

# Fresno County Employees' Retirement Association

Investment Performance Review  
Period Ending: December 31, 2018



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SEATTLE 206-622-3700

LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

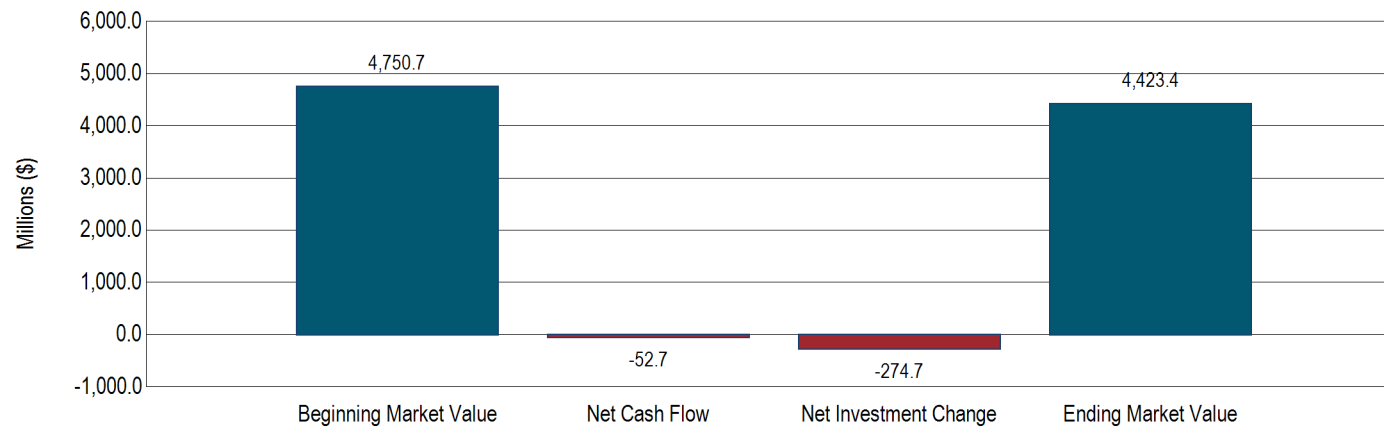
Total Fund  
Portfolio Reconciliation

Period Ending: December 31, 2018

Portfolio Reconciliation

	Last Three Months	Year-To-Date
Beginning Market Value	\$4,750,734,223	\$4,677,838,025
Net Cash Flow	-\$52,671,456	-\$85,091,372
Net Investment Change	-\$274,669,302	-\$169,353,188
Ending Market Value	\$4,423,393,465	\$4,423,393,465

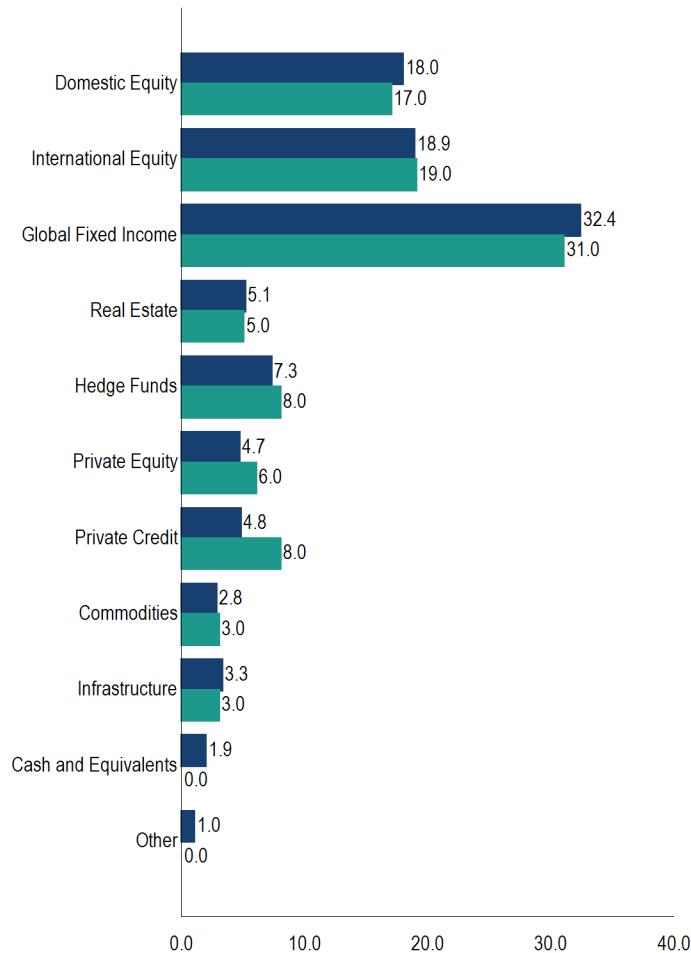
Change in Market Value  
Last Three Months



# Total Fund Asset Allocation

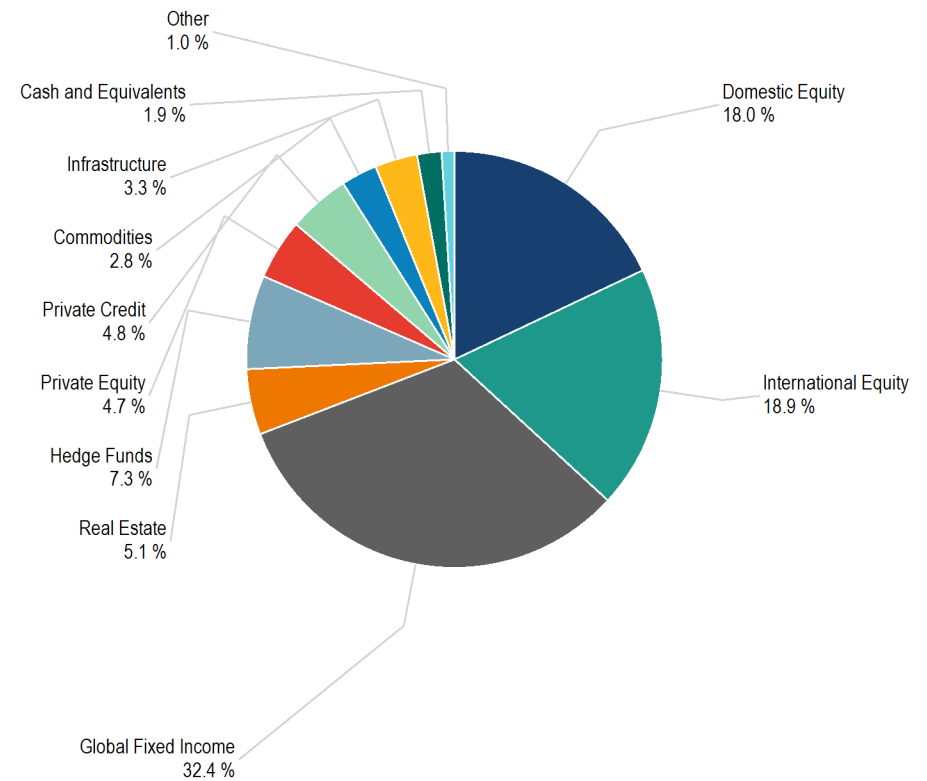
Period Ending: December 31, 2018

Actual vs Target Allocation (%)



Actual Policy

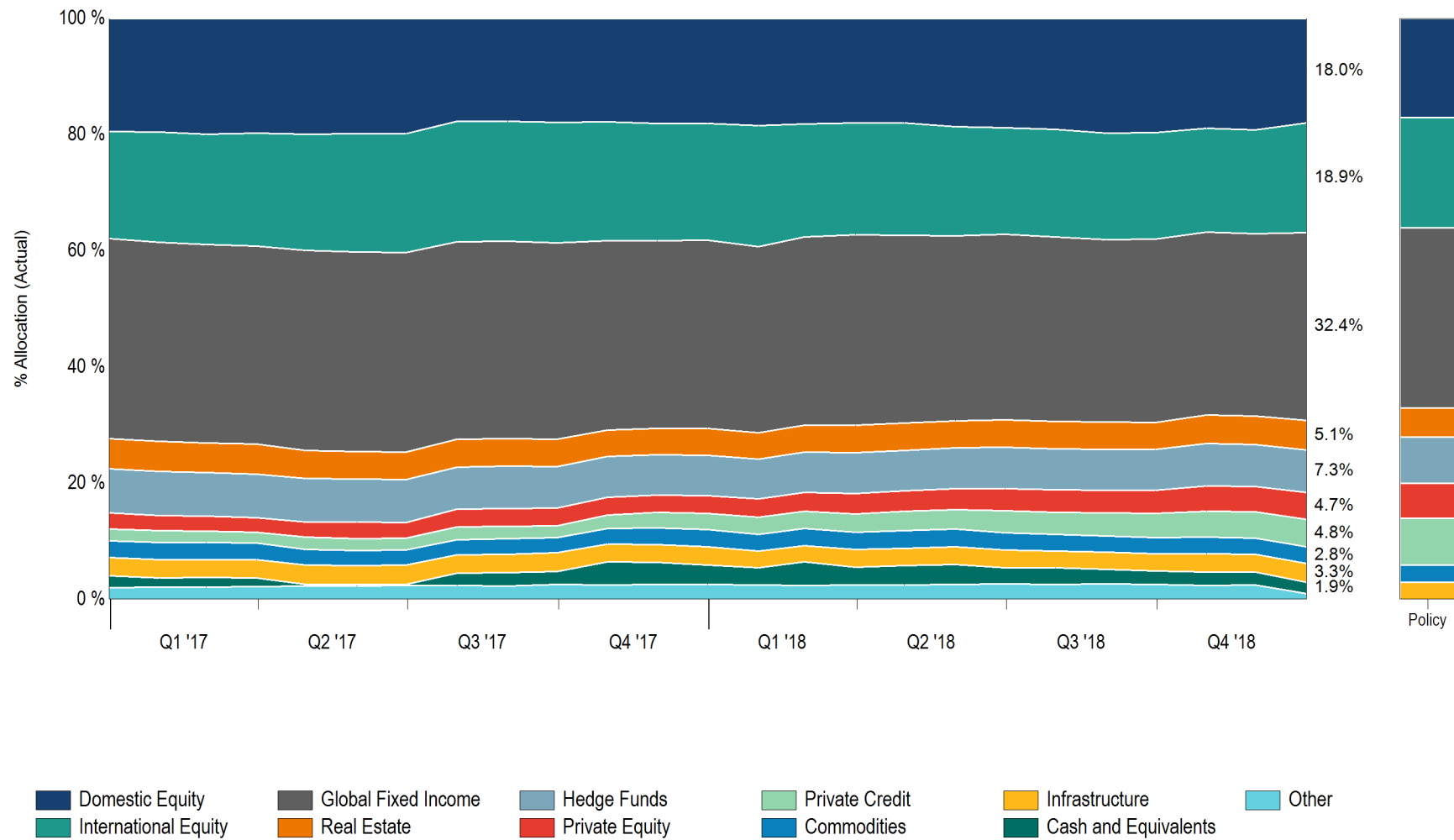
Current Allocation



Other consists of cash held for the overlay program. The target allocation reflects the most recent asset allocation targets per Asset Allocation Glidepath in IPS.

# Total Fund Asset Allocation History

Period Ending: December 31, 2018





# Total Fund Executive Summary (Net of Fees)

Period Ending: December 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	2018	2017	2016	2015	2014
<b>Total Fund</b>	<b>4,423,393,465</b>	<b>100.0</b>	<b>-5.6</b>	<b>-3.9</b>	<b>-3.6</b>	<b>5.7</b>	<b>3.5</b>	<b>8.2</b>	<b>6.3</b>	<b>-3.6</b>	<b>14.6</b>	<b>6.7</b>	<b>-2.5</b>	<b>3.5</b>
Policy Index			-4.9	-3.5	-3.2	5.5	3.5	7.6	5.5	-3.2	14.0	6.5	-1.7	2.6
InvestorForce Public DB > \$1B Net Rank			21	23	41	79	96	46	30	41	67	80	86	88
<b>Total Domestic Equity</b>	<b>794,051,469</b>	<b>18.0</b>	<b>-14.1</b>	<b>-8.8</b>	<b>-5.1</b>	<b>7.5</b>	<b>6.7</b>	<b>12.9</b>	<b>--</b>	<b>-5.1</b>	<b>20.2</b>	<b>8.9</b>	<b>1.5</b>	<b>9.8</b>
Russell 3000			-14.3	-8.2	-5.2	9.0	7.9	13.2	7.9	-5.2	21.1	12.7	0.5	12.6
<b>Total International Equity</b>	<b>835,668,907</b>	<b>18.9</b>	<b>-10.3</b>	<b>-9.1</b>	<b>-13.6</b>	<b>4.6</b>	<b>0.6</b>	<b>7.3</b>	<b>--</b>	<b>-13.6</b>	<b>28.5</b>	<b>3.0</b>	<b>-7.5</b>	<b>-2.5</b>
MSCI ACWI ex USA Gross			-11.4	-10.7	-13.8	5.0	1.1	7.1	5.7	-13.8	27.8	5.0	-5.3	-3.4
<b>Total Fixed Income</b>	<b>1,431,215,481</b>	<b>32.4</b>	<b>-1.6</b>	<b>-1.3</b>	<b>-3.0</b>	<b>3.8</b>	<b>2.3</b>	<b>5.4</b>	<b>--</b>	<b>-3.0</b>	<b>8.0</b>	<b>6.7</b>	<b>-4.5</b>	<b>5.0</b>
BBgBarc Global Aggregate*			1.2	0.3	-1.2	2.7	1.0	2.7	3.3	-1.2	7.4	2.1	-3.2	0.0
<b>Total Real Estate</b>	<b>226,224,003</b>	<b>5.1</b>	<b>2.4</b>	<b>4.8</b>	<b>9.2</b>	<b>8.1</b>	<b>10.0</b>	<b>6.0</b>	<b>--</b>	<b>9.2</b>	<b>6.8</b>	<b>8.5</b>	<b>13.9</b>	<b>11.8</b>
NCREIF ODCE Net			1.5	3.4	7.4	7.3	9.4	6.0	--	7.4	6.7	7.8	13.9	11.5
<b>Total Infrastructure</b>	<b>144,127,819</b>	<b>3.3</b>	<b>2.9</b>	<b>9.1</b>	<b>20.1</b>	<b>14.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>20.1</b>	<b>19.0</b>	<b>6.1</b>	<b>--</b>	<b>--</b>
NCREIF ODCE Net			1.5	3.4	7.4	7.3	9.4	6.0	--	7.4	6.7	7.8	13.9	11.5
<b>Total Hedge Funds</b>	<b>321,449,025</b>	<b>7.3</b>	<b>-4.0</b>	<b>-3.4</b>	<b>-0.7</b>	<b>2.3</b>	<b>2.0</b>	<b>3.6</b>	<b>3.3</b>	<b>-0.7</b>	<b>4.6</b>	<b>3.0</b>	<b>0.0</b>	<b>3.1</b>
HFRI Fund of Funds Composite Index			-5.0	-4.8	-4.1	1.3	1.4	3.1	2.7	-4.1	7.8	0.5	-0.3	3.4
<b>Total Commodities</b>	<b>123,316,702</b>	<b>2.8</b>	<b>-7.6</b>	<b>-10.5</b>	<b>-11.0</b>	<b>2.3</b>	<b>-4.9</b>	<b>--</b>	<b>--</b>	<b>-11.0</b>	<b>5.8</b>	<b>13.8</b>	<b>-12.8</b>	<b>-16.9</b>
Bloomberg Commodity Index TR USD			-9.4	-11.2	-11.2	0.3	-8.8	-3.8	-2.5	-11.2	1.7	11.8	-24.7	-17.0
<b>Total Private Equity 1 Qtr Lagged</b>	<b>206,321,105</b>	<b>4.7</b>	<b>3.9</b>	<b>5.4</b>	<b>12.0</b>	<b>12.2</b>	<b>9.0</b>	<b>12.7</b>	<b>12.0</b>	<b>12.0</b>	<b>13.9</b>	<b>10.7</b>	<b>3.8</b>	<b>4.8</b>
Russell 2000 1 Qtr Lagged			3.6	11.6	15.2	15.8	9.2	14.5	9.1	15.2	10.9	21.3	-4.4	4.9
<b>Total Private Credit 1 Qtr Lagged</b>	<b>211,423,883</b>	<b>4.8</b>	<b>3.4</b>	<b>4.4</b>	<b>7.6</b>	<b>7.7</b>	<b>5.4</b>	<b>15.8</b>	<b>13.6</b>	<b>7.6</b>	<b>8.1</b>	<b>7.4</b>	<b>-2.5</b>	<b>6.8</b>
BBgBarc US Corp. High Yield 1 Qtr Lagged			2.4	3.5	3.0	8.9	4.8	11.6	7.3	3.0	7.0	17.1	-4.5	2.5
<b>Total Custodied Cash</b>	<b>44,947,619</b>	<b>1.0</b>	<b>2.5</b>	<b>5.6</b>	<b>6.3</b>	<b>2.4</b>	<b>1.5</b>	<b>1.1</b>	<b>--</b>	<b>6.3</b>	<b>0.3</b>	<b>0.8</b>	<b>-0.1</b>	<b>0.3</b>
91 Day T-Bills			0.6	1.1	1.9	1.1	0.6	0.4	1.3	1.9	0.9	0.3	0.0	0.0
<b>Total County Cash</b>	<b>40,488,376</b>	<b>0.9</b>	<b>0.8</b>	<b>1.5</b>	<b>2.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
91 Day T-Bills			0.6	1.1	1.9	1.1	0.6	0.4	1.3	1.9	0.9	0.3	0.0	0.0

Policy Index (Floating policy weights updated as of 12/31/2018. See Data Sources and Methodology for monthly policy breakout): 17% Russell 3000 Index, 31% BBgBarc Global Aggregate Index, 19% MSCI ACWI ex US, 1.3% Russell 2000, 3.2% BBgBarc US Corp. High Yield, 4.7% Private Equity Neutralized, 4.8% Private Credit Neutralized, 8% HFRI FoF Composite, 8% 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: December 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	2018	2017	2016	2015	2014
<b>Total Fund</b>	<b>4,423,393,465</b>	<b>100.0</b>	<b>-5.6</b>	<b>-3.7</b>	<b>-3.3</b>	<b>6.0</b>	<b>3.9</b>	<b>8.6</b>	<b>6.6</b>	<b>-3.3</b>	<b>14.9</b>	<b>7.2</b>	<b>-2.1</b>	<b>3.8</b>
<i>Policy Index</i>			-4.9	-3.5	-3.2	5.5	3.5	7.6	5.5	-3.2	14.0	6.5	-1.7	2.6
<b>Total Domestic Equity</b>	<b>794,051,469</b>	<b>18.0</b>	<b>-14.1</b>	<b>-8.8</b>	<b>-4.9</b>	<b>7.7</b>	<b>6.9</b>	<b>13.2</b>	<b>8.0</b>	<b>-4.9</b>	<b>20.3</b>	<b>9.1</b>	<b>1.8</b>	<b>10.1</b>
<i>Russell 3000</i>			-14.3	-8.2	-5.2	9.0	7.9	13.2	7.9	-5.2	21.1	12.7	0.5	12.6
<b>Total International Equity</b>	<b>835,668,907</b>	<b>18.9</b>	<b>-10.2</b>	<b>-8.9</b>	<b>-13.2</b>	<b>5.1</b>	<b>1.1</b>	<b>7.7</b>	<b>6.0</b>	<b>-13.2</b>	<b>29.1</b>	<b>3.5</b>	<b>-7.1</b>	<b>-2.1</b>
<i>MSCI ACWI ex USA Gross</i>			-11.4	-10.7	-13.8	5.0	1.1	7.1	5.7	-13.8	27.8	5.0	-5.3	-3.4
<b>Total Fixed Income</b>	<b>1,431,215,481</b>	<b>32.4</b>	<b>-1.5</b>	<b>-1.1</b>	<b>-2.6</b>	<b>4.1</b>	<b>2.6</b>	<b>5.6</b>	<b>--</b>	<b>-2.6</b>	<b>8.3</b>	<b>7.0</b>	<b>-4.2</b>	<b>5.1</b>
<i>BBgBarc Global Aggregate*</i>			1.2	0.3	-1.2	2.7	1.0	2.7	3.3	-1.2	7.4	2.1	-3.2	0.0
<b>Total Real Estate</b>	<b>226,224,003</b>	<b>5.1</b>	<b>2.4</b>	<b>4.8</b>	<b>9.2</b>	<b>8.6</b>	<b>10.7</b>	<b>6.6</b>	<b>9.3</b>	<b>9.2</b>	<b>6.8</b>	<b>9.9</b>	<b>14.8</b>	<b>12.9</b>
<i>NCREIF ODCE Net</i>			1.5	3.4	7.4	7.3	9.4	6.0	--	7.4	6.7	7.8	13.9	11.5
<b>Total Infrastructure</b>	<b>144,127,819</b>	<b>3.3</b>	<b>2.9</b>	<b>9.1</b>	<b>20.1</b>	<b>15.2</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>20.1</b>	<b>19.0</b>	<b>7.2</b>	<b>--</b>	<b>--</b>
<i>NCREIF ODCE Net</i>			1.5	3.4	7.4	7.3	9.4	6.0	--	7.4	6.7	7.8	13.9	11.5
<b>Total Hedge Funds</b>	<b>321,449,025</b>	<b>7.3</b>	<b>-4.0</b>	<b>-3.4</b>	<b>-0.7</b>	<b>2.5</b>	<b>2.5</b>	<b>--</b>	<b>--</b>	<b>-0.7</b>	<b>4.6</b>	<b>3.8</b>	<b>0.9</b>	<b>4.2</b>
<i>HFRI Fund of Funds Composite Index</i>			-5.0	-4.8	-4.1	1.3	1.4	3.1	2.7	-4.1	7.8	0.5	-0.3	3.4
<b>Total Commodities</b>	<b>123,316,702</b>	<b>2.8</b>	<b>-7.6</b>	<b>-10.5</b>	<b>-11.0</b>	<b>2.5</b>	<b>-4.7</b>	<b>--</b>	<b>--</b>	<b>-11.0</b>	<b>5.8</b>	<b>14.4</b>	<b>-12.3</b>	<b>-16.7</b>
<i>Bloomberg Commodity Index TR USD</i>			-9.4	-11.2	-11.2	0.3	-8.8	-3.8	-2.5	-11.2	1.7	11.8	-24.7	-17.0
<b>Total Private Equity 1 Qtr Lagged</b>	<b>206,321,105</b>	<b>4.7</b>	<b>3.9</b>	<b>5.4</b>	<b>12.0</b>	<b>12.6</b>	<b>9.2</b>	<b>13.0</b>	<b>12.1</b>	<b>12.0</b>	<b>13.9</b>	<b>11.8</b>	<b>3.9</b>	<b>4.8</b>
<i>Russell 2000 1 Qtr Lagged</i>			3.6	11.6	15.2	15.8	9.2	14.5	9.1	15.2	10.9	21.3	-4.4	4.9
<b>Total Private Credit 1 Qtr Lagged</b>	<b>211,423,883</b>	<b>4.8</b>	<b>3.4</b>	<b>4.4</b>	<b>7.6</b>	<b>8.1</b>	<b>5.9</b>	<b>16.2</b>	<b>13.8</b>	<b>7.6</b>	<b>8.1</b>	<b>8.7</b>	<b>-1.4</b>	<b>7.1</b>
<i>BBgBarc US Corp. High Yield 1 Qtr Lagged</i>			2.4	3.5	3.0	8.9	4.8	11.6	7.3	3.0	7.0	17.1	-4.5	2.5
<b>Total Custodied Cash</b>	<b>44,947,619</b>	<b>1.0</b>	<b>2.5</b>	<b>5.6</b>	<b>6.3</b>	<b>2.4</b>	<b>1.5</b>	<b>1.1</b>	<b>1.9</b>	<b>6.3</b>	<b>0.3</b>	<b>0.8</b>	<b>-0.1</b>	<b>0.3</b>
<i>91 Day T-Bills</i>			0.6	1.1	1.9	1.1	0.6	0.4	1.3	1.9	0.9	0.3	0.0	0.0
<b>Total County Cash</b>	<b>40,488,376</b>	<b>0.9</b>	<b>0.8</b>	<b>1.5</b>	<b>2.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>91 Day T-Bills</i>			0.6	1.1	1.9	1.1	0.6	0.4	1.3	1.9	0.9	0.3	0.0	0.0

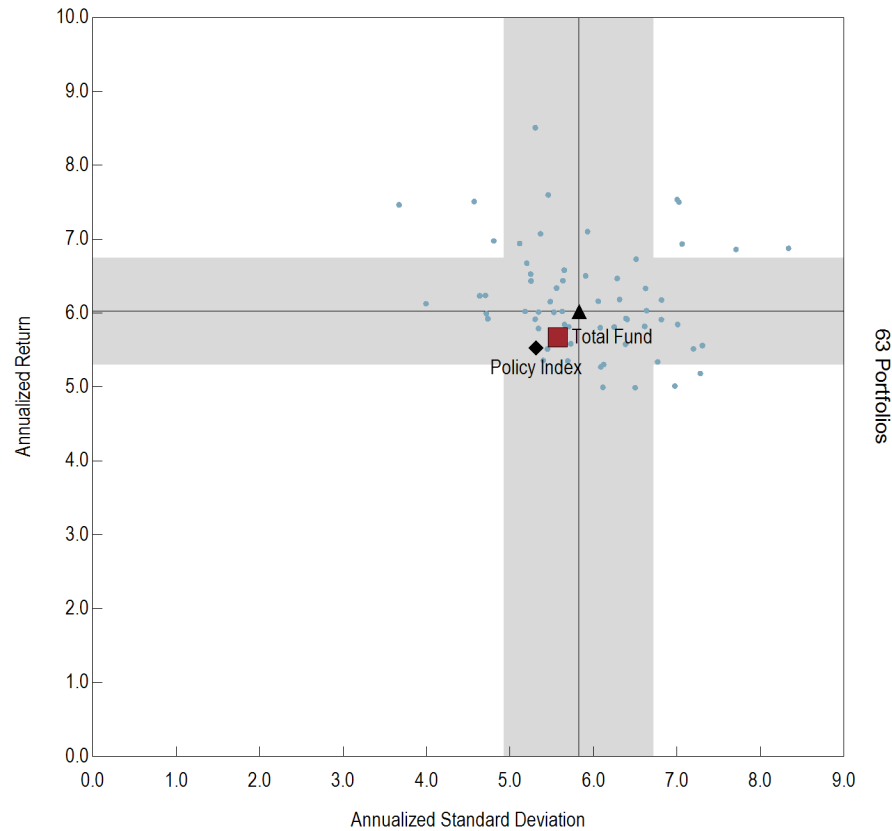
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\*Prior to 3/31/2014 BBgBarc U.S. Aggregate Index and as of 4/1/2014 BBgBarc Global Aggregate Index.

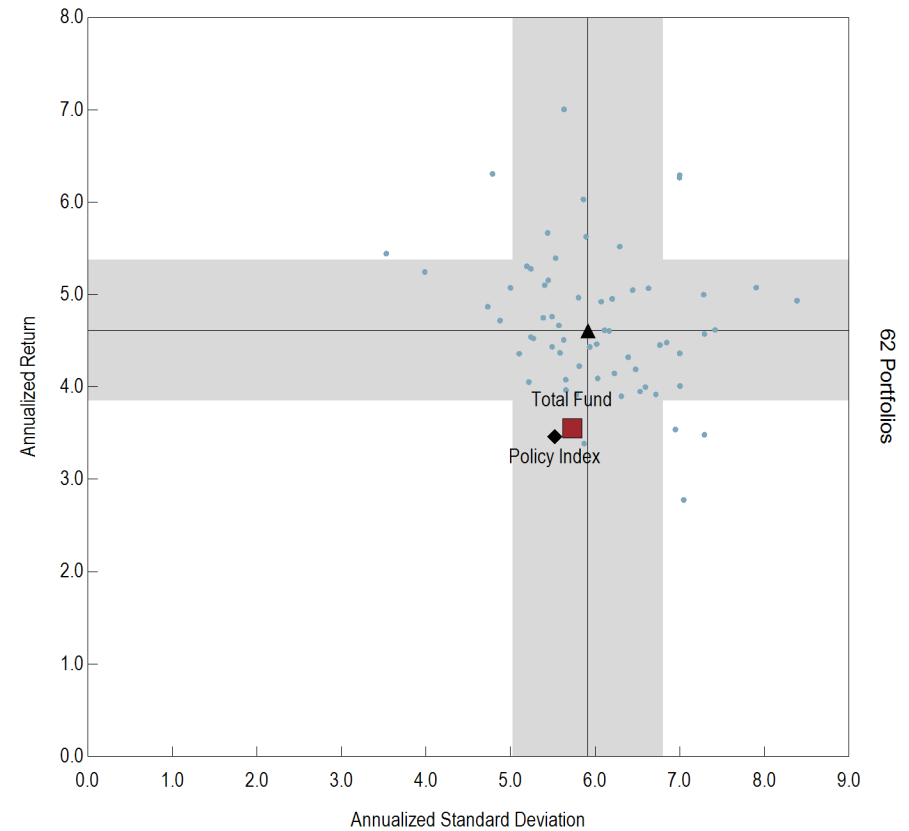
# Total Fund Risk Analysis (Net of Fees)

Period Ending: December 31, 2018

3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Total Fund	5.7%	5.6%	0.8
Policy Index	5.5%	5.3%	0.9
InvestorForce Public DB > \$1B Net Median	6.0%	5.8%	0.9

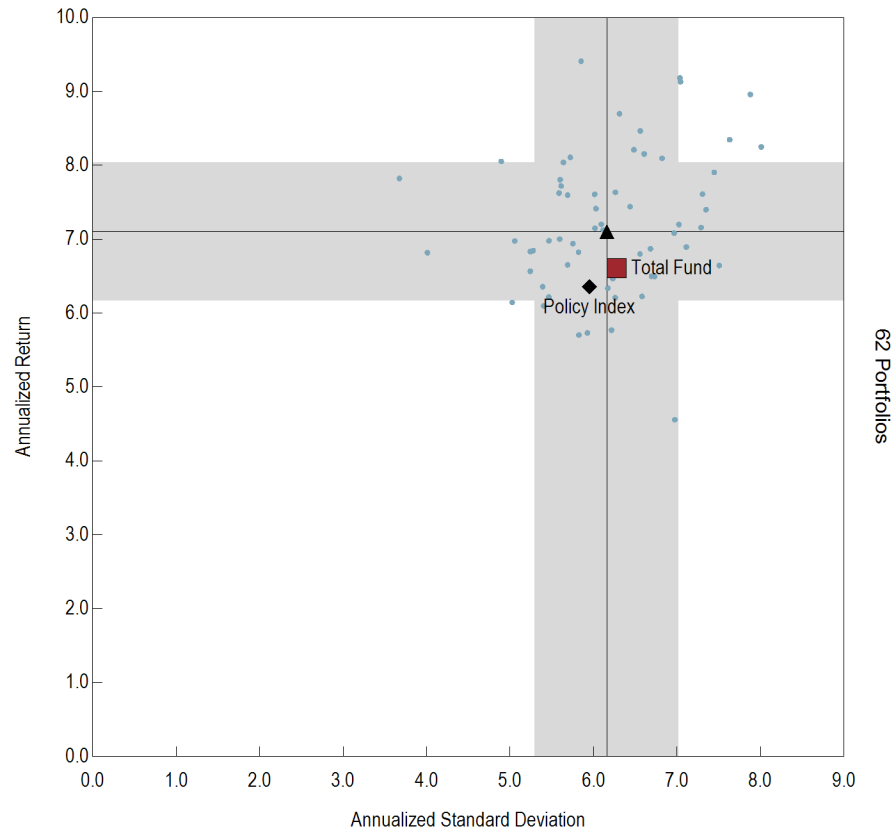
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Total Fund	3.5%	5.7%	0.5
Policy Index	3.5%	5.5%	0.5
InvestorForce Public DB > \$1B Net Median	4.6%	5.9%	0.7

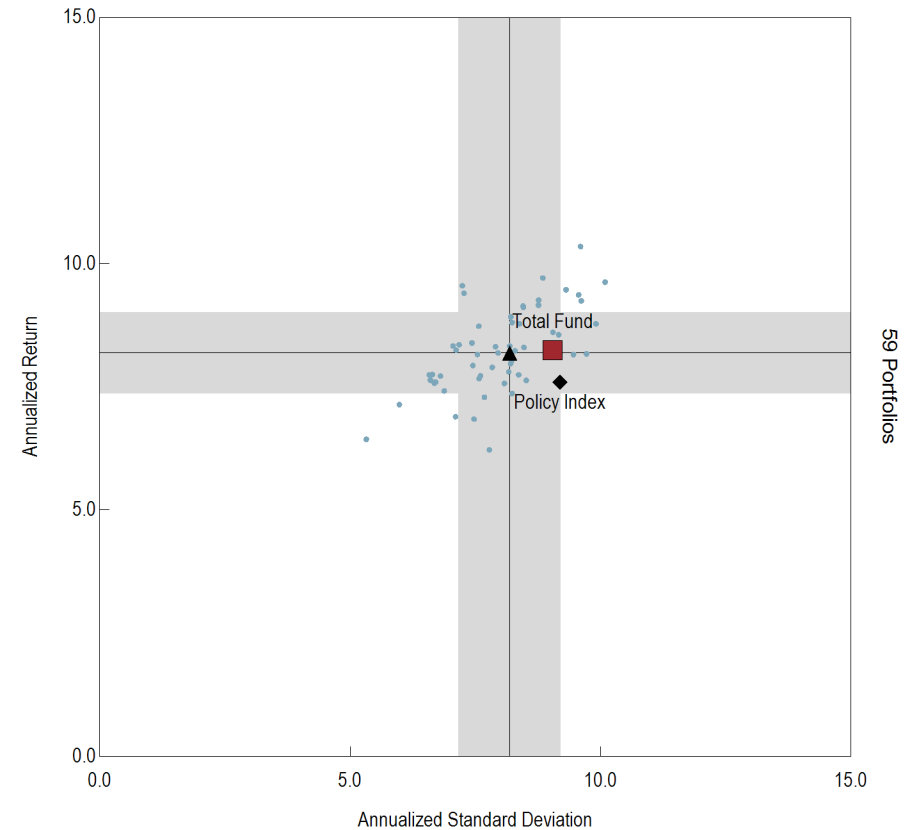
# Total Fund Risk Analysis (Net of Fees)

Period Ending: December 31, 2018

7 Years



10 Years



7 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Total Fund	6.6%	6.3%	1.0
Policy Index	6.4%	6.0%	1.0
InvestorForce Public DB > \$1B Net Median	7.1%	6.2%	1.1

10 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Total Fund	8.2%	9.0%	0.9
Policy Index	7.6%	9.2%	0.8
InvestorForce Public DB > \$1B Net Median	8.2%	8.2%	1.0

Total Fund  
Risk Analysis (Net of Fees)

Period Ending: December 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	5.57%	-0.01%	1.03	0.96	102.28%	101.26%	0.13	1.11%	0.84	1.30
Total Domestic Equity	11.66%	-1.62%	1.02	0.98	94.30%	104.14%	-0.88	1.65%	0.56	0.64
Total International Equity	11.20%	-0.16%	0.95	0.97	93.44%	96.55%	-0.19	2.01%	0.32	0.64
Total Domestic Fixed Income	2.52%	2.74%	0.45	0.26	87.67%	25.75%	0.60	2.69%	1.06	2.21
Total Real Estate	3.05%	1.45%	0.92	0.79	97.77%	--	0.61	1.42%	2.34	978.54
Total Hedge Funds	3.40%	1.27%	0.79	0.74	91.45%	67.33%	0.53	1.90%	0.38	0.69
Total Alternative Illiquids	4.63%	10.02%	0.01	0.00	32.84%	-14.62%	-0.12	12.12%	1.98	415.74

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	5.73%	0.05%	1.01	0.95	99.70%	98.47%	0.07	1.33%	0.51	0.93
Total Domestic Equity	11.54%	-1.36%	1.02	0.98	93.31%	101.80%	-0.70	1.68%	0.53	0.76
Total International Equity	11.51%	-0.45%	0.95	0.97	90.27%	97.31%	-0.24	2.14%	0.00	0.09
Total Domestic Fixed Income	2.65%	1.64%	0.60	0.39	86.56%	54.84%	0.26	2.35%	0.96	2.19
Total Real Estate	4.34%	0.34%	1.03	0.89	102.37%	--	0.42	1.42%	2.17	1,601.49
Total Hedge Funds	3.18%	0.90%	0.80	0.79	86.80%	71.89%	0.38	1.63%	0.44	0.75
Total Alternative Illiquids	4.65%	7.19%	0.02	0.00	20.24%	-12.66%	-0.27	11.85%	1.47	1.56

Total Fund  
Risk Analysis (Net of Fees)

Period Ending: December 31, 2018

7 Years

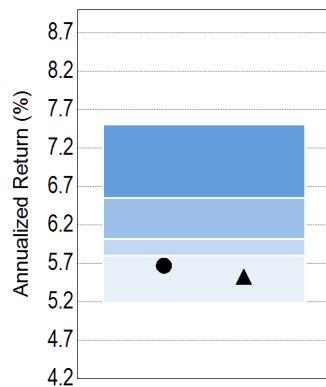
	Anlzd Standard Deviation	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio	Sortino Ratio
Total Fund	6.28%	0.03%	1.03	0.96	103.92%	100.47%	0.21	1.23%	0.98	1.40
Total Domestic Equity	11.35%	-1.05%	1.04	0.97	96.60%	104.32%	-0.29	2.01%	1.01	1.09
Total International Equity	12.03%	0.23%	1.00	0.97	100.53%	98.37%	0.09	2.20%	0.42	0.66
Total Domestic Fixed Income	3.26%	1.82%	0.77	0.45	121.97%	53.97%	0.53	2.50%	0.92	1.91
Total Real Estate	1.74%	1.87%	0.81	0.40	100.19%	--	0.01	1.37%	5.48	--
Total Hedge Funds	3.61%	0.65%	0.75	0.75	88.28%	80.43%	-0.04	2.08%	0.66	0.77
Total Alternative Illiquids	4.85%	7.21%	0.18	0.15	36.63%	-9.68%	-0.54	9.97%	1.94	2.74

10 Years

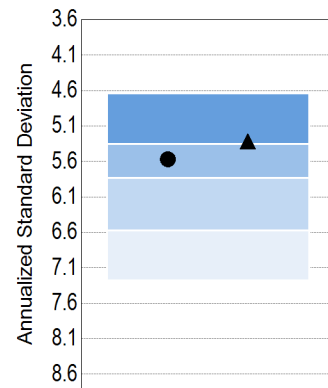
	Anlzd Standard Deviation	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio	Sortino Ratio
Total Fund	9.05%	0.85%	0.97	0.98	104.53%	94.01%	0.46	1.40%	0.87	1.31
Total Domestic Equity	15.26%	-0.55%	1.02	0.99	98.97%	101.51%	-0.14	1.88%	0.82	1.12
Total International Equity	16.68%	0.66%	0.94	0.98	93.34%	95.17%	0.09	2.45%	0.42	0.69
Total Domestic Fixed Income	4.01%	2.80%	0.87	0.45	150.27%	49.64%	0.78	3.01%	1.36	3.20
Total Real Estate	7.13%	0.95%	0.85	0.79	91.63%	86.88%	0.01	3.46%	0.80	0.54
Total Hedge Funds	3.76%	1.54%	0.65	0.66	85.29%	57.36%	0.17	2.73%	0.86	1.13
Total Alternative Illiquids	6.18%	6.51%	0.24	0.35	26.51%	16.09%	-0.45	12.30%	1.63	2.38

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

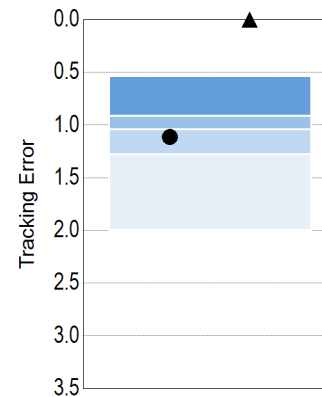
Annualized Return



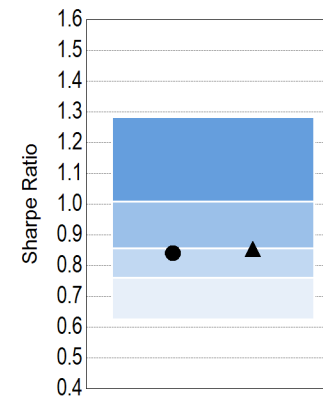
Annualized Standard Deviation



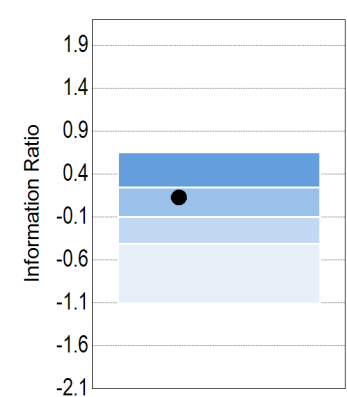
Tracking Error



Sharpe Ratio



Information Ratio



● Total Fund  
Value 5.7  
Rank 79  
▲ Policy Index  
Value 5.5  
Rank 84

● Total Fund  
Value 5.6  
Rank 38  
▲ Policy Index  
Value 5.3  
Rank 24

● Total Fund  
Value 1.1  
Rank 59  
▲ Policy Index  
Value 0.0  
Rank 1

● Total Fund  
Value 0.8  
Rank 57  
▲ Policy Index  
Value 0.9  
Rank 52

● Total Fund  
Value 0.1  
Rank 34  
▲ Policy Index  
Value --  
Rank --

Universe  
5th %tile 7.5  
25th %tile 6.6  
Median 6.0  
75th %tile 5.8  
95th %tile 5.2

Universe  
5th %tile 4.6  
25th %tile 5.3  
Median 5.8  
75th %tile 6.6  
95th %tile 7.3

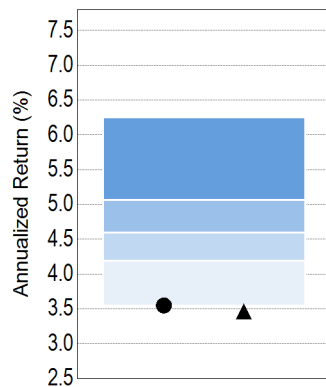
Universe  
5th %tile 0.5  
25th %tile 0.9  
Median 1.0  
75th %tile 1.3  
95th %tile 2.0

Universe  
5th %tile 1.3  
25th %tile 1.0  
Median 0.9  
75th %tile 0.8  
95th %tile 0.6

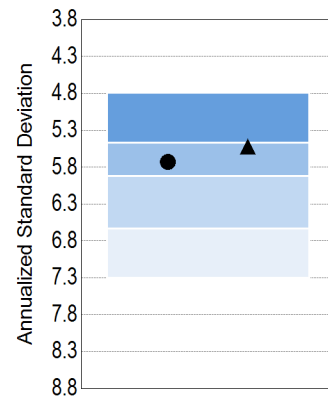
Universe  
5th %tile 0.7  
25th %tile 0.2  
Median -0.1  
75th %tile -0.4  
95th %tile -1.1

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

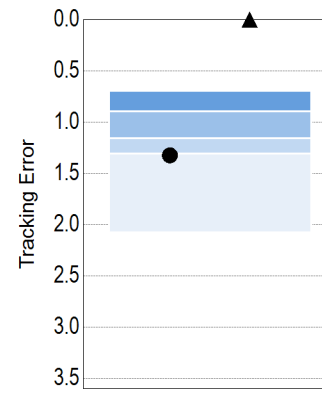
Annualized Return



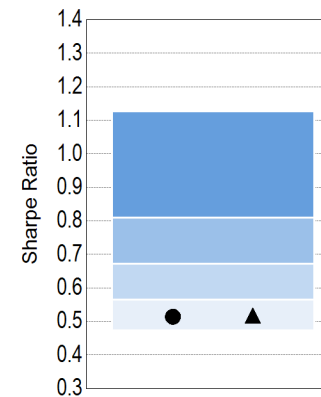
Annualized Standard Deviation



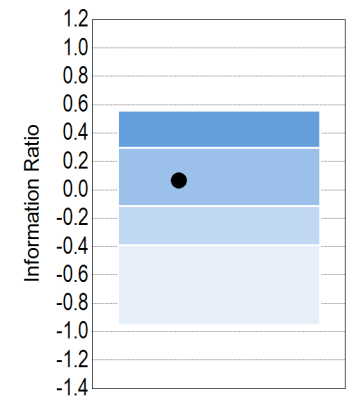
Tracking Error



Sharpe Ratio



Information Ratio



● Total Fund  
Value 3.5  
Rank 96  
▲ Policy Index  
Value 3.5  
Rank 98

● Total Fund  
Value 5.7  
Rank 41  
▲ Policy Index  
Value 5.5  
Rank 30

● Total Fund  
Value 1.3  
Rank 77  
▲ Policy Index  
Value 0.0  
Rank 1

● Total Fund  
Value 0.5  
Rank 90  
▲ Policy Index  
Value 0.5  
Rank 87

● Total Fund  
Value 0.1  
Rank 38  
▲ Policy Index  
Value --  
Rank --

Universe  
5th %tile 6.3  
25th %tile 5.1  
Median 4.6  
75th %tile 4.2  
95th %tile 3.6

Universe  
5th %tile 4.8  
25th %tile 5.5  
Median 5.9  
75th %tile 6.6  
95th %tile 7.3

Universe  
5th %tile 0.7  
25th %tile 0.9  
Median 1.2  
75th %tile 1.3  
95th %tile 2.1

Universe  
5th %tile 1.1  
25th %tile 0.8  
Median 0.7  
75th %tile 0.6  
95th %tile 0.5

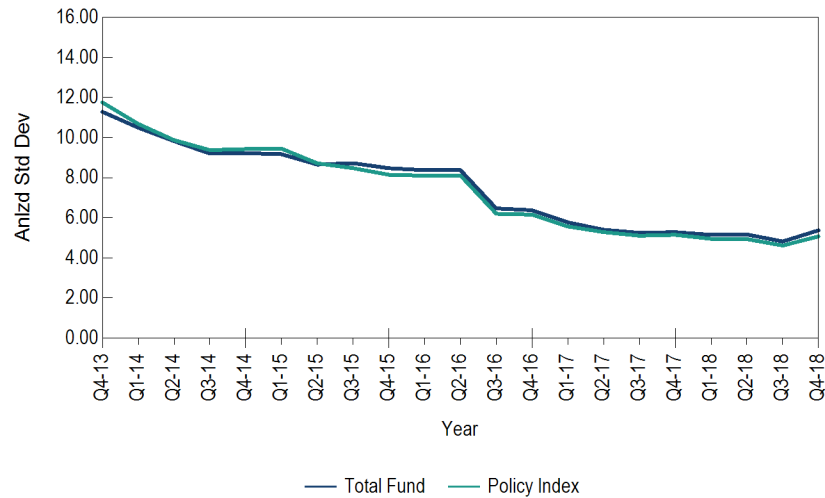
Universe  
5th %tile 0.6  
25th %tile 0.3  
Median -0.1  
75th %tile -0.4  
95th %tile -1.0



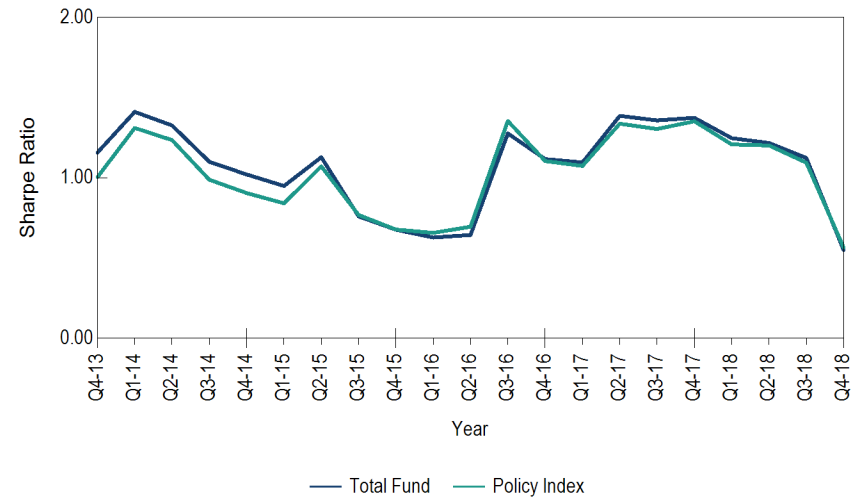
# Total Fund Risk Analysis - 5 Years (Net of Fees)

Period Ending: December 31, 2018

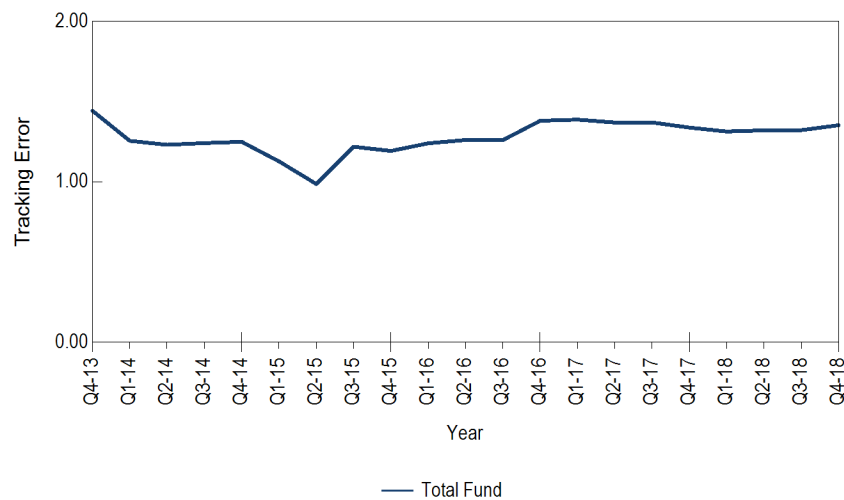
Rolling 5 Year Annualized Standard Deviation



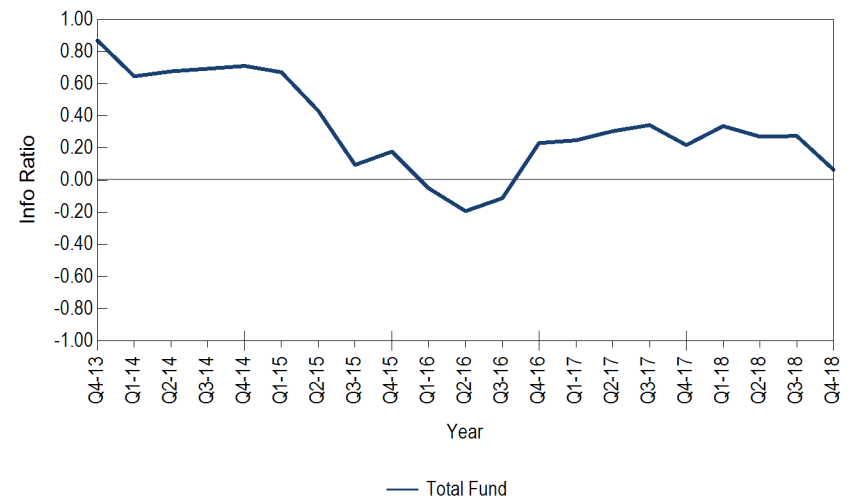
Rolling 5 Year Sharpe Ratio



Rolling 5 Year Tracking Error



Rolling 5 Year Information Ratio



# Total Fund Performance Summary (Net of Fees)

Period Ending: December 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014	Inception	Inception Date
<b>Total Fund</b>	<b>4,423,393,465</b>	<b>100.0</b>	<b>-5.6</b>	<b>-3.9</b>	<b>-3.6</b>	<b>5.7</b>	<b>3.5</b>	<b>8.2</b>	<b>-3.6</b>	<b>14.6</b>	<b>6.7</b>	<b>-2.5</b>	<b>3.5</b>	<b>6.7</b>	<b>Jun-02</b>
<i>Policy Index</i>			-4.9	-3.5	-3.2	5.5	3.5	7.6	-3.2	14.0	6.5	-1.7	2.6	6.1	Jun-02
<b>Total Fund Ex Parametric</b>	<b>4,379,234,388</b>	<b>99.0</b>	<b>-5.2</b>	<b>-3.4</b>	<b>-3.1</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-3.1</b>	<b>13.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>5.1</b>	<b>Dec-16</b>
<i>Policy Index</i>			-4.9	-3.5	-3.2	5.5	3.5	7.6	-3.2	14.0	6.5	-1.7	2.6	5.0	Dec-16
<b>Total Domestic Equity</b>	<b>794,051,469</b>	<b>18.0</b>	<b>-14.1</b>	<b>-8.8</b>	<b>-5.1</b>	<b>7.5</b>	<b>6.7</b>	<b>12.9</b>	<b>-5.1</b>	<b>20.2</b>	<b>8.9</b>	<b>1.5</b>	<b>9.8</b>	<b>--</b>	<b>Mar-97</b>
<i>Russell 3000</i>			-14.3	-8.2	-5.2	9.0	7.9	13.2	-5.2	21.1	12.7	0.5	12.6	7.8	Mar-97
SSgA S&P 500 Flagship Fund	169,770,241	3.8	-13.5	-6.8	-4.4	9.3	8.5	13.1	-4.4	21.8	12.0	1.4	13.7	7.8	Mar-04
<i>S&amp;P 500</i>			-13.5	-6.9	-4.4	9.3	8.5	13.1	-4.4	21.8	12.0	1.4	13.7	7.8	Mar-04
T. Rowe Price Large Cap Growth	259,706,294	5.9	--	--	--	--	--	--	--	--	--	--	--	-1.5	Oct-18
<i>Russell 1000 Growth</i>			-15.9	-8.2	-1.5	11.1	10.4	15.3	-1.5	30.2	7.1	5.7	13.0	-2.2	Oct-18
Aronson Johnson Ortiz	242,705,124	5.5	-14.4	-10.4	-11.4	4.3	4.4	10.8	-11.4	16.7	9.5	-0.1	9.6	9.6	Dec-95
<i>Russell 1000 Value</i>			-11.7	-6.7	-8.3	7.0	5.9	11.2	-8.3	13.7	17.3	-3.8	13.5	8.3	Dec-95
Systematic Small/Mid Cap Value	61,412,238	1.4	-21.1	-19.9	-20.9	2.7	2.2	--	-20.9	12.3	22.0	-1.1	4.0	8.2	Oct-10
<i>Russell 2500 Value</i>			-17.1	-14.9	-12.4	6.6	4.2	11.6	-12.4	10.4	25.2	-5.5	7.1	9.5	Oct-10
PIMCO StocksPLUS Small Fund	60,308,323	1.4	-21.7	-18.9	--	--	--	--	--	--	--	--	--	-10.9	Feb-18
<i>Russell 2000</i>			-20.2	-17.3	-11.0	7.4	4.4	12.0	-11.0	14.6	21.3	-4.4	4.9	-9.8	Feb-18
<b>Total International Equity</b>	<b>835,668,907</b>	<b>18.9</b>	<b>-10.3</b>	<b>-9.1</b>	<b>-13.6</b>	<b>4.6</b>	<b>0.6</b>	<b>7.3</b>	<b>-13.6</b>	<b>28.5</b>	<b>3.0</b>	<b>-7.5</b>	<b>-2.5</b>	<b>--</b>	
<i>MSCI ACWI ex USA Gross</i>			-11.4	-10.7	-13.8	5.0	1.1	7.1	-13.8	27.8	5.0	-5.3	-3.4	--	
Artisan International Growth	202,704,644	4.6	-11.5	-8.6	-10.2	2.4	1.0	--	-10.2	31.5	-9.0	-2.2	-0.1	4.0	Apr-13
<i>MSCI EAFE</i>			-12.5	-11.4	-13.8	2.9	0.5	6.3	-13.8	25.0	1.0	-0.8	-4.9	3.2	Apr-13
Research Affiliates International Equity	201,240,421	4.5	-12.8	-11.2	-15.5	5.1	0.6	--	-15.5	25.7	9.3	-5.9	-5.8	3.0	Apr-11
<i>MSCI EAFE</i>			-12.5	-11.4	-13.8	2.9	0.5	6.3	-13.8	25.0	1.0	-0.8	-4.9	2.3	Apr-11
Mondrian International Small Cap	133,034,881	3.0	-15.1	-14.9	-14.6	4.2	2.1	--	-14.6	32.4	0.1	2.7	-4.9	8.0	Nov-09
<i>S&amp;P Developed Ex-U.S. SmallCap</i>			-16.6	-16.8	-18.4	3.9	2.8	10.0	-18.4	32.4	3.8	5.9	-3.4	6.9	Nov-09
Mondrian Emerging Markets	143,390,961	3.2	-5.2	-4.8	-13.8	6.1	0.0	7.2	-13.8	27.2	9.0	-16.3	0.0	4.8	Nov-05
<i>MSCI Emerging Markets</i>			-7.5	-8.5	-14.6	9.2	1.6	8.0	-14.6	37.3	11.2	-14.9	-2.2	5.3	Nov-05
Baillie Gifford Emerging Markets	155,298,000	3.5	--	--	--	--	--	--	--	--	--	--	--	--	Dec-18
<i>MSCI Emerging Markets</i>			-7.5	-8.5	-14.6	9.2	1.6	8.0	-14.6	37.3	11.2	-14.9	-2.2	--	Dec-18
<b>Total Fixed Income</b>	<b>1,431,215,481</b>	<b>32.4</b>	<b>-1.6</b>	<b>-1.3</b>	<b>-3.0</b>	<b>3.8</b>	<b>2.3</b>	<b>5.4</b>	<b>-3.0</b>	<b>8.0</b>	<b>6.7</b>	<b>-4.5</b>	<b>5.0</b>	<b>--</b>	
<i>BBgBarc Global Aggregate*</i>			1.2	0.3	-1.2	2.7	1.0	2.7	-1.2	7.4	2.1	-3.2	0.0	--	
Western Asset Investment Grade Credit	208,431,090	4.7	-0.2	0.9	-2.3	3.7	--	--	-2.3	6.8	7.0	-0.5	--	2.9	Oct-14
<i>BBgBarc US Credit TR</i>			0.0	0.9	-2.1	3.2	3.2	5.5	-2.1	6.2	5.6	-0.8	7.5	2.5	Oct-14

\*Prior to 3/31/2014 BBgBarc U.S. Aggregate Index and as of 4/1/2014 BBgBarc Global Aggregate Index. Baillie Gifford Emerging Markets funded 12/10/2018. T. Rowe Price replaced Ivy on 10/18/2018.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: December 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014	Inception	Inception Date
Loomis Sayles High Yield	297,761,007	6.7	-3.8	-2.0	-2.3	6.2	--	--	-2.3	7.1	14.4	-5.2	--	3.0	Oct-14
BBgBarc US High Yield TR			-4.5	-2.2	-2.1	7.2	3.8	11.1	-2.1	7.5	17.1	-4.5	2.5	3.7	Oct-14
Eaton Vance Senior Loan Fund	273,902,553	6.2	-3.3	-1.6	0.7	4.8	--	--	0.7	4.0	9.9	-0.8	--	3.2	Oct-14
S&P/LSTA Leveraged Loan Index			-3.5	-1.7	0.4	4.8	3.1	8.6	0.4	4.1	10.2	-0.7	1.6	3.1	Oct-14
Eaton Vance Institutional Senior Loan Plus Fund	20,493,452	0.5	-5.0	-3.0	-1.3	--	--	--	-1.3	3.6	--	--	--	1.1	Jan-17
S&P/LSTA Leveraged Loan Index			-3.5	-1.7	0.4	4.8	3.1	8.6	0.4	4.1	10.2	-0.7	1.6	2.1	Jan-17
SSgA TIPS	173,550,305	3.9	-0.4	-1.3	-1.3	2.1	1.6	--	-1.3	3.0	4.6	-1.5	3.6	3.7	Feb-09
BBgBarc US TIPS TR			-0.4	-1.2	-1.3	2.1	1.7	3.6	-1.3	3.0	4.7	-1.4	3.6	3.7	Feb-09
Brandywine Global Sovereign	244,594,459	5.5	-0.9	-1.9	-4.7	3.4	--	--	-4.7	11.9	3.8	-9.8	--	-0.2	Jan-15
FTSE WGBI TR			1.8	0.1	-0.8	2.7	0.8	1.5	-0.8	7.5	1.6	-3.6	-0.5	1.2	Jan-15
PIMCO Emerging Local Bond Ins	212,482,616	4.8	1.4	-1.0	-7.7	5.7	-1.4	--	-7.7	15.4	10.7	-16.3	-5.4	-1.6	Jul-13
JP Morgan GBI EM Global Diversified TR USD			2.1	0.2	-6.2	5.9	-1.0	3.4	-6.2	15.2	9.9	-14.9	-5.7	-1.1	Jul-13
<b>Total Real Estate</b>	<b>226,224,003</b>	<b>5.1</b>	<b>2.4</b>	<b>4.8</b>	<b>9.2</b>	<b>8.1</b>	<b>10.0</b>	<b>6.0</b>	<b>9.2</b>	<b>6.8</b>	<b>8.5</b>	<b>13.9</b>	<b>11.8</b>	<b>--</b>	
NCREIF ODCE Net			1.5	3.4	7.4	7.3	9.4	6.0	7.4	6.7	7.8	13.9	11.5	--	
Invesco Core Real Estate	177,805,464	4.0	2.0	4.4	8.5	8.1	9.8	5.8	8.5	7.5	8.3	13.7	11.4	4.8	Oct-07
NCREIF ODCE Net			1.5	3.4	7.4	7.3	9.4	6.0	7.4	6.7	7.8	13.9	11.5	4.4	Oct-07
FCERA Realty Group LLC	7,947,614	0.2													
<b>Closed End Real Estate 1 Qtr Lagged</b>	<b>40,470,925</b>	<b>0.9</b>	<b>5.0</b>	<b>7.7</b>	<b>14.1</b>	<b>9.1</b>	<b>11.4</b>	<b>--</b>	<b>14.1</b>	<b>4.3</b>	<b>9.0</b>	<b>14.9</b>	<b>15.0</b>	<b>--</b>	
NCREIF ODCE Net 1 Qtr Lagged			1.9	3.7	7.7	6.7	9.1	5.8	7.7	4.7	7.8	13.9	11.5	--	
<b>Total Infrastructure</b>	<b>144,127,819</b>	<b>3.3</b>	<b>2.9</b>	<b>9.1</b>	<b>20.1</b>	<b>14.9</b>	<b>--</b>	<b>--</b>	<b>20.1</b>	<b>19.0</b>	<b>6.1</b>	<b>--</b>	<b>--</b>	<b>--</b>	
NCREIF ODCE Net			1.5	3.4	7.4	7.3	9.4	6.0	7.4	6.7	7.8	13.9	11.5	--	
IFM Infrastructure	144,127,819	3.3	2.9	9.1	20.1	14.9	--	--	20.1	19.0	6.1	--	--	13.2	May-15
NCREIF ODCE Net			1.5	3.4	7.4	7.3	9.4	6.0	7.4	6.7	7.8	13.9	11.5	8.8	May-15
<b>Total Hedge Funds</b>	<b>321,449,025</b>	<b>7.3</b>	<b>-4.0</b>	<b>-3.4</b>	<b>-0.7</b>	<b>2.3</b>	<b>2.0</b>	<b>3.6</b>	<b>-0.7</b>	<b>4.6</b>	<b>3.0</b>	<b>0.0</b>	<b>3.1</b>	<b>--</b>	
HFRI Fund of Funds Composite Index			-5.0	-4.8	-4.1	1.3	1.4	3.1	-4.1	7.8	0.5	-0.3	3.4	--	
Grosvenor	162,553,281	3.7	-4.9	-4.4	-1.2	2.6	2.2	--	-1.2	6.4	2.6	0.0	3.5	4.3	Oct-09
HFRI Fund of Funds Composite Index			-5.0	-4.8	-4.1	1.3	1.4	3.1	-4.1	7.8	0.5	-0.3	3.4	2.4	Oct-09
GCM Better Futures Fund	158,895,744	3.6	-3.0	-2.5	-0.2	--	--	--	-0.2	2.8	--	--	--	2.5	Sep-16
HFRI Fund of Funds Composite Index			-5.0	-4.8	-4.1	1.3	1.4	3.1	-4.1	7.8	0.5	-0.3	3.4	1.9	Sep-16

Total Fund  
Performance Summary (Net of Fees)

Period Ending: December 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014	Inception	Inception Date
<b>Total Commodities</b>	<b>123,316,702</b>	<b>2.8</b>	<b>-7.6</b>	<b>-10.5</b>	<b>-11.0</b>	<b>2.3</b>	<b>-4.9</b>	<b>--</b>	<b>-11.0</b>	<b>5.8</b>	<b>13.8</b>	<b>-12.8</b>	<b>-16.9</b>	<b>--</b>	
<i>Bloomberg Commodity Index TR USD</i>			<i>-9.4</i>	<i>-11.2</i>	<i>-11.2</i>	<i>0.3</i>	<i>-8.8</i>	<i>-3.8</i>	<i>-11.2</i>	<i>1.7</i>	<i>11.8</i>	<i>-24.7</i>	<i>-17.0</i>	<i>--</i>	
<b>Invesco Commodities</b>	<b>123,316,702</b>	<b>2.8</b>	<b>-7.6</b>	<b>-10.5</b>	<b>-11.0</b>	<b>2.3</b>	<b>--</b>	<b>--</b>	<b>-11.0</b>	<b>5.8</b>	<b>13.8</b>	<b>--</b>	<b>--</b>	<b>-2.1</b>	<b>May-15</b>
<i>Bloomberg Commodity Index TR USD</i>			<i>-9.4</i>	<i>-11.2</i>	<i>-11.2</i>	<i>0.3</i>	<i>-8.8</i>	<i>-3.8</i>	<i>-11.2</i>	<i>1.7</i>	<i>11.8</i>	<i>-24.7</i>	<i>-17.0</i>	<i>-6.5</i>	<i>May-15</i>
<b>Total Private Equity 1 Qtr Lagged</b>	<b>206,321,105</b>	<b>4.7</b>	<b>3.9</b>	<b>5.4</b>	<b>12.0</b>	<b>12.2</b>	<b>9.0</b>	<b>12.7</b>	<b>12.0</b>	<b>13.9</b>	<b>10.7</b>	<b>3.8</b>	<b>4.8</b>	<b>--</b>	
<i>Russell 2000 1 Qtr Lagged</i>			<i>3.6</i>	<i>11.6</i>	<i>15.2</i>	<i>15.8</i>	<i>9.2</i>	<i>14.5</i>	<i>15.2</i>	<i>10.9</i>	<i>21.3</i>	<i>-4.4</i>	<i>4.9</i>	<i>--</i>	
<b>Total Private Credit 1 Qtr Lagged</b>	<b>211,423,883</b>	<b>4.8</b>	<b>3.4</b>	<b>4.4</b>	<b>7.6</b>	<b>7.7</b>	<b>5.4</b>	<b>15.8</b>	<b>7.6</b>	<b>8.1</b>	<b>7.4</b>	<b>-2.5</b>	<b>6.8</b>	<b>--</b>	
<i>BBgBarc US Corp. High Yield 1 Qtr Lagged</i>			<i>2.4</i>	<i>3.5</i>	<i>3.0</i>	<i>8.9</i>	<i>4.8</i>	<i>11.6</i>	<i>3.0</i>	<i>7.0</i>	<i>17.1</i>	<i>-4.5</i>	<i>2.5</i>	<i>--</i>	
<b>Total Custodied Cash</b>	<b>44,947,619</b>	<b>1.0</b>	<b>2.5</b>	<b>5.6</b>	<b>6.3</b>	<b>2.4</b>	<b>1.5</b>	<b>1.1</b>	<b>6.3</b>	<b>0.3</b>	<b>0.8</b>	<b>-0.1</b>	<b>0.3</b>	<b>--</b>	
<i>91 Day T-Bills</i>			<i>0.6</i>	<i>1.1</i>	<i>1.9</i>	<i>1.1</i>	<i>0.6</i>	<i>0.4</i>	<i>1.9</i>	<i>0.9</i>	<i>0.3</i>	<i>0.0</i>	<i>0.0</i>	<i>--</i>	
<b>Total County Cash</b>	<b>40,488,376</b>	<b>0.9</b>	<b>0.8</b>	<b>1.5</b>	<b>2.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	
<i>91 Day T-Bills</i>			<i>0.6</i>	<i>1.1</i>	<i>1.9</i>	<i>1.1</i>	<i>0.6</i>	<i>0.4</i>	<i>1.9</i>	<i>0.9</i>	<i>0.3</i>	<i>0.0</i>	<i>0.0</i>	<i>--</i>	
<b>Total Parametric Overlay</b>	<b>44,159,077</b>	<b>1.0</b>													

# Real Estate Closed End Funds (Net of Fees)

Period Ending: December 31, 2018

Real Estate - Closed End Funds											
Fund	Inception Date	% of Portfolio	Total Commitment	Contributions	Distributions	Estimated Market Value	One Quarter Return	One Year Return	Three Years Return	Five Years Return	(IRR) Since Inception
Invesco Value-Add Fund V	2017	0.0%	\$30,000,000	\$0	\$0	\$0	N/A	N/A	N/A	N/A	N/A
Kennedy Wilson Real Estate Fund V	2016	0.5%	\$30,000,000	\$28,113,444	\$14,601,766	\$21,154,303	7.6%	20.2%	N/A	N/A	14.3%
Gerding Edlen Green Cities III	2016	0.4%	\$20,000,000	\$17,089,239	\$537,072	\$19,300,128	2.1%	7.0%	N/A	N/A	9.0%
TA Realty IX	2009	0.0%	\$30,000,000	\$30,000,000	\$47,200,946	\$16,494	-4.0%	-6.6%	-0.6%	5.3%	10.4%
<b>% of Total Fund (Market Value)</b>						<b>0.9%</b>					

# Private Equity Non Marketable Securities Overview

Period Ending: December 31, 2018

Private Equity								
Fund	Vintage Year	Commitment	Unfunded	Paid-In Capital	Capital Distributed	NAV	TVPI	Since Inception IRR
Legacy Portfolio								
Blackstone Capital Partners IV, L.P.	2003	\$20,000,000	\$615,766	\$22,630,806	\$51,551,300	\$2,051,129	2.37x	29.65%
Hamilton Lane Private Equity Fund IX L.P.	2016	\$100,000,000	\$34,910,009	\$65,089,991	\$14,443,962	\$64,106,728	1.21x	17.75%
Hamilton Lane Private Equity Fund VI, LP	2007	\$70,000,000	\$7,388,235	\$62,611,765	\$77,173,146	\$24,978,488	1.63x	9.66%
Horsley Bridge XI Growth Buyout L.P.	2016	\$30,000,000	\$20,452,347	\$9,547,653	\$525,613	\$9,649,701	1.07x	7.66%
Landmark Equity Partners XIV, L.P.	2009	\$30,000,000	\$1,037,070	\$28,962,930	\$30,894,201	\$7,133,005	1.31x	10.14%
New Mountain Partners III, L.P.	2007	\$15,000,000	\$1,054,146	\$15,337,738	\$19,660,519	\$10,784,268	1.98x	13.63%
Warburg Pincus Equity Partners, L.P.	1998	\$20,000,000	\$0	\$20,000,000	\$33,046,892	\$64,385	1.66x	10.26%
Warburg Pincus Private Equity VIII, L.P.	2001	\$25,000,000	\$0	\$26,100,000	\$56,484,610	\$2,810,300	2.27x	14.62%
Warburg Pincus Private Equity X, L.P.	2007	\$25,000,000	\$0	\$25,046,896	\$28,688,886	\$11,566,976	1.61x	8.61%
Warburg Pincus Private Equity XII, L.P.	2015	\$34,000,000	\$11,662,000	\$22,352,177	\$582,487	\$25,037,284	1.15x	11.74%
<b>Total Legacy Portfolio</b>		<b>\$369,000,000</b>	<b>\$77,119,573</b>	<b>\$297,679,956</b>	<b>\$313,051,617</b>	<b>\$158,182,264</b>	<b>1.58x</b>	<b>13.09%</b>
Hamilton Lane Portfolio								
Avista Capital Partners IV, L.P.	2018	\$10,000,000	\$4,537,430	\$7,056,549	\$4,403,384	\$4,426,023	1.25x	58.28%
H.I.G. Growth Buyouts & Equity Fund III, L.P.	2019	\$10,000,000	\$10,000,000	\$0	\$0	\$0	N/A	N/A
Hamilton Lane Secondary Fund IV, L.P.	2017	\$75,000,000	\$49,285,029	\$29,969,807	\$5,373,353	\$31,597,971	1.23x	43.11%
K4 Private Investors, L.P.	2018	\$5,000,000	\$5,000,000	-	-	-\$57,546	N/A	N/A
Kelso Investment Associates X, L.P.	2018	\$7,500,000	\$7,500,000	-	-	-\$7,570	N/A	N/A
Platinum Equity Small Cap Fund, L.P.	2018	\$7,500,000	\$7,176,000	\$324,000	-	\$269,996	0.83x	(16.67%)
SK Capital Partners Fund V, L.P.	2018	\$10,000,000	\$10,000,000	\$0	\$0	\$0	N/A	N/A
Thomas H. Lee Equity Fund VIII, L.P.	2019	\$7,500,000	\$7,500,000	\$0	\$0	\$0	N/A	N/A
<b>Total Hamilton Lane Portfolio</b>		<b>\$132,500,000</b>	<b>\$100,998,459</b>	<b>\$37,350,356</b>	<b>\$9,776,737</b>	<b>\$36,228,874</b>	<b>1.23x</b>	<b>47.53%</b>
<b>Total Private Equity</b>		<b>\$501,500,000</b>	<b>\$178,118,032</b>	<b>\$335,030,312</b>	<b>\$322,828,354</b>	<b>\$194,411,138</b>	<b>1.54x</b>	<b>13.27%</b>

Data provided by Hamilton Lane as of 9/30/2018.

# Private Credit Non Marketable Securities Overview

Period Ending: December 31, 2018

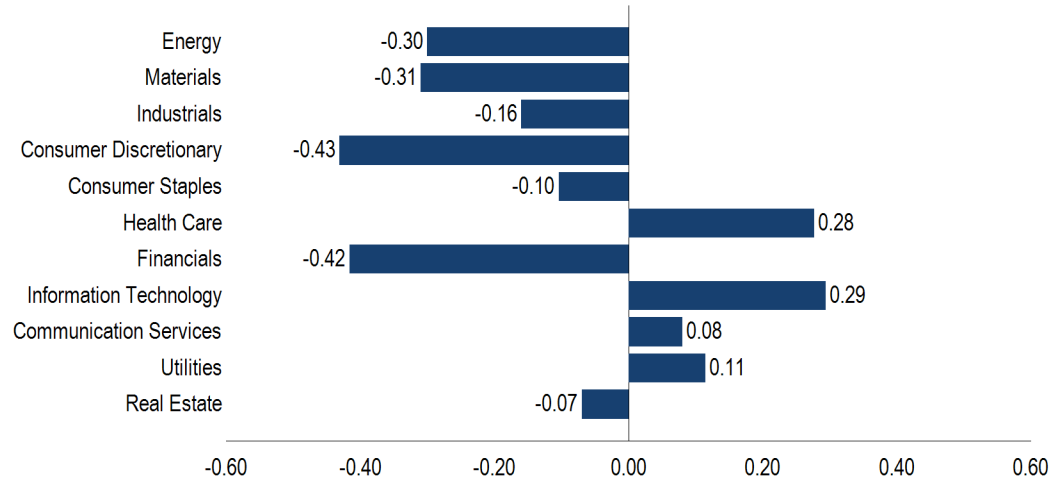
Private Credit								
Fund	Vintage Year	Commitment	Unfunded	Paid-In Capital	Capital Distributed	NAV	TVPI	Since Inception IRR
Legacy Portfolio								
EQT European Special Situations Debt	2017	\$40,000,000	\$38,228,993	\$6,550,274	\$743,320	\$5,585,879	0.97	14.00%
OHA Strategic Credit Fund II	2016	\$40,000,000	\$37,000,000	\$3,000,000	\$0	\$3,628,524	1.21	38.00%
TSSP Adjacent Opportunities Partners	2016	\$30,000,000	\$14,520,034	\$25,226,117	\$9,746,151	\$18,213,039	1.11	10.30%
GSO European Senior Debt	2015	\$30,000,000	\$9,218,197	\$21,737,571	\$4,581,475	\$22,532,200	1.25	10.50%
CVI Credit Value Fund III	2015	\$30,000,000	\$1,500,000	\$28,500,000	\$2,968,604	\$32,266,248	1.24	12.06%
Colony Distressed Credit III	2014	\$20,000,000	\$2,734,614	\$21,939,049	\$13,710,825	\$12,904,979	1.21	9.00%
Oaktree Opportunities IX	2012	\$15,000,000	\$0	\$15,000,000	\$4,934,315	\$12,110,378	1.14	3.20%
KKR Mezzanine Partners	2010	\$30,000,000	\$3,164,154	\$35,919,917	\$37,615,912	\$7,037,185	1.24	8.80%
Angelo Gordon VII	2010	\$30,000,000	\$0	\$30,000,000	\$35,875,672	\$882,765	1.23	4.94%
Colony Distressed Credit I	2009	\$40,000,000	\$2,219,487	\$42,267,927	\$63,855,850	\$439,925	1.52	13.00%
Lone Star Fund IV	2002	\$20,000,000	\$954,801	\$19,045,199	\$44,354,883	\$62,113	2.33	30.71%
TCW Shop III	1998	\$15,000,000	\$0	\$15,000,000	\$18,694,945	\$0	1.25	3.50%
<b>Total Legacy Portfolio</b>		<b>\$340,000,000</b>	<b>\$109,540,280</b>	<b>\$264,186,054</b>	<b>\$237,081,951</b>	<b>\$115,663,235</b>	<b>1.31</b>	
Carlyle Portfolio								
TCG BDC II	2017	\$150,000,000	\$111,178,889	\$38,821,111	\$2,387,921	\$38,117,221	1.04	8.64%
CPC V	2017	\$150,000,000	\$106,086,183	\$45,818,175	\$1,904,359	\$45,271,326	1.03	8.74%
AlpInvest FC Credit Fund	2017	\$100,000,000	\$84,895,369	\$15,104,631	\$2,460,502	\$12,372,100	0.99	-1.88%
<b>Total Carlyle Portfolio</b>		<b>\$400,000,000</b>	<b>\$302,160,441</b>	<b>\$99,743,917</b>	<b>\$6,752,782</b>	<b>\$95,760,648</b>	<b>1.02</b>	
<b>Total Private Credit</b>		<b>\$740,000,000</b>	<b>\$411,700,721</b>	<b>\$363,929,970</b>	<b>\$243,834,734</b>	<b>\$211,423,883</b>		

Data provided by Carlyle.

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

Period Ending: December 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	6.34%	5.72%	0.63%	-26.52%	-25.77%	-0.74%	-0.25%	-0.05%	-0.30%	-0.66%	-0.96%
Materials	2.81%	2.87%	-0.06%	-23.94%	-15.03%	-8.92%	0.02%	-0.33%	-0.31%	-0.02%	-0.33%
Industrials	10.22%	10.43%	-0.22%	-19.87%	-18.14%	-1.73%	0.01%	-0.17%	-0.16%	-0.40%	-0.56%
Consumer Discretionary	11.70%	10.50%	1.20%	-20.17%	-16.41%	-3.77%	-0.06%	-0.37%	-0.43%	-0.22%	-0.65%
Consumer Staples	5.20%	6.04%	-0.83%	-6.71%	-5.58%	-1.14%	-0.07%	-0.03%	-0.10%	0.53%	0.42%
Health Care	13.80%	14.65%	-0.85%	-8.76%	-10.90%	2.14%	-0.01%	0.28%	0.28%	0.50%	0.77%
Financials	14.44%	13.74%	0.70%	-15.55%	-13.52%	-2.03%	-0.03%	-0.38%	-0.42%	0.11%	-0.31%
Information Technology	21.91%	20.74%	1.17%	-16.27%	-17.32%	1.06%	0.12%	0.17%	0.29%	-0.63%	-0.33%
Communication Services	7.50%	8.95%	-1.45%	-12.09%	-13.32%	1.23%	-0.01%	0.09%	0.08%	0.09%	0.17%
Utilities	2.68%	2.79%	-0.10%	1.41%	0.83%	0.59%	0.08%	0.04%	0.11%	0.42%	0.54%
Real Estate	3.36%	3.58%	-0.21%	-8.85%	-6.35%	-2.51%	0.02%	-0.09%	-0.07%	0.28%	0.21%
Unclassified	0.04%	0.00%	0.04%	-12.64%	--	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>Total</b>				<b>-15.32%</b>	<b>-14.29%</b>	<b>-1.03%</b>	<b>-0.18%</b>	<b>-0.85%</b>	<b>-1.03%</b>	<b>0.00%</b>	<b>-1.03%</b>



Total Domestic Equity  
Performance Attribution Summary (Net of Fees)

Period Ending: December 31, 2018

Portfolio: Total Domestic Equity  
Benchmark: Russell 3000

Portfolio Total Return -14.14%

	Equity Only
Portfolio	-15.28%
Benchmark	<u>-14.29%</u>
Return From Active Mgmt	-0.99%

Local Returns	
Portfolio	-15.28%
Benchmark	<u>-14.29%</u>
Active Equity Return	-0.99%

Country Selection	0.01%
Stock Selection	-1.00%

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: December 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	4.45%	4.59%	-0.14%	-10.52%	-9.81%	-0.71%	-0.04%	-0.05%	-0.01%	0.02%
AUSTRIA	0.17%	0.17%	0.00%	-19.68%	-21.89%	2.21%	-0.01%	-0.01%	0.00%	0.00%
BELGIUM	0.94%	0.70%	0.24%	-21.36%	-18.32%	-3.04%	-0.07%	-0.04%	-0.04%	0.00%
BRAZIL	1.29%	1.53%	-0.24%	12.03%	13.75%	-1.73%	-0.20%	-0.01%	-0.16%	-0.03%
CANADA	7.61%	6.61%	1.00%	-15.91%	-14.88%	-1.03%	0.02%	0.00%	-0.09%	0.11%
CHILE	0.00%	0.27%	-0.27%	--	-8.30%	8.30%	-0.01%	-0.02%	0.00%	0.01%
CHINA	0.00%	7.61%	-7.61%	--	-10.61%	10.61%	-0.04%	-0.04%	0.00%	0.00%
COLOMBIA	0.00%	0.11%	-0.11%	--	-18.96%	18.96%	0.01%	0.00%	0.00%	0.01%
CZECH REPUBLIC	0.00%	0.05%	-0.05%	--	-8.56%	8.56%	0.00%	0.00%	0.00%	0.00%
DENMARK	0.68%	1.15%	-0.47%	-0.22%	-9.81%	9.59%	0.14%	0.00%	0.12%	0.01%
EGYPT	0.00%	0.03%	-0.03%	--	-8.68%	8.68%	0.00%	0.00%	0.00%	0.00%
FINLAND	0.47%	0.74%	-0.26%	-17.34%	-14.57%	-2.77%	0.01%	0.00%	0.00%	0.01%
FRANCE	10.38%	7.77%	2.61%	-14.70%	-14.60%	-0.10%	-0.16%	-0.12%	-0.02%	-0.02%
GERMANY	16.59%	6.52%	10.06%	-16.58%	-15.71%	-0.87%	-0.65%	-0.37%	-0.18%	-0.10%
GREECE	0.00%	0.07%	-0.07%	--	-15.04%	15.04%	0.00%	0.00%	0.00%	0.00%
HONG KONG	2.96%	2.41%	0.55%	-5.43%	-4.46%	-0.98%	-0.03%	0.00%	-0.02%	0.00%
HUNGARY	0.00%	0.07%	-0.07%	--	5.86%	-5.86%	-0.01%	-0.01%	0.00%	0.00%
INDIA	0.00%	2.10%	-2.10%	--	2.59%	-2.59%	-0.28%	-0.20%	0.00%	-0.08%
INDONESIA	0.22%	0.47%	-0.25%	20.40%	9.80%	10.60%	-0.01%	-0.03%	0.03%	0.00%
IRELAND	0.62%	0.36%	0.25%	-19.82%	-18.09%	-1.73%	0.06%	0.02%	0.04%	-0.01%
ISRAEL	0.38%	0.37%	0.00%	-17.68%	-14.68%	-3.00%	-0.02%	-0.01%	-0.01%	0.00%
ITALY	2.63%	1.64%	0.99%	-7.95%	-11.61%	3.66%	0.15%	0.02%	0.13%	0.00%
JAPAN	15.54%	16.67%	-1.13%	-15.50%	-14.23%	-1.28%	-0.17%	0.06%	-0.21%	-0.02%
KOREA	0.00%	3.67%	-3.67%	--	-14.22%	14.22%	0.11%	0.10%	0.00%	0.01%
LUXEMBOURG	0.00%	0.00%	0.00%	-11.91%	-4.51%	-7.39%	0.00%	0.00%	0.00%	0.00%
MALAYSIA	0.00%	0.60%	-0.60%	--	-5.80%	5.80%	-0.03%	-0.03%	0.00%	0.00%

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

Period Ending: December 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
MEXICO	0.00%	0.78%	-0.78%	--	-18.59%	18.59%	0.06%	0.03%	0.00%	0.03%
NETHERLANDS	3.84%	2.32%	1.53%	-15.81%	-10.96%	-4.85%	-0.22%	0.02%	-0.23%	-0.01%
NEW ZEALAND	1.32%	0.15%	1.17%	-5.79%	-6.37%	0.58%	0.04%	0.00%	0.06%	-0.02%
NORWAY	0.99%	0.54%	0.45%	-38.80%	-17.86%	-20.94%	-0.21%	0.01%	-0.21%	0.00%
Other Countries	0.03%	0.00%	0.03%	-13.96%	-11.40%	-2.55%	0.00%	0.00%	0.00%	0.00%
PAKISTAN	0.00%	0.02%	-0.02%	--	-22.89%	22.89%	0.00%	0.00%	0.00%	0.00%
PERU	0.00%	0.10%	-0.10%	--	-2.83%	2.83%	-0.01%	-0.01%	0.00%	0.00%
PHILIPPINES	0.00%	0.24%	-0.24%	--	5.21%	-5.21%	-0.04%	-0.03%	0.00%	-0.01%
POLAND	0.00%	0.31%	-0.31%	--	-2.70%	2.70%	-0.02%	-0.03%	0.00%	0.00%
PORTUGAL	0.11%	0.11%	0.00%	-8.07%	-14.20%	6.13%	0.01%	0.00%	0.01%	0.00%
QATAR	0.00%	0.23%	-0.23%	--	8.45%	-8.45%	-0.04%	-0.04%	0.00%	0.00%
RUSSIA	0.45%	0.89%	-0.44%	8.44%	-9.14%	17.58%	0.10%	-0.02%	0.08%	0.04%
SINGAPORE	2.49%	0.86%	1.63%	-5.18%	-6.72%	1.54%	0.01%	-0.02%	0.04%	-0.02%
SOUTH AFRICA	0.01%	1.52%	-1.51%	-13.40%	-3.50%	-9.90%	-0.11%	-0.13%	0.00%	0.02%
SPAIN	1.35%	2.06%	-0.72%	-5.15%	-8.67%	3.52%	0.06%	-0.02%	0.06%	0.01%
SWEDEN	2.03%	1.90%	0.14%	-11.32%	-14.07%	2.75%	0.03%	0.03%	0.03%	-0.03%
SWITZERLAND	5.66%	5.66%	0.00%	-11.46%	-8.94%	-2.52%	-0.14%	-0.01%	-0.14%	0.01%
TAIWAN	0.00%	3.02%	-3.02%	--	-13.56%	13.56%	0.08%	0.07%	0.00%	0.02%
THAILAND	0.00%	0.61%	-0.61%	--	-10.27%	10.27%	0.00%	-0.01%	0.00%	0.00%
TURKEY	0.00%	0.15%	-0.15%	--	4.94%	-4.94%	-0.02%	-0.01%	0.00%	-0.02%
UNITED ARAB EMIRATES	0.00%	0.16%	-0.16%	--	-6.04%	6.04%	-0.01%	-0.01%	0.00%	0.00%
UNITED KINGDOM	13.40%	12.09%	1.31%	-15.45%	-11.71%	-3.73%	-0.50%	0.01%	-0.49%	-0.02%
UNITED STATES	3.39%	0.00%	3.39%	-9.58%	-13.81%	4.23%	0.06%	-0.16%	0.23%	-0.01%
	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>	<b>-13.52%</b>	<b>-11.40%</b>	<b>-2.12%</b>	<b>-2.12%</b>	<b>-1.05%</b>	<b>-1.00%</b>	<b>-0.08%</b>

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

Period Ending: December 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
	0.03%	0.00%	0.03%	--	0.00%	-0.59%	0.59%	0.00%
Australian Dollar	4.45%	4.59%	-0.14%	-2.70%	-2.48%	-2.50%	0.02%	0.02%
Baht	0.00%	0.61%	-0.61%	-0.68%	0.00%	-0.61%	0.61%	0.00%
Canadian Dollar	7.61%	6.61%	1.00%	-5.36%	-3.58%	-4.82%	1.24%	0.11%
Chilean Peso	0.00%	0.27%	-0.27%	-4.96%	0.00%	-4.78%	4.78%	0.01%
Colombian Peso	0.00%	0.11%	-0.11%	-8.56%	0.00%	-7.59%	7.59%	0.01%
Cruzeiro Real	1.29%	1.53%	-0.24%	3.04%	1.59%	3.35%	-1.77%	-0.03%
Czech Koruna	0.00%	0.05%	-0.05%	-1.41%	0.00%	-1.31%	1.31%	0.00%
Danish Krone	0.68%	1.15%	-0.47%	-1.65%	-1.67%	-1.51%	-0.16%	0.01%
Egyptian Pound	0.00%	0.03%	-0.03%	0.00%	0.00%	0.00%	0.00%	0.00%
Emirati dirham	0.00%	0.16%	-0.16%	0.00%	0.00%	0.00%	0.00%	0.00%
Euro	37.10%	22.46%	14.64%	-1.58%	-1.23%	-1.34%	0.11%	-0.12%
Forint	0.00%	0.07%	-0.07%	-0.77%	0.00%	-0.82%	0.82%	0.00%
Hong Kong Dollar	2.96%	2.41%	0.55%	-0.06%	-0.05%	-0.05%	0.00%	0.00%
Indian Rupee	0.00%	2.10%	-2.10%	3.83%	0.00%	3.79%	-3.79%	-0.08%
Mexican New Peso	0.00%	0.78%	-0.78%	-5.05%	0.00%	-4.33%	4.33%	0.03%
New Sol	0.00%	0.10%	-0.10%	-2.36%	0.00%	0.00%	0.00%	0.00%
New Taiwan Dollar	0.00%	3.02%	-3.02%	-0.66%	0.00%	-0.58%	0.58%	0.02%
New Zealand Dollar	1.32%	0.15%	1.17%	1.15%	1.07%	1.06%	0.01%	-0.02%
New Zloty	0.00%	0.31%	-0.31%	-1.88%	0.00%	-1.86%	1.86%	0.00%
Norwegian Krone	0.99%	0.54%	0.45%	-5.96%	-3.88%	-5.20%	1.33%	0.00%
Pakistani Rupee	0.00%	0.02%	-0.02%	-10.53%	0.00%	-9.08%	9.08%	0.00%
Philippines Peso	0.00%	0.24%	-0.24%	2.75%	0.00%	2.81%	-2.81%	-0.01%
Pound Sterling	13.40%	12.09%	1.31%	-2.34%	-2.02%	-2.11%	0.09%	-0.02%
Qatari rial	0.00%	0.23%	-0.23%	0.01%	0.00%	0.01%	-0.01%	0.00%
Rand	0.01%	1.52%	-1.51%	-1.62%	-0.08%	-1.59%	1.52%	0.02%
Ringgit (Malaysian Dollar)	0.00%	0.60%	-0.60%	0.15%	0.00%	0.14%	-0.14%	0.00%
Rupiah	0.22%	0.47%	-0.25%	3.63%	4.21%	3.84%	0.37%	0.00%

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

Period Ending: December 31, 2018

Currency Name	Portfolio Weight	Index Weight	Excess Weight	Currency Return	Portfolio Contrib.	Index Contrib.	Active Contrib.	Currency Effect
Russian Federation Rouble	0.45%	0.89%	-0.44%	-5.59%	0.00%	-4.57%	4.57%	0.04%
Shekel	0.38%	0.37%	0.00%	-2.69%	-1.29%	-1.19%	-0.10%	0.00%
Singapore Dollar	2.49%	0.86%	1.63%	0.25%	0.08%	0.23%	-0.15%	-0.02%
South Korean Won	0.00%	3.67%	-3.67%	-0.59%	0.00%	-0.51%	0.51%	0.01%
Swedish Krona	2.03%	1.90%	0.14%	0.31%	0.27%	0.26%	0.01%	-0.03%
Swiss Franc	5.66%	5.66%	0.00%	-0.91%	-0.81%	-0.84%	0.02%	0.01%
Turkish Lira	0.00%	0.15%	-0.15%	12.92%	0.00%	12.01%	-12.01%	-0.02%
US Dollar	3.39%	0.00%	3.39%	0.00%	-0.25%	-0.59%	0.34%	-0.01%
Yen	15.54%	16.67%	-1.13%	3.53%	2.88%	2.92%	-0.04%	-0.02%
Yuan Renminbi	0.00%	7.61%	-7.61%	0.22%	0.00%	-0.03%	0.03%	0.00%
	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>		<b>-0.72%</b>	<b>-0.59%</b>	<b>-0.13%</b>	<b>-0.08%</b>

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

Period Ending: December 31, 2018

Total International Equity vs. MSCI ACWI ex USA  
Current Quarter

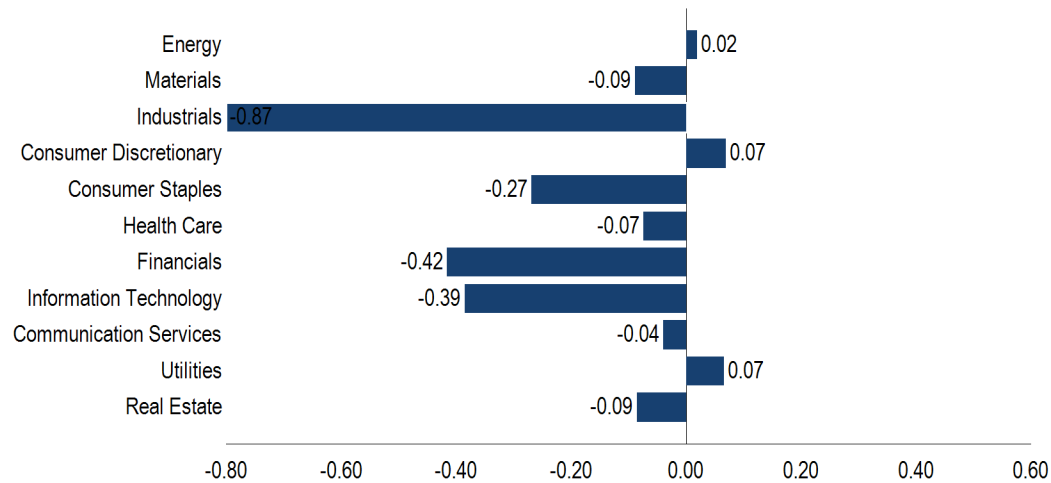
Region	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess USD Return	Allocation Effect (Local)	Selection Effect (Local)	Active Contrib.	Passive Contrib.	Total Contrib.
North America ex U.S.	7.61%	6.61%	1.00%	-15.91%	-14.88%	-1.03%	0.00%	0.03%	0.02%	-0.23%	-0.20%
United States	3.39%	0.00%	3.39%	-9.58%	--	--	0.00%	0.06%	0.06%	0.00%	0.06%
Europe Ex U.K.	46.46%	31.71%	14.75%	-14.35%	-13.00%	-1.34%	-0.25%	-0.77%	-1.02%	-0.50%	-1.52%
United Kingdom	13.40%	12.09%	1.31%	-15.45%	-11.71%	-3.73%	0.01%	-0.51%	-0.50%	-0.04%	-0.53%
Pacific Basin Ex Japan	11.22%	8.01%	3.21%	-6.36%	-7.83%	1.47%	-0.12%	0.09%	-0.03%	0.29%	0.26%
Japan	15.54%	16.67%	-1.13%	-15.50%	-14.23%	-1.28%	0.06%	-0.23%	-0.17%	-0.47%	-0.64%
Emerging Markets	1.97%	24.28%	-22.31%	11.76%	-7.63%	19.39%	-0.64%	0.21%	-0.43%	0.92%	0.49%
Other	0.40%	0.62%	-0.22%	-17.44%	-6.11%	-11.34%	-0.01%	-0.05%	-0.07%	0.03%	-0.03%
<b>Total</b>				<b>-13.52%</b>	<b>-11.40%</b>	<b>-2.12%</b>	<b>-0.96%</b>	<b>-1.17%</b>	<b>-2.12%</b>	<b>0.00%</b>	<b>-2.12%</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	0.22%	18.31%	-18.09%	20.40%	-9.40%	29.80%	-0.21%	0.01%	-0.20%	0.37%	0.17%
EM Latin America	1.29%	2.80%	-1.50%	12.03%	0.70%	11.33%	-0.14%	-0.01%	-0.15%	0.34%	0.19%
EM Europe & Middle East	0.45%	1.46%	-1.01%	8.44%	-5.65%	14.09%	-0.06%	0.10%	0.04%	0.08%	0.12%
EM Africa	0.01%	1.55%	-1.54%	-13.40%	-3.60%	-9.80%	-0.13%	0.02%	-0.11%	0.12%	0.01%
Other	98.03%	75.88%	22.15%	-14.00%	-12.60%	-1.39%	-0.21%	-1.50%	-1.70%	-0.91%	-2.61%
<b>Total</b>				<b>-13.52%</b>	<b>-11.40%</b>	<b>-2.12%</b>	<b>-0.74%</b>	<b>-1.38%</b>	<b>-2.12%</b>	<b>0.00%</b>	<b>-2.12%</b>

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

Period Ending: December 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	3.85%	7.62%	-3.78%	-11.76%	-16.12%	4.36%	0.03%	0.09%	0.12%	-0.36%	-0.24%
Materials	8.50%	8.12%	0.39%	-13.86%	-13.37%	-0.49%	-0.01%	-0.05%	-0.06%	-0.16%	-0.22%
Industrials	21.83%	11.90%	9.93%	-17.97%	-13.58%	-4.40%	-0.20%	-0.84%	-1.05%	-0.26%	-1.31%
Consumer Discretionary	7.50%	10.41%	-2.91%	-14.52%	-13.79%	-0.73%	0.11%	-0.05%	0.06%	-0.25%	-0.19%
Consumer Staples	9.54%	9.49%	0.05%	-10.15%	-7.42%	-2.73%	0.01%	-0.26%	-0.26%	0.38%	0.12%
Health Care	8.08%	8.44%	-0.37%	-11.73%	-10.82%	-0.90%	-0.03%	-0.02%	-0.05%	0.05%	0.00%
Financials	20.13%	22.11%	-1.98%	-12.05%	-10.65%	-1.40%	-0.01%	-0.34%	-0.35%	0.17%	-0.19%
Information Technology	7.32%	8.42%	-1.10%	-23.21%	-16.06%	-7.14%	0.10%	-0.51%	-0.41%	-0.39%	-0.81%
Communication Services	4.13%	7.44%	-3.31%	-6.75%	-8.29%	1.54%	-0.11%	0.06%	-0.04%	0.23%	0.19%
Utilities	6.02%	2.97%	3.05%	-2.81%	0.49%	-3.30%	0.24%	-0.20%	0.04%	0.35%	0.40%
Real Estate	2.58%	3.07%	-0.49%	-4.06%	-3.45%	-0.61%	-0.12%	0.00%	-0.12%	0.24%	0.13%
Unclassified	0.52%	0.00%	0.52%	-13.49%	--	0.00%	-0.02%	0.00%	-0.02%	0.00%	-0.02%

Total International Equity  
Performance Attribution Summary (Net of Fees)

Period Ending: December 31, 2018

Portfolio: Total International Equity  
Benchmark: MSCI ACWI ex USA

Portfolio Total Return -10.25%

	Equity Only
Portfolio	-13.52%
Benchmark	<u>-11.40%</u>
Return From Active Mgmt	-2.12%

Local Returns	
Portfolio	-12.87%
Benchmark	<u>-10.78%</u>
Active Equity Return	-2.09%

Country Selection	-1.05%
Stock Selection	-1.00%

Currency Contributions	
Portfolio	-0.72%
Benchmark	<u>-0.59%</u>
Active Currency Contributions	-0.13%

Chart uses return-based methodology



# Total Fund Watch List (Net of Fees)

Period Ending: December 31, 2018

Name	Allocation Group	Status	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5	Rule 6
T. Rowe Price Large Cap Growth	Domestic Equity Large Cap Growth	No Issues	--	--	--	--	--	--
Aronson Johnson Ortiz	Domestic Equity Large Cap Value	No Issues	✓	✗	✗	✗	✗	--
Systematic Small/Mid Cap Value	Domestic Equity Small/Mid Cap Value	Watch	✗	✗	✗	✗	✗	--
PIMCO StocksPLUS Small Fund	Domestic Equity Small Cap Core	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	✗	✗	✓	✗	✗	--
Baillie Gifford 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: December 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  
Manager Rankings Page

Period Ending: December 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
SSgA S&P 500 Flagship Fund	169,770,241	3.8	-13.5	-6.8	-4.4	9.3	8.5	13.1	-4.4	21.8	12.0	1.4	13.7
S&P 500			-13.5	-6.9	-4.4	9.3	8.5	13.1	-4.4	21.8	12.0	1.4	13.7
eV US Large Cap Equity Net Rank			41	33	38	26	24	33	38	45	32	40	24
T. Rowe Price Large Cap Growth	259,706,294	5.9	--	--	--	--	--	--	--	--	--	--	--
Russell 1000 Growth			-15.9	-8.2	-1.5	11.1	10.4	15.3	-1.5	30.2	7.1	5.7	13.0
eV US Large Cap Growth Equity Net Rank			--	--	--	--	--	--	--	--	--	--	--
Aronson Johnson Ortiz	242,705,124	5.5	-14.4	-10.4	-11.4	4.3	4.4	10.8	-11.4	16.7	9.5	-0.1	9.6
Russell 1000 Value			-11.7	-6.7	-8.3	7.0	5.9	11.2	-8.3	13.7	17.3	-3.8	13.5
eV US Large Cap Value Equity Net Rank			65	72	72	87	77	65	72	50	83	16	78
Systematic Small/Mid Cap Value	61,412,238	1.4	-21.1	-19.9	-20.9	2.7	2.2	--	-20.9	12.3	22.0	-1.1	4.0
Russell 2500 Value			-17.1	-14.9	-12.4	6.6	4.2	11.6	-12.4	10.4	25.2	-5.5	7.1
eV US Small-Mid Cap Value Equity Net Rank			86	89	99	87	70	--	99	52	32	22	68
PIMCO StocksPLUS Small Fund	60,308,323	1.4	-21.7	-18.9	--	--	--	--	--	--	--	--	--
Russell 2000			-20.2	-17.3	-11.0	7.4	4.4	12.0	-11.0	14.6	21.3	-4.4	4.9
eV US Small Cap Core Equity Net Rank			82	76	--	--	--	--	--	--	--	--	--
Artisan International Growth	202,704,644	4.6	-11.5	-8.6	-10.2	2.4	1.0	--	-10.2	31.5	-9.0	-2.2	-0.1
MSCI EAFE			-12.5	-11.4	-13.8	2.9	0.5	6.3	-13.8	25.0	1.0	-0.8	-4.9
eV EAFE All Cap Equity Net Rank			26	9	13	54	56	--	13	13	99	80	10
Research Affiliates International Equity	201,240,421	4.5	-12.8	-11.2	-15.5	5.1	0.6	--	-15.5	25.7	9.3	-5.9	-5.8
MSCI EAFE			-12.5	-11.4	-13.8	2.9	0.5	6.3	-13.8	25.0	1.0	-0.8	-4.9
eV EAFE All Cap Equity Net Rank			33	32	57	17	65	--	57	51	1	95	75
Mondrian International Small Cap	133,034,881	3.0	-15.1	-14.9	-14.6	4.2	2.1	--	-14.6	32.4	0.1	2.7	-4.9
S&P Developed Ex-U.S. SmallCap			-16.6	-16.8	-18.4	3.9	2.8	10.0	-18.4	32.4	3.8	5.9	-3.4
eV EAFE Small Cap Equity Net Rank			24	20	11	40	73	--	11	74	50	94	67
Mondrian Emerging Markets	143,390,961	3.2	-5.2	-4.8	-13.8	6.1	0.0	7.2	-13.8	27.2	9.0	-16.3	0.0
MSCI Emerging Markets			-7.5	-8.5	-14.6	9.2	1.6	8.0	-14.6	37.3	11.2	-14.9	-2.2
eV Emg Mkts Equity Net Rank			14	10	24	73	86	88	24	93	44	80	42
Baillie Gifford Emerging Markets	155,298,000	3.5	--	--	--	--	--	--	--	--	--	--	--
MSCI Emerging Markets			-7.5	-8.5	-14.6	9.2	1.6	8.0	-14.6	37.3	11.2	-14.9	-2.2
eV Emg Mkts Equity Net Rank			--	--	--	--	--	--	--	--	--	--	--
Western Asset Investment Grade Credit	208,431,090	4.7	-0.2	0.9	-2.3	3.7	--	--	-2.3	6.8	7.0	-0.5	--
BBgBarc US Credit TR			0.0	0.9	-2.1	3.2	3.2	5.5	-2.1	6.2	5.6	-0.8	7.5
eV All US Fixed Inc Net Rank			69	55	81	30	--	--	81	23	26	70	--

Total Fund  
Manager Rankings Page

Period Ending: December 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
Loomis Sayles High Yield	297,761,007	6.7	-3.8	-2.0	-2.3	6.2	--	--	-2.3	7.1	14.4	-5.2	--
BBgBarc US High Yield TR			-4.5	-2.2	-2.1	7.2	3.8	11.1	-2.1	7.5	17.1	-4.5	2.5
eV US High Yield Fixed Inc Net Rank			36	49	52	41	--	--	52	47	42	79	--
Eaton Vance Senior Loan Fund	273,902,553	6.2	-3.3	-1.6	0.7	4.8	--	--	0.7	4.0	9.9	-0.8	--
S&P/LSTA Leveraged Loan Index			-3.5	-1.7	0.4	4.8	3.1	8.6	0.4	4.1	10.2	-0.7	1.6
eV US Float-Rate Bank Loan Fixed Inc Net Rank			45	42	16	20	--	--	16	40	33	85	--
Eaton Vance Institutional Senior Loan Plus Fund	20,493,452	0.5	-5.0	-3.0	-1.3	--	--	--	-1.3	3.6	--	--	--
S&P/LSTA Leveraged Loan Index			-3.5	-1.7	0.4	4.8	3.1	8.6	0.4	4.1	10.2	-0.7	1.6
eV US Float-Rate Bank Loan Fixed Inc Net Rank			99	99	97	--	--	--	97	64	--	--	--
SSgA TIPS	173,550,305	3.9	-0.4	-1.3	-1.3	2.1	1.6	--	-1.3	3.0	4.6	-1.5	3.6
BBgBarc US TIPS TR			-0.4	-1.2	-1.3	2.1	1.7	3.6	-1.3	3.0	4.7	-1.4	3.6
eV US TIPS / Inflation Fixed Inc Net Rank			32	36	42	46	31	--	42	58	50	36	38
Brandywine Global Sovereign	244,594,459	5.5	-0.9	-1.9	-4.7	3.4	--	--	-4.7	11.9	3.8	-9.8	--
FTSE WGBI TR			1.8	0.1	-0.8	2.7	0.8	1.5	-0.8	7.5	1.6	-3.6	-0.5
eV All Global Fixed Inc Net Rank			56	77	87	49	--	--	87	6	63	95	--
PIMCO Emerging Local Bond Ins	212,482,616	4.8	1.4	-1.0	-7.7	5.7	-1.4	--	-7.7	15.4	10.7	-16.3	-5.4
JP Morgan GBI EM Global Diversified TR USD			2.1	0.2	-6.2	5.9	-1.0	3.4	-6.2	15.2	9.9	-14.9	-5.7
eV Emg Mkt Fixed Inc Unhedged Net Rank			20	77	74	38	84	--	74	13	46	89	83

# Total Fund Investment Fund Fee Analysis

Period Ending: December 31, 2018

Account	Fee Schedule	Market Value As of 12/31/2018	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
SSgA S&P 500 Flagship Fund	0.03% of First 150.0 Mil, 0.02% Thereafter	\$169,770,241	\$48,559	0.03%
T. Rowe Price Large Cap Growth	0.35% of Assets	\$259,706,294	\$908,972	0.35%
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	\$242,705,124	\$728,115	0.30%
Systematic Small/Mid Cap Value	0.35% of Assets	\$61,412,238	\$214,943	0.35%
PIMCO StocksPLUS Small Fund	0.50% of First 150.0 Mil, 0.45% Thereafter	\$60,308,323	\$301,542	0.50%
Artisan International Growth	0.30% of Assets	\$202,704,644	\$608,114	0.30%
Research Affiliates International Equity	0.12% of Assets	\$201,240,421	\$241,489	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	\$133,034,881	\$898,209	0.68%
Mondrian Emerging Markets	1.00% of First 25.0 Mil, 0.75% of Next 50.0 Mil, 0.60% Thereafter	\$143,390,961	\$1,035,346	0.72%
Baillie Gifford Emerging Markets	0.85% of Assets	\$155,298,000	\$1,320,033	0.85%
Western Asset Investment Grade Credit	0.30% of First 100.0 Mil, 0.15% Thereafter	\$208,431,090	\$462,647	0.22%
Loomis Sayles High Yield	0.50% of Assets	\$297,761,007	\$1,488,805	0.50%
Eaton Vance Senior Loan Fund	0.55% of First 50.0 Mil, 0.50% of Next 50.0 Mil, 0.40% Thereafter	\$273,902,553	\$1,220,610	0.45%

*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: December 31, 2018

Account	Fee Schedule	Market Value As of 12/31/2018	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Eaton Vance Institutional Senior Loan Plus Fund	0.40% of Assets	\$20,493,452	\$81,974	0.40%
SSgA TIPS	0.04% of Assets	\$173,550,305	\$69,420	0.04%
Brandywine Global Sovereign	0.36% of Assets	\$244,594,459	\$880,540	0.36%
PIMCO Emerging Local Bond Ins	0.50% of First 100.0 Mil, 0.45% Thereafter	\$212,482,616	\$1,006,172	0.47%
Invesco Core Real Estate	0.90% of First 75.0 Mil, 0.80% Thereafter	\$177,805,464	\$1,497,444	0.84%
IFM Infrastructure	0.97% of Assets	\$144,127,819	\$1,398,040	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	\$162,553,281	\$1,312,820	0.81%
Invesco Commodities	0.30% of Assets	\$123,316,702	\$369,950	0.30%
Parametric Overlay	0.15% of First 25.0 Mil, 0.10% of Next 75.0 Mil, 0.04% Thereafter	\$44,159,077	\$56,659	0.13%
<b>Investment Management Fee</b>		<b>\$3,712,748,950</b>	<b>\$16,150,401</b>	<b>0.43%</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.*

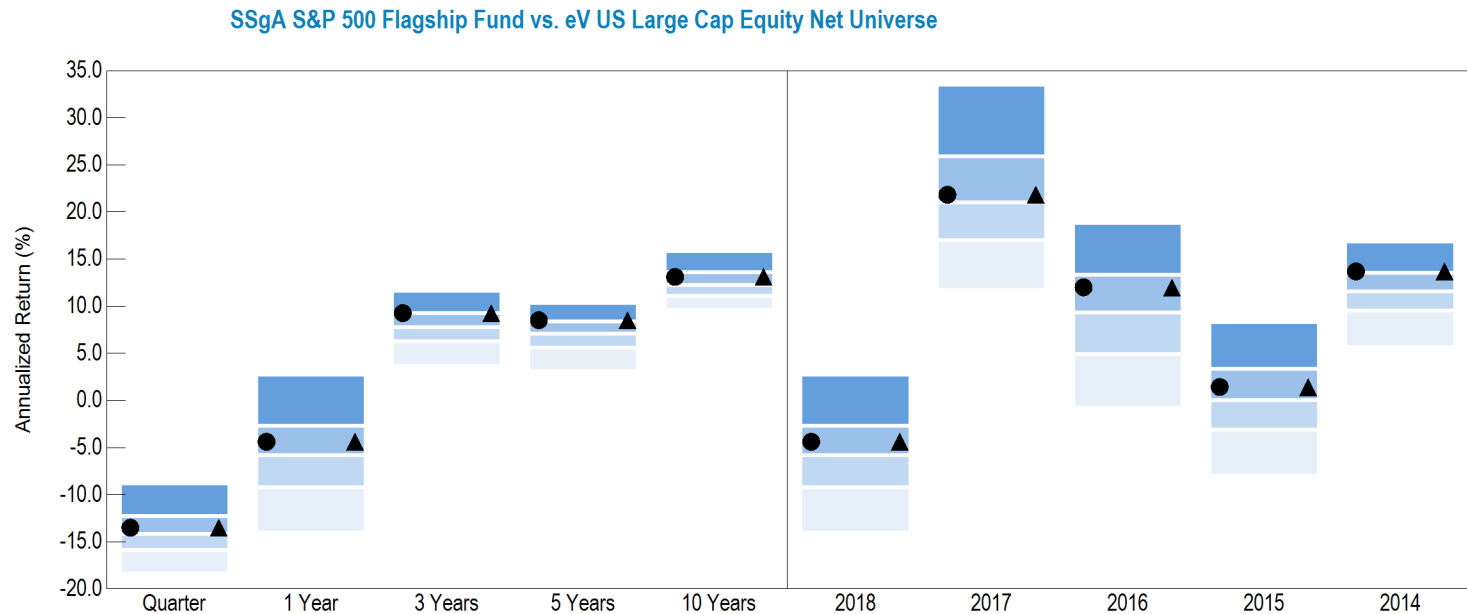
## Domestic Equity Managers

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# SSgA S&P 500 Flagship Fund

## Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2018



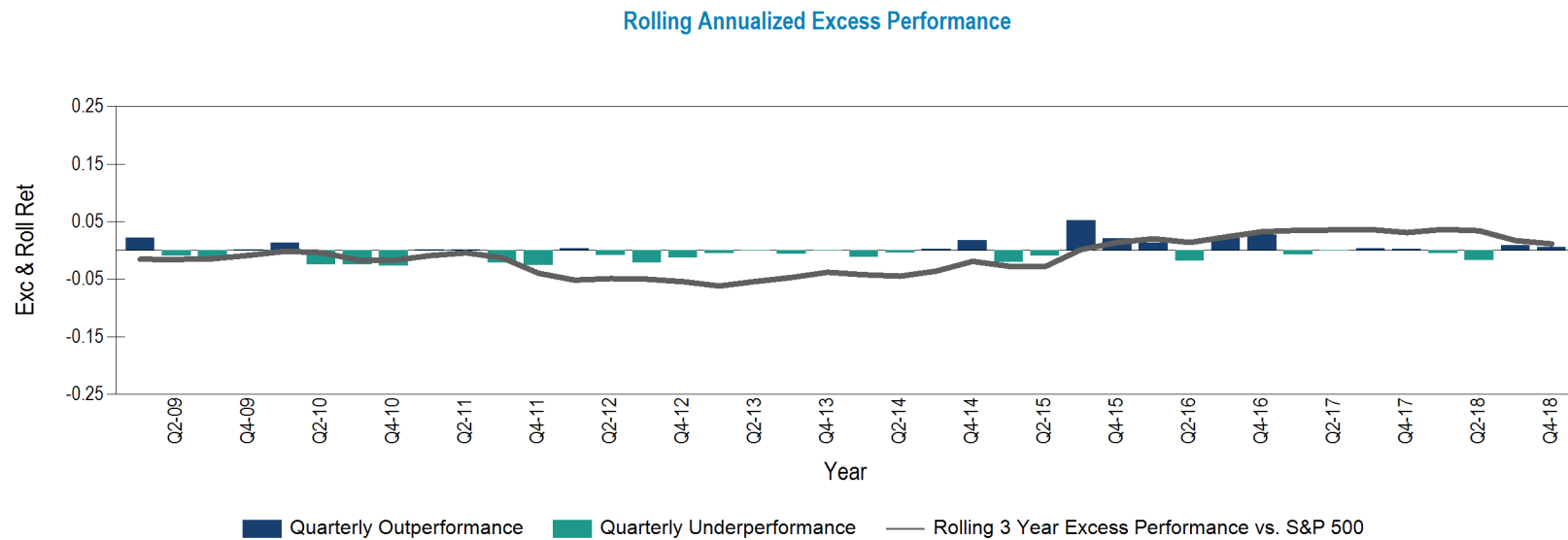
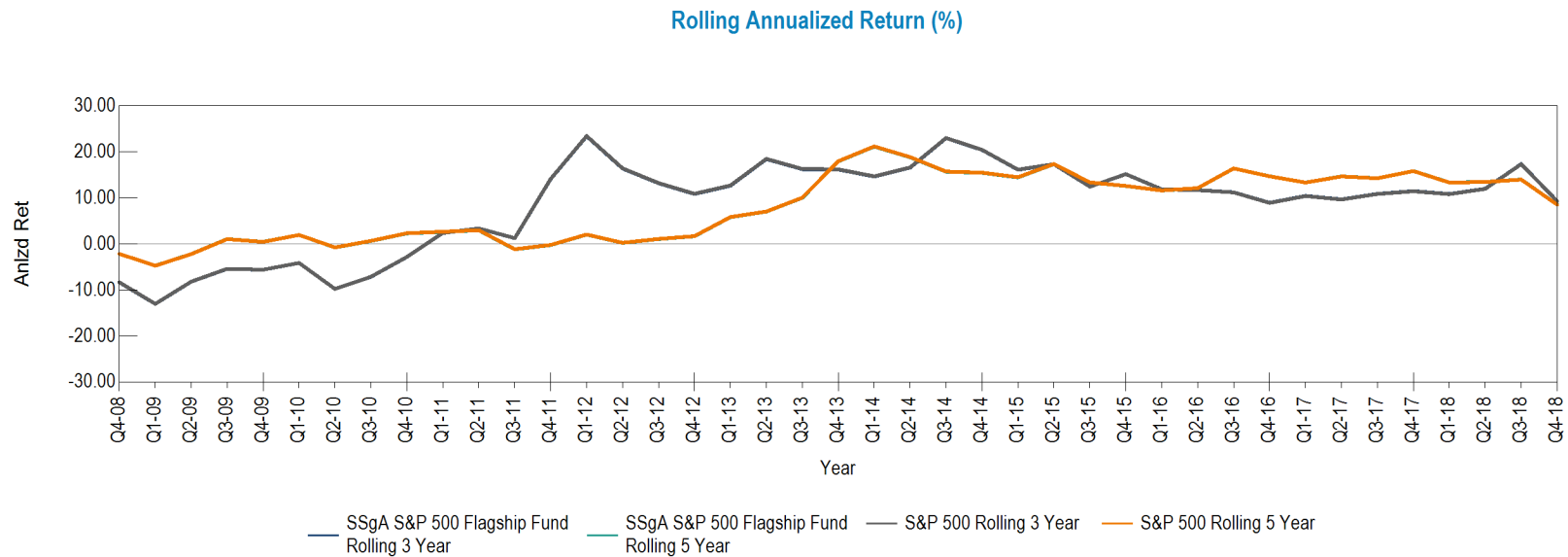
	Return (Rank)									
5th Percentile	-8.8	2.7	11.6	10.3	15.8	2.7	33.5	18.8	8.3	16.8
25th Percentile	-12.2	-2.7	9.3	8.4	13.7	-2.7	25.9	13.4	3.4	13.5
Median	-14.1	-5.8	7.8	7.1	12.3	-5.8	21.1	9.4	0.0	11.6
75th Percentile	-15.8	-9.2	6.3	5.7	11.1	-9.2	17.0	4.9	-3.1	9.6
95th Percentile	-18.3	-14.0	3.7	3.2	9.7	-14.0	11.8	-0.8	-7.9	5.7
# of Portfolios	608	607	589	563	452	607	601	584	511	518
● SSgA S&P 500 Flagship Fund	-13.5 (41)	-4.4 (38)	9.3 (26)	8.5 (24)	13.1 (33)	-4.4 (38)	21.8 (45)	12.0 (32)	1.4 (40)	13.7 (24)
▲ S&P 500	-13.5 (41)	-4.4 (38)	9.3 (26)	8.5 (24)	13.1 (33)	-4.4 (38)	21.8 (45)	12.0 (33)	1.4 (40)	13.7 (24)



# SSgA S&P 500 Flagship Fund

## Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2018

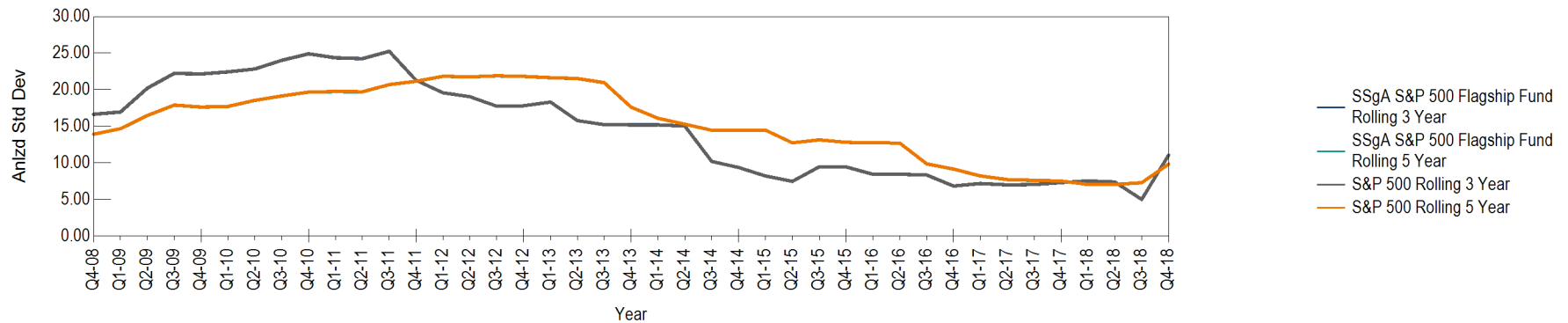


# SSgA S&P 500 Flagship Fund

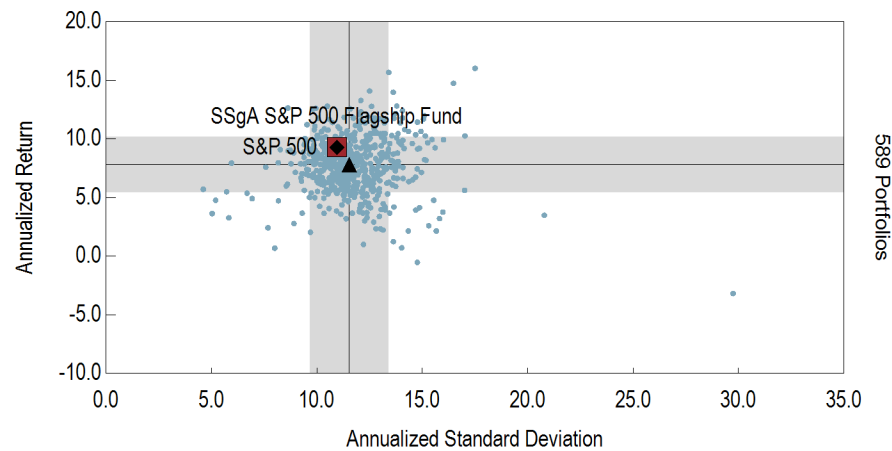
## Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2018

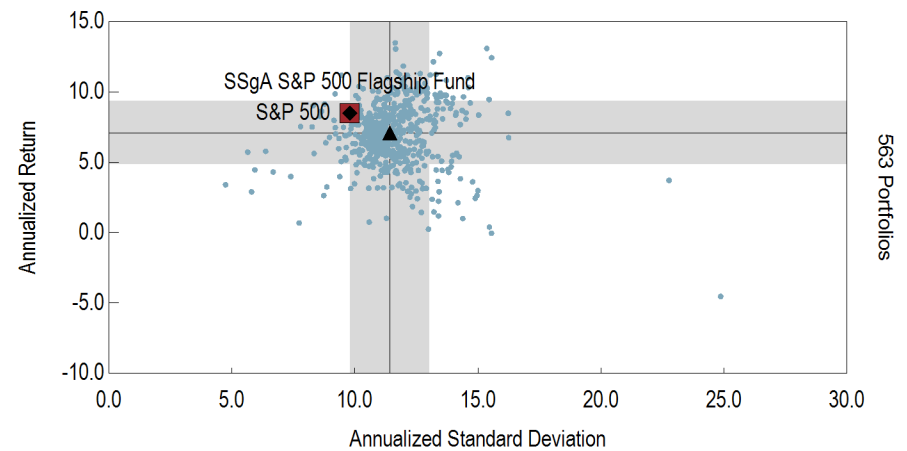
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
SSgA S&P 500 Flagship Fund	9.3%	11.0%	0.8
S&P 500	9.3%	11.0%	0.8
eV US Large Cap Equity Net Median	7.8%	11.5%	0.6

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
SSgA S&P 500 Flagship Fund	8.5%	9.8%	0.8
S&P 500	8.5%	9.8%	0.8
eV US Large Cap Equity Net Median	7.1%	11.4%	0.6

# SSgA S&P 500 Flagship Fund

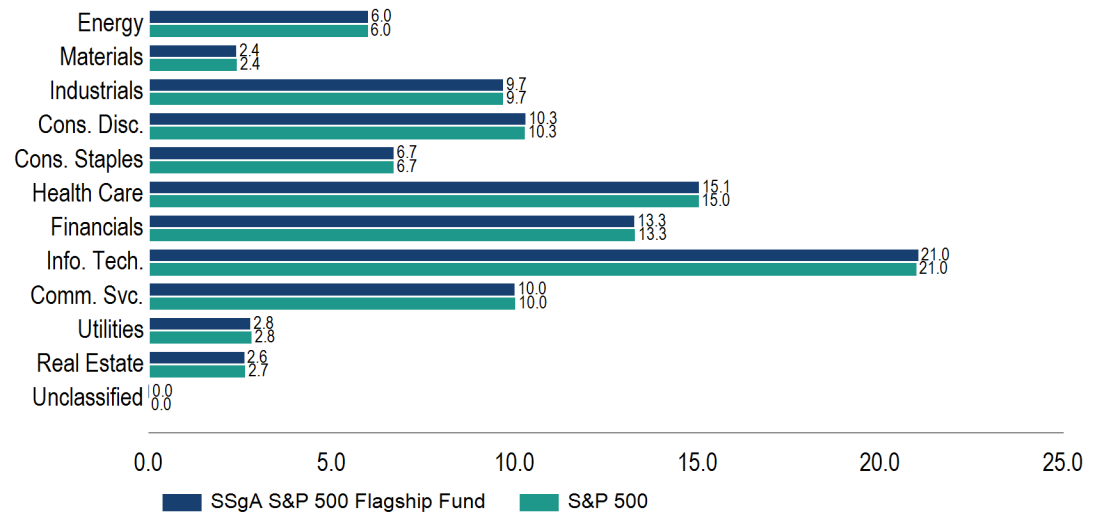
## Manager Portfolio Overview (Net of Fees)

Period Ending: December 31, 2018

### Characteristics

	Portfolio	S&P 500
Number of Holdings	506	505
Weighted Avg. Market Cap. (\$B)	184.03	183.23
Median Market Cap. (\$B)	18.45	18.46
Price To Earnings	23.42	20.68
Price To Book	5.90	4.63
Price To Sales	4.30	4.14
Return on Equity (%)	26.21	23.82
Yield (%)	2.22	2.21
Beta	1.00	1.00

### Sector Allocation (%) vs S&P 500



### Largest Holdings

	End Weight	Return
MICROSOFT	3.73	-10.80
APPLE	3.38	-29.88
AMAZON.COM	2.93	-25.01
BERKSHIRE HATHAWAY 'B'	1.88	-4.64
JOHNSON & JOHNSON	1.64	-6.01
JP MORGAN CHASE & CO.	1.54	-12.89
ALPHABET 'C'	1.51	-13.23
FACEBOOK CLASS A	1.49	-20.29
ALPHABET A	1.48	-13.43
EXXON MOBIL	1.37	-18.98

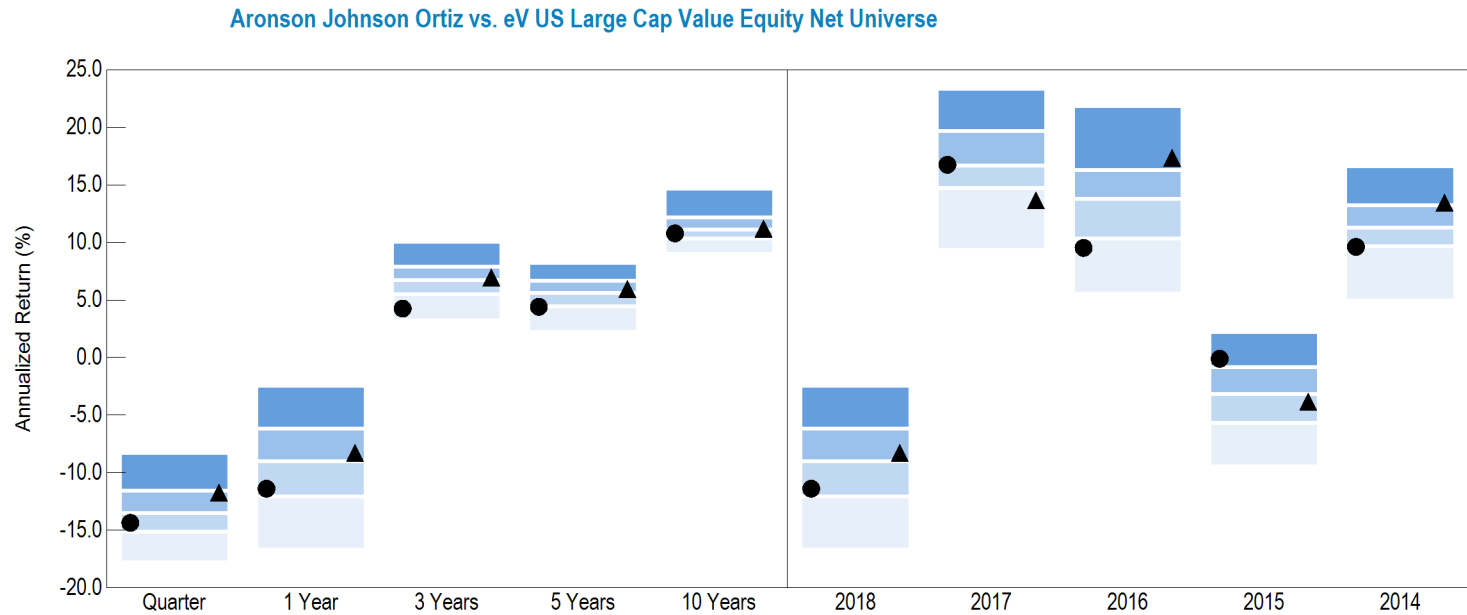
### Top Contributors

	Avg Wgt	Return	Contribution
PROCTER & GAMBLE	0.94	11.43	0.11
MERCK & COMPANY	0.85	8.49	0.07
VERIZON COMMUNICATIONS	1.01	6.45	0.06
STARBUCKS	0.35	13.91	0.05
MCDONALDS	0.59	6.80	0.04
ELI LILLY	0.45	8.39	0.04
RED HAT	0.12	28.88	0.04
CME GROUP	0.26	11.99	0.03
AMERICAN TOWER	0.29	9.45	0.03
COCA COLA	0.79	3.33	0.03

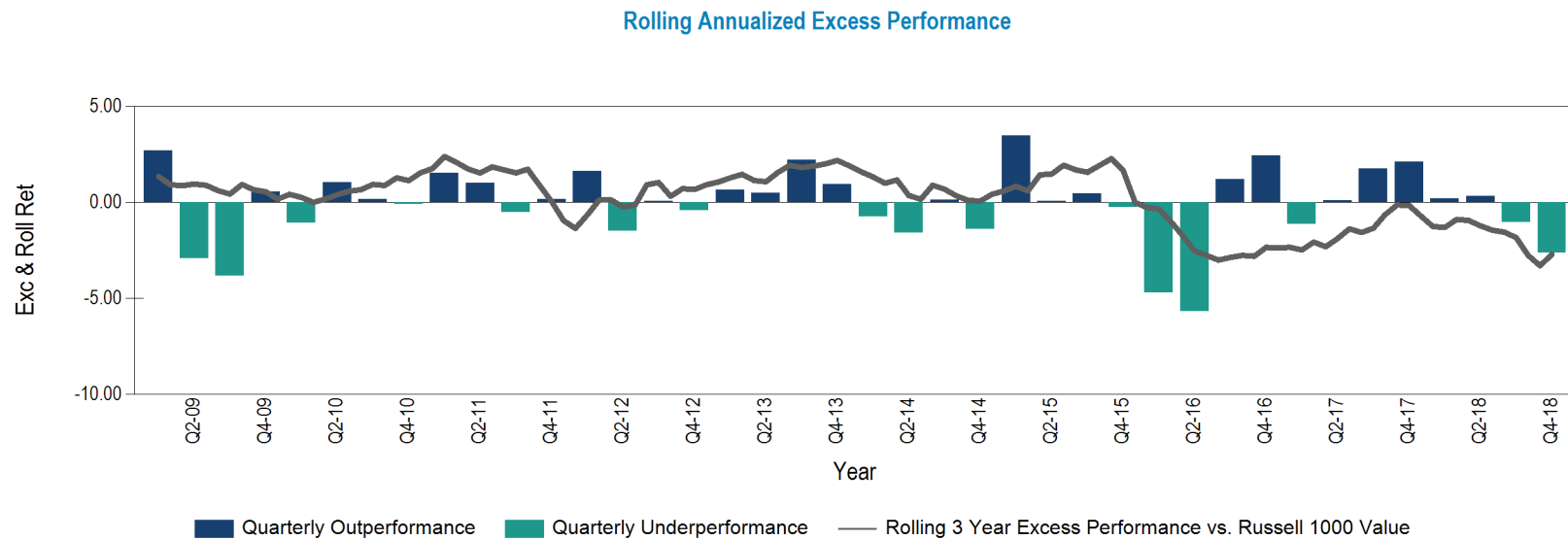
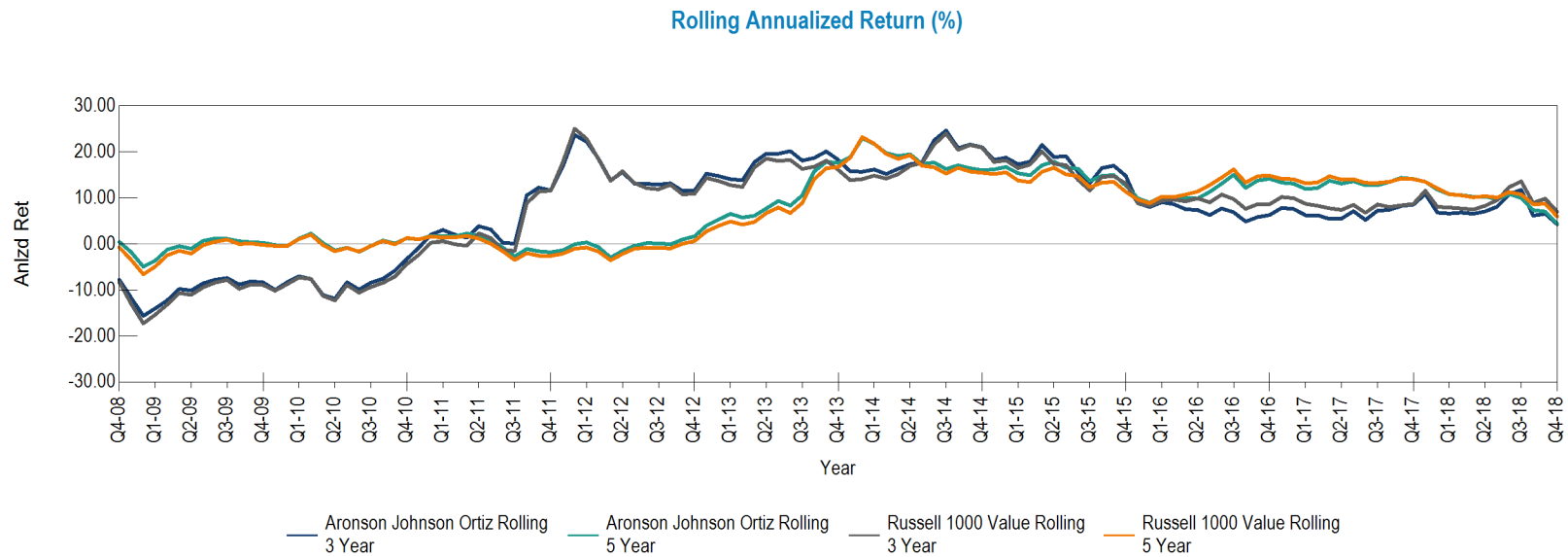
### Bottom Contributors

	Avg Wgt	Return	Contribution
APPLE	4.05	-29.88	-1.21
AMAZON.COM	3.06	-25.01	-0.77
MICROSOFT	3.61	-10.80	-0.39
FACEBOOK CLASS A	1.56	-20.29	-0.32
NVIDIA	0.56	-52.45	-0.29
EXXON MOBIL	1.47	-18.98	-0.28
JP MORGAN CHASE & CO.	1.59	-12.89	-0.20
CITIGROUP	0.72	-26.94	-0.19
ALPHABET 'C'	1.46	-13.23	-0.19
ALPHABET A	1.44	-13.43	-0.19

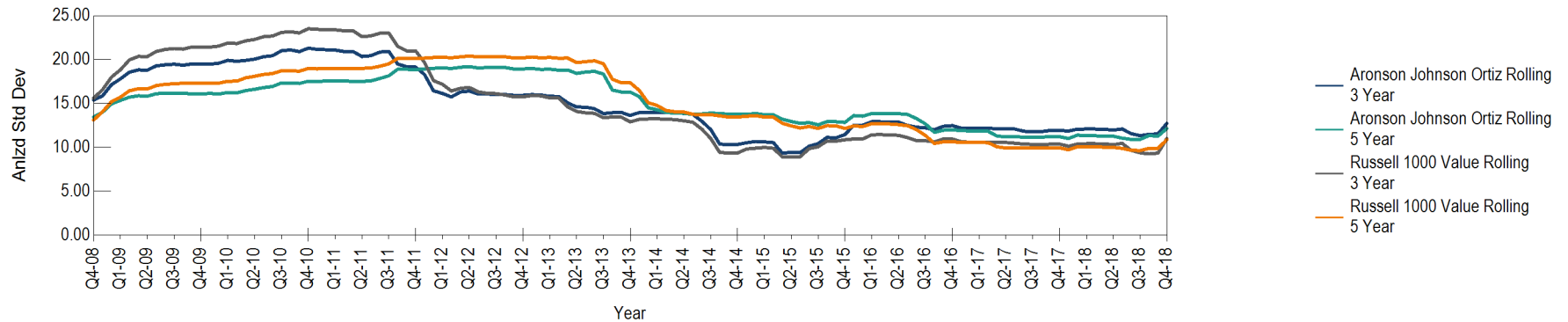
Unclassified sector allocation includes cash allocations.



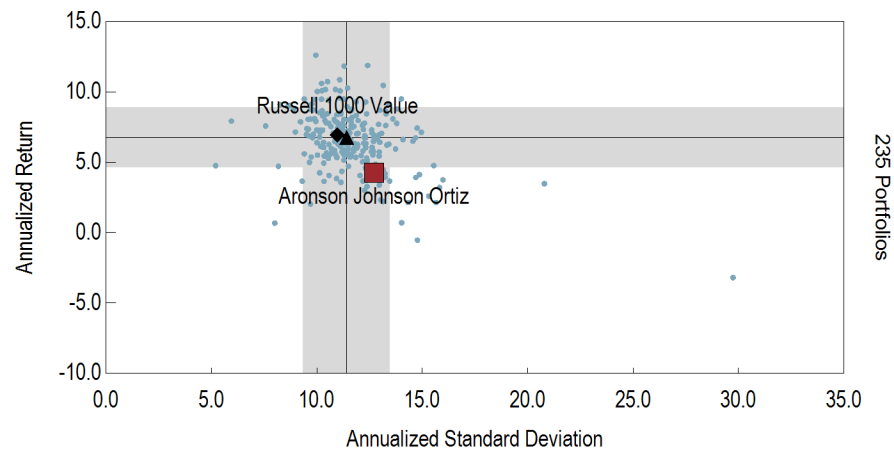
	Return (Rank)									
5th Percentile	-8.3	-2.5	10.0	8.2	14.7	-2.5	23.3	21.8	2.2	16.6
25th Percentile	-11.5	-6.1	7.9	6.7	12.2	-6.1	19.7	16.3	-0.8	13.3
Median	-13.5	-9.0	6.8	5.6	11.1	-9.0	16.7	13.8	-3.1	11.3
75th Percentile	-15.1	-12.0	5.5	4.5	10.3	-12.0	14.8	10.4	-5.7	9.7
95th Percentile	-17.8	-16.7	3.3	2.2	9.0	-16.7	9.4	5.6	-9.4	5.0
# of Portfolios	240	239	235	223	180	239	231	225	195	197
● Aronson Johnson Ortiz	-14.4 (65)	-11.4 (72)	4.3 (87)	4.4 (77)	10.8 (65)	-11.4 (72)	16.7 (50)	9.5 (83)	-0.1 (16)	9.6 (78)
▲ Russell 1000 Value	-11.7 (29)	-8.3 (43)	7.0 (47)	5.9 (40)	11.2 (49)	-8.3 (43)	13.7 (86)	17.3 (19)	-3.8 (59)	13.5 (24)



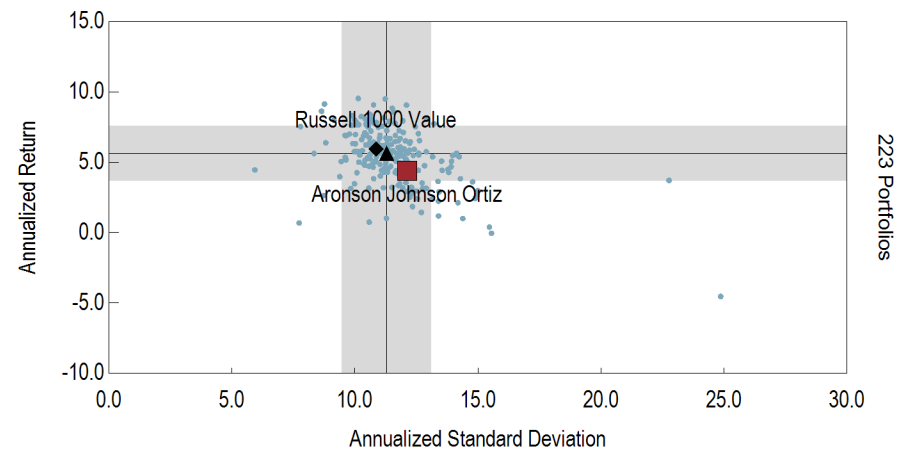
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Aronson Johnson Ortiz	4.3%	12.7%	0.3
Russell 1000 Value	7.0%	11.0%	0.5
eV US Large Cap Value Equity Net Median	6.8%	11.4%	0.5

5 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Aronson Johnson Ortiz	4.4%	12.1%	0.3
Russell 1000 Value	5.9%	10.9%	0.5
eV US Large Cap Value Equity Net Median	5.6%	11.3%	0.4

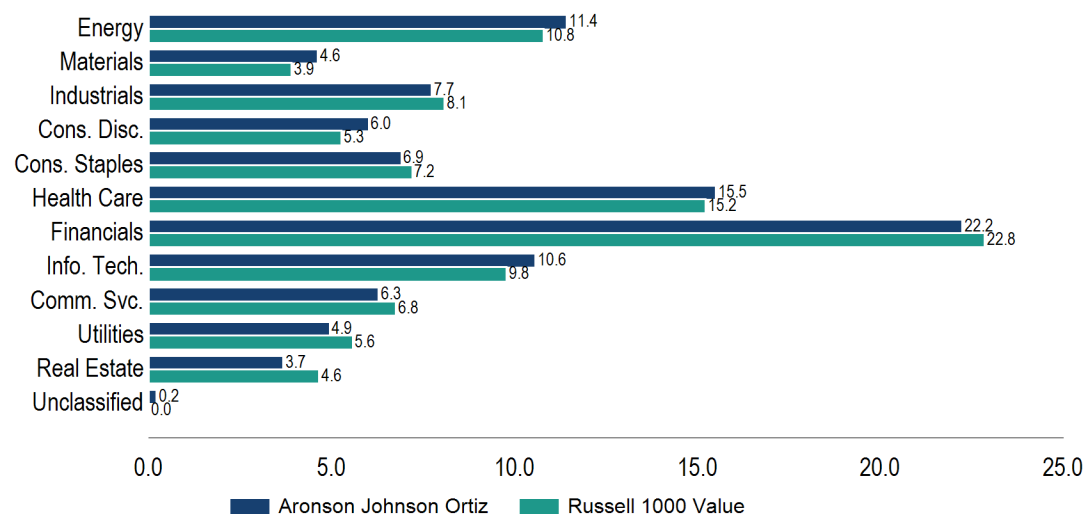
# Aronson Johnson Ortiz Manager Portfolio Overview (Net of Fees)

Period Ending: December 31, 2018

## Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	140	725
Weighted Avg. Market Cap. (\$B)	73.97	111.52
Median Market Cap. (\$B)	8.83	8.19
Price To Earnings	16.84	18.10
Price To Book	3.33	2.57
Price To Sales	2.60	3.05
Return on Equity (%)	20.74	14.22
Yield (%)	2.37	2.83
Beta	1.14	1.00

## Sector Allocation (%) vs Russell 1000 Value



## Largest Holdings

	End Weight	Return
PFIZER	3.39	-0.19
VERIZON COMMUNICATIONS	3.17	6.45
MERCK & COMPANY	2.55	8.49
BANK OF AMERICA	2.46	-15.88
JOHNSON & JOHNSON	2.44	-6.01
CONOCOPHILLIPS	1.78	-19.11
EXELON	1.63	4.09
JP MORGAN CHASE & CO.	1.55	-12.89
HP	1.47	-20.04
ALLSTATE	1.46	-15.85

## Top Contributors

	Avg Wgt	Return	Contribution
VERIZON COMMUNICATIONS	3.04	6.45	0.20
MERCK & COMPANY	2.22	8.49	0.19
LAMB WESTON HOLDINGS	0.68	10.72	0.07
ELI LILLY	0.85	8.39	0.07
EXELON	1.58	4.09	0.06
DECKERS OUTDOOR	0.56	7.90	0.04
TELEPHONE & DATA SYS.	0.58	7.43	0.04
AES	0.75	4.21	0.03
HERBALIFE NUTRITION	0.35	8.07	0.03
PULTEGROUP	0.37	5.38	0.02

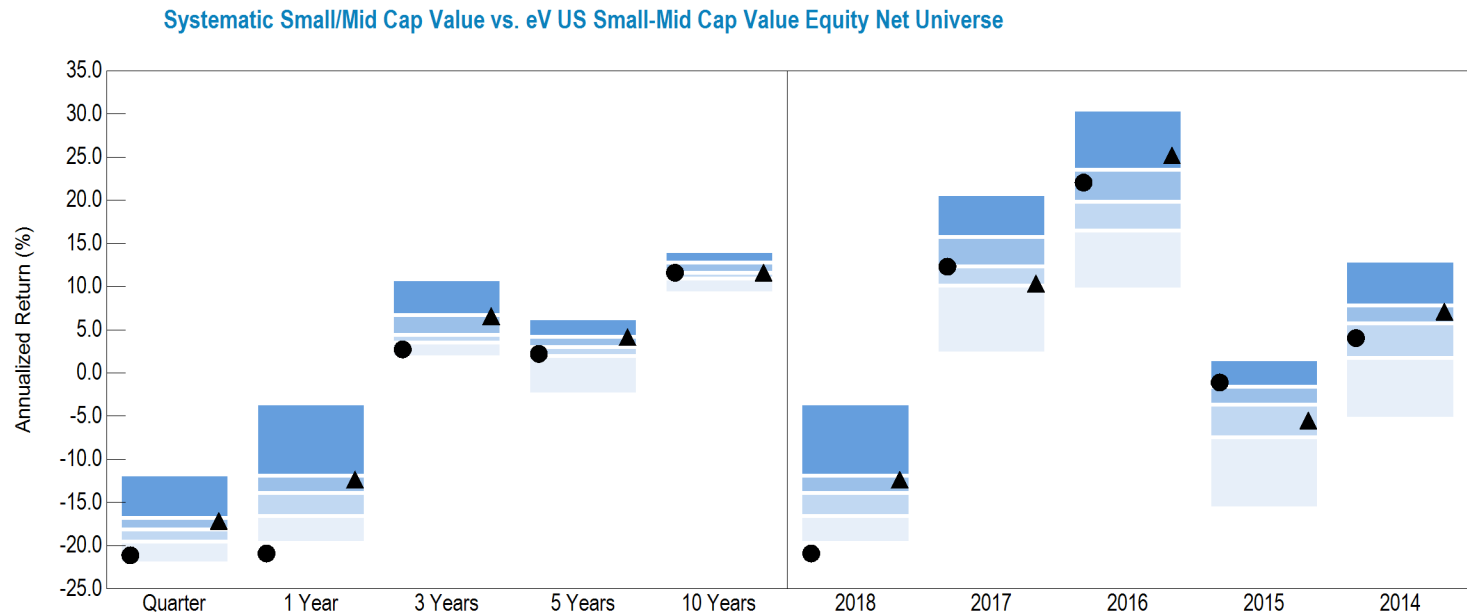
## Bottom Contributors

	Avg Wgt	Return	Contribution
BANK OF AMERICA	2.57	-15.88	-0.41
CITIGROUP	1.50	-26.94	-0.40
VALERO ENERGY	1.19	-33.44	-0.40
CONOCOPHILLIPS	1.77	-19.11	-0.34
PHILLIPS 66	1.42	-22.94	-0.32
OCCIDENTAL PTL.	1.30	-24.43	-0.32
LINCOLN NATIONAL	1.33	-23.81	-0.32
HP	1.49	-20.04	-0.30
STEEL DYNAMICS	0.89	-33.11	-0.29
CITIZENS FINANCIAL GROUP	1.31	-22.35	-0.29

Unclassified sector allocation includes cash allocations.

# Systematic Small/Mid Cap Value Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2018



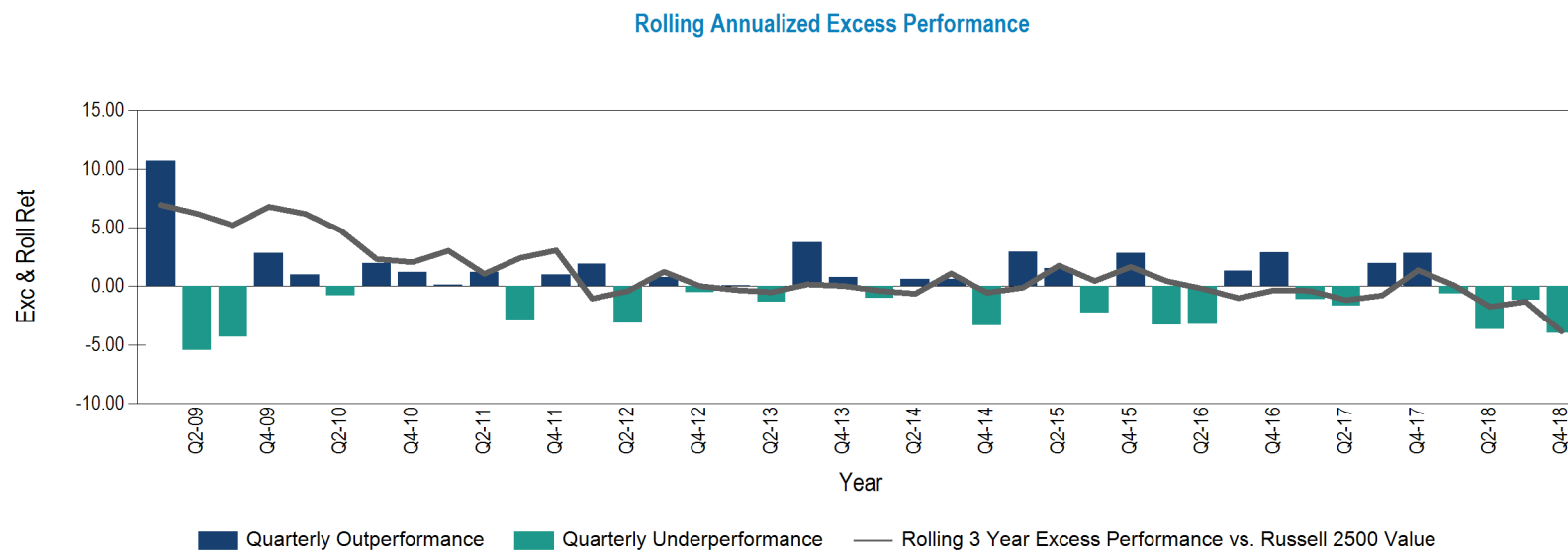
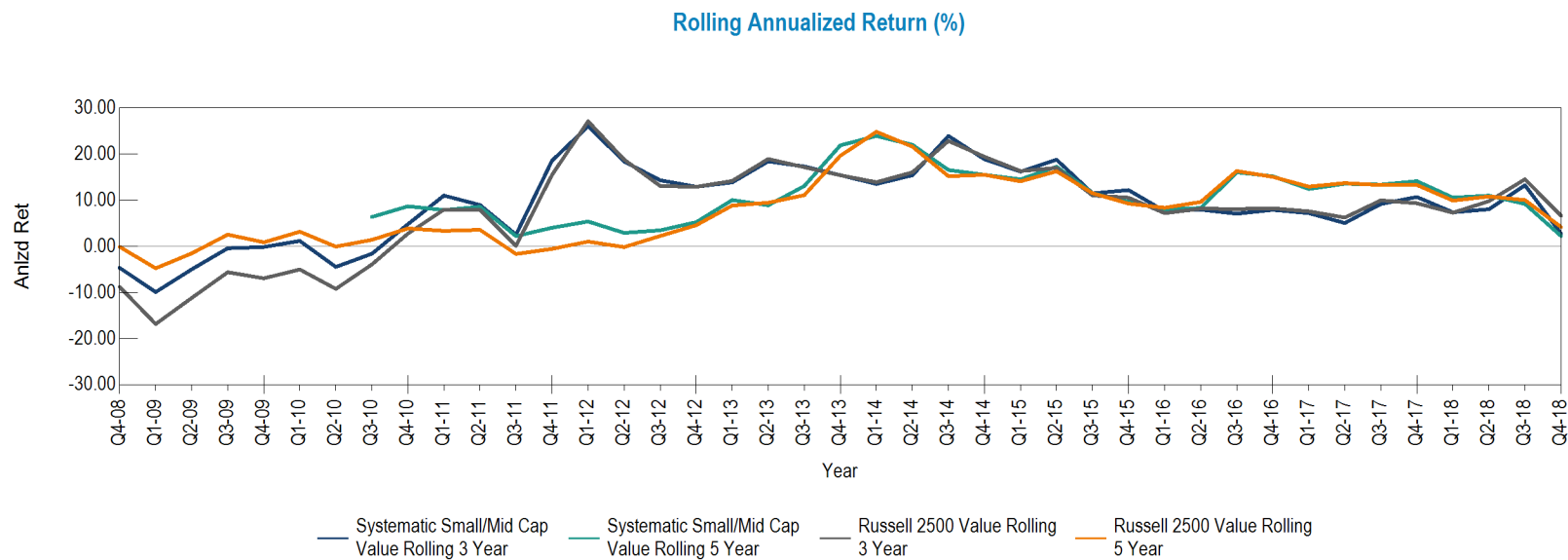
	Return (Rank)									
5th Percentile	-11.8	-3.6	10.8	6.3	14.1	-3.6	20.6	30.5	1.5	13.0
25th Percentile	-16.8	-11.9	6.7	4.2	12.8	-11.9	15.8	23.6	-1.5	7.9
Median	-18.0	-13.8	4.4	3.1	11.6	-13.8	12.4	19.9	-3.7	5.8
75th Percentile	-19.5	-16.5	3.5	2.0	11.0	-16.5	10.1	16.5	-7.4	1.8
95th Percentile	-22.0	-19.7	1.8	-2.5	9.3	-19.7	2.3	9.7	-15.7	-5.2
# of Portfolios	69	69	64	60	45	69	65	64	58	57
● Systematic Small/Mid Cap Value	-21.1 (86)	-20.9 (99)	2.7 (87)	2.2 (70)	11.6 (53)	-20.9 (99)	12.3 (52)	22.0 (32)	-1.1 (22)	4.0 (68)
▲ Russell 2500 Value	-17.1 (30)	-12.4 (30)	6.6 (28)	4.2 (27)	11.6 (51)	-12.4 (30)	10.4 (73)	25.2 (17)	-5.5 (62)	7.1 (34)

Returns prior to inception date are composite returns.



# Systematic Small/Mid Cap Value Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2018

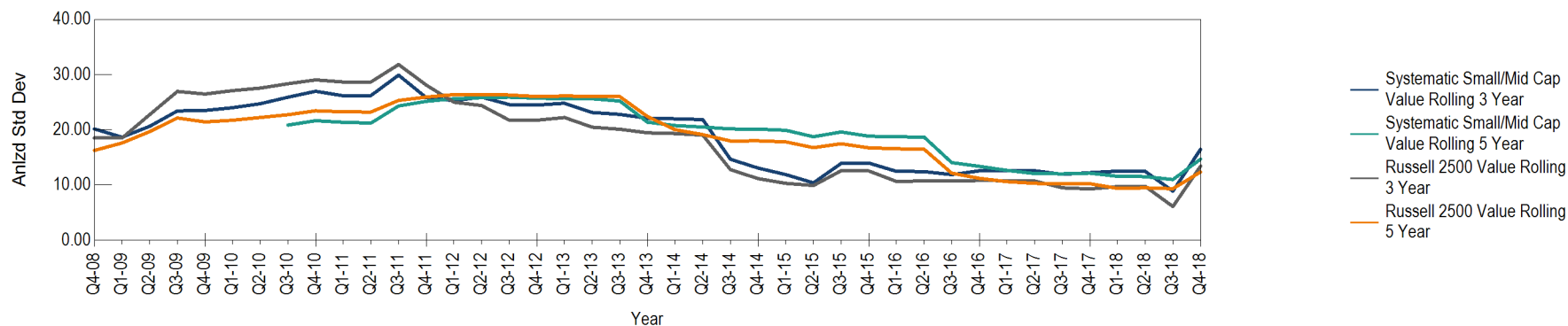


Returns prior to inception date are composite returns.

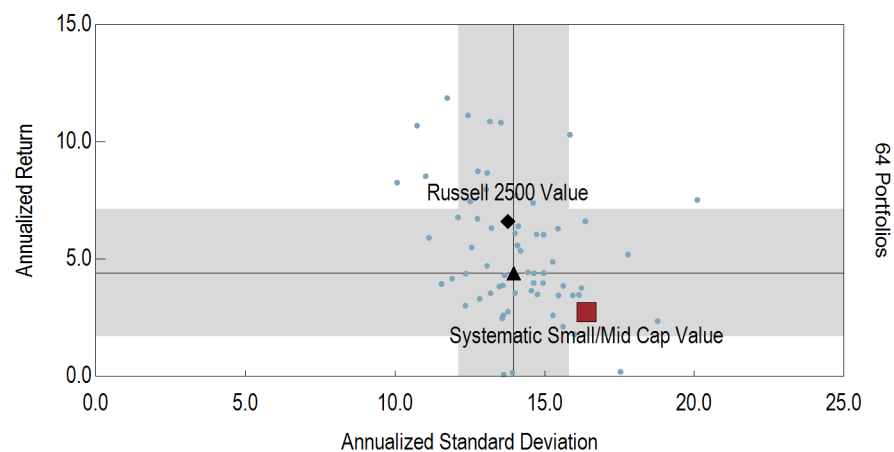
# Systematic Small/Mid Cap Value Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2018

Rolling Annualized Standard Deviation



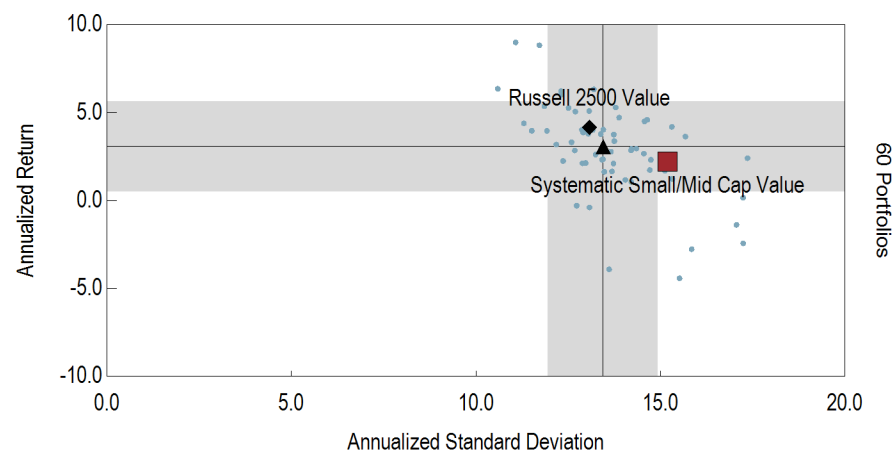
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Systematic Small/Mid Cap Value	2.7%	16.4%	0.1
Russell 2500 Value	6.6%	13.8%	0.4
eV US Small-Mid Cap Value Equity Net Median	4.4%	14.0%	0.3

5 Years



5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Systematic Small/Mid Cap Value	2.2%	15.2%	0.1
Russell 2500 Value	4.2%	13.1%	0.3
eV US Small-Mid Cap Value Equity Net Median	3.1%	13.4%	0.2

Returns prior to inception date are composite returns.

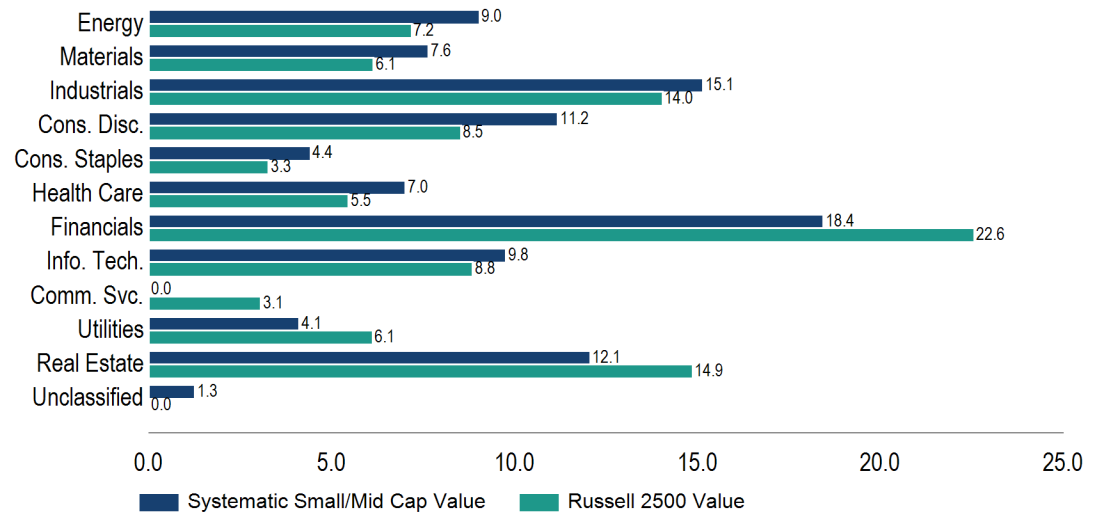
# Systematic Small/Mid Cap Value Manager Portfolio Overview (Net of Fees)

Period Ending: December 31, 2018

## Characteristics

	Portfolio	Russell 2500 Value
Number of Holdings	81	1,748
Weighted Avg. Market Cap. (\$B)	6.18	4.29
Median Market Cap. (\$B)	4.39	0.89
Price To Earnings	16.16	16.36
Price To Book	2.05	1.82
Price To Sales	2.43	2.98
Return on Equity (%)	17.01	9.78
Yield (%)	1.86	2.41
Beta	1.18	1.00

## Sector Allocation (%) vs Russell 2500 Value



## Largest Holdings

	End Weight	Return
ENTERGY	3.66	7.22
CITIZENS FINANCIAL GROUP	2.82	-22.35
LIBERTY PROPERTY TST.	2.51	0.07
ATHENE HOLDING A	2.32	-22.90
ZIONS BANCORP.	2.14	-18.27
COMERICA	2.07	-23.19
CNA FINANCIAL	2.02	-2.57
BJAS WHOLESALE CLUB HOLDINGS	2.01	-17.25
GAMING AND LEIS.PROPS.	2.00	-6.53
OLD REPUBLIC INTL.	1.99	-7.30

## Top Contributors

	Avg Wgt	Return	Contribution
K12	0.55	40.06	0.22
ENTERGY	2.93	7.22	0.21
MEDICAL PROPS.TRUST	1.18	9.46	0.11
CIENA	0.47	8.55	0.04
NRG ENERGY	0.60	5.97	0.04
SMART GLOBAL HOLDINGS	0.89	3.34	0.03
US FOODS HOLDING	0.37	2.66	0.01
LIBERTY PROPERTY TST.	2.18	0.07	0.00
BURLINGTON STORES	0.33	-0.15	0.00
TRITON INTERNATIONAL	0.16	-5.19	-0.01

## Bottom Contributors

	Avg Wgt	Return	Contribution
PRECISION DRILLING (NYS)	1.40	-49.71	-0.70
CAPRI HOLDINGS	1.54	-44.69	-0.69
CITIZENS FINANCIAL GROUP	3.02	-22.35	-0.68
OASIS PETROLEUM	1.09	-61.00	-0.67
WPX ENERGY	1.35	-43.59	-0.59
KBR	1.76	-27.80	-0.49
CAESARS ENTERTAINMENT	1.43	-33.76	-0.48
ATHENE HOLDING A	2.08	-22.90	-0.48
COMERICA	1.92	-23.19	-0.44
WELLCARE HEALTH PLANS	1.65	-26.33	-0.43

Unclassified sector allocation includes cash allocations.

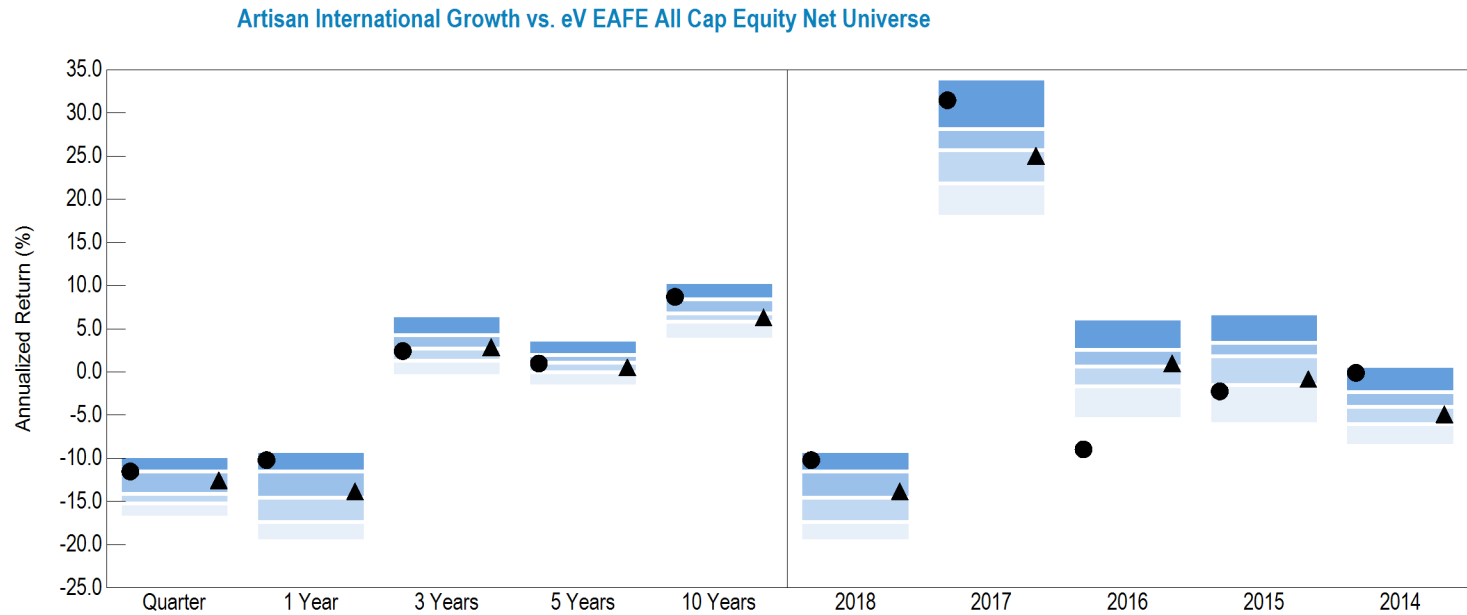
## International Equity Managers

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# Artisan International Growth

## Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2018



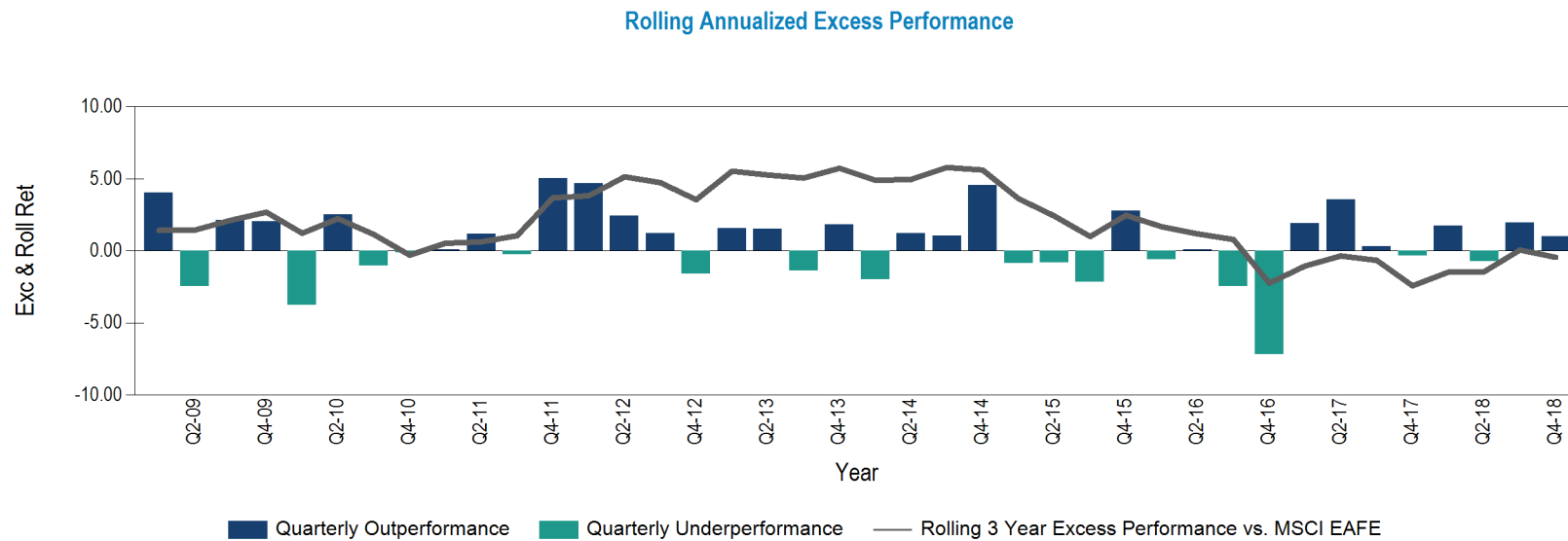
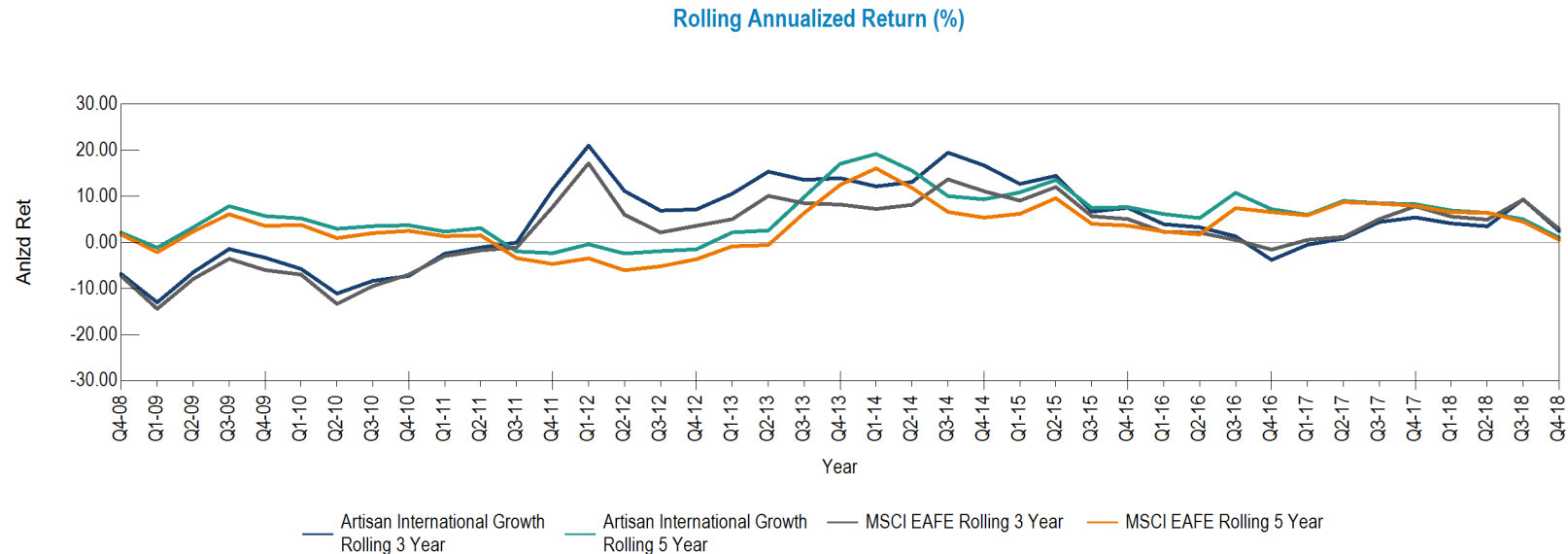
	Return (Rank)									
5th Percentile	-9.8	-9.2	6.5	3.7	10.3	-9.2	33.9	6.2	6.8	0.6
25th Percentile	-11.5	-11.5	4.3	2.0	8.4	-11.5	28.1	2.6	3.4	-2.3
Median	-14.1	-14.6	2.8	1.1	6.8	-14.6	25.7	0.6	1.8	-4.0
75th Percentile	-15.2	-17.4	1.3	0.0	5.8	-17.4	21.8	-1.7	-1.5	-6.0
95th Percentile	-16.8	-19.6	-0.5	-1.6	3.8	-19.6	18.0	-5.4	-6.0	-8.5
# of Portfolios	72	72	70	63	45	72	70	64	58	51
● Artisan International Growth	-11.5 (26)	-10.2 (13)	2.4 (54)	1.0 (56)	8.7 (24)	-10.2 (13)	31.5 (13)	-9.0 (99)	-2.2 (80)	-0.1 (10)
▲ MSCI EAFE	-12.5 (31)	-13.8 (47)	2.9 (49)	0.5 (65)	6.3 (62)	-13.8 (47)	25.0 (59)	1.0 (46)	-0.8 (71)	-4.9 (62)

Returns prior to inception date are composite returns.

# Artisan International Growth

## Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2018



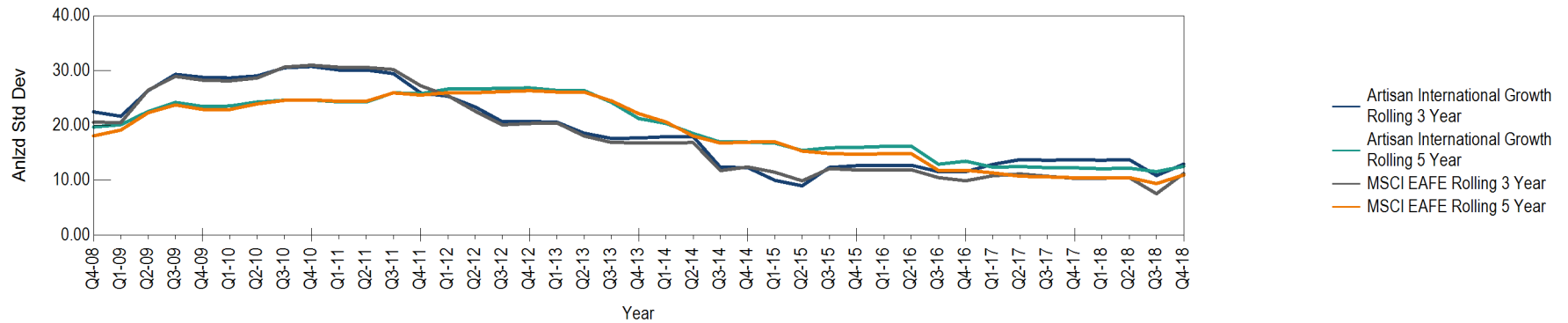
Returns prior to inception date are composite returns.

# Artisan International Growth

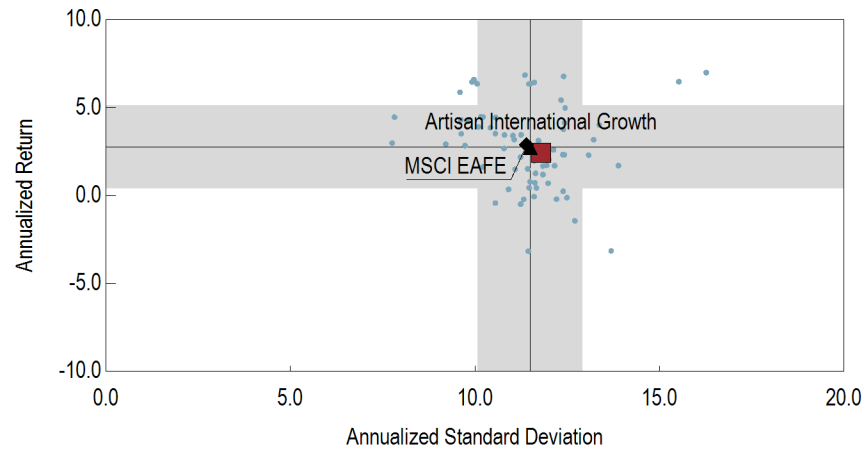
## Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2018

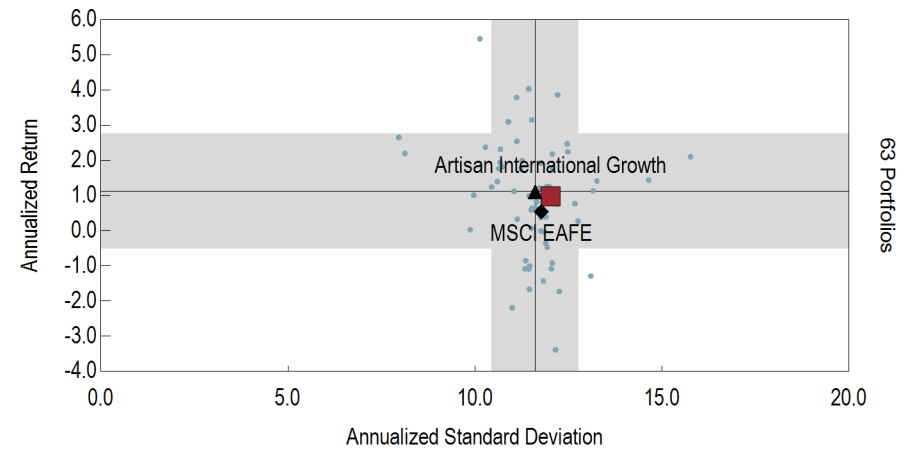
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Artisan International Growth	2.4%	11.8%	0.1
MSCI EAFE	2.9%	11.4%	0.2
eV EAFE All Cap Equity Net Median	2.8%	11.5%	0.2

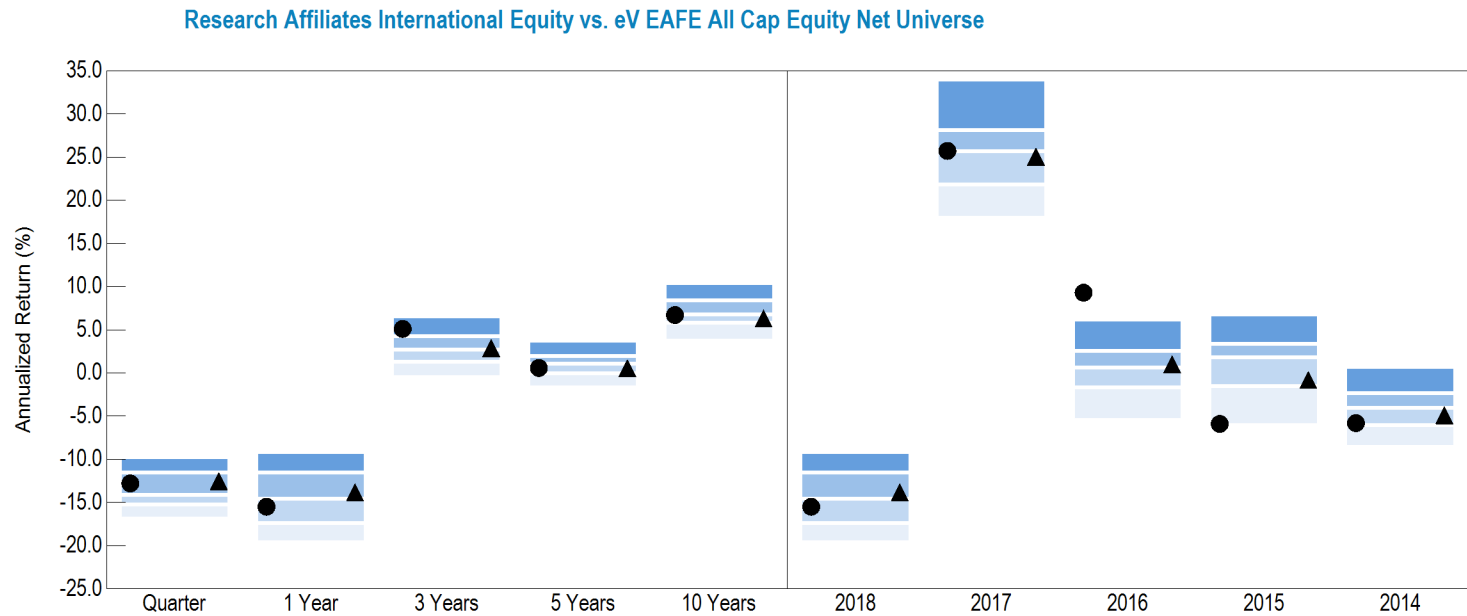
5 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Artisan International Growth	1.0%	12.0%	0.0
MSCI EAFE	0.5%	11.8%	0.0
eV EAFE All Cap Equity Net Median	1.1%	11.6%	0.0

Returns prior to inception date are composite returns.

# Research Affiliates International Equity Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2018



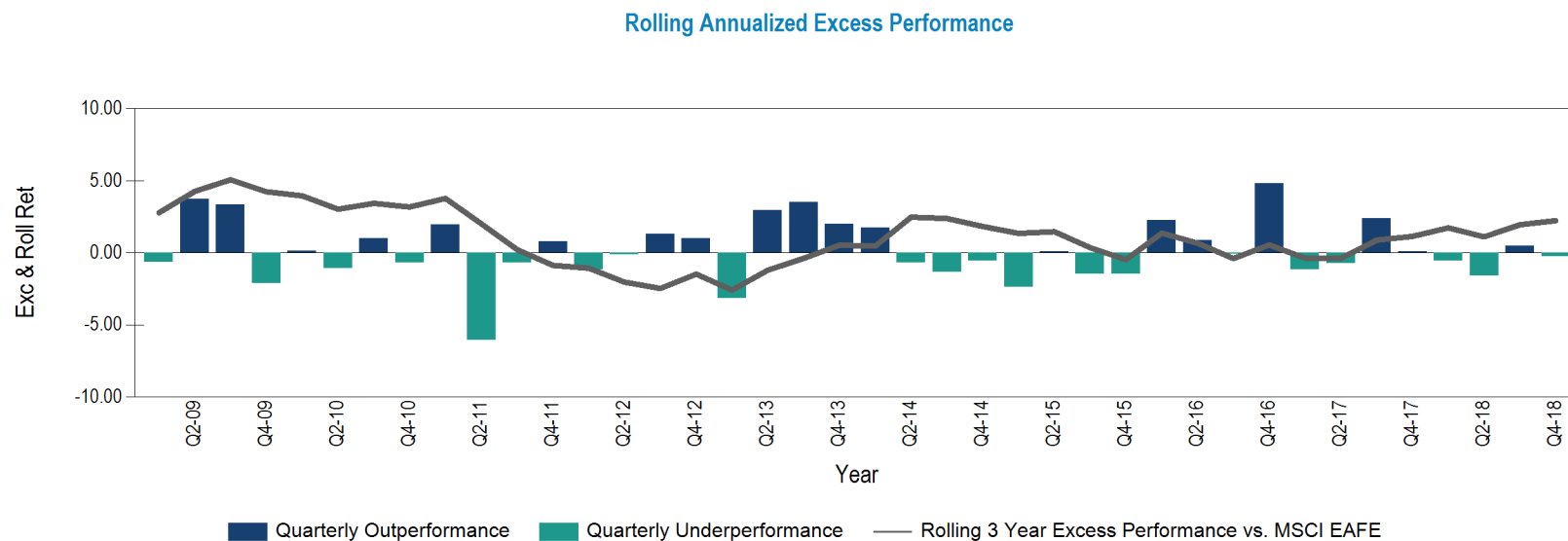
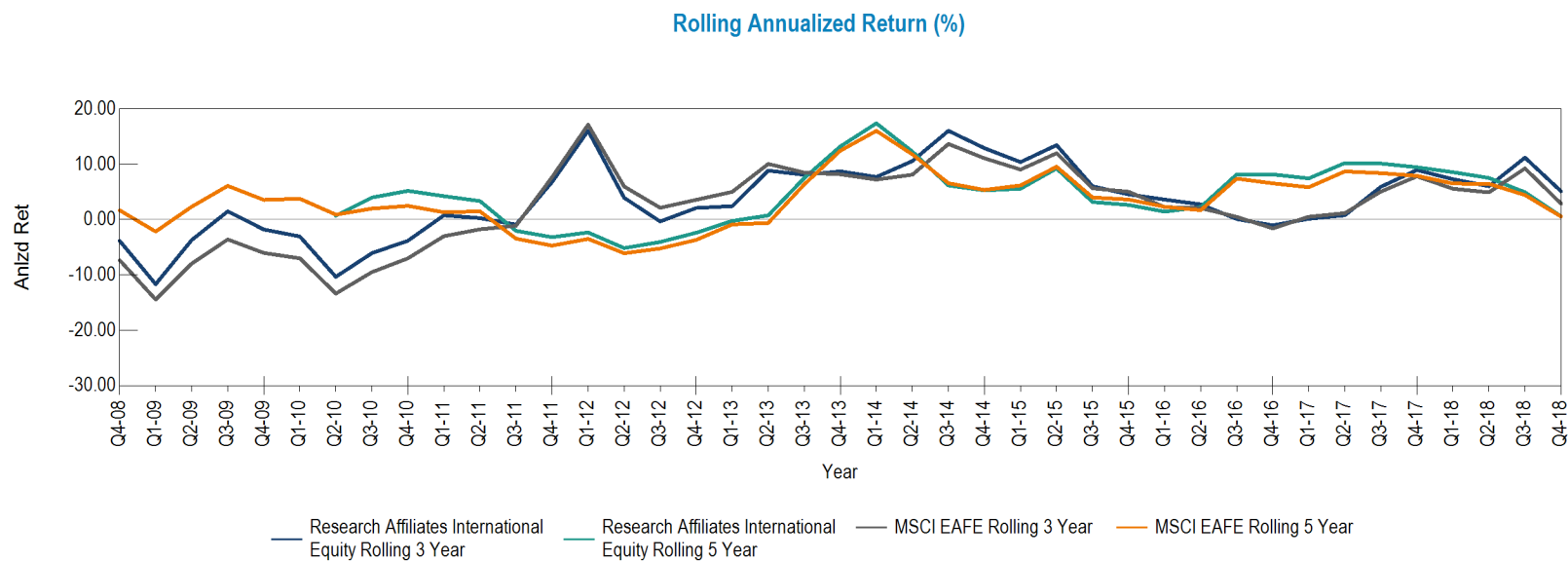
	Return (Rank)									
5th Percentile	-9.8	-9.2	6.5	3.7	10.3	-9.2	33.9	6.2	6.8	0.6
25th Percentile	-11.5	-11.5	4.3	2.0	8.4	-11.5	28.1	2.6	3.4	-2.3
Median	-14.1	-14.6	2.8	1.1	6.8	-14.6	25.7	0.6	1.8	-4.0
75th Percentile	-15.2	-17.4	1.3	0.0	5.8	-17.4	21.8	-1.7	-1.5	-6.0
95th Percentile	-16.8	-19.6	-0.5	-1.6	3.8	-19.6	18.0	-5.4	-6.0	-8.5
# of Portfolios	72	72	70	63	45	72	70	64	58	51
● Research Affiliates International Equity	-12.8 (33)	-15.5 (57)	5.1 (17)	0.6 (65)	6.7 (54)	-15.5 (57)	25.7 (51)	9.3 (1)	-5.9 (95)	-5.8 (75)
▲ MSCI EAFE	-12.5 (31)	-13.8 (47)	2.9 (49)	0.5 (65)	6.3 (62)	-13.8 (47)	25.0 (59)	1.0 (46)	-0.8 (71)	-4.9 (62)

Returns prior to inception date are composite returns.



# Research Affiliates International Equity Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2018

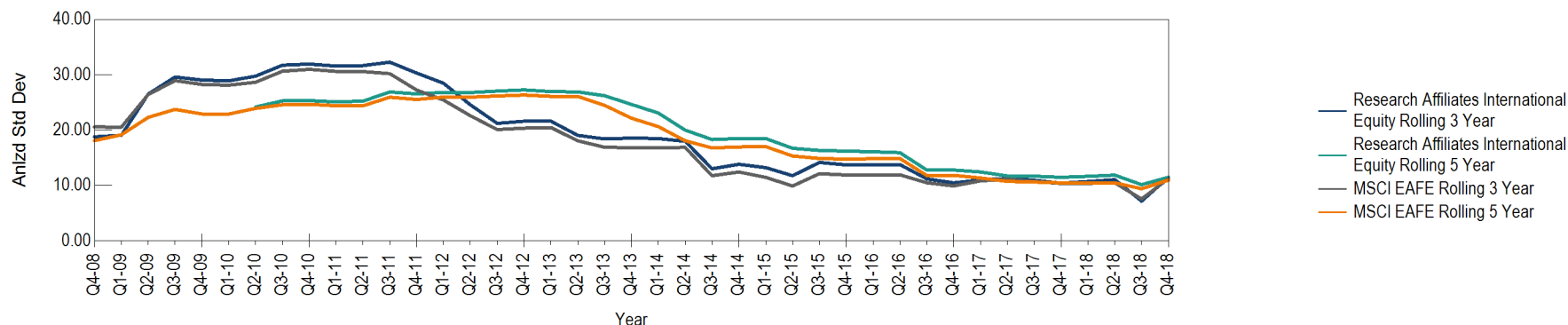


Returns prior to inception date are composite returns.

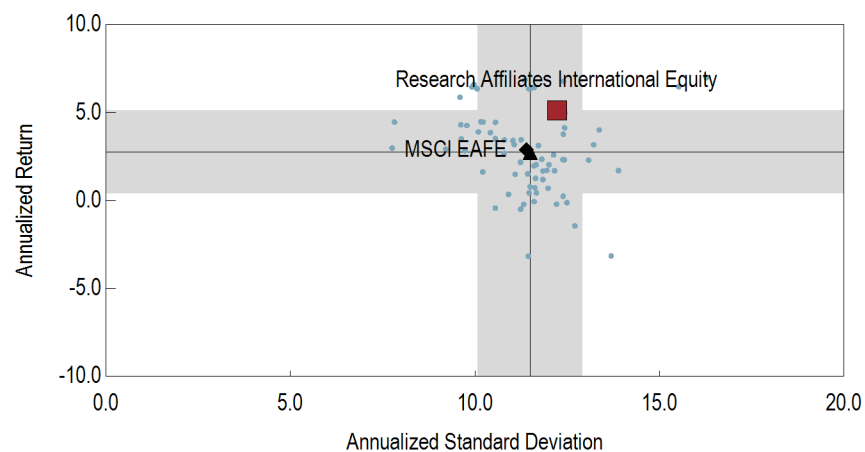
# Research Affiliates International Equity Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2018

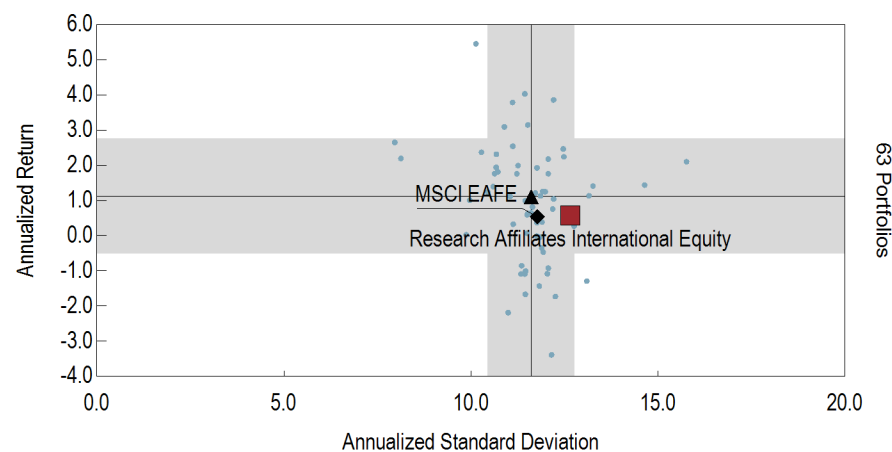
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Research Affiliates International Equity	5.1%	12.2%	0.3
MSCI EAFE	2.9%	11.4%	0.2
eV EAFE All Cap Equity Net Median	2.8%	11.5%	0.2

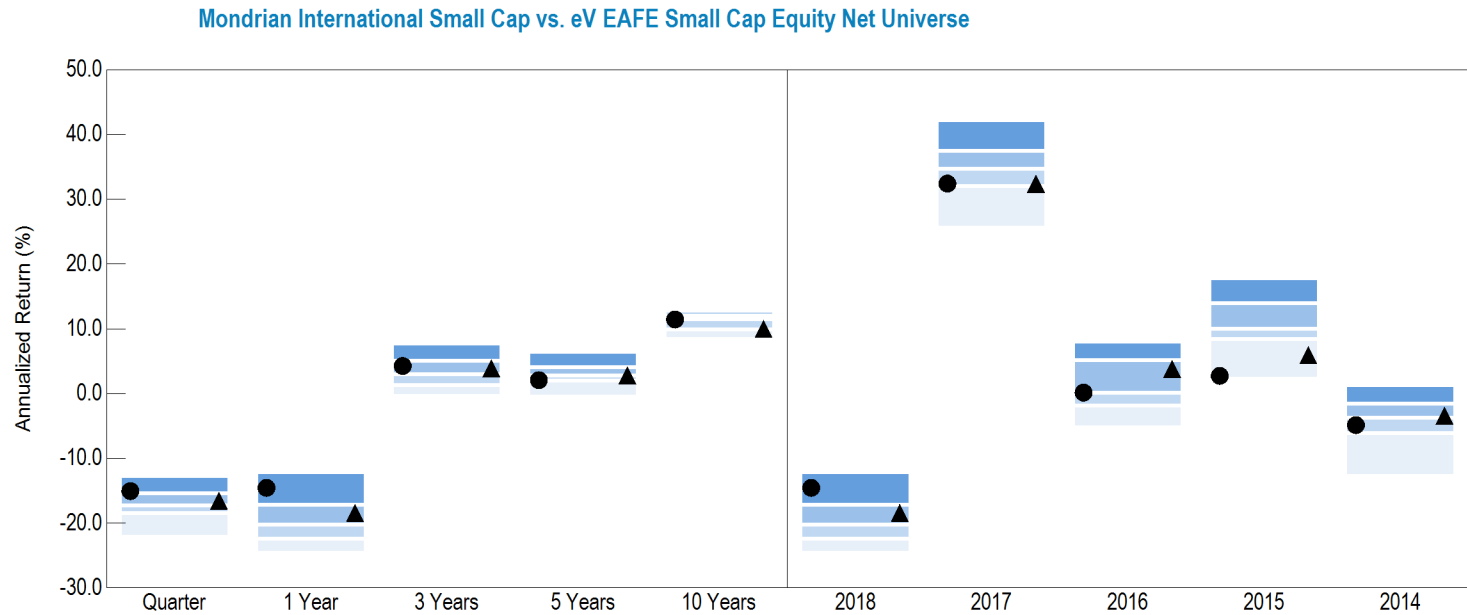
5 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Research Affiliates International Equity	0.6%	12.7%	0.0
MSCI EAFE	0.5%	11.8%	0.0
eV EAFE All Cap Equity Net Median	1.1%	11.6%	0.0

Returns prior to inception date are composite returns.

# Mondrian International Small Cap Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2018

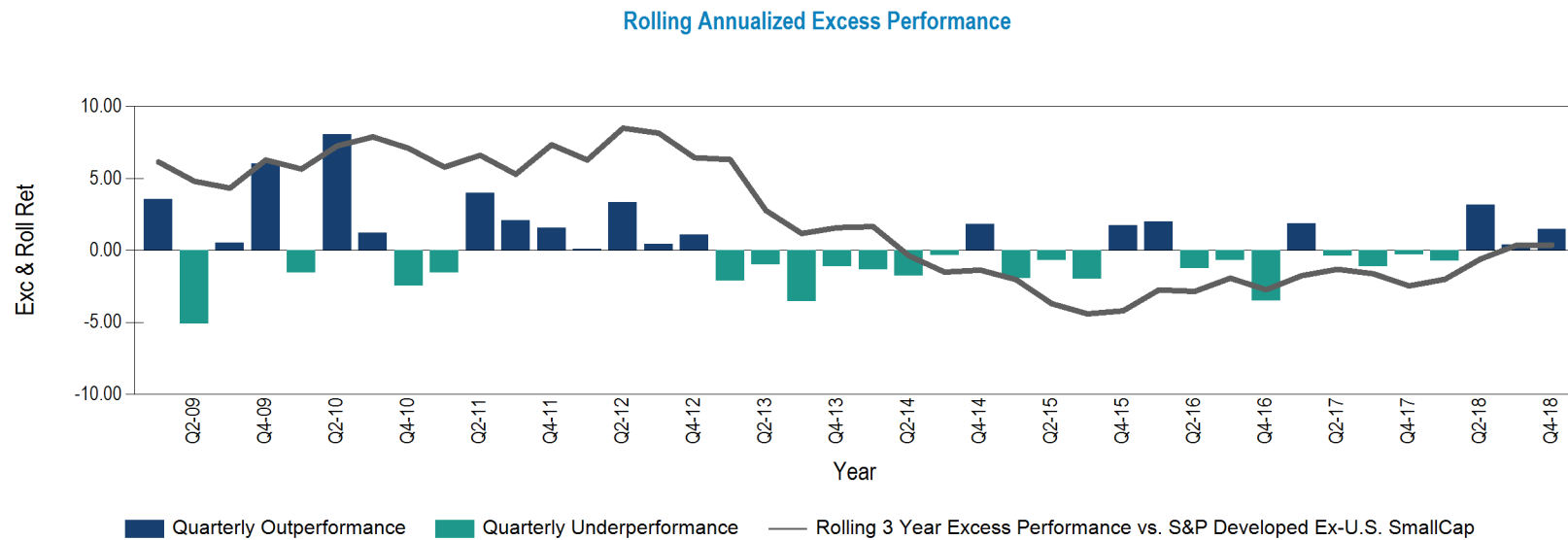
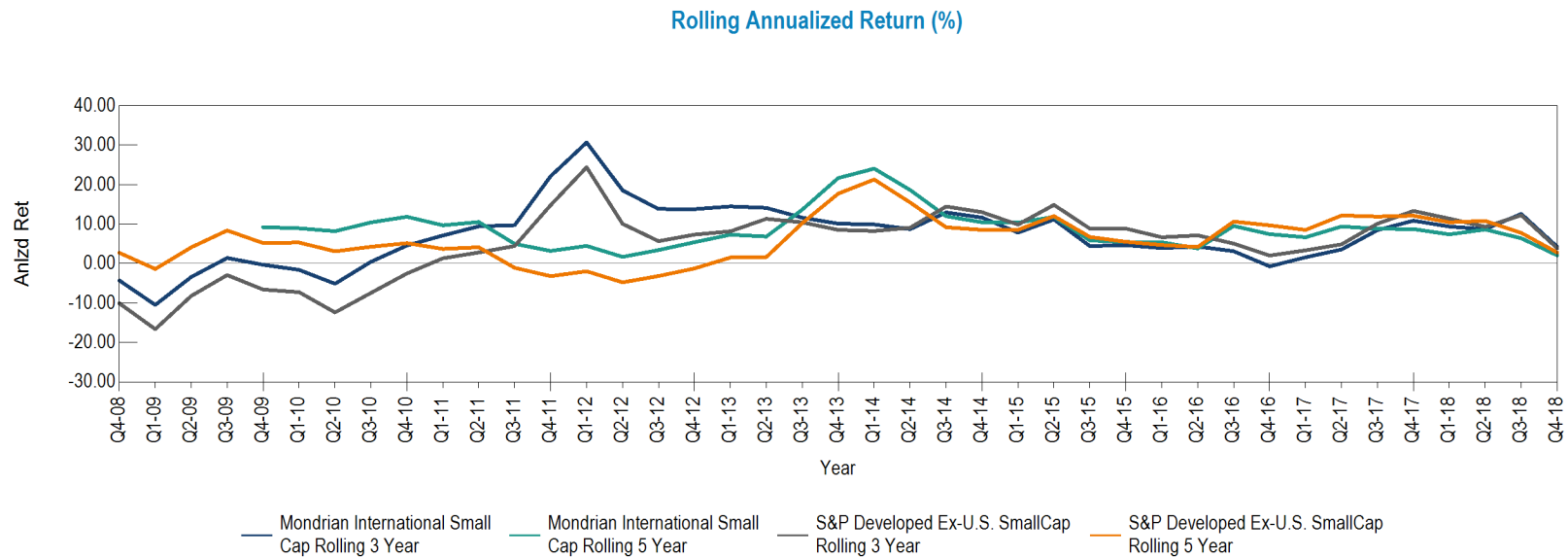


	Return (Rank)									
5th Percentile	-12.8	-12.1	7.7	6.4	12.8	-12.1	42.2	7.9	17.8	1.2
25th Percentile	-15.4	-17.1	5.1	4.1	12.1	-17.1	37.6	5.2	14.0	-1.5
Median	-17.2	-20.2	3.1	2.9	11.5	-20.2	34.8	0.1	10.1	-3.7
75th Percentile	-18.4	-22.3	1.4	2.0	9.9	-22.3	32.1	-1.8	8.5	-6.1
95th Percentile	-22.1	-24.6	-0.3	-0.4	8.5	-24.6	25.7	-5.2	2.3	-12.7
# of Portfolios	57	57	54	44	24	57	52	41	31	32
● Mondrian International Small Cap	-15.1 (24)	-14.6 (11)	4.2 (40)	2.1 (73)	11.4 (53)	-14.6 (11)	32.4 (74)	0.1 (50)	2.7 (94)	-4.9 (67)
▲ S&P Developed Ex-U.S. SmallCap	-16.6 (40)	-18.4 (29)	3.9 (43)	2.8 (53)	10.0 (74)	-18.4 (29)	32.4 (74)	3.8 (29)	5.9 (84)	-3.4 (48)

Returns prior to inception date are composite returns.

# Mondrian International Small Cap Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2018

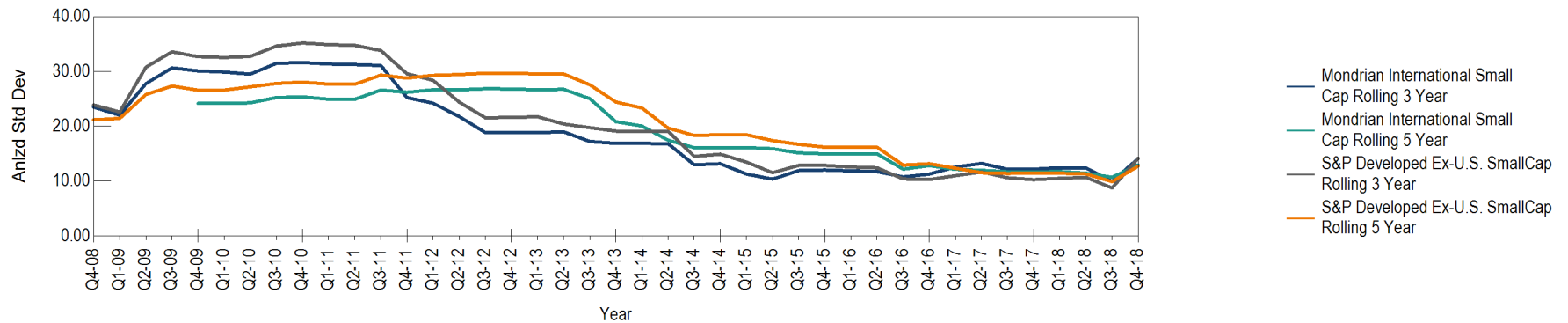


Returns prior to inception date are composite returns.

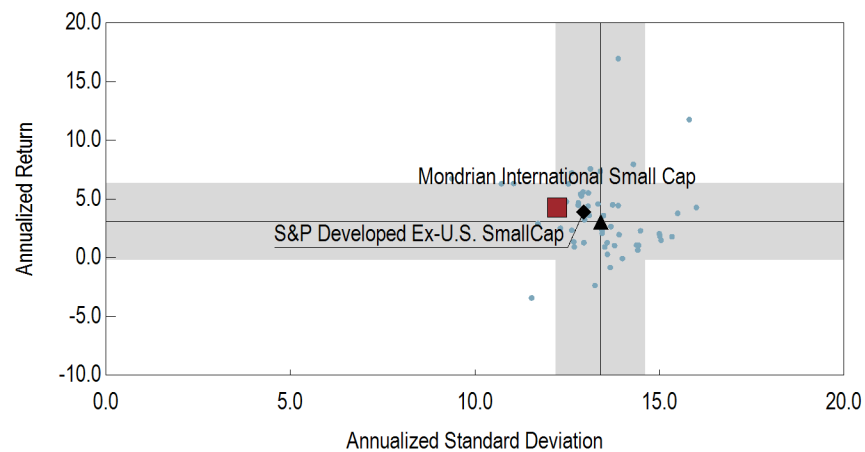
# Mondrian International Small Cap Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2018

Rolling Annualized Standard Deviation



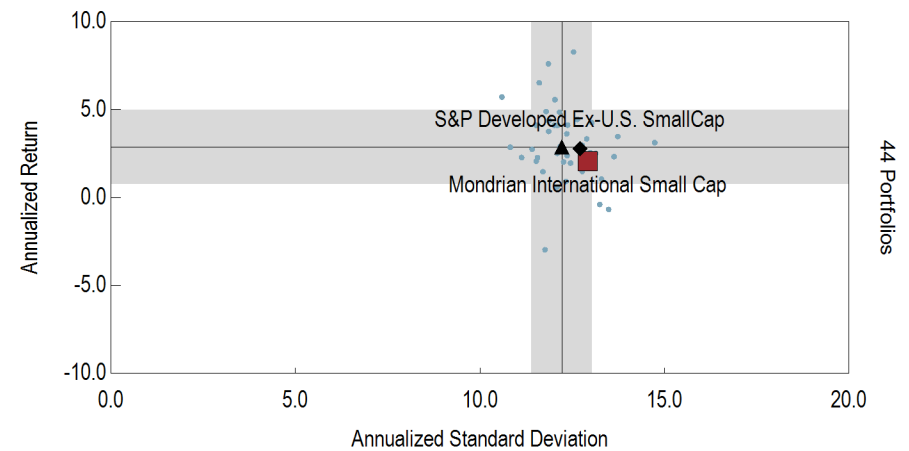
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Mondrian International Small Cap	4.2%	12.2%	0.3
S&P Developed Ex-U.S. SmallCap	3.9%	12.9%	0.2
eV EAFE Small Cap Equity Net Median	3.1%	13.4%	0.2

5 Years



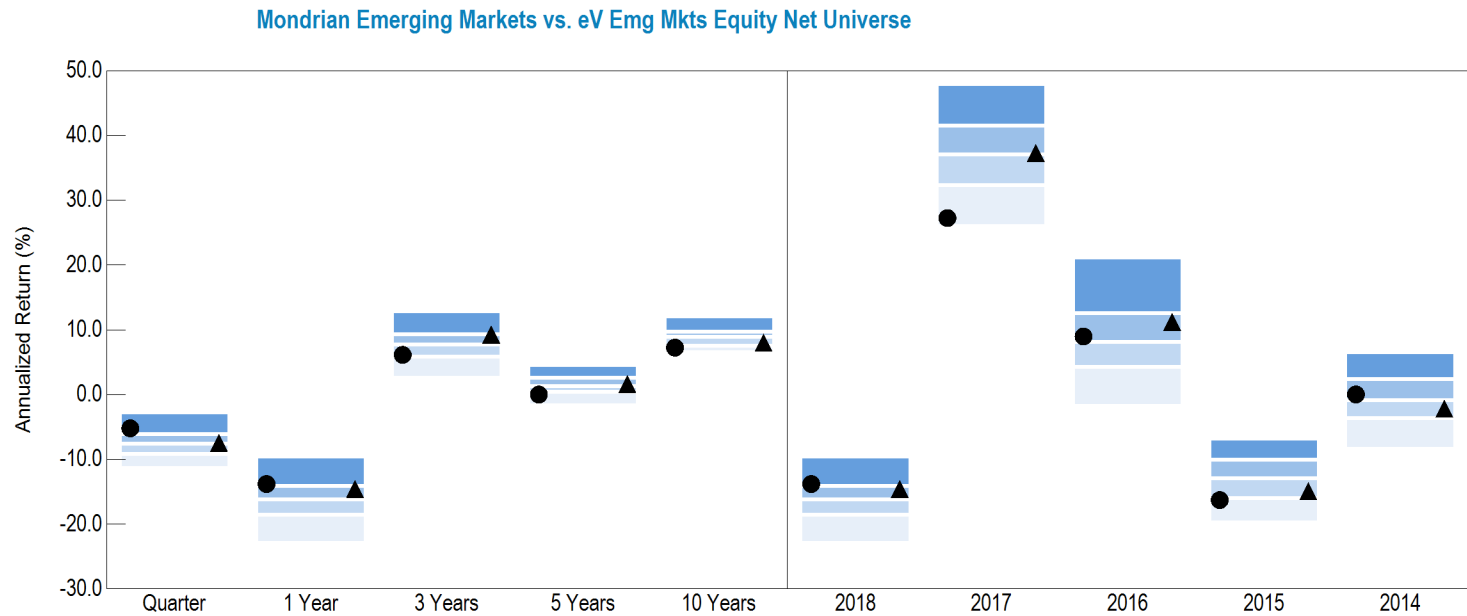
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Mondrian International Small Cap	2.1%	12.9%	0.1
S&P Developed Ex-U.S. SmallCap	2.8%	12.7%	0.2
eV EAFE Small Cap Equity Net Median	2.9%	12.2%	0.2

Returns prior to inception date are composite returns.

# Mondrian Emerging Markets Manager Performance Comparisons (Net of Fees)

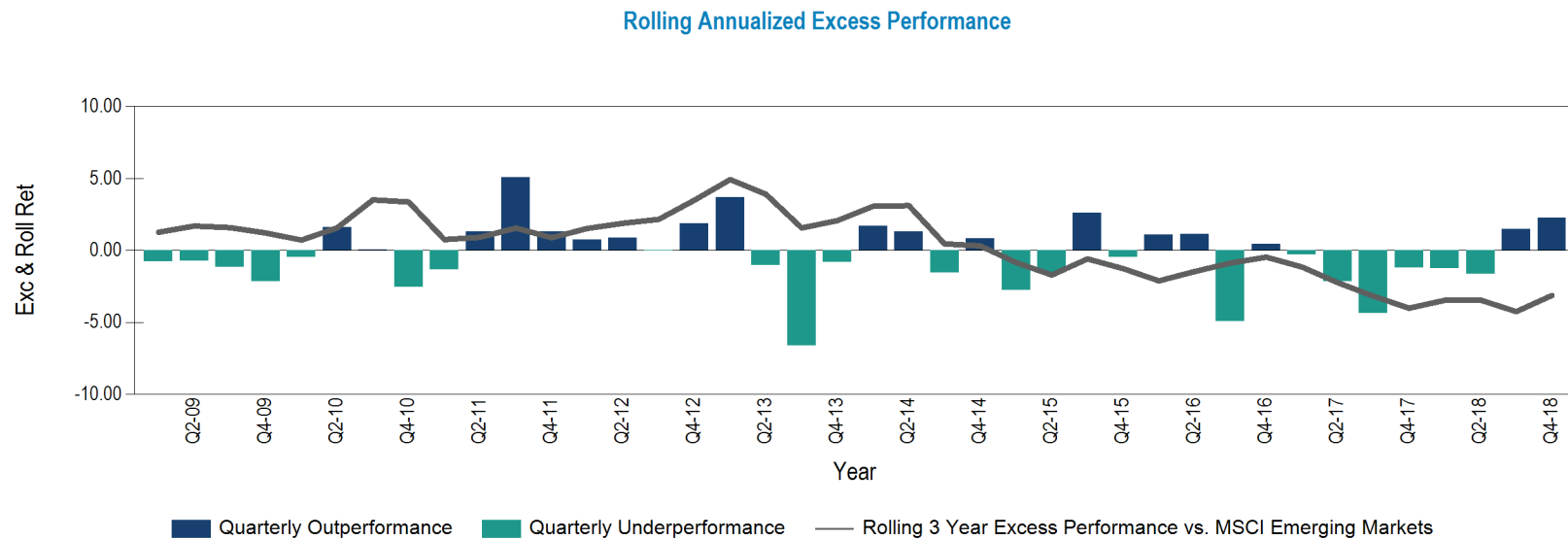
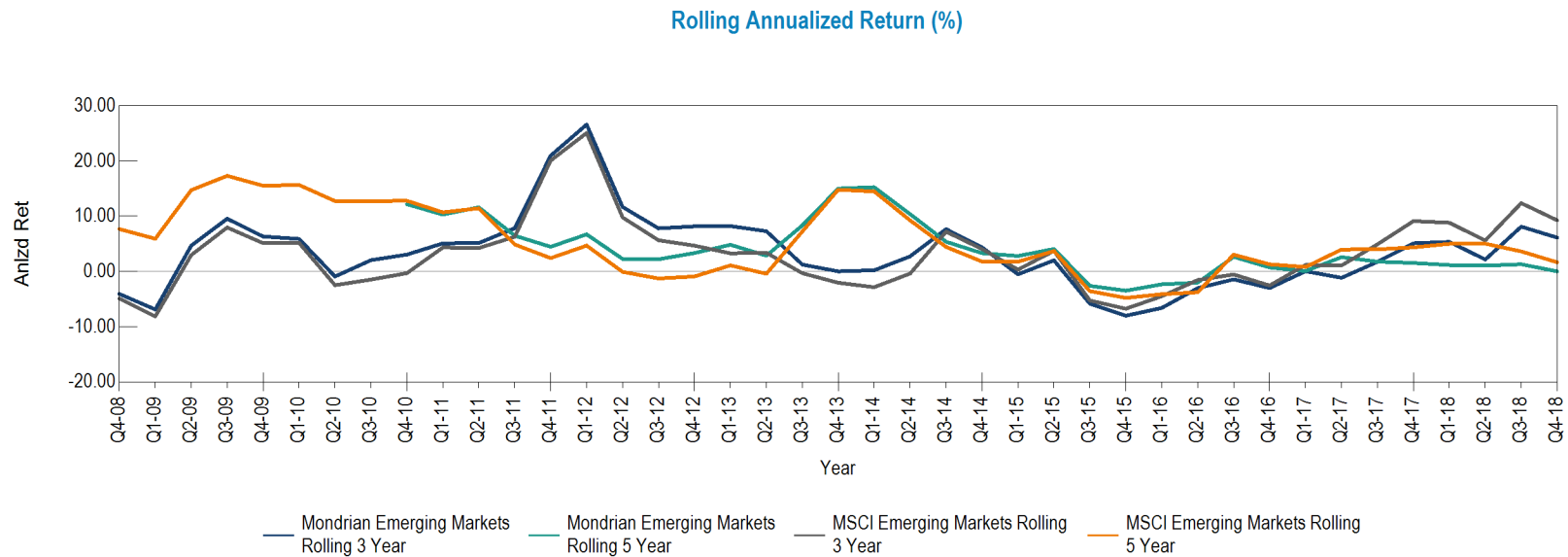
Period Ending: December 31, 2018



	Return (Rank)									
5th Percentile	-2.8	-9.6	12.8	4.5	12.0	-9.6	47.9	21.1	-6.9	6.5
25th Percentile	-6.1	-14.1	9.3	2.7	9.7	-14.1	41.5	12.7	-10.0	2.4
Median	-7.6	-16.2	7.7	1.4	8.9	-16.2	37.1	8.2	-12.9	-0.8
75th Percentile	-9.1	-18.5	5.9	0.5	7.6	-18.5	32.4	4.4	-15.9	-3.6
95th Percentile	-11.2	-22.9	2.7	-1.6	6.6	-22.9	26.1	-1.7	-19.7	-8.3
# of Portfolios	203	200	185	156	73	200	184	181	143	126
● Mondrian Emerging Markets	-5.2 (14)	-13.8 (24)	6.1 (73)	0.0 (86)	7.2 (88)	-13.8 (24)	27.2 (93)	9.0 (44)	-16.3 (80)	0.0 (42)
▲ MSCI Emerging Markets	-7.5 (47)	-14.6 (30)	9.2 (26)	1.6 (43)	8.0 (64)	-14.6 (30)	37.3 (48)	11.2 (34)	-14.9 (68)	-2.2 (62)

# Mondrian Emerging Markets Rolling Manager Performance (Net of Fees)

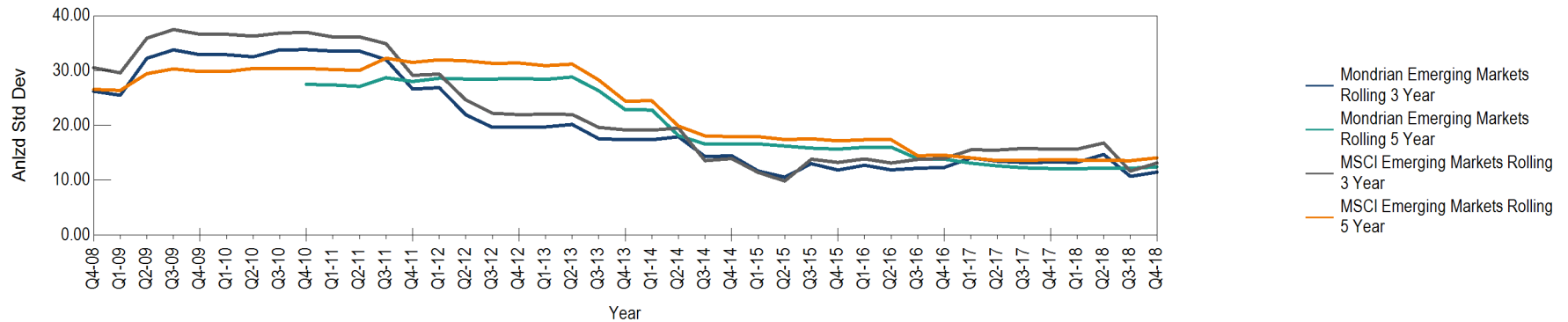
Period Ending: December 31, 2018



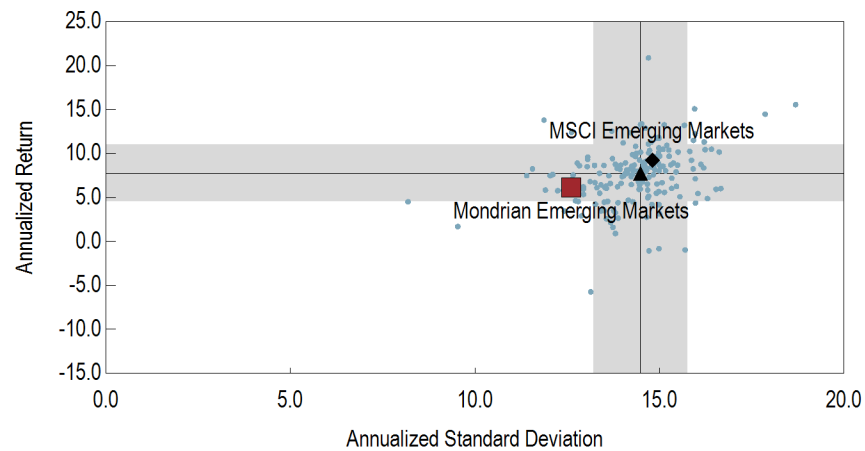
# Mondrian Emerging Markets Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2018

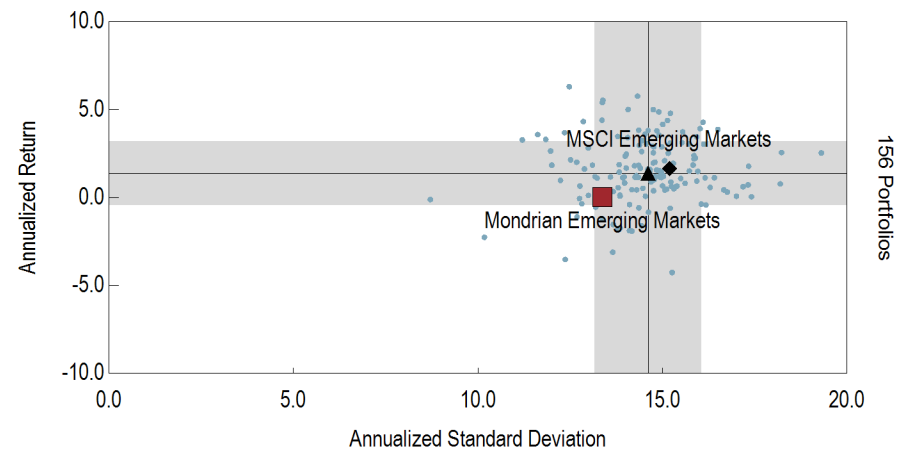
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Mondrian Emerging Markets	6.1%	12.6%	0.4
MSCI Emerging Markets	9.2%	14.8%	0.6
eV Emg Mkts Equity Net Median	7.7%	14.5%	0.5

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Mondrian Emerging Markets	0.0%	13.4%	0.0
MSCI Emerging Markets	1.6%	15.2%	0.1
eV Emg Mkts Equity Net Median	1.4%	14.6%	0.1

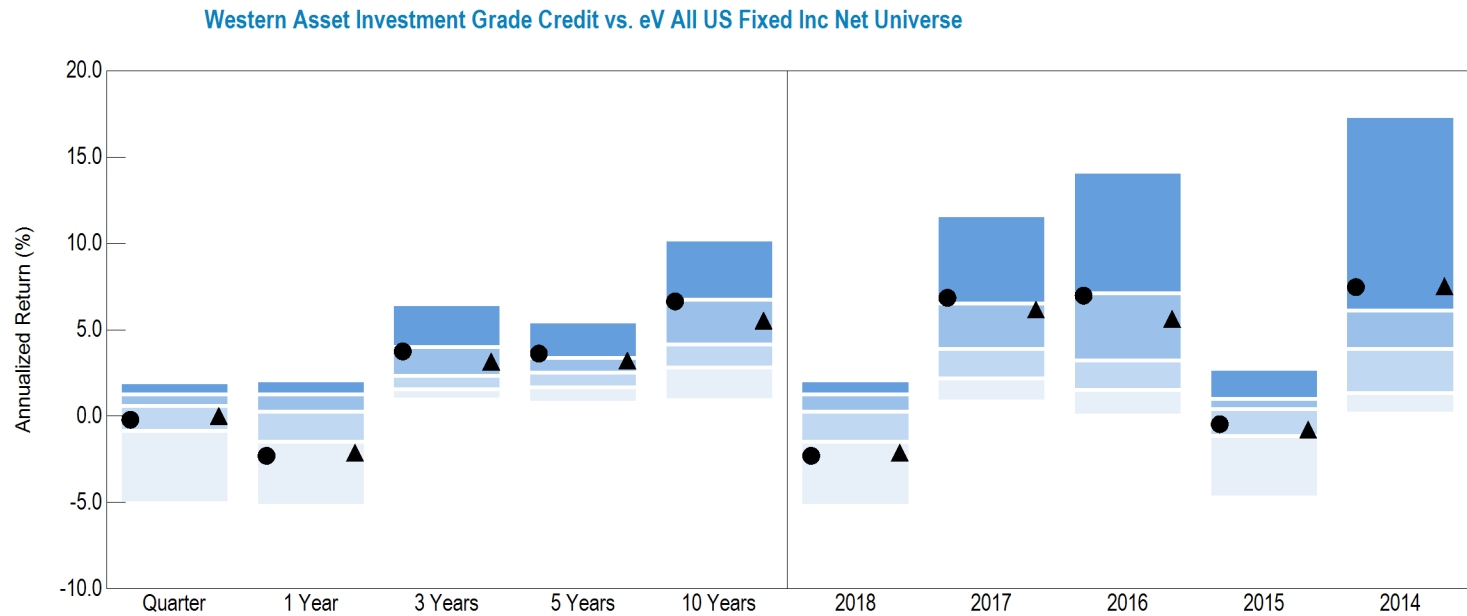


## Fixed Income Managers

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Western Asset Investment Grade Credit  
Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2018

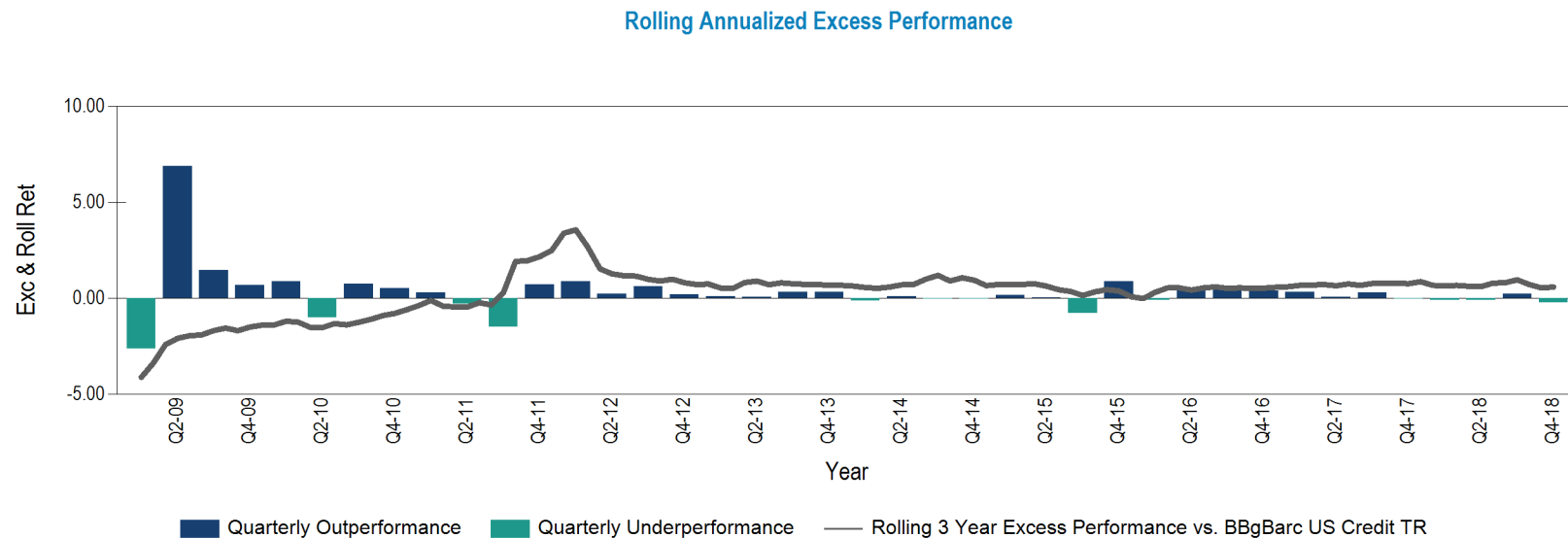
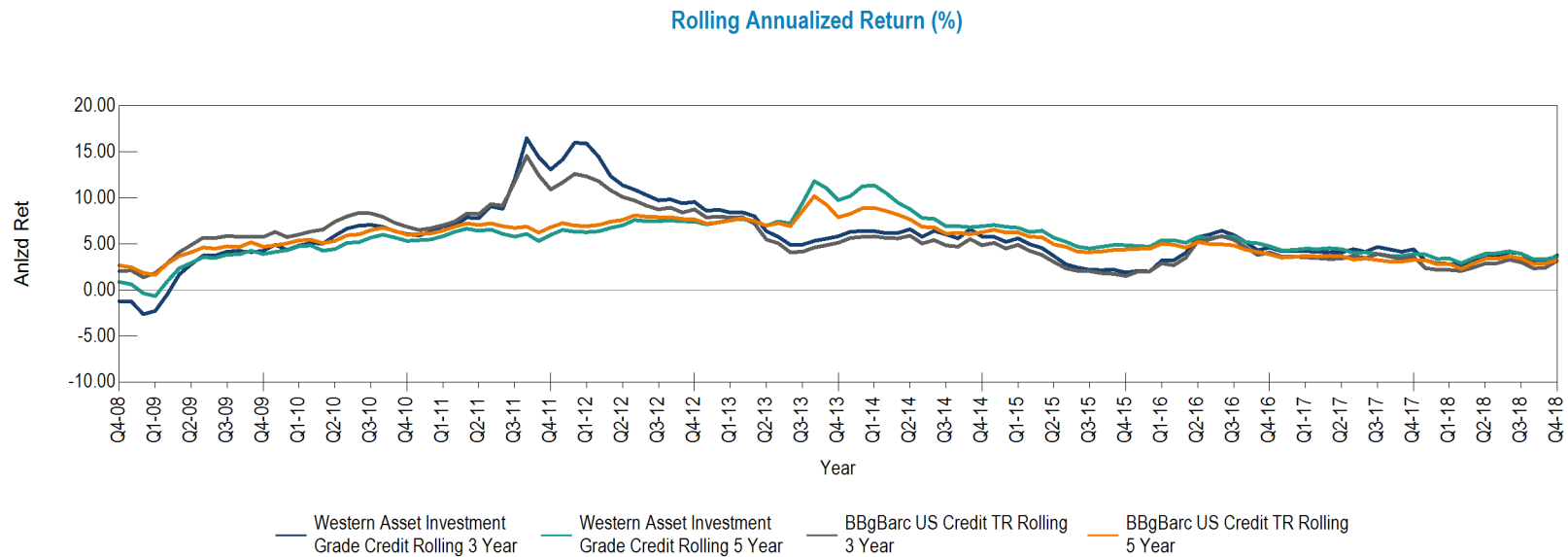


	Return (Rank)									
5th Percentile	1.9	2.1	6.5	5.4	10.2	2.1	11.6	14.1	2.7	17.4
25th Percentile	1.3	1.3	4.0	3.4	6.8	1.3	6.5	7.1	1.0	6.1
Median	0.6	0.3	2.3	2.5	4.2	0.3	3.9	3.3	0.4	3.9
75th Percentile	-0.9	-1.5	1.6	1.7	2.8	-1.5	2.2	1.6	-1.1	1.4
95th Percentile	-5.0	-5.2	1.0	0.8	0.9	-5.2	0.9	0.0	-4.7	0.2
# of Portfolios	1,182	1,173	1,122	1,035	785	1,173	1,135	1,033	827	758
● Western Asset Investment Grade Credit	-0.2 (69)	-2.3 (81)	3.7 (30)	3.6 (21)	6.6 (27)	-2.3 (81)	6.8 (23)	7.0 (26)	-0.5 (70)	7.5 (15)
▲ BBgBarc US Credit TR	0.0 (66)	-2.1 (79)	3.2 (36)	3.2 (30)	5.5 (35)	-2.1 (79)	6.2 (28)	5.6 (33)	-0.8 (74)	7.5 (15)

Returns prior to inception date are composite returns.

# Western Asset Investment Grade Credit Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2018

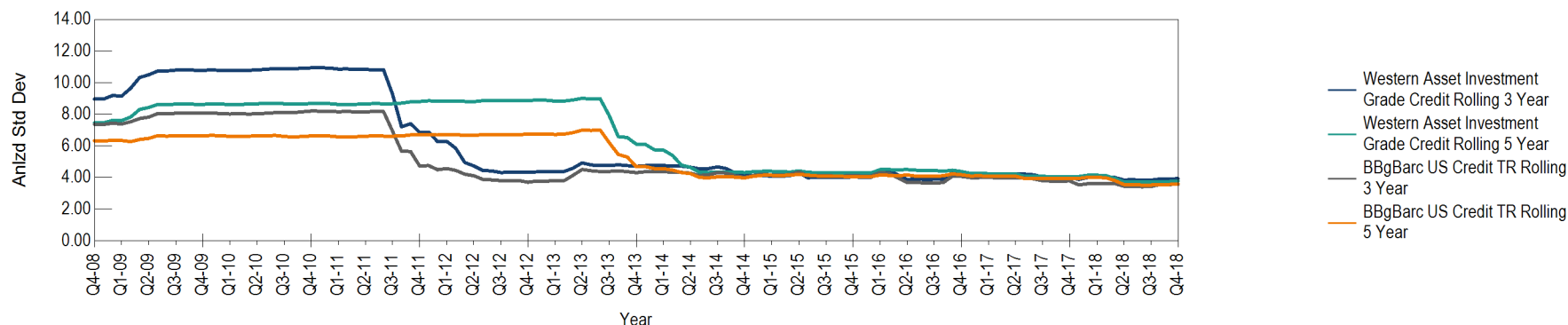


Returns prior to inception date are composite returns.

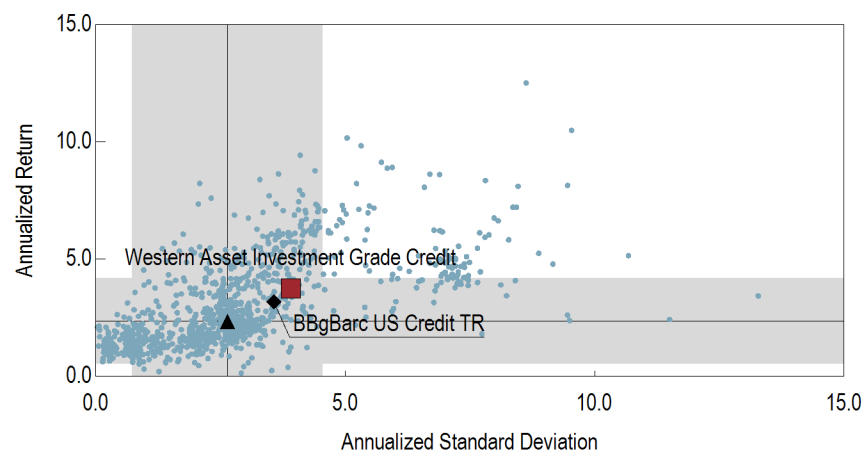
# Western Asset Investment Grade Credit Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2018

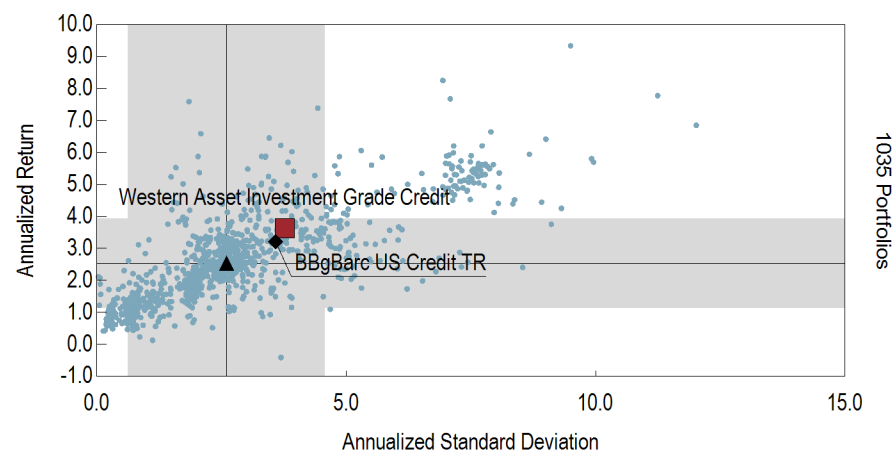
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Western Asset Investment Grade Credit	3.7%	3.9%	0.7
BBgBarc US Credit TR	3.2%	3.6%	0.6
eV All US Fixed Inc Net Median	2.3%	2.6%	0.5

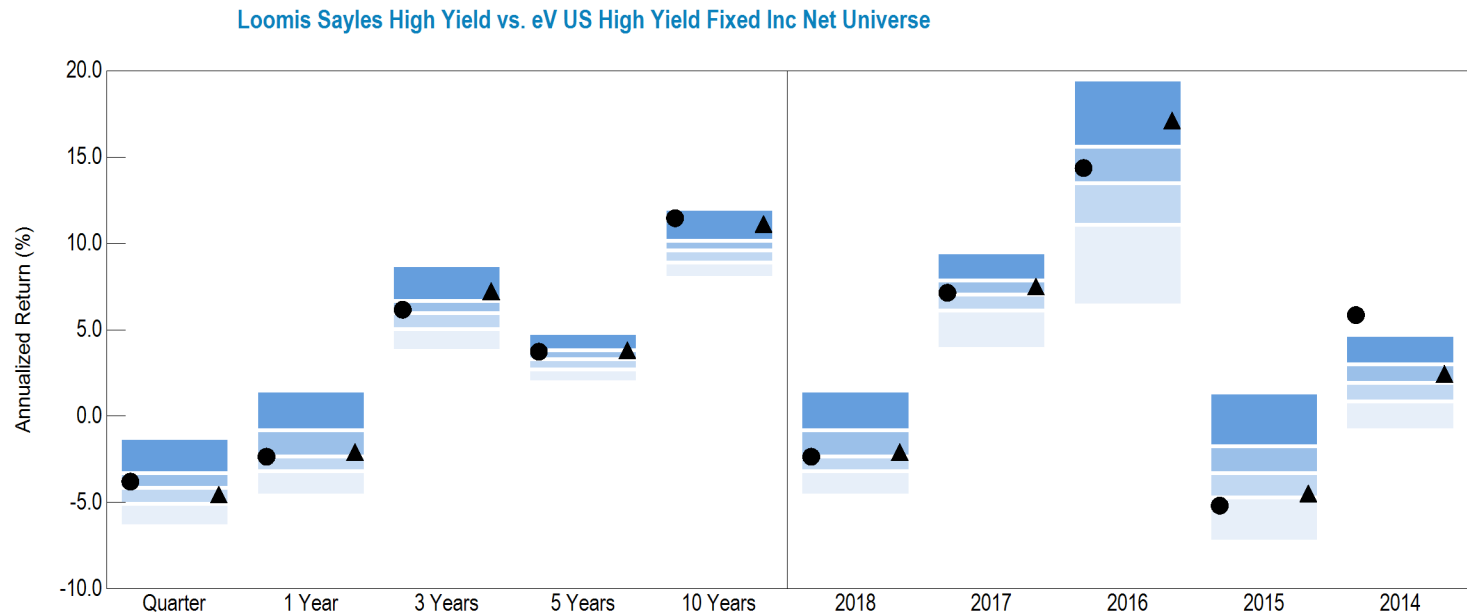
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Western Asset Investment Grade Credit	3.6%	3.8%	0.8
BBgBarc US Credit TR	3.2%	3.6%	0.7
eV All US Fixed Inc Net Median	2.5%	2.6%	0.7

Returns prior to inception date are composite returns.

# Loomis Sayles High Yield Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2018

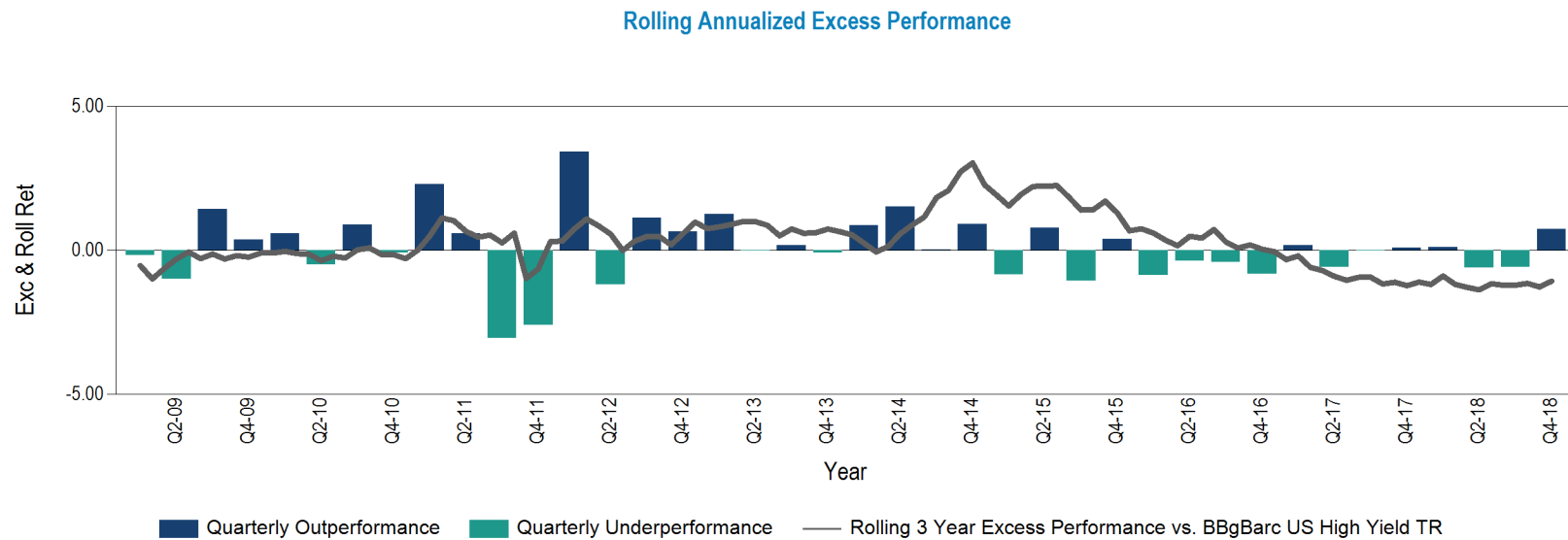
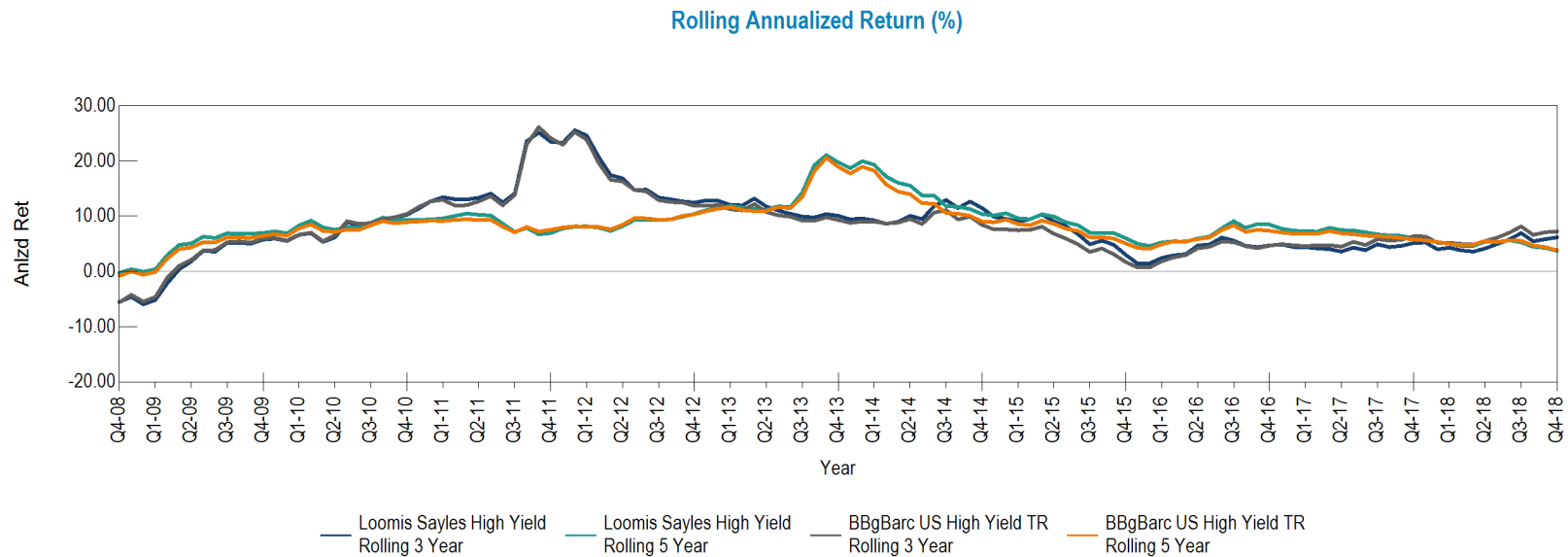


	Return (Rank)									
5th Percentile	-1.3	1.4	8.7	4.8	12.0	1.4	9.5	19.5	1.4	4.7
25th Percentile	-3.3	-0.8	6.7	3.8	10.2	-0.8	7.9	15.6	-1.7	3.0
Median	-4.1	-2.3	6.0	3.3	9.6	-2.3	7.1	13.5	-3.3	1.9
75th Percentile	-5.0	-3.2	5.1	2.7	8.9	-3.2	6.1	11.1	-4.7	0.9
95th Percentile	-6.4	-4.6	3.8	2.0	8.0	-4.6	3.9	6.4	-7.2	-0.8
# of Portfolios	137	136	127	108	70	136	129	114	88	77
● Loomis Sayles High Yield	-3.8 (36)	-2.3 (52)	6.2 (41)	3.7 (31)	11.5 (7)	-2.3 (52)	7.1 (47)	14.4 (42)	-5.2 (79)	5.8 (1)
▲ BBgBarc US High Yield TR	-4.5 (60)	-2.1 (46)	7.2 (13)	3.8 (24)	11.1 (10)	-2.1 (46)	7.5 (39)	17.1 (12)	-4.5 (73)	2.5 (40)

Returns prior to inception date are composite returns.

# Loomis Sayles High Yield Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2018

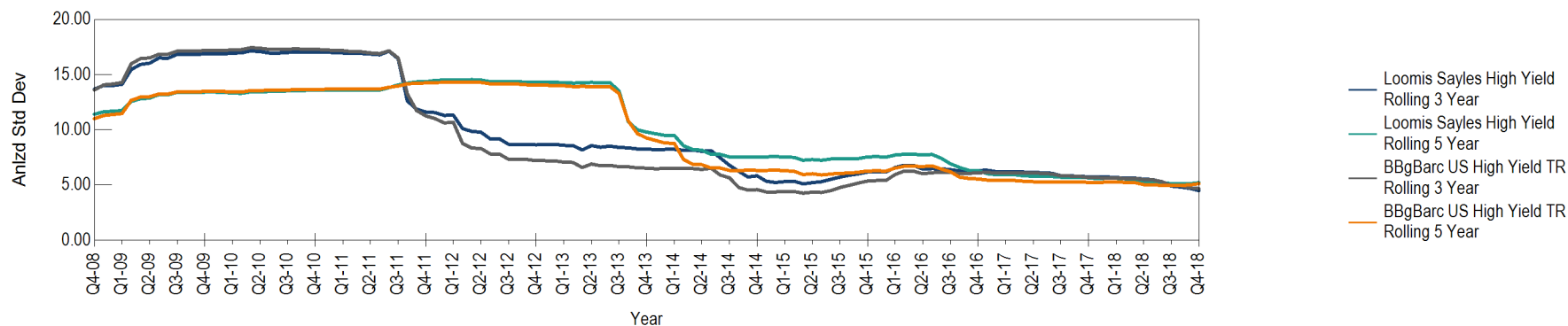


Returns prior to inception date are composite returns.

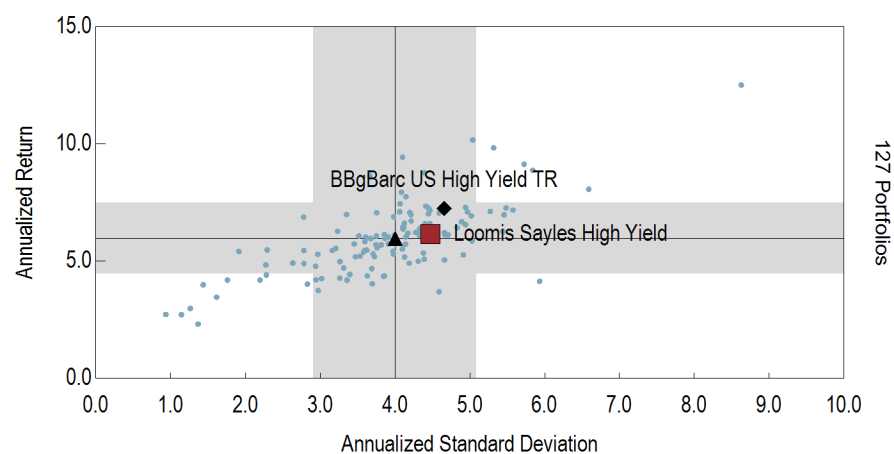
# Loomis Sayles High Yield Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2018

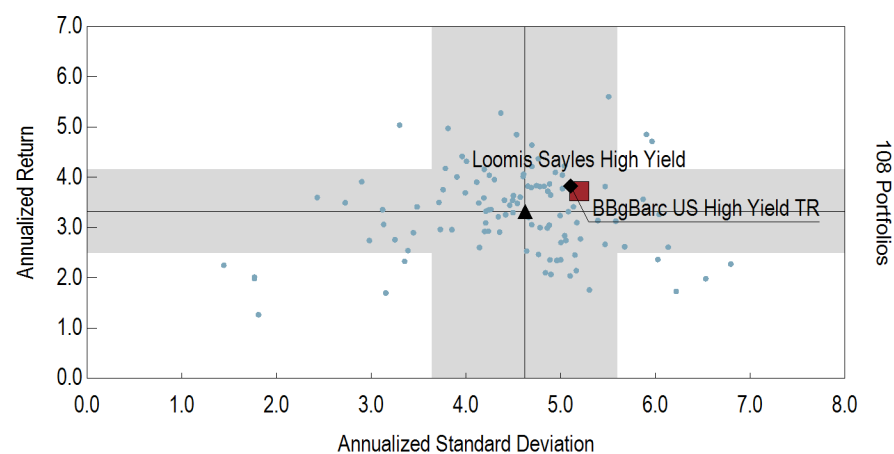
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Loomis Sayles High Yield	6.2%	4.5%	1.1
BBgBarc US High Yield TR	7.2%	4.7%	1.3
eV US High Yield Fixed Inc Net Median	6.0%	4.0%	1.2

5 Years

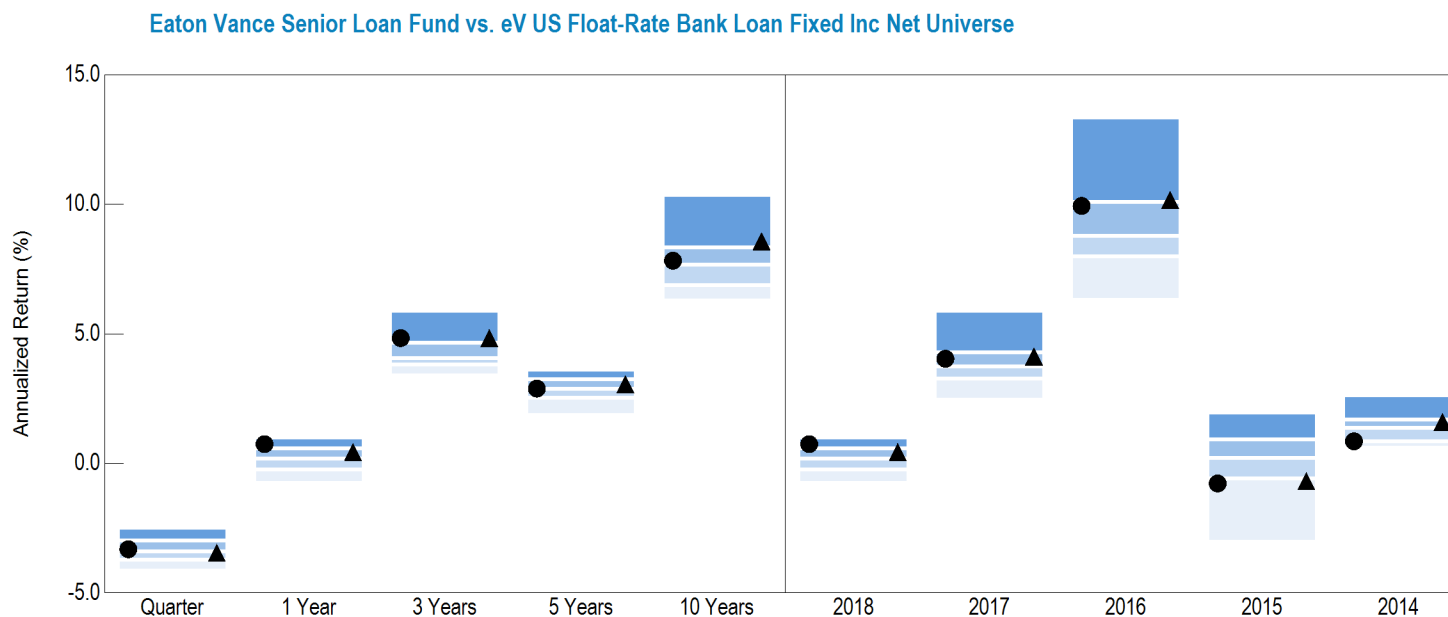
	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Loomis Sayles High Yield	3.7%	5.2%	0.6
BBgBarc US High Yield TR	3.8%	5.1%	0.6
eV US High Yield Fixed Inc Net Median	3.3%	4.6%	0.6

Returns prior to inception date are composite returns.

# Eaton Vance Senior Loan Fund

## Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2018



	Return (Rank)									
5th Percentile	-2.5	1.0	5.9	3.6	10.3	1.0	5.9	13.3	2.0	2.6
25th Percentile	-3.0	0.6	4.7	3.2	8.3	0.6	4.3	10.1	0.9	1.7
Median	-3.4	0.2	4.1	2.9	7.7	0.2	3.8	8.8	0.2	1.4
75th Percentile	-3.7	-0.2	3.8	2.5	6.9	-0.2	3.3	8.0	-0.6	0.9
95th Percentile	-4.1	-0.8	3.4	1.9	6.3	-0.8	2.5	6.3	-3.0	0.6
# of Portfolios	48	47	45	45	27	47	48	45	30	26
● Eaton Vance Senior Loan Fund	-3.3 (45)	0.7 (16)	4.8 (20)	2.9 (52)	7.8 (42)	0.7 (16)	4.0 (40)	9.9 (33)	-0.8 (85)	0.8 (78)
▲ S&P/LSTA Leveraged Loan Index	-3.5 (60)	0.4 (36)	4.8 (21)	3.1 (35)	8.6 (16)	0.4 (36)	4.1 (35)	10.2 (25)	-0.7 (81)	1.6 (31)

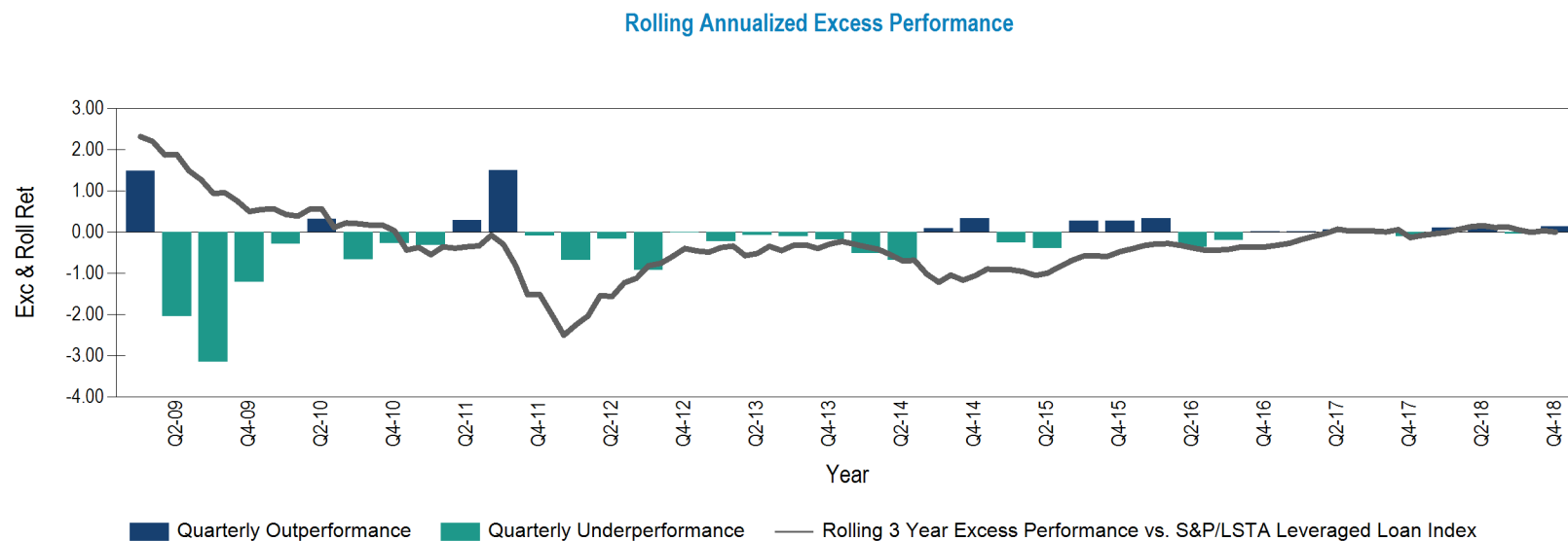
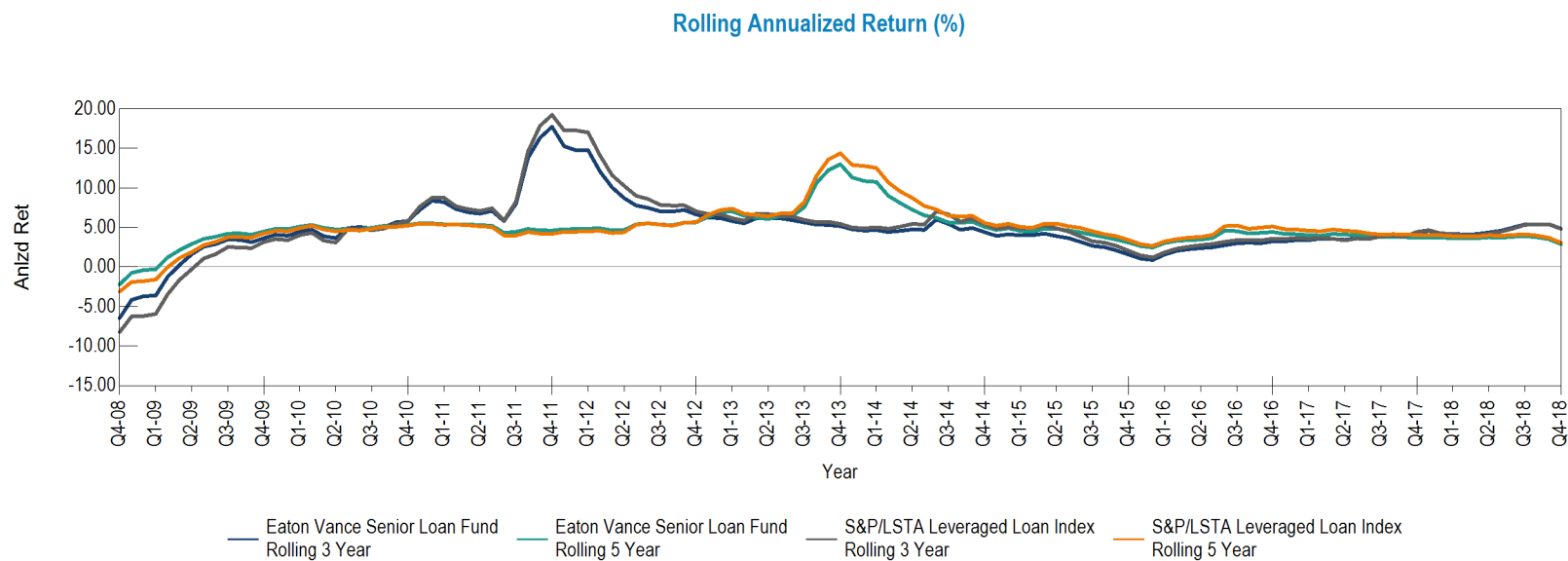
Returns prior to inception date are composite returns.



# Eaton Vance Senior Loan Fund

## Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2018



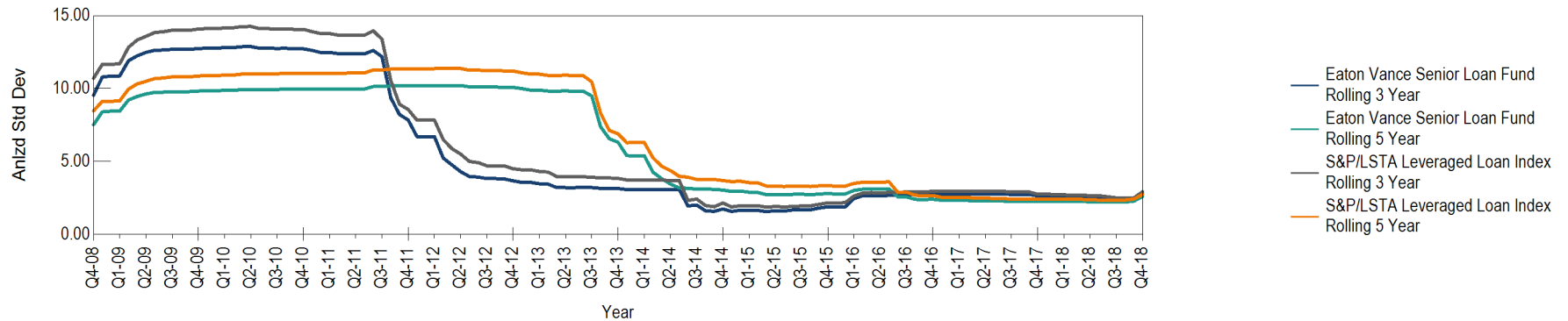
Returns prior to inception date are composite returns.

# Eaton Vance Senior Loan Fund

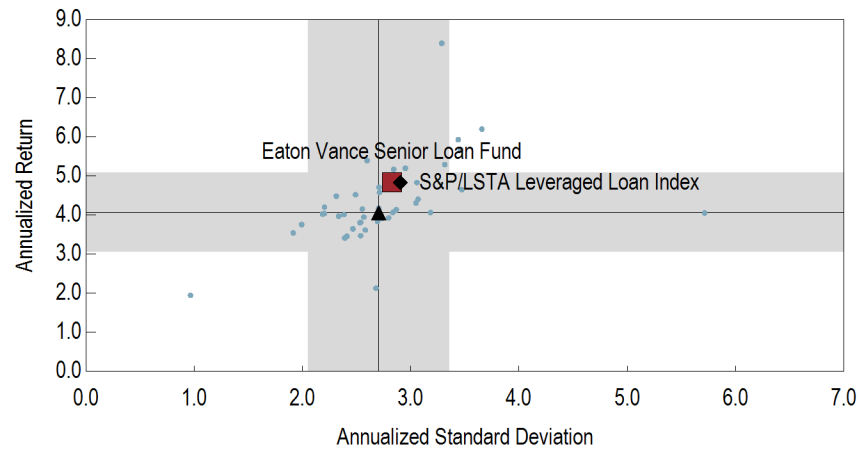
## Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2018

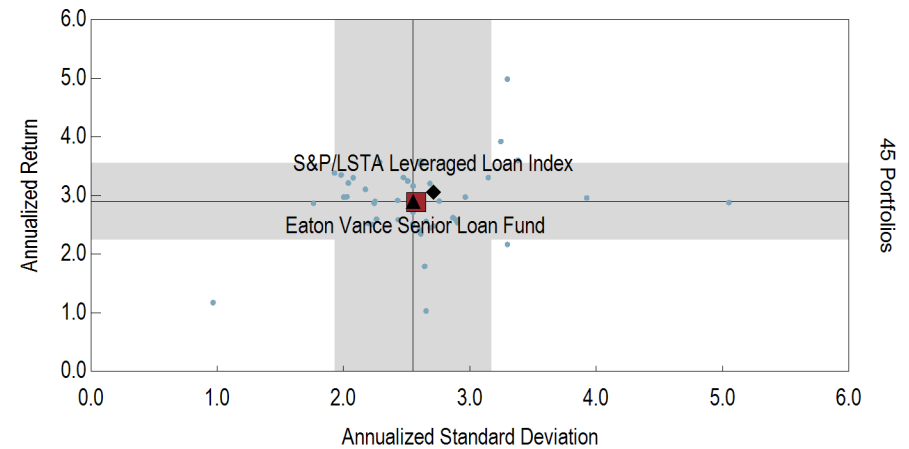
Rolling Annualized Standard Deviation



3 Years



5 Years



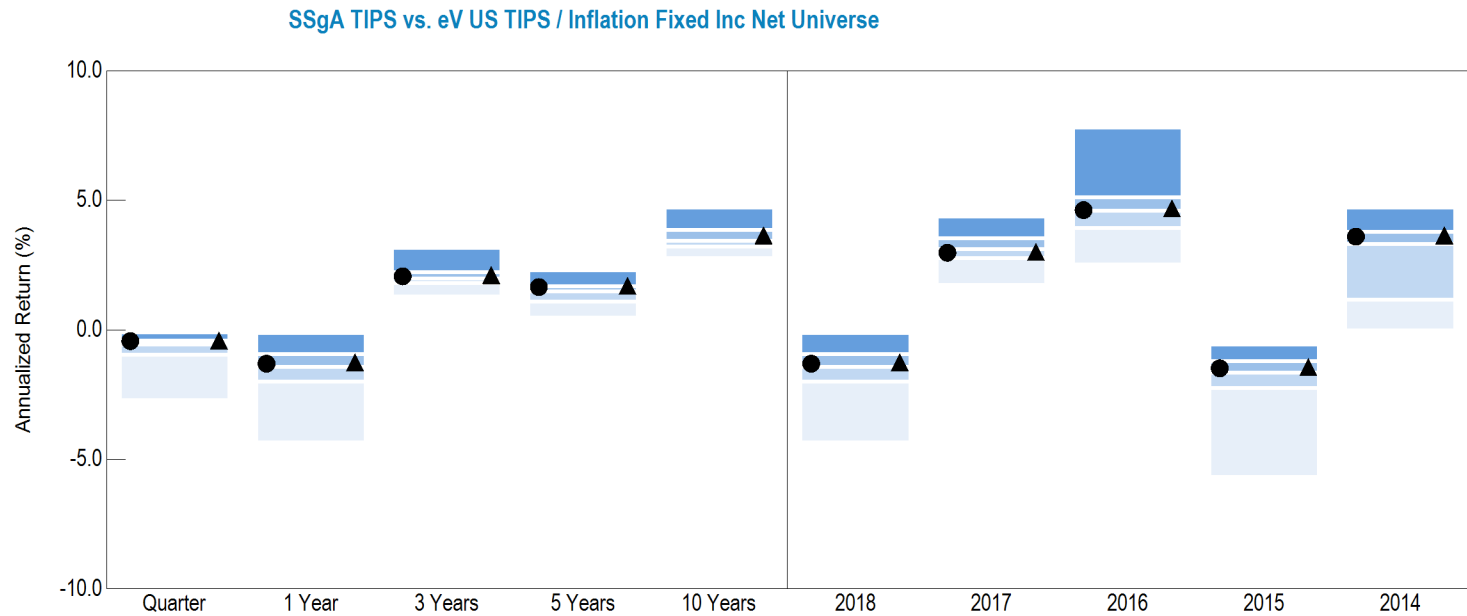
3 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Eaton Vance Senior Loan Fund	4.8%	2.8%	1.3
S&P/LSTA Leveraged Loan Index	4.8%	2.9%	1.3
eV US Float-Rate Bank Loan Fixed Inc Net Median	4.1%	2.7%	1.2

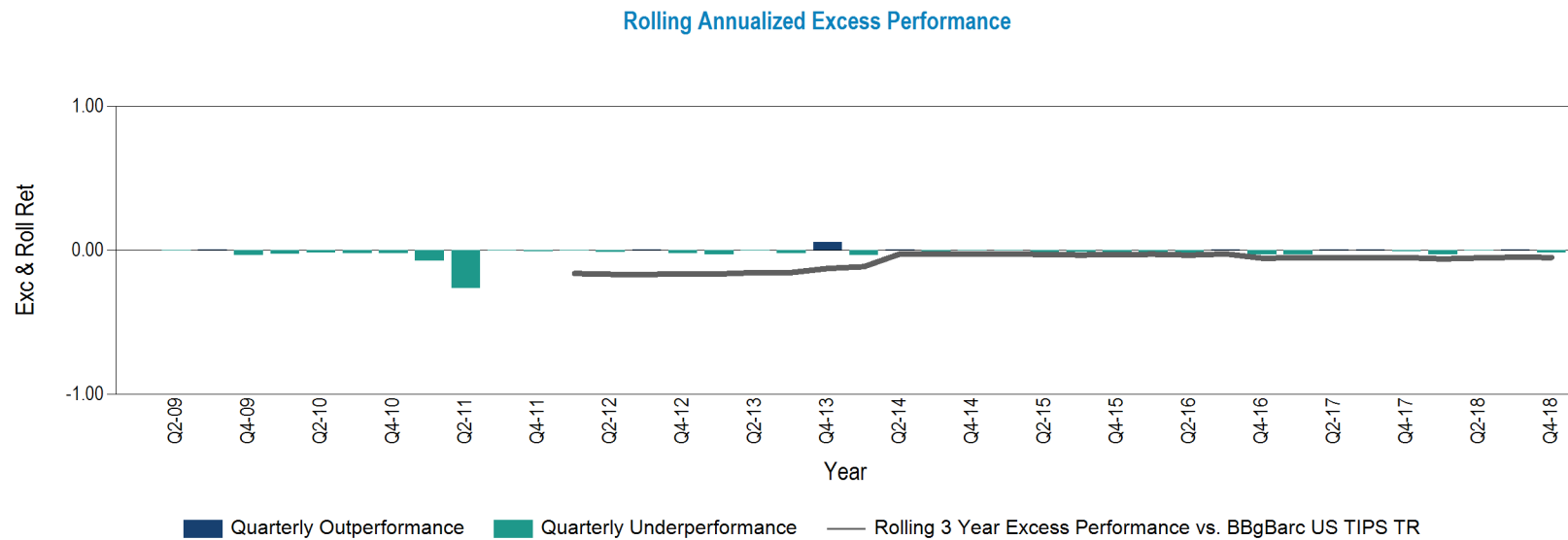
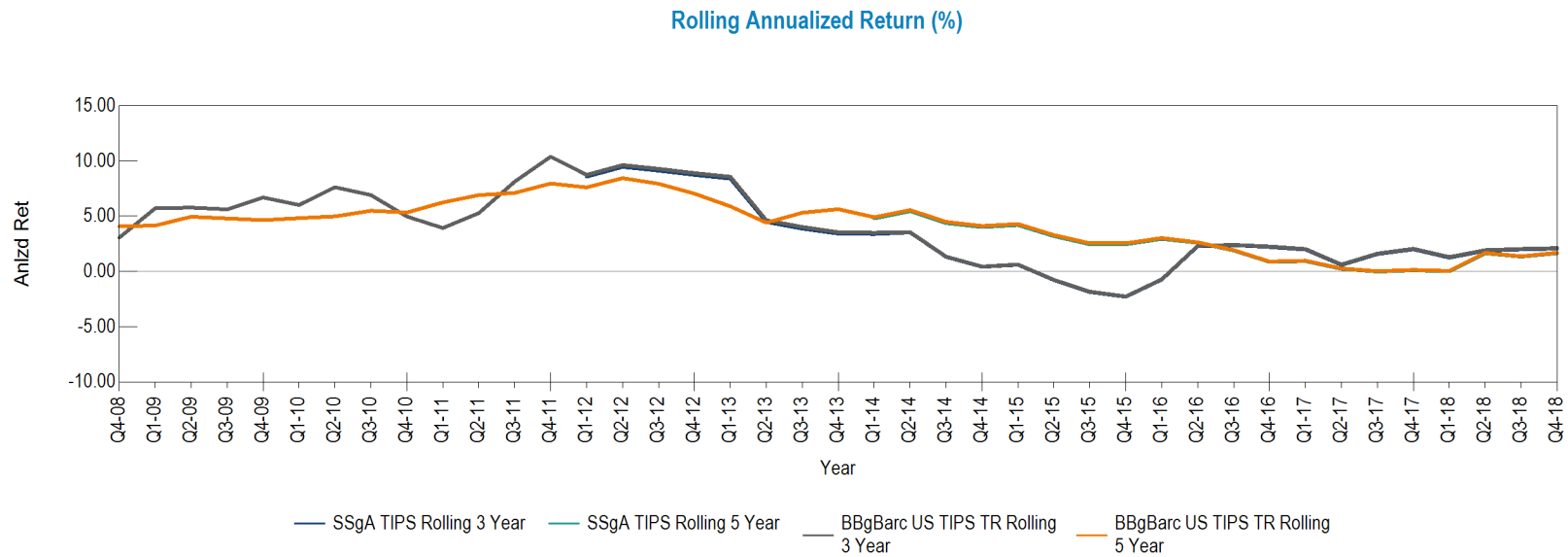
5 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Eaton Vance Senior Loan Fund	2.9%	2.6%	0.9
S&P/LSTA Leveraged Loan Index	3.1%	2.7%	0.9
eV US Float-Rate Bank Loan Fixed Inc Net Median	2.9%	2.6%	0.9

Returns prior to inception date are composite returns.



	Return (Rank)									
5th Percentile	-0.1	-0.1	3.1	2.3	4.7	-0.1	4.4	7.8	-0.6	4.7
25th Percentile	-0.4	-0.9	2.2	1.7	3.9	-0.9	3.5	5.1	-1.2	3.8
Median	-0.5	-1.4	2.0	1.5	3.4	-1.4	3.1	4.6	-1.6	3.3
75th Percentile	-0.9	-2.0	1.8	1.1	3.2	-2.0	2.8	3.9	-2.2	1.2
95th Percentile	-2.7	-4.3	1.3	0.5	2.8	-4.3	1.7	2.5	-5.7	0.0
# of Portfolios	22	21	21	19	14	21	20	22	22	24
● SSgA TIPS	-0.4 (32)	-1.3 (42)	2.1 (46)	1.6 (31)	-- (--)	-1.3 (42)	3.0 (58)	4.6 (50)	-1.5 (36)	3.6 (38)
▲ BBgBarc US TIPS TR	-0.4 (31)	-1.3 (39)	2.1 (38)	1.7 (28)	3.6 (43)	-1.3 (39)	3.0 (57)	4.7 (49)	-1.4 (33)	3.6 (37)

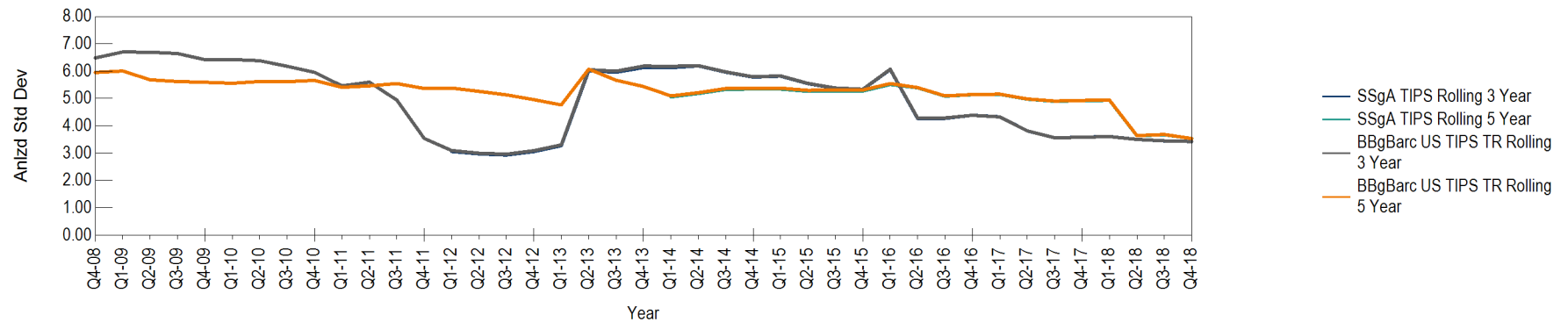


# SSgA TIPS

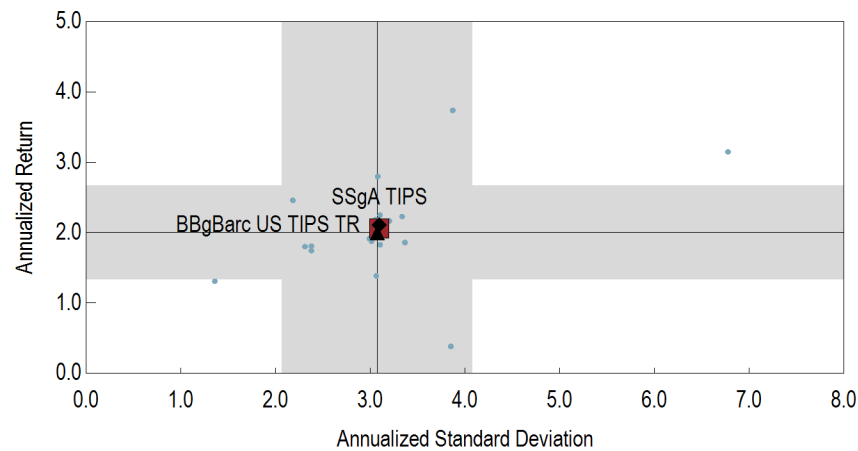
## Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2018

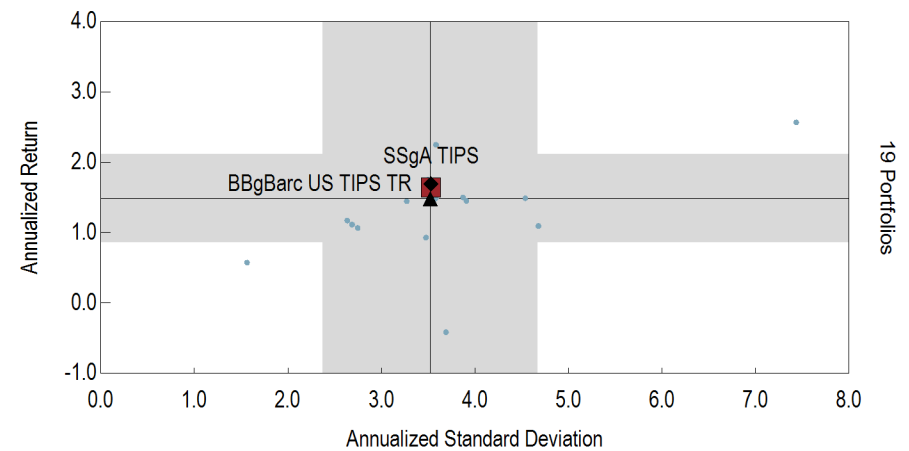
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

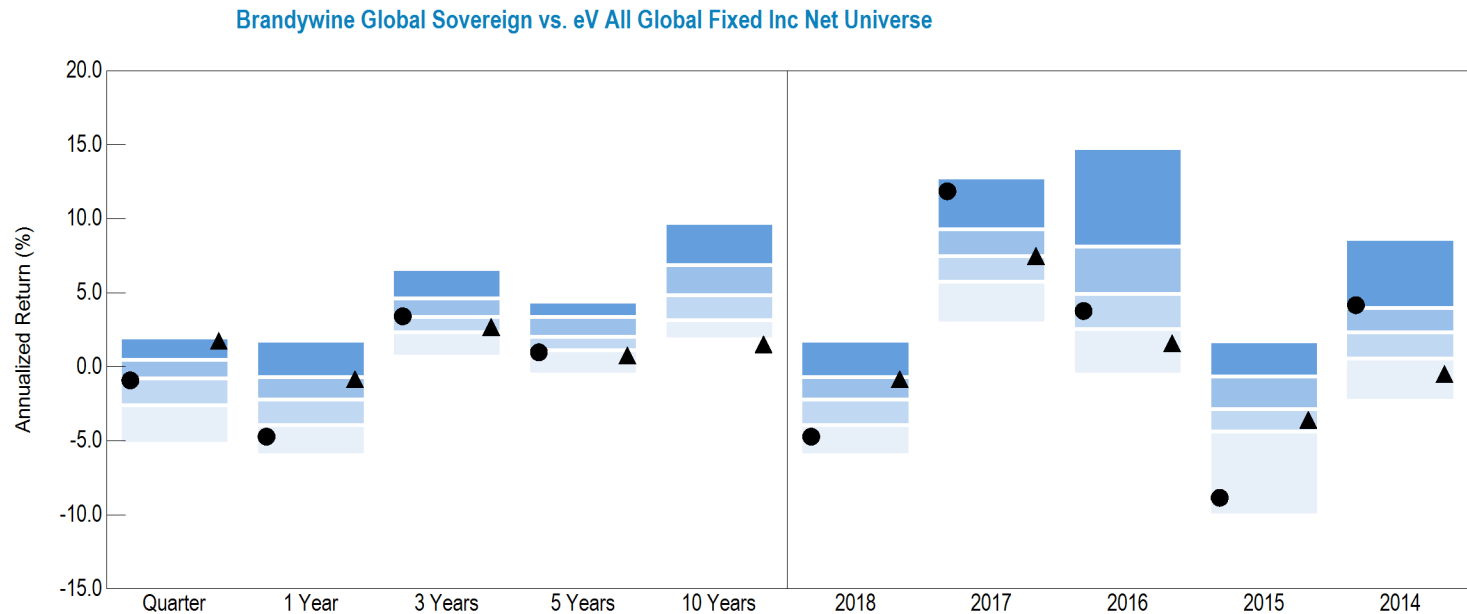
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
SSgA TIPS	2.1%	3.1%	0.3
BBgBarc US TIPS TR	2.1%	3.1%	0.3
eV US TIPS / Inflation Fixed Inc Net Median	2.0%	3.1%	0.3

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
SSgA TIPS	1.6%	3.5%	0.3
BBgBarc US TIPS TR	1.7%	3.5%	0.3
eV US TIPS / Inflation Fixed Inc Net Median	1.5%	3.5%	0.2

Brandywine Global Sovereign  
Manager Performance Comparisons (Net of Fees)

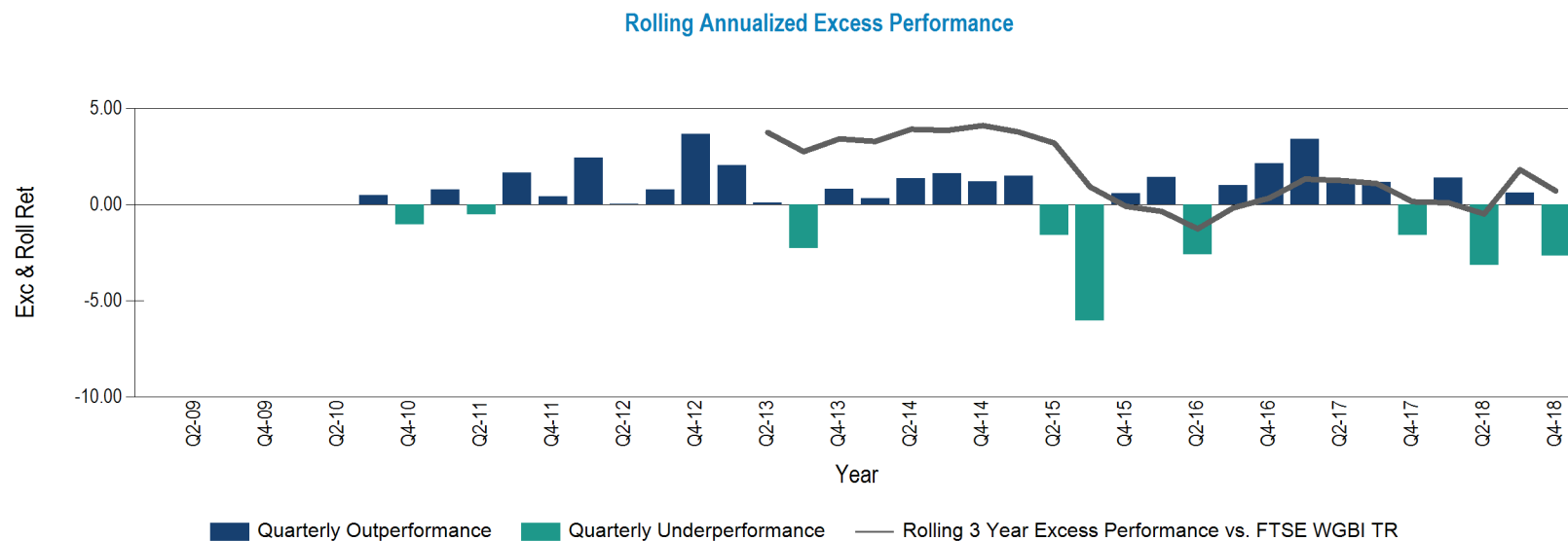
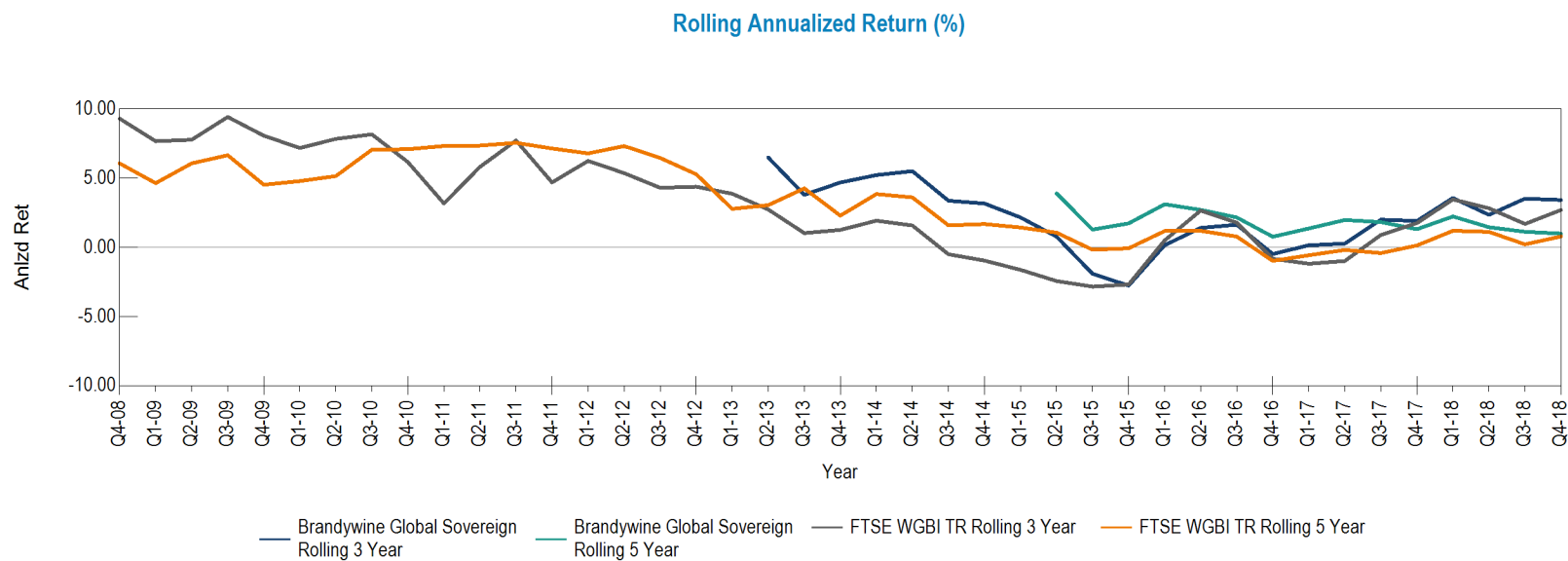
Period Ending: December 31, 2018



	Return (Rank)									
5th Percentile	2.0	1.7	6.6	4.4	9.7	1.7	12.8	14.7	1.7	8.6
25th Percentile	0.5	-0.7	4.7	3.4	6.9	-0.7	9.3	8.1	-0.6	4.0
Median	-0.8	-2.2	3.4	2.1	4.9	-2.2	7.5	5.0	-2.9	2.3
75th Percentile	-2.6	-3.9	2.4	1.1	3.2	-3.9	5.8	2.6	-4.4	0.6
95th Percentile	-5.2	-6.0	0.7	-0.5	1.9	-6.0	2.9	-0.5	-10.0	-2.3
# of Portfolios	224	218	208	186	104	218	214	209	175	136
● Brandywine Global Sovereign	-0.9 (56)	-4.7 (87)	3.4 (49)	1.0 (79)	-- (--)	-4.7 (87)	11.9 (6)	3.8 (63)	-8.8 (93)	4.2 (24)
▲ FTSE WGBI TR	1.8 (8)	-0.8 (27)	2.7 (70)	0.8 (85)	1.5 (97)	-0.8 (27)	7.5 (51)	1.6 (81)	-3.6 (63)	-0.5 (85)

# Brandywine Global Sovereign Rolling Manager Performance (Net of Fees)

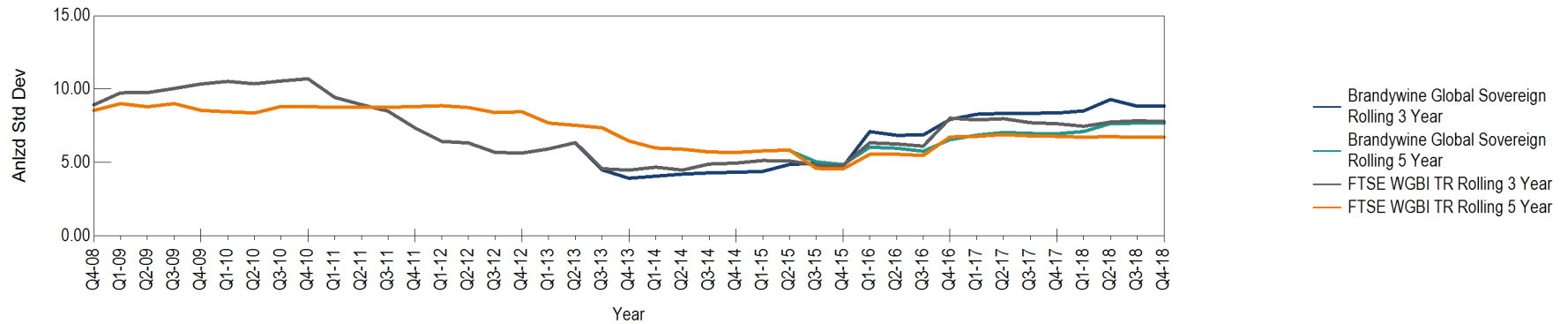
Period Ending: December 31, 2018



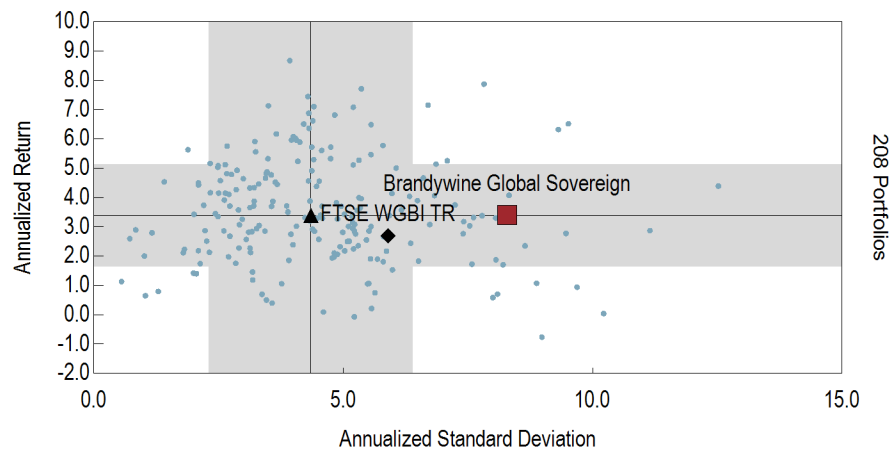
# Brandywine Global Sovereign Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2018

Rolling Annualized Standard Deviation



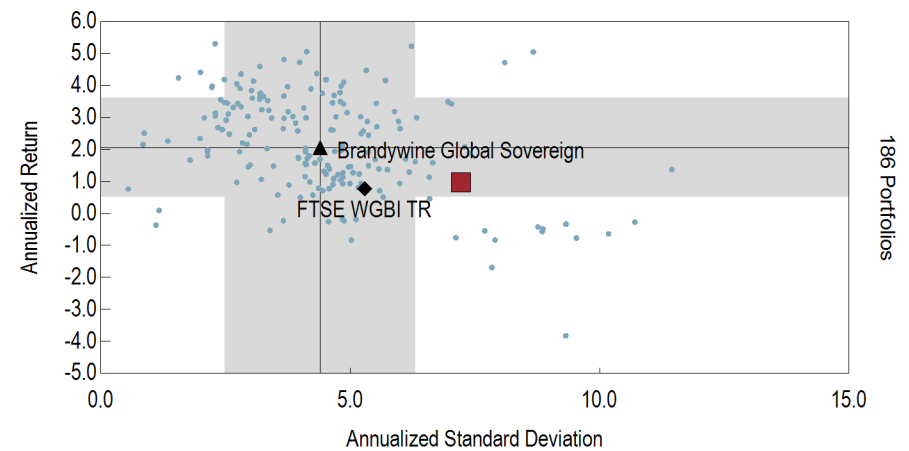
3 Years



3 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Brandywine Global Sovereign	3.4%	8.3%	0.3
FTSE WGBI TR	2.7%	5.9%	0.3
eV All Global Fixed Inc Net Median	3.4%	4.4%	0.6

5 Years



5 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Brandywine Global Sovereign	1.0%	7.2%	0.0
FTSE WGBI TR	0.8%	5.3%	0.0
eV All Global Fixed Inc Net Median	2.1%	4.4%	0.4

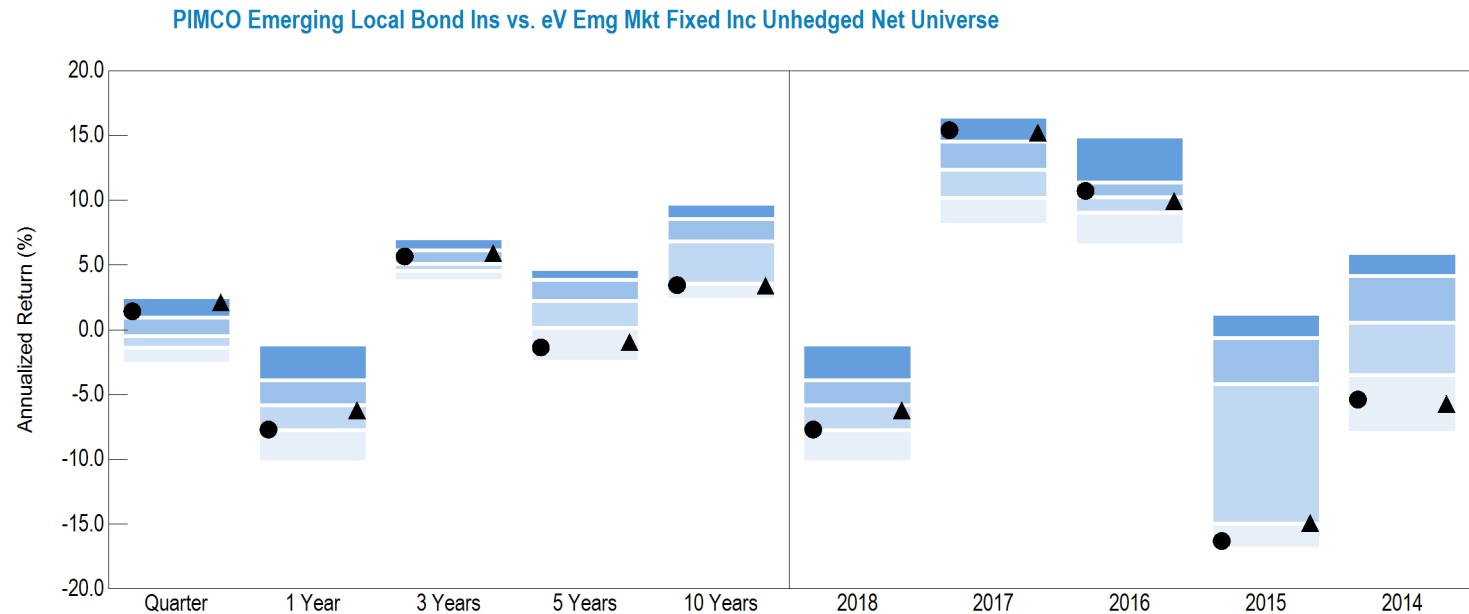
Returns prior to inception date are composite returns.



# PIMCO Emerging Local Bond Ins

## Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2018



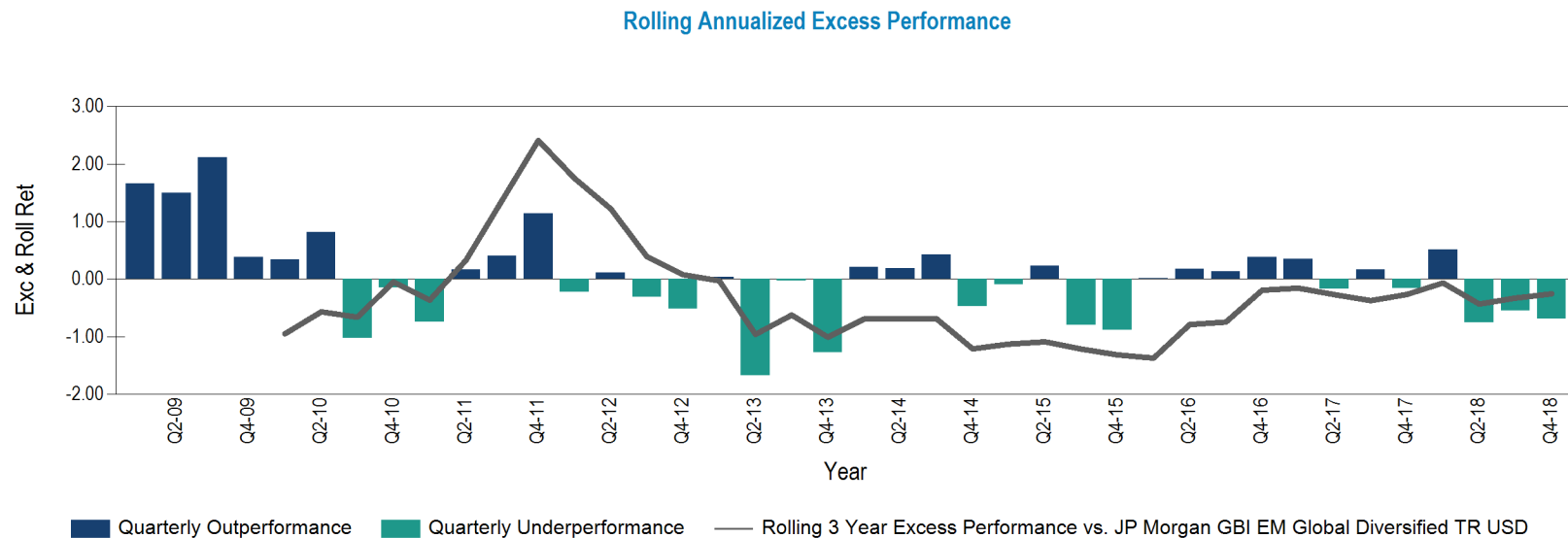
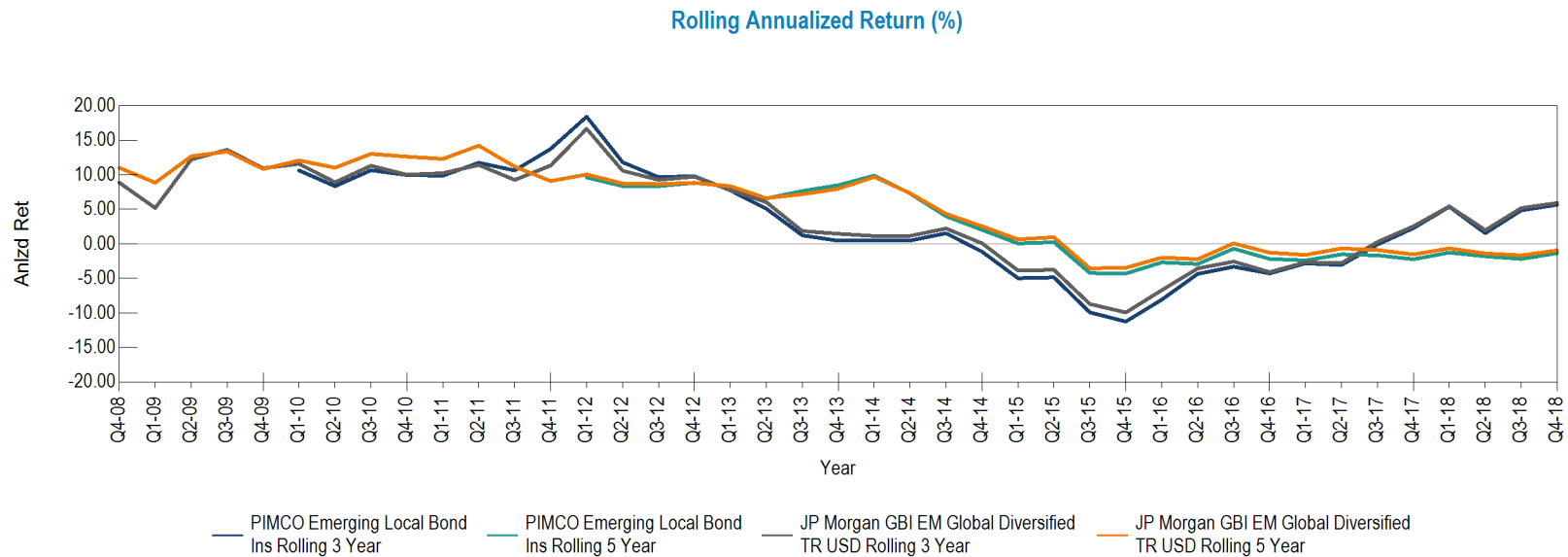
	Return (Rank)									
5th Percentile	2.5	-1.2	7.1	4.7	9.7	-1.2	16.5	14.9	1.2	5.9
25th Percentile	1.0	-3.9	6.1	3.9	8.5	-3.9	14.5	11.4	-0.6	4.2
Median	-0.5	-5.8	5.1	2.3	6.8	-5.8	12.4	10.2	-4.2	0.6
75th Percentile	-1.3	-7.7	4.6	0.2	3.6	-7.7	10.2	9.1	-15.0	-3.5
95th Percentile	-2.6	-10.2	3.8	-2.4	2.4	-10.2	8.1	6.5	-16.9	-7.9
# of Portfolios	91	86	80	71	32	86	77	58	40	39
● PIMCO Emerging Local Bond Ins	1.4 (20)	-7.7 (74)	5.7 (38)	-1.4 (84)	3.4 (80)	-7.7 (74)	15.4 (13)	10.7 (46)	-16.3 (89)	-5.4 (83)
▲ JP Morgan GBI EM Global Diversified TR USD	2.1 (8)	-6.2 (57)	5.9 (35)	-1.0 (82)	3.4 (82)	-6.2 (57)	15.2 (17)	9.9 (57)	-14.9 (75)	-5.7 (87)

Returns prior to inception date are composite returns.

# PIMCO Emerging Local Bond Ins

## Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2018



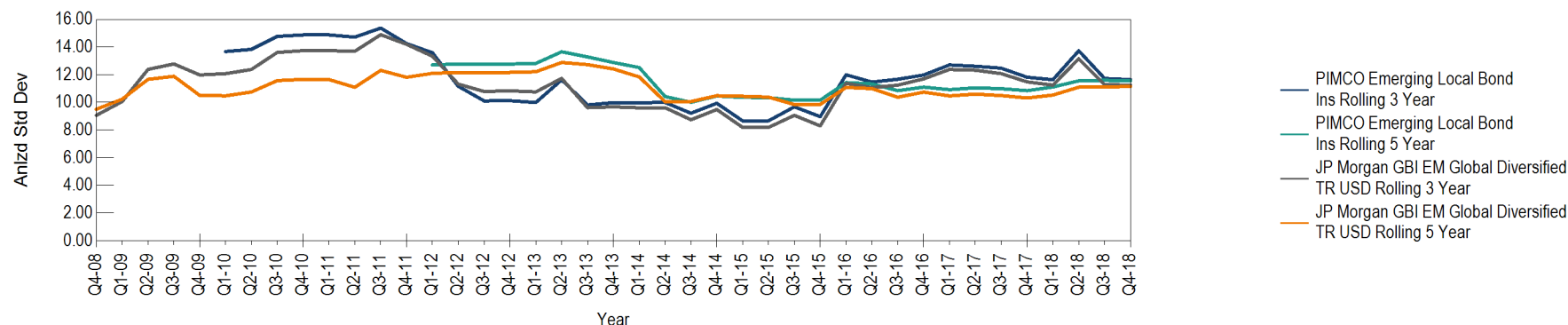
Returns prior to inception date are composite returns.

# PIMCO Emerging Local Bond Ins

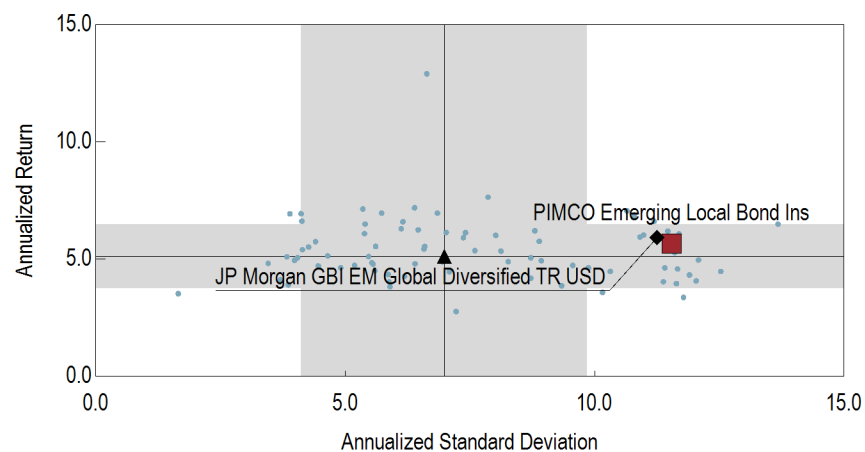
## Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2018

Rolling Annualized Standard Deviation



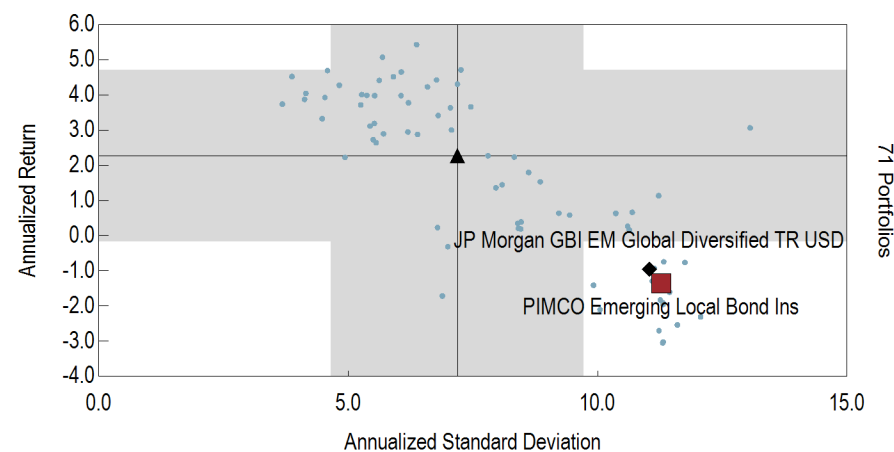
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
PIMCO Emerging Local Bond Ins	5.7%	11.5%	0.4
JP Morgan GBI EM Global Diversified TR USD	5.9%	11.3%	0.4
eV Emg Mkt Fixed Inc Hedged Net Median	5.5%	7.0%	0.6

5 Years



5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
PIMCO Emerging Local Bond Ins	-1.4%	11.3%	-0.2
JP Morgan GBI EM Global Diversified TR USD	-1.0%	11.0%	-0.1
eV Emg Mkt Fixed Inc Unhedged Net Median	2.3%	7.2%	0.2

Returns prior to inception date are composite returns.

**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**

<u>Manager</u>	<u>Fund Incepted</u>	<u>Data Source</u>	<u>Manager</u>	<u>Fund Incepted</u>	<u>Data Source</u>
Benefits Payment Cash	N/A	Northern Trust	Colony Distressed Credit III	2014	Carlyle
Custodied	N/A	Northern Trust	Brandywine Global Sovereign	1/31/2015	Northern Trust
County Cash	N/A	FCERA	IFM Global Infrastructure	5/13/2015	IFM
Aronson Johnson Ortiz	12/4/1995	Northern Trust	Invesco Commodities	5/27/2015	Invesco
Warburg Pincus	1998	Hamilton Lane	GSO European Senior Debt	2015	Carlyle
TCW Shop III	1998	Carlyle	CVI Credit Value Fund III	2015	Carlyle
Warburg Pincus VIII	2001	Hamilton Lane	Warburg Pincus XII	2015	Hamilton Lane
Blackstone IV	2002	Hamilton Lane	Gerding Edlen Green Cities III	2016	Gerding Edlen
Lonestar IV	2002	Carlyle	Hamilton Lane PE Fund IX	2016	Hamilton Lane
TCW Shop IV	2002	Carlyle	Kennedy Wilson Real Estate V	2016	Kennedy Wilson
SSgA S&P 500 Flagship Fund	4/1/2004	State Street	TSSP Adjacent Opportunities	2016	Carlyle
Mondrian Emerging Markets	11/17/2005	Mondrian	OHA Strategic Credit Fund II, L.P.	2016	Carlyle
Invesco Core Real Estate	10/1/2007	Invesco	Horsley Bridge XI GBO	2016	Hamilton Lane
New Mountain III	2007	Hamilton Lane	GCM Better Futures Fund	2016	Grosvenor
Hamilton Lane VI	2007	Hamilton Lane	Parametric Overlay	2016	Northern Trust
Warburg Pincus X	2007	Hamilton Lane	EQT European S. Situations Debt	2017	Carlyle
Landmark Equity Partners XIV	2008	Hamilton Lane	Eaton Vance Ins. Sr Loan Plus	2017	Eaton Vance
SSgA TIPS	2/27/2009	State Street	PIMCO StocksPLUS Small Fund	4/31/2018	PIMCO
Grosvenor	10/31/2009	Grosvenor	Hamilton Lane Secondary Fund IV	2017	Hamilton Lane
Mondrian Int'l Small Cap	11/2/2009	Mondrian	TCG BDC II	2017	Carlyle
Colony Distressed Credit I	2009	Carlyle	AlpInvest FC Credit Fund, L.P.	2017	Carlyle
TA Associates Realty 9	2009	TA Associates	CPC V, L.P.	2017	Carlyle
Systematic Small/Mid Value	10/8/2010	Northern Trust	Kelso Investment Associates X, L.P	2018	Hamilton Lane
KKR Mezzanine Partners I	7/2/1905	Carlyle	Avista Capital Partners IV	2018	Hamilton Lane
Angelo Gordon Cap. Recov. VII	7/2/1905	Carlyle	Platinum Equity Small Cap Fund	2018	Hamilton Lane
RAFI International Equity	4/30/2011	Northern Trust	T. Rowe Price Large Cap Growth	10/23/2018	Northern Trust
Oaktree Opportunities Fund IX	7/4/1905	Carlyle	Baillie Gifford Emerging Markets	12/10/2018	Baillie Gifford
Artisan International Growth	4/1/2013	Northern Trust	K4 Private Investors, L.P.	2018	Hamilton Lane
PIMCO Emerging Local Bond	7/31/2013	Northern Trust	SK Capital Partners Fund V, L.P.	2018	Hamilton Lane
WAMCO Credit Index	10/1/2014	Northern Trust	Thomas H. Lee Equity Fund VIII, L.P.	2019	Hamilton Lane
Loomis Sayles High Yield	10/1/2014	Northern Trust	H.I.G. Growth Buyouts & Equity Fund III	2019	Hamilton Lane

Policy & Custom Index Composition	
Floating Policy Index (7/1/2018-7/31/2018)	17% Russell 3000 Index, 31% BBgBarc Global Aggregate Index, 19% MSCI ACWI ex US, 2.1% Russell 2000, 4.2% BBgBarc US Corp. High Yield, 3.9% Private Equity Neutralized, 3.8% Private Credit Neutralized, 0.5% Real Estate Neutralized, 8% HFRI FoF Composite, 7.5% NCREIF ODCE Net, & 3% Bloomberg Commodity Index.
(8/1/2018-8/31/2018)	17% Russell 3000 Index, 31% BBgBarc Global Aggregate Index, 19% MSCI ACWI ex US, 2% Russell 2000, 4.1% BBgBarc US Corp. High Yield, 4% Private Equity Neutralized, 3.9% Private Credit Neutralized, 0.4% Real Estate Neutralized, 8% HFRI FoF Composite, 7.6% NCREIF ODCE Net, & 3% Bloomberg Commodity Index.
(9/1/2018-9/30/2018)	17% Russell 3000 Index, 31% BBgBarc Global Aggregate Index, 19% MSCI ACWI ex US, 2.1% Russell 2000, 3.9% BBgBarc US Corp. High Yield, 3.9% Private Equity Neutralized, 4.1% Private Credit Neutralized, 0.4% Real Estate Neutralized, 8% HFRI FoF Composite, 7.6% NCREIF ODCE Net, & 3% Bloomberg Commodity Index.
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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