.6	21.3	-4.4	4.9	38.8	1.3	Feb-18
<b>Total International Equity</b>	<b>898,918,454</b>	<b>19.2</b>	<b>-0.6</b>	<b>10.2</b>	<b>17.0</b>	<b>6.2</b>	<b>6.4</b>	<b>--</b>	<b>28.5</b>	<b>3.0</b>	<b>-7.5</b>	<b>-2.5</b>	<b>18.7</b>	<b>--</b>	<b>--</b>
<i>MSCI ACWI ex USA Gross</i>			-1.1	10.4	17.0	6.7	6.4	3.2	27.8	5.0	-5.3	-3.4	15.8	--	--
Artisan International Growth	197,801,919	4.2	0.2	10.1	20.7	4.1	6.9	--	31.5	-9.0	-2.2	-0.1	--	6.9	Apr-13
<i>MSCI EAFE</i>			-1.5	8.2	14.8	5.6	6.5	2.7	25.0	1.0	-0.8	-4.9	22.8	6.5	Apr-13
Research Affiliates International Equity	203,656,020	4.4	-2.1	10.1	16.0	7.3	8.6	--	25.7	9.3	-5.9	-5.8	28.9	5.5	Apr-11
<i>MSCI EAFE</i>			-1.5	8.2	14.8	5.6	6.5	2.7	25.0	1.0	-0.8	-4.9	22.8	4.5	Apr-11
Mondrian International Small Cap	152,492,886	3.3	-1.6	10.4	18.9	9.4	7.4	--	32.4	0.1	2.7	-4.9	17.3	10.6	Nov-09
<i>S&amp;P Developed Ex-U.S. SmallCap</i>			-0.9	12.7	21.8	11.4	10.5	5.9	32.4	3.8	5.9	-3.4	26.1	10.0	Nov-09
Mondrian Emerging Markets	344,967,629	7.4	0.2	10.2	14.7	5.3	1.1	3.0	27.2	9.0	-16.3	0.0	-7.1	6.4	Nov-05
<i>MSCI Emerging Markets</i>			1.4	17.6	24.9	8.8	5.0	3.0	37.3	11.2	-14.9	-2.2	-2.6	7.1	Nov-05
<b>Total Fixed Income</b>	<b>1,538,137,716</b>	<b>32.9</b>	<b>1.3</b>	<b>3.9</b>	<b>6.1</b>	<b>3.5</b>	<b>2.9</b>	<b>--</b>	<b>8.0</b>	<b>6.7</b>	<b>-4.5</b>	<b>5.0</b>	<b>-1.1</b>	<b>--</b>	<b>--</b>
<i>BBgBarc Global Aggregate*</i>			1.4	4.3	7.0	3.1	1.1	3.3	7.4	2.1	-3.2	0.0	-2.0	--	--
Western Asset Investment Grade Credit	208,391,787	4.5	-2.2	0.4	2.8	2.8	--	--	6.8	7.0	-0.5	--	--	3.6	Oct-14
<i>BBgBarc US Credit TR</i>			-2.1	0.2	2.6	2.2	2.8	5.1	6.2	5.6	-0.8	7.5	-2.0	3.0	Oct-14
Loomis Sayles High Yield	301,524,244	6.4	-0.7	1.8	3.4	4.3	--	--	7.1	14.4	-5.2	--	--	4.1	Oct-14
<i>BBgBarc US High Yield TR</i>			-0.9	1.6	3.8	5.2	5.0	8.3	7.5	17.1	-4.5	2.5	7.4	4.9	Oct-14
Eaton Vance Senior Loan Fund	275,978,250	5.9	1.6	3.6	4.4	4.2	--	--	4.0	9.9	-0.8	--	--	4.1	Oct-14
<i>S&amp;P/LSTA Leveraged Loan Index</i>			1.4	3.6	4.4	4.2	3.9	5.6	4.1	10.2	-0.7	1.6	5.3	4.1	Oct-14

\*Prior to 3/31/2014 BBgBarc U.S. Aggregate Index and as of 4/1/2014 BBgBarc Global Aggregate Index. PIMCO StocksPlus funded 1Q 2018.

# Total Fund Performance Summary (Net of Fees)

Period Ending: March 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013	Inception	Inception Date
Eaton Vance Institutional Senior Loan Plus Fund	21,013,920	0.4	1.3	3.3	4.3	--	--	--	3.6	--	--	--	--	4.2	Jan-17
<i>S&amp;P/LSTA Leveraged Loan Index</i>			1.4	3.6	4.4	4.2	3.9	5.6	4.1	10.2	-0.7	1.6	5.3	4.3	Jan-17
SSgA TIPS	174,358,930	3.7	-0.8	1.3	0.9	1.2	0.0	--	3.0	4.6	-1.5	3.6	-8.6	4.0	Feb-09
<i>BBgBarc US TIPS TR</i>			-0.8	1.3	0.9	1.3	0.0	2.9	3.0	4.7	-1.4	3.6	-8.6	4.1	Feb-09
Brandywine Global Sovereign	315,309,314	6.7	3.9	6.4	10.7	3.6	--	--	11.9	3.8	-9.8	--	--	2.5	Jan-15
<i>Citi WGBI</i>			2.5	5.4	8.5	3.5	1.2	2.0	7.5	1.6	-3.6	-0.5	-4.0	2.5	Jan-15
PIMCO Emerging Local Bond Ins	241,561,272	5.2	5.0	9.6	13.4	5.4	--	--	15.4	10.7	-16.3	-5.4	--	0.9	Jul-13
<i>JP Morgan GBI EM Global Diversified TR USD</i>			4.4	9.0	13.0	5.4	-0.7	3.7	15.2	9.9	-14.9	-5.7	-9.0	1.0	Jul-13
<b>Total Real Estate</b>	<b>222,197,760</b>	<b>4.7</b>	<b>2.2</b>	<b>4.5</b>	<b>6.3</b>	<b>9.0</b>	<b>10.1</b>	<b>--</b>	<b>5.8</b>	<b>8.5</b>	<b>13.9</b>	<b>11.8</b>	<b>11.8</b>	<b>--</b>	
<i>NCREIF ODCE Net</i>			2.0	5.6	7.1	9.0	10.4	4.2	6.7	7.8	13.9	11.5	12.9	--	
Invesco Core Real Estate	170,836,677	3.6	2.2	4.4	6.1	9.1	10.4	4.4	6.2	8.3	13.7	11.4	13.4	4.4	Oct-07
<i>NCREIF ODCE Net</i>			2.0	5.6	7.1	9.0	10.4	4.2	6.7	7.8	13.9	11.5	12.9	4.3	Oct-07
FCERA Realty Group LLC	7,947,614	0.2													
<b>Total Infrastructure</b>	<b>143,542,719</b>	<b>3.1</b>	<b>8.8</b>	<b>16.8</b>	<b>22.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>19.0</b>	<b>6.1</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	
<i>NCREIF ODCE Net</i>			2.0	5.6	7.1	9.0	10.4	4.2	6.7	7.8	13.9	11.5	12.9	--	
IFM Infrastructure	143,542,719	3.1	8.8	16.8	22.4	12.1	--	--	19.0	6.1	--	--	--	13.0	May-15
<i>NCREIF ODCE Net</i>			2.0	5.6	7.1	9.0	10.4	4.2	6.7	7.8	13.9	11.5	12.9	9.3	May-15
<b>Total Hedge Funds</b>	<b>327,675,512</b>	<b>7.0</b>	<b>1.2</b>	<b>3.6</b>	<b>4.3</b>	<b>2.4</b>	<b>3.2</b>	<b>1.9</b>	<b>4.6</b>	<b>3.0</b>	<b>0.0</b>	<b>3.1</b>	<b>7.8</b>	<b>--</b>	
<i>HFRI Fund of Funds Composite Index</i>			0.3	4.7	5.6	1.9	3.4	1.6	7.8	0.5	-0.3	3.4	9.0	--	
Grosvenor	167,319,883	3.6	1.7	5.8	6.3	3.0	4.8	--	6.4	2.6	0.0	3.5	15.2	5.0	Oct-09
<i>HFRI Fund of Funds Composite Index</i>			0.3	4.7	5.6	1.9	3.4	1.6	7.8	0.5	-0.3	3.4	9.0	3.1	Oct-09
GCM Better Futures Fund	160,355,629	3.4	0.8	1.4	2.2	--	--	--	2.8	--	--	--	--	4.5	Sep-16
<i>HFRI Fund of Funds Composite Index</i>			0.3	4.7	5.6	1.9	3.4	1.6	7.8	0.5	-0.3	3.4	9.0	5.9	Sep-16
<b>Total Commodities</b>	<b>138,006,888</b>	<b>2.9</b>	<b>-0.4</b>	<b>12.6</b>	<b>5.7</b>	<b>3.6</b>	<b>-4.5</b>	<b>--</b>	<b>5.8</b>	<b>13.8</b>	<b>-12.8</b>	<b>-16.9</b>	<b>-9.4</b>	<b>--</b>	
<i>Bloomberg Commodity Index TR USD</i>			-0.4	6.9	3.7	-3.2	-8.3	-7.7	1.7	11.8	-24.7	-17.0	-9.5	--	
Invesco Commodities	138,006,888	2.9	-0.4	12.6	5.7	--	--	--	5.8	13.8	--	--	--	1.3	May-15
<i>Bloomberg Commodity Index TR USD</i>			-0.4	6.9	3.7	-3.2	-8.3	-7.7	1.7	11.8	-24.7	-17.0	-9.5	-4.4	May-15
<b>Total Custodied Cash</b>	<b>26,879,854</b>	<b>0.6</b>	<b>0.5</b>	<b>0.7</b>	<b>0.7</b>	<b>0.4</b>	<b>0.4</b>	<b>--</b>	<b>0.3</b>	<b>0.8</b>	<b>-0.1</b>	<b>0.3</b>	<b>0.4</b>	<b>--</b>	
<i>91 Day T-Bills</i>			0.4	0.9	1.2	0.5	0.3	0.3	0.9	0.3	0.0	0.0	0.0	--	
<b>Total County Cash</b>	<b>114,608,502</b>	<b>2.4</b>	<b>0.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	
<i>91 Day T-Bills</i>			0.4	0.9	1.2	0.5	0.3	0.3	0.9	0.3	0.0	0.0	0.0	--	
<b>Total Parametric Overlay</b>	<b>115,332,774</b>	<b>2.5</b>													

Closed end Real Estate funds not shown on this page.



# Real Estate Closed End Funds (Net of Fees)

Period Ending: March 31, 2018

## Real Estate - Closed End Funds

Inception Date	Manager Name/Fund Name	% of Portfolio	Total Commitment	Contributions	Distributions	Estimated Market Value	One Quarter Return	One Year Return	Three Years Return	Five Years Return	(IRR) Since Inception
2017	Invesco Value-Add Fund V	0.0%	\$30,000,000	\$0	\$0	\$0	N/A	N/A	N/A	N/A	N/A
2016	Kennedy Wilson Real Estate Fund V	0.6%	\$30,000,000	\$26,613,444	\$4,436,340	\$26,127,105	2.5%	10.9%	N/A	N/A	11.5%
2016	Gerding Edlen Green Cities III	0.4%	\$20,000,000	\$15,547,435	\$537,072	\$17,092,381	3.1%	4.1%	N/A	N/A	11.1%
2009	TA Realty IX	0.0%	\$30,000,000	\$30,000,000	\$47,035,638	\$193,984	2.4%	0.7%	6.2%	8.9%	10.4%

% of Total Fund (Market Value)

0.9%

*Invesco Value-Add Fund V is pending satisfactory legal review.*

# Total Alternative Illiquids Non Marketable Securities Overview

Period Ending: March 31, 2018

Verus Internal Analysis										Manager Reported		
Vintage Year	Manager Name/Fund Name	Estimated Market Value as of 3/31/18 <sup>3</sup>	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Distrib./ Paid-In (DPI) <sup>1</sup>	Tot. Value/ Paid-In (TVPI) <sup>2</sup>	Market Value as of IRR Date	Net IRR Since Inception <sup>6</sup>	IRR Date
<b>Private Equity</b>												
2018	Kelso Investment Associates X, L.P.	N/A	\$7,500,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A <sup>4</sup>
2017	Avista Capital Partners IV	N/A	\$10,000,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A <sup>4</sup>
2017	Hamilton Lane Secondaries IV	\$19,067,404	\$75,000,000	\$20,325,361	27%	\$54,674,639	\$4,143,489	N/A	N/A	N/A	N/A	N/A <sup>4</sup>
2016	Horsley Bridge XI Growth Buyout L.P.	\$5,201,344	\$30,000,000	\$5,655,000	19%	\$24,345,000	\$0	0.0%	92.0%	N/A	N/A	N/A <sup>4</sup>
2016	Hamilton Lane IX L.P.	\$54,329,564	\$100,000,000	\$46,499,615	46%	\$53,500,385	\$4,026,816	8.7%	125.5%	\$44,351,897	19.6%	12/31/17
2015	Warburg Pincus XII	\$18,659,689	\$34,000,000	\$18,105,000	53%	\$15,895,000	\$261,800	1.4%	104.5%	\$17,027,689	6.1%	12/31/17
2008	Landmark Equity XIV, L.P.	\$8,437,932	\$30,000,000	\$28,780,377	96%	\$1,219,623	\$29,572,246	102.8%	132.1%	\$11,449,882	10.8%	09/30/17
2007	New Mountain Partners III	\$10,027,002	\$15,000,000	\$15,270,869	102%	\$1,121,057 <sup>7</sup>	\$19,375,613	126.9%	192.5%	\$10,348,399	13.6%	12/31/17
2007	Hamilton Lane VI	\$26,635,516	\$70,000,000	\$62,607,682	89%	\$7,392,318	\$71,994,570	115.0%	157.5%	\$28,922,954	9.5%	12/31/17
2007	WP Private Equity X, L.P.	\$11,876,557	\$25,000,000	\$25,000,000	100%	\$0	\$24,459,238	97.8%	145.3%	\$11,876,557	8.2%	12/31/17
2002	Blackstone IV	\$2,085,376	\$20,000,000	\$22,364,019	112%	\$0 <sup>8</sup>	\$51,037,439	228.2%	237.5%	\$2,258,505	29.6%	12/31/17
2001	WP Private Equity VIII, L.P.	\$2,702,753	\$25,000,000	\$25,000,000	100%	\$0	\$56,351,788	225.4%	236.2%	\$2,853,028	14.7%	12/31/17
1998	WP Equity Partners, L.P. <sup>9</sup>	\$122,990	\$20,000,000	\$20,000,000	100%	\$0	\$32,982,907	164.9%	165.5%	\$78,193	10.3%	12/31/16
<b>Total Private Equity</b>		<b>\$159,146,127</b>	\$461,500,000	\$289,607,923	63%	\$158,148,022	\$294,205,905	101.6%	156.5%			
<b>% of Portfolio (Market Value)</b>		<b>3.4%</b>										
<b>Private Credit</b>												
2017	Alpinvest FC Credit Fund, L.P.	\$7,548,195	\$100,000,000	\$7,691,108	8%	\$92,308,893	\$142,913	N/A	N/A	N/A	N/A	N/A <sup>4</sup>
2017	CPC V, L.P.	\$17,902,879	\$150,000,000	\$17,999,646	12%	\$132,000,354	\$0	N/A	N/A	N/A	N/A	N/A <sup>4</sup>
2017	TCG BDC II	\$24,374,707	\$150,000,000	\$24,328,140	16%	\$125,671,860	\$0	N/A	N/A	N/A	N/A	N/A <sup>4</sup>
2017	EQT European Special Situations Debt	\$3,446,765	\$40,000,000	\$3,707,714	9%	\$36,292,286	\$0	N/A	N/A	N/A	N/A	N/A <sup>4</sup>
2016	OHA Strategic Credit Fund II, L.P.	\$2,211,818	\$40,000,000	\$2,000,000	5%	\$38,000,000	\$0	N/A	N/A	N/A	N/A	N/A <sup>4</sup>
2016	TSSP Adjacent Opportunities Partners	\$15,321,665	\$30,000,000	\$17,506,293	58%	\$12,493,707	\$3,421,554 <sup>10</sup>	19.5%	107.1%	\$14,054,847	9.6%	12/31/17
2015	GSO European Senior Debt	\$15,785,457	\$30,000,000	\$14,824,227	49%	\$15,175,773	\$3,046,491	20.6%	127.0%	\$13,258,238	7.3%	12/31/17
2015	CVI Credit Value Fund III	\$28,356,103	\$30,000,000	\$19,500,000	65%	\$10,500,000	\$0	0.0%	145.4%	\$28,353,898	14.1%	12/31/17
2014	Colony Distressed Credit III, L.P.	\$14,870,300	\$20,000,000	\$21,205,327	106%	\$4,762,633 <sup>11</sup>	\$10,105,201	47.7%	117.8%	\$14,870,300	10.0%	12/31/17
2012	Oaktree Opportunities IX, L.P.	\$11,661,395	\$15,000,000	\$15,000,000	100%	\$0	\$4,934,315	32.9%	110.6%	\$11,661,395	2.9%	12/31/17
2010	KKR Mezzanine Partners	\$7,924,006	\$30,000,000	\$33,403,359	111%	\$3,164,154	\$34,858,339	104.4%	128.1%	\$8,140,603	8.1%	12/31/17
2010	Angelo Gordon VII	\$1,267,284	\$30,000,000	\$30,000,000	100%	\$0	\$35,321,659	117.7%	122.0%	\$1,500,220	5.0%	12/31/17
2009	Colony Distressed Credit I, L.P. <sup>11</sup>	\$1,399,800	\$40,000,000	\$42,267,900	106%	\$0	\$62,343,122	147.5%	150.8%	\$1,399,800	13.0%	12/31/17
2002	Lone Star Fund IV	\$66,831	\$20,000,000	\$19,045,199	95%	\$954,801	\$44,354,883	232.9%	233.2%	\$166,651	30.7%	12/31/17
1998	TCW Shop III	\$25,959	\$15,000,000	\$15,000,000	100%	\$0	\$18,664,813	124.4%	124.6%	\$437,407	3.4%	12/31/15
<b>Total Private Credit</b>		<b>\$152,163,164</b>	\$740,000,000	\$283,478,913	38%	\$471,324,460	\$217,193,290	76.6%	130.3%			
<b>% of Portfolio (Market Value)</b>		<b>3.3%</b>										

<sup>1</sup>(DPI) is equal to (capital returned / capital called)

<sup>2</sup>(TVPI) is equal to (market value + capital returned) / capital called

<sup>3</sup>Last known market value + capital calls - distributions

<sup>4</sup>IRR currently unavailable for these funds.

<sup>5</sup>Investment period ended, no further capital to be called.

<sup>6</sup>Gross IRR is calculated on the cash flows of the underlying investments of the fund and is net of the underlying fund fees and carried interest.

<sup>7</sup>Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR figure is provided by its respective manager.

<sup>8</sup>\$1,366,953 capital returned but subject to recall

<sup>9</sup>\$3,969,371 capital returned but subject to recall

<sup>10</sup>On June 11, 2012 \$1,029,076 was transferred from the Partnership to a Liquidation Trust.

<sup>11</sup>\$4,673,663 capital returned but subject to recall

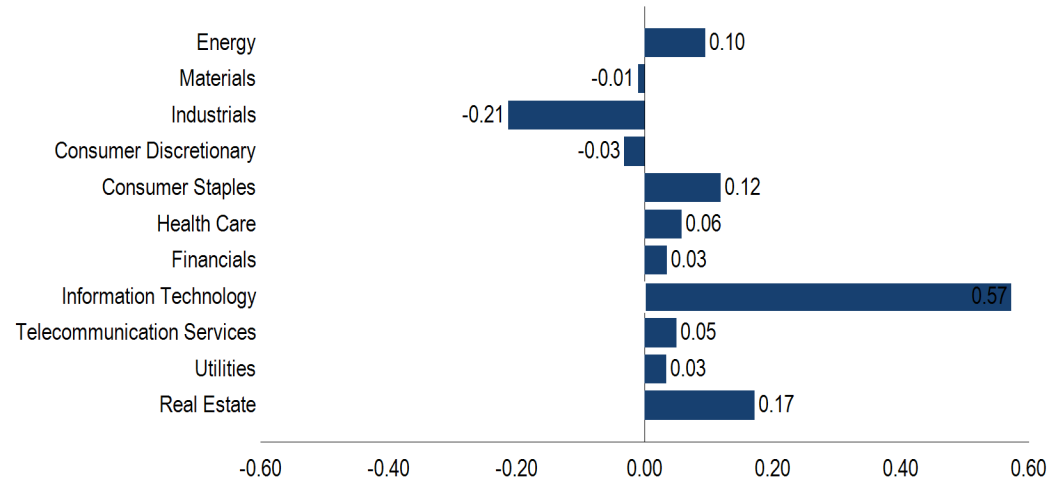
<sup>12</sup>Colony Capital reflects a FCERA-specific IRR.

<sup>13</sup>Distributions, Including Deemed

# Total Domestic Equity Performance Attribution by Sector (Net of Fees)

Period Ending: March 31, 2018

Total Domestic Equity vs. Russell 3000  
Current Quarter



GICS Sector	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess Return	Allocation Effect (Local)	Selection Effect (Local)	Active Contrib.	Passive Contrib.	Total Contrib.
Energy	6.55%	5.75%	0.80%	-3.91%	-6.06%	2.15%	-0.04%	0.13%	0.10%	-0.31%	-0.22%
Materials	2.73%	3.44%	-0.71%	-6.81%	-5.22%	-1.60%	0.03%	-0.04%	-0.01%	-0.16%	-0.17%
Industrials	11.55%	10.97%	0.58%	-3.65%	-1.86%	-1.78%	-0.01%	-0.21%	-0.21%	-0.14%	-0.35%
Consumer Discretionary	10.86%	12.50%	-1.65%	2.02%	1.98%	0.04%	-0.04%	0.01%	-0.03%	0.33%	0.29%
Consumer Staples	5.49%	7.33%	-1.84%	-6.44%	-6.73%	0.29%	0.10%	0.02%	0.12%	-0.45%	-0.33%
Health Care	11.75%	13.32%	-1.57%	0.32%	-0.30%	0.62%	-0.01%	0.06%	0.06%	0.04%	0.10%
Financials	17.96%	15.13%	2.83%	-0.23%	-0.43%	0.19%	0.01%	0.03%	0.03%	0.03%	0.07%
Information Technology	25.55%	22.82%	2.73%	5.82%	4.06%	1.75%	0.14%	0.43%	0.57%	1.07%	1.64%
Telecommunication Services	1.26%	1.90%	-0.64%	-6.74%	-7.27%	0.54%	0.04%	0.01%	0.05%	-0.13%	-0.08%
Utilities	2.72%	2.98%	-0.26%	-2.49%	-3.37%	0.88%	0.01%	0.02%	0.03%	-0.08%	-0.05%
Real Estate	3.57%	3.86%	-0.28%	-1.58%	-6.16%	4.58%	0.01%	0.16%	0.17%	-0.21%	-0.04%
<b>Total</b>				<b>0.25%</b>	<b>-0.63%</b>	<b>0.88%</b>	<b>0.25%</b>	<b>0.63%</b>	<b>0.88%</b>	<b>0.00%</b>	<b>0.88%</b>

Total Domestic Equity  
Performance Attribution Summary (Net of Fees)

Period Ending: March 31, 2018

Portfolio: Total Domestic Equity  
Benchmark: Russell 3000

Portfolio Total Return 0.12%

	Equity Only
Portfolio	0.25%
Benchmark	<u>-0.63%</u>
Return From Active Mgmt	0.88%

Local Returns	
Portfolio	0.25%
Benchmark	<u>-0.63%</u>
Active Equity Return	0.88%

Country Selection	-0.04%
Stock Selection	0.92%

Currency Contributions	
Portfolio	0.00%
Benchmark	<u>0.00%</u>
Active Currency Contributions	0.00%

Chart uses return-based methodology

Total International Equity  
Performance Attribution by Country (Net of Fees)

Period Ending: March 31, 2018

Total International Equity vs. MSCI ACWI ex USA

Current Quarter

	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess USD Return	Active Return	Allocation Effect (Local)	Selection Effect (Local)	Currency Effect
AUSTRALIA	3.12%	4.77%	-1.65%	-8.17%	-6.12%	-2.05%	-0.03%	0.04%	-0.06%	0.00%
AUSTRIA	0.18%	0.18%	0.01%	4.25%	2.22%	2.03%	0.00%	0.00%	0.00%	0.00%
BELGIUM	0.13%	0.76%	-0.63%	-0.65%	0.55%	-1.20%	-0.03%	0.00%	-0.01%	-0.02%
BRAZIL	4.32%	1.70%	2.62%	20.26%	12.45%	7.81%	0.29%	0.15%	0.01%	0.13%
CANADA	3.89%	6.56%	-2.66%	-5.91%	-7.22%	1.30%	0.15%	0.04%	0.01%	0.10%
CHILE	0.02%	0.31%	-0.29%	-5.04%	1.59%	-6.63%	-0.02%	-0.01%	0.00%	-0.01%
CHINA	3.57%	7.38%	-3.81%	0.86%	1.83%	-0.97%	-0.10%	-0.14%	0.00%	0.04%
COLOMBIA	0.00%	0.10%	-0.10%	--	4.89%	-4.89%	-0.01%	0.00%	0.00%	-0.01%
CZECH REPUBLIC	0.00%	0.04%	-0.04%	--	6.40%	-6.40%	0.00%	0.00%	0.00%	0.00%
DENMARK	0.21%	1.25%	-1.04%	8.00%	-1.14%	9.14%	0.03%	0.01%	0.04%	-0.03%
EGYPT	0.00%	0.03%	-0.03%	--	12.02%	-12.02%	0.00%	0.00%	0.00%	0.00%
FINLAND	0.10%	0.64%	-0.54%	15.34%	8.66%	6.67%	-0.04%	-0.04%	0.01%	-0.01%
FRANCE	5.12%	7.35%	-2.23%	-1.93%	0.53%	-2.47%	-0.29%	-0.01%	-0.19%	-0.09%
GERMANY	10.56%	6.74%	3.82%	-1.28%	-3.51%	2.23%	0.09%	-0.31%	0.40%	0.00%
GREECE	0.00%	0.08%	-0.08%	--	-6.70%	6.70%	0.00%	0.01%	0.00%	0.00%
HONG KONG	6.48%	2.45%	4.03%	-0.49%	-1.36%	0.87%	0.09%	0.09%	0.01%	0.00%
HUNGARY	0.00%	0.08%	-0.08%	--	-1.05%	1.05%	0.00%	0.00%	0.00%	0.00%
INDIA	5.12%	2.15%	2.97%	7.80%	-6.94%	14.74%	0.34%	0.07%	0.21%	0.06%
INDONESIA	0.71%	0.56%	0.16%	-2.54%	-7.07%	4.54%	0.02%	0.00%	0.01%	0.01%
IRELAND	0.28%	0.34%	-0.06%	8.61%	-5.67%	14.28%	0.01%	0.01%	0.00%	0.00%
ISRAEL	0.16%	0.32%	-0.16%	-6.41%	-5.28%	-1.14%	-0.01%	0.00%	-0.01%	0.00%
ITALY	2.06%	1.62%	0.44%	8.23%	5.45%	2.78%	0.09%	0.05%	0.05%	-0.02%
JAPAN	10.87%	16.55%	-5.68%	-1.40%	0.82%	-2.22%	-0.51%	0.05%	-0.41%	-0.14%
KAZAKHSTAN	0.10%	0.00%	0.10%	5.77%	11.40%	-5.63%	0.00%	0.01%	-0.01%	0.00%
KOREA	5.54%	3.82%	1.72%	-0.25%	-0.88%	0.62%	-0.22%	-0.02%	-0.19%	-0.01%
LUXEMBOURG	0.02%	0.00%	0.02%	3.06%	-1.11%	4.16%	0.00%	0.00%	0.00%	0.00%

# Total International Equity Performance Attribution by Country (Net of Fees)

Period Ending: March 31, 2018

	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess USD Return	Active Return	Allocation Effect (Local)	Selection Effect (Local)	Currency Effect
MALAYSIA	1.83%	0.58%	1.25%	4.51%	8.66%	-4.15%	-0.03%	-0.02%	-0.04%	0.03%
MEXICO	0.77%	0.71%	0.05%	5.84%	0.93%	4.91%	-0.01%	0.02%	-0.01%	-0.01%
NETHERLANDS	2.80%	2.46%	0.34%	-1.28%	0.98%	-2.25%	-0.12%	0.04%	-0.15%	-0.01%
NEW ZEALAND	0.82%	0.12%	0.70%	-6.63%	-4.89%	-1.74%	0.03%	-0.02%	0.02%	0.03%
NORWAY	0.22%	0.45%	-0.23%	3.34%	2.34%	1.00%	-0.01%	0.01%	0.00%	-0.02%
PAKISTAN	0.00%	0.02%	-0.02%	--	11.61%	-11.61%	0.00%	0.00%	0.00%	0.00%
PERU	0.35%	0.10%	0.25%	11.67%	10.25%	1.42%	0.02%	0.01%	0.01%	0.00%
PHILIPPINES	0.40%	0.28%	0.12%	1.56%	-11.41%	12.97%	0.02%	0.01%	0.00%	0.01%
POLAND	0.00%	0.33%	-0.33%	--	-8.19%	8.19%	0.02%	0.02%	0.00%	-0.01%
PORTUGAL	0.05%	0.10%	-0.05%	7.13%	3.06%	4.06%	0.01%	0.00%	0.00%	0.00%
QATAR	0.58%	0.14%	0.44%	8.28%	4.55%	3.73%	0.02%	0.01%	0.01%	0.00%
ROMANIA	0.14%	0.00%	0.14%	17.09%	13.64%	3.45%	0.02%	0.01%	0.01%	0.00%
RUSSIA	1.67%	0.82%	0.85%	2.67%	9.41%	-6.74%	0.05%	0.04%	0.01%	0.00%
SINGAPORE	1.30%	0.92%	0.38%	4.26%	2.66%	1.61%	0.02%	0.00%	0.01%	0.01%
SOUTH AFRICA	2.63%	1.75%	0.87%	-43.94%	-3.98%	-39.96%	0.04%	0.01%	0.00%	0.03%
SPAIN	1.38%	2.21%	-0.84%	-2.23%	-1.72%	-0.51%	-0.09%	-0.03%	-0.02%	-0.04%
SWEDEN	1.20%	1.85%	-0.65%	-0.90%	-1.78%	0.88%	0.01%	-0.03%	0.01%	0.03%
SWITZERLAND	2.66%	5.52%	-2.86%	-4.31%	-3.91%	-0.40%	-0.05%	0.08%	-0.03%	-0.10%
TAIWAN	3.48%	2.78%	0.71%	8.34%	5.65%	2.69%	-0.05%	-0.09%	0.02%	0.02%
THAILAND	1.00%	0.56%	0.44%	1.40%	9.03%	-7.62%	-0.08%	-0.03%	-0.04%	-0.01%
TURKEY	1.17%	0.27%	0.90%	2.88%	-4.79%	7.66%	0.01%	0.01%	-0.02%	0.02%
UNITED ARAB EMIRATES	0.50%	0.16%	0.34%	9.26%	-0.78%	10.04%	0.03%	0.00%	0.03%	0.00%
UNITED KINGDOM	9.23%	12.09%	-2.86%	-2.11%	-3.95%	1.84%	0.15%	0.12%	0.17%	-0.14%
UNITED STATES	3.26%	0.00%	3.26%	1.84%	-0.76%	2.60%	0.15%	0.05%	0.10%	0.00%
	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>	<b>-1.09%</b>	<b>-1.11%</b>	<b>0.01%</b>	<b>0.01%</b>	<b>0.20%</b>	<b>-0.04%</b>	<b>-0.15%</b>

# Total International Equity Performance Attribution by Currency (Net of Fees)

Period Ending: March 31, 2018

## Total International Equity vs. MSCI ACWI ex USA

### Current Quarter

Currency Name	Portfolio Weight	Index Weight	Excess Weight	Currency Return	Portfolio Contrib.	Index Contrib.	Active Contrib.	Currency Effect
Australian Dollar	3.12%	4.77%	-1.65%	-1.80%	-1.81%	-1.85%	0.04%	0.00%
Baht	1.00%	0.56%	0.44%	4.22%	1.40%	4.42%	-3.01%	-0.01%
Canadian Dollar	3.89%	6.56%	-2.66%	-2.82%	-1.60%	-2.74%	1.13%	0.10%
Chilean Peso	0.02%	0.31%	-0.29%	1.89%	0.00%	1.89%	-1.89%	-0.01%
Colombian Peso	0.00%	0.10%	-0.10%	6.85%	0.00%	6.38%	-6.38%	-0.01%
Cruzeiro Real	4.32%	1.70%	2.62%	-0.20%	3.06%	-0.22%	3.28%	0.13%
Czech Koruna	0.00%	0.04%	-0.04%	3.00%	0.00%	3.10%	-3.10%	0.00%
Danish Krone	0.21%	1.25%	-1.04%	2.30%	2.43%	2.22%	0.21%	-0.03%
Egyptian Pound	0.00%	0.03%	-0.03%	0.85%	0.00%	0.95%	-0.95%	0.00%
Emirati dirham	0.50%	0.16%	0.34%	-0.01%	-0.01%	0.00%	0.00%	0.00%
Euro	22.68%	22.48%	0.20%	2.42%	2.31%	2.34%	-0.03%	-0.19%
Forint	0.00%	0.08%	-0.08%	1.77%	0.00%	1.72%	-1.72%	0.00%
Hong Kong Dollar	6.48%	2.45%	4.03%	-0.39%	-0.39%	-0.36%	-0.03%	0.00%
Indian Rupee	5.12%	2.15%	2.97%	-2.14%	0.36%	-2.03%	2.38%	0.06%
Mexican New Peso	0.77%	0.71%	0.05%	7.19%	5.33%	6.77%	-1.44%	-0.01%
New Sol	0.35%	0.10%	0.25%	0.42%	0.00%	0.00%	0.00%	0.00%
New Taiwan Dollar	3.48%	2.78%	0.71%	2.06%	2.23%	2.14%	0.10%	0.02%
New Zealand Dollar	0.82%	0.12%	0.70%	1.43%	1.32%	1.35%	-0.02%	0.03%
New Zloty	0.00%	0.33%	-0.33%	1.45%	0.00%	1.31%	-1.31%	-0.01%
Norwegian Krone	0.22%	0.45%	-0.23%	4.18%	4.15%	4.11%	0.04%	-0.02%
Pakistani Rupee	0.00%	0.02%	-0.02%	-4.38%	0.00%	-5.11%	5.11%	0.00%
Philippines Peso	0.40%	0.28%	0.12%	-4.33%	0.00%	-4.01%	4.01%	0.01%
Pound Sterling	9.23%	12.09%	-2.86%	3.70%	3.49%	3.41%	0.09%	-0.14%
Qatari rial	0.58%	0.14%	0.44%	0.00%	0.03%	0.00%	0.03%	0.00%
Rand	2.63%	1.75%	0.87%	4.48%	3.05%	4.12%	-1.07%	0.03%
Ringgit (Malaysian Dollar)	1.83%	0.58%	1.25%	4.63%	3.16%	4.81%	-1.65%	0.03%
Romanian New Leu	0.14%	0.00%	0.14%	2.57%	0.00%	1.88%	-1.88%	0.00%
Rupiah	0.71%	0.56%	0.16%	-1.45%	-1.44%	-1.37%	-0.07%	0.01%

Total International Equity  
Performance Attribution by Currency (Net of Fees)

Period Ending: March 31, 2018

Currency Name	Portfolio Weight	Index Weight	Excess Weight	Currency Return	Portfolio Contrib.	Index Contrib.	Active Contrib.	Currency Effect
Russian Federation Rouble	1.67%	0.82%	0.85%	0.12%	0.00%	0.10%	-0.10%	0.00%
Shekel	0.16%	0.32%	-0.16%	-1.12%	-0.72%	-0.61%	-0.11%	0.00%
Singapore Dollar	1.30%	0.92%	0.38%	1.91%	1.91%	1.85%	0.06%	0.01%
South Korean Won	5.54%	3.82%	1.72%	0.44%	0.43%	0.43%	0.00%	-0.01%
Swedish Krona	1.20%	1.85%	-0.65%	-2.24%	-2.27%	-2.25%	-0.02%	0.03%
Swiss Franc	2.66%	5.52%	-2.86%	1.76%	1.66%	1.66%	-0.01%	-0.10%
Tenge	0.10%	0.00%	0.10%	4.27%	0.00%	1.88%	-1.88%	0.00%
Turkish Lira	1.17%	0.27%	0.90%	-4.29%	1.09%	-4.26%	5.35%	0.02%
US Dollar	3.26%	0.00%	3.26%	0.00%	0.00%	1.88%	-1.88%	0.00%
Yen	10.87%	16.55%	-5.68%	5.92%	5.51%	5.64%	-0.12%	-0.14%
Yuan Renminbi	3.57%	7.38%	-3.81%	3.50%	0.36%	-0.30%	0.66%	0.04%
	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>		<b>1.83%</b>	<b>1.88%</b>	<b>-0.05%</b>	<b>-0.15%</b>



Total International Equity  
Performance Attribution by Region (Net of Fees)

Period Ending: March 31, 2018

Total International Equity vs. MSCI ACWI ex USA  
Current Quarter

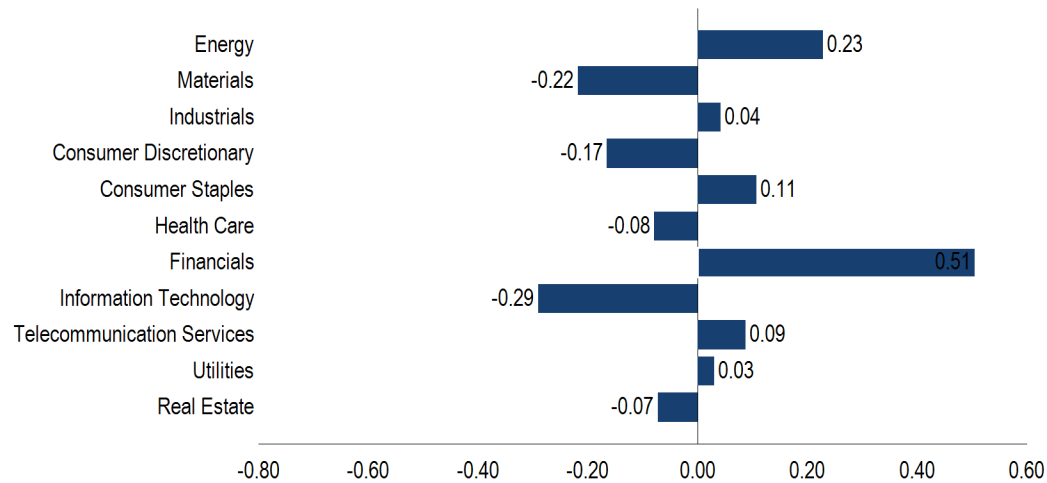
Region	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess USD Return	Allocation Effect (Local)	Selection Effect (Local)	Active Contrib.	Passive Contrib.	Total Contrib.
North America ex U.S.	3.89%	6.56%	-2.66%	-5.91%	-7.22%	1.30%	0.04%	0.11%	0.15%	-0.40%	-0.25%
United States	3.26%	0.00%	3.26%	1.84%	--	--	0.00%	0.15%	0.15%	0.00%	0.15%
Europe Ex U.K.	26.96%	31.56%	-4.59%	-0.76%	-1.06%	0.30%	0.03%	-0.43%	-0.40%	0.02%	-0.38%
United Kingdom	9.23%	12.09%	-2.86%	-2.11%	-3.95%	1.84%	0.12%	0.04%	0.15%	-0.34%	-0.19%
Pacific Basin Ex Japan	11.72%	8.25%	3.47%	-3.20%	-3.72%	0.53%	-0.04%	0.14%	0.10%	-0.22%	-0.11%
Japan	10.87%	16.55%	-5.68%	-1.40%	0.82%	-2.22%	0.05%	-0.56%	-0.51%	0.32%	-0.18%
Emerging Markets	33.08%	24.51%	8.57%	-0.73%	1.42%	-2.15%	0.43%	-0.10%	0.33%	0.62%	0.95%
Other	0.97%	0.48%	0.50%	-3.34%	-1.79%	-1.55%	0.01%	0.02%	0.03%	0.00%	0.03%
<b>Total</b>				<b>-1.09%</b>	<b>-1.11%</b>	<b>0.01%</b>	<b>0.64%</b>	<b>-0.63%</b>	<b>0.01%</b>	<b>0.00%</b>	<b>0.01%</b>

Region	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess USD Return	Allocation Effect (Local)	Selection Effect (Local)	Active Contrib.	Passive Contrib.	Total Contrib.
EM Asia	21.66%	18.10%	3.56%	-3.48%	0.77%	-4.26%	0.31%	-0.40%	-0.09%	0.34%	0.25%
EM Latin America	5.46%	2.92%	2.54%	18.78%	8.13%	10.66%	0.06%	0.21%	0.28%	0.27%	0.55%
EM Europe & Middle East	2.84%	1.55%	1.29%	-1.40%	2.57%	-3.98%	0.05%	0.02%	0.07%	0.06%	0.13%
EM Africa	2.63%	1.78%	0.85%	-43.94%	-3.74%	-40.20%	0.00%	0.03%	0.04%	-0.05%	-0.01%
Other	67.41%	75.65%	-8.23%	-1.62%	-1.92%	0.30%	0.14%	-0.42%	-0.29%	-0.62%	-0.91%
<b>Total</b>				<b>-1.09%</b>	<b>-1.11%</b>	<b>0.01%</b>	<b>0.56%</b>	<b>-0.55%</b>	<b>0.01%</b>	<b>0.00%</b>	<b>0.01%</b>

Total International Equity  
Performance Attribution by Sector (Net of Fees)

Period Ending: March 31, 2018

Total International Equity vs. MSCI ACWI ex USA  
Current Quarter



GICS Sector	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess Return	Allocation Effect (Local)	Selection Effect (Local)	Active Contrib.	Passive Contrib.	Total Contrib.
Energy	3.49%	6.74%	-3.25%	4.19%	-1.78%	5.97%	-0.01%	0.17%	0.16%	-0.05%	0.11%
Materials	8.76%	8.14%	0.62%	-4.82%	-2.90%	-1.92%	-0.01%	-0.19%	-0.20%	-0.15%	-0.34%
Industrials	15.57%	11.88%	3.69%	-1.35%	-1.51%	0.16%	-0.04%	0.13%	0.09%	-0.05%	0.04%
Consumer Discretionary	11.25%	11.32%	-0.06%	-3.22%	-1.06%	-2.16%	0.02%	-0.22%	-0.21%	0.01%	-0.20%
Consumer Staples	7.59%	9.54%	-1.95%	-2.16%	-2.70%	0.54%	0.07%	-0.04%	0.02%	-0.15%	-0.13%
Health Care	4.73%	7.62%	-2.89%	-2.28%	-0.01%	-2.27%	0.00%	-0.20%	-0.20%	0.08%	-0.11%
Financials	24.54%	23.13%	1.42%	1.33%	-0.99%	2.32%	-0.09%	0.56%	0.47%	0.03%	0.49%
Information Technology	12.56%	11.51%	1.05%	-0.45%	1.74%	-2.19%	0.03%	-0.20%	-0.17%	0.33%	0.16%
Telecommunication Services	3.81%	4.03%	-0.22%	-4.28%	-4.05%	-0.23%	0.02%	0.00%	0.01%	-0.12%	-0.10%
Utilities	5.09%	2.90%	2.19%	3.68%	1.42%	2.26%	-0.05%	0.12%	0.07%	0.07%	0.15%
Real Estate	2.57%	3.20%	-0.63%	-3.26%	-1.22%	-2.04%	0.00%	-0.05%	-0.05%	0.00%	-0.05%
Unclassified	0.03%	0.00%	0.03%	5.01%	--	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%

Total International Equity  
Performance Attribution Summary (Net of Fees)

Period Ending: March 31, 2018

Portfolio: Total International Equity  
Benchmark: MSCI ACWI ex USA

Portfolio Total Return -0.63%

	Equity Only
Portfolio	-1.09%
Benchmark	<u>-1.11%</u>
Return From Active Mgmt	0.01%

Local Returns	
Portfolio	-2.81%
Benchmark	<u>-2.99%</u>
Active Equity Return	0.18%

Country Selection	0.20%
Stock Selection	-0.04%

Currency Contributions	
Portfolio	1.83%
Benchmark	<u>1.88%</u>
Active Currency Contributions	-0.05%

Chart uses return-based methodology

## Total Fund Watch List (Net of Fees)

Period Ending: March 31, 2018

Name	Allocation Group	Status	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5	Rule 6
Ivy	Domestic Equity Large Cap Growth	Terminate	✓	✗	✓	✓	✓	✓
Aronson Johnson Ortiz	Domestic Equity Large Cap Value	No Issues	✓	✗	✓	✓	✗	✓
Systematic Small/Mid Cap Value	Domestic Equity Small/Mid Cap Value	No Issues	✓	✗	✓	✓	✓	✓
Artisan International Growth	International Equity	No Issues	✓	✗	✗	✗	✗	✓
Research Affiliates International Equity	International Equity	No Issues	✓	✓	✓	✓	✓	✓
Mondrian International Small Cap	International Equity Small Cap	No Issues	✗	✗	✗	✗	✗	✓
Mondrian Emerging Markets	Emerging Markets Equity	No Issues	✗	✗	✗	✗	✗	✓

Rule 1 - Manager has underperformed the benchmark index more than half the time over the last 20 quarters

Rule 2 - Equity manager has returned less than 110% of the benchmark index for the three year period.

Rule 3 - Manager has underperformed the 50th percentile in the appropriate style universe in more than two of the last five years of consecutive returns.

Rule 4 - Manager's Sharpe Ratio is worse than the 50th Percentile in an appropriate style universe for the five year period  $(\text{five year return minus five year risk free rate})/(\text{standard deviation})$ .

Rule 5 - Manager's Information Ratio is worse than the 50th Percentile in an appropriate style universe for the five year period  $(\text{excess return over benchmark})/(\text{tracking error})$ .

Rule 6 - Fund experiences non-performance related issues including personnel turnover, changes in investment philosophy or drift, excessive asset growth, change in ownership and any other reason that raises concern.

Watch List standards are run against historical composite returns prior to manager since inception.

## Total Fund Watch List (Net of Fees)

Period Ending: March 31, 2018

Name	Allocation Group	Status	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5	Rule 6
Brandywine Global Sovereign	Global Fixed Income	No Issues	✓	✗	✗	✗	✗	✓
Western Asset Investment Grade Credit	Domestic Fixed Income	No Issues	✓	✓	✓	✓	✓	✓
Loomis Sayles High Yield	Domestic Fixed Income High Yield	No Issues	✓	✗	✓	✗	✓	✓
Eaton Vance Senior Loan Fund	Domestic Fixed Income Bank Loans	No Issues	✗	✗	✗	✗	✗	✓
PIMCO Emerging Local Bond Ins	Emerging Markets Fixed Income	No Issues	✓	✗	✗	✗	✗	✓
Invesco Core Real Estate	Real Estate	No Issues	✗	✗	✗	--	--	✓
Grosvenor	Hedge Funds	No Issues	✓	✓	✗	--	--	✓
Invesco Commodities	Commodities	No Issues	✓	✓	✗	--	--	✓

Rule 1 - Manager has underperformed the benchmark index more than half the time over the last 20 quarters

Rule 2 - Fixed Income manager has returned less than 105% of the benchmark index for the three year period.

Rule 3 - Manager has underperformed the 50th percentile in the appropriate style universe in more than two of the last five years of consecutive returns.

Rule 4 - Manager's Sharpe Ratio is worse than the 50th Percentile in an appropriate style universe for the five year period  $(\text{five year return minus five year risk free rate})/(\text{standard deviation})$ .

Rule 5 - Manager's Information Ratio is worse than the 50th Percentile in an appropriate style universe for the five year period  $(\text{excess return over benchmark})/(\text{tracking error})$ .

Rule 6 - Fund experiences non-performance related issues including personnel turnover, changes in investment philosophy or drift, excessive asset growth, change in ownership and any other reason that raises concern.

Watch List standards are run against historical composite returns prior to manager since inception.

# Total Fund Investment Fund Fee Analysis

Period Ending: March 31, 2018

Account	Fee Schedule	Market Value As of 3/31/2018	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
SSgA S&P 500 Flagship Fund	0.03% of First 150.0 Mil, 0.02% Thereafter	\$176,174,316	\$49,711	0.03%
Ivy	0.25% of Assets	\$274,855,232	\$687,138	0.25%
Aronson Johnson Ortiz	0.30% of First 250.0 Mil, 0.20% of Next 250.0 Mil, 0.15% of Next 500.0 Mil, 0.13% Thereafter	\$250,484,375	\$750,969	0.30%
Systematic Small/Mid Cap Value	0.35% of Assets	\$74,891,921	\$262,122	0.35%
PIMCO StocksPLUS Small Fund	0.50% of First 150.0 Mil, 0.45% Thereafter	\$68,475,317	\$342,377	0.50%
Artisan International Growth	0.30% of Assets	\$197,801,919	\$593,406	0.30%
Research Affiliates International Equity	0.12% of Assets	\$203,656,020	\$244,387	0.12%
Mondrian International Small Cap	0.85% of First 25.0 Mil, 0.65% of Next 50.0 Mil, 0.63% of Next 50.0 Mil, 0.60% Thereafter	\$152,492,886	\$1,014,957	0.67%
Mondrian Emerging Markets	1.00% of First 25.0 Mil, 0.75% of Next 50.0 Mil, 0.60% Thereafter	\$344,967,629	\$2,244,806	0.65%
Western Asset Investment Grade Credit	0.30% of First 100.0 Mil, 0.15% Thereafter	\$208,391,787	\$462,588	0.22%
Loomis Sayles High Yield	0.50% of Assets	\$301,524,244	\$1,507,621	0.50%
Eaton Vance Senior Loan Fund	0.55% of First 50.0 Mil, 0.50% of Next 50.0 Mil, 0.40% Thereafter	\$275,978,250	\$1,228,913	0.45%
Eaton Vance Institutional Senior Loan Plus Fund	0.40% of Assets	\$21,013,920	\$84,056	0.40%

*This fee analysis only reflects base fees for investment management, does not incorporate performance-based fees, and excludes fees paid to closed end real estate managers, private equity managers and GCM Better Futures Fund. Closed end real estate and private equity fees have other components which cannot be easily captured in this simplified format.*

*\* Managers with incentive fee include: Ivy, Systematic, Research Affiliates, Western Asset, Artisan, Brandywine, and Invesco Commodities. Performance based fees are not included in the fee analysis. AJO has performance based fees.*

# Total Fund Investment Fund Fee Analysis

Period Ending: March 31, 2018

Account	Fee Schedule	Market Value As of 3/31/2018	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
SSgA TIPS	0.04% of Assets	\$174,358,930	\$69,744	0.04%
Brandywine Global Sovereign	0.36% of Assets	\$315,309,314	\$1,135,114	0.36%
PIMCO Emerging Local Bond Ins	0.50% of First 100.0 Mil, 0.45% Thereafter	\$241,561,272	\$1,137,026	0.47%
Invesco Core Real Estate	0.90% of First 75.0 Mil, 0.80% Thereafter	\$170,836,677	\$1,441,693	0.84%
IFM Infrastructure	0.97% of Assets	\$143,542,719	\$1,392,364	0.97%
Grosvenor	1.15% of First 25.0 Mil, 1.00% of Next 25.0 Mil, 0.80% of Next 50.0 Mil, 0.60% Thereafter	\$167,319,883	\$1,341,419	0.80%
Invesco Commodities	0.30% of Assets	\$138,006,888	\$414,021	0.30%
Parametric Overlay	0.15% of First 25.0 Mil, 0.10% of Next 75.0 Mil, 0.04% Thereafter	\$115,332,774	\$118,633	0.10%
<b>Investment Management Fee</b>		<b>\$4,016,976,272</b>	<b>\$16,523,064</b>	<b>0.41%</b>

*This fee analysis only reflects base fees for investment management, does not incorporate performance-based fees, and excludes fees paid to closed end real estate managers, private equity managers and GCM Better Futures Fund. Closed end real estate and private equity fees have other components which cannot be easily captured in this simplified format.*

*\* Managers with incentive fee include: Ivy, Systematic, Research Affiliates, Western Asset, Artisan, Brandywine, and Invesco Commodities. Performance based fees are not included in the fee analysis. AJO has performance based fees.*

**Performance Return Calculations**

Performance is calculated using Modified Dietz and for time periods with large cash flow (generally greater than 10% of portfolio value), Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are geometrically linked and annualized for periods longer than one year.

**Data Source**

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

**Illiquid Alternatives**

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

**Manager Line Up**

<b>Manager</b>	<b>Fund Incepted</b>	<b>Data Source</b>	<b>Manager</b>	<b>Fund Incepted</b>	<b>Data Source</b>
Benefits Payment Cash	N/A	Northern Trust	WAMCO Credit Index	10/1/2014	Northern Trust
Custodied	N/A	Northern Trust	Loomis Sayles High Yield	10/1/2014	Northern Trust
County Cash	N/A	FCERA	Eaton Vance Senior Loan	10/1/2014	Eaton Vance
Transition	N/A	Northern Trust	Colony Distressed Credit III	2014	Colony
Aronson Johnson Ortiz	12/4/1995	Northern Trust	Brandywine Global Sovereign	1/31/2015	Northern Trust
Warburg Pincus	1998	Warburg Pincus	IFM Global Infrastructure	5/13/2015	IFM
TCW Shop III	1998	TCW	Invesco Commodities	5/27/2015	Invesco
Warburg Pincus VIII	2001	Warburg Pincus	GSO European Senior Debt	2015	GSO
Blackstone IV	2002	Blackstone	CVI Credit Value Fund III	2015	CarVal
Lonestar IV	2002	Lonestar	Warburg Pincus XII	2015	Warburg Pincus
TCW Shop IV	2002	TCW	Gerding Edlen Green Cities III	2016	Gerding Edlen
SSgA S&P 500 Flagship Fund	4/1/2004	State Street	Hamilton Lane PE Fund IX	2016	Hamilton Lane
Mondrian Emerging Markets	11/17/2005	Mondrian	Kennedy Wilson Real Estate V	2016	Kennedy Wilson
Invesco Core Real Estate	10/1/2007	Invesco	TSSP Adjacent Opportunities	2016	TSSP
New Mountain III	2007	New Mountain	OHA Strategic Credit Fund II, L.P.	2016	OHA
Hamilton Lane VI	2007	Hamilton Lane	Horsley Bridge XI GBO	2016	Horsley Bridge
Warburg Pincus X	2007	Warburg Pincus	GCM Better Futures Fund	2016	Grosvenor
Landmark Equity Partners XIV	2008	Landmark	Parametric Overlay	2016	Northern Trust
SSgA TIPS	2/27/2009	State Street	EQT European S. Situations Debt	2017	EQT
Grosvenor	10/31/2009	Grosvenor	Eaton Vance Ins. Sr Loan Plus	2017	Eaton Vance
Mondrian Int'l Small Cap	11/2/2009	Mondrian	PIMCO StocksPLUS Small Fund	4/31/2018	PIMCO
Colony Distressed Credit I	2009	Colony	Hamilton Lane Secondary Fund IV	2017	Hamilton Lane
TA Associates Realty 9	2009	TA Associates	TCG BDC II	2017	TCG
Systematic Small/Mid Value	10/8/2010	Northern Trust	AlpInvest FC Credit Fund, L.P.	2017	AlpInvest
Ivy	12/20/2010	Northern Trust	CPC V, L.P.	2017	CPC
KKR Mezzanine Partners I	2010	KKR	Kelso Investment Associates X, L.P.	2018	Kelso
Angelo Gordon Cap. Recov. VII	2010	Angel Gordon	Avista Capital Partners IV	2018	Avista
RAFI International Equity	4/30/2011	Northern Trust			
Oaktree Opportunities Fund IX	7/4/1905	Oaktree			
Artisan International Growth	4/1/2013	Northern Trust			
PIMCO Emerging Local Bond	7/31/2013	Northern Trust			



Policy & Custom Index Composition	
Floating Policy Index (1/1/2018-1/31/2018)	17% Russell 3000 Index, 31% BBgBarc Global Aggregate Index, 19% MSCI ACWI ex US, 3.0% Russell 2000, 5.0% BBgBarc US Corp. High Yield, 3.0% Private Equity Neutralized, 3.0% Private Credit Neutralized, 1.5% Real Estate Neutralized, 8% HFRI FoF Composite, 6.5% NCREIF ODCE Net, & 3% Bloomberg Commodity Index.
(2/1/2018-2/28/2017)	17% Russell 3000 Index, 31% BBgBarc Global Aggregate Index, 19% MSCI ACWI ex US, 2.9% Russell 2000, 5.0% BBgBarc US Corp. High Yield, 3.1% Private Equity Neutralized, 3.0% Private Credit Neutralized, 1.4% Real Estate Neutralized, 8% HFRI FoF Composite, 6.6% NCREIF ODCE Net, & 3% Bloomberg Commodity Index.
(3/1/2018-3/31/2018)	17% Russell 3000 Index, 31% BBgBarc Global Aggregate Index, 19% MSCI ACWI ex US, 2.6% Russell 2000, 4.7 BBgBarc US Corp. High Yield, 3.4% Private Equity Neutralized, 3.3% Private Credit Neutralized, 1.1% Real Estate Neutralized, 8% HFRI FoF Composite, 6.9% NCREIF ODCE Net, & 3% Bloomberg Commodity Index.

Floating Policy Index (1/1/2018-1/31/2018)	17% Russell 3000 Index, 31% BBgBarc Global Aggregate Index, 19% MSCI ACWI ex US, 3.0% Russell 2000, 5.0% BBgBarc US Corp. High Yield, 3.0% Private Equity Neutralized, 3.0% Private Credit Neutralized, 1.5% Real Estate Neutralized, 8% HFRI FoF Composite, 6.5% NCREIF ODCE Net, & 3% Bloomberg Commodity Index.
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BBgBarc Global Aggregate\*

Prior to 3/31/2014 BBgBarc U.S. Aggregate Index and as of 4/1/2014 BBgBarc Global Aggregate Index.

\*\*The term neutralized indicates that the benchmark performance was set equal to the asset class composite.

# Glossary

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**Allocation Effect:** An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

**Alpha:** The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as:  $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$ .

**Benchmark R-squared:** Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

**Beta:** A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

**Book-to-Market:** The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

**Capture Ratio:** A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

**Correlation:** A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

**Excess Return:** A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

**Information Ratio:** A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

**Interaction Effect:** An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

**Portfolio Turnover:** The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

**Price-to-Earnings Ratio (P/E):** Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

**R-Squared:** Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

**Selection Effect:** An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

**Sharpe Ratio:** A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as:  $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$ .

**Sortino Ratio:** Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

**Standard Deviation:** A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

**Style Analysis:** A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

**Style Map:** A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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