

# Fresno County Employees' Retirement Association

Investment Performance Review  
Period Ending: December 31, 2015



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SEATTLE 206-622-3700

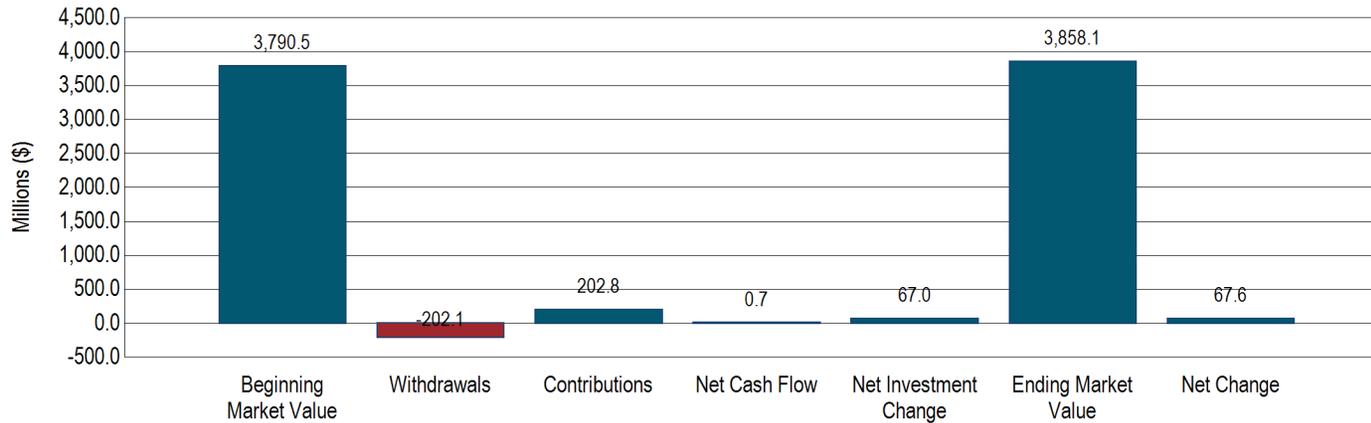
LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

**Portfolio Reconciliation**

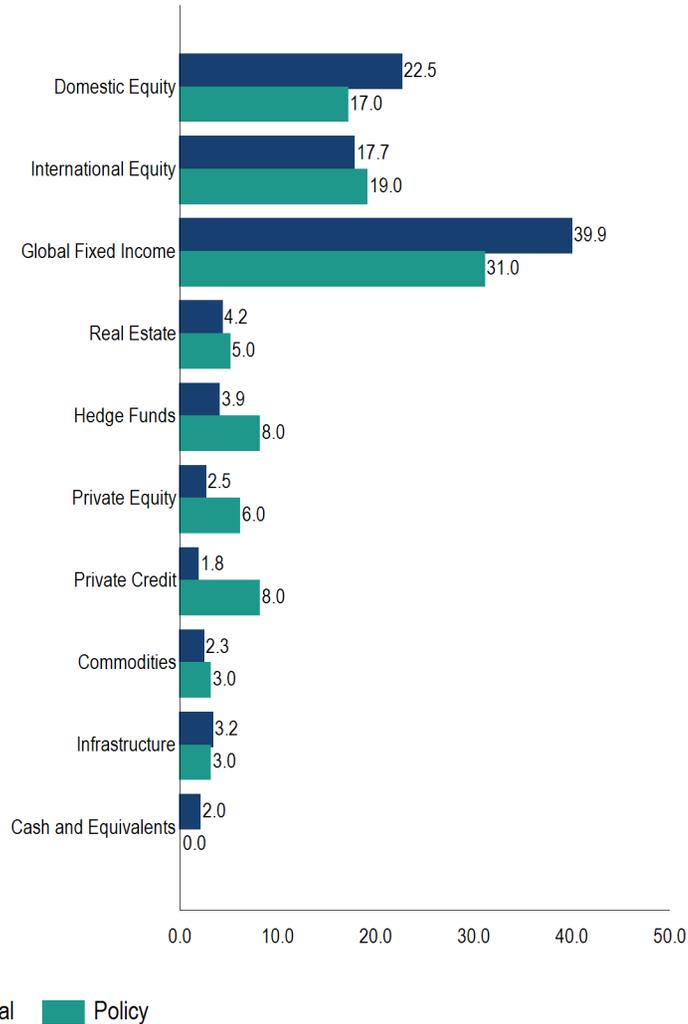
	Last Three Months	Year-To-Date
Beginning Market Value	\$3,790,476,239	\$3,973,404,368
- Withdrawals	-\$202,110,991	-\$2,131,818,961
+ Contributions	\$202,761,485	\$2,106,715,326
= Net Cash Flow	\$650,493	-\$25,103,634
+ Net Investment Change	\$66,998,174	-\$90,175,827
<b>= Ending Market Value</b>	<b>\$3,858,124,906</b>	<b>\$3,858,124,906</b>
Net Change	\$67,648,667	-\$115,279,462

**Change in Market Value  
Last Three Months**

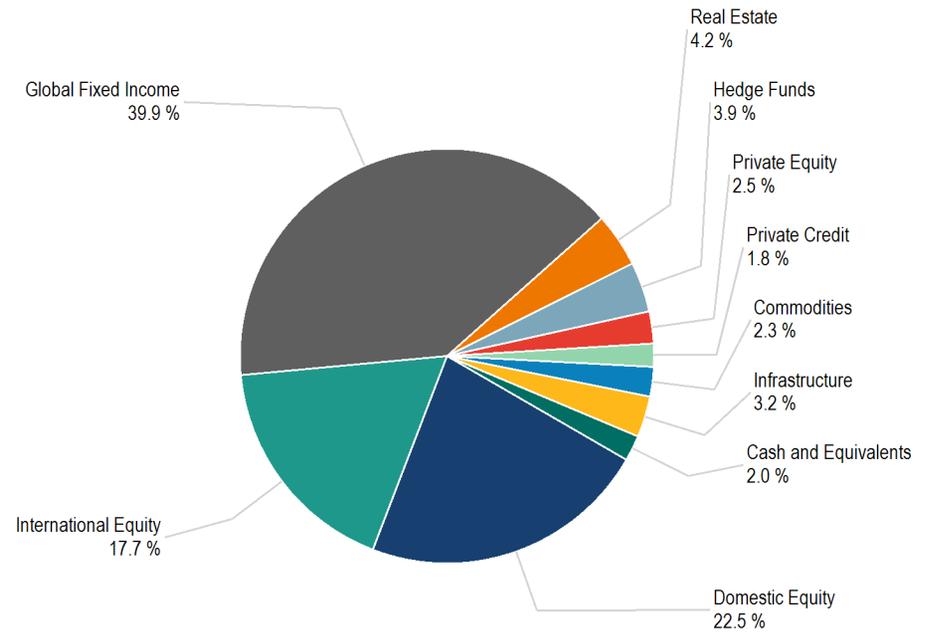


Contributions and withdrawals may include intra-account transfers between managers/funds.

Actual vs Target Allocation (%)

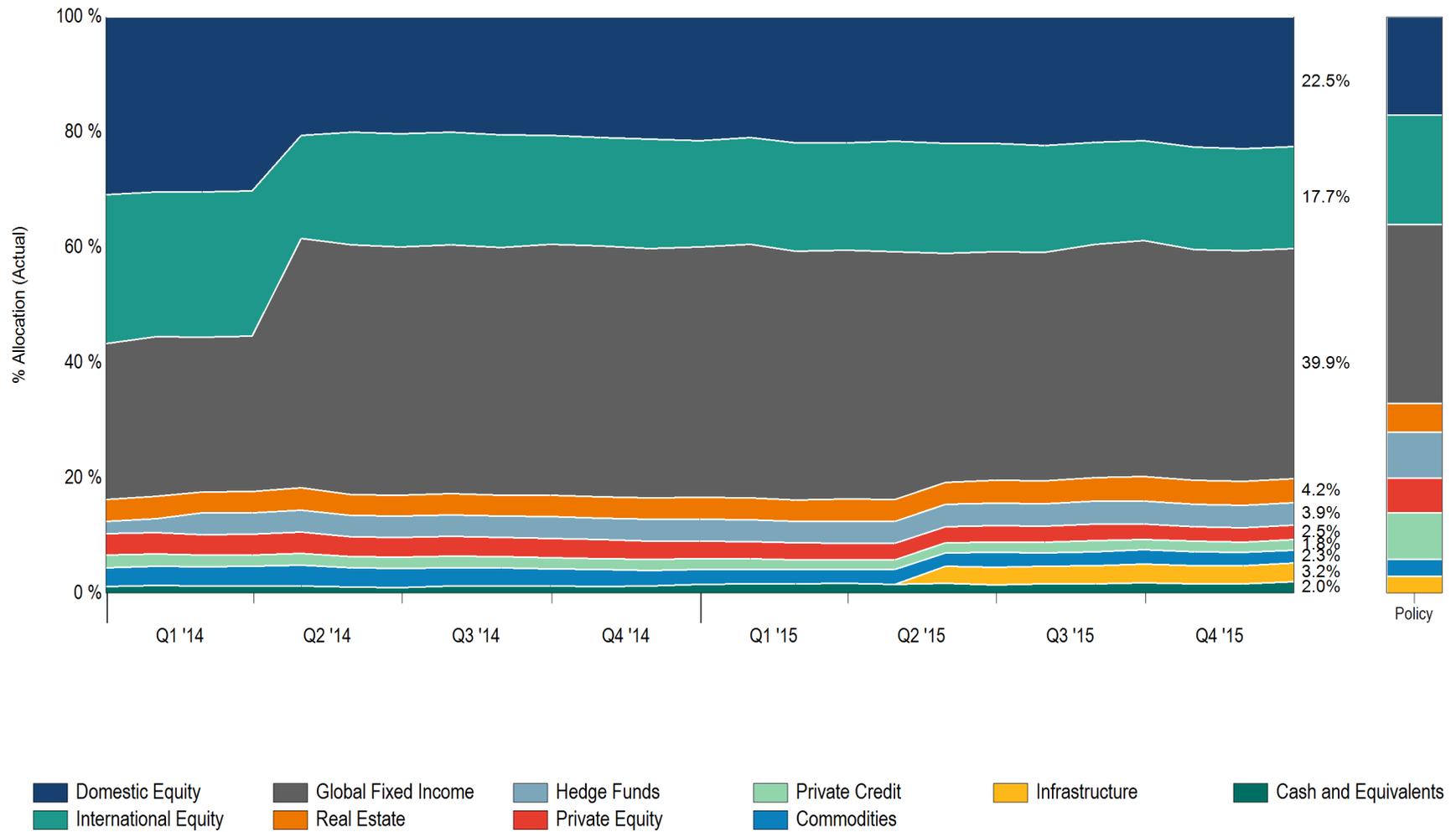


Current Allocation



Total Fund  
Asset Allocation History

Period Ending: December 31, 2015



Total Fund  
Executive Summary (Net of Fees)

Period Ending: December 31, 2015

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2015	2014	2013	2012	2011
<b>Total Fund</b>	<b>3,858,124,906</b>	<b>100.0</b>	<b>1.7</b>	<b>-3.9</b>	<b>-2.5</b>	<b>5.4</b>	<b>5.8</b>	<b>5.6</b>	<b>-2.5</b>	<b>3.5</b>	<b>16.3</b>	<b>13.1</b>	<b>-0.2</b>
<i>Policy Index</i>			1.8	-2.3	-1.7	5.3	5.6	4.9	-1.7	2.6	15.6	12.3	0.1
<b>Total Domestic Equity</b>	<b>869,401,845</b>	<b>22.5</b>	<b>6.4</b>	<b>-1.7</b>	<b>1.5</b>	<b>15.1</b>	<b>12.2</b>	<b>--</b>	<b>1.5</b>	<b>9.8</b>	<b>36.8</b>	<b>15.8</b>	<b>0.6</b>
<i>Russell 3000</i>			6.3	-1.4	0.5	14.7	12.2	--	0.5	12.6	33.6	16.4	1.0
<b>Total International Equity</b>	<b>682,303,682</b>	<b>17.7</b>	<b>3.9</b>	<b>-9.5</b>	<b>-7.5</b>	<b>2.3</b>	<b>2.4</b>	<b>--</b>	<b>-7.5</b>	<b>-2.5</b>	<b>18.7</b>	<b>19.0</b>	<b>-11.7</b>
<i>MSCI ACWI ex USA Gross</i>			3.3	-9.2	-5.3	1.9	1.5	--	-5.3	-3.4	15.8	17.4	-13.3
<b>Total Fixed Income</b>	<b>1,539,122,590</b>	<b>39.9</b>	<b>-0.8</b>	<b>-3.5</b>	<b>-4.5</b>	<b>-0.3</b>	<b>3.0</b>	<b>--</b>	<b>-4.5</b>	<b>5.0</b>	<b>-1.1</b>	<b>9.6</b>	<b>6.6</b>
<i>Barclays Aggregate*</i>			-0.9	-0.1	-3.2	-1.7	1.3	--	-3.2	0.0	-2.0	4.2	7.8
<b>Total Real Estate</b>	<b>286,673,146</b>	<b>7.4</b>	<b>1.3</b>	<b>3.9</b>	<b>10.5</b>	<b>11.5</b>	<b>10.6</b>	<b>--</b>	<b>10.5</b>	<b>12.1</b>	<b>11.8</b>	<b>8.0</b>	<b>10.7</b>
<i>NCREIF-ODCE</i>			3.3	7.1	15.0	13.8	13.7	--	15.0	12.5	13.9	10.9	16.0
<b>Total Hedge Funds</b>	<b>150,737,684</b>	<b>3.9</b>	<b>0.1</b>	<b>-2.3</b>	<b>0.1</b>	<b>3.6</b>	<b>2.7</b>	<b>3.0</b>	<b>0.1</b>	<b>3.1</b>	<b>7.8</b>	<b>2.2</b>	<b>0.4</b>
<i>HFRI Fund of Funds Composite Index</i>			0.7	-2.9	-0.3	3.9	2.1	2.3	-0.3	3.4	9.0	4.8	-5.7
<b>Total Commodities</b>	<b>88,774,253</b>	<b>2.3</b>	<b>-5.1</b>	<b>-14.7</b>	<b>-14.0</b>	<b>-13.5</b>	<b>-11.1</b>	<b>--</b>	<b>-14.0</b>	<b>-16.9</b>	<b>-9.4</b>	<b>-0.9</b>	<b>-13.2</b>
<i>Bloomberg Commodity Index TR USD</i>			-10.5	-23.5	-24.7	-17.3	-13.5	--	-24.7	-17.0	-9.5	-1.1	-13.3
<b>Total Private Equity</b>	<b>96,682,824</b>	<b>2.5</b>	<b>0.1</b>	<b>-4.6</b>	<b>2.8</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2.8</b>	<b>4.8</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>Russell 3000 + 2.5%</i>			6.9	-0.2	3.0	--	--	--	3.0	15.3	--	--	--
<b>Total Private Credit</b>	<b>68,486,563</b>	<b>1.8</b>	<b>-0.3</b>	<b>-2.8</b>	<b>-3.7</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-3.7</b>	<b>6.7</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>Barclays Global Aggregate +2.5%</i>			-0.3	1.2	-0.7	--	--	--	-0.7	3.1	--	--	--
<b>Total Cash</b>	<b>75,942,319</b>	<b>2.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>0.2</b>	<b>0.2</b>	<b>--</b>	<b>0.1</b>	<b>0.1</b>	<b>0.4</b>	<b>0.1</b>	<b>0.4</b>
<i>91 Day T-Bills</i>			0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.1	0.0

Policy Index (effective 3/19/2014 Q2 floating policy until rebalance is complete, weights shown are as of 12/31/2015. See Data Sources and Methodology for monthly policy breakout): 21.3% Russell 3000 Index, 40.5% BC Global Aggregate Index, 19% MSCI ACWI ex US, 2.5% Russell 3000 Index + 250 BP, 1.8% BC Global Agg + 250 BP, 3.9% HFRI FoF Composite, 8% NCREIF ODCE, & 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.

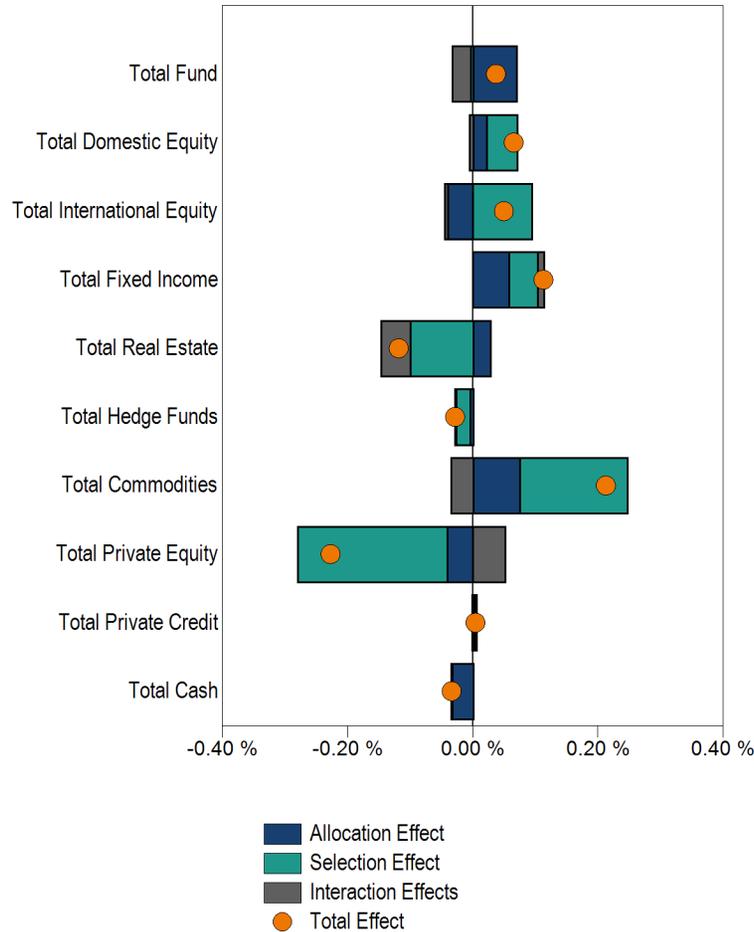
\*Prior to 3/31/2014 Barclays U.S. Aggregate Index and as of 4/1/2014 Barclays Global Aggregate Index.

# Total Fund

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

Period Ending: December 31, 2015

### Attribution Effects Last Three Months



### Performance Attribution

	Quarter	Fiscal YTD	1 Yr
Wtd. Actual Return	1.70%	-3.92%	-2.54%
Wtd. Index Return *	1.67%	-2.49%	-2.06%
<b>Excess Return</b>	<b>0.03%</b>	<b>-1.42%</b>	<b>-0.48%</b>
Selection Effect	0.00%	-1.68%	-0.73%
Allocation Effect	0.07%	0.21%	0.24%
Interaction Effect	-0.03%	0.04%	0.01%

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

### Attribution Summary Last Three Months

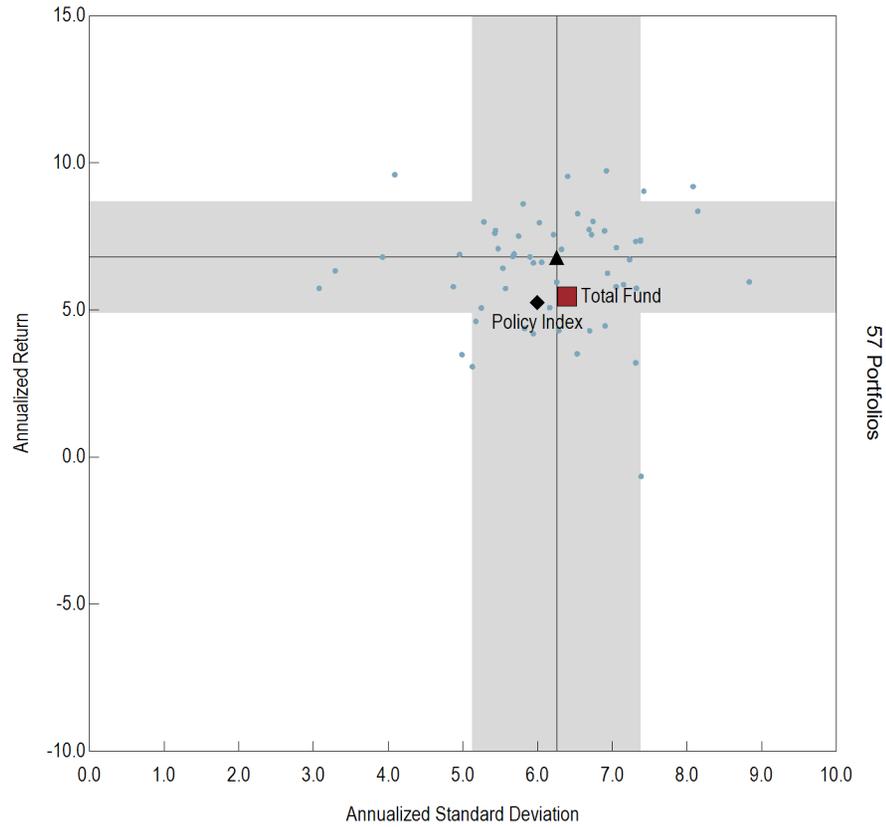
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Domestic Equity	6.44%	6.27%	0.17%	0.05%	0.02%	0.00%	0.07%
Total International Equity	3.87%	3.30%	0.57%	0.09%	-0.04%	0.00%	0.05%
Total Fixed Income	-0.82%	-0.93%	0.11%	0.05%	0.06%	0.01%	0.11%
Total Real Estate	1.35%	3.34%	-1.99%	-0.10%	0.03%	-0.05%	-0.12%
Total Hedge Funds	0.13%	0.73%	-0.60%	-0.02%	0.00%	0.00%	-0.03%
Total Commodities	-5.10%	-10.52%	5.41%	0.17%	0.08%	-0.03%	0.21%
Total Private Equity	0.09%	6.92%	-6.83%	-0.24%	-0.04%	0.05%	-0.23%
Total Private Credit	-0.30%	-0.31%	0.01%	0.00%	0.00%	0.00%	0.00%
Total Cash	0.00%	0.03%	-0.02%	0.00%	-0.03%	0.00%	-0.03%
<b>Total</b>	<b>1.70%</b>	<b>1.67%</b>	<b>0.03%</b>	<b>0.00%</b>	<b>0.07%</b>	<b>-0.03%</b>	<b>0.04%</b>

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

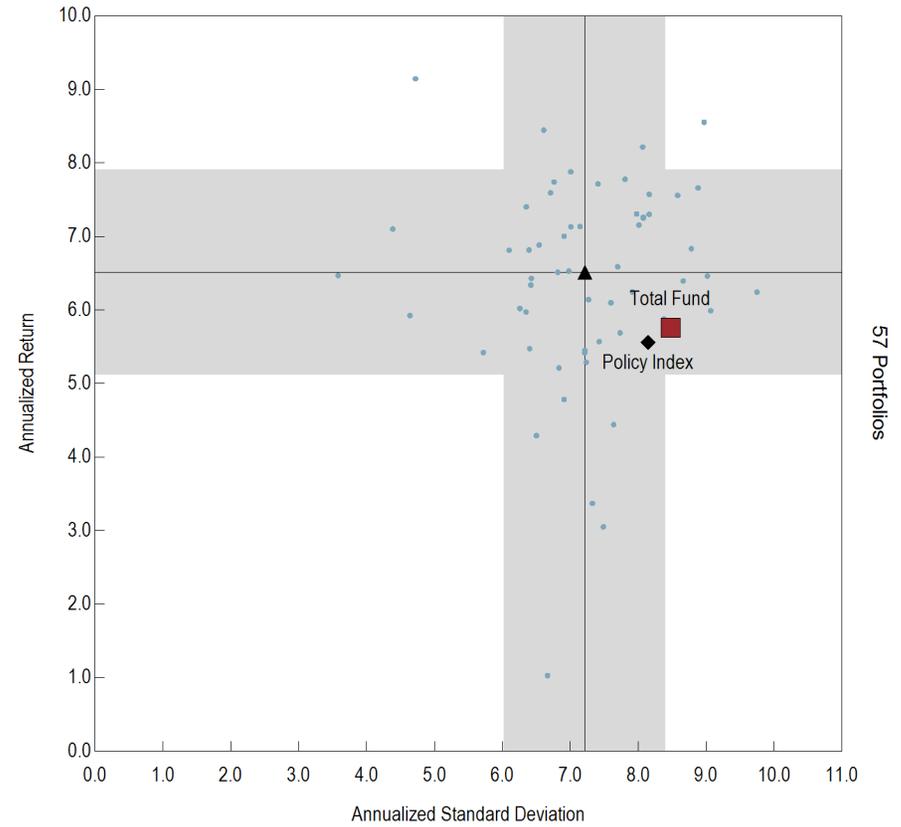
Total Fund  
Risk Analysis (Net of Fees)

Period Ending: December 31, 2015

3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Total Fund	5.4%	6.4%	0.8
Policy Index	5.3%	6.0%	0.9
InvestorForce Public DB > \$1B Net Median	6.8%	6.3%	1.1

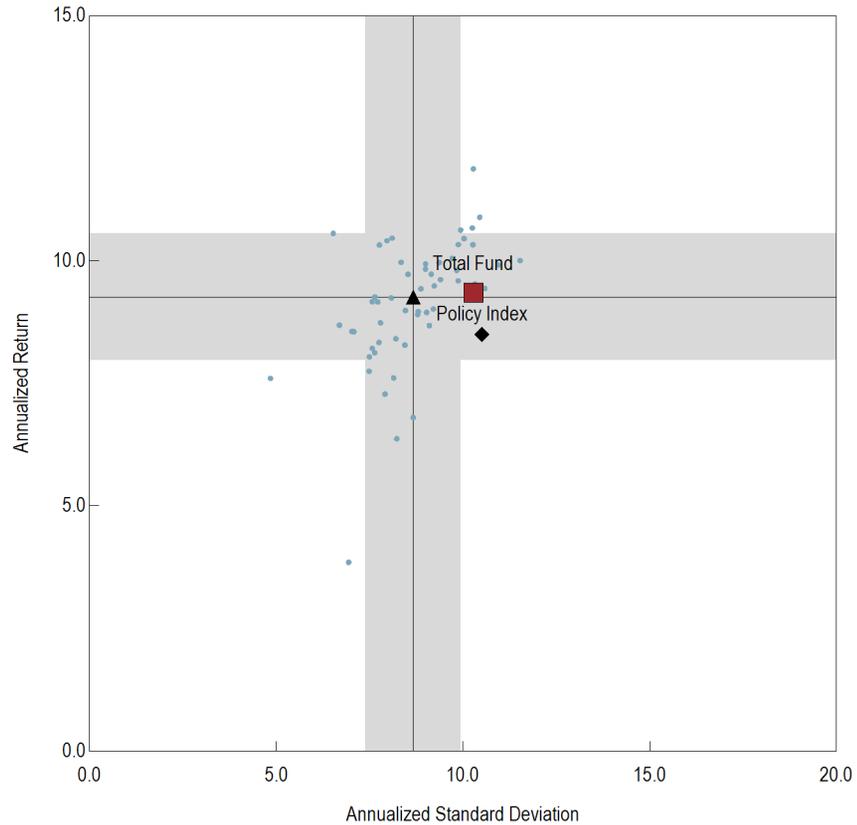
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Total Fund	5.8%	8.5%	0.7
Policy Index	5.6%	8.1%	0.7
InvestorForce Public DB > \$1B Net Median	6.5%	7.2%	0.9

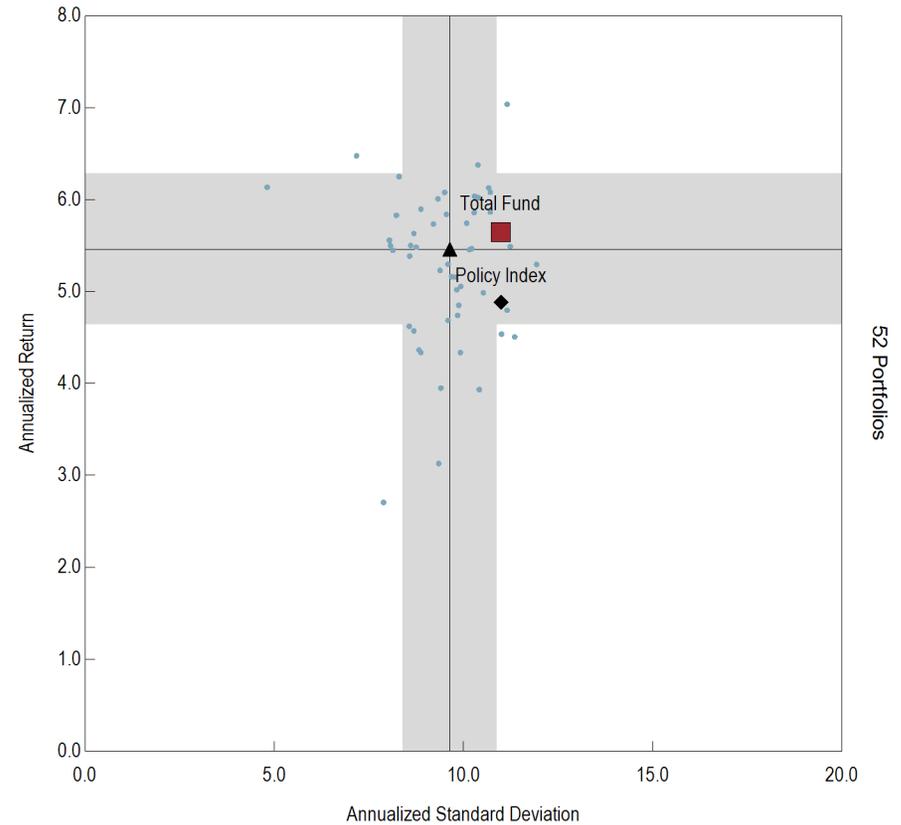
Total Fund  
Risk Analysis (Net of Fees)

Period Ending: December 31, 2015

7 Years



10 Years



7 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Total Fund	9.4%	10.3%	0.9
Policy Index	8.5%	10.5%	0.8
InvestorForce Public DB > \$1B Net Median	9.3%	8.7%	1.0

10 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Total Fund	5.6%	11.0%	0.4
Policy Index	4.9%	11.0%	0.3
InvestorForce Public DB > \$1B Net Median	5.5%	9.6%	0.4

Total Fund  
Risk Analysis (Net of Fees)

Period Ending: December 31, 2015

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	6.39%	-0.04%	1.04	0.96	103.34%	101.74%	0.14	1.35%	0.85	1.01
Total Domestic Equity	10.40%	-0.24%	1.04	0.97	103.58%	104.94%	0.22	1.75%	1.45	1.52
Total International Equity	11.99%	0.37%	1.00	0.97	98.63%	94.82%	0.19	2.02%	0.19	0.22
Total Domestic Fixed Income	3.24%	-0.16%	0.96	0.71	81.68%	80.25%	-0.12	1.75%	0.37	0.64
Total Real Estate	1.45%	10.05%	0.10	0.00	81.23%	--	-1.43	1.63%	7.89	--
Total Hedge Funds	3.20%	0.61%	0.76	0.81	84.95%	67.12%	-0.19	1.67%	1.12	1.37
Total Alternative Illiquids	6.86%	0.09%	0.46	0.44	42.65%	56.97%	-1.27	7.40%	1.19	2.29

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	8.47%	0.03%	1.03	0.98	104.99%	104.12%	0.17	1.20%	0.67	0.76
Total Domestic Equity	14.51%	-0.85%	1.07	0.99	106.37%	111.05%	0.00	1.87%	0.84	0.89
Total International Equity	14.72%	0.92%	0.97	0.99	101.17%	94.70%	0.48	1.83%	0.16	0.19
Total Domestic Fixed Income	3.14%	1.60%	0.71	0.42	112.12%	80.25%	0.27	2.53%	1.23	2.04
Total Real Estate	2.43%	2.54%	0.59	0.08	73.14%	--	-1.28	2.38%	4.35	--
Total Hedge Funds	2.69%	1.70%	0.47	0.63	71.89%	31.79%	0.21	2.88%	0.98	1.55
Total Alternative Illiquids	6.80%	3.64%	0.33	0.43	40.95%	38.25%	-0.61	10.42%	1.25	1.76

Total Fund  
Risk Analysis (Net of Fees)

Period Ending: December 31, 2015

7 Years

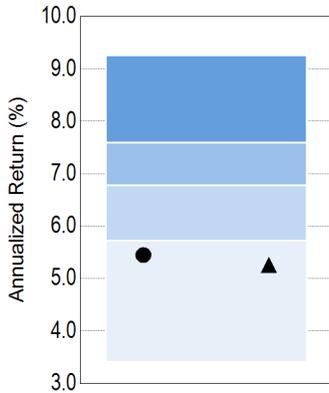
	Anlzd Standard Deviation	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio	Sortino Ratio
Total Fund	10.28%	1.13%	0.97	0.98	105.24%	93.79%	0.59	1.47%	0.90	1.48
Total Domestic Equity	16.69%	-0.11%	1.03	0.99	105.42%	103.58%	0.16	1.74%	0.91	1.39
Total International Equity	18.76%	1.02%	0.93	0.99	93.58%	93.11%	0.20	2.38%	0.45	0.77
Total Domestic Fixed Income	4.29%	2.71%	0.99	0.50	158.03%	66.95%	0.87	3.05%	1.55	3.55
Total Real Estate	8.41%	-0.65%	0.83	0.79	72.79%	88.74%	-0.42	4.10%	0.55	0.42
Total Hedge Funds	3.43%	1.94%	0.56	0.60	74.50%	32.21%	0.07	3.01%	1.18	2.70
Total Alternative Illiquids	7.28%	4.85%	0.31	0.47	31.27%	32.96%	-0.61	12.42%	1.41	2.35

10 Years

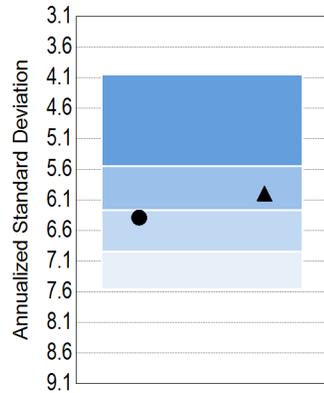
	Anlzd Standard Deviation	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio	Sortino Ratio
Total Fund	10.98%	0.80%	0.99	0.98	107.43%	97.44%	0.55	1.37%	0.41	0.70
Total Domestic Equity	--	--	--	--	--	--	--	--	--	--
Total International Equity	--	--	--	--	--	--	--	--	--	--
Total Domestic Fixed Income	--	--	--	--	--	--	--	--	--	--
Total Real Estate	--	--	--	--	--	--	--	--	--	--
Total Hedge Funds	6.11%	1.19%	0.81	0.86	84.75%	69.52%	0.28	2.65%	0.30	0.42
Total Alternative Illiquids	10.37%	3.48%	0.45	0.57	41.35%	58.52%	-0.17	11.57%	0.66	0.87

Total Fund vs. InvestorForce Public DB > \$1B Net Universe

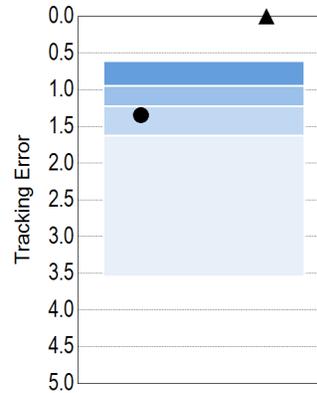
Annualized Return



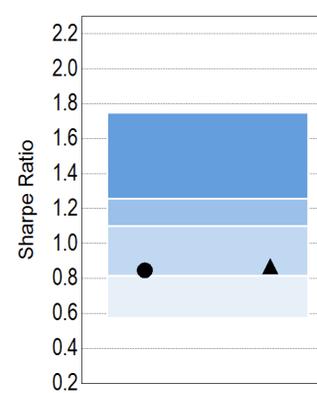
Annualized Standard Deviation



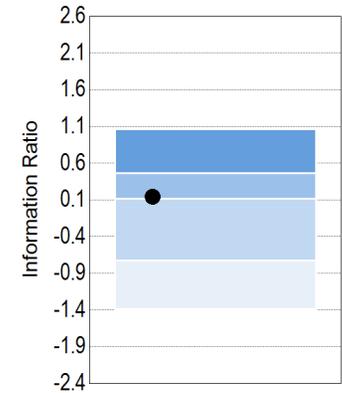
Tracking Error



Sharpe Ratio



Information Ratio



● Total Fund  
Value 5.4  
%tile 77  
▲ Policy Index  
Value 5.3  
%tile 78

● Total Fund  
Value 6.4  
%tile 57  
▲ Policy Index  
Value 6.0  
%tile 43

● Total Fund  
Value 1.3  
%tile 61  
▲ Policy Index  
Value 0.0  
%tile 1

● Total Fund  
Value 0.8  
%tile 73  
▲ Policy Index  
Value 0.9  
%tile 72

● Total Fund  
Value 0.1  
%tile 50  
▲ Policy Index  
Value --  
%tile --

Universe  
5th %tile 9.3  
25th %tile 7.6  
Median 6.8  
75th %tile 5.7  
95th %tile 3.4

Universe  
5th %tile 4.1  
25th %tile 5.5  
Median 6.3  
75th %tile 6.9  
95th %tile 7.6

Universe  
5th %tile 0.6  
25th %tile 0.9  
Median 1.2  
75th %tile 1.6  
95th %tile 3.5

Universe  
5th %tile 1.7  
25th %tile 1.3  
Median 1.1  
75th %tile 0.8  
95th %tile 0.6

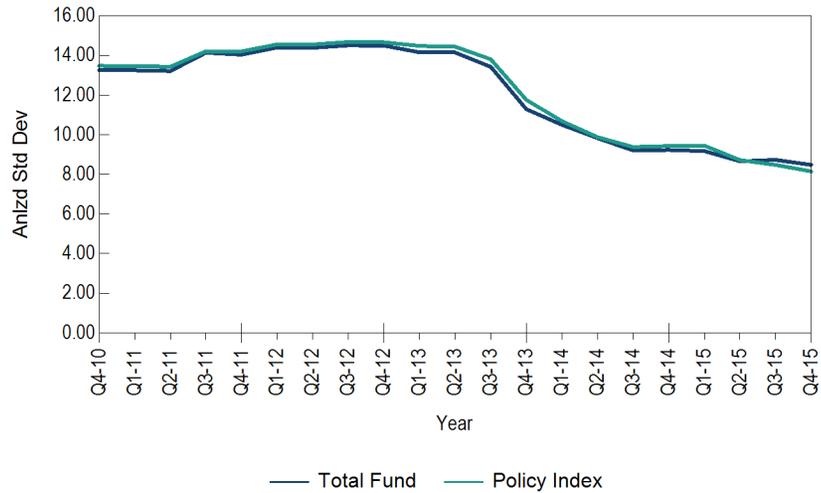
Universe  
5th %tile 1.1  
25th %tile 0.5  
Median 0.1  
75th %tile -0.7  
95th %tile -1.4

Total Fund vs. InvestorForce Public DB > \$1B Net Universe

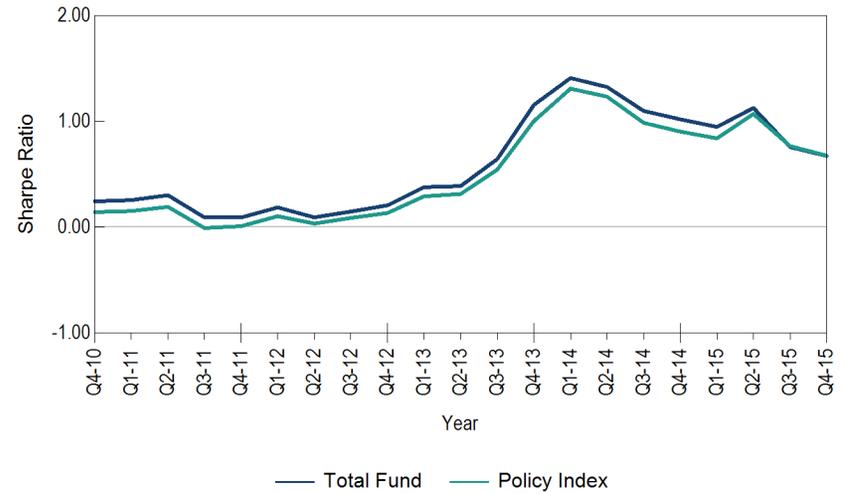


Metric	Total Fund Value	Total Fund %tile	Policy Index Value	Policy Index %tile	Universe 5th %tile	Universe 25th %tile	Universe Median	Universe 75th %tile	Universe 95th %tile
Annualized Return	5.8	77	5.6	79	8.3	7.3	6.5	5.9	4.1
Annualized Standard Deviation	8.5	87	8.1	82	4.7	6.5	7.2	8.0	9.0
Tracking Error	1.2	43	0.0	1	0.6	1.0	1.3	1.6	3.1
Sharpe Ratio	0.7	89	0.7	89	1.3	1.0	0.9	0.7	0.6
Information Ratio	0.2	43	--	--	0.8	0.4	0.0	-0.3	-0.9

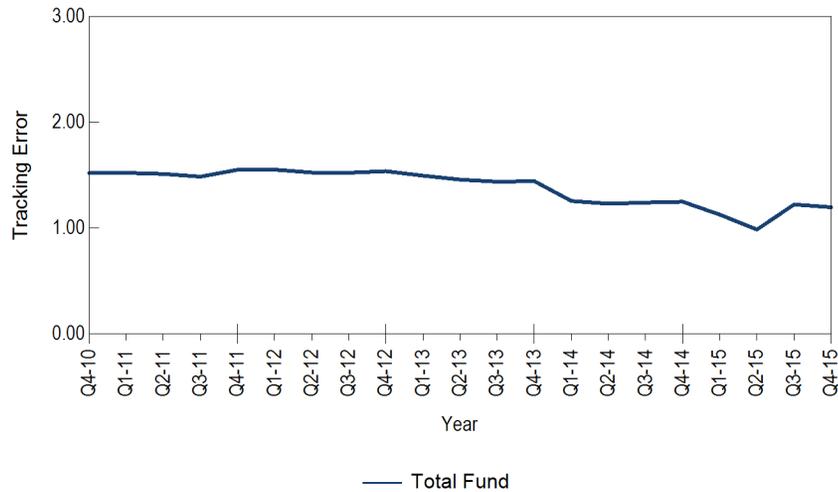
Rolling 5 Year Annualized Standard Deviation



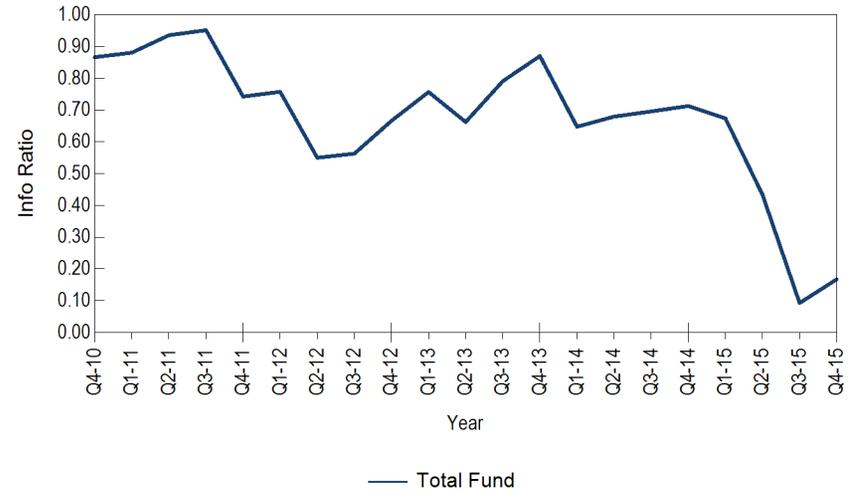
Rolling 5 Year Sharpe Ratio



Rolling 5 Year Tracking Error



Rolling 5 Year Information Ratio



Total Fund  
Performance Summary (Net of Fees)

Period Ending: December 31, 2015

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2015	2014	2013	2012	2011	Return	Since
<b>Total Fund</b>	<b>3,858,124,906</b>	<b>100.0</b>	<b>1.7</b>	<b>-3.9</b>	<b>-2.5</b>	<b>5.4</b>	<b>5.8</b>	<b>5.6</b>	<b>-2.5</b>	<b>3.5</b>	<b>16.3</b>	<b>13.1</b>	<b>-0.2</b>		
<i>Policy Index</i>			1.8	-2.3	-1.7	5.3	5.6	4.9	-1.7	2.6	15.6	12.3	0.1		
<b>Total Domestic Equity</b>	<b>869,401,845</b>	<b>22.5</b>	<b>6.4</b>	<b>-1.7</b>	<b>1.5</b>	<b>15.1</b>	<b>12.2</b>	<b>--</b>	<b>1.5</b>	<b>9.8</b>	<b>36.8</b>	<b>15.8</b>	<b>0.6</b>		
<i>Russell 3000</i>			6.3	-1.4	0.5	14.7	12.2	--	0.5	12.6	33.6	16.4	1.0		
SSgA S&P 500 Flagship Fund	236,428,050	6.1	7.1	0.2	1.4	15.1	12.6	7.3	1.4	13.7	32.4	16.0	2.1	7.4	Mar-04
<i>S&amp;P 500</i>			7.0	0.2	1.4	15.1	12.6	7.3	1.4	13.7	32.4	16.0	2.1	7.4	Mar-04
Waddell & Reed	260,145,206	6.7	7.8	1.9	6.7	18.0	13.6	--	6.7	12.7	36.6	12.3	2.7	13.6	Dec-10
<i>Russell 1000 Growth</i>			7.3	1.6	5.7	16.8	13.5	--	5.7	13.0	33.5	15.3	2.6	13.6	Dec-10
Aronson Johnson Ortiz	242,172,971	6.3	5.4	-3.0	-0.1	14.7	12.6	6.8	-0.1	9.6	38.0	17.0	2.4	10.5	Dec-95
<i>Russell 1000 Value</i>			5.6	-3.2	-3.8	13.1	11.3	6.2	-3.8	13.5	32.5	17.5	0.4	8.5	Dec-95
Systematic Small/Mid Cap Value	68,337,408	1.8	5.6	-6.9	-1.1	12.2	9.6	--	-1.1	4.0	37.2	17.6	-4.7	11.5	Oct-10
<i>Russell 2500 Value</i>			2.8	-7.1	-5.5	10.5	9.2	--	-5.5	7.1	33.3	19.2	-3.4	11.3	Oct-10
Kalmar Investments Management	62,318,210	1.6	3.8	-10.8	-6.6	8.4	7.9	7.3	-6.6	-5.3	43.9	13.9	0.9	7.4	Nov-04
<i>Russell 2000 Growth</i>			4.3	-9.3	-1.4	14.3	10.7	8.0	-1.4	5.6	43.3	14.6	-2.9	7.9	Nov-04
<b>Total International Equity</b>	<b>682,303,682</b>	<b>17.7</b>	<b>3.9</b>	<b>-9.5</b>	<b>-7.5</b>	<b>2.3</b>	<b>2.4</b>	<b>--</b>	<b>-7.5</b>	<b>-2.5</b>	<b>18.7</b>	<b>19.0</b>	<b>-11.7</b>		
<i>MSCI ACWI ex USA Gross</i>			3.3	-9.2	-5.3	1.9	1.5	--	-5.3	-3.4	15.8	17.4	-13.3		
Artisan International Growth	174,727,748	4.5	7.5	-5.8	-2.2	--	--	--	-2.2	-0.1	--	--	--	5.7	Apr-13
<i>MSCI EAFE</i>			4.7	-6.0	-0.8	--	--	--	-0.8	-4.9	--	--	--	3.6	Apr-13
Research Affiliates International Equity	153,560,093	4.0	3.2	-8.9	-5.9	4.5	--	--	-5.9	-5.8	28.9	18.5	--	1.6	Apr-11
<i>MSCI EAFE</i>			4.7	-6.0	-0.8	5.0	--	--	-0.8	-4.9	22.8	17.3	--	1.9	Apr-11
Mondrian International Small Cap	121,752,696	3.2	7.0	-3.6	2.7	4.6	5.5	--	2.7	-4.9	17.3	24.7	-8.8	9.9	Nov-09
<i>S&amp;P Developed Ex-U.S. SmallCap</i>			5.2	-3.0	5.9	8.8	5.5	--	5.9	-3.4	26.1	18.6	-14.5	8.4	Nov-09
Mondrian Emerging Markets	232,263,145	6.0	0.2	-15.1	-16.3	-8.0	-3.5	4.0	-16.3	0.0	-7.1	22.3	-12.0	4.4	Nov-05
<i>MSCI Emerging Markets</i>			0.7	-17.4	-14.9	-6.8	-4.8	3.6	-14.9	-2.2	-2.6	18.2	-18.4	4.2	Nov-05
<b>Total Fixed Income</b>	<b>1,539,122,590</b>	<b>39.9</b>	<b>-0.8</b>	<b>-3.5</b>	<b>-4.5</b>	<b>-0.3</b>	<b>3.0</b>	<b>--</b>	<b>-4.5</b>	<b>5.0</b>	<b>-1.1</b>	<b>9.6</b>	<b>6.6</b>		
<i>Barclays Aggregate*</i>			-0.9	-0.1	-3.2	-1.7	1.3	--	-3.2	0.0	-2.0	4.2	7.8		
Western Asset Investment Grade Credit	201,765,338	5.2	0.4	0.1	-0.5	--	--	--	-0.5	--	--	--	--	1.0	Oct-14
<i>Barclays Credit</i>			-0.5	0.0	-0.8	--	--	--	-0.8	--	--	--	--	0.8	Oct-14
Loomis Sayles High Yield	194,705,640	5.0	-1.7	-7.5	-5.2	--	--	--	-5.2	--	--	--	--	-4.2	Oct-14
<i>Barclays High Yield</i>			-2.1	-6.8	-4.5	--	--	--	-4.5	--	--	--	--	-4.4	Oct-14
Eaton Vance Senior Loan Fund	198,110,302	5.1	-1.8	-2.9	-0.8	--	--	--	-0.8	--	--	--	--	-0.7	Oct-14
<i>S&amp;P/LSTA Leveraged Loan Index</i>			-2.1	-3.4	-0.7	--	--	--	-0.7	--	--	--	--	-1.0	Oct-14
SSgA TIPS	153,258,425	4.0	-0.7	-1.8	-1.5	-2.3	2.5	--	-1.5	3.6	-8.6	6.9	13.2	4.4	Feb-09
<i>Barclays US TIPS</i>			-0.6	-1.8	-1.4	-2.3	2.5	--	-1.4	3.6	-8.6	7.0	13.6	4.5	Feb-09

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

Total Fund  
Performance Summary (Net of Fees)

Period Ending: December 31, 2015

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2015	2014	2013	2012	2011	Return	Since
Barclays U.S. Aggregate Index Fund	370,975,033	9.6	-0.6	0.6	0.6	--	--	--	0.6	--	--	--	--	2.3	Apr-14
<i>Barclays Aggregate</i>			-0.6	0.7	0.6	--	--	--	0.6	--	--	--	--	2.2	Apr-14
Brandywine Global Sovereign	270,261,253	7.0	-0.6	-4.9	--	--	--	--	--	--	--	--	--	-10.2	Jan-15
<i>Citi WGBI</i>			-1.2	0.5	--	--	--	--	--	--	--	--	--	-3.3	Jan-15
PIMCO Emerging Local Bond Ins	150,046,600	3.9	-0.9	-12.1	-16.3	--	--	--	-16.3	-5.4	--	--	--	-9.9	Jul-13
<i>JP Morgan GBI EM Global Diversified TR USD</i>			0.0	-10.6	-14.9	--	--	--	-14.9	-5.7	--	--	--	-9.3	Jul-13
<b>Total Real Estate</b>	<b>286,673,146</b>	<b>7.4</b>	<b>1.3</b>	<b>3.9</b>	<b>10.5</b>	<b>11.5</b>	<b>10.6</b>	<b>--</b>	<b>10.5</b>	<b>12.1</b>	<b>11.8</b>	<b>8.0</b>	<b>10.7</b>		
<i>NCREIF-ODCE</i>			3.3	7.1	15.0	13.8	13.7	--	15.0	12.5	13.9	10.9	16.0		
Invesco Core Real Estate	138,060,360	3.6	2.3	5.1	13.7	12.8	12.4	--	13.7	11.4	13.4	7.7	15.9	3.6	Oct-07
<i>NCREIF-ODCE</i>			3.3	7.1	15.0	13.8	13.7	--	15.0	12.5	13.9	10.9	16.0	4.4	Oct-07
IFM Infrastructure	124,331,404	3.2	0.6	2.6	--	--	--	--	--	--	--	--	--	3.8	May-15
<i>CPI + 5%</i>			0.6	1.6	--	--	--	--	--	--	--	--	--	3.3	May-15
<b>Total Hedge Funds</b>	<b>150,737,684</b>	<b>3.9</b>	<b>0.1</b>	<b>-2.3</b>	<b>0.1</b>	<b>3.6</b>	<b>2.7</b>	<b>3.0</b>	<b>0.1</b>	<b>3.1</b>	<b>7.8</b>	<b>2.2</b>	<b>0.4</b>		
<i>HFRI Fund of Funds Composite Index</i>			0.7	-2.9	-0.3	3.9	2.1	2.3	-0.3	3.4	9.0	4.8	-5.7		
Grosvenor	150,737,684	3.9	0.1	-2.3	0.1	6.1	4.5	--	0.1	3.5	15.2	8.6	-3.7	5.1	Oct-09
<i>HFRI Fund of Funds Composite Index</i>			0.7	-2.9	-0.3	3.9	2.1	--	-0.3	3.4	9.0	4.8	-5.7	2.9	Oct-09
<b>Total Commodities</b>	<b>88,774,253</b>	<b>2.3</b>	<b>-5.1</b>	<b>-14.7</b>	<b>-14.0</b>	<b>-13.5</b>	<b>-11.1</b>	<b>--</b>	<b>-14.0</b>	<b>-16.9</b>	<b>-9.4</b>	<b>-0.9</b>	<b>-13.2</b>		
<i>Bloomberg Commodity Index TR USD</i>			-10.5	-23.5	-24.7	-17.3	-13.5	--	-24.7	-17.0	-9.5	-1.1	-13.3		
Invesco Commodities	88,774,253	2.3	-5.1	-14.7	--	--	--	--	--	--	--	--	--	-13.5	May-15
<i>Bloomberg Commodity Index TR USD</i>			-10.5	-23.5	--	--	--	--	--	--	--	--	--	-22.1	May-15

Real Estate  
Closed End Funds (Net of Fees)

Period Ending: December 31, 2015

Real Estate - Closed End Funds											
Inception Date	Manager Name/Fund Name	% of Portfolio	Total Commitment	Contributions	Distributions	Market Value	One Quarter Return	One Year Return	Three Years Return	Five Years Return	(IRR) Since Inception
2016	Kennedy Wilson Real Estate Fund V	N/A	\$30,000,000	\$0	\$0	N/A	N/A	N/A	N/A	N/A	N/A
2016	Gerding Edlen Green Cities III	N/A	\$20,000,000	\$0	\$0	N/A	N/A	N/A	N/A	N/A	N/A
2009	TA Realty IX*	0.6%	\$30,000,000	\$30,000,000	\$20,920,174	\$24,281,382	0.0%	12.3%	12.4%	13.0%	23.2%

**% of Total Fund (Market Value)**

**0.6%**

\*Balance: 9/30 market value less distributions in 4Q. IRR as of 9/30/2015.

# Total Alternative Illiquids Non Marketable Securities Overview

Period Ending: December 31, 2015

Vintage Year	Manager Name/Fund Name	Estimated Market Value as of 12/31/15 <sup>3</sup>	Verus Internal Analysis							Manager Reported		
			Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Distrib./ Paid-In (DPI) <sup>1</sup>	Tot. Value/ Paid-In (TVPI) <sup>2</sup>	Market Value as of IRR Date	Net IRR Since Inception <sup>6</sup>	IRR Date
<b>Private Equity</b>												
2016	Hamilton Lane PE Fund IX	N/A	\$70,000,000	\$0	0%	\$70,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2015	Warburg Pincus XII	N/A	\$34,000,000	\$0	0%	\$34,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2008	Landmark Equity XIV, L.P.	\$16,570,514	\$30,000,000	\$27,605,921	92%	\$2,394,079	\$21,704,162	78.6%	138.6%	\$17,658,916	16.2%	06/30/15
2007	New Mountain Partners III	\$12,936,168	\$15,000,000	\$14,841,516	99%	\$158,484 <sup>7</sup>	\$9,539,291	64.3%	151.4%	\$13,594,875	11.0%	09/30/15
2007	Hamilton Lane VI	\$37,829,947	\$70,000,000	\$61,906,262	88%	\$8,093,738	\$54,435,589	87.9%	149.0%	\$37,829,947	9.9%	12/31/15
2007	WP Private Equity X, L.P.	\$15,433,346	\$25,000,000	\$25,000,000	100%	\$0	\$19,666,114	78.7%	140.4%	\$15,433,346	7.7%	09/30/15
2002	Blackstone IV	\$5,141,712	\$20,000,000	\$22,337,303	112%	\$0 <sup>8</sup>	\$47,019,249	210.5%	233.5%	\$5,141,712	29.7%	09/30/15
2001	WP Private Equity VIII, L.P.	\$7,073,151	\$25,000,000	\$25,000,000	100%	\$0	\$49,916,250	199.7%	228.0%	\$7,073,151	14.7%	09/30/15
2000	Landmark Equity X, L.P.	\$980,518	\$20,000,000	\$19,009,543	95%	\$990,457	\$22,116,406	116.3%	121.5%	\$1,165,377	4.3%	06/30/15
1999	New Mountain Partners, L.P.	\$441,486	\$20,000,000	\$19,543,507	98%	\$456,493 <sup>9</sup>	\$26,966,378	138.0%	140.2%	\$441,486	12.2%	09/30/15
1998	WP Equity Partners, L.P. <sup>10</sup>	\$275,982	\$20,000,000	\$20,000,000	100%	\$0	\$32,790,907	164.0%	165.3%	\$275,982	10.3%	09/30/15
<b>Private Credit</b>												
2016	TSSP Adjacent Opportunities Partners <sup>14</sup>	N/A	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2015	GSO European Senior Debt	\$1,704,653	\$30,000,000	\$1,503,967	5%	\$28,496,033	\$0	0.0%	113.3%	N/A	N/A	N/A <sup>4</sup>
2015	CVI Credit Value Fund III	\$7,705,299	\$30,000,000	\$7,500,000	25%	\$22,500,000	\$0	0.0%	102.7%	\$7,705,299	8.1%	12/31/15
2014	Colony Distressed Credit III, L.P.	\$13,796,383	\$20,000,000	\$17,297,995	86%	\$2,702,005 <sup>11</sup>	\$4,401,881	25.4%	105.2%	\$7,577,000	13.0%	09/30/15
2012	Oaktree Opportunities IX, L.P.	\$14,039,163	\$15,000,000	\$15,000,000	100%	\$0	\$0	0.0%	93.6%	\$13,546,877	-4.0%	09/30/15
2010	KKR Mezzanine Partners	\$17,262,636	\$30,000,000	\$31,768,168	106%	\$0 <sup>12</sup>	\$20,102,448	63.3%	117.6%	\$19,771,366	8.2%	09/30/15
2010	Angelo Gordon VII	\$5,455,293	\$30,000,000	\$30,000,000	100%	\$0	\$30,842,620	102.8%	121.0%	\$5,455,293	4.9%	12/31/15
2009	Colony Distressed Credit I, L.P. <sup>13</sup>	\$7,806,883	\$40,000,000	\$44,487,400	111%	\$0	\$57,576,058	129.4%	147.0%	\$10,555,600	16.9%	09/30/15
2002	Lone Star Fund IV	\$141,663	\$20,000,000	\$19,045,199	95%	\$954,801	\$43,786,403	229.9%	230.7%	\$198,207	30.7%	09/30/15
2002	TCW Shop IV	\$9,450	\$15,000,000	\$22,661,307	151%	\$0	\$27,613,153	121.9%	121.9%	\$9,450	6.0%	12/31/14
1998	TCW Shop III	\$565,140	\$15,000,000	\$15,000,000	100%	\$0	\$17,925,302	119.5%	123.3%	\$565,140	3.4%	12/31/13
<b>Total Alternative Illiquids</b>		<b>\$165,169,387</b>	\$624,000,000	\$439,508,087	70%	\$200,746,090	\$486,402,211	110.7%	148.3%			
<b>% of Portfolio (Market Value)</b>		<b>4.3%</b>										

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

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

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

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

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

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

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

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

<sup>9</sup>\$2,996,127 capital returned but subject to recall

<sup>10</sup>\$2,338,987 capital returned but subject to recall

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

<sup>12</sup>\$458,333 capital returned but subject to recall

<sup>13</sup>\$5,276,540 capital returned but subject to recall and \$879,385 return of unused capital subject to recall

<sup>14</sup>Colony Capital reflects a FCERA-specific IRR.

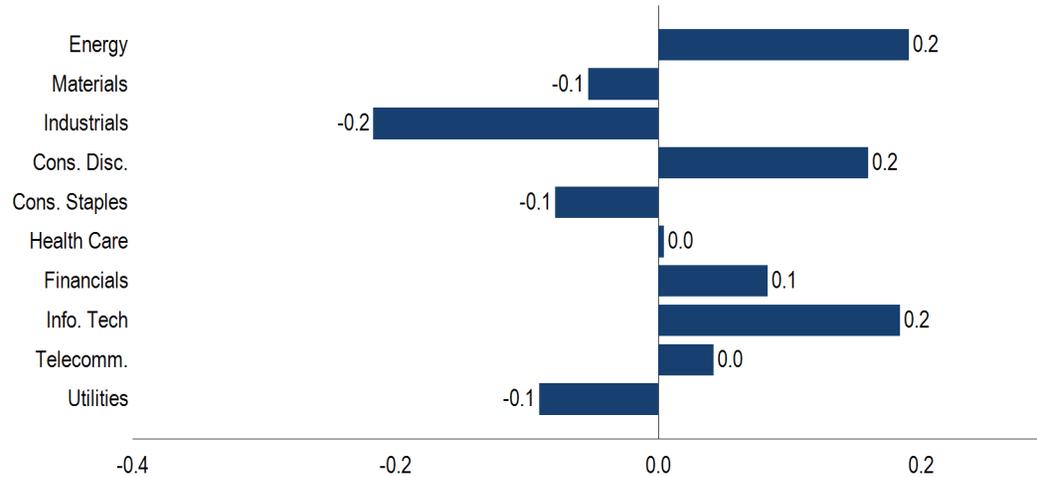
<sup>15</sup>TSSP commitment is pending legal review.

BCI Growth V, L.P. was fully liquidated on 12/31/2013.

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

Period Ending: December 31, 2015

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	6.58%	6.34%	0.23%	1.71%	-1.18%	2.88%	-0.03%	0.22%	0.19%	-0.47%	-0.28%
Materials	2.54%	3.13%	-0.59%	6.94%	8.42%	-1.47%	-0.02%	-0.04%	-0.05%	0.07%	0.01%
Industrials	10.73%	10.70%	0.03%	4.75%	6.83%	-2.08%	0.00%	-0.22%	-0.22%	0.06%	-0.16%
Consumer Discretionary	15.40%	13.69%	1.71%	5.53%	4.33%	1.20%	-0.03%	0.19%	0.16%	-0.27%	-0.11%
Consumer Staples	5.54%	8.68%	-3.14%	6.29%	7.21%	-0.92%	-0.02%	-0.06%	-0.08%	0.08%	0.00%
Health Care	15.94%	14.34%	1.60%	8.67%	8.81%	-0.14%	0.02%	-0.01%	0.00%	0.36%	0.37%
Financials	16.98%	18.23%	-1.25%	5.69%	5.28%	0.41%	0.01%	0.07%	0.08%	-0.18%	-0.10%
Information Technology	21.51%	19.53%	1.98%	9.32%	8.67%	0.66%	0.05%	0.14%	0.18%	0.47%	0.65%
Telecommunications Services	1.88%	2.17%	-0.29%	9.33%	7.00%	2.32%	0.00%	0.04%	0.04%	0.02%	0.06%
Utilities	2.90%	3.19%	-0.29%	-1.76%	1.92%	-3.68%	0.02%	-0.11%	-0.09%	-0.14%	-0.23%
<b>Total</b>				<b>6.49%</b>	<b>6.27%</b>	<b>0.22%</b>	<b>-0.01%</b>	<b>0.23%</b>	<b>0.22%</b>	<b>0.00%</b>	<b>0.22%</b>

Total Domestic Equity  
 Performance Attribution Summary (Net of Fees)

Period Ending: December 31, 2015

Portfolio: Total Domestic Equity	
Benchmark: Russell 3000	
Portfolio Total Return	6.44%
	Equity Only
Portfolio	6.49%
Benchmark	<u>6.27%</u>
Return From Active Mgmt	0.22%
Local Returns	
Portfolio	6.40%
Benchmark	<u>6.27%</u>
Active Equity Return	0.13%
Country Selection	-0.03%
Stock Selection	0.16%
Currency Contributions	
Portfolio	0.09%
Benchmark	<u>0.00%</u>
Active Currency Contributions	0.09%

Chart uses return-based methodology

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

Period Ending: December 31, 2015

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	2.91%	4.68%	-1.77%	9.63%	10.31%	-0.68%	-0.10%	-0.01%	-0.02%	-0.06%
AUSTRIA	0.14%	0.13%	0.01%	8.08%	6.77%	1.32%	0.00%	0.00%	0.00%	0.00%
BELGIUM	1.21%	0.98%	0.22%	10.96%	13.60%	-2.63%	-0.01%	0.02%	-0.03%	-0.01%
BRAZIL	1.70%	1.22%	0.48%	-4.39%	-3.11%	-1.28%	-0.08%	-0.05%	-0.04%	0.00%
CANADA	2.91%	6.42%	-3.50%	-1.88%	-4.72%	2.83%	0.43%	0.22%	0.08%	0.13%
CHILE	1.00%	0.26%	0.73%	-2.37%	-0.93%	-1.45%	-0.05%	-0.03%	-0.02%	0.00%
CHINA	2.33%	4.70%	-2.37%	19.44%	4.71%	14.73%	0.35%	0.00%	0.35%	0.00%
COLOMBIA	0.11%	0.11%	0.00%	-16.09%	-7.23%	-8.86%	-0.01%	0.00%	-0.01%	0.00%
CZECH REPUBLIC	0.00%	0.04%	-0.04%	--	-11.21%	11.21%	0.01%	0.01%	0.00%	0.00%
DENMARK	0.88%	1.36%	-0.48%	9.25%	6.79%	2.46%	0.02%	-0.01%	0.02%	0.01%
EGYPT	0.00%	0.05%	-0.05%	--	-7.80%	7.80%	0.01%	0.01%	0.00%	0.00%
FINLAND	0.13%	0.64%	-0.50%	11.47%	9.64%	1.83%	-0.02%	-0.04%	0.00%	0.01%
FRANCE	5.45%	7.36%	-1.91%	1.36%	1.81%	-0.44%	0.03%	0.00%	-0.02%	0.05%
GERMANY	7.38%	6.50%	0.88%	6.55%	7.61%	-1.07%	-0.05%	0.04%	-0.08%	-0.02%
GREECE	0.00%	0.05%	-0.05%	--	-11.59%	11.59%	0.01%	0.01%	0.00%	0.00%
HONG KONG	7.87%	2.36%	5.51%	1.75%	5.80%	-4.05%	-0.27%	0.05%	-0.33%	0.00%
HUNGARY	0.00%	0.05%	-0.05%	--	11.46%	-11.46%	0.00%	-0.01%	0.00%	0.00%
INDIA	3.96%	1.83%	2.14%	-3.97%	-0.63%	-3.34%	-0.24%	-0.09%	-0.14%	-0.01%
INDONESIA	1.13%	0.44%	0.69%	28.98%	20.65%	8.32%	0.20%	0.07%	0.08%	0.05%
IRELAND	0.30%	0.29%	0.01%	-0.87%	7.24%	-8.11%	-0.02%	0.00%	-0.03%	0.00%
ISRAEL	0.22%	0.47%	-0.25%	8.66%	10.01%	-1.35%	-0.02%	-0.01%	0.00%	0.00%
ITALY	1.38%	1.87%	-0.49%	-2.44%	-2.30%	-0.14%	0.06%	0.03%	0.01%	0.02%
JAPAN	6.89%	16.31%	-9.42%	15.37%	9.37%	6.00%	-0.01%	-0.47%	0.42%	0.03%
KAZAKHSTAN	0.12%	0.00%	0.12%	24.00%	7.76%	16.24%	0.02%	0.00%	0.02%	0.00%
KOREA	2.98%	3.18%	-0.20%	0.55%	4.32%	-3.78%	-0.12%	0.00%	-0.12%	0.00%
LUXEMBOURG	0.02%	0.00%	0.02%	-9.39%	3.28%	-12.67%	0.00%	0.00%	0.00%	0.00%

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

Period Ending: December 31, 2015

	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess USD Return	Active Return	Allocation Effect (Local)	Selection Effect (Local)	Currency Effect
MALAYSIA	2.07%	0.64%	1.43%	6.92%	7.82%	-0.89%	0.03%	0.01%	-0.01%	0.02%
MEXICO	2.87%	0.98%	1.89%	9.00%	-1.03%	10.03%	0.18%	-0.08%	0.28%	-0.02%
NETHERLANDS	2.02%	2.05%	-0.03%	0.33%	3.56%	-3.23%	-0.06%	0.00%	-0.07%	0.00%
NEW ZEALAND	0.46%	0.10%	0.36%	25.74%	18.22%	7.53%	0.08%	0.02%	0.03%	0.03%
NORWAY	0.30%	0.42%	-0.13%	0.19%	-1.53%	1.73%	0.01%	0.00%	0.01%	0.00%
PERU	0.00%	0.08%	-0.08%	--	-8.26%	8.26%	0.01%	0.01%	0.00%	0.00%
PHILIPPINES	0.67%	0.31%	0.36%	-7.39%	-0.19%	-7.20%	-0.07%	-0.02%	-0.05%	0.00%
POLAND	0.00%	0.32%	-0.32%	--	-12.95%	12.95%	0.06%	0.05%	0.00%	0.01%
PORTUGAL	0.05%	0.11%	-0.06%	-3.18%	4.48%	-7.66%	0.00%	0.00%	0.00%	0.00%
QATAR	1.10%	0.23%	0.86%	-0.81%	-9.59%	8.78%	-0.03%	-0.12%	0.09%	0.00%
ROMANIA	0.00%	0.00%	0.00%	-13.69%	-6.43%	-7.26%	-0.02%	0.00%	-0.02%	0.00%
RUSSIA	0.56%	0.80%	-0.23%	-8.58%	-4.56%	-4.03%	0.00%	0.00%	-0.07%	0.07%
SINGAPORE	2.20%	0.94%	1.26%	1.77%	4.25%	-2.48%	-0.07%	-0.01%	-0.06%	0.00%
SOUTH AFRICA	1.56%	1.60%	-0.05%	-21.20%	-10.59%	-10.61%	-0.17%	0.01%	-0.19%	0.02%
SPAIN	1.89%	2.55%	-0.66%	0.64%	-2.55%	3.19%	0.11%	0.02%	0.06%	0.03%
SWEDEN	1.15%	2.16%	-1.01%	4.54%	2.48%	2.06%	0.05%	0.02%	0.02%	0.01%
SWITZERLAND	4.90%	7.10%	-2.20%	3.42%	2.01%	1.41%	0.13%	0.01%	0.07%	0.04%
TAIWAN	5.12%	2.60%	2.52%	3.41%	1.34%	2.07%	0.02%	-0.09%	0.11%	0.01%
THAILAND	0.50%	0.47%	0.03%	-4.83%	-6.20%	1.36%	0.00%	-0.01%	0.01%	0.00%
TURKEY	0.85%	0.30%	0.55%	-4.99%	-0.26%	-4.73%	-0.06%	-0.04%	-0.04%	0.02%
UNITED ARAB EMIRATES	0.63%	0.17%	0.46%	-9.32%	-11.55%	2.22%	-0.06%	-0.07%	0.01%	0.00%
UNITED KINGDOM	14.17%	14.76%	-0.59%	3.15%	0.58%	2.57%	0.40%	0.00%	0.34%	0.07%
UNITED STATES	5.90%	0.00%	5.90%	4.33%	6.63%	-2.29%	-0.02%	0.11%	-0.13%	0.00%
	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>	<b>3.92%</b>	<b>3.28%</b>	<b>0.64%</b>	<b>0.64%</b>	<b>-0.45%</b>	<b>0.56%</b>	<b>0.53%</b>

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

Period Ending: December 31, 2015

Total International Equity vs. MSCI ACWI ex USA

Current Quarter

Currency Name	Portfolio Weight	Index Weight	Excess Weight	Currency Return	Portfolio Contrib.	Index Contrib.	Active Contrib.	Currency Effect
Australian Dollar	2.91%	4.68%	-1.77%	3.60%	3.81%	3.84%	-0.03%	-0.06%
Baht	0.50%	0.47%	0.03%	0.86%	0.81%	0.80%	0.01%	0.00%
Canadian Dollar	2.91%	6.42%	-3.50%	-3.48%	-3.28%	-3.44%	0.16%	0.13%
Chilean Peso	1.00%	0.26%	0.73%	-1.54%	-0.53%	-1.55%	1.02%	0.00%
Colombian Peso	0.11%	0.11%	0.00%	-2.75%	0.00%	-2.63%	2.63%	0.00%
Cruzeiro Real	1.70%	1.22%	0.48%	0.65%	0.74%	0.62%	0.12%	0.00%
Czech Koruna	0.00%	0.04%	-0.04%	-2.13%	0.00%	-1.93%	1.93%	0.00%
Danish Krone	0.88%	1.36%	-0.48%	-2.72%	-3.05%	-2.98%	-0.07%	0.01%
Egyptian Pound	0.00%	0.05%	-0.05%	0.00%	0.00%	0.00%	0.00%	0.00%
Emirati dirham	0.63%	0.17%	0.46%	0.00%	0.00%	0.00%	0.00%	0.00%
Euro	19.97%	22.53%	-2.56%	-2.68%	-2.83%	-2.80%	-0.03%	0.08%
Forint	0.00%	0.05%	-0.05%	-3.54%	0.00%	-4.09%	4.09%	0.00%
Hong Kong Dollar	7.87%	2.36%	5.51%	0.00%	0.00%	0.00%	0.00%	0.00%
Indian Rupee	3.96%	1.83%	2.14%	-0.78%	-0.65%	-0.78%	0.13%	-0.01%
Mexican New Peso	2.87%	0.98%	1.89%	-1.88%	-1.47%	-1.89%	0.43%	-0.02%
New Sol	0.00%	0.08%	-0.08%	-5.58%	0.00%	0.00%	0.00%	0.00%
New Taiwan Dollar	5.12%	2.60%	2.52%	0.25%	0.25%	0.25%	0.01%	0.01%
New Zealand Dollar	0.46%	0.10%	0.36%	7.02%	8.25%	7.75%	0.49%	0.03%
New Zloty	0.00%	0.32%	-0.32%	-3.71%	0.00%	-3.35%	3.35%	0.01%
Norwegian Krone	0.30%	0.42%	-0.13%	-3.63%	-3.78%	-3.71%	-0.07%	0.00%
Philippines Peso	0.67%	0.31%	0.36%	-0.67%	0.00%	-0.67%	0.67%	0.00%
Pound Sterling	14.17%	14.76%	-0.59%	-2.70%	-2.99%	-2.78%	-0.21%	0.07%
Qatari rial	1.10%	0.23%	0.86%	-0.01%	-0.01%	-0.01%	0.00%	0.00%
Rand	1.56%	1.60%	-0.05%	-10.77%	-9.51%	-10.79%	1.28%	0.02%
Ringgit (Malaysian Dollar)	2.07%	0.64%	1.43%	2.38%	2.07%	2.55%	-0.48%	0.02%

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

Period Ending: December 31, 2015

Currency Name	Portfolio Weight	Index Weight	Excess Weight	Currency Return	Portfolio Contrib.	Index Contrib.	Active Contrib.	Currency Effect
Rupiah	1.13%	0.44%	0.69%	6.27%	7.62%	7.12%	0.49%	0.05%
Russian Federation Rouble	0.56%	0.80%	-0.23%	-10.17%	0.00%	-8.67%	8.67%	0.07%
Shekel	0.22%	0.47%	-0.25%	0.87%	0.49%	0.95%	-0.46%	0.00%
Singapore Dollar	2.20%	0.94%	1.26%	0.23%	0.23%	0.23%	0.00%	0.00%
South Korean Won	2.98%	3.18%	-0.20%	1.09%	1.08%	1.13%	-0.05%	0.00%
Swedish Krona	1.15%	2.16%	-1.01%	-0.52%	-0.54%	-0.53%	-0.01%	0.01%
Swiss Franc	4.90%	7.10%	-2.20%	-2.39%	-2.53%	-2.49%	-0.04%	0.04%
Tenge	0.12%	0.00%	0.12%	-20.15%	0.00%	-1.58%	1.58%	0.00%
Turkish Lira	0.85%	0.30%	0.55%	3.73%	3.42%	3.59%	-0.17%	0.02%
US Dollar	5.90%	0.00%	5.90%	0.00%	-0.04%	-1.58%	1.53%	0.00%
Yen	6.89%	16.31%	-9.42%	-0.44%	-0.51%	-0.48%	-0.03%	0.03%
Yuan Renminbi	2.33%	4.70%	-2.37%	-2.10%	0.00%	0.00%	0.00%	0.00%
	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>		<b>-1.14%</b>	<b>-1.58%</b>	<b>0.44%</b>	<b>0.53%</b>

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

Period Ending: December 31, 2015

Total International Equity vs. MSCI ACWI ex USA  
Current Quarter

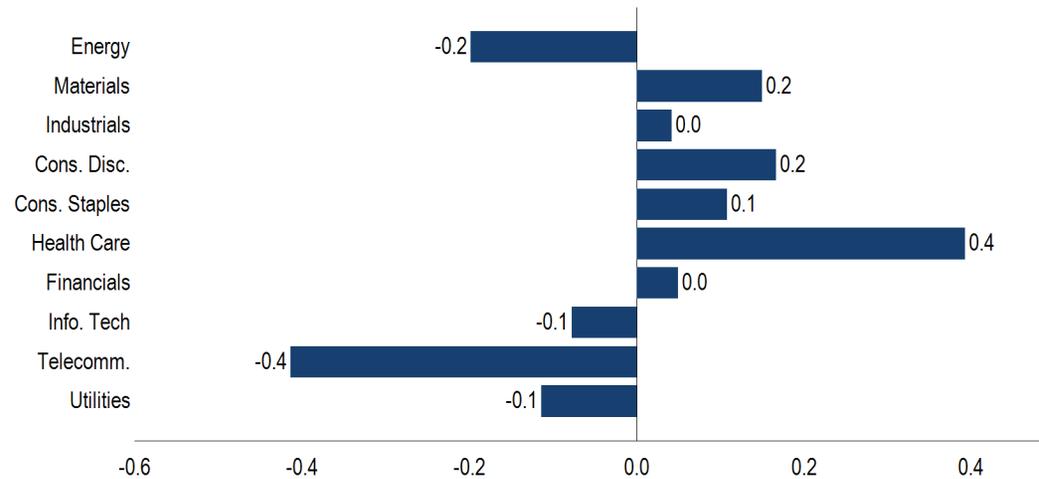
Region	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess USD Return	Allocation Effect (Local)	Selection Effect (Local)	Active Contrib.	Passive Contrib.	Total Contrib.
North America ex U.S.	2.91%	6.42%	-3.50%	-1.88%	-4.72%	2.83%	0.22%	0.21%	0.43%	-0.51%	-0.08%
United States	5.90%	0.00%	5.90%	4.33%	--	--	0.00%	-0.02%	-0.02%	0.00%	-0.02%
Europe Ex U.K.	27.19%	33.57%	-6.38%	3.71%	3.26%	0.45%	-0.07%	0.30%	0.22%	0.00%	0.22%
United Kingdom	14.17%	14.76%	-0.59%	3.15%	0.58%	2.57%	0.00%	0.40%	0.40%	-0.40%	0.01%
Pacific Basin Ex Japan	13.44%	8.08%	5.36%	4.39%	8.42%	-4.03%	0.08%	-0.43%	-0.35%	0.42%	0.07%
Japan	6.89%	16.31%	-9.42%	15.37%	9.37%	6.00%	-0.47%	0.46%	-0.01%	0.99%	0.98%
Emerging Markets	28.05%	20.15%	7.90%	2.00%	0.78%	1.22%	-0.26%	0.27%	0.01%	-0.50%	-0.49%
Other	1.44%	0.71%	0.73%	1.32%	3.50%	-2.18%	-0.02%	-0.03%	-0.04%	0.00%	-0.04%
<b>Total</b>				<b>3.92%</b>	<b>3.28%</b>	<b>0.64%</b>	<b>-0.52%</b>	<b>1.16%</b>	<b>0.64%</b>	<b>0.00%</b>	<b>0.64%</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	18.78%	14.17%	4.61%	4.72%	3.49%	1.23%	-0.08%	0.25%	0.18%	0.03%	0.20%
EM Latin America	5.68%	2.66%	3.03%	2.29%	-2.48%	4.77%	-0.22%	0.27%	0.05%	-0.15%	-0.10%
EM Europe & Middle East	1.41%	1.51%	-0.10%	-6.53%	-5.15%	-1.38%	0.01%	0.00%	0.00%	-0.13%	-0.13%
EM Africa	1.56%	1.65%	-0.09%	-21.20%	-10.53%	-10.66%	0.01%	-0.17%	-0.16%	-0.23%	-0.39%
Other	72.57%	80.01%	-7.44%	4.56%	3.88%	0.67%	-0.06%	0.63%	0.57%	0.48%	1.05%
<b>Total</b>				<b>3.92%</b>	<b>3.28%</b>	<b>0.64%</b>	<b>-0.34%</b>	<b>0.98%</b>	<b>0.64%</b>	<b>0.00%</b>	<b>0.64%</b>

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

Period Ending: December 31, 2015

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	4.80%	6.31%	-1.51%	-4.15%	-0.77%	-3.37%	0.05%	-0.13%	-0.09%	-0.26%	-0.34%
Materials	6.84%	6.70%	0.13%	2.24%	0.22%	2.01%	0.01%	0.14%	0.16%	-0.21%	-0.05%
Industrials	14.88%	11.11%	3.77%	4.43%	4.70%	-0.28%	0.06%	-0.12%	-0.06%	0.16%	0.10%
Consumer Discretionary	14.42%	11.88%	2.54%	6.71%	4.49%	2.23%	0.04%	0.27%	0.31%	0.14%	0.45%
Consumer Staples	8.88%	10.84%	-1.95%	4.97%	3.82%	1.15%	0.00%	0.13%	0.13%	0.06%	0.19%
Health Care	8.54%	9.61%	-1.07%	8.41%	3.55%	4.86%	0.02%	0.43%	0.45%	0.03%	0.47%
Financials	18.85%	27.30%	-8.45%	2.91%	2.51%	0.40%	0.09%	0.18%	0.28%	-0.21%	0.07%
Information Technology	9.98%	7.40%	2.59%	6.96%	8.49%	-1.53%	0.10%	-0.16%	-0.06%	0.39%	0.32%
Telecommunications Services	7.46%	5.26%	2.20%	-2.36%	2.61%	-4.97%	-0.01%	-0.40%	-0.41%	-0.04%	-0.45%
Utilities	5.35%	3.59%	1.76%	1.20%	1.44%	-0.24%	-0.04%	-0.03%	-0.07%	-0.07%	-0.14%
Unclassified	0.00%	0.00%	0.00%	7.71%	--	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%
<b>Total</b>				<b>3.92%</b>	<b>3.28%</b>	<b>0.64%</b>	<b>0.32%</b>	<b>0.32%</b>	<b>0.64%</b>	<b>0.00%</b>	<b>0.64%</b>

Total International Equity  
Performance Attribution Summary (Net of Fees)

Period Ending: December 31, 2015

Portfolio: Total International Equity	
Benchmark: MSCI ACWI ex USA	
Portfolio Total Return	3.87%
	Equity Only
Portfolio	3.92%
Benchmark	<u>3.28%</u>
Return From Active Mgmt	0.64%
Local Returns	
Portfolio	4.99%
Benchmark	<u>4.88%</u>
Active Equity Return	0.11%
Country Selection	-0.45%
Stock Selection	0.56%
Currency Contributions	
Portfolio	-1.14%
Benchmark	<u>-1.58%</u>
Active Currency Contributions	0.44%

Chart uses return-based methodology

Total Fund  
Watch List (Net of Fees)

Period Ending: December 31, 2015

Name	Allocation Group	Status	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5	Rule 6
Waddell & Reed	Domestic Equity Large Cap Growth	No Issues	R	R	✓	✓	✓	✓
Aronson Johnson Ortiz	Domestic Equity Large Cap Value	No Issues	✓	✓	✓	✓	✓	✓
Systematic Small/Mid Cap Value	Domestic Equity Small/Mid Cap Value	No Issues	✓	✓	✓	R	✓	✓
Kalmar Investments Management	Domestic Equity Small/Mid Cap Growth	No Issues	R	R	R	R	R	✓
Artisan International Growth	International Equity	No Issues	✓	✓	✓	✓	✓	R
Research Affiliates International Equity	International Equity	No Issues	R	R	R	R	R	✓
Mondrian International Small Cap	International Equity Small Cap	No Issues	R	R	R	R	R	✓
Mondrian Emerging Markets	Emerging Markets Equity	No Issues	✓	R	✓	R	R	✓

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, 2015

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	Watch	✗	✗	✗	✗	✗	✗
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 - 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  $(\frac{\text{five year return minus five year risk free rate}}{\text{standard deviation}})$ .

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

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

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

Total Fund  
Investment Fund Fee Analysis

Period Ending: December 31, 2015

Account	Fee Schedule	Market Value As of 12/31/2015	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
SSgA S&P 500 Flagship Fund	0.03% of First \$150.0 Mil, 0.02% Thereafter	\$236,428,050	\$60,557	0.03%
Waddell & Reed	0.25% of Assets	\$260,145,206	\$650,363	0.25%
Aronson Johnson Ortiz	0.30% of First \$250.0 Mil, 0.20% of Next \$250.0 Mil, 0.15% of Next \$500.0 Mil, 0.13% Thereafter	\$242,172,971	\$726,519	0.30%
Systematic Small/Mid Cap Value	0.35% of Assets	\$68,337,408	\$239,181	0.35%
Kalmar Investments Management	1.00% of First \$10.0 Mil, 0.88% of Next \$10.0 Mil, 0.75% Thereafter	\$62,318,210	\$504,887	0.81%
Artisan International Growth	0.30% of Assets	\$174,727,748	\$524,183	0.30%
Research Affiliates International Equity	0.12% of Assets	\$153,560,093	\$184,272	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	\$121,752,696	\$829,704	0.68%
Mondrian Emerging Markets	1.00% of First \$25.0 Mil, 0.75% of Next \$50.0 Mil, 0.60% Thereafter	\$232,263,145	\$1,568,579	0.68%
Western Asset Investment Grade Credit	0.30% of First \$100.0 Mil, 0.15% Thereafter	\$201,765,338	\$452,648	0.22%
Loomis Sayles High Yield	0.50% of Assets	\$194,705,640	\$973,528	0.50%
Eaton Vance Senior Loan Fund	0.55% of First \$50.0 Mil, 0.50% of Next \$50.0 Mil, 0.40% Thereafter	\$198,110,302	\$917,441	0.46%
SSgA TIPS	0.04% of Assets	\$153,258,425	\$61,303	0.04%

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

*\* Managers with incentive fee include: Waddell, 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, 2015

Account	Fee Schedule	Market Value As of 12/31/2015	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Barclays U.S. Aggregate Index Fund	0.02% of Assets	\$370,975,033	\$74,195	0.02%
Brandywine Global Sovereign	0.36% of Assets	\$270,261,253	\$972,941	0.36%
PIMCO Emerging Local Bond Ins	0.50% of First \$100.0 Mil, 0.45% Thereafter	\$150,046,600	\$725,210	0.48%
IFM Infrastructure	0.97% of Assets	\$124,331,404	\$1,206,015	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	\$150,737,684	\$1,241,926	0.82%
Invesco Commodities	0.70% of First \$100.0 Mil, 0.55% Thereafter	\$88,774,253	\$621,420	0.70%
<b>Investment Management Fee</b>		<b>\$3,454,671,458</b>	<b>\$12,534,872</b>	<b>0.36%</b>

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

*\* Managers with incentive fee include: Waddell, 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.*

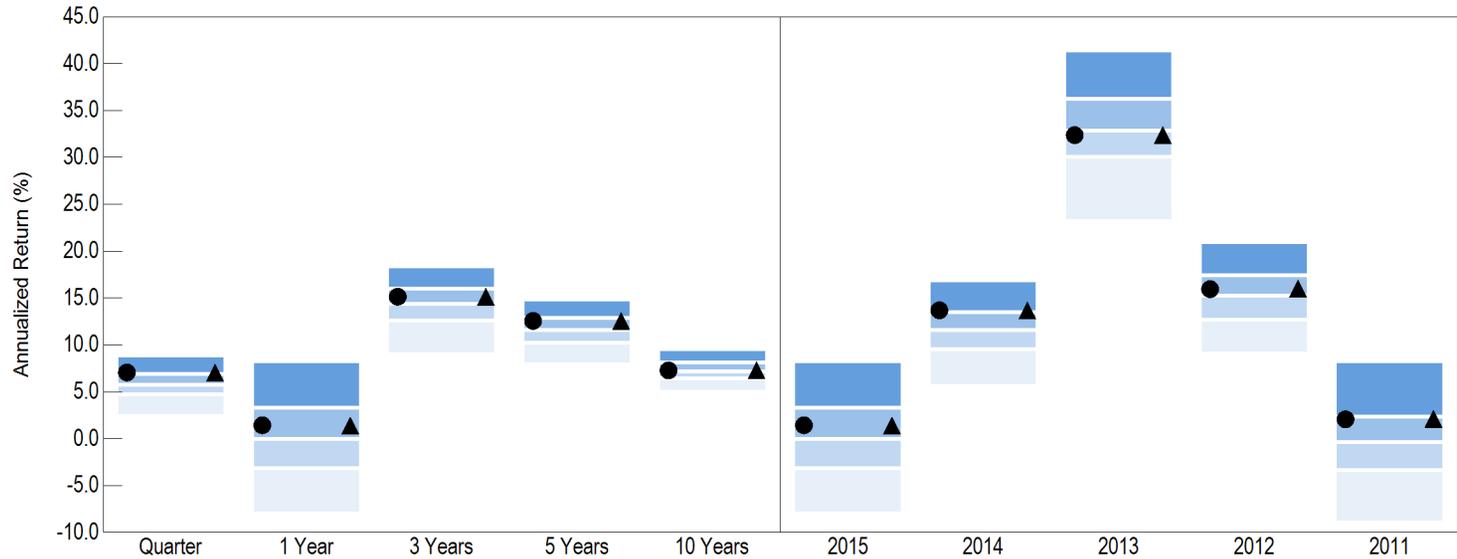
## **Domestic Equity Managers**

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SSgA S&P 500 Flagship Fund  
 Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2015

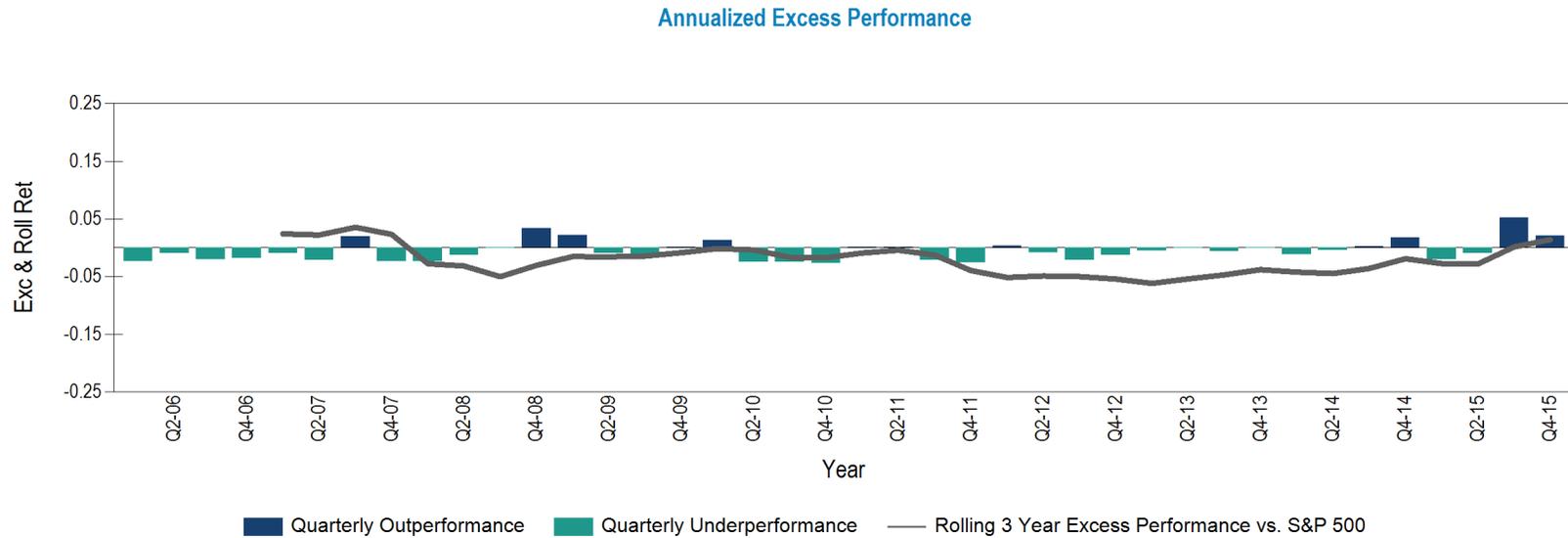
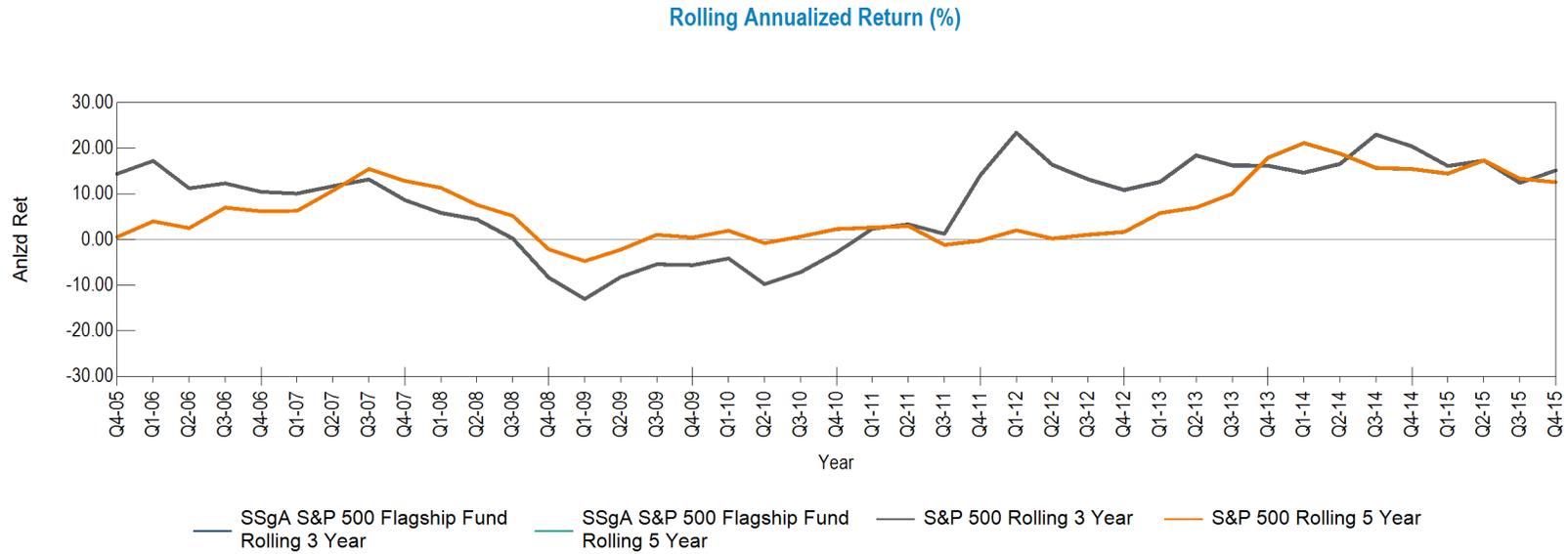
SSgA S&P 500 Flagship Fund vs. eA US Large Cap Equity Net Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011
<b>5th Percentile</b>	8.9	8.3	18.4	14.8	9.5	8.3	16.8	41.4	20.9	8.2
<b>25th Percentile</b>	6.9	3.4	16.1	12.9	8.1	3.4	13.5	36.3	17.5	2.4
<b>Median</b>	5.8	0.0	14.4	11.7	7.2	0.0	11.6	32.9	15.3	-0.3
<b>75th Percentile</b>	4.8	-3.1	12.6	10.2	6.5	-3.1	9.6	30.1	12.7	-3.3
<b>95th Percentile</b>	2.5	-7.9	9.0	7.9	5.0	-7.9	5.7	23.2	9.1	-8.9
<b># of Portfolios</b>	529	511	486	439	347	511	518	467	415	380
<b>● SSgA S&amp;P 500 Flagship Fund</b>	7.1 (24)	1.4 (40)	15.1 (37)	12.6 (32)	7.3 (48)	1.4 (40)	13.7 (24)	32.4 (57)	16.0 (42)	2.1 (27)
<b>▲ S&amp;P 500</b>	7.0 (24)	1.4 (40)	15.1 (37)	12.6 (32)	7.3 (48)	1.4 (40)	13.7 (24)	32.4 (56)	16.0 (41)	2.1 (27)

SSgA S&P 500 Flagship Fund  
 Rolling Manager Performance (Net of Fees)

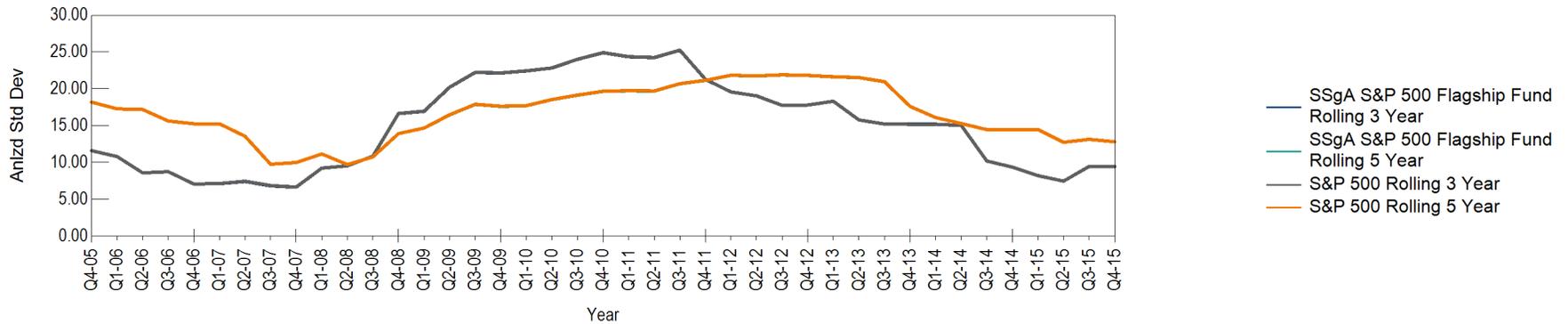
Period Ending: December 31, 2015



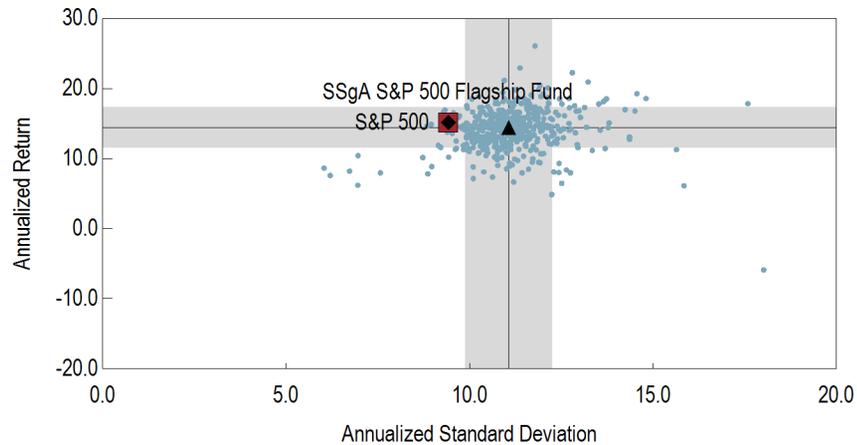
SSgA S&P 500 Flagship Fund  
 Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2015

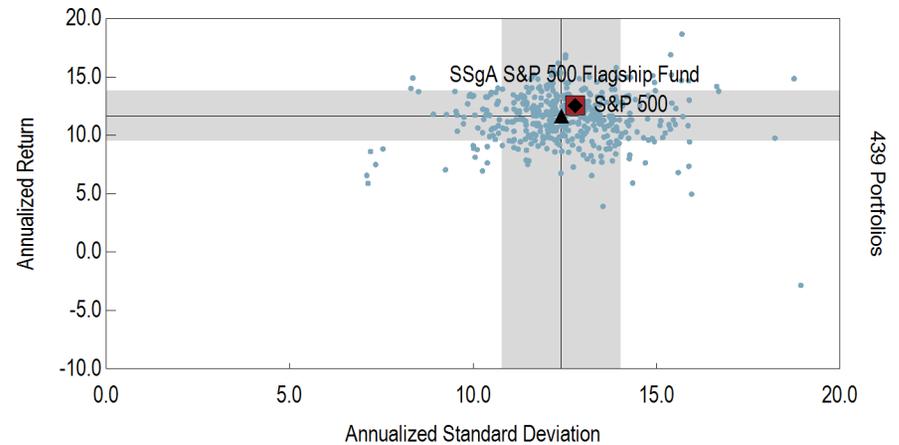
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
SSgA S&P 500 Flagship Fund	15.1%	9.4%	1.6
S&P 500	15.1%	9.4%	1.6
eA US Large Cap Equity Net Median	14.4%	11.1%	1.3

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
SSgA S&P 500 Flagship Fund	12.6%	12.8%	1.0
S&P 500	12.6%	12.8%	1.0
eA US Large Cap Equity Net Median	11.7%	12.4%	0.9

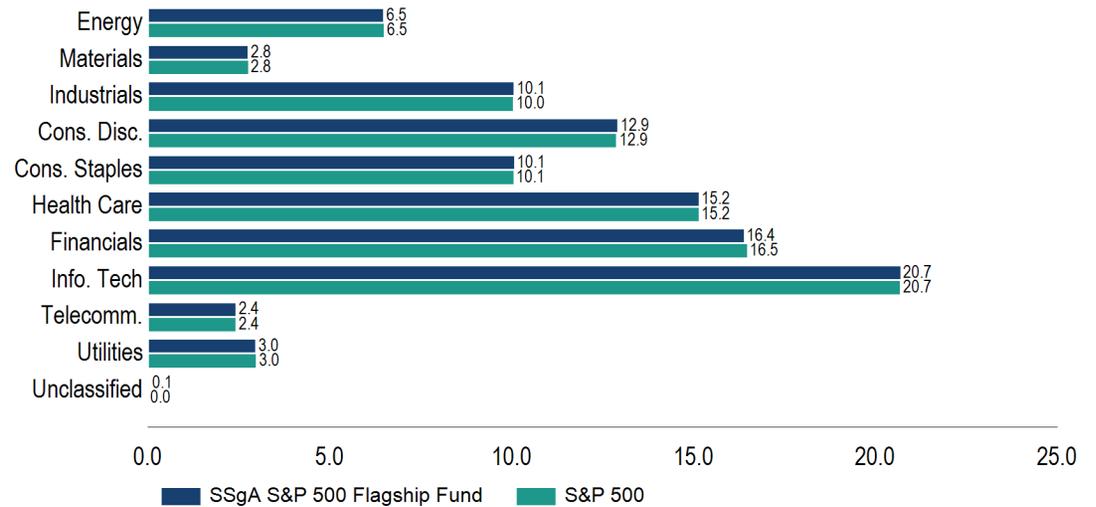
SSgA S&P 500 Flagship Fund  
 Manager Portfolio Overview (Net of Fees)

Period Ending: December 31, 2015

Characteristics

	Portfolio	S&P 500
Number of Holdings	505	504
Weighted Avg. Market Cap. (\$B)	128.91	128.54
Median Market Cap. (\$B)	17.53	17.46
Price To Earnings	23.05	22.19
Price To Book	4.84	4.25
Price To Sales	3.29	3.00
Return on Equity (%)	18.70	18.03
Yield (%)	2.20	2.17
Beta	1.00	1.00

Sector Allocation (%) vs S&P 500



Largest Holdings

	End Weight	Return
APPLE	3.28	-4.16
MICROSOFT	2.48	26.20
EXXON MOBIL	1.81	5.78
GENERAL ELECTRIC	1.64	24.44
JOHNSON & JOHNSON	1.59	10.84
AMAZON.COM	1.45	32.04
WELLS FARGO & CO	1.41	6.59
BERKSHIRE HATHAWAY 'B'	1.38	1.26
JP MORGAN CHASE & CO.	1.36	9.08
FACEBOOK CLASS A	1.33	16.42

Top Contributors

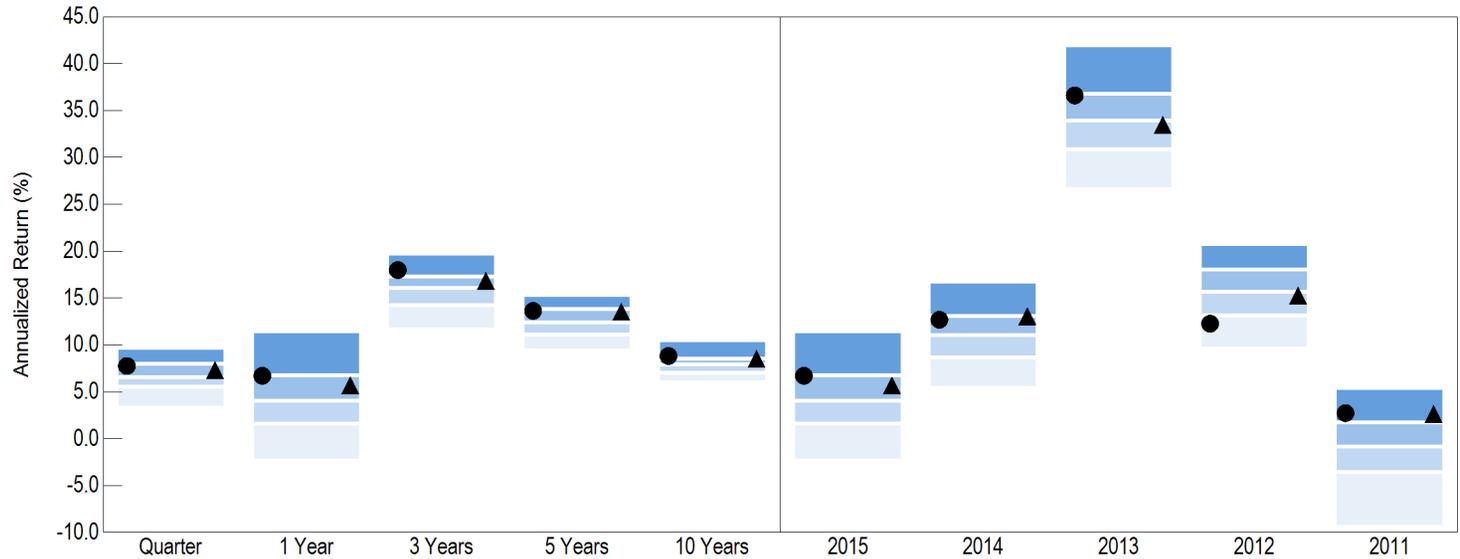
	Avg Wgt	Return	Contribution
MICROSOFT	2.26	26.20	0.59
AMAZON.COM	1.29	32.04	0.41
GENERAL ELECTRIC	1.55	24.44	0.38
ALPHABET 'A'	1.51	21.87	0.33
FACEBOOK CLASS A	1.25	16.42	0.20
ALPHABET 'C'	0.78	24.73	0.19
JOHNSON & JOHNSON	1.53	10.84	0.17
CHEVRON	0.92	15.38	0.14
HOME DEPOT	0.89	15.01	0.13
INTEL	0.87	15.10	0.13

Bottom Contributors

	Avg Wgt	Return	Contribution
APPLE	3.71	-4.16	-0.15
KINDER MORGAN	0.26	-45.09	-0.12
UNION PACIFIC	0.43	-10.97	-0.05
WILLIAMS	0.14	-28.72	-0.04
CHIPOTLE MEXN.GRILL	0.11	-33.38	-0.04
ANADARKO PETROLEUM	0.18	-19.15	-0.03
INTERNATIONAL	0.72	-4.18	-0.03
BUS.MCHS.	0.47	-6.05	-0.03
QUALCOMM	0.09	-31.17	-0.03
MACY'S	0.09	-31.17	-0.03
WAL MART STORES	0.54	-4.67	-0.03

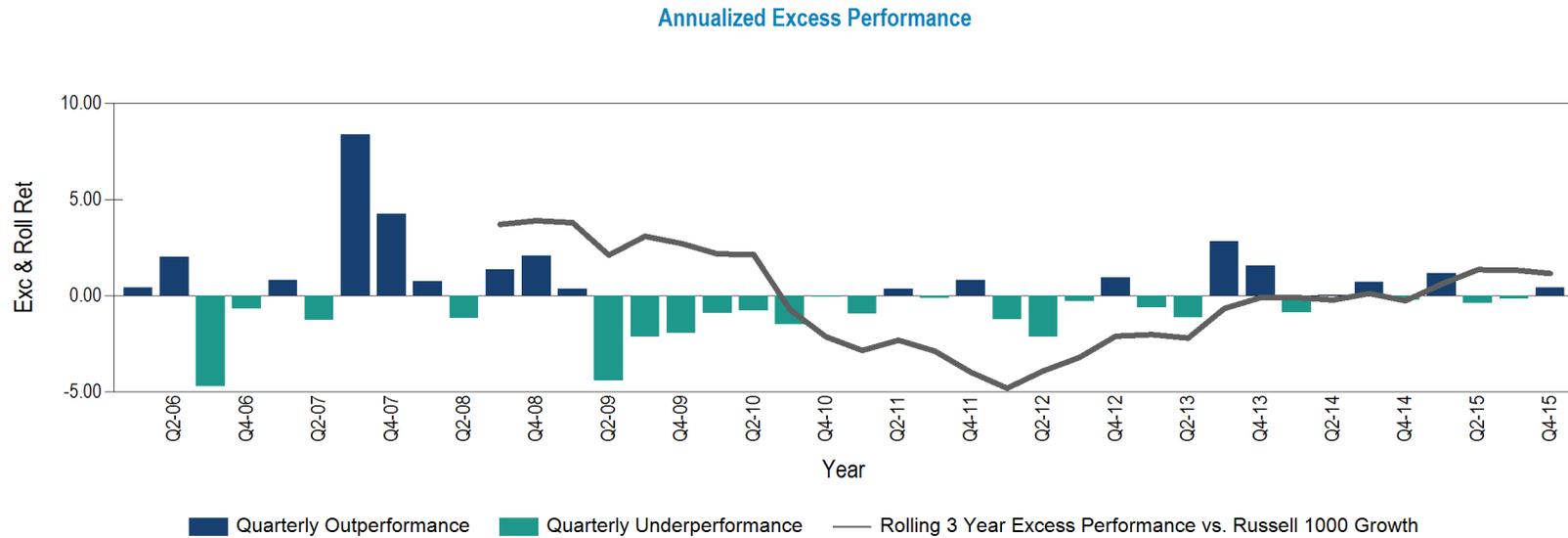
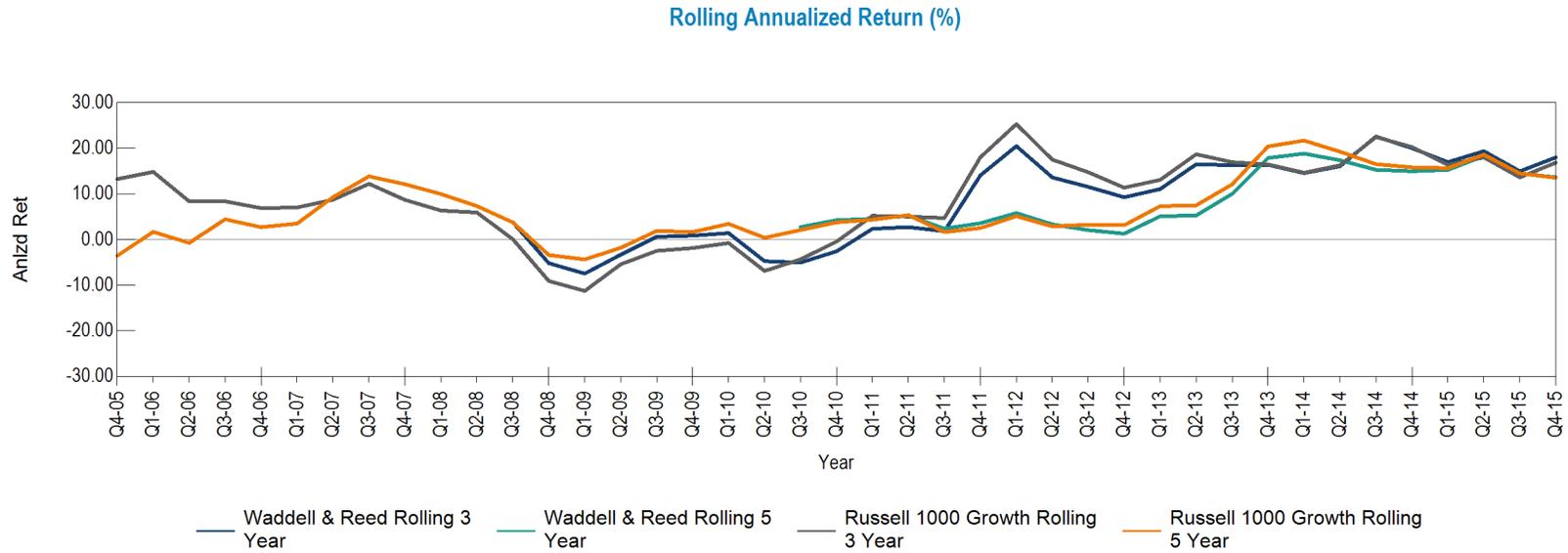
Unclassified sector allocation includes cash allocations.

Waddell & Reed vs. eA US Large Cap Growth Equity Net Universe



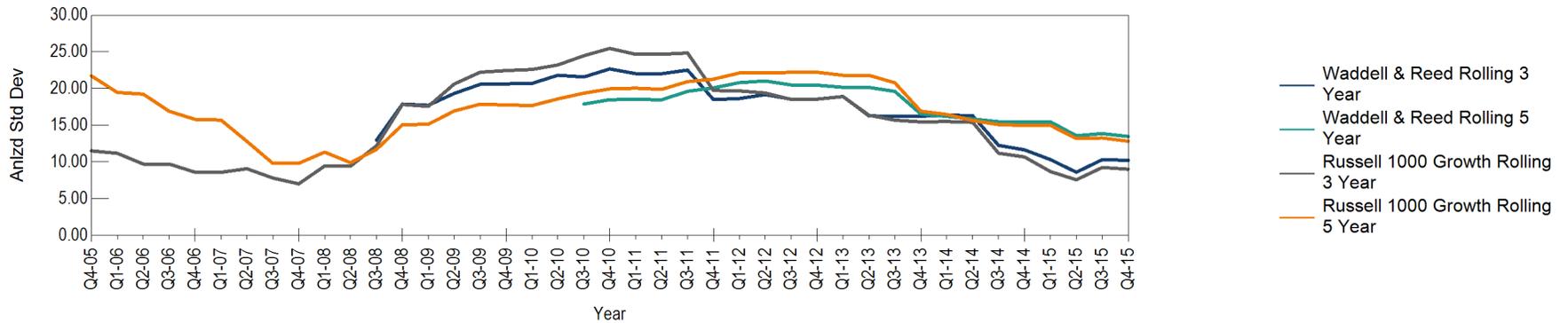
	Quarter	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011
<b>5th Percentile</b>	9.7	11.4	19.7	15.3	10.5	11.4	16.7	41.9	20.7	5.4
<b>25th Percentile</b>	8.0	6.8	17.3	13.8	8.6	6.8	13.1	36.8	18.1	1.7
<b>Median</b>	6.6	4.1	16.1	12.4	8.0	4.1	11.1	34.0	15.7	-0.8
<b>75th Percentile</b>	5.5	1.6	14.3	11.1	7.0	1.6	8.7	30.9	13.2	-3.5
<b>95th Percentile</b>	3.3	-2.3	11.7	9.4	6.1	-2.3	5.5	26.6	9.7	-9.4
<b># of Portfolios</b>	184	175	167	152	116	175	180	158	140	133
<b>● Waddell &amp; Reed</b>	7.8 (31)	6.7 (26)	18.0 (16)	13.6 (28)	8.8 (19)	6.7 (26)	12.7 (31)	36.6 (28)	12.3 (80)	2.7 (20)
<b>▲ Russell 1000 Growth</b>	7.3 (38)	5.7 (35)	16.8 (34)	13.5 (28)	8.5 (27)	5.7 (35)	13.0 (28)	33.5 (54)	15.3 (58)	2.6 (20)

Returns prior to inception date are composite returns.

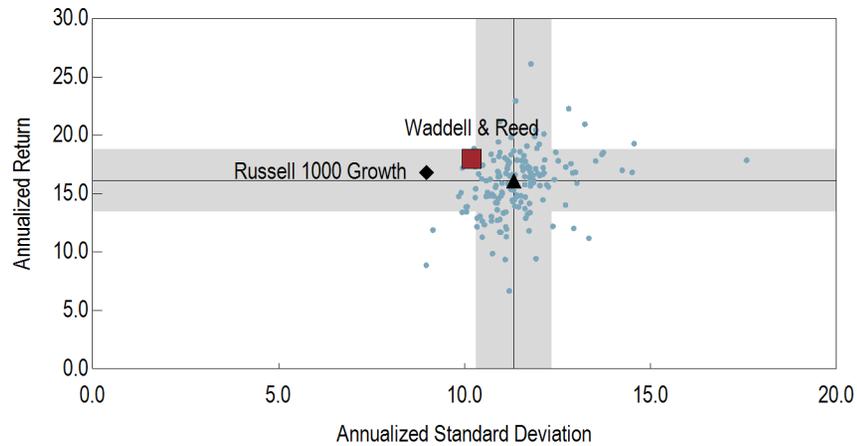


Returns prior to inception date are composite returns.

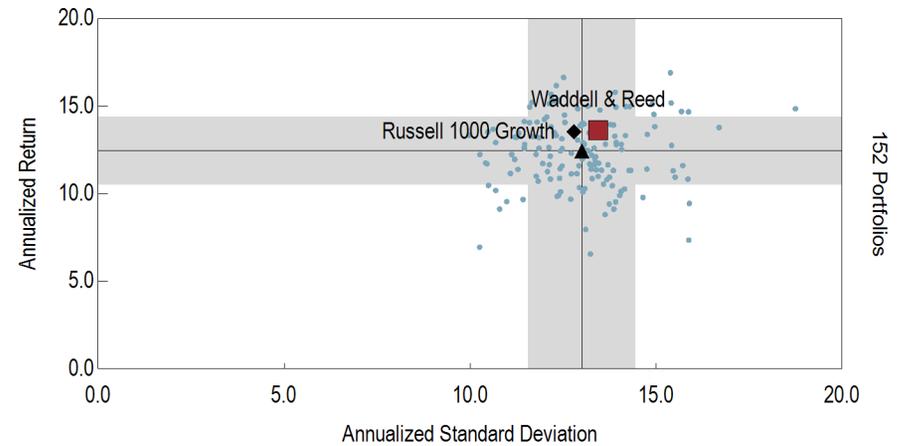
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Waddell & Reed	18.0%	10.2%	1.8
Russell 1000 Growth	16.8%	9.0%	1.9
eA US Large Cap Growth Equity Net Median	16.1%	11.3%	1.4

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Waddell & Reed	13.6%	13.4%	1.0
Russell 1000 Growth	13.5%	12.8%	1.1
eA US Large Cap Growth Equity Net Median	12.4%	13.0%	0.9

Returns prior to inception date are composite returns.

**Characteristics**

	Portfolio	Russell 1000 Growth
Number of Holdings	54	644
Weighted Avg. Market Cap. (\$B)	132.92	122.90
Median Market Cap. (\$B)	63.47	8.44
Price To Earnings	30.64	25.41
Price To Book	9.07	7.02
Price To Sales	5.89	3.80
Return on Equity (%)	25.22	25.00
Yield (%)	1.02	1.60
Beta	1.11	1.00

**Sector Allocation (%) vs Russell 1000 Growth**



**Largest Holdings**

	End Weight	Return
MASTERCARD	4.36	8.22
VISA 'A'	4.25	11.52
HOME DEPOT	4.24	15.01
AMAZON.COM	3.96	32.04
CELGENE	3.87	10.71
ALLERGAN	3.77	14.97
FACEBOOK CLASS A	3.51	16.42
APPLE	3.42	-4.16
MICROSOFT	3.13	26.20
ALPHABET 'A'	2.96	21.87

**Top Contributors**

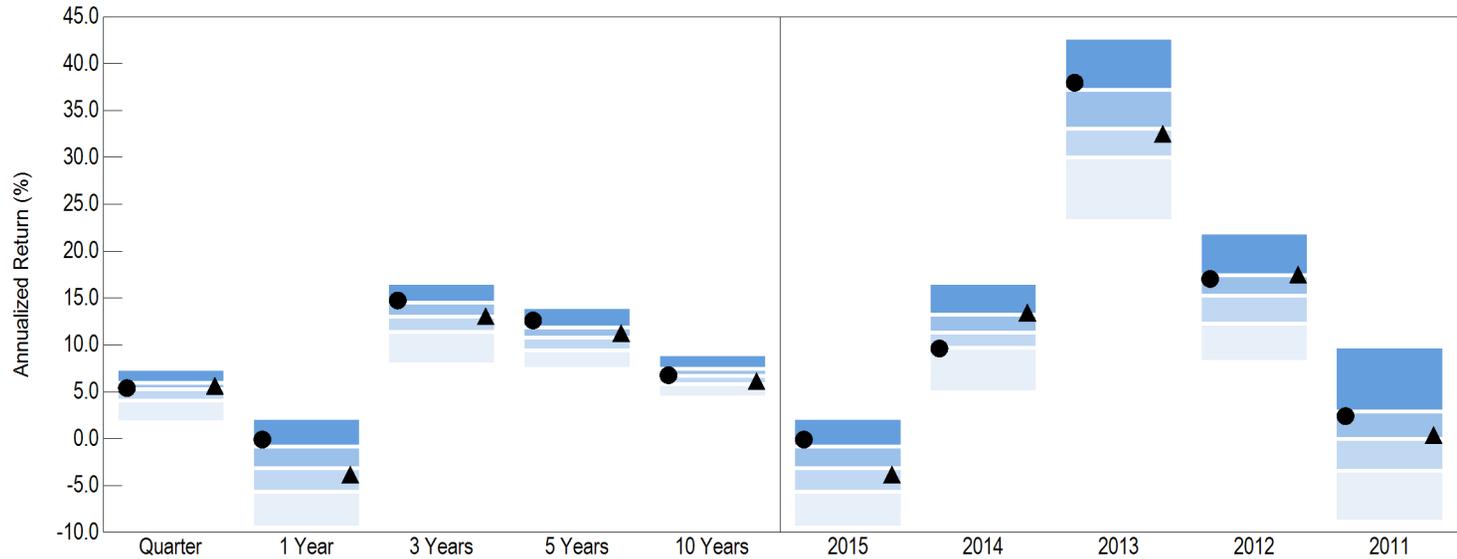
	Avg Wgt	Return	Contribution
AMAZON.COM	3.57	32.04	1.14
HOME DEPOT	4.31	15.01	0.65
FACEBOOK CLASS A	3.42	16.42	0.56
ALLERGAN	3.65	14.97	0.55
VISA 'A'	4.37	11.52	0.50
MICROSOFT	1.67	26.20	0.44
ALPHABET 'A'	1.88	21.87	0.41
CELGENE	3.72	10.71	0.40
BRISTOL MYERS SQUIBB	2.33	16.83	0.39
ALPHABET 'C'	1.49	24.73	0.37

**Bottom Contributors**

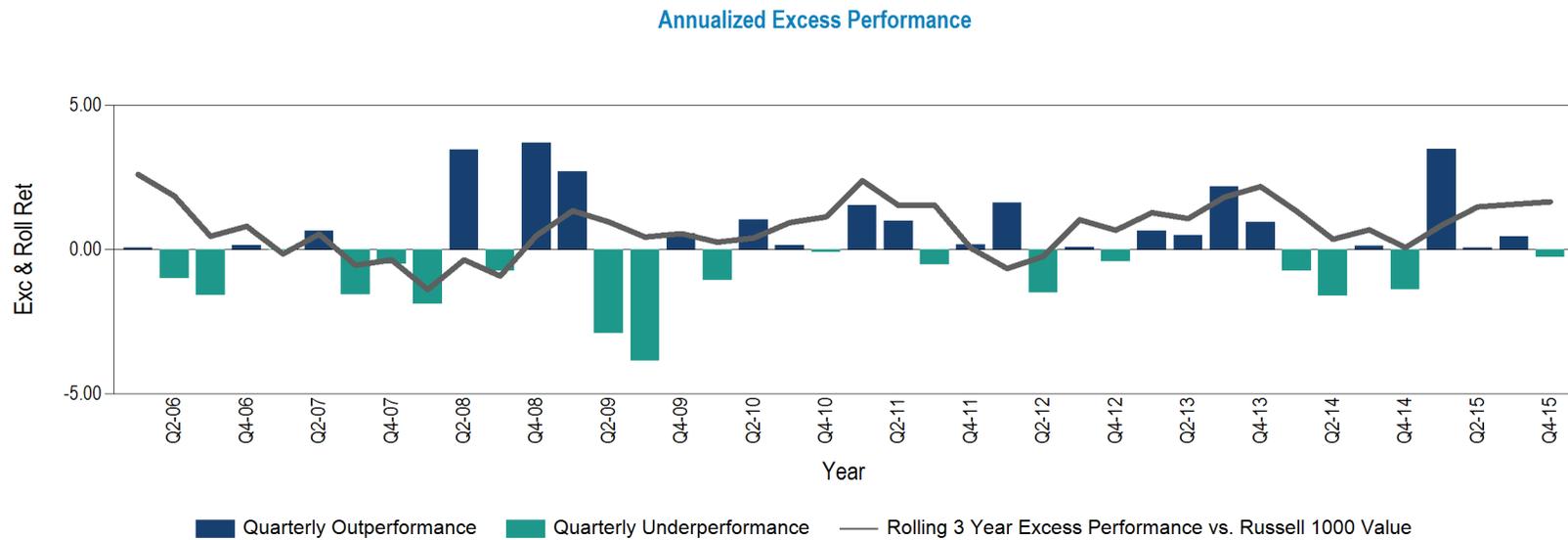
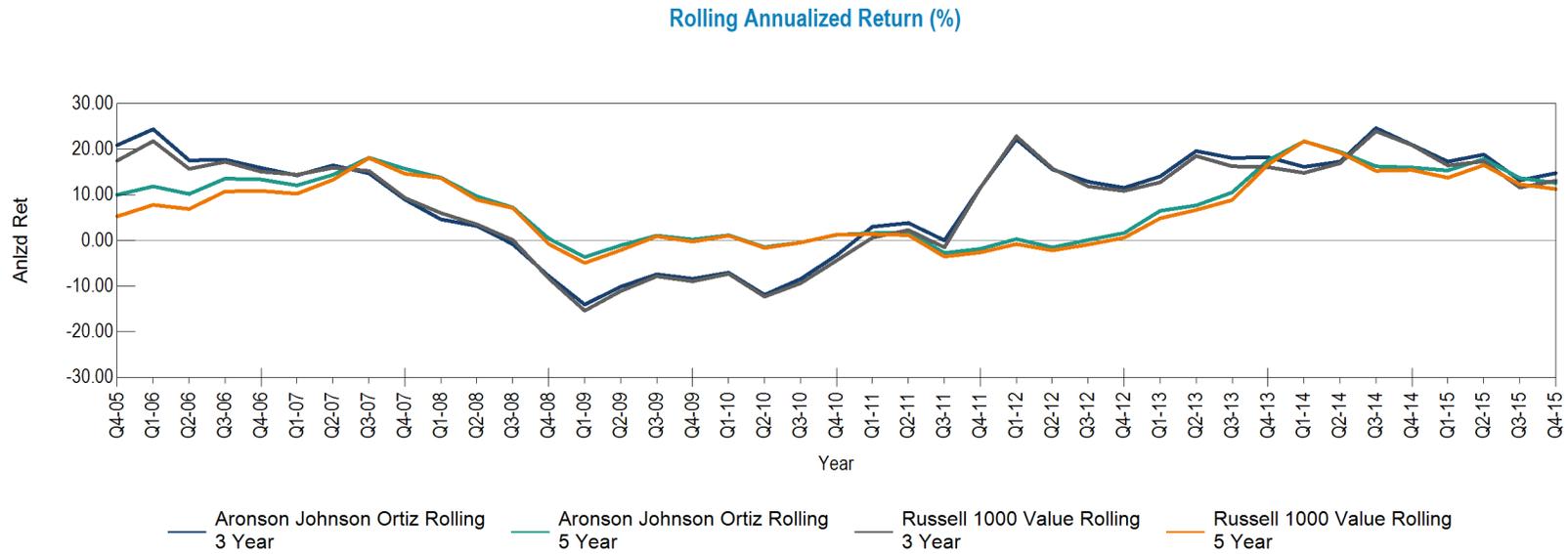
	Avg Wgt	Return	Contribution
HCA HOLDINGS	2.12	-12.58	-0.27
UNION PACIFIC	2.13	-10.97	-0.23
CANADIAN PAC.RY. (NYS)	1.98	-10.95	-0.22
APPLE	4.00	-4.16	-0.17
UNDER ARMOUR 'A'	0.79	-16.71	-0.13
COGNIZANT	2.57	-4.14	-0.11
TECH.SLTN.'A'	0.35	-27.94	-0.10
POLARIS INDUSTRIES	0.35	-27.94	-0.10
HILTON WORLDWIDE HDG.	1.11	-6.43	-0.07
NXP SEMICONDUCTORS	1.92	-3.24	-0.06
EOG RES.	0.82	-2.57	-0.02

Unclassified sector allocation includes cash allocations.

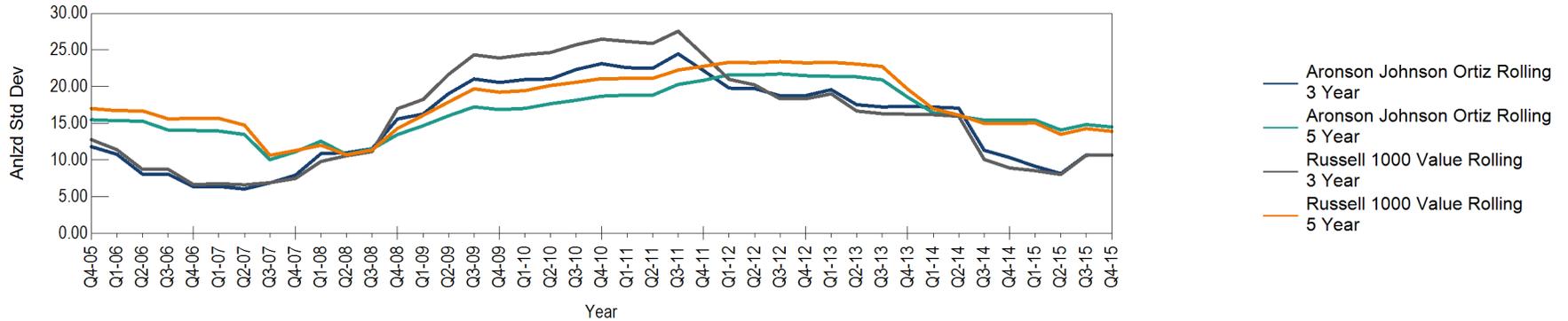
Aronson Johnson Ortiz vs. eA US Large Cap Value Equity Net Universe



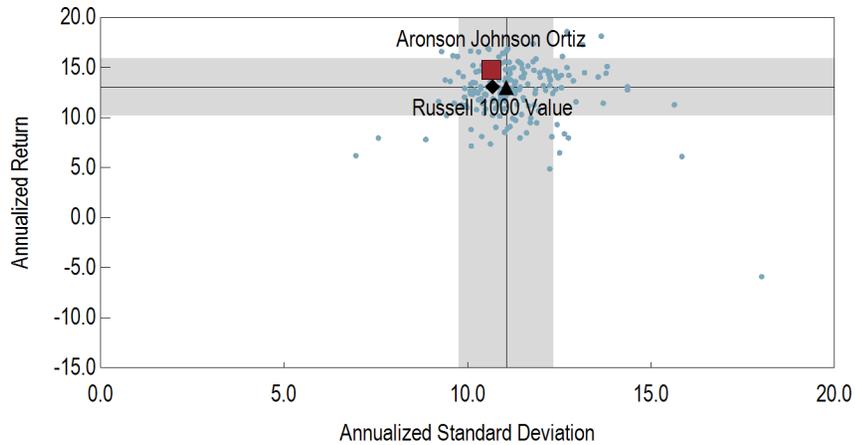
	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011
5th Percentile	7.4	2.2	16.6	14.0	9.0	2.2	16.6	42.8	22.0	9.8
25th Percentile	6.0	-0.8	14.5	11.9	7.5	-0.8	13.3	37.3	17.5	2.9
Median	5.3	-3.1	13.0	10.8	6.7	-3.1	11.3	33.1	15.3	0.0
75th Percentile	4.1	-5.7	11.4	9.5	5.8	-5.7	9.7	30.0	12.3	-3.4
95th Percentile	1.8	-9.4	8.0	7.5	4.4	-9.4	5.0	23.2	8.2	-8.8
# of Portfolios	200	195	186	169	135	195	197	184	164	149
● Aronson Johnson Ortiz	5.4 (48)	-0.1 (16)	14.7 (22)	12.6 (17)	6.8 (49)	-0.1 (16)	9.6 (78)	38.0 (21)	17.0 (29)	2.4 (29)
▲ Russell 1000 Value	5.6 (37)	-3.8 (59)	13.1 (49)	11.3 (42)	6.2 (70)	-3.8 (59)	13.5 (24)	32.5 (54)	17.5 (25)	0.4 (48)



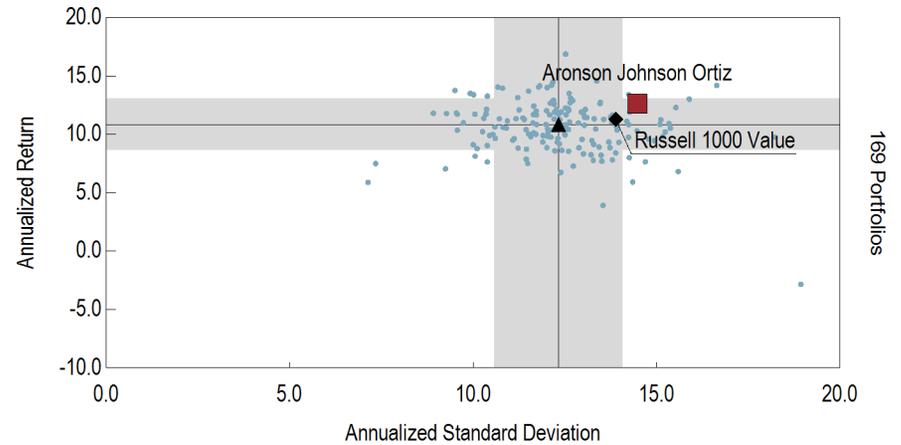
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Aronson Johnson Ortiz	14.7%	10.6%	1.4
Russell 1000 Value	13.1%	10.7%	1.2
eA US Large Cap Value Equity Net Median	13.0%	11.1%	1.2

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Aronson Johnson Ortiz	12.6%	14.5%	0.9
Russell 1000 Value	11.3%	13.9%	0.8
eA US Large Cap Value Equity Net Median	10.8%	12.3%	0.9

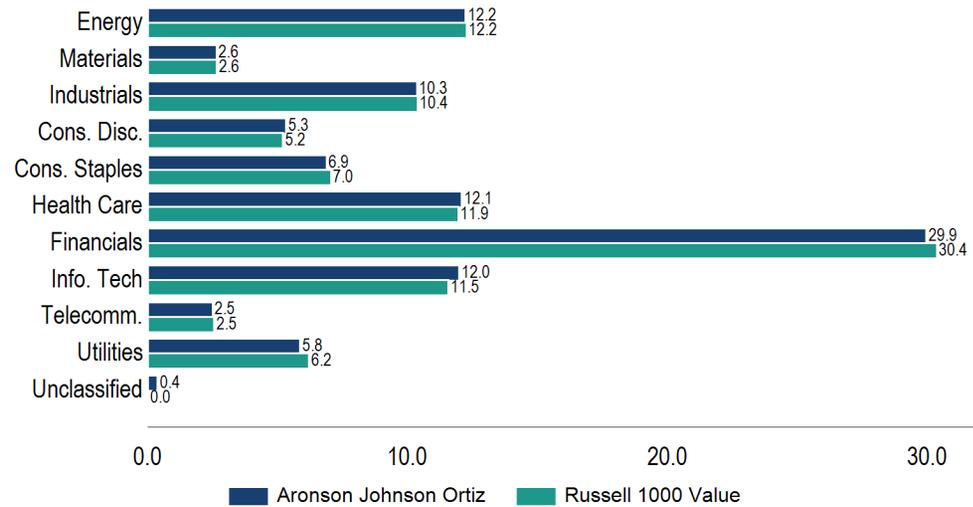
Aronson Johnson Ortiz  
 Manager Portfolio Overview (Net of Fees)

Period Ending: December 31, 2015

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	125	691
Weighted Avg. Market Cap. (\$B)	74.64	105.87
Median Market Cap. (\$B)	9.47	6.85
Price To Earnings	15.47	19.16
Price To Book	2.49	2.23
Price To Sales	2.04	2.50
Return on Equity (%)	17.58	11.40
Yield (%)	2.29	2.60
Beta	0.96	1.00

Sector Allocation (%) vs Russell 1000 Value



Largest Holdings

	End Weight	Return
JP MORGAN CHASE & CO.	3.79	9.08
JOHNSON & JOHNSON	3.76	10.84
PFIZER	3.26	3.61
BANK OF AMERICA	3.01	8.33
CITIGROUP	2.75	4.41
INTEL	2.04	15.10
AMERICAN INTL.GP.	2.02	9.55
MICROSOFT	1.96	26.20
TRAVELERS COS.	1.71	14.01
VALERO ENERGY	1.69	18.48

Top Contributors

	Avg Wgt	Return	Contribution
MICROSOFT	1.77	26.20	0.46
JOHNSON & JOHNSON	3.46	10.84	0.38
JP MORGAN CHASE & CO.	3.67	9.08	0.33
VALERO ENERGY	1.60	18.48	0.30
INTEL	1.94	15.10	0.29
BANK OF AMERICA	2.96	8.33	0.25
VERISIGN	1.01	23.81	0.24
UNITED THERAPEUTICS	1.20	19.33	0.23
TRAVELERS COS.	1.65	14.01	0.23
KROGER	1.27	16.30	0.21

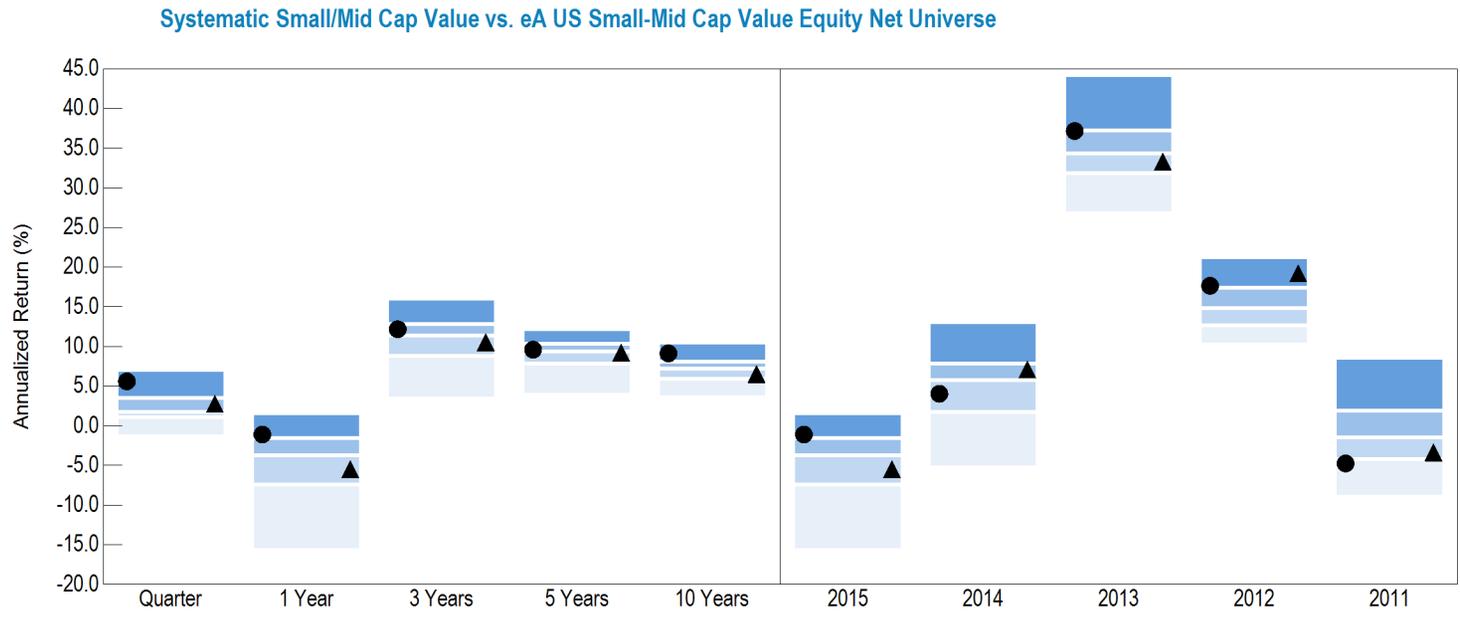
Bottom Contributors

	Avg Wgt	Return	Contribution
MACY'S	0.49	-31.17	-0.15
CF INDUSTRIES HDG.	0.94	-8.53	-0.08
ALLY FINANCIAL	0.89	-8.54	-0.08
WESTERN REFINING	0.39	-18.54	-0.07
CAL MAINE FOODS	0.52	-13.65	-0.07
FOOT LOCKER	0.68	-9.23	-0.06
MARATHON OIL	0.35	-18.02	-0.06
EDISON INTL.	1.14	-5.37	-0.06
VOYA FINANCIAL	1.28	-4.77	-0.06
BED BATH & BEYOND	0.39	-15.38	-0.06

Unclassified sector allocation includes cash allocations.

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

Period Ending: December 31, 2015

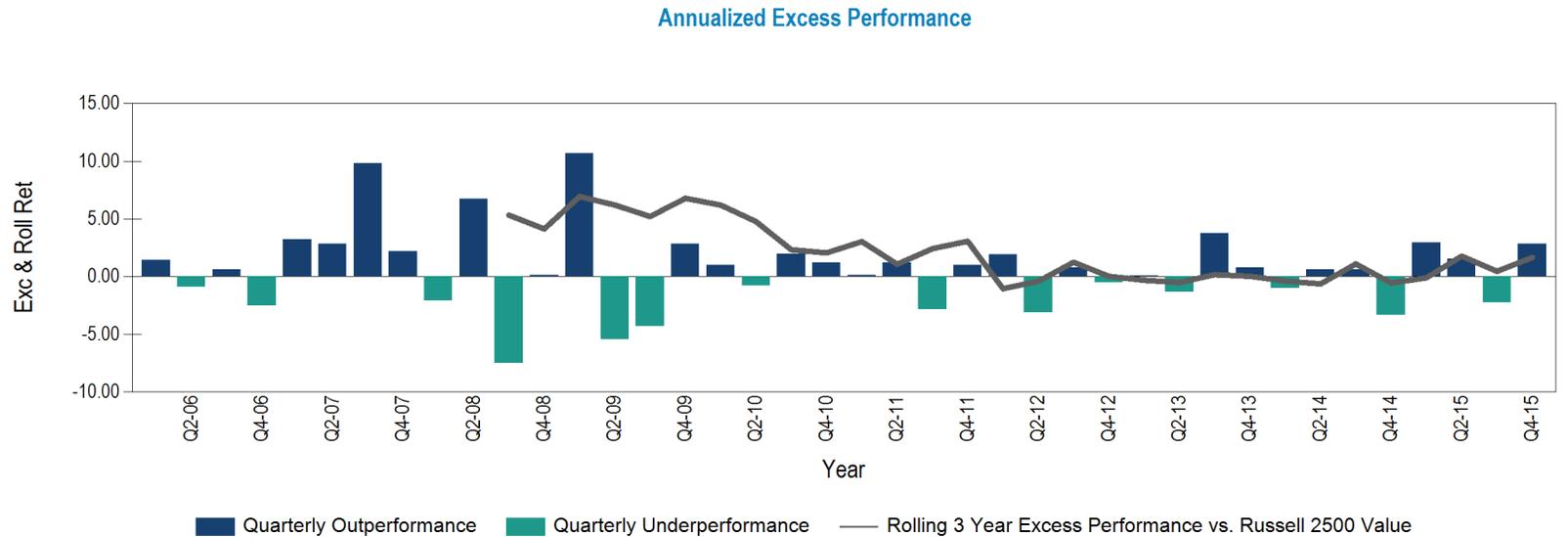
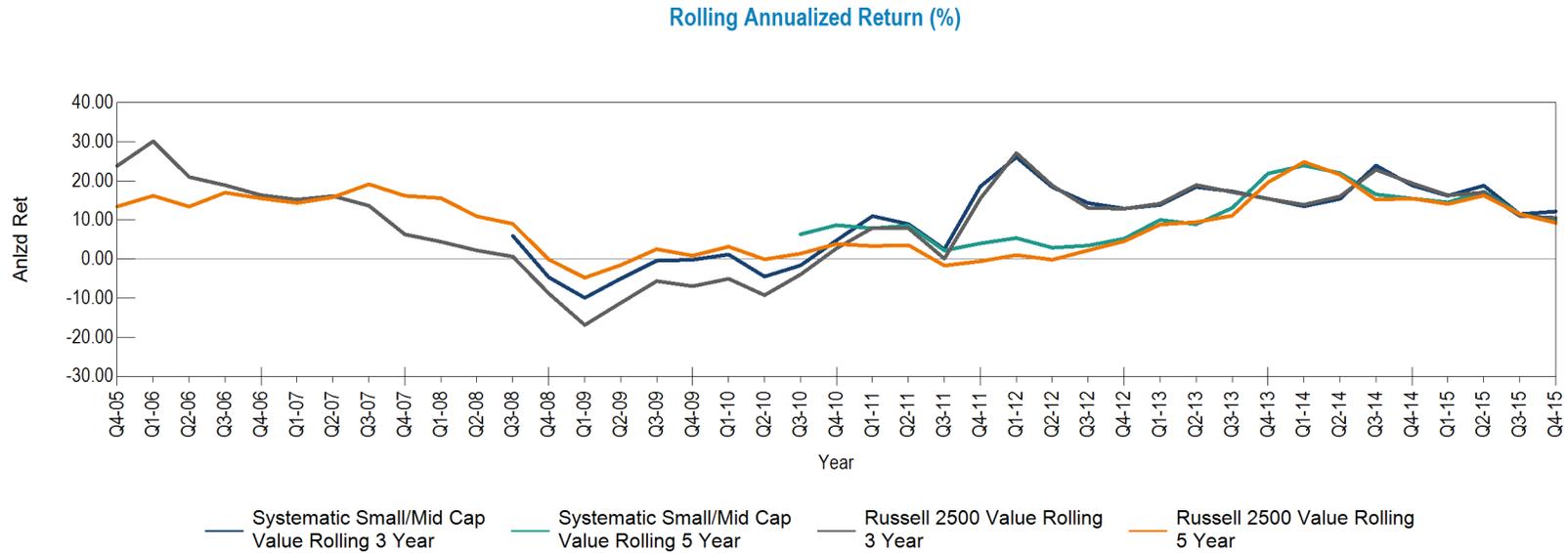


	Return (Rank)									
5th Percentile	7.0	1.5	16.0	12.1	10.4	1.5	13.0	44.2	21.2	8.5
25th Percentile	3.6	-1.5	12.9	10.4	8.1	-1.5	7.9	37.3	17.4	1.9
Median	1.8	-3.7	11.4	9.4	7.2	-3.7	5.8	34.4	14.9	-1.4
75th Percentile	1.1	-7.4	8.9	7.9	5.9	-7.4	1.8	31.9	12.7	-4.1
95th Percentile	-1.3	-15.7	3.5	4.0	3.6	-15.7	-5.2	26.8	10.3	-8.9
# of Portfolios	60	58	56	51	29	58	57	45	49	31
● Systematic Small/Mid Cap Value	5.6 (11)	-1.1 (22)	12.2 (36)	9.6 (47)	9.1 (11)	-1.1 (22)	4.0 (68)	37.2 (27)	17.6 (20)	-4.7 (83)
▲ Russell 2500 Value	2.8 (43)	-5.5 (62)	10.5 (66)	9.2 (53)	6.5 (71)	-5.5 (62)	7.1 (34)	33.3 (65)	19.2 (13)	-3.4 (72)

Returns prior to inception date are composite returns.

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

Period Ending: December 31, 2015

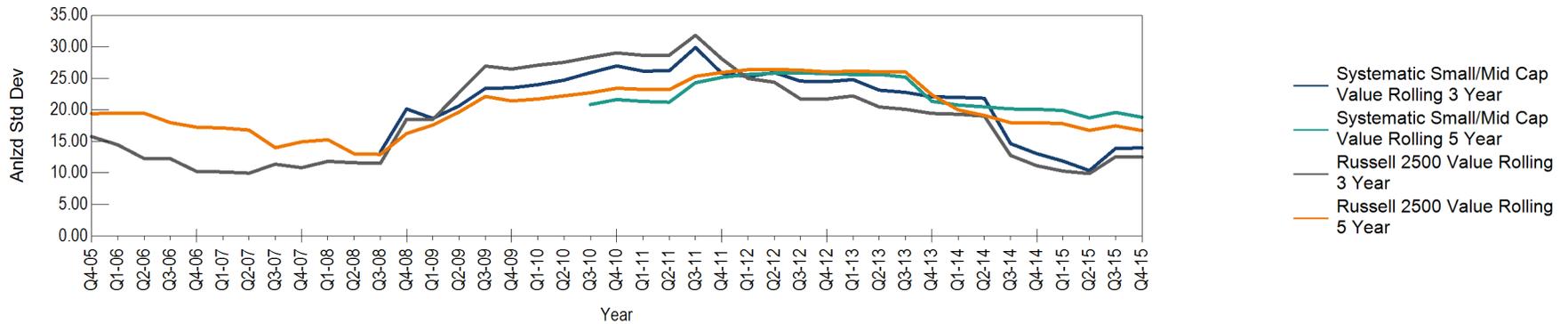


Returns prior to inception date are composite returns.

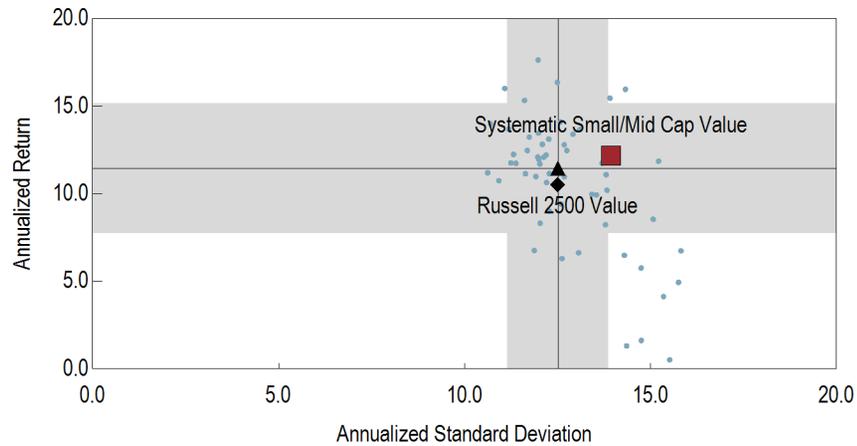
# Systematic Small/Mid Cap Value Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2015

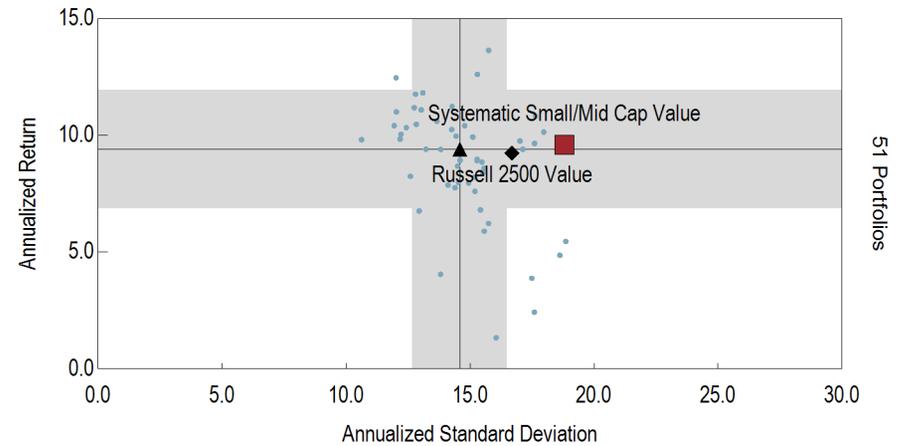
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Systematic Small/Mid Cap Value	12.2%	13.9%	0.9
Russell 2500 Value	10.5%	12.5%	0.8
eA US Small-Mid Cap Value Equity Net Median	11.4%	12.5%	1.0

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Systematic Small/Mid Cap Value	9.6%	18.8%	0.5
Russell 2500 Value	9.2%	16.7%	0.6
eA US Small-Mid Cap Value Equity Net Median	9.4%	14.6%	0.6

Returns prior to inception date are composite returns.

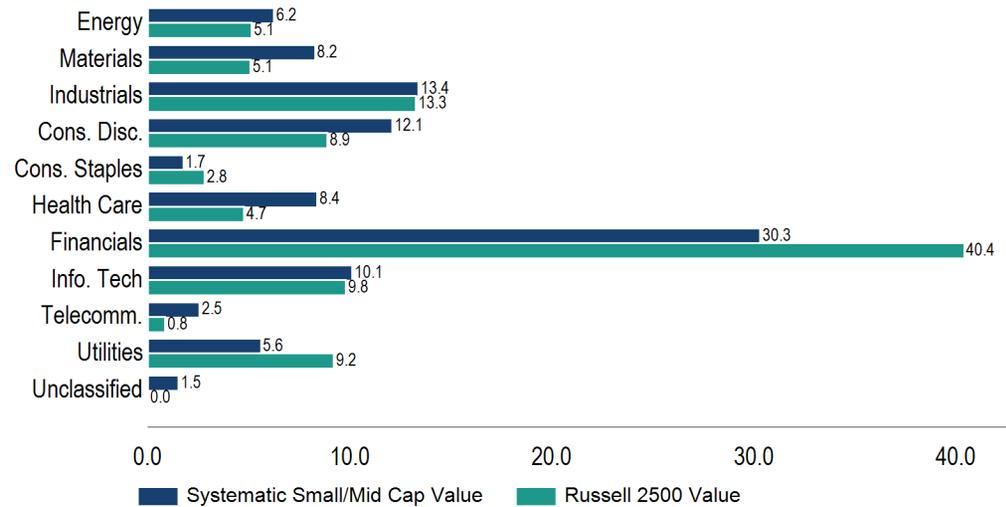
# Systematic Small/Mid Cap Value Manager Portfolio Overview (Net of Fees)

Period Ending: December 31, 2015

## Characteristics

	Portfolio	Russell 2500 Value
Number of Holdings	71	1,706
Weighted Avg. Market Cap. (\$B)	6.76	3.73
Median Market Cap. (\$B)	4.77	0.85
Price To Earnings	25.25	20.31
Price To Book	2.70	1.82
Price To Sales	2.58	2.57
Return on Equity (%)	13.49	8.20
Yield (%)	1.71	2.15
Beta	1.06	1.00

## Sector Allocation (%) vs Russell 2500 Value



## Largest Holdings

	End Weight	Return
E*TRADE FINANCIAL	3.17	12.57
MGM RESORTS INTL.	2.68	23.14
SERVICEMASTER GLB.HDG.	2.63	16.96
LEVEL 3 COMMS.	2.53	24.42
DTE ENERGY	2.45	0.69
AMEREN	2.35	3.28
ALLISON TNSM.HOLDINGS	2.34	-2.46
ALEXANDRIA RLST.EQTIES.	2.32	7.61
KBR	2.24	2.03
ITT	2.22	8.99

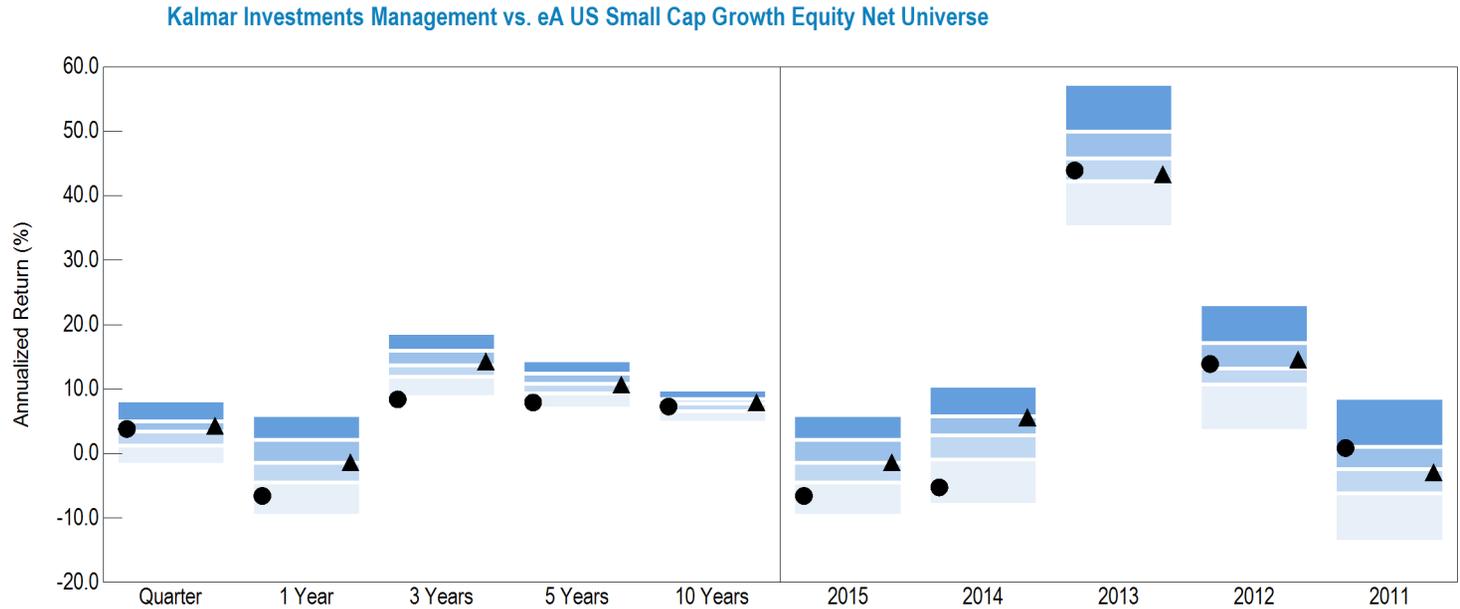
## Top Contributors

	Avg Wgt	Return	Contribution
GLOBUS MEDICAL CL.A	1.56	34.66	0.54
MGM RESORTS INTL.	2.32	23.14	0.54
LEVEL 3 COMMS.	2.18	24.42	0.53
ALBEMARLE	1.58	27.77	0.44
DUPONT FABROS TECHNOLOGY	1.74	24.63	0.43
INTEGRATED DEVICE TECH.	1.26	29.80	0.38
E*TRADE FINANCIAL	2.86	12.57	0.36
SERVICEMASTER GLB.HDG.	2.07	16.96	0.35
BERRY PLASTICS GROUP	1.54	20.32	0.31
PBF ENERGY CL.A	0.88	31.51	0.28

## Bottom Contributors

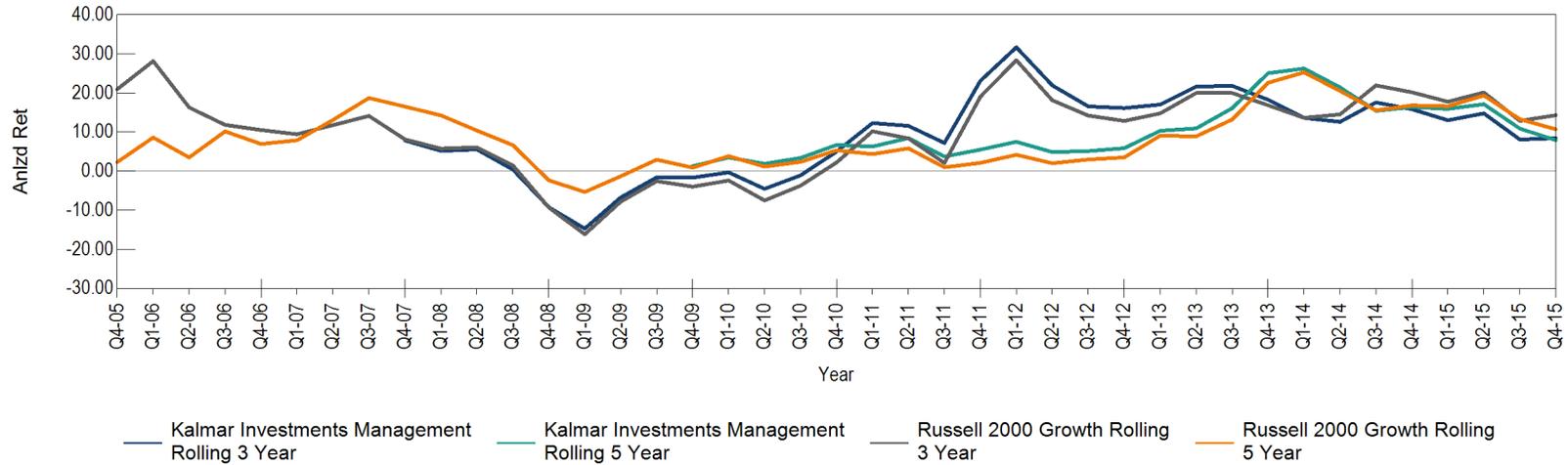
	Avg Wgt	Return	Contribution
DYNEGY	1.34	-35.17	-0.47
PVH	1.42	-27.72	-0.39
ENERGEN	1.73	-17.76	-0.31
SKYWORKS SOLUTIONS	1.30	-8.46	-0.11
RYDER SYSTEM	0.48	-22.78	-0.11
WESTROCK	1.03	-10.62	-0.11
NRG ENERGY	0.55	-19.85	-0.11
WPX ENERGY	0.79	-13.29	-0.11
KINDRED HEALTHCARE	0.44	-23.60	-0.10
VOYA FINANCIAL	1.98	-4.77	-0.09

Unclassified sector allocation includes cash allocations.

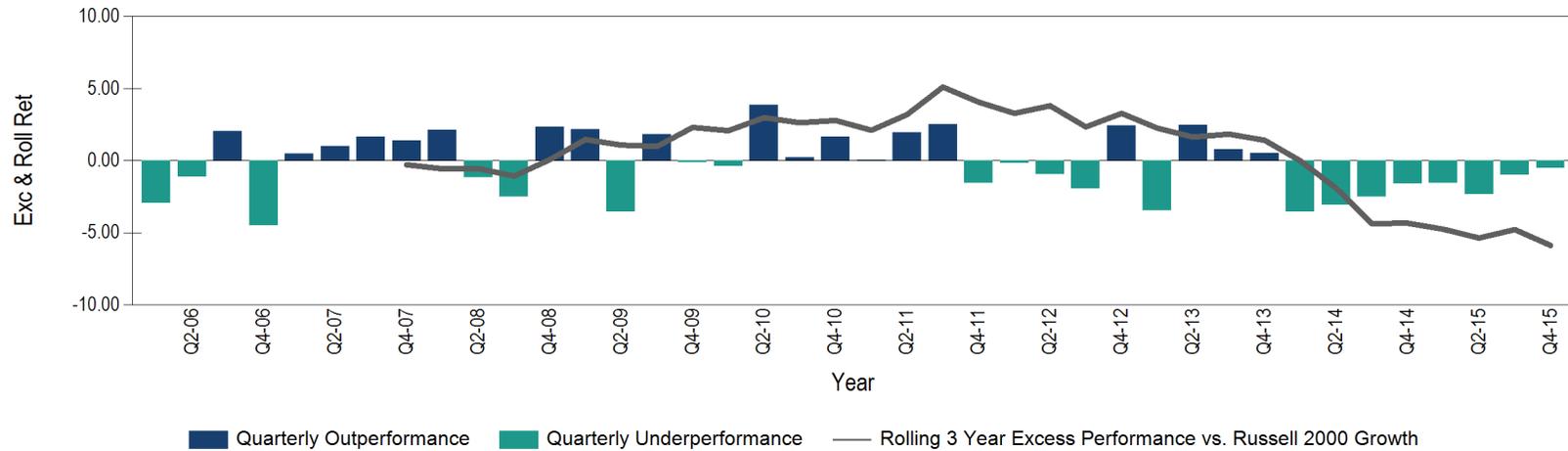


	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011
5th Percentile	8.2	5.9	18.7	14.5	9.9	5.9	10.5	57.3	23.1	8.5
25th Percentile	5.0	2.2	16.0	12.4	8.5	2.2	5.8	49.9	17.2	1.0
Median	3.4	-1.4	13.7	10.8	7.8	-1.4	2.8	45.8	13.2	-2.4
75th Percentile	1.3	-4.5	11.9	9.4	6.6	-4.5	-0.9	42.3	10.7	-6.1
95th Percentile	-1.7	-9.6	8.8	7.1	4.8	-9.6	-7.9	35.1	3.6	-13.6
# of Portfolios	106	103	96	90	71	103	103	94	92	84
● Kalmar Investments Management	3.8 (44)	-6.6 (85)	8.4 (98)	7.9 (88)	7.3 (57)	-6.6 (85)	-5.3 (89)	43.9 (59)	13.9 (42)	0.9 (29)
▲ Russell 2000 Growth	4.3 (40)	-1.4 (50)	14.3 (40)	10.7 (52)	8.0 (46)	-1.4 (50)	5.6 (29)	43.3 (66)	14.6 (39)	-2.9 (53)

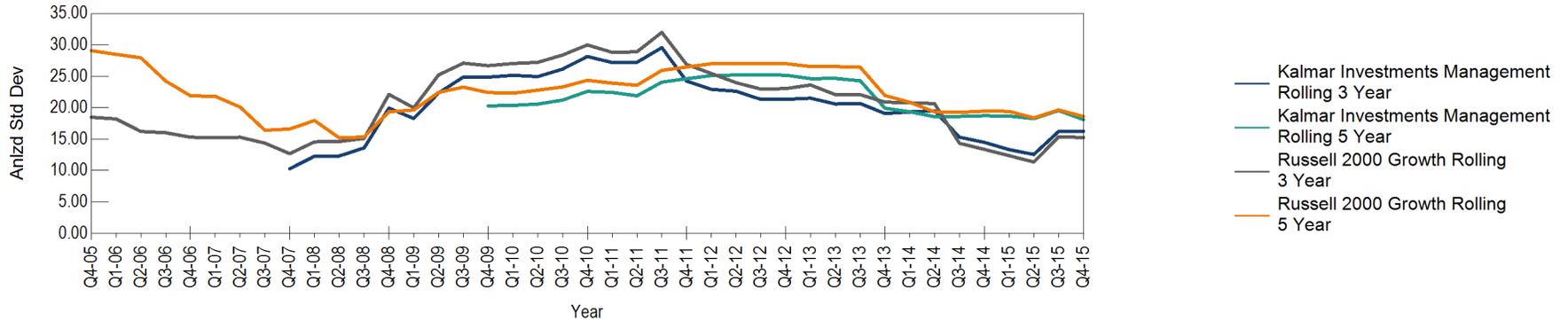
Rolling Annualized Return (%)



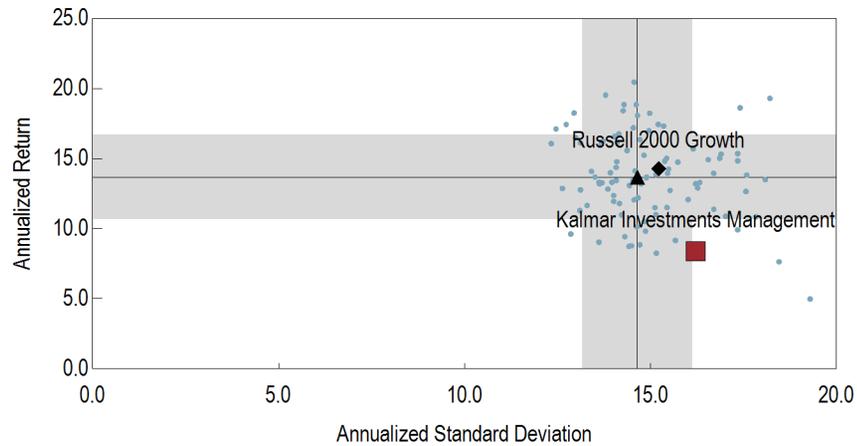
Annualized Excess Performance



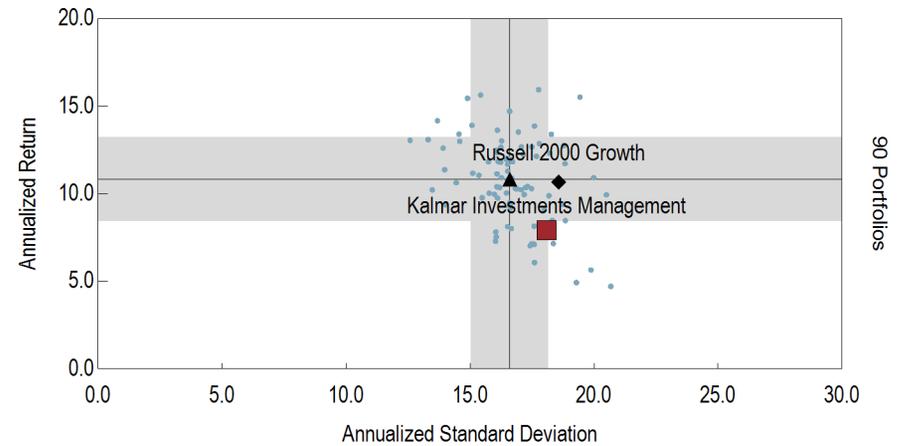
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Kalmar Investments Management	8.4%	16.2%	0.5
Russell 2000 Growth	14.3%	15.2%	0.9
eA US Small Cap Growth Equity Net Median	13.7%	14.6%	0.9

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Kalmar Investments Management	7.9%	18.1%	0.4
Russell 2000 Growth	10.7%	18.6%	0.6
eA US Small Cap Growth Equity Net Median	10.8%	16.6%	0.7

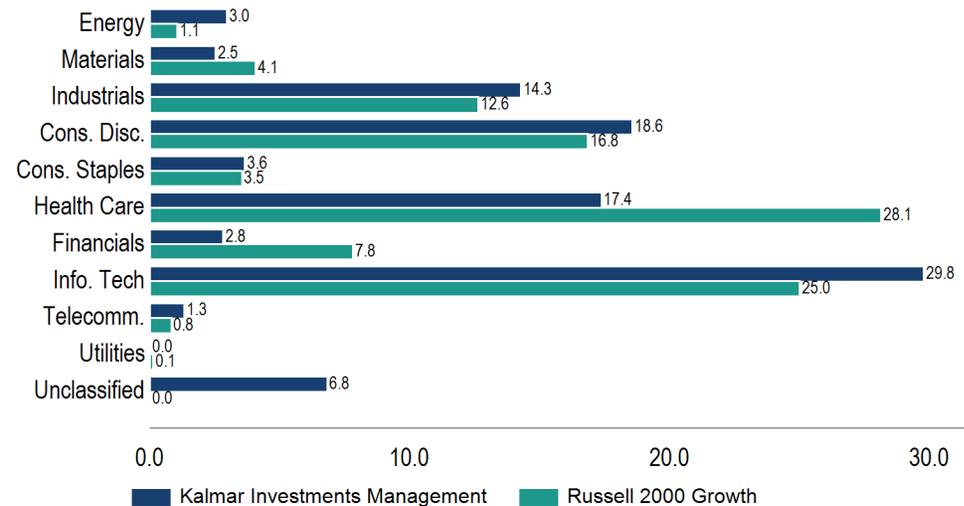
# Kalmar Investments Management Manager Portfolio Overview (Net of Fees)

Period Ending: December 31, 2015

## Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	85	1,194
Weighted Avg. Market Cap. (\$B)	2.67	2.07
Median Market Cap. (\$B)	1.48	0.74
Price To Earnings	31.92	27.56
Price To Book	4.69	4.96
Price To Sales	3.23	3.38
Return on Equity (%)	11.70	16.59
Yield (%)	0.43	0.52
Beta	1.04	1.00

## Sector Allocation (%) vs Russell 2000 Growth



## Largest Holdings

	End Weight	Return
WEST PHARM.SVS.	2.52	11.51
ALLIANCE DATA SYSTEMS	2.23	6.79
BOTTOMLINE TECHS.	2.07	18.87
ACXIOM	2.01	5.87
SMITH (AO)	1.99	17.81
POLYONE	1.98	8.65
ULTIMATE SOFTWARE GP.	1.95	9.22
IMAX (NYS)	1.82	5.18
LIGAND PHARMS.'B'	1.76	26.59
CALLIDUS SOFTWARE	1.75	9.30

## Top Contributors

	Avg Wgt	Return	Contribution
8X8	1.32	38.45	0.51
GLOBUS MEDICAL CL.A	1.43	34.66	0.50
LIGAND PHARMS.'B'	1.50	26.59	0.40
BOTTOMLINE TECHS.	1.80	18.87	0.34
SMITH (AO)	1.88	17.81	0.34
WEST PHARM.SVS.	2.43	11.51	0.28
LUMINEX	1.05	26.49	0.28
MAXLINEAR 'A'	1.44	18.41	0.26
SMART & FINAL STORES	1.40	15.91	0.22
CAMBREX	1.15	18.67	0.21

## Bottom Contributors

	Avg Wgt	Return	Contribution
G-III APPAREL GROUP	1.56	-28.22	-0.44
ENCORE CAP.GP.	1.67	-21.41	-0.36
OXFORD INDUSTRIES	1.76	-13.32	-0.23
UNITED NATURAL FOODS	1.22	-18.86	-0.23
REX ENERGY	0.40	-49.28	-0.20
INOGEN	0.93	-17.43	-0.16
CEB	1.67	-9.64	-0.16
COOPER COS.	1.52	-9.85	-0.15
COMSCORE	1.27	-10.83	-0.14
RED ROBIN GMT.BURGERS	0.69	-18.48	-0.13

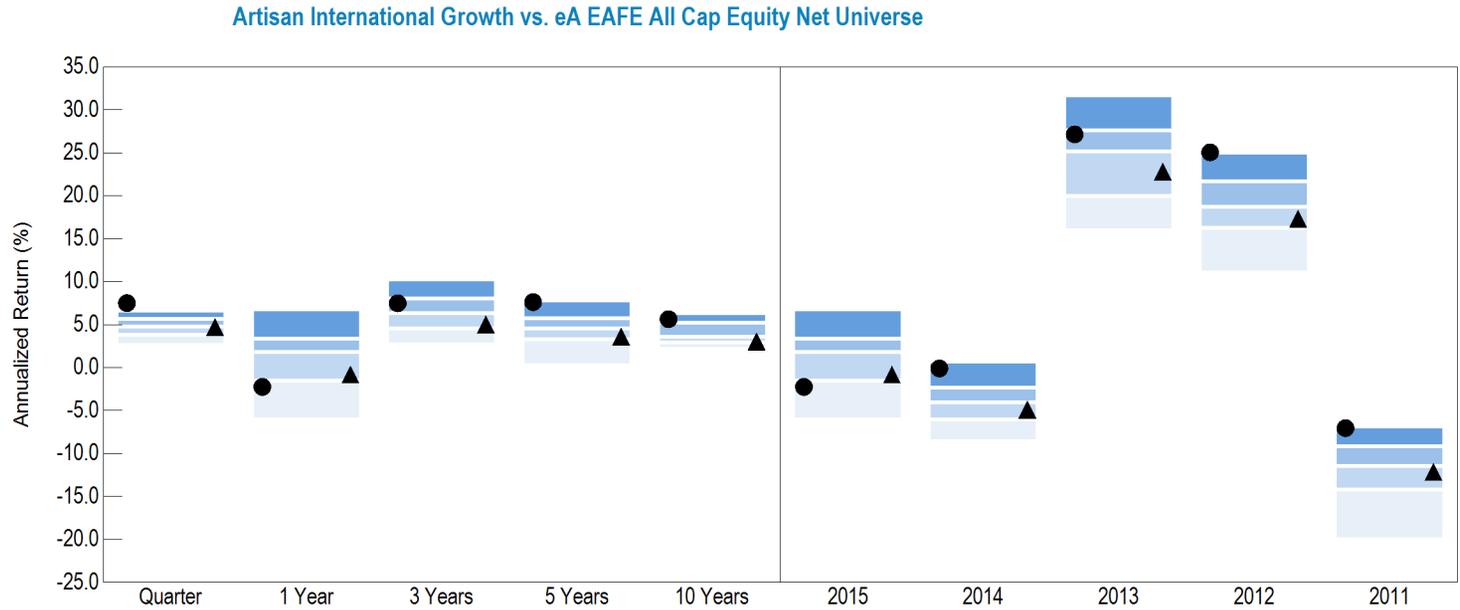
Unclassified sector allocation include cash allocations.

# International Equity Managers

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Artisan International Growth  
 Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2015

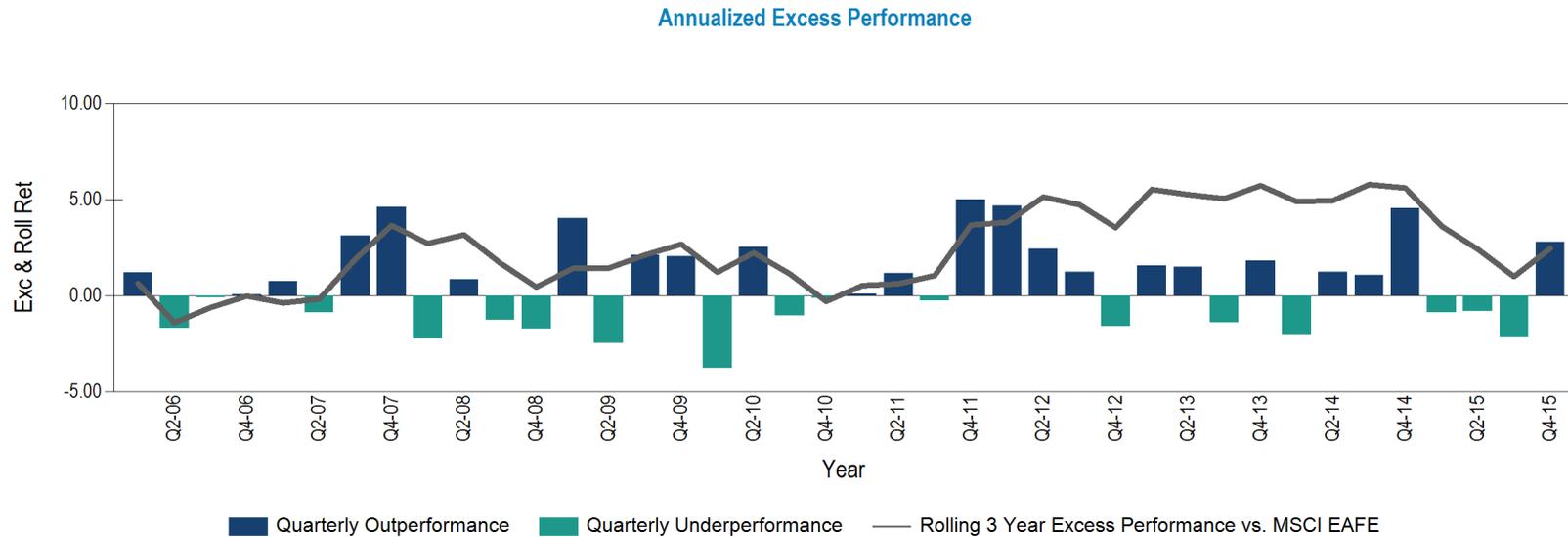
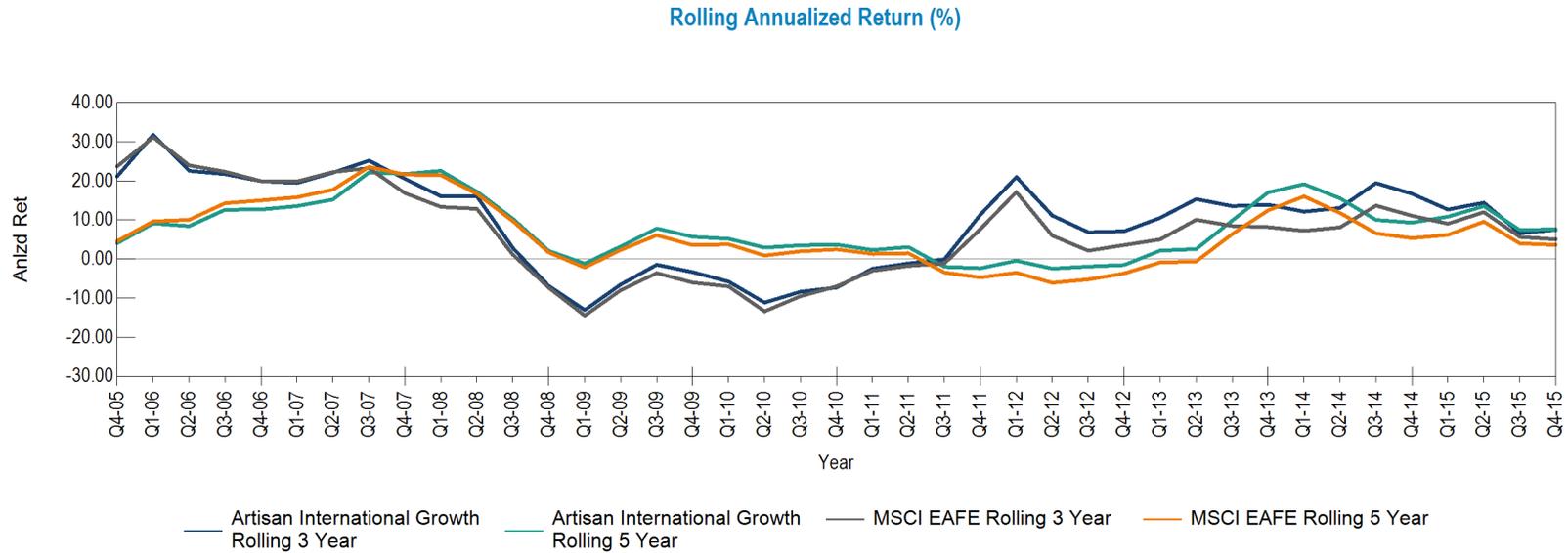


	Return (Rank)									
5th Percentile	6.6	6.8	10.2	7.8	6.3	6.8	0.6	31.6	25.0	-6.9
25th Percentile	5.7	3.4	8.1	5.8	5.2	3.4	-2.3	27.7	21.7	-9.1
Median	4.8	1.8	6.4	4.6	3.6	1.8	-4.0	25.2	18.7	-11.4
75th Percentile	3.9	-1.5	4.6	3.3	3.0	-1.5	-6.0	20.0	16.3	-14.1
95th Percentile	2.7	-6.0	2.7	0.3	2.2	-6.0	-8.5	16.0	11.1	-19.9
# of Portfolios	59	58	55	49	39	58	51	47	49	42
● Artisan International Growth	7.5 (1)	-2.2 (80)	7.5 (32)	7.6 (6)	5.6 (12)	-2.2 (80)	-0.1 (10)	27.1 (32)	25.0 (5)	-7.1 (10)
▲ MSCI EAFE	4.7 (53)	-0.8 (71)	5.0 (67)	3.6 (70)	3.0 (74)	-0.8 (71)	-4.9 (62)	22.8 (67)	17.3 (62)	-12.1 (61)

Returns prior to inception date are composite returns.

# Artisan International Growth Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2015

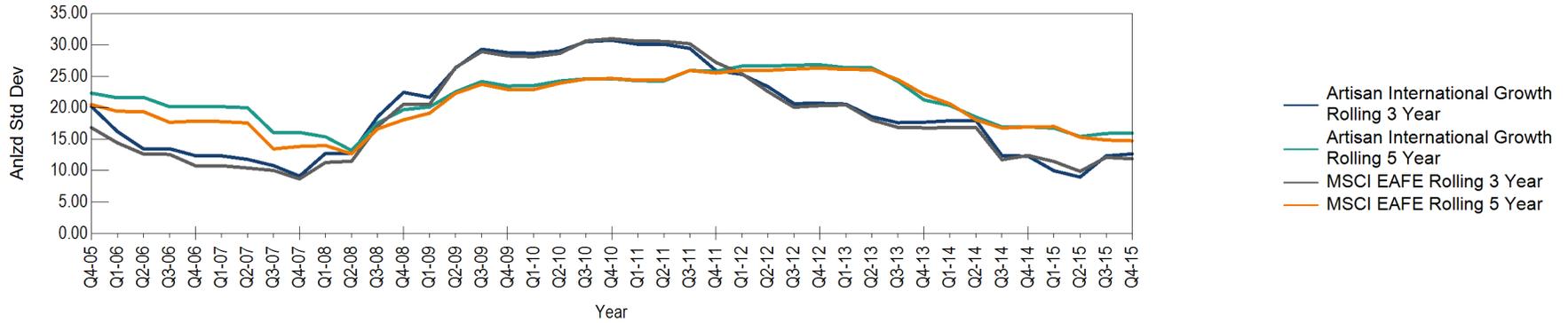


Returns prior to inception date are composite returns.

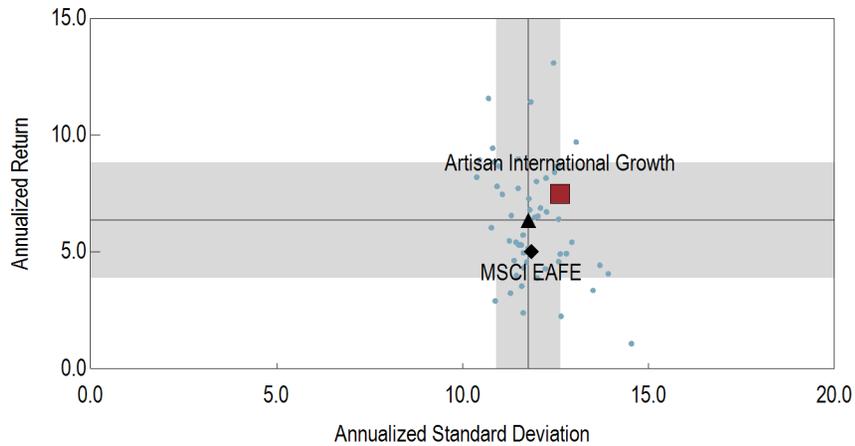
# Artisan International Growth Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2015

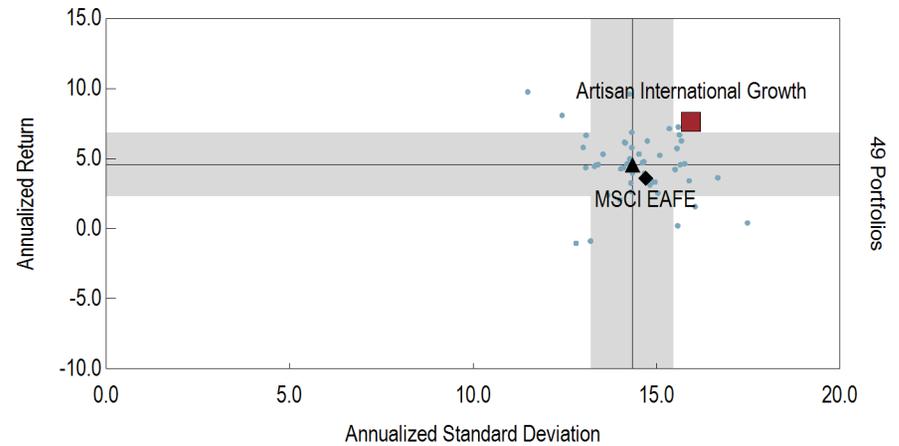
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Artisan International Growth	7.5%	12.6%	0.6
MSCI EAFE	5.0%	11.8%	0.4
eA EAFE All Cap Equity Net Median	6.4%	11.8%	0.5

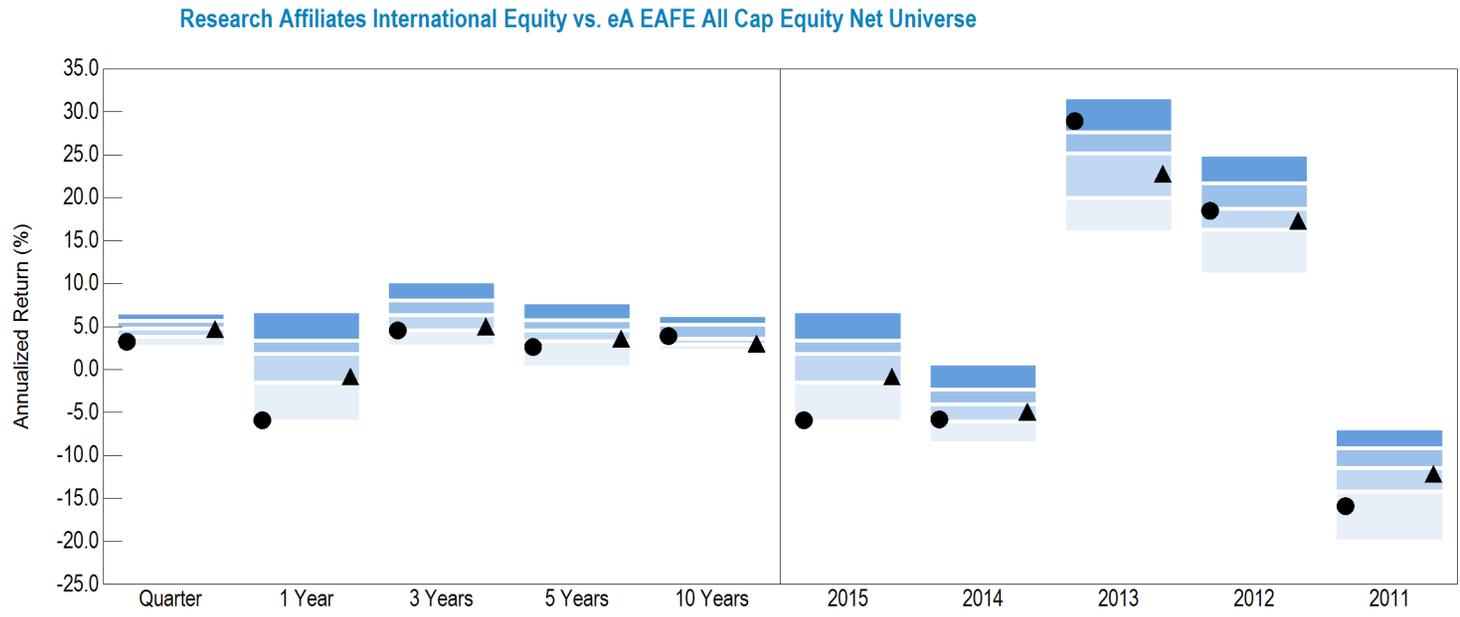
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Artisan International Growth	7.6%	15.9%	0.5
MSCI EAFE	3.6%	14.7%	0.2
eA EAFE All Cap Equity Net Median	4.6%	14.3%	0.3

Returns prior to inception date are composite returns.

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

Period Ending: December 31, 2015

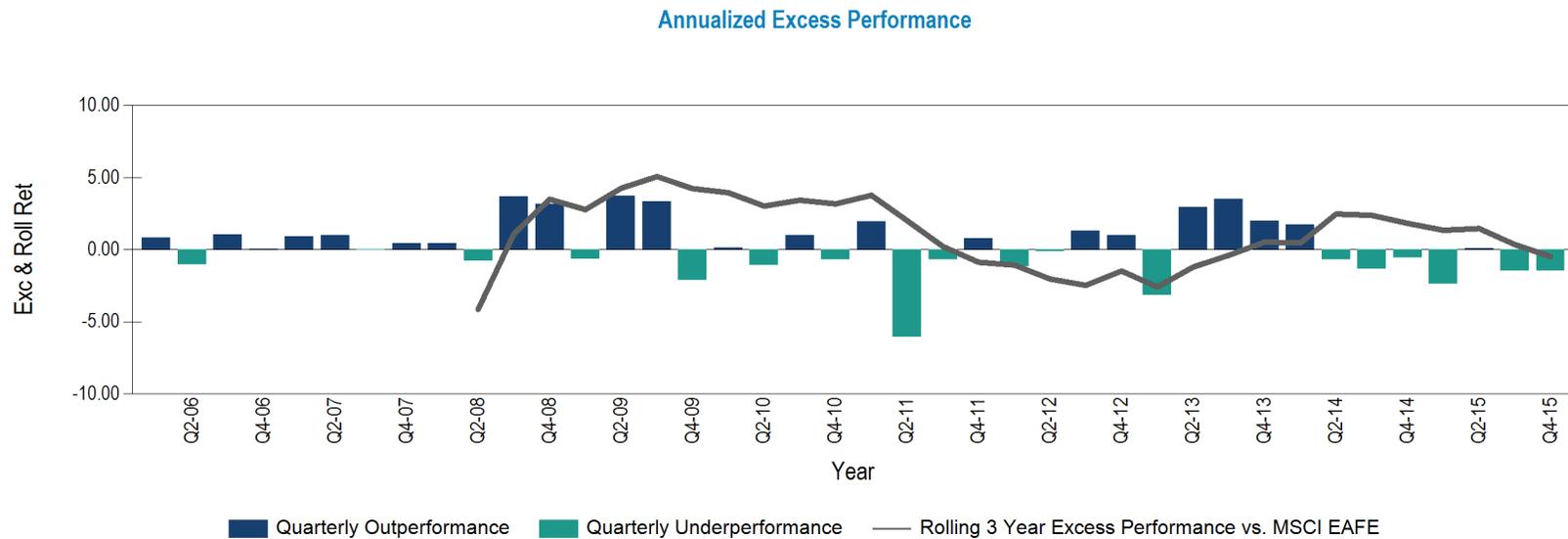
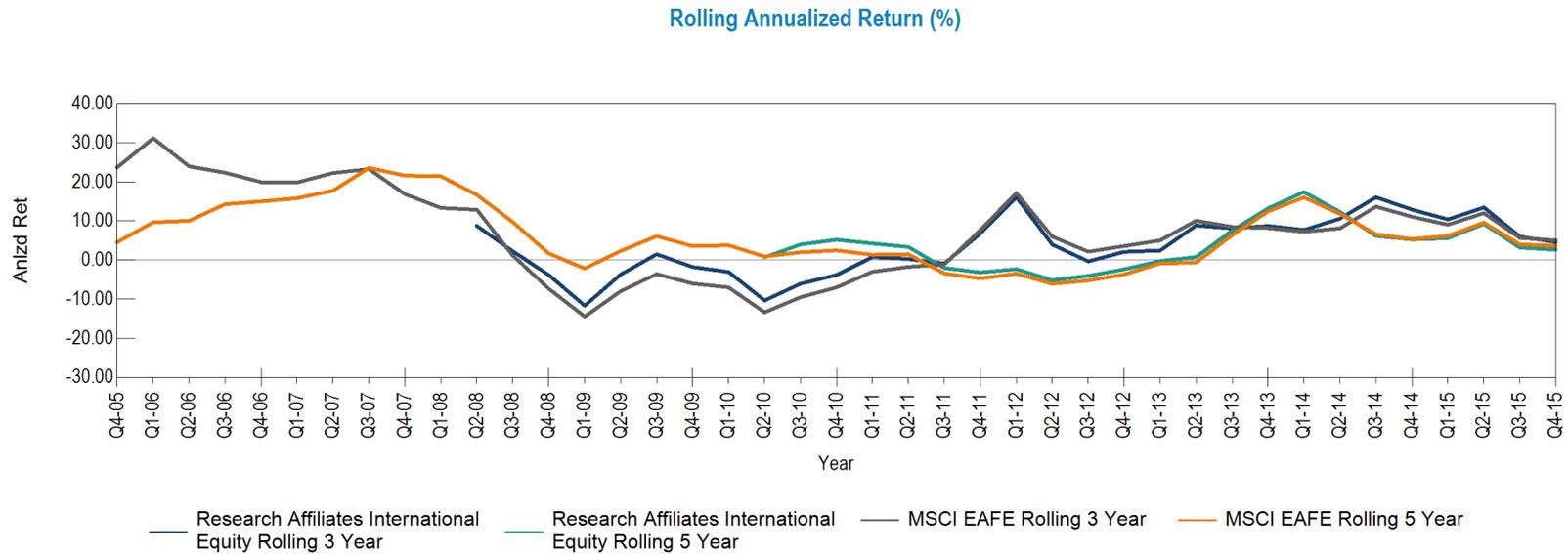


	Return (Rank)									
<b>5th Percentile</b>	6.6	6.8	10.2	7.8	6.3	6.8	0.6	31.6	25.0	-6.9
<b>25th Percentile</b>	5.7	3.4	8.1	5.8	5.2	3.4	-2.3	27.7	21.7	-9.1
<b>Median</b>	4.8	1.8	6.4	4.6	3.6	1.8	-4.0	25.2	18.7	-11.4
<b>75th Percentile</b>	3.9	-1.5	4.6	3.3	3.0	-1.5	-6.0	20.0	16.3	-14.1
<b>95th Percentile</b>	2.7	-6.0	2.7	0.3	2.2	-6.0	-8.5	16.0	11.1	-19.9
<b># of Portfolios</b>	59	58	55	49	39	58	51	47	49	42
<b>● Research Affiliates International Equity</b>	3.2 (83)	-5.9 (95)	4.5 (77)	2.6 (84)	3.9 (44)	-5.9 (95)	-5.8 (75)	28.9 (11)	18.5 (51)	-15.9 (89)
<b>▲ MSCI EAFE</b>	4.7 (53)	-0.8 (71)	5.0 (67)	3.6 (70)	3.0 (74)	-0.8 (71)	-4.9 (62)	22.8 (67)	17.3 (62)	-12.1 (61)

Returns prior to inception date are composite returns.

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

Period Ending: December 31, 2015

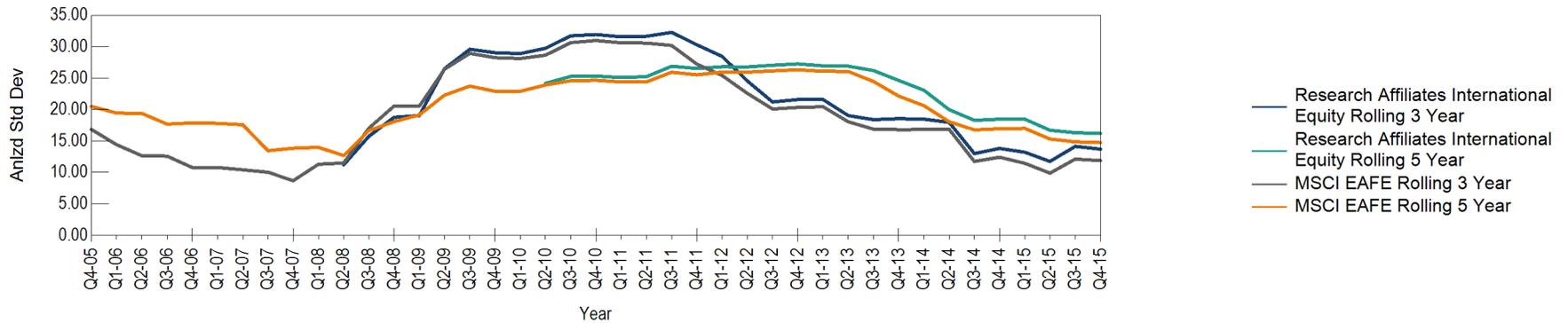


Returns prior to inception date are composite returns.

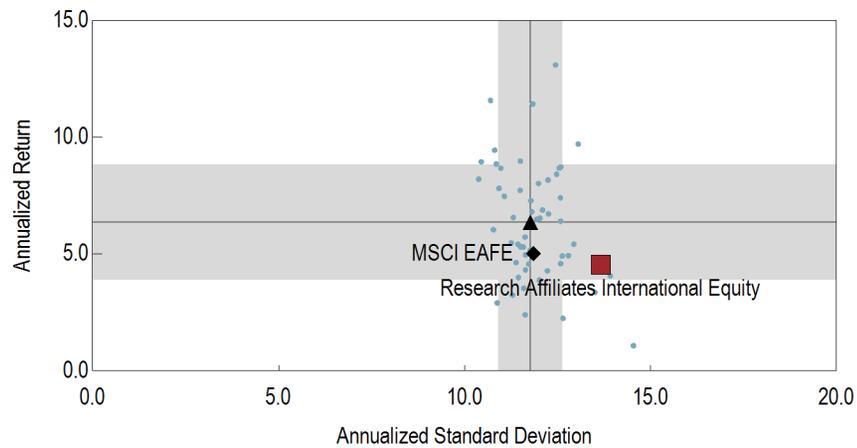
# Research Affiliates International Equity Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2015

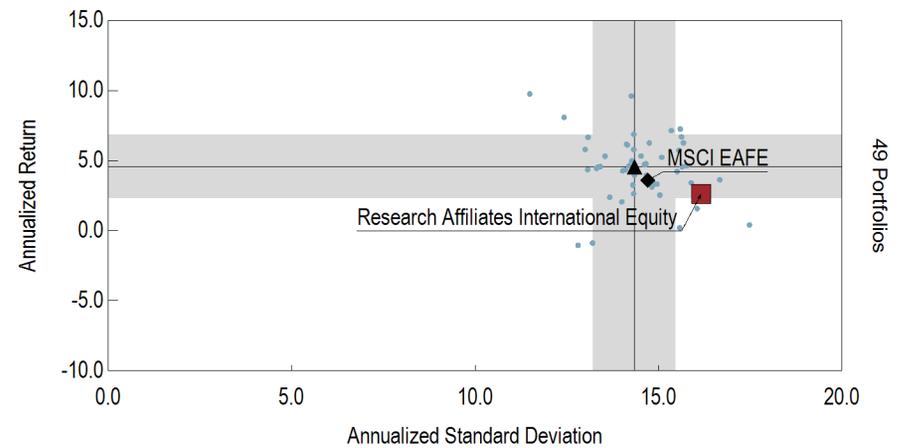
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Research Affiliates International Equity	4.8%	13.7%	0.3
MSCI EAFE	5.0%	11.8%	0.4
eA EAFE All Cap Equity Net Median	6.4%	11.8%	0.5

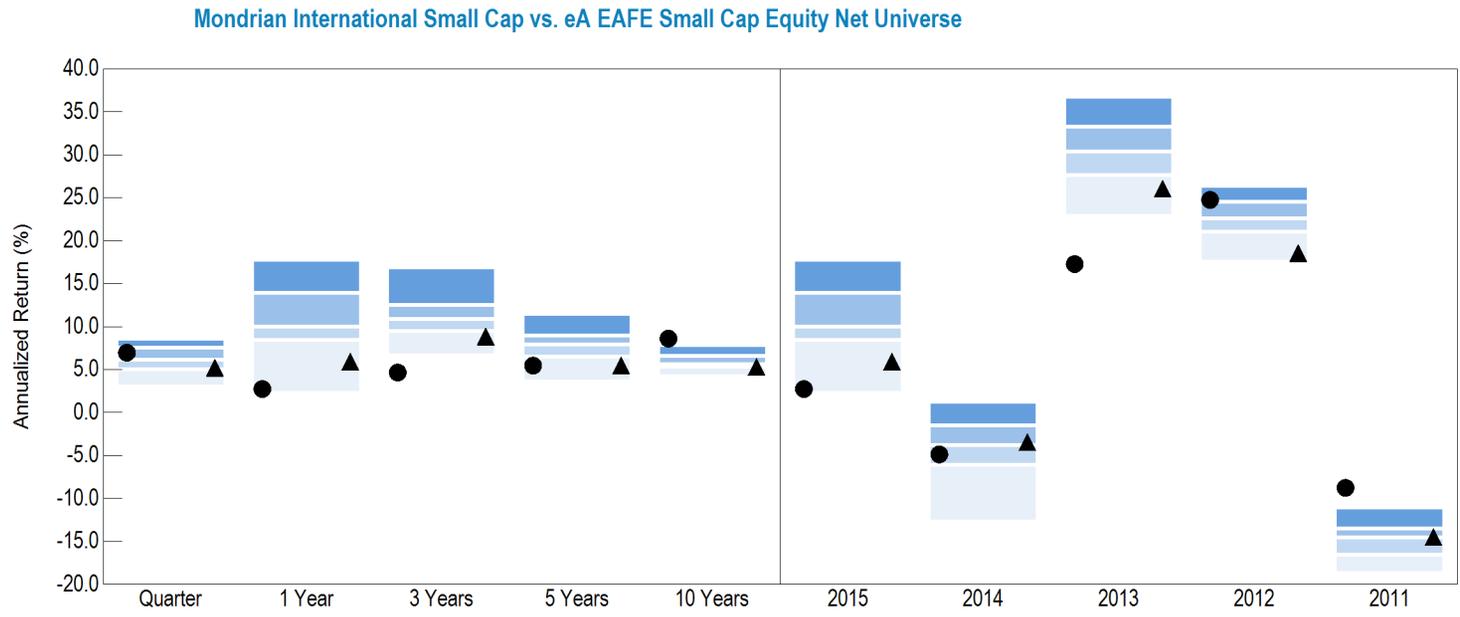
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Research Affiliates International Equity	4.0%	16.0%	0.2
MSCI EAFE	3.6%	14.7%	0.2
eA EAFE All Cap Equity Net Median	4.6%	14.3%	0.3

Returns prior to inception date are composite returns.

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

Period Ending: December 31, 2015

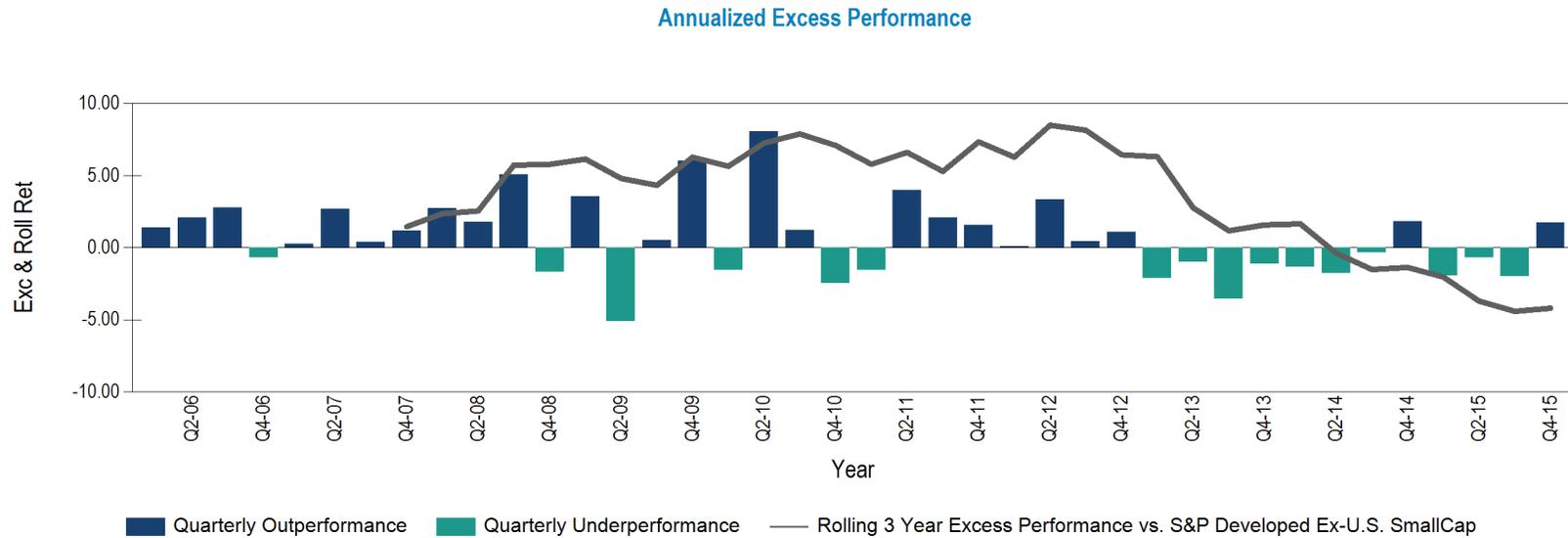
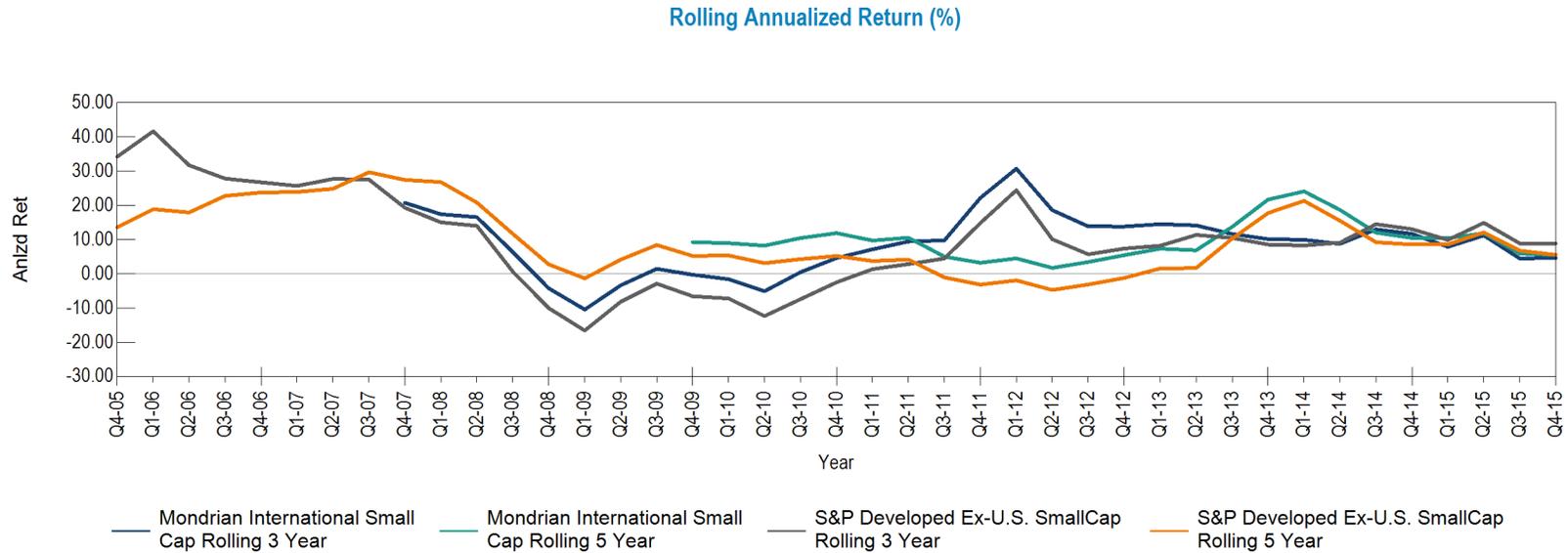


	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011
5th Percentile	8.6	17.8	16.8	11.4	7.8	17.8	1.2	36.7	26.3	-11.1
25th Percentile	7.6	14.0	12.6	9.0	6.6	14.0	-1.5	33.3	24.6	-13.4
Median	6.2	10.1	10.9	7.9	5.7	10.1	-3.7	30.4	22.6	-14.5
75th Percentile	5.1	8.5	9.5	6.6	5.4	8.5	-6.1	27.6	21.1	-16.5
95th Percentile	3.1	2.3	6.7	3.7	4.3	2.3	-12.7	22.9	17.6	-18.7
# of Portfolios	33	31	26	22	14	31	32	30	26	21
● Mondrian International Small Cap	7.0 (44)	2.7 (94)	4.6 (99)	5.5 (86)	8.6 (1)	2.7 (94)	-4.9 (67)	17.3 (99)	24.7 (22)	-8.8 (1)
▲ S&P Developed Ex-U.S. SmallCap	5.2 (72)	5.9 (84)	8.8 (85)	5.5 (85)	5.3 (78)	5.9 (84)	-3.4 (48)	26.1 (84)	18.6 (93)	-14.5 (47)

Returns prior to inception date are composite returns.

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

Period Ending: December 31, 2015

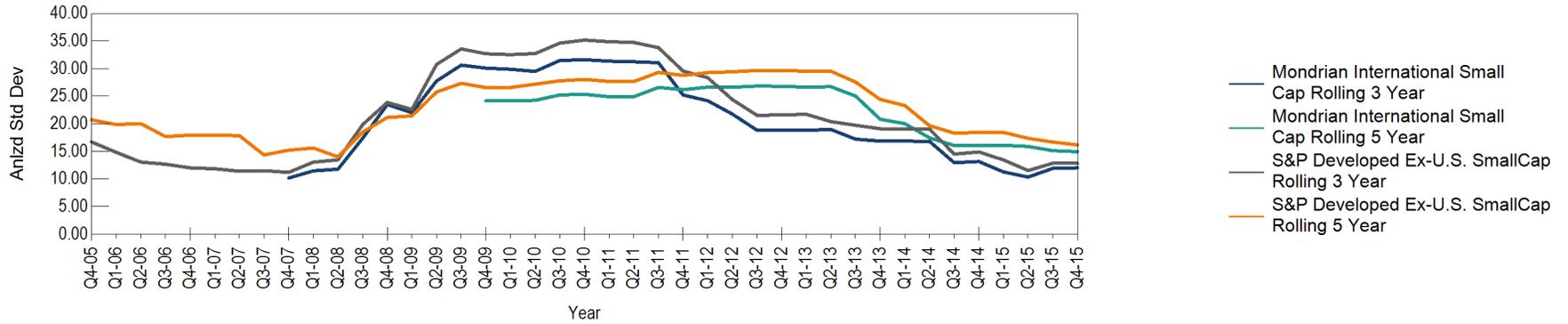


Returns prior to inception date are composite returns.

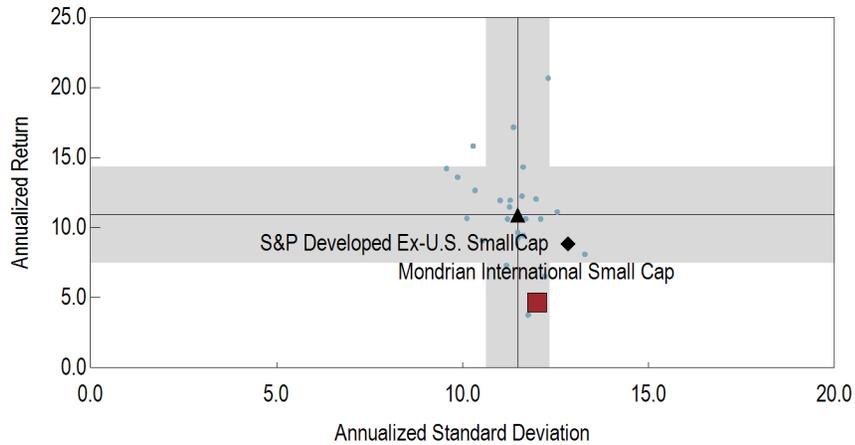
# Mondrian International Small Cap Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2015

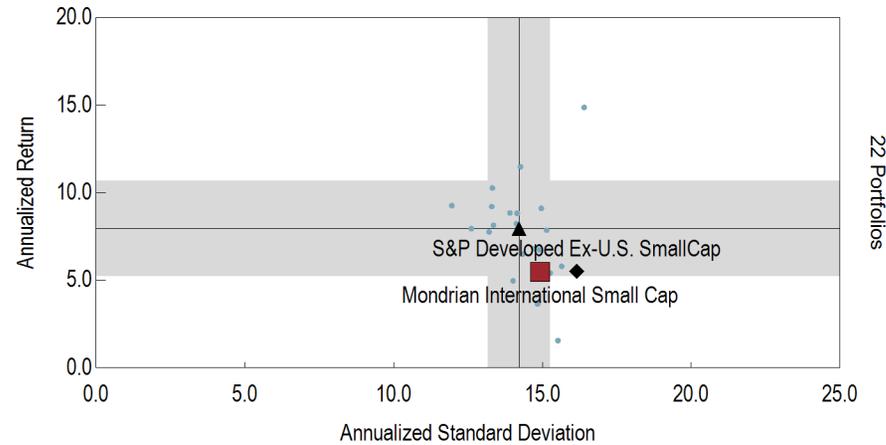
Rolling Annualized Standard Deviation



3 Years



5 Years



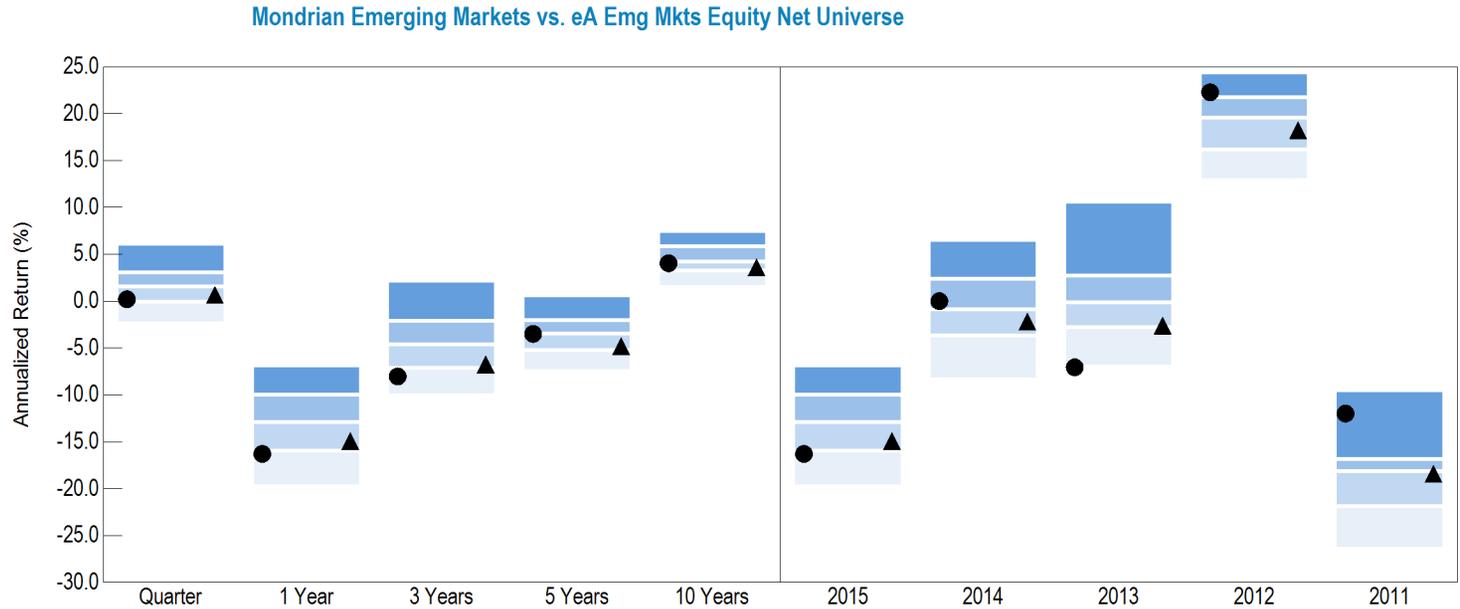
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Mondrian International Small Cap	5.4%	12.0%	0.4
S&P Developed Ex-U.S. SmallCap	8.8%	12.8%	0.7
eA EAFE Small Cap Equity Net Median	10.9%	11.5%	1.0

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Mondrian International Small Cap	6.2%	14.9%	0.4
S&P Developed Ex-U.S. SmallCap	5.5%	16.2%	0.3
eA EAFE Small Cap Equity Net Median	7.9%	14.2%	0.6

Returns prior to inception date are composite returns.

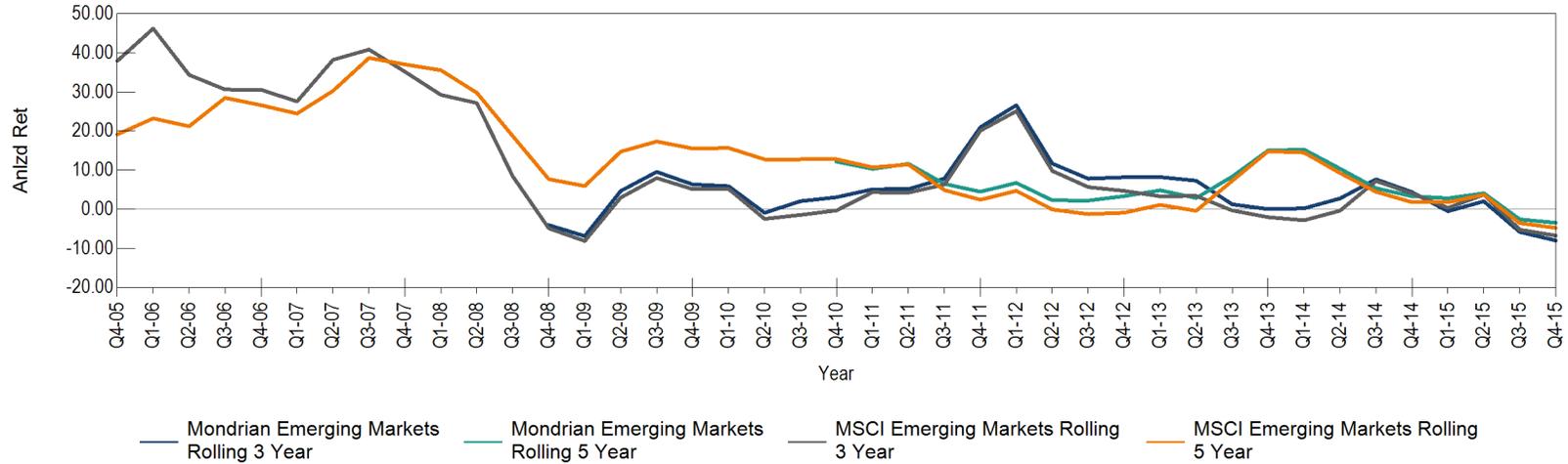


	Return (Rank)									
5th Percentile	6.1	-6.9	2.2	0.6	7.4	-6.9	6.5	10.6	24.4	-9.5
25th Percentile	3.1	-10.0	-2.1	-2.0	5.9	-10.0	2.4	2.8	21.8	-16.8
Median	1.6	-12.9	-4.6	-3.4	4.2	-12.9	-0.8	-0.1	19.6	-18.1
75th Percentile	0.0	-15.9	-7.1	-5.2	3.3	-15.9	-3.6	-2.7	16.2	-21.8
95th Percentile	-2.3	-19.7	-10.0	-7.4	1.5	-19.7	-8.3	-6.9	12.9	-26.4
# of Portfolios	149	143	125	84	41	143	126	105	75	50
● Mondrian Emerging Markets	0.2 (71)	-16.3 (80)	-8.0 (89)	-3.5 (51)	4.0 (55)	-16.3 (80)	0.0 (42)	-7.1 (96)	22.3 (22)	-12.0 (7)
▲ MSCI Emerging Markets	0.7 (62)	-14.9 (68)	-6.8 (74)	-4.8 (71)	3.6 (69)	-14.9 (68)	-2.2 (62)	-2.6 (74)	18.2 (66)	-18.4 (53)

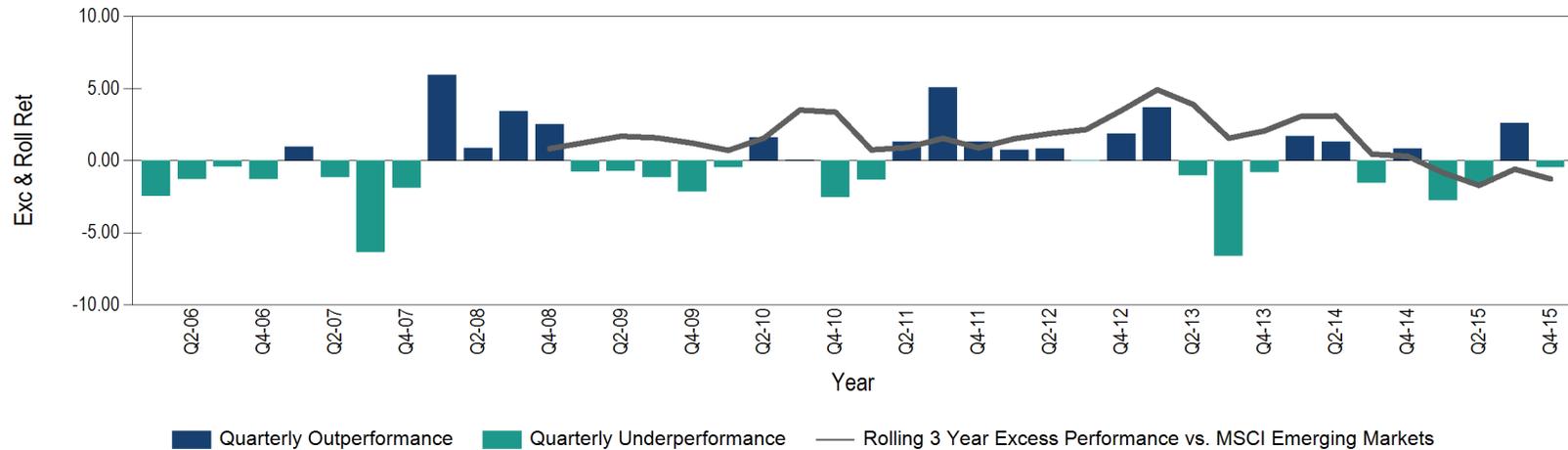
Mondrian Emerging Markets  
 Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2015

Rolling Annualized Return (%)



Annualized Excess Performance

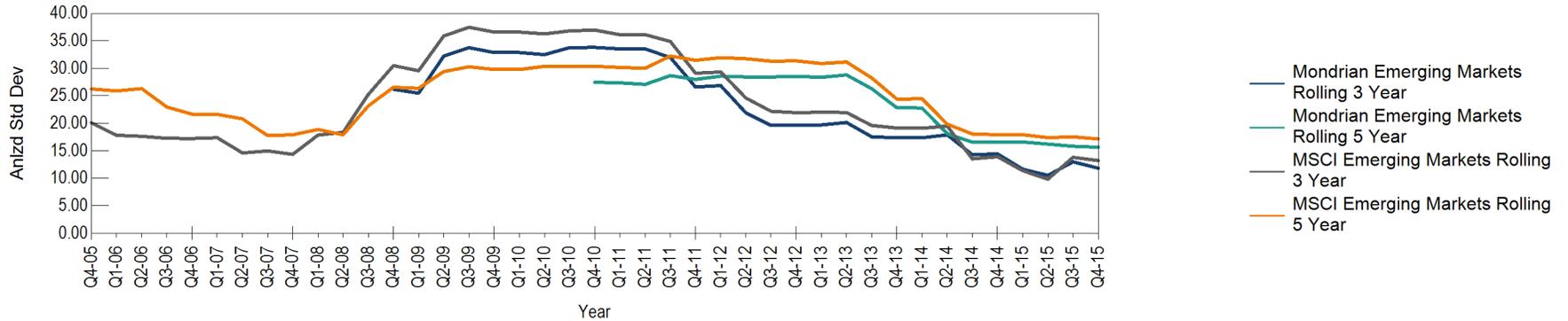


# Mondrian Emerging Markets

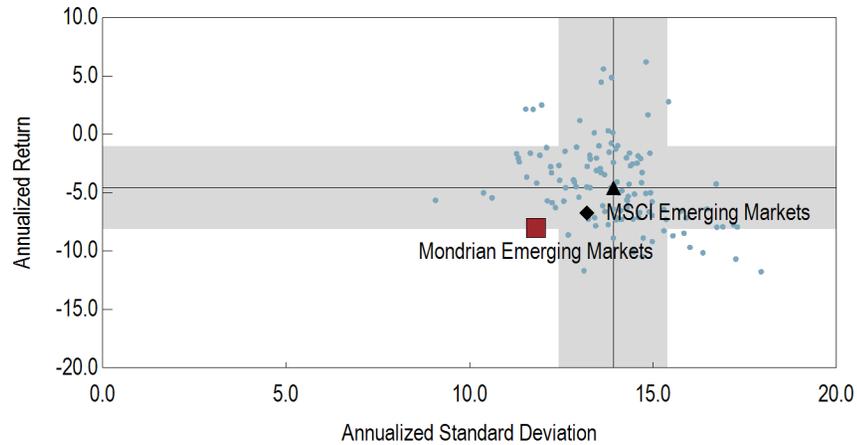
## Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2015

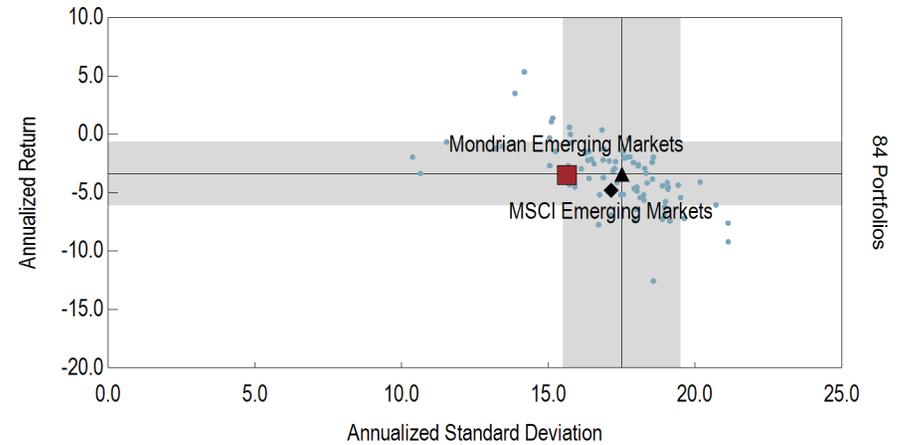
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Mondrian Emerging Markets	-7.4%	11.8%	-0.6
MSCI Emerging Markets	-6.8%	13.2%	-0.5
eA Emg Mkts Equity Net Median	-4.6%	13.9%	-0.3

5 Years

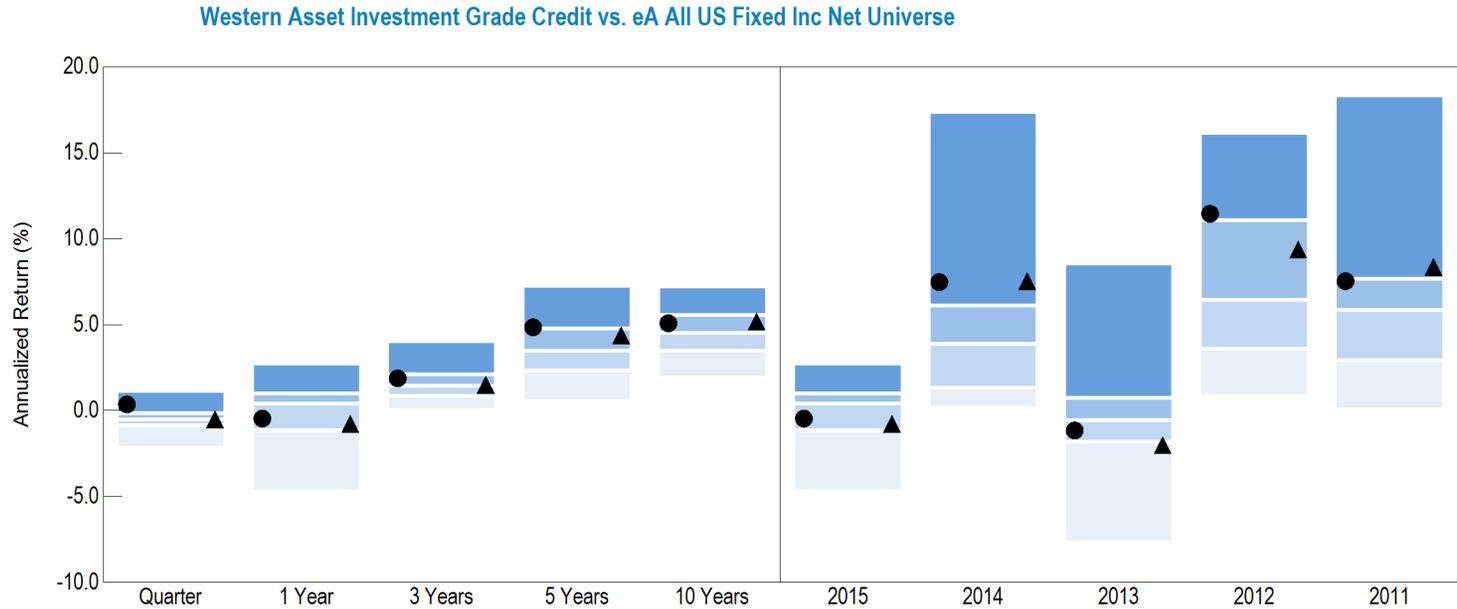
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Mondrian Emerging Markets	-2.8%	15.6%	-0.2
MSCI Emerging Markets	-4.8%	17.1%	-0.3
eA Emg Mkts Equity Net Median	-3.4%	17.5%	-0.2

## Fixed Income Managers

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

Period Ending: December 31, 2015

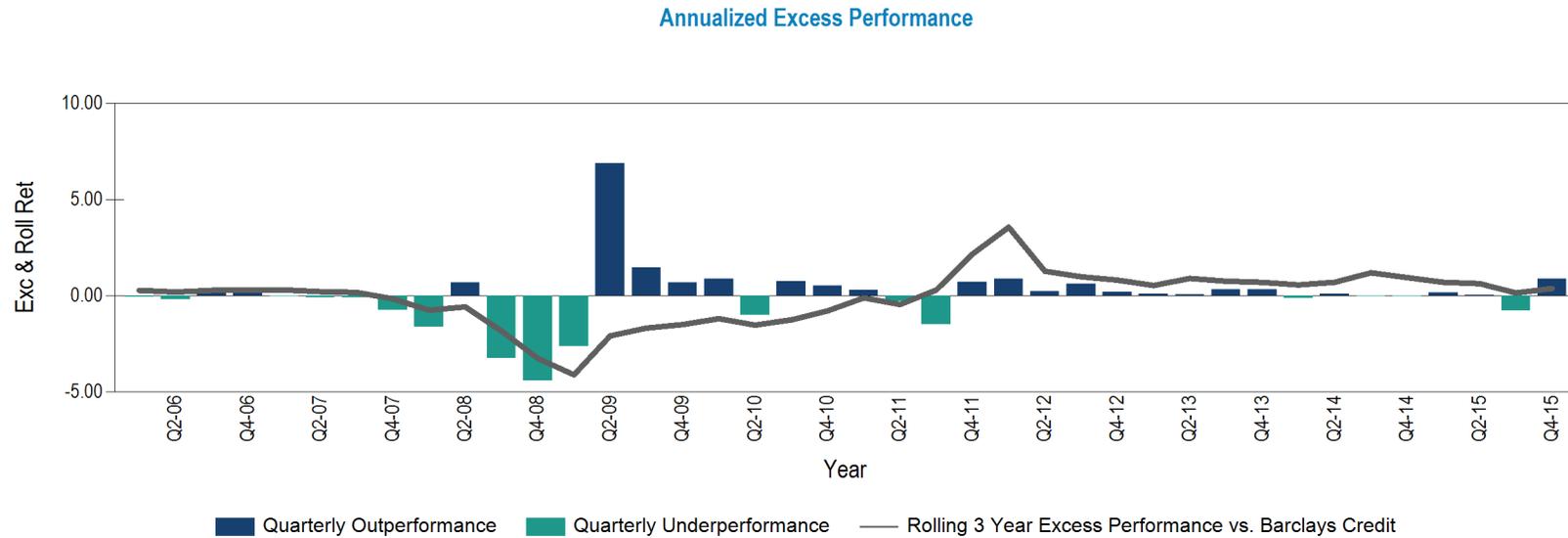
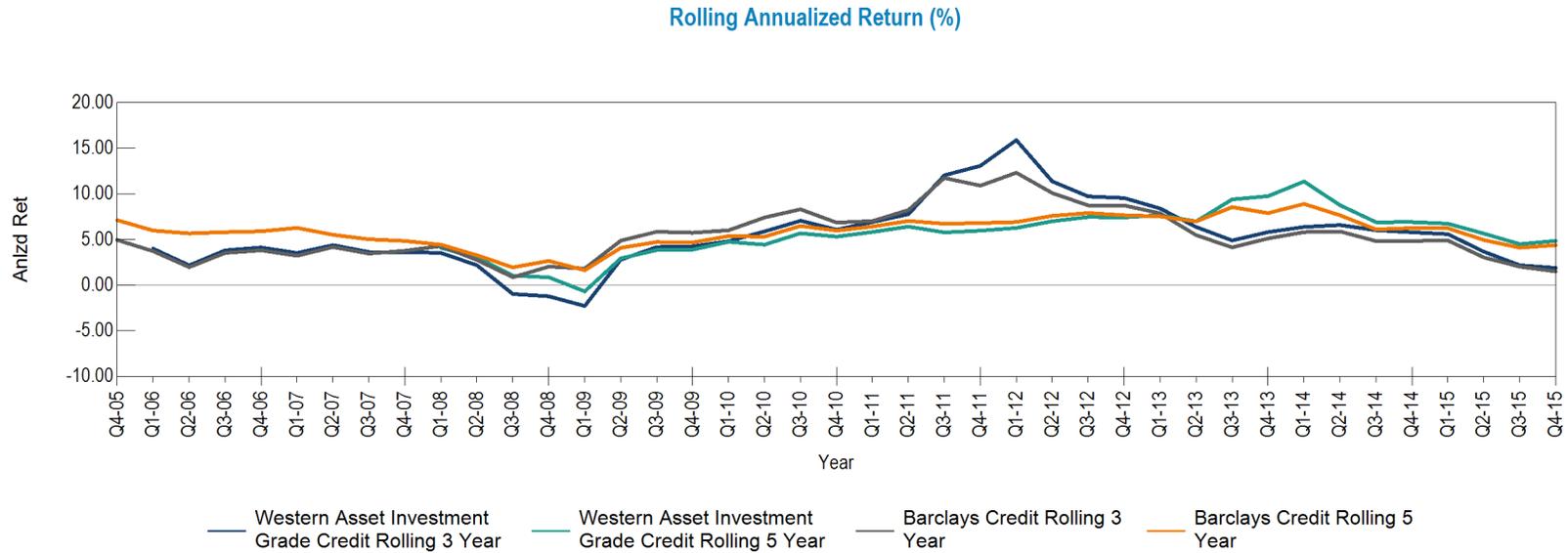


	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011
5th Percentile	1.1	2.7	4.0	7.2	7.2	2.7	17.4	8.5	16.1	18.3
25th Percentile	-0.1	1.0	2.1	4.8	5.6	1.0	6.1	0.8	11.1	7.7
Median	-0.5	0.4	1.5	3.5	4.6	0.4	3.9	-0.5	6.5	5.9
75th Percentile	-0.8	-1.1	0.9	2.3	3.5	-1.1	1.4	-1.8	3.6	2.9
95th Percentile	-2.1	-4.7	0.1	0.6	1.9	-4.7	0.2	-7.6	0.9	0.1
# of Portfolios	847	827	770	700	523	827	758	662	555	483
● Western Asset Investment Grade Credit	0.4 (11)	-0.5 (70)	1.9 (33)	4.8 (25)	5.1 (36)	-0.5 (70)	7.5 (15)	-1.2 (63)	11.4 (24)	7.5 (29)
▲ Barclays Credit	-0.5 (53)	-0.8 (74)	1.5 (48)	4.4 (33)	5.2 (32)	-0.8 (74)	7.5 (15)	-2.0 (80)	9.4 (33)	8.4 (18)

Returns prior to inception date are composite returns.

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

Period Ending: December 31, 2015

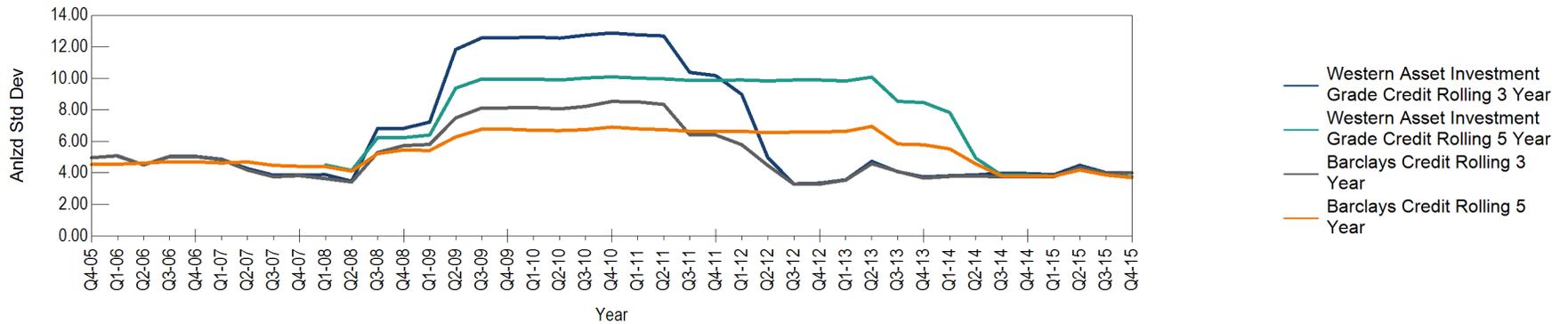


Returns prior to inception date are composite returns.

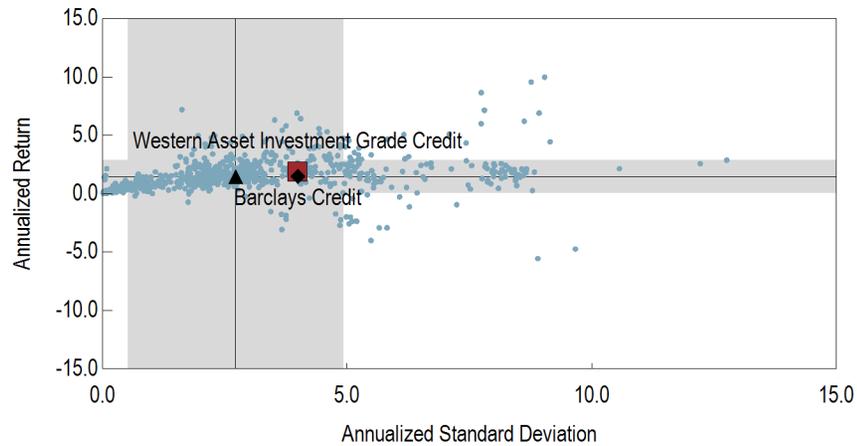
# Western Asset Investment Grade Credit Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2015

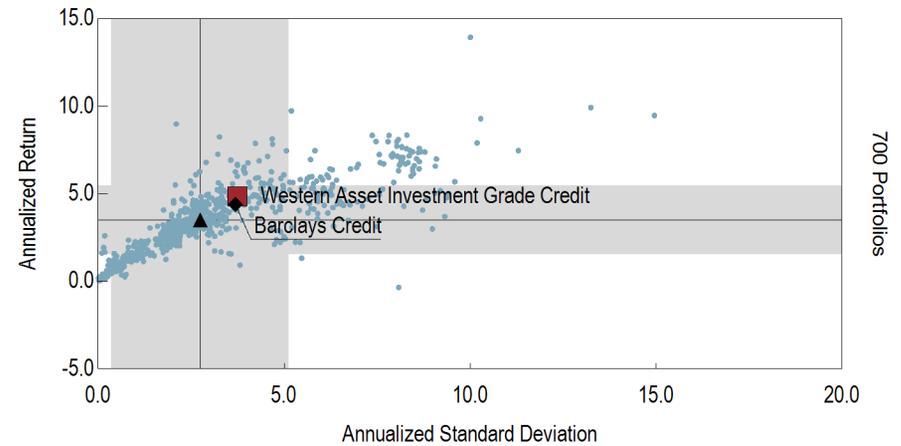
Rolling Annualized Standard Deviation



3 Years



5 Years



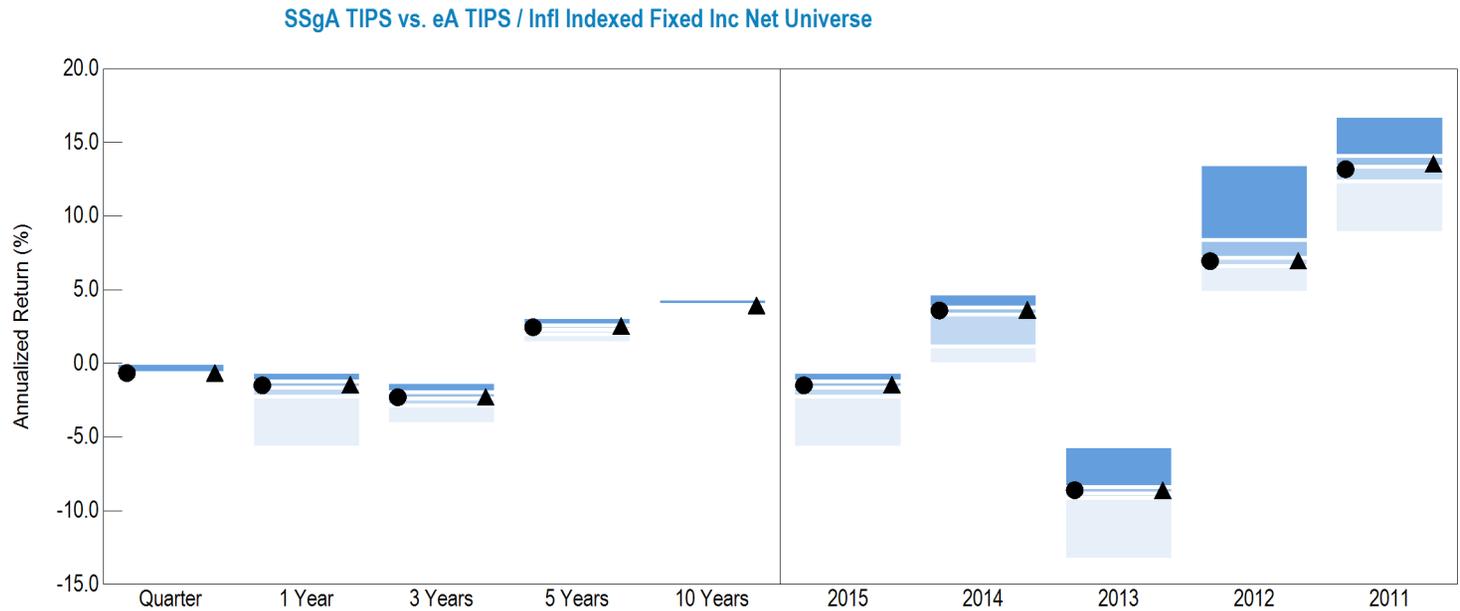
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Western Asset Investment Grade Credit	1.9%	4.0%	0.5
Barclays Credit	1.5%	4.0%	0.4
eA All US Fixed Inc Net Median	1.5%	2.7%	0.6

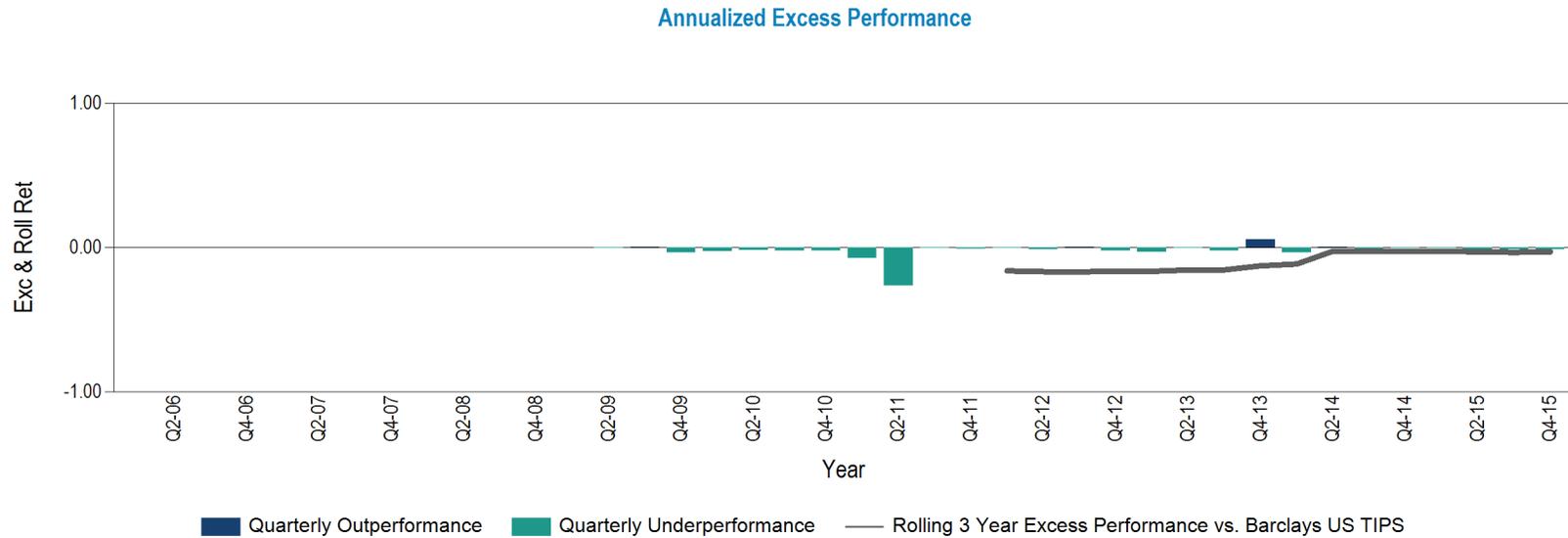
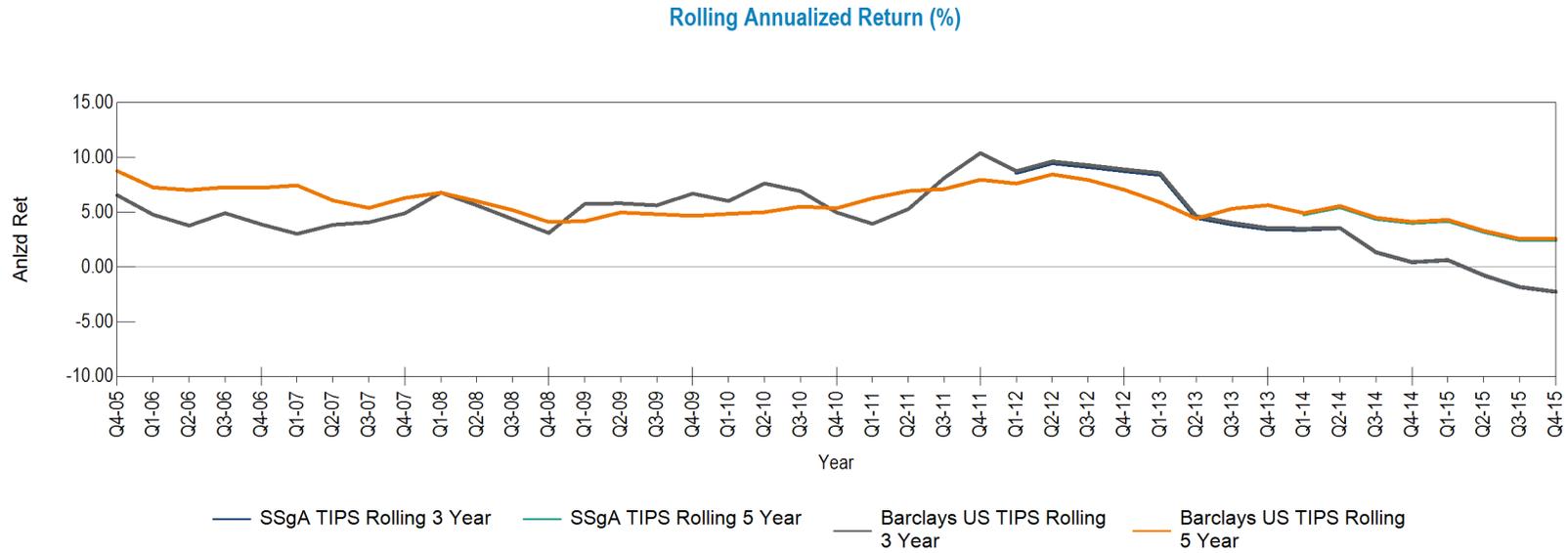
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Western Asset Investment Grade Credit	4.8%	3.7%	1.3
Barclays Credit	4.4%	3.7%	1.2
eA All US Fixed Inc Net Median	3.5%	2.7%	1.2

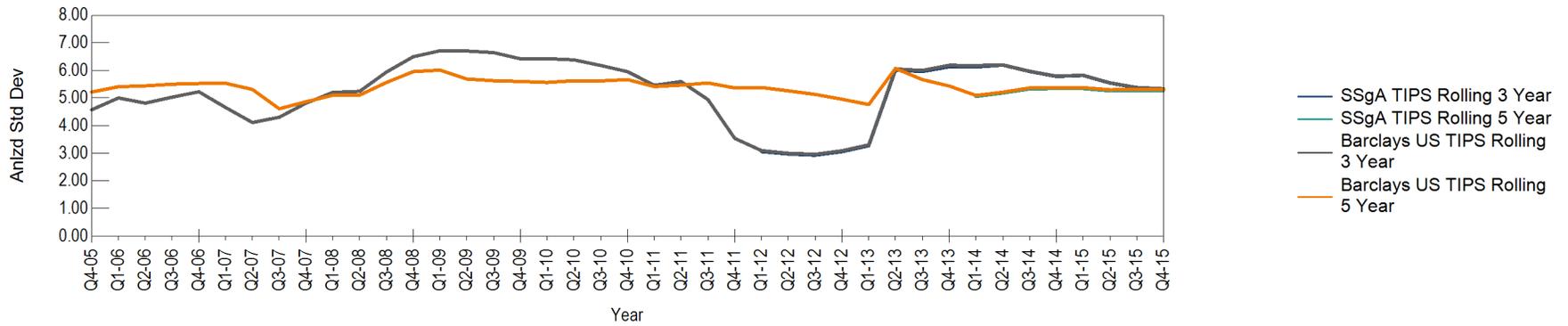
Returns prior to inception date are composite returns.



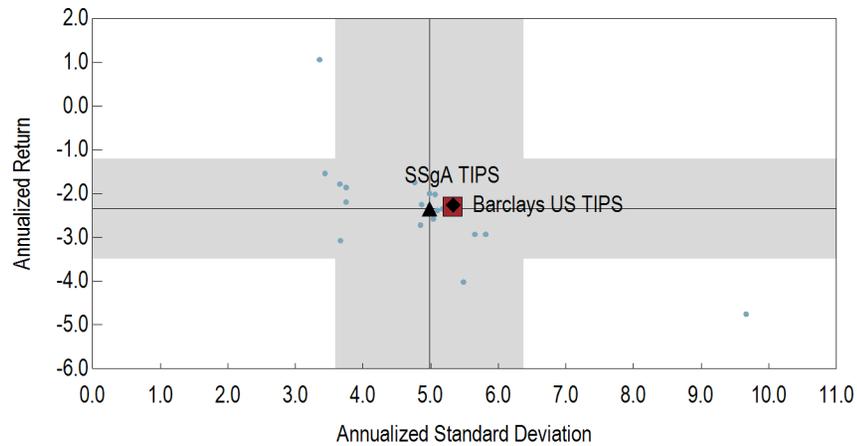
	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011
5th Percentile	0.0	-0.6	-1.3	3.1	4.4	-0.6	4.7	-5.6	13.5	16.8
25th Percentile	-0.6	-1.2	-1.9	2.6	4.0	-1.2	3.8	-8.4	8.4	14.1
Median	-0.7	-1.6	-2.3	2.3	3.9	-1.6	3.3	-8.8	7.2	13.4
75th Percentile	-0.8	-2.2	-2.8	2.0	3.6	-2.2	1.2	-9.1	6.6	12.4
95th Percentile	-0.9	-5.7	-4.1	1.4	3.5	-5.7	0.0	-13.3	4.8	8.9
# of Portfolios	24	22	19	16	11	22	24	19	17	16
● SSgA TIPS	-0.7 (30)	-1.5 (36)	-2.3 (47)	2.5 (32)	-- (--)	-1.5 (36)	3.6 (38)	-8.6 (44)	6.9 (64)	13.2 (66)
▲ Barclays US TIPS	-0.6 (28)	-1.4 (33)	-2.3 (46)	2.5 (27)	3.9 (36)	-1.4 (33)	3.6 (37)	-8.6 (44)	7.0 (62)	13.6 (40)



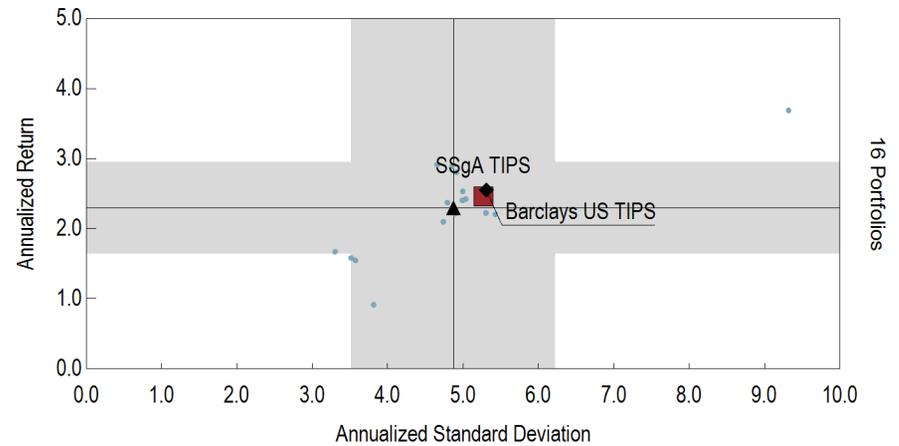
Rolling Annualized Standard Deviation



3 Years



5 Years

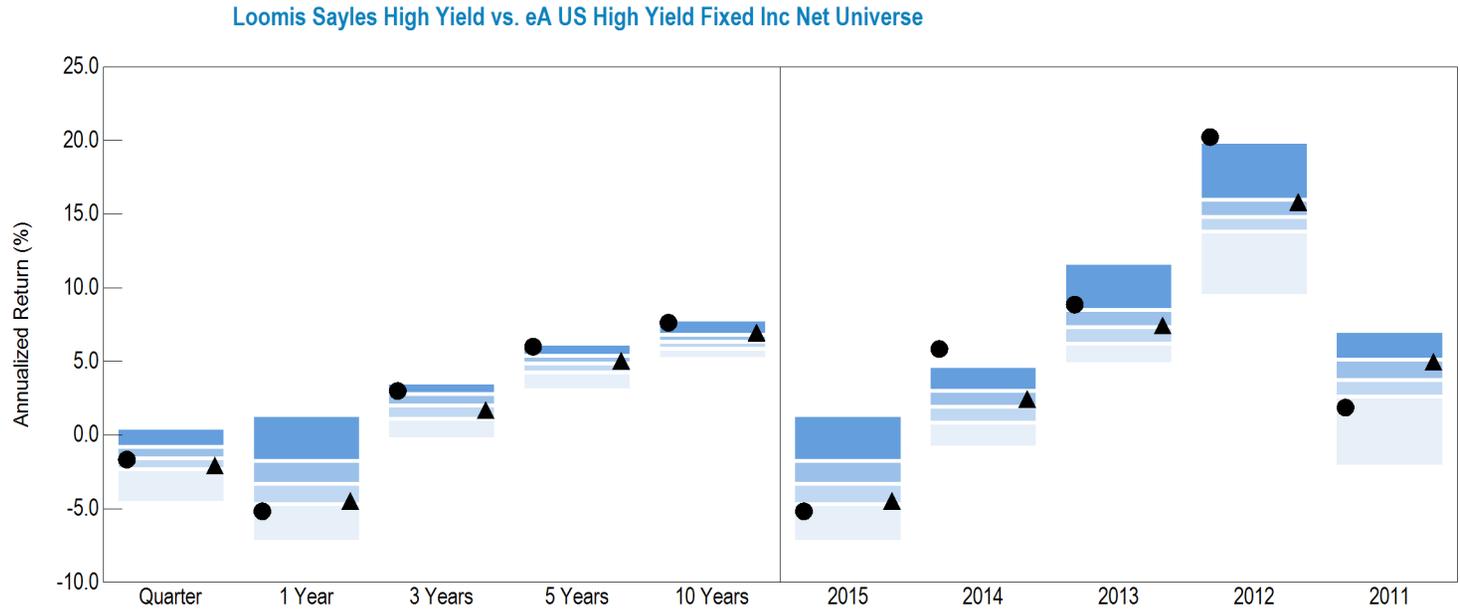


3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
SSgA TIPS	-2.3%	5.3%	-0.4
Barclays US TIPS	-2.3%	5.3%	-0.4
eA TIPS / Infl Indexed Fixed Inc Net Median	-2.3%	5.0%	-0.5

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
SSgA TIPS	2.5%	5.3%	0.5
Barclays US TIPS	2.5%	5.3%	0.5
eA TIPS / Infl Indexed Fixed Inc Net Median	2.3%	4.9%	0.5

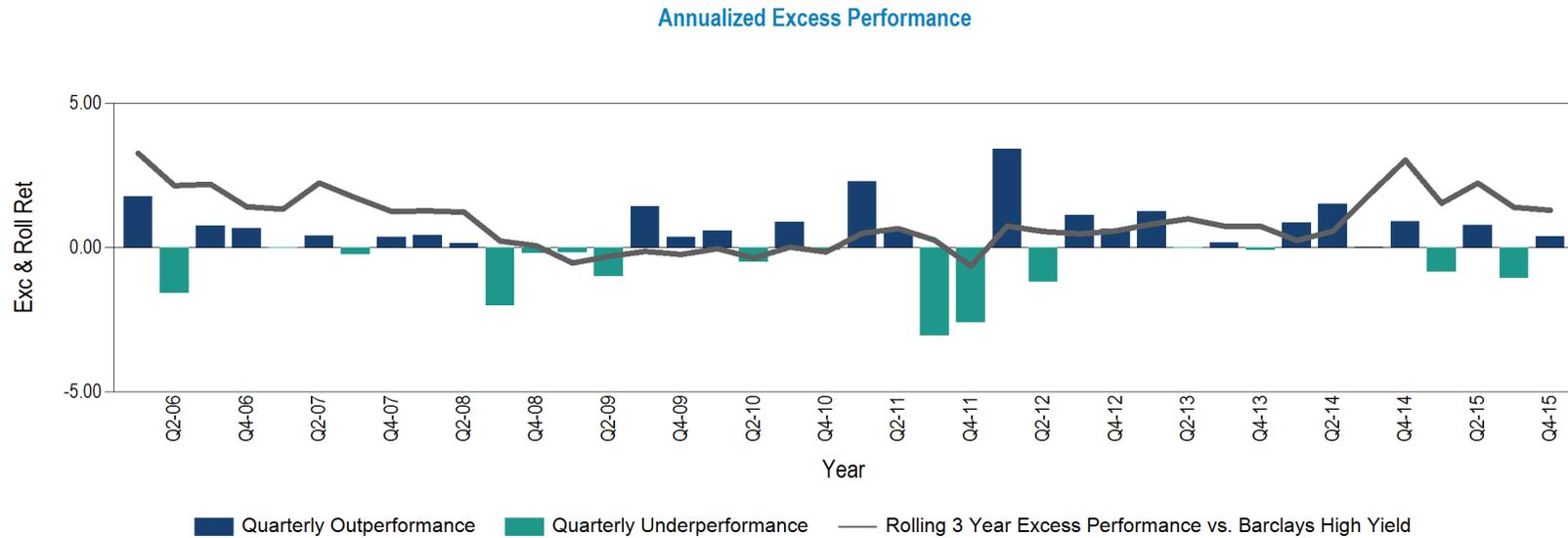
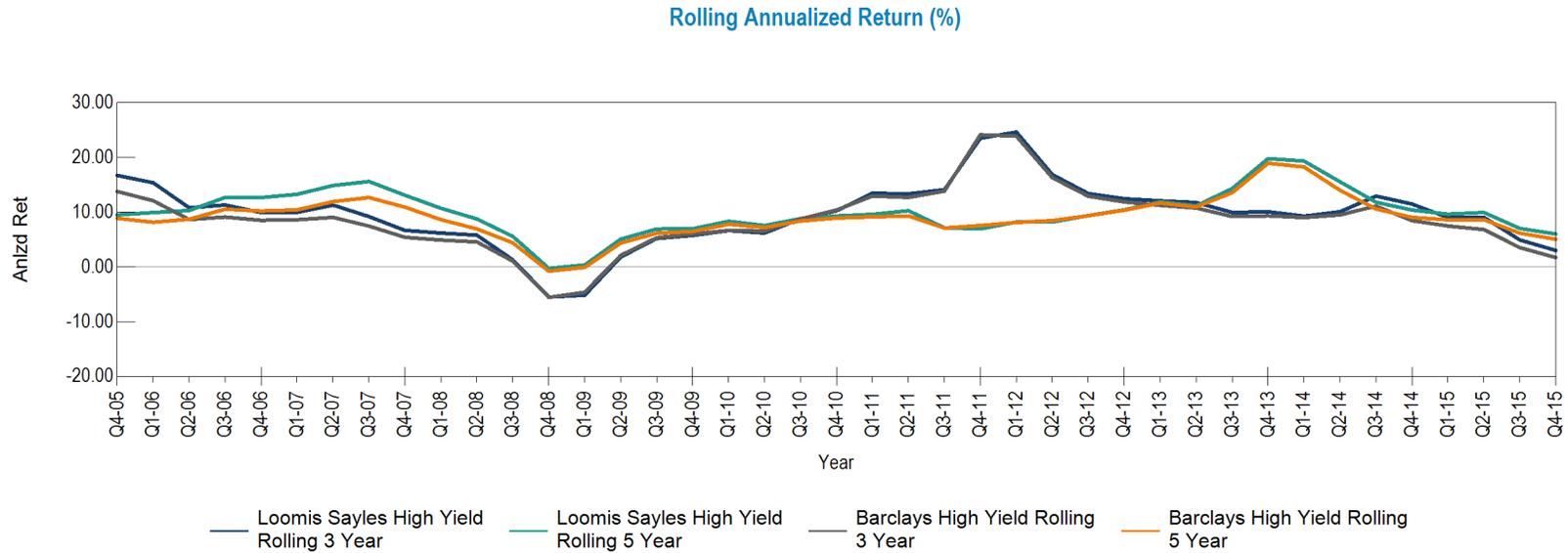


	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011
<b>5th Percentile</b>	0.5	1.4	3.6	6.2	7.8	1.4	4.7	11.7	19.9	7.0
<b>25th Percentile</b>	-0.8	-1.7	2.8	5.4	6.8	-1.7	3.0	8.5	16.0	5.1
<b>Median</b>	-1.6	-3.3	2.0	4.9	6.3	-3.3	1.9	7.3	14.8	3.7
<b>75th Percentile</b>	-2.3	-4.7	1.1	4.3	5.9	-4.7	0.9	6.2	13.8	2.7
<b>95th Percentile</b>	-4.6	-7.2	-0.3	3.1	5.2	-7.2	-0.8	4.9	9.4	-2.1
<b># of Portfolios</b>	89	88	82	74	53	88	77	67	65	53
<b>● Loomis Sayles High Yield</b>	-1.7 (55)	-5.2 (79)	3.0 (17)	6.0 (7)	7.6 (8)	-5.2 (79)	5.8 (1)	8.9 (20)	20.2 (5)	1.9 (83)
<b>▲ Barclays High Yield</b>	-2.1 (69)	-4.5 (73)	1.7 (62)	5.0 (45)	7.0 (22)	-4.5 (73)	2.5 (40)	7.4 (47)	15.8 (29)	5.0 (34)

Returns prior to inception date are composite returns.

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

Period Ending: December 31, 2015

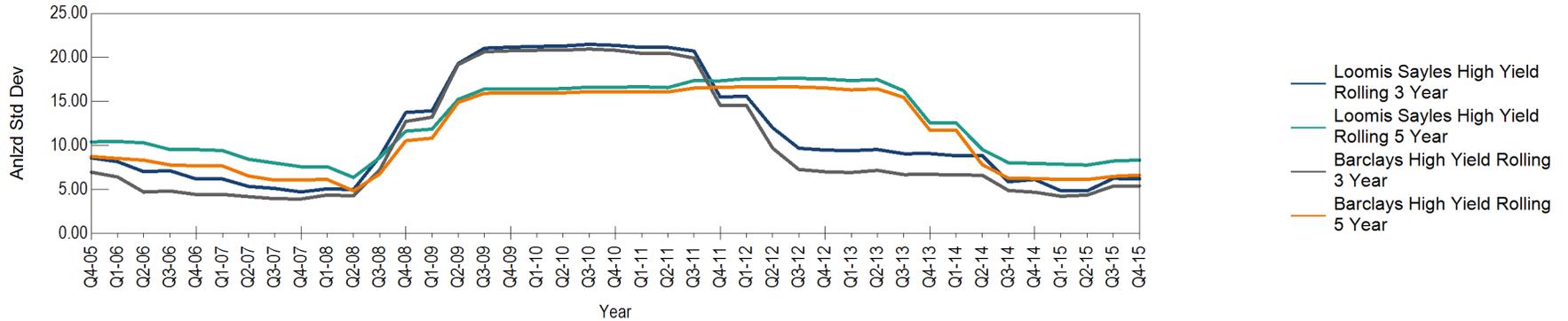


Returns prior to inception date are composite returns.

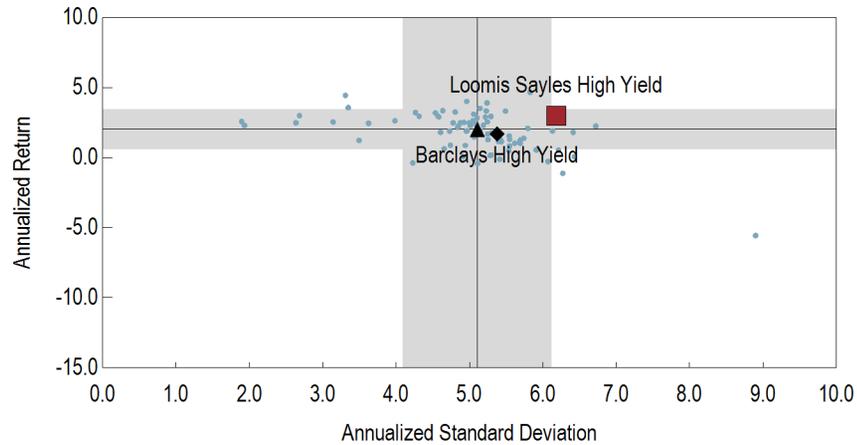
Loomis Sayles High Yield  
Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2015

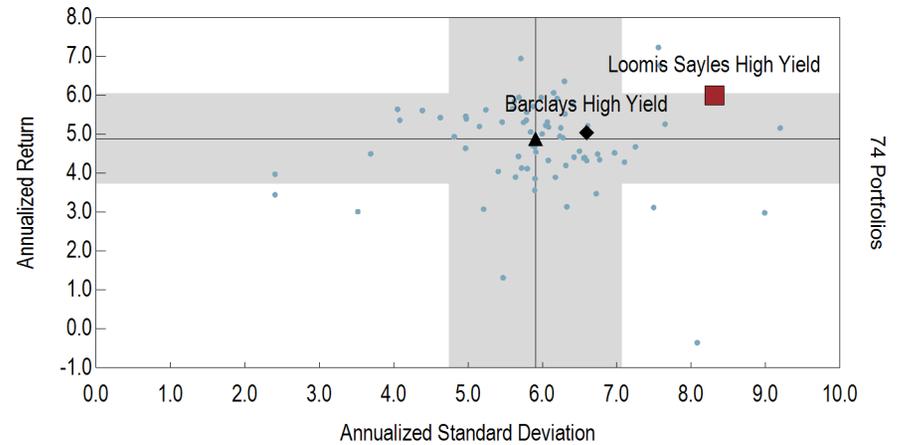
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Loomis Sayles High Yield	3.5%	6.2%	0.6
Barclays High Yield	1.7%	5.4%	0.3
eA US High Yield Fixed Inc Net Median	2.0%	5.1%	0.4

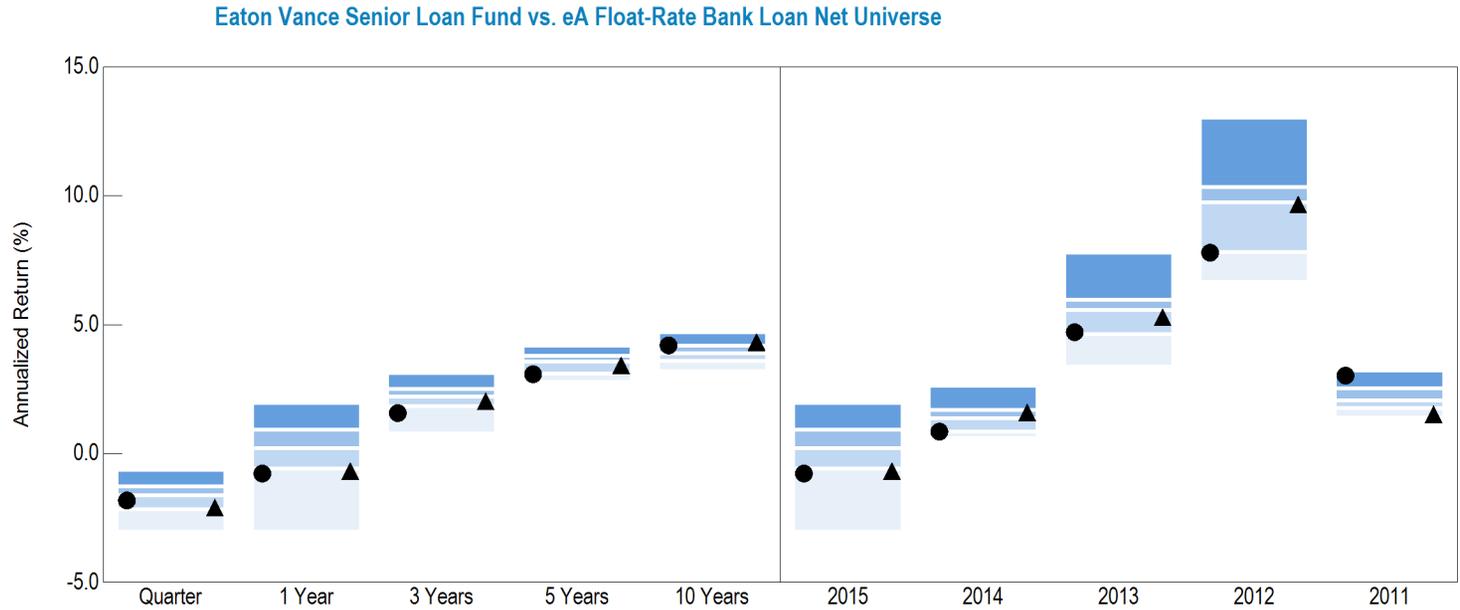
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Loomis Sayles High Yield	6.5%	8.3%	0.8
Barclays High Yield	5.0%	6.6%	0.8
eA US High Yield Fixed Inc Net Median	4.9%	5.9%	0.8

Returns prior to inception date are composite returns.

Eaton Vance Senior Loan Fund  
 Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2015

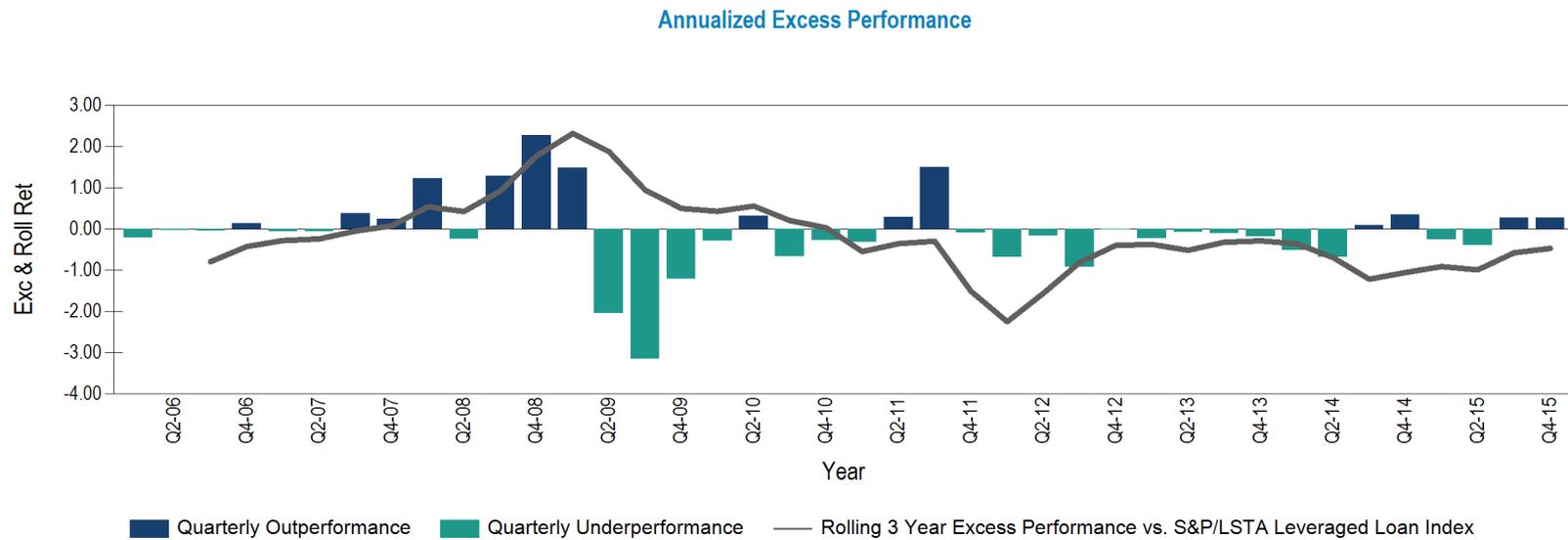
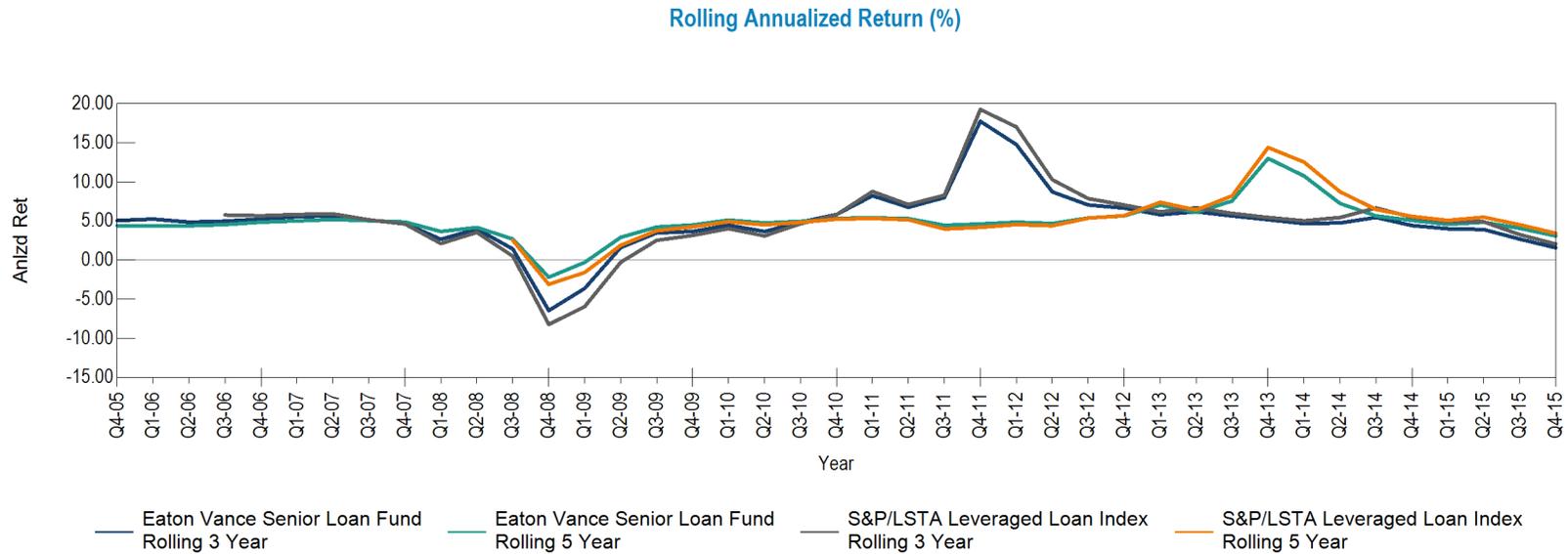


	Return (Rank)									
5th Percentile	-0.6	2.0	3.1	4.2	4.7	2.0	2.6	7.8	13.0	3.2
25th Percentile	-1.3	0.9	2.5	3.8	4.2	0.9	1.7	6.0	10.3	2.5
Median	-1.6	0.2	2.2	3.6	3.9	0.2	1.4	5.6	9.8	2.1
75th Percentile	-2.2	-0.6	1.9	3.1	3.6	-0.6	0.9	4.6	7.8	1.8
95th Percentile	-3.0	-3.0	0.8	2.8	3.2	-3.0	0.6	3.4	6.7	1.4
# of Portfolios	31	30	29	24	12	30	26	22	17	12
● Eaton Vance Senior Loan Fund	-1.8 (65)	-0.8 (85)	1.6 (84)	3.1 (77)	4.2 (26)	-0.8 (85)	0.8 (78)	4.7 (74)	7.8 (77)	3.0 (10)
▲ S&P/LSTA Leveraged Loan Index	-2.1 (73)	-0.7 (81)	2.0 (64)	3.4 (61)	4.3 (18)	-0.7 (81)	1.6 (31)	5.3 (58)	9.7 (51)	1.5 (81)

Returns prior to inception date are composite returns.

Eaton Vance Senior Loan Fund  
 Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2015

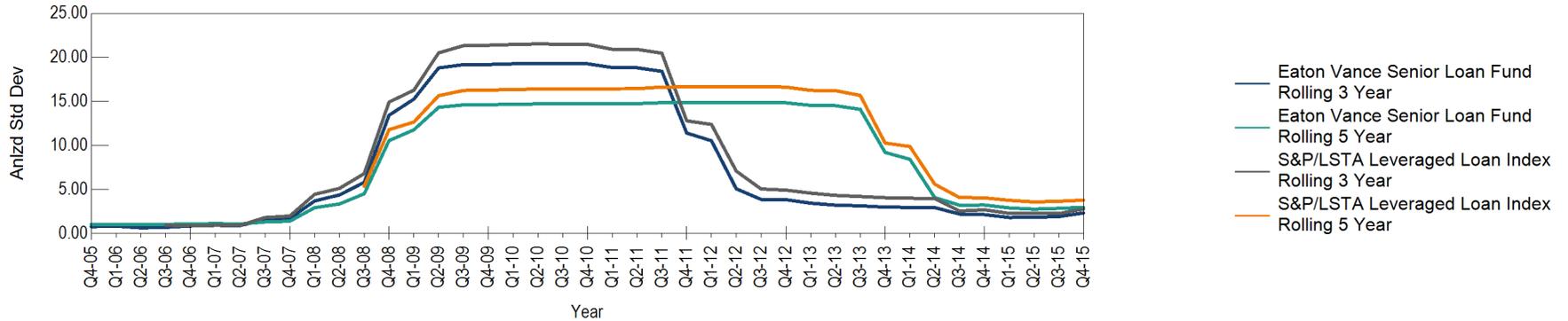


Returns prior to inception date are composite returns.

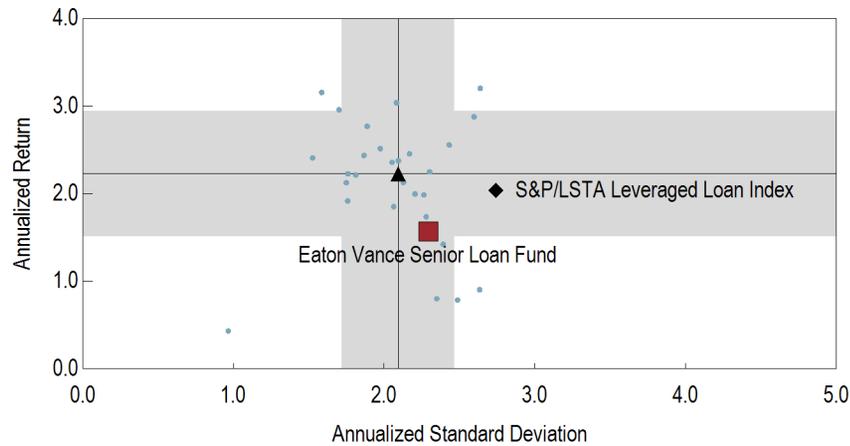
Eaton Vance Senior Loan Fund  
 Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2015

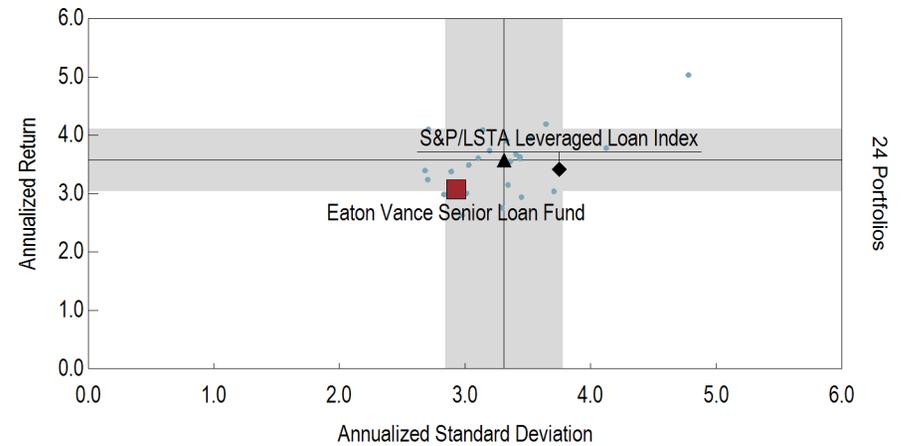
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Eaton Vance Senior Loan Fund	2.1%	2.3%	0.9
S&P/LSTA Leveraged Loan Index	2.0%	2.7%	0.7
eA Float-Rate Bank Loan Net Median	2.2%	2.1%	1.1

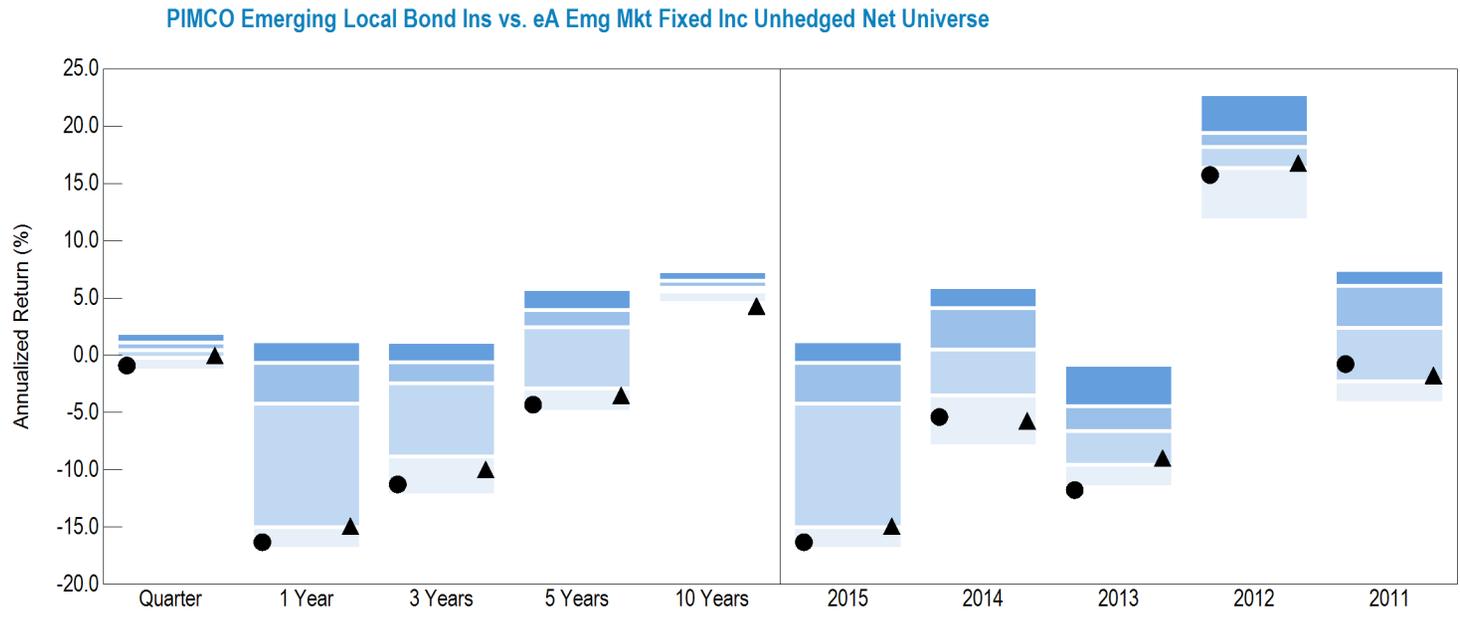
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Eaton Vance Senior Loan Fund	3.6%	2.9%	1.2
S&P/LSTA Leveraged Loan Index	3.4%	3.8%	0.9
eA Float-Rate Bank Loan Net Median	3.6%	3.3%	1.1

Returns prior to inception date are composite returns.

PIMCO Emerging Local Bond Ins  
 Manager Performance Comparisons (Net of Fees)

Period Ending: December 31, 2015

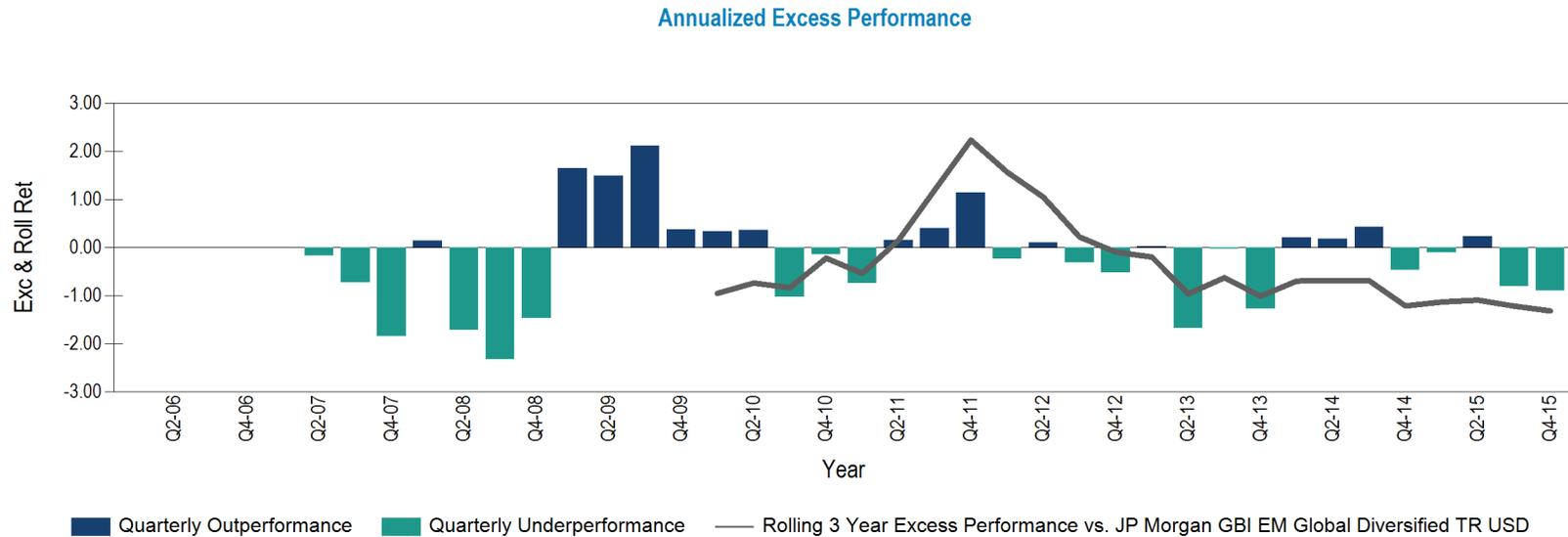
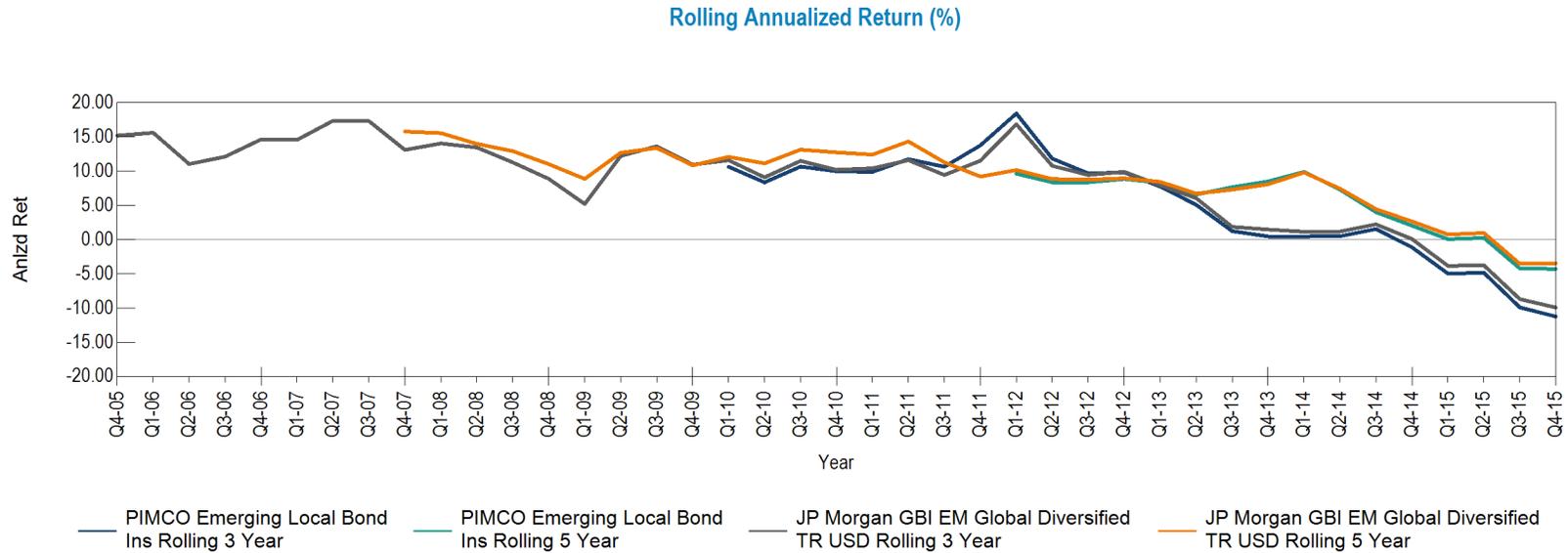


	Return (Rank)																	
5th Percentile	1.9	1.2	1.2	5.8	7.3	1.2	5.9	-0.9	22.7	7.4								
25th Percentile	1.1	-0.6	-0.6	4.0	6.5	-0.6	4.2	-4.4	19.4	6.1								
Median	0.5	-4.2	-2.4	2.5	5.9	-4.2	0.6	-6.6	18.2	2.4								
75th Percentile	-0.2	-15.0	-8.8	-2.9	5.6	-15.0	-3.5	-9.5	16.4	-2.3								
95th Percentile	-1.3	-16.9	-12.2	-4.9	4.6	-16.9	-7.9	-11.5	11.8	-4.1								
# of Portfolios	42	40	37	25	9	40	39	36	27	15								
● PIMCO Emerging Local Bond Ins	-0.9 (94)	-16.3 (89)	-11.3 (89)	-4.3 (92)	-- (--)	-16.3 (89)	-5.4 (83)	-11.8 (96)	15.7 (85)	-0.8 (67)								
▲ JP Morgan GBI EM Global Diversified TR USD	0.0 (71)	-14.9 (75)	-10.0 (78)	-3.5 (78)	4.3 (98)	-14.9 (75)	-5.7 (87)	-9.0 (65)	16.8 (67)	-1.8 (71)								

Returns prior to inception date are composite returns.

PIMCO Emerging Local Bond Ins  
Rolling Manager Performance (Net of Fees)

Period Ending: December 31, 2015

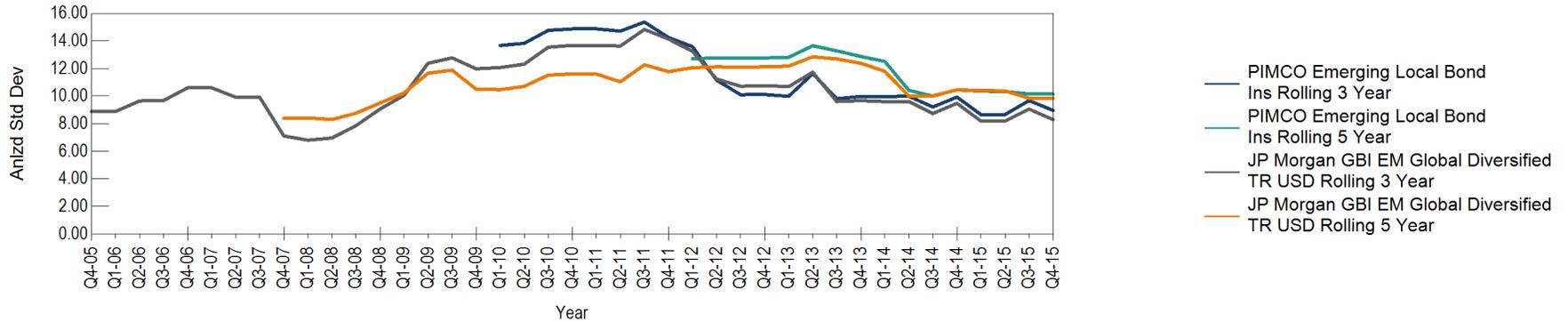


Returns prior to inception date are composite returns.

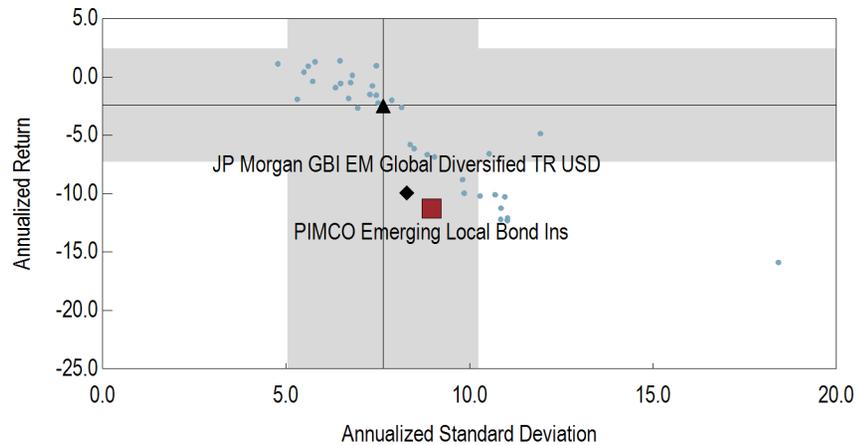
PIMCO Emerging Local Bond Ins  
Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2015

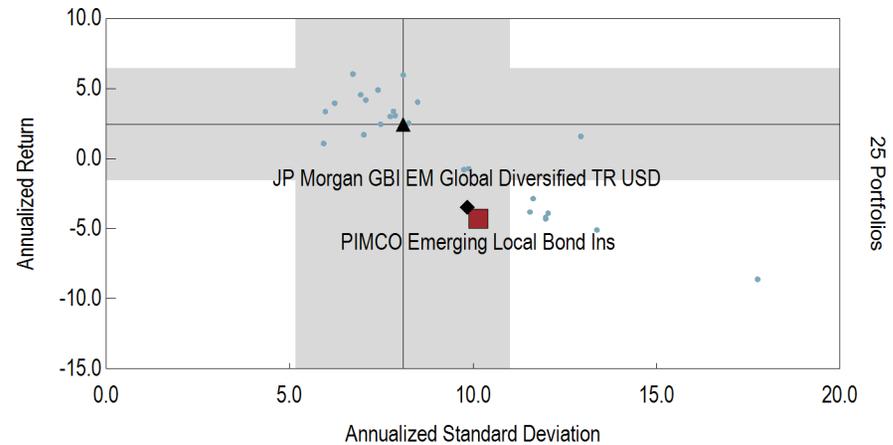
Rolling Annualized Standard Deviation



3 Years



5 Years



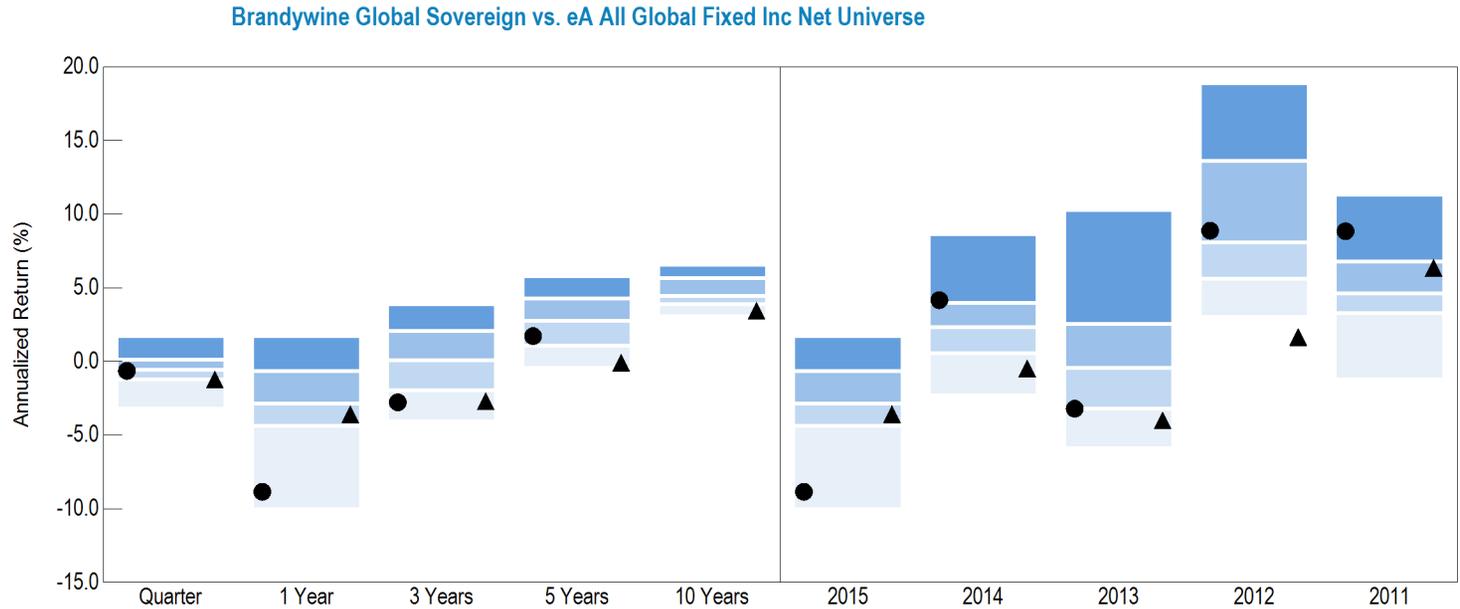
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
PIMCO Emerging Local Bond Ins	-11.3%	9.0%	-1.3
JP Morgan GBI EM Global Diversified TR USD	-10.0%	8.3%	-1.2
eA Emg Mkt Fixed Inc Hedged Net Median	-3.0%	8.2%	-0.4

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
PIMCO Emerging Local Bond Ins	-4.3%	10.2%	-0.4
JP Morgan GBI EM Global Diversified TR USD	-3.5%	9.8%	-0.4
eA Emg Mkt Fixed Inc Unhedged Net Median	2.5%	8.1%	0.3

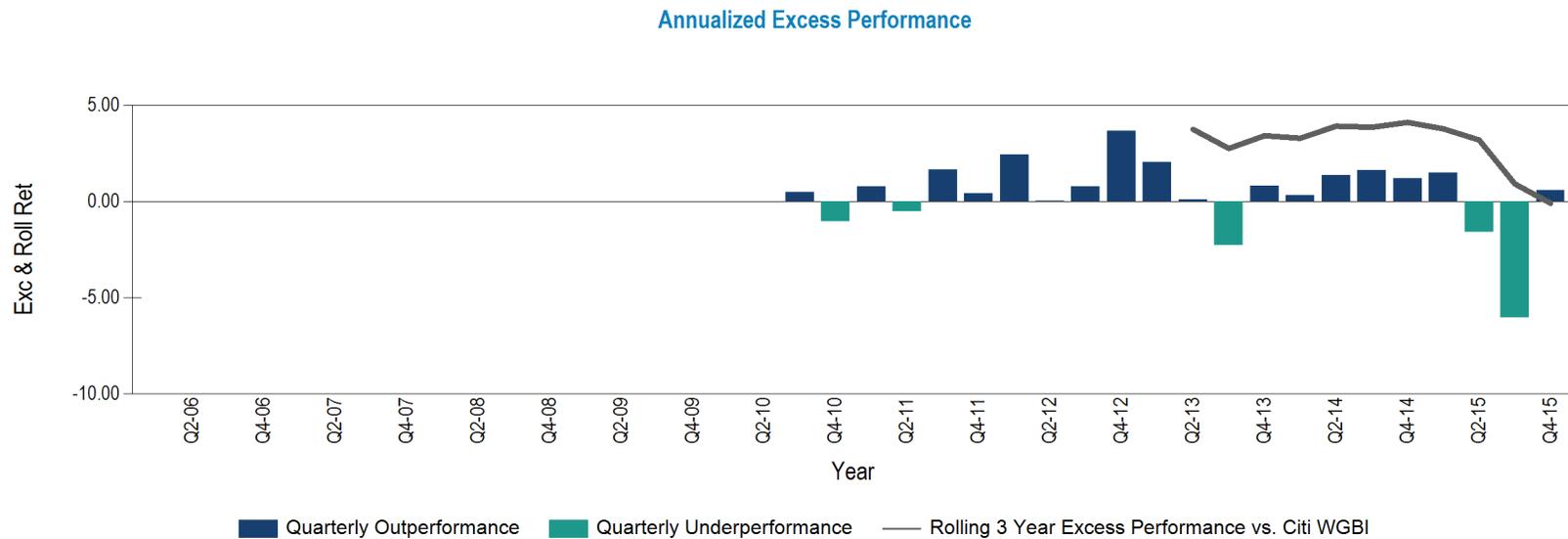
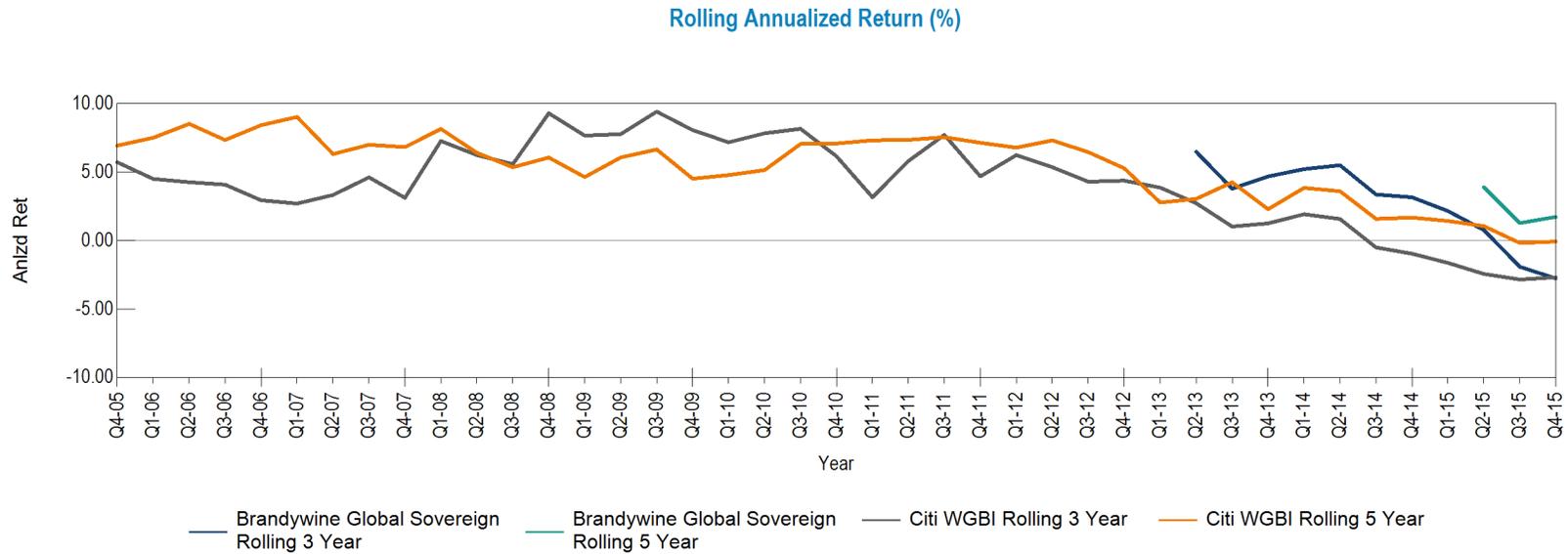
Returns prior to inception date are composite returns.



	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011
5th Percentile	1.7	1.7	3.9	5.8	6.5	1.7	8.6	10.2	18.8	11.3
25th Percentile	0.1	-0.6	2.1	4.3	5.7	-0.6	4.0	2.5	13.6	6.8
Median	-0.6	-2.9	0.1	2.8	4.5	-2.9	2.3	-0.4	8.1	4.6
75th Percentile	-1.2	-4.4	-1.9	1.1	3.9	-4.4	0.6	-3.2	5.6	3.3
95th Percentile	-3.2	-10.0	-4.0	-0.4	3.1	-10.0	-2.3	-5.9	3.0	-1.2
# of Portfolios	184	175	161	135	74	175	136	102	81	71
● Brandywine Global Sovereign	-0.6 (54)	-8.8 (93)	-2.8 (87)	1.7 (65)	-- (--)	-8.8 (93)	4.2 (24)	-3.2 (76)	8.9 (47)	8.8 (12)
▲ Citi WGBI	-1.2 (76)	-3.6 (63)	-2.7 (87)	-0.1 (93)	3.4 (90)	-3.6 (63)	-0.5 (85)	-4.0 (86)	1.6 (99)	6.4 (29)

Brandywine Global Sovereign  
Rolling Manager Performance (Net of Fees)

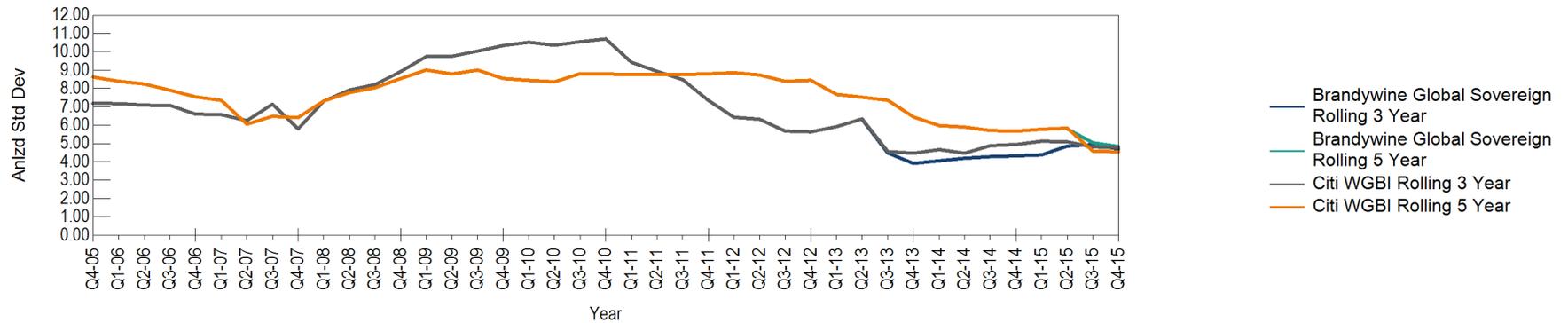
Period Ending: December 31, 2015



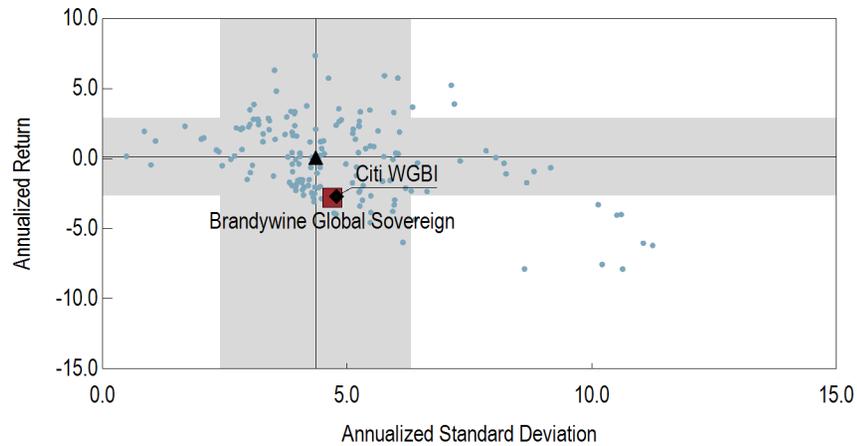
# Brandywine Global Sovereign Risk vs. Return 3 & 5 Year (Net of Fees)

Period Ending: December 31, 2015

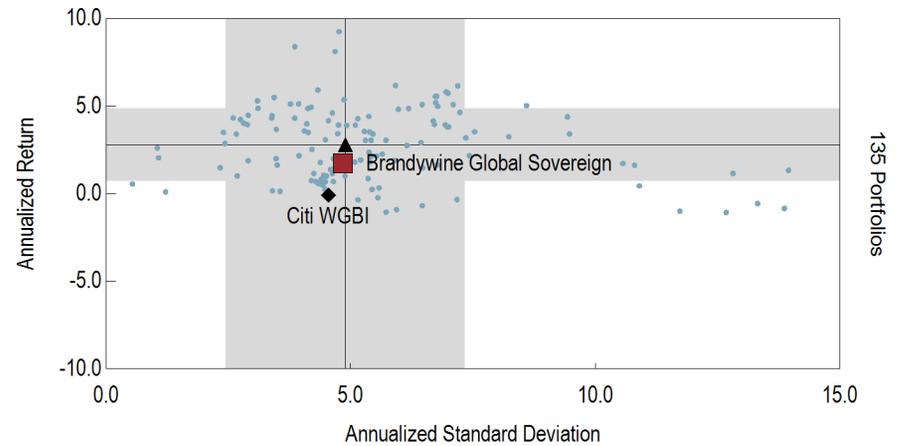
Rolling Annualized Standard Deviation



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Brandywine Global Sovereign	-2.8%	4.7%	-0.6
Citi WGBI	-2.7%	4.8%	-0.6
eA All Global Fixed Inc Net Median	0.1%	4.4%	0.0

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Brandywine Global Sovereign	1.7%	4.8%	0.3
Citi WGBI	-0.1%	4.5%	0.0
eA All Global Fixed Inc Net Median	2.8%	4.9%	0.5

Returns prior to inception date are composite returns.

**Performance Return Calculations**

Returns calculated in the performance summary tables are time-weighted rates of return (TWRR). TWRR are calculated from changes in monthly market values, adjusted for weighted cash flows between months. Our performance methodology assumes that cash flows occur at the end of day for modified dietz calculations. Returns are linked geometrically 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**

Closed end funds including but not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit may lag performance and market value data due to delayed reporting. Verus will show market values for closed end funds as of the most recent reported performance adjusted for capital calls and distributions. Closed end fund managers report performance using an internal rate of return (IRR), which differs from the TWRR calculation done by Verus. It is inappropriate to compare IRR and TWRR to each other. IRR figures reported in the illiquid alternative pages are provided by the respective managers, and Verus has not made any attempts to verify these returns. Until a partnership is liquidated (typically over 10-12 years), the IRR is only an interim estimated return. The actual IRR performance of any LP is not known until the final liquidation.

**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	KKR Mezzanine Partners I	2010	KKR
Custodied	N/A	Northern Trust	Angelo Gordon Cap. Recov. VII	2010	Angel Gordon
Internal	N/A	FCERA	RAFI International Equity	04/30/2011	Northern Trust
Transition	N/A	Northern Trust	Oaktree Opportunities Fund IX	2012	Oaktree
Aronson Johnson Ortiz	12/04/1995	Northern Trust	Artisan International Growth	04/01/2013	Northern Trust
Warburg Pincus	1998	Warburg Pincus	PIMCO Emerging Local Bond	07/31/2013	Northern Trust
TCW Shop III	1998	TCW	Barclays U.S. Aggregate Bond	04/30/2014	Northern Trust
New Mountain	1999	New Mountain	WAMCO Credit Index	10/01/2014	Northern Trust
Landmark Equity Partners X	2000	Landmark	Loomis Sayles High Yield	10/01/2014	Northern Trust
Warburg Pincus VIII	2001	Warburg Pincus	Eaton Vance Senior Loan	10/01/2014	Eaton Vance
Blackstone IV	2002	Blackstone	Colony Distressed Credit III	2014	Colony
Lonestar IV	2002	Lonestar	Brandywine Global Sovereign	01/31/2015	Northern Trust
TCW Shop IV	2002	TCW	IFM Global Infrastructure	05/13/2015	IFM
SSgA S&P 500 Flagship Fund	04/01/2004	State Street	Invesco Commodities	05/27/2015	Invesco
Kalmar Investments	11/18/2004	Northern Trust	GSO European Senior Debt	2015	GSO
Mondrian Emerging Markets	11/17/2005	Mondrian	CVI Credit Value Fund III	2015	CarVal
Invesco Core Real Estate	10/01/2007	Invesco	Warburg Pincus XII	2015	Warburg Pincus
New Mountain III	2007	New Mountain	Gerding Edlen Green Cities III	2016	Gerding Edlen
Hamilton Lane VI	2007	Hamilton Lane	Hamilton Lane PE Fund IX	2016	Hamilton Lane
Warburg Pincus X	2007	Warburg Pincus	Kennedy Wilson Real Estate V	2016	Kennedy Wilson
Landmark Equity Partners XIV	2008	Landmark	TSSP Adjacent Opportunities	2016	TSSP
SSgA TIPS	02/27/2009	State Street			
Grosvenor	10/31/2009	Grosvenor			
Mondrian Int'l Small Cap	11/02/2009	Mondrian			
Colony Distressed Credit I	2009	Colony			
TA Associates Realty 9	2009	TA Associates			
Systematic Small/Mid Value	10/08/2010	Northern Trust			
Waddell & Reed	12/20/2010	Northern Trust			

**Policy & Custom Index Composition**

Floating Policy Index (10/1/2015-10/31/2015)	21.3% Russell 3000 Index, 40.5% Barclays Global Aggregate Index, 19.0% MSCI ACWI ex U.S., 2.5% Russell 3000 Index + 250 bps, 1.8% Barclays Global Aggregate Index + 250 bps, 3.9% HFRI Fund of Funds Composite, 8.0% NCREIF ODCE, 3.0% Bloomberg Commodity Index.
(11/1/2015-11/30/2015)	21.3% Russell 3000 Index, 40.5% Barclays Global Aggregate Index, 19.0% MSCI ACWI ex U.S., 2.5% Russell 3000 Index + 250 bps, 1.8% Barclays Global Aggregate Index + 250 bps, 3.9% HFRI Fund of Funds Composite, 8.0% NCREIF ODCE, 3.0% Bloomberg Commodity Index.
(12/1/2015-12/31/2015)	21.3% Russell 3000 Index, 40.5% Barclays Global Aggregate Index, 19.0% MSCI ACWI ex U.S., 2.5% Russell 3000 Index + 250 bps, 1.8% Barclays Global Aggregate Index + 250 bps, 3.9% HFRI Fund of Funds Composite, 8.0% NCREIF ODCE, 3.0% Bloomberg Commodity Index.
Barclays Aggregate*	Prior to 3/31/2014 Barclays U.S. Aggregate Index and as of 4/1/2014 Barclays Global Aggregate Index.

**Other Disclosures**

Fresno Country Employees' Retirement Association fiscal year end is June 30.

# 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:  $\text{excess return} / \text{tracking error}$ .

**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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