

# PORTFOLIO PERFORMANCE REVIEW SUMMARY

## LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

Quarter Ending March 31, 2018

~~July 10, 2018~~ July 24, 2018















**LACERS**  
LOS ANGELES CITY EMPLOYEES'  
RETIREMENT SYSTEM



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

# PERFORMANCE OVERVIEW

## Q1 Market Summary

Macro			Equity			Credit			Real Assets		
US Dollar	VIX	US 10-Yr	S&P 500	MSCI EAFE	MSCI EM	US Agg.	High Yield	Dollar EMD	Oil	Gold	REITS
											
-2.3%	8.9	33 bps	-0.8%	-1.5%	1.4%	-1.5%	-0.9%	-1.8%	7.5%	1.7%	-6.5%

## May 2018 Update

	2010	2011	2012	2013	2014	2015	2016	2017	Q1	April	May	YTD
US Large Cap	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-0.8%	0.4%	2.4%	2.0%
US Small/Mid Cap	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-0.2%	0.2%	4.7%	4.7%
Int'l Developed Equity	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-1.5%	2.3%	-2.2%	-1.5%
Emerging Market Equity	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	1.4%	-0.4%	-3.5%	-2.6%
US Aggregate	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	-1.5%	-0.7%	0.7%	-1.5%
US High Yield	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-0.9%	0.7%	0.0%	-0.2%
US Long Treasuries	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-3.3%	-1.9%	2.1%	-3.2%
EM Local Credit	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	4.4%	-3.0%	-5.0%	-3.7%
Global Credit	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	7.4%	1.4%	-1.6%	-0.8%	-1.0%
Commodities	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-0.4%	2.6%	1.4%	3.6%

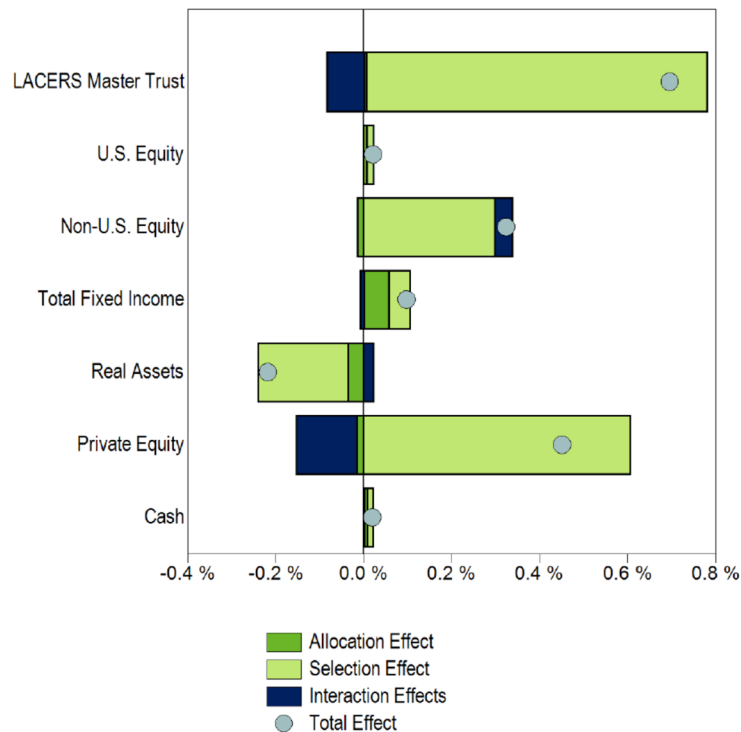


Source: Bloomberg, Barclays, S&P, Russell, MSCI, JP Morgan, Credit Suisse

# TOTAL FUND PERFORMANCE SUMMARY

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank	15 Yrs	Rank	Inception	Inception Date
LACERS Master Trust	\$17,015,563,141	0.22%	40	8.41%	14	12.58%	14	7.51%	29	8.65%	24	6.73%	40	8.90%	17	8.37%	Oct-94
Policy Index		-0.52%	82	7.63%	52	11.29%	48	7.17%	51	8.17%	50	6.62%	43	8.57%	43	8.27%	Oct-94
InvestorForce Public DB \$5-50B Gross Median		0.10%		7.67%		11.25%		7.17%		8.16%		6.51%		8.51%		8.26%	Oct-94

## Attribution Effects 3 Months Ending March 31, 2018



## Attribution Summary 3 Months Ending March 31, 2018

	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
U.S. Equity	24.00%	-0.59%	-0.64%	0.06%	0.01%	0.01%	0.00%	0.02%
Non-U.S. Equity	29.00%	-0.16%	-1.18%	1.03%	0.30%	-0.01%	0.04%	0.32%
Total Fixed Income	24.00%	-1.20%	-1.40%	0.20%	0.05%	0.06%	-0.01%	0.10%
Real Assets	10.00%	0.43%	2.47%	-2.04%	-0.20%	-0.04%	0.02%	-0.22%
Private Equity	12.00%	5.19%	0.09%	5.10%	0.61%	-0.02%	-0.14%	0.45%
Cash	1.00%	1.45%	0.38%	1.06%	0.01%	0.01%	0.00%	0.02%
<b>Total</b>	<b>100.00%</b>	<b>0.18%</b>	<b>-0.52%</b>	<b>0.69%</b>	<b>0.77%</b>	<b>0.01%</b>	<b>-0.08%</b>	<b>0.69%</b>

## 5 Years Ending March 31, 2018

	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
LACERS Master Trust	8.65%	24	6.21%	73	1.34	41	2.55	27
Policy Index	8.17%	50	6.91%	96	1.13	82	1.96	70
InvestorForce Public DB \$5-50B Gross Median	8.16%	--	5.85%	--	1.29	--	2.25	--

## 3 Years Ending March 31, 2018

	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
LACERS Master Trust	7.51%	29	6.32%	68	1.10	44	1.78	29
Policy Index	7.17%	51	7.24%	99	0.92	83	1.37	77
InvestorForce Public DB \$5-50B Gross Median	7.17%	--	5.94%	--	1.05	--	1.59	--

Attribution is net of fees; all other data is gross of fees



# TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>LACERS Master Trust</b>	<b>17,015,563,141</b>	<b>100.00</b>	<b>0.18</b>	<b>8.26</b>	<b>12.38</b>	<b>7.32</b>	<b>8.46</b>	<b>6.53</b>	<b>--</b>	<b>Oct-94</b>
<i>Policy Index</i>			<u>-0.52</u>	<u>7.63</u>	<u>11.29</u>	<u>7.17</u>	<u>8.17</u>	<u>6.62</u>	<u>8.27</u>	<u>Oct-94</u>
Over/Under			0.70	0.63	1.09	0.15	0.29	-0.09		
<b>U.S. Equity</b>	<b>4,407,968,889</b>	<b>25.91</b>	<b>-0.59</b>	<b>10.51</b>	<b>13.77</b>	<b>10.12</b>	<b>12.95</b>	<b>9.62</b>	<b>--</b>	<b>Oct-94</b>
<i>U.S. Equity Blend</i>			<u>-0.64</u>	<u>10.48</u>	<u>13.81</u>	<u>10.22</u>	<u>13.03</u>	<u>9.62</u>	<u>9.36</u>	<u>Oct-94</u>
Over/Under			0.05	0.03	-0.04	-0.10	-0.08	0.00		
<b>Non-U.S. Equity</b>	<b>5,481,335,376</b>	<b>32.21</b>	<b>-0.16</b>	<b>12.19</b>	<b>19.72</b>	<b>8.00</b>	<b>7.37</b>	<b>3.85</b>	<b>7.16</b>	<b>Aug-01</b>
<i>MSCI ACWI ex USA</i>			<u>-1.18</u>	<u>10.16</u>	<u>16.53</u>	<u>6.18</u>	<u>5.89</u>	<u>2.70</u>	<u>6.58</u>	<u>Aug-01</u>
Over/Under			1.02	2.03	3.19	1.82	1.48	1.15	0.58	
<b>Core Fixed Income</b>	<b>2,981,563,282</b>	<b>17.52</b>	<b>-1.32</b>	<b>-0.01</b>	<b>1.49</b>	<b>1.57</b>	<b>2.17</b>	<b>--</b>	<b>2.67</b>	<b>Jul-12</b>
<i>Core Fixed Income Blend</i>			<u>-1.46</u>	<u>-0.24</u>	<u>1.20</u>	<u>1.20</u>	<u>1.82</u>	<u>3.82</u>	<u>2.04</u>	<u>Jul-12</u>
Over/Under			0.14	0.23	0.29	0.37	0.35		0.63	
<b>Credit Opportunities</b>	<b>793,551,406</b>	<b>4.66</b>	<b>-0.86</b>	<b>2.43</b>	<b>4.60</b>	<b>4.66</b>	<b>--</b>	<b>--</b>	<b>5.31</b>	<b>Jun-13</b>
<i>Credit Opportunities Blend</i>			<u>-1.17</u>	<u>1.74</u>	<u>3.97</u>	<u>5.41</u>	<u>--</u>	<u>--</u>	<u>5.84</u>	<u>Jun-13</u>
Over/Under			0.31	0.69	0.63	-0.75			-0.53	
<b>Real Assets</b>	<b>1,565,247,855</b>	<b>9.20</b>	<b>0.43</b>	<b>3.74</b>	<b>5.15</b>	<b>5.73</b>	<b>8.03</b>	<b>-0.30</b>	<b>--</b>	<b>Nov-94</b>
<i>CPI + 5% (Unadjusted)</i>			<u>2.47</u>	<u>5.67</u>	<u>7.47</u>	<u>6.95</u>	<u>6.47</u>	<u>6.64</u>	<u>7.32</u>	<u>Nov-94</u>
Over/Under			-2.04	-1.93	-2.32	-1.22	1.56	-6.94		
<b>Public Real Assets</b>	<b>772,068,346</b>	<b>4.54</b>	<b>-1.43</b>	<b>2.10</b>	<b>1.40</b>	<b>1.16</b>	<b>--</b>	<b>--</b>	<b>0.59</b>	<b>Jun-14</b>
<i>Public Real Assets Blend</i>			<u>-2.29</u>	<u>0.37</u>	<u>-0.89</u>	<u>-0.45</u>	<u>--</u>	<u>--</u>	<u>-2.12</u>	<u>Jun-14</u>
Over/Under			0.86	1.73	2.29	1.61			2.71	
<b>Private Real Estate</b>	<b>772,766,844</b>	<b>4.54</b>	<b>2.24</b>	<b>5.46</b>	<b>8.68</b>	<b>9.61</b>	<b>10.74</b>	<b>0.94</b>	<b>--</b>	<b>Oct-94</b>
<i>Real Estate Blend</i>			<u>2.39</u>	<u>6.89</u>	<u>8.92</u>	<u>10.86</u>	<u>11.76</u>	<u>7.03</u>	<u>9.99</u>	<u>Oct-94</u>
Over/Under			-0.15	-1.43	-0.24	-1.25	-1.02	-6.09		
<b>Private Equity</b>	<b>1,708,829,656</b>	<b>10.04</b>	<b>5.19</b>	<b>10.73</b>	<b>16.20</b>	<b>10.63</b>	<b>12.26</b>	<b>8.90</b>	<b>--</b>	<b>Nov-95</b>
<i>Private Equity Blend</i>			<u>0.09</u>	<u>12.93</u>	<u>17.19</u>	<u>13.50</u>	<u>16.39</u>	<u>13.35</u>	<u>12.99</u>	<u>Nov-95</u>
Over/Under			5.10	-2.20	-0.99	-2.87	-4.13	-4.45		
<b>Cash</b>	<b>77,066,677</b>	<b>0.45</b>								



### **Information Disclaimer**

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
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### **Reporting Methodology**

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.



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## LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

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# MARKET ENVIRONMENT













NEPC, LLC

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# PERFORMANCE OVERVIEW

## Q1 Market Summary

Macro			Equity			Credit			Real Assets		
US Dollar	VIX	US 10-Yr	S&P 500	MSCI EAFE	MSCI EM	US Agg.	High Yield	Dollar EMD	Oil	Gold	REITS
											
-2.3%	8.9	33 bps	-0.8%	-1.5%	1.4%	-1.5%	-0.9%	-1.8%	7.5%	1.7%	-6.5%

- **After a strong year for equity markets in 2017, the first quarter of the year saw a spike in volatility – in part due to concerns over a potential trade war between the US and China**
- **After ending 2017 down over 10%, the US dollar continued to decline in Q1 relative to a basket of major currencies**
  - As a result, emerging market equities fared well throughout the quarter and are still supported by strong earnings and GDP growth
- **The US yield curve flattened as the Fed rate hike pushed short-term interest rates higher while long-term rates rose more modestly**

Market segment (index representation) as follows: US Dollar (DXY Index), VIX (CBOE Volatility Index), US 10-Year (US 10-Year Treasury Yield), S&P 500 (US Equity), MSCI EAFE Index (International Developed Equity), MSCI Emerging Markets (Emerging Markets Equity), US Agg (Barclays US Aggregate Bond Index), High Yield (Barclays US High Yield Index), Dollar EMD (JPM Emerging Market Bond Index), Crude Oil (WTI Crude Oil Spot), Gold (Gold Price Spot), and REITs (NAREIT Composite Index).



# MACRO PERFORMANCE OVERVIEW

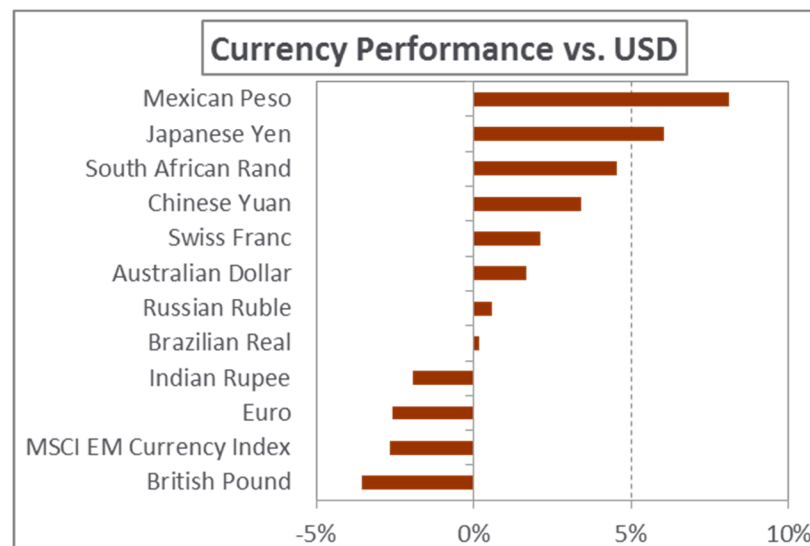
## Q1 Macro Market Summary

- The global growth outlook remains strong, particularly in the US with the tax reform tailwind
- Heightened trade tensions between the US and China caused global equity market volatility to increase
- The US Treasury curve shifted upward, but continued to flatten with short-term rates rising

	Yield 12/31/17	Yield 03/31/18	Δ
US 10-Yr	2.41%	2.74%	0.41%
US 30-Yr	2.74%	2.97%	0.23%
US Real 10-Yr	0.43%	0.68%	0.26%
German 10-Yr	0.43%	0.50%	0.07%
Japan 10-Yr	0.05%	0.05%	-
China 10-Yr	3.90%	3.75%	-0.15%
EM Local Debt	6.14%	6.00%	-0.14%

Source: Bloomberg

Central Banks	Current Rate	CPI YOY	Notes from the Quarter
Federal Reserve	1.50% - 1.75%	2.1%	The Fed increased its benchmark interest rate a quarter point to 1.50%-1.75% in its first meeting under new chair, Jerome Powell.
European Central Bank	0.0%	1.3%	The ECB maintained its current benchmark interest rate, but has revised down inflation forecasts while increasing growth forecasts.
Bank of Japan	-0.10%	0.6%	The BoJ continued its ultra-easy QE program with inflation remaining well below the 2% target.



Source: Bloomberg



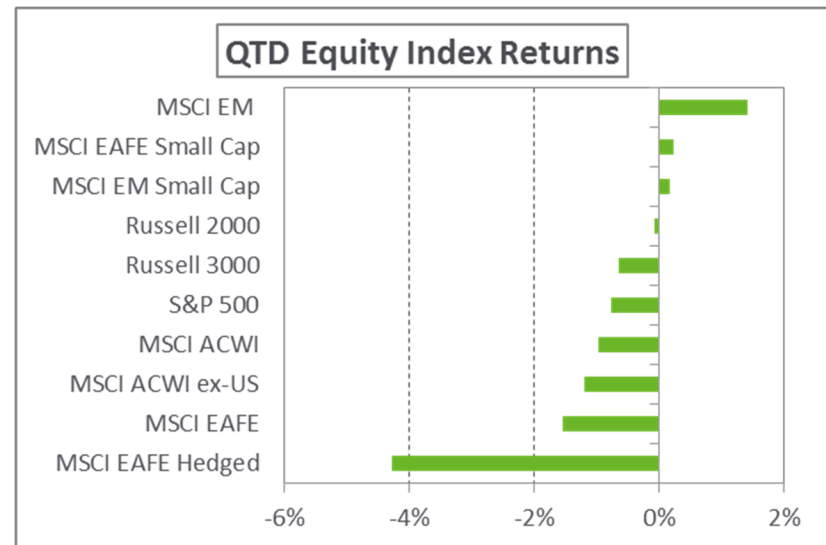
# EQUITY PERFORMANCE OVERVIEW

## Q1 Equity Market Summary

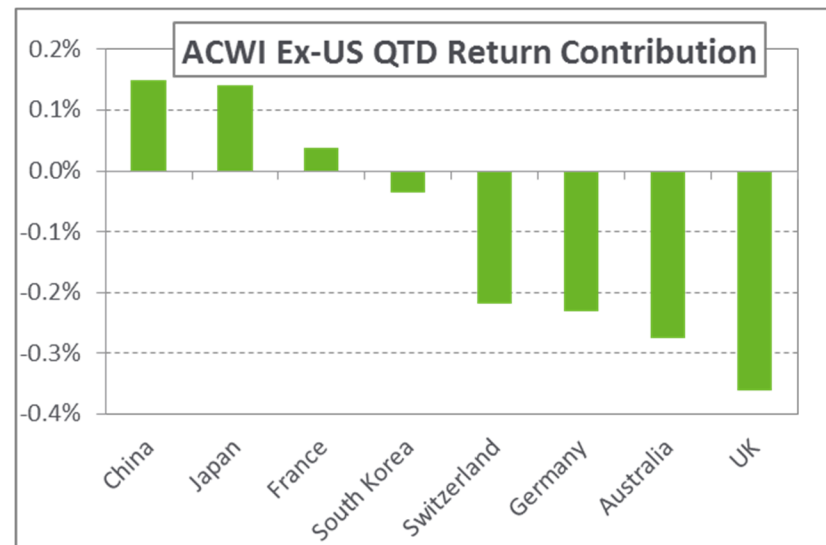
- **Dollar weakness continued to bolster emerging market and international developed equity returns**
- **US equity markets declined 0.8% on the quarter in part due to trade concerns – its first negative quarter in over two years**

Russell 3000 QTD Sector Return Contribution	
Information Technology	0.80%
Consumer Discretionary	-0.68%
Financials	-0.15%
Industrials	-0.07%
Consumer Staples	-0.45%
Energy	0.07%
Materials	-0.19%
Health Care	-0.77%
Real Estate	0.15%
Telecommunication	0.20%
Utilities	-0.23%

Source: Russell, Bloomberg



Source: MSCI, Russell, S&P, Bloomberg



Source: MSCI, Bloomberg. QTD top country contributors to index return



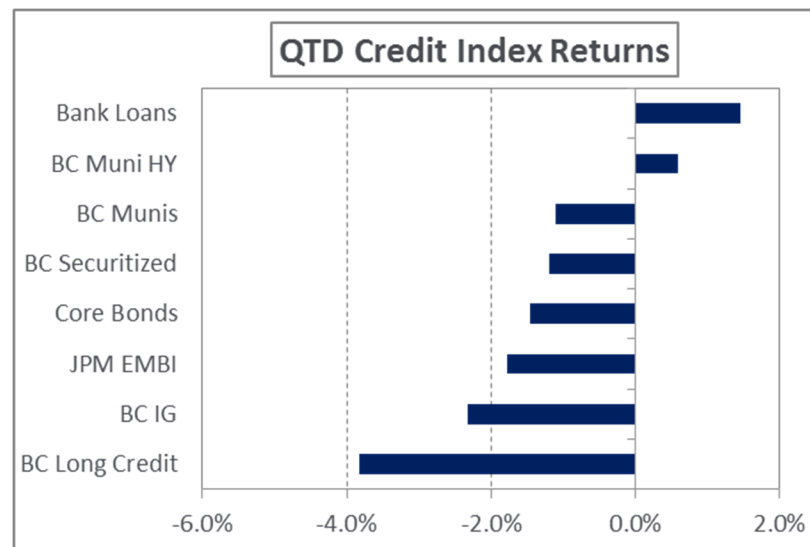
# CREDIT PERFORMANCE OVERVIEW

## Q1 Credit Market Summary

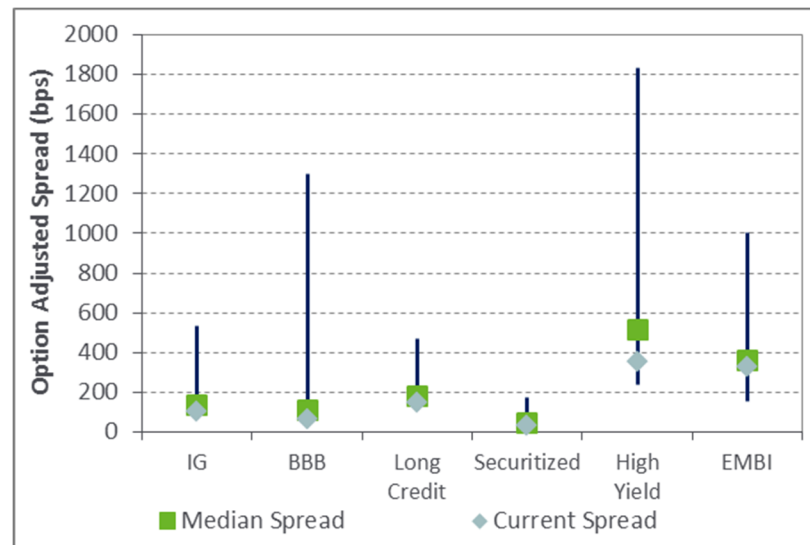
- Credit spreads increased slightly, but remain below medians in most areas of the credit market
- In particular, current high yield spreads continue to support a broad reduction in exposure
- Long credit declined 3.3% for the quarter with the 30-year Treasury yield increasing 23 basis points

Credit Spread (Basis Points)	12/29/17	03/31/18	\Delta
BC IG Credit	93	109	16
BC Long Credit	139	148	9
BC Securitized	27	32	5
BC High Yield	343	354	11
Muni HY	275	253	-22
JPM EMBI	311	326	15
Bank Loans - Libor	336	257	-79

Source: Barclays, Merrill Lynch, JPM, Bloomberg, NEPC



Source: Barclays, JPM, S&P, Bloomberg



Source: Barclays, JPM, S&P, Bloomberg. As of 01/31/2000



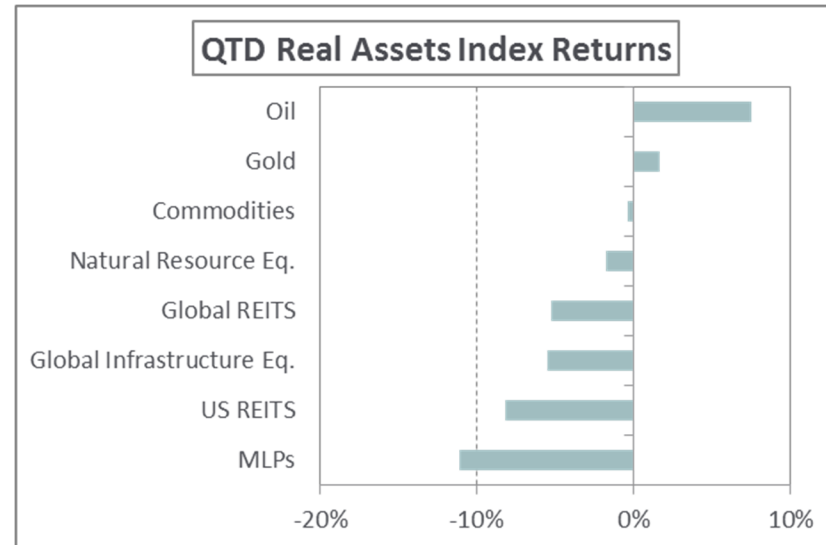
# REAL ASSETS PERFORMANCE OVERVIEW

## Q1 Real Assets Market Summary

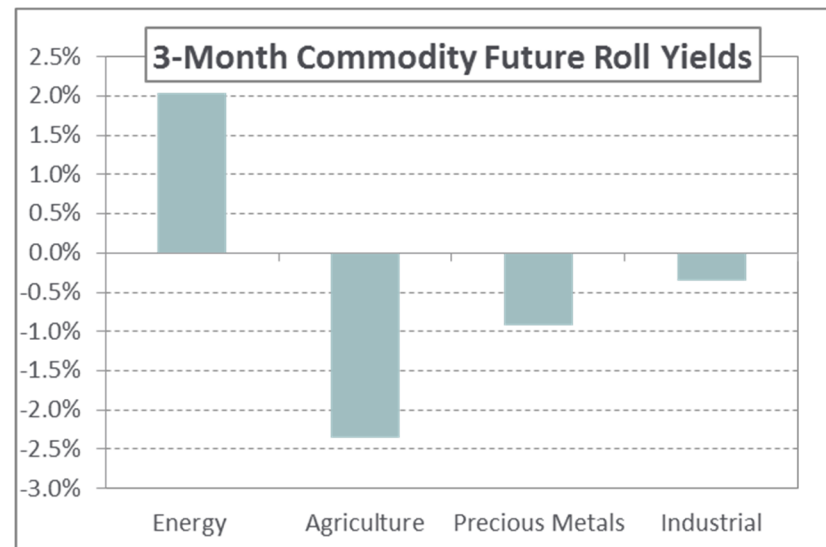
- MLPs experienced a significant decline for the quarter as negative sentiment weighed on the market**
  - Despite the negative performance, fundamentals remain supportive with strong earnings and growth prospects
- Commodity index roll yield is more negative than the previous quarter, despite the energy sector having a positive contribution**

Real Asset Yields	12/29/17	03/31/18
MLPs	7.8%	8.9%
Core Real Estate	4.4%	4.5%
US REITs	4.1%	4.6%
Global REITs	3.6%	4.0%
Global Infrastructure Equities	3.9%	3.9%
Natural Resource Equities	3.1%	3.6%
US 10-Yr Breakeven Inflation	2.0%	2.1%
Commodity Index Roll Yield	-0.4%	-1.6%

Source: NCREIF, Alerian, NAREIT, S&P, Bloomberg



Source: S&P, NAREIT, Alerian, Bloomberg



Source: Bloomberg, NEPC Calculated as of 04/09/2018



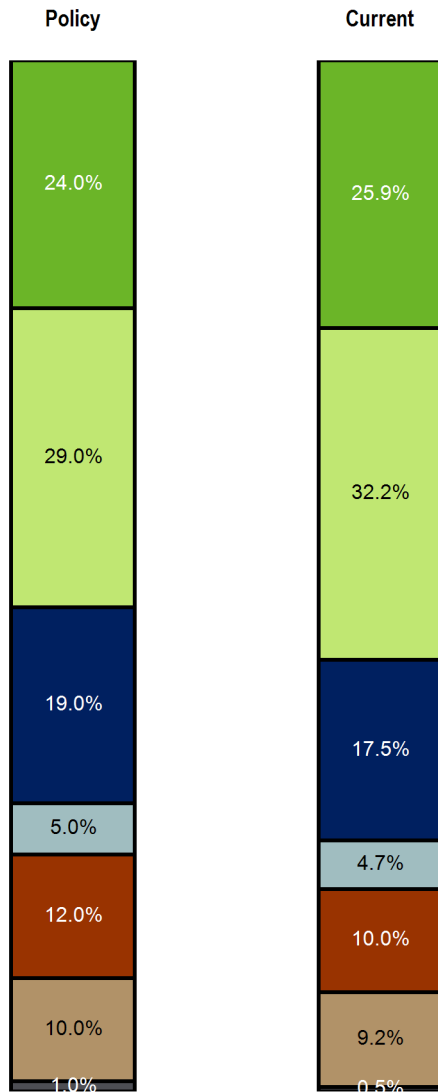
# **ASSET CLASS POLICY OVERVIEW**

NEPC, LLC

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# Los Angeles City Employees' Retirement System

## TOTAL FUND ASSET ALLOCATION VS. POLICY



Asset Allocation vs. Target						
	Current	Policy	Current Difference*	Policy Range	Within Range	
U.S. Equity	\$4,407,968,889	24.00%	25.91%	1.91%	19.00% - 29.00%	Yes
Non-US Equity	\$5,481,335,376	29.00%	32.21%	3.21%	24.00% - 34.00%	Yes
Core Fixed Income	\$2,981,563,282	19.00%	17.52%	-1.48%	15.00% - 22.00%	Yes
Credit Opportunities	\$793,551,406	5.00%	4.66%	-0.34%	0.00% - 10.00%	Yes
Private Equity	\$1,708,829,656	12.00%	10.04%	-1.96%		
Real Assets	\$1,565,247,855	10.00%	9.20%	-0.80%	7.00% - 13.00%	Yes
Cash	\$77,066,677	1.00%	0.45%	-0.55%	0.00% - 2.00%	Yes
<b>Total</b>	<b>\$17,015,563,141</b>	<b>100.00%</b>	<b>100.00%</b>			

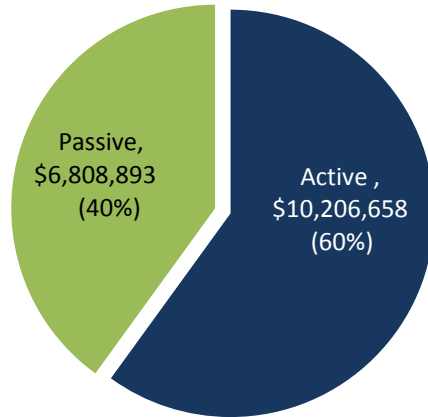
\*Difference between Policy and Current Allocation



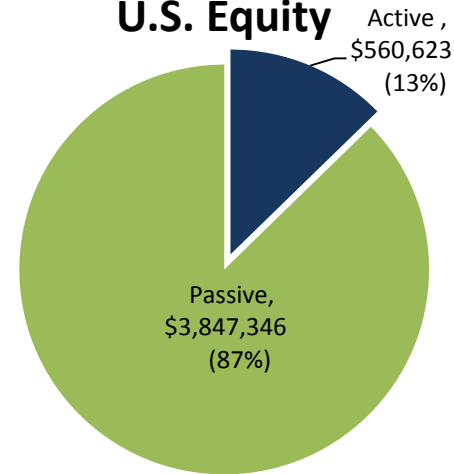
# ACTIVE VS. PASSIVE MANAGER BREAKDOWN

Note: Market values shown in millions \$(000).

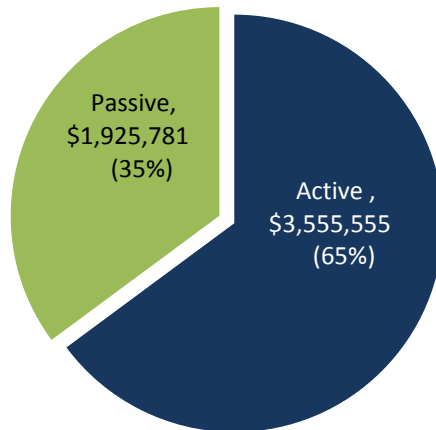
## Total Fund



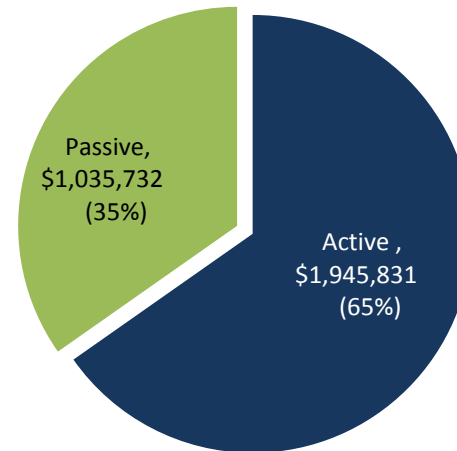
## U.S. Equity



## Non-U.S. Equity



## Core Fixed Income



- Of the Total Fund, LACERS allocated 60% to active managers and 40% to passive managers.

- Credit Opportunities, Private Equity, and Real Assets programs are active and therefore are not shown.





# PERFORMANCE OVERVIEW

NEPC, LLC

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# TOTAL FUND PERFORMANCE SUMMARY (GROSS OF FEES)

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank	15 Yrs	Rank	Inception	Inception Date
<b>LACERS Master Trust</b>	<b>\$17,015,563,141</b>	<b>0.22%</b>	<b>40</b>	<b>8.41%</b>	<b>14</b>	<b>12.58%</b>	<b>14</b>	<b>7.51%</b>	<b>29</b>	<b>8.65%</b>	<b>24</b>	<b>6.73%</b>	<b>40</b>	<b>8.90%</b>	<b>17</b>	<b>8.37%</b>	<b>Oct-94</b>
Policy Index		-0.52%	82	7.63%	52	11.29%	48	7.17%	51	8.17%	50	6.62%	43	8.57%	43	8.27%	Oct-94
InvestorForce Public DB \$5-50B Gross Median		0.10%		7.67%		11.25%		7.17%		8.16%		6.51%		8.51%		8.26%	Oct-94

Over the past five years, the Fund returned 8.65% per annum, outperforming the policy index by 0.48% and ranked in the 24<sup>th</sup> percentile of the InvestorForce Public Funds \$5 Billion- \$50 Billion universe. The Fund's volatility was 6.21% and ranks in the 73<sup>rd</sup> percentile of its peers over this period. The Fund's risk-adjusted performance, as measured by the Sharpe Ratio, ranks in the 41<sup>nd</sup> percentile of its peers.

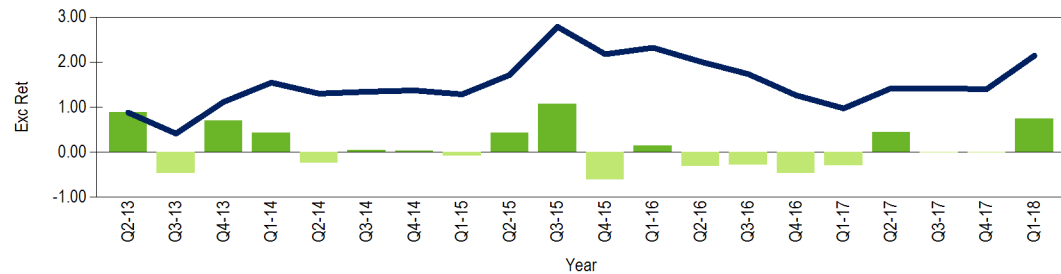
Over the past three years, the Fund returned 7.51% per annum, outperforming the policy index by 0.34% and ranked in the 29<sup>th</sup> percentile in its peer group. The Fund's volatility ranks in the 68<sup>th</sup> percentile resulting in a three-year Sharpe Ratio of 1.1 and ranking in the 44<sup>th</sup> percentile.

For the one year ended March 31, 2018, the Fund experienced a net investment gain of \$1.94 billion, which includes a net investment gain of \$40.52 million during the first calendar quarter. Assets increased from \$15.3 billion twelve months ago to \$17.02 billion on March 31, 2018. The Fund returned 12.58%, outperforming the policy index by 1.29% and ranked in the 14<sup>th</sup> percentile of its peers.

All asset classes were within policy range as of March 31, 2018.

*The InvestorForce Public Funds \$5 Billion- \$50 Billion Universe contains 39 observations for the period ending March 31, 2018.*

## Quarterly and Cumulative Excess Performance



## 5 Years Ending March 31, 2018

	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
LACERS Master Trust	8.65%	24	6.21%	73	1.34	41	2.55	27
Policy Index	8.17%	50	6.91%	96	1.13	82	1.96	70
InvestorForce Public DB \$5-50B Gross Median	8.16%	--	5.85%	--	1.29	--	2.25	--

## 3 Years Ending March 31, 2018

	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
LACERS Master Trust	7.51%	29	6.32%	68	1.10	44	1.78	29
Policy Index	7.17%	51	7.24%	99	0.92	83	1.37	77
InvestorForce Public DB \$5-50B Gross Median	7.17%	--	5.94%	--	1.05	--	1.59	--



## Los Angeles City Employees' Retirement System

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>LACERS Master Trust</b>	<b>17,015,563,141</b>	<b>100.00</b>	<b>0.22</b>	<b>8.41</b>	<b>12.58</b>	<b>7.51</b>	<b>8.65</b>	<b>6.73</b>	<b>8.37</b>	<b>Oct-94</b>
Policy Index			<u>-0.52</u>	<u>7.63</u>	<u>11.29</u>	<u>7.17</u>	<u>8.17</u>	<u>6.62</u>	<u>8.27</u>	<u>Oct-94</u>
Over/Under			0.74	0.78	1.29	0.34	0.48	0.11	0.10	
<b>U.S. Equity</b>	<b>4,407,968,889</b>	<b>25.91</b>	<b>-0.57</b>	<b>10.56</b>	<b>13.84</b>	<b>10.21</b>	<b>13.08</b>	<b>9.80</b>	<b>10.50</b>	<b>Oct-94</b>
U.S. Equity Blend			<u>-0.64</u>	<u>10.48</u>	<u>13.81</u>	<u>10.22</u>	<u>13.03</u>	<u>9.62</u>	<u>9.36</u>	<u>Oct-94</u>
Over/Under			0.07	0.08	0.03	-0.01	0.05	0.18	1.14	
<b>Non-U.S. Equity</b>	<b>5,481,335,376</b>	<b>32.21</b>	<b>-0.06</b>	<b>12.49</b>	<b>20.15</b>	<b>8.38</b>	<b>7.71</b>	<b>4.21</b>	<b>7.52</b>	<b>Aug-01</b>
MSCI ACWI ex USA			<u>-1.18</u>	<u>10.16</u>	<u>16.53</u>	<u>6.18</u>	<u>5.89</u>	<u>2.70</u>	<u>6.58</u>	<u>Aug-01</u>
Over/Under			1.12	2.33	3.62	2.20	1.82	1.51	0.94	
<b>Core Fixed Income</b>	<b>2,981,563,282</b>	<b>17.52</b>	<b>-1.29</b>	<b>0.06</b>	<b>1.59</b>	<b>1.67</b>	<b>2.28</b>	<b>--</b>	<b>2.79</b>	<b>Jul-12</b>
Core Fixed Income Blend			<u>-1.46</u>	<u>-0.24</u>	<u>1.20</u>	<u>1.20</u>	<u>1.82</u>	<u>3.82</u>	<u>2.04</u>	<u>Jul-12</u>
Over/Under			0.17	0.30	0.39	0.47	0.46		0.75	
<b>Credit Opportunities</b>	<b>793,551,406</b>	<b>4.66</b>	<b>-0.77</b>	<b>2.70</b>	<b>4.96</b>	<b>5.04</b>	<b>--</b>	<b>--</b>	<b>5.66</b>	<b>Jun-13</b>
Credit Opportunities Blend			<u>-1.17</u>	<u>1.74</u>	<u>3.97</u>	<u>5.41</u>	<u>--</u>	<u>--</u>	<u>5.84</u>	<u>Jun-13</u>
Over/Under			0.40	0.96	0.99	-0.37			-0.18	
<b>Real Assets</b>	<b>1,565,247,855</b>	<b>9.20</b>	<b>0.46</b>	<b>3.86</b>	<b>5.31</b>	<b>5.89</b>	<b>8.18</b>	<b>-0.17</b>	<b>6.34</b>	<b>Nov-94</b>
CPI + 5% (Unadjusted)			<u>2.47</u>	<u>5.67</u>	<u>7.47</u>	<u>6.95</u>	<u>6.47</u>	<u>6.64</u>	<u>7.32</u>	<u>Nov-94</u>
Over/Under			-2.01	-1.81	-2.16	-1.06	1.71	-6.81	-0.98	
<b>Public Real Assets</b>	<b>772,068,346</b>	<b>4.54</b>	<b>-1.38</b>	<b>2.29</b>	<b>1.65</b>	<b>1.39</b>	<b>--</b>	<b>--</b>	<b>0.78</b>	<b>Jun-14</b>
Public Real Assets Blend			<u>-2.29</u>	<u>0.37</u>	<u>-0.89</u>	<u>-0.45</u>	<u>--</u>	<u>--</u>	<u>-2.12</u>	<u>Jun-14</u>
Over/Under			0.91	1.92	2.54	1.84			2.90	
<b>Private Real Estate</b>	<b>772,766,844</b>	<b>4.54</b>	<b>2.26</b>	<b>5.52</b>	<b>8.76</b>	<b>9.71</b>	<b>10.86</b>	<b>1.06</b>	<b>6.88</b>	<b>Oct-94</b>
Real Estate Blend			<u>2.39</u>	<u>6.89</u>	<u>8.92</u>	<u>10.86</u>	<u>11.76</u>	<u>7.03</u>	<u>9.99</u>	<u>Oct-94</u>
Over/Under			-0.13	-1.37	-0.16	-1.15	-0.90	-5.97	-3.11	
<b>Private Equity</b>	<b>1,708,829,656</b>	<b>10.04</b>	<b>5.19</b>	<b>10.73</b>	<b>16.19</b>	<b>10.61</b>	<b>12.25</b>	<b>8.90</b>	<b>10.39</b>	<b>Nov-95</b>
Private Equity Blend			<u>0.09</u>	<u>12.93</u>	<u>17.19</u>	<u>13.50</u>	<u>16.39</u>	<u>13.35</u>	<u>12.99</u>	<u>Nov-95</u>
Over/Under			5.10	-2.20	-1.00	-2.89	-4.14	-4.45	-2.60	
<b>Cash</b>	<b>77,066,677</b>	<b>0.45</b>								



Note - See appendix for blended benchmark definitions.

## Los Angeles City Employees' Retirement System

# TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>LACERS Master Trust</b>	<b>17,015,563,141</b>	<b>100.00</b>	<b>0.18</b>	<b>8.26</b>	<b>12.38</b>	<b>7.32</b>	<b>8.46</b>	<b>6.53</b>	<b>--</b>	<b>Oct-94</b>
<i>Policy Index</i>			<u>-0.52</u>	<u>7.63</u>	<u>11.29</u>	<u>7.17</u>	<u>8.17</u>	<u>6.62</u>	<u>8.27</u>	<i>Oct-94</i>
Over/Under			0.70	0.63	1.09	0.15	0.29	-0.09		
<b>U.S. Equity</b>	<b>4,407,968,889</b>	<b>25.91</b>	<b>-0.59</b>	<b>10.51</b>	<b>13.77</b>	<b>10.12</b>	<b>12.95</b>	<b>9.62</b>	<b>--</b>	<b>Oct-94</b>
<i>U.S. Equity Blend</i>			<u>-0.64</u>	<u>10.48</u>	<u>13.81</u>	<u>10.22</u>	<u>13.03</u>	<u>9.62</u>	<u>9.36</u>	<i>Oct-94</i>
Over/Under			0.05	0.03	-0.04	-0.10	-0.08	0.00		
<b>Non-U.S. Equity</b>	<b>5,481,335,376</b>	<b>32.21</b>	<b>-0.16</b>	<b>12.19</b>	<b>19.72</b>	<b>8.00</b>	<b>7.37</b>	<b>3.85</b>	<b>7.16</b>	<b>Aug-01</b>
<i>MSCI ACWI ex USA</i>			<u>-1.18</u>	<u>10.16</u>	<u>16.53</u>	<u>6.18</u>	<u>5.89</u>	<u>2.70</u>	<u>6.58</u>	<i>Aug-01</i>
Over/Under			1.02	2.03	3.19	1.82	1.48	1.15	0.58	
<b>Core Fixed Income</b>	<b>2,981,563,282</b>	<b>17.52</b>	<b>-1.32</b>	<b>-0.01</b>	<b>1.49</b>	<b>1.57</b>	<b>2.17</b>	<b>--</b>	<b>2.67</b>	<b>Jul-12</b>
<i>Core Fixed Income Blend</i>			<u>-1.46</u>	<u>-0.24</u>	<u>1.20</u>	<u>1.20</u>	<u>1.82</u>	<u>3.82</u>	<u>2.04</u>	<i>Jul-12</i>
Over/Under			0.14	0.23	0.29	0.37	0.35		0.63	
<b>Credit Opportunities</b>	<b>793,551,406</b>	<b>4.66</b>	<b>-0.86</b>	<b>2.43</b>	<b>4.60</b>	<b>4.66</b>	<b>--</b>	<b>--</b>	<b>5.31</b>	<b>Jun-13</b>
<i>Credit Opportunities Blend</i>			<u>-1.17</u>	<u>1.74</u>	<u>3.97</u>	<u>5.41</u>	<u>--</u>	<u>--</u>	<u>5.84</u>	<i>Jun-13</i>
Over/Under			0.31	0.69	0.63	-0.75			-0.53	
<b>Real Assets</b>	<b>1,565,247,855</b>	<b>9.20</b>	<b>0.43</b>	<b>3.74</b>	<b>5.15</b>	<b>5.73</b>	<b>8.03</b>	<b>-0.30</b>	<b>--</b>	<b>Nov-94</b>
<i>CPI + 5% (Unadjusted)</i>			<u>2.47</u>	<u>5.67</u>	<u>7.47</u>	<u>6.95</u>	<u>6.47</u>	<u>6.64</u>	<u>7.32</u>	<i>Nov-94</i>
Over/Under			-2.04	-1.93	-2.32	-1.22	1.56	-6.94		
<b>Public Real Assets</b>	<b>772,068,346</b>	<b>4.54</b>	<b>-1.43</b>	<b>2.10</b>	<b>1.40</b>	<b>1.16</b>	<b>--</b>	<b>--</b>	<b>0.59</b>	<b>Jun-14</b>
<i>Public Real Assets Blend</i>			<u>-2.29</u>	<u>0.37</u>	<u>-0.89</u>	<u>-0.45</u>	<u>--</u>	<u>--</u>	<u>-2.12</u>	<i>Jun-14</i>
Over/Under			0.86	1.73	2.29	1.61			2.71	
<b>Private Real Estate</b>	<b>772,766,844</b>	<b>4.54</b>	<b>2.24</b>	<b>5.46</b>	<b>8.68</b>	<b>9.61</b>	<b>10.74</b>	<b>0.94</b>	<b>--</b>	<b>Oct-94</b>
<i>Real Estate Blend</i>			<u>2.39</u>	<u>6.89</u>	<u>8.92</u>	<u>10.86</u>	<u>11.76</u>	<u>7.03</u>	<u>9.99</u>	<i>Oct-94</i>
Over/Under			-0.15	-1.43	-0.24	-1.25	-1.02	-6.09		
<b>Private Equity</b>	<b>1,708,829,656</b>	<b>10.04</b>	<b>5.19</b>	<b>10.73</b>	<b>16.20</b>	<b>10.63</b>	<b>12.26</b>	<b>8.90</b>	<b>--</b>	<b>Nov-95</b>
<i>Private Equity Blend</i>			<u>0.09</u>	<u>12.93</u>	<u>17.19</u>	<u>13.50</u>	<u>16.39</u>	<u>13.35</u>	<u>12.99</u>	<i>Nov-95</i>
Over/Under			5.10	-2.20	-0.99	-2.87	-4.13	-4.45		
<b>Cash</b>	<b>77,066,677</b>	<b>0.45</b>								



Note - See appendix for blended benchmark definitions.

## Los Angeles City Employees' Retirement System

# TOTAL FUND RISK STATISTICS (NET)

### 3 Years Ending March 31, 2018

	% of Total MV (%)	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Annualized Alpha Jensen (%)	Rank	Information Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
LACERS Master Trust	100.00%	7.32%	37	6.34%	68	1.00%	32	0.13	62	1.61	47	1.10%	41
U.S. Equity	25.91%	10.12%	24	10.39%	54	-0.11%	32	-0.16	--	1.32	35	0.66%	12
Non-U.S. Equity	32.21%	8.00%	31	12.08%	69	2.01%	28	1.60	1	1.05	24	1.13%	8
Developed ex-U.S.	24.75%	7.21%	31	11.63%	24	1.94%	16	1.21	1	0.91	24	1.37%	39
Emerging Markets	7.46%	9.17%	24	16.90%	97	0.15%	53	0.39	5	1.01	24	0.94%	1
Core Fixed Income	17.52%	1.57%	85	2.61%	34	0.40%	78	0.73	62	0.51	77	0.51%	19
Credit Opportunities	4.66%	4.66%	--	5.06%	--	-0.60%	--	-0.76	--	1.36	--	0.99%	--
Real Assets	9.20%	5.73%	--	2.17%	--	1.02%	--	-0.58	--	12.65	--	2.11%	--
Public Real Assets	4.54%	1.16%	--	4.14%	--	1.30%	--	0.63	--	0.33	--	2.57%	--
Private Real Estate	4.54%	9.61%	33	1.80%	19	11.27%	4	-0.23	--	--	--	5.39%	94
Private Equity	10.04%	10.63%	58	3.71%	13	10.98%	33	-0.25	--	11.31	52	11.66%	75

### 5 Years Ending March 31, 2018

	% of Total MV (%)	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Annualized Alpha Jensen (%)	Rank	Information Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
LACERS Master Trust	100.00%	8.46%	40	6.21%	74	1.13%	46	0.27	57	2.38	33	1.07%	36
U.S. Equity	25.91%	12.95%	31	10.09%	48	-0.17%	36	-0.12	--	2.08	38	0.71%	15
Non-U.S. Equity	32.21%	7.37%	39	11.64%	72	1.62%	35	1.19	1	1.10	28	1.24%	14
Developed ex-U.S.	24.75%	7.38%	34	11.40%	46	1.18%	42	0.65	26	1.12	17	1.37%	34
Emerging Markets	7.46%	4.51%	36	15.52%	96	-0.61%	61	-0.25	--	0.46	51	1.87%	11
Core Fixed Income	17.52%	2.17%	73	3.00%	50	0.36%	74	0.58	53	0.83	74	0.61%	23
Real Assets	9.20%	8.03%	--	2.25%	--	6.43%	--	0.66	--	19.51	--	2.37%	--
Private Real Estate	4.54%	10.74%	50	1.86%	16	12.84%	6	-0.18	--	--	--	5.66%	88
Private Equity	10.04%	12.26%	54	4.04%	18	12.08%	29	-0.38	--	12.88	47	10.88%	72

Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.



# PRIVATE MARKETS PERFORMANCE AS OF DECEMBER 31, 2017

Private Equity	10 Year IRR	Since Inception IRR	Since Inception Multiple
Aggregate Portfolio	8.82%	11.15%	1.53x
Core Portfolio	9.41%	11.73%	1.56x
Specialized Portfolio	1.89%	1.64%	1.10x
Russell 3000 + 300 bps	11.71%	10.80%	N/A

Real Estate	10 Year Return (Net)	Since Inception Return (Net)
Total Portfolio (TWR) <sup>1</sup>	0.51%	5.96%
NFI-ODCE + 80 basis points (TWR)	4.87%	7.12%

Note: The Total Value to Paid-In Ratio (TVPI) is a multiple that relates the current value of the private equity portfolio plus all distributions received to date with the total amount of capital contributed.

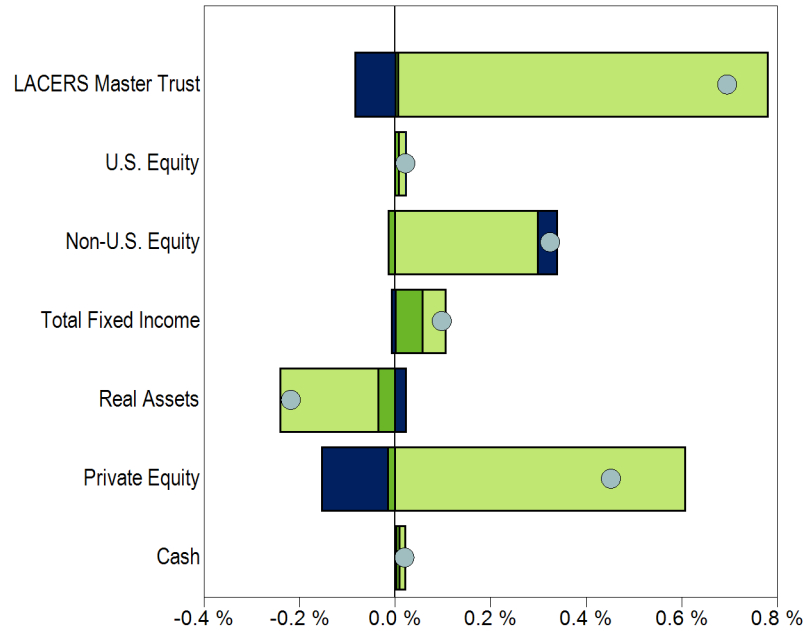
1 - IRR is not available for the Real Estate portfolio and therefore only time weighted returns (TWR) are reported.



# Los Angeles City Employees' Retirement System

## TOTAL FUND ATTRIBUTION ANALYSIS (NET)

### Attribution Effects 3 Months Ending March 31, 2018



■ Allocation Effect  
■ Selection Effect  
■ Interaction Effects  
● Total Effect

Attribution Summary 3 Months Ending March 31, 2018								
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
U.S. Equity	24.00%	-0.59%	-0.64%	0.06%	0.01%	0.01%	0.00%	0.02%
Non-U.S. Equity	29.00%	-0.16%	-1.18%	1.03%	0.30%	-0.01%	0.04%	0.32%
Total Fixed Income	24.00%	-1.20%	-1.40%	0.20%	0.05%	0.06%	-0.01%	0.10%
Real Assets	10.00%	0.43%	2.47%	-2.04%	-0.20%	-0.04%	0.02%	-0.22%
Private Equity	12.00%	5.19%	0.09%	5.10%	0.61%	-0.02%	-0.14%	0.45%
Cash	1.00%	1.45%	0.38%	1.06%	0.01%	0.01%	0.00%	0.02%
<b>Total</b>	<b>100.00%</b>	<b>0.18%</b>	<b>-0.52%</b>	<b>0.69%</b>	<b>0.77%</b>	<b>0.01%</b>	<b>-0.08%</b>	<b>0.69%</b>

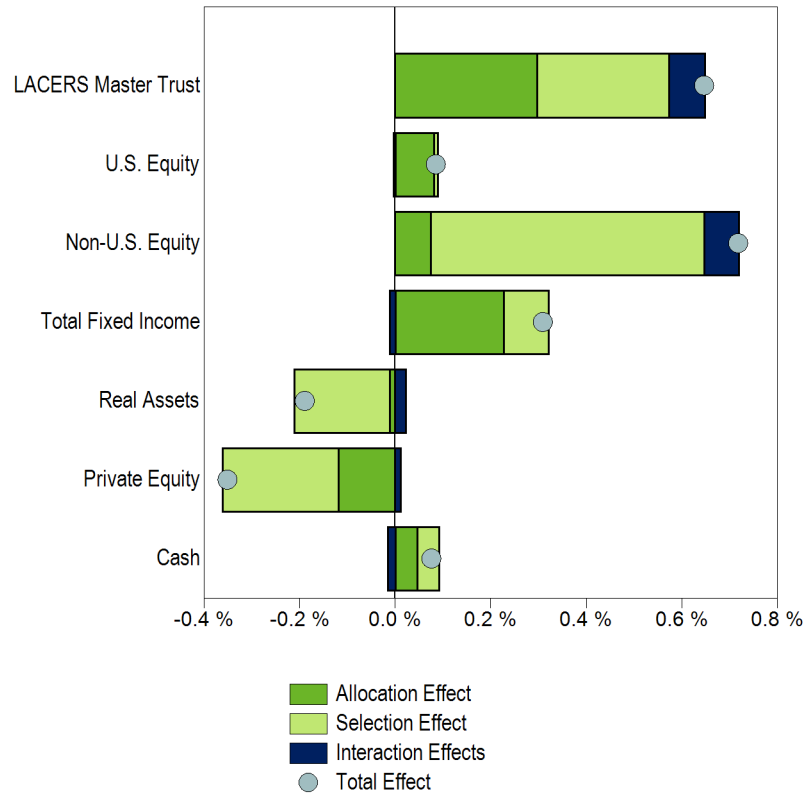
Wtd. = Weighted



# Los Angeles City Employees' Retirement System

## TOTAL FUND ATTRIBUTION ANALYSIS (NET)

**Attribution Effects**  
FYTD Ending March 31, 2018



Attribution Summary								
FYTD Ending March 31, 2018								
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
U.S. Equity	24.00%	10.51%	10.48%	0.03%	0.01%	0.08%	0.00%	0.08%
Non-U.S. Equity	29.00%	12.19%	10.16%	2.03%	0.57%	0.07%	0.07%	0.72%
Total Fixed Income	24.00%	0.54%	0.17%	0.37%	0.09%	0.23%	-0.01%	0.31%
Real Assets	10.00%	3.74%	5.67%	-1.93%	-0.20%	-0.01%	0.02%	-0.19%
Private Equity	12.00%	10.73%	12.93%	-2.20%	-0.24%	-0.12%	0.01%	-0.35%
Cash	1.00%	5.23%	0.94%	4.29%	0.04%	0.05%	-0.02%	0.08%
<b>Total</b>	<b>100.00%</b>	<b>8.27%</b>	<b>7.63%</b>	<b>0.65%</b>	<b>0.28%</b>	<b>0.30%</b>	<b>0.07%</b>	<b>0.65%</b>

Wtd. = Weighted

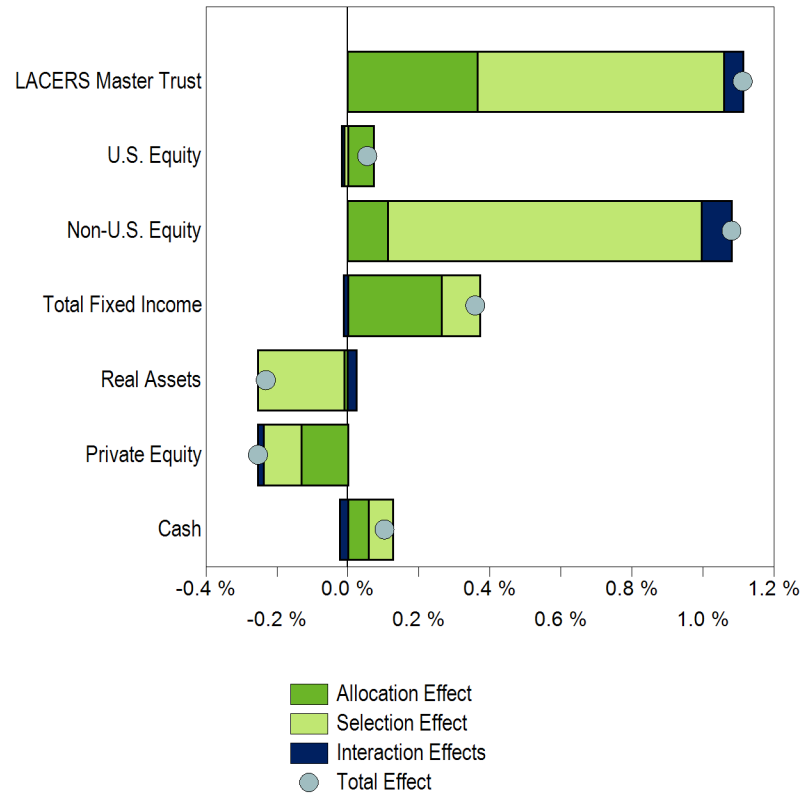




# Los Angeles City Employees' Retirement System

## TOTAL FUND ATTRIBUTION ANALYSIS (NET)

**Attribution Effects**  
1 Year Ending March 31, 2018



Attribution Summary								
1 Year Ending March 31, 2018								
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
U.S. Equity	24.00%	13.77%	13.81%	-0.04%	-0.01%	0.07%	-0.01%	0.05%
Non-U.S. Equity	29.00%	19.72%	16.53%	3.19%	0.88%	0.11%	0.08%	1.08%
Total Fixed Income	24.00%	2.19%	1.78%	0.41%	0.11%	0.27%	-0.01%	0.36%
Real Assets	10.00%	5.15%	7.47%	-2.32%	-0.24%	-0.01%	0.02%	-0.23%
Private Equity	12.00%	16.20%	17.19%	-0.99%	-0.11%	-0.13%	-0.01%	-0.25%
Cash	1.00%	7.36%	1.16%	6.20%	0.07%	0.06%	-0.02%	0.10%
<b>Total</b>	<b>100.00%</b>	<b>12.40%</b>	<b>11.29%</b>	<b>1.11%</b>	<b>0.69%</b>	<b>0.37%</b>	<b>0.05%</b>	<b>1.11%</b>

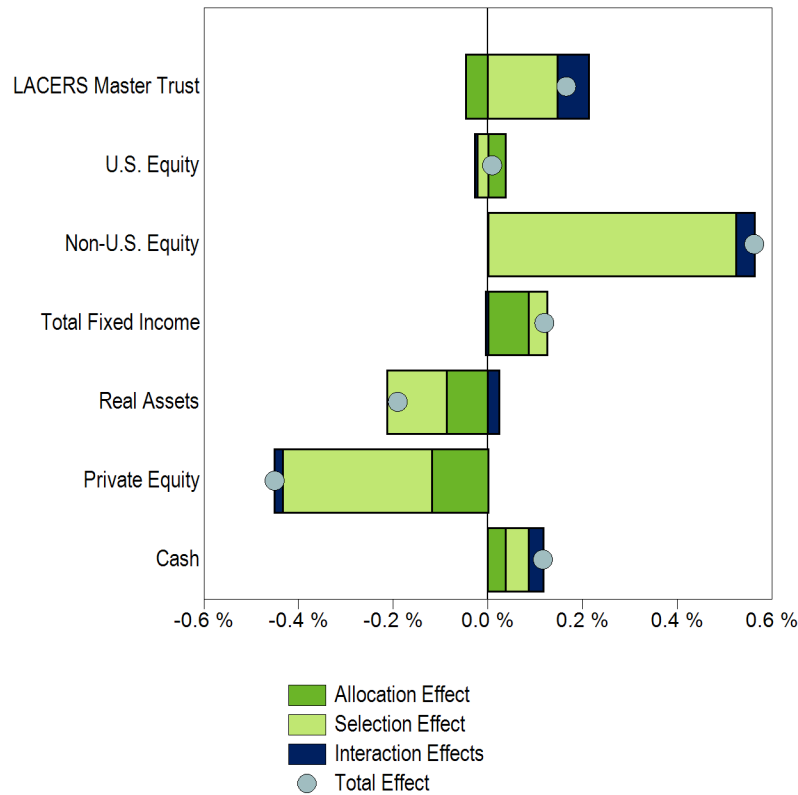
Wtd. = Weighted



# Los Angeles City Employees' Retirement System

## TOTAL FUND ATTRIBUTION ANALYSIS (NET)

**Attribution Effects**  
3 Years Ending March 31, 2018

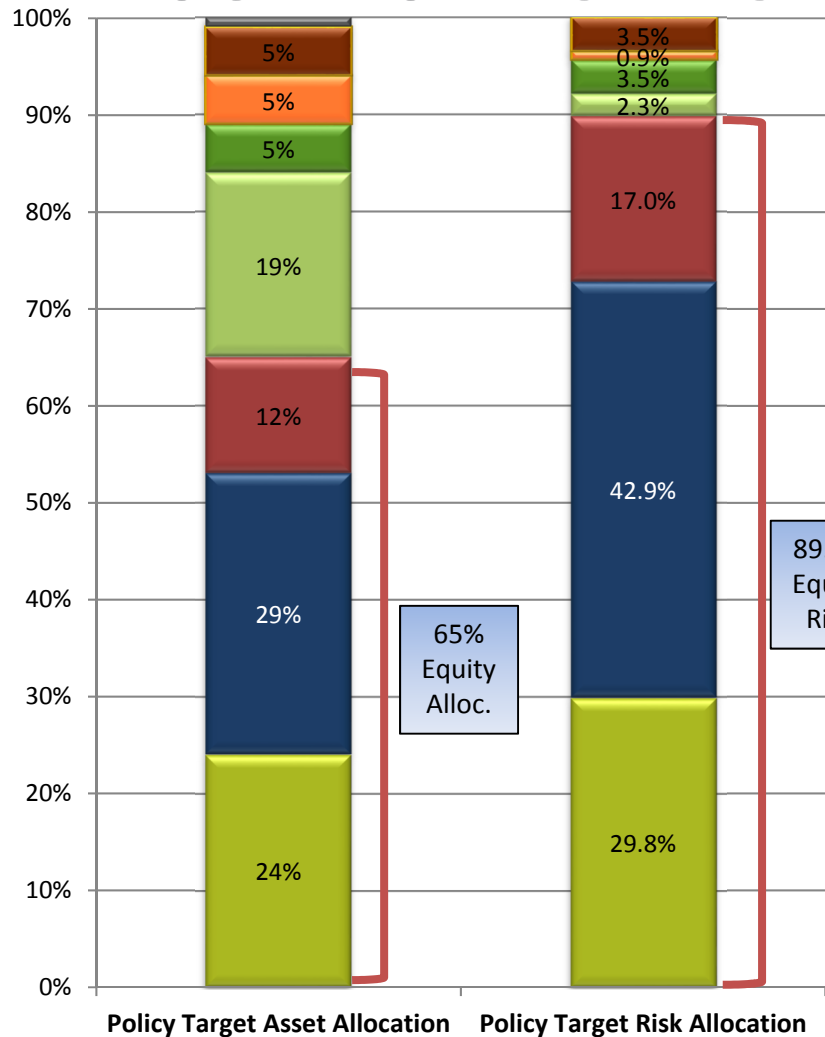


Attribution Summary								
3 Years Ending March 31, 2018								
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
U.S. Equity	24.00%	10.12%	10.22%	-0.10%	-0.02%	0.04%	0.00%	0.01%
Non-U.S. Equity	29.00%	8.00%	6.18%	1.82%	0.52%	0.00%	0.04%	0.56%
Total Fixed Income	24.00%	2.24%	2.08%	0.16%	0.04%	0.09%	0.00%	0.12%
Real Assets	10.00%	5.73%	6.95%	-1.22%	-0.13%	-0.09%	0.02%	-0.19%
Private Equity	12.00%	10.63%	13.50%	-2.88%	-0.31%	-0.12%	-0.02%	-0.45%
Cash	1.00%	5.29%	0.55%	4.74%	0.05%	0.04%	0.03%	0.12%
<b>Total</b>	<b>100.00%</b>	<b>7.34%</b>	<b>7.18%</b>	<b>0.17%</b>	<b>0.15%</b>	<b>-0.05%</b>	<b>0.06%</b>	<b>0.17%</b>

Wtd. = Weighted



# TOTAL FUND RISK ALLOCATION – ASSET ALLOCATION VS. RISK ALLOCATION



- Cash
- Private Real Estate
- Public Real Assets
- Credit Opportunities
- Core Fixed Income
- Private Equity
- Non-U.S. Equity
- U.S. Equity

- Public and Private Equity policy target asset allocation is 65%; accounts for 89.7% of the policy target portfolio risk.
- Core Fixed Income and Credit Opportunities policy allocation is 24%, accounting for 5.8% of the policy target portfolio risk.
- Real Assets (Private Real Estate and Public Real Assets) policy allocation is 10%, accounting for 4.4% of policy target portfolio risk.



# PUBLIC MARKETS RISK BUDGET COMPARISON AS OF MARCH 31, 2018

Public Markets Asset Class	Target Risk Budget	Actual 3 Yr Tracking Error
U.S. Equity	0.50%	0.67%
Non-U.S. Equity	1.20%	1.16%
Core Fixed Income	1.00%	0.51%
Credit Opportunities	1.50%	0.93%
Public Real Assets*	3.00%	2.58%

- Current LACERS public market asset class composite tracking errors are compared to asset class target risk budgets to ensure active risks are within expectations.
- Risk budgets are to be evaluated over three-year periods, at minimum, to reflect a full market cycle.
- All equity public markets asset classes are within an appropriately narrow range of their respective risk budgets.
- Both Core Fixed Income and Credit Opportunities have exhibited lower than expected active risk.
- The LACERS Public Real Assets composite is not at its target strategy allocation.

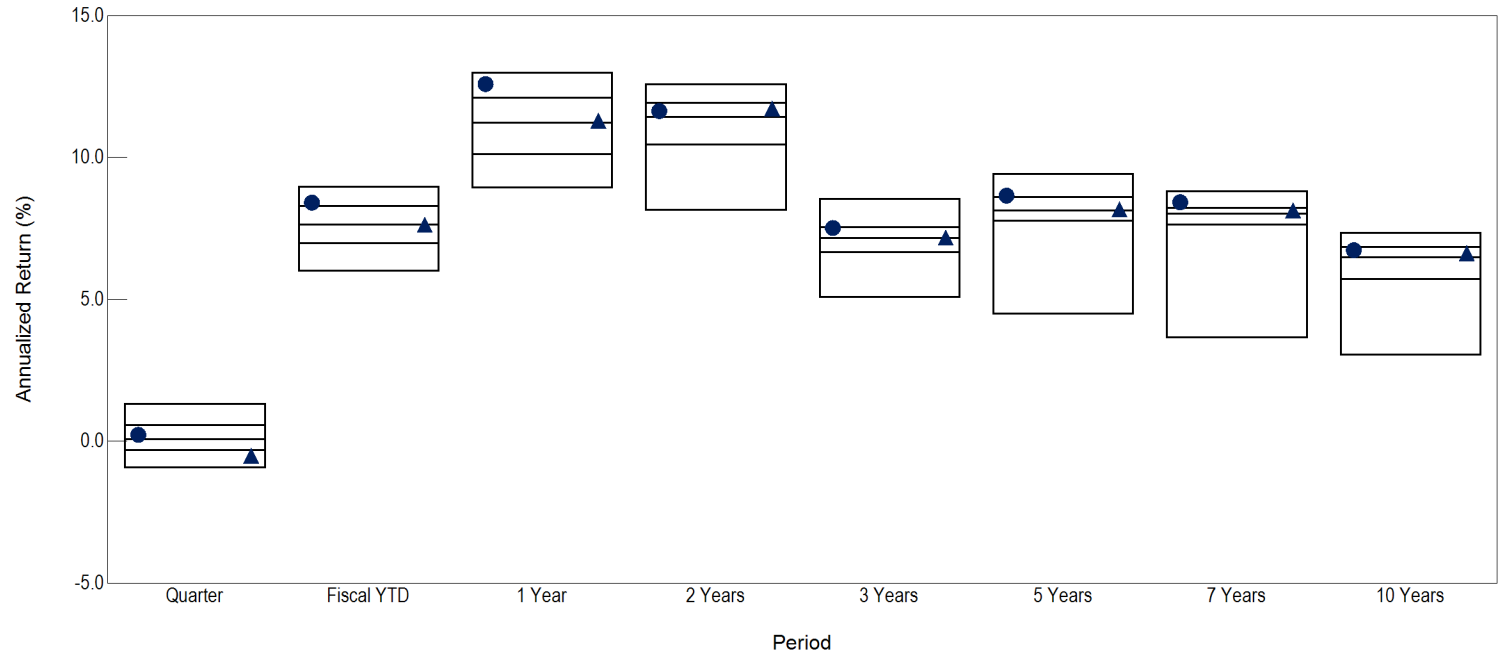
\* The benchmark for the Public Real Assets composite is a custom policy benchmark that is comprised of the target weights of the public real asset components. The public real asset benchmark weights are 60% TIPS, 20% Commodities, 10% REITs, and 10% MLPs.



# Los Angeles City Employees' Retirement System

## TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

LACERS Master Trust vs. InvestorForce Public DB \$5-50B Gross



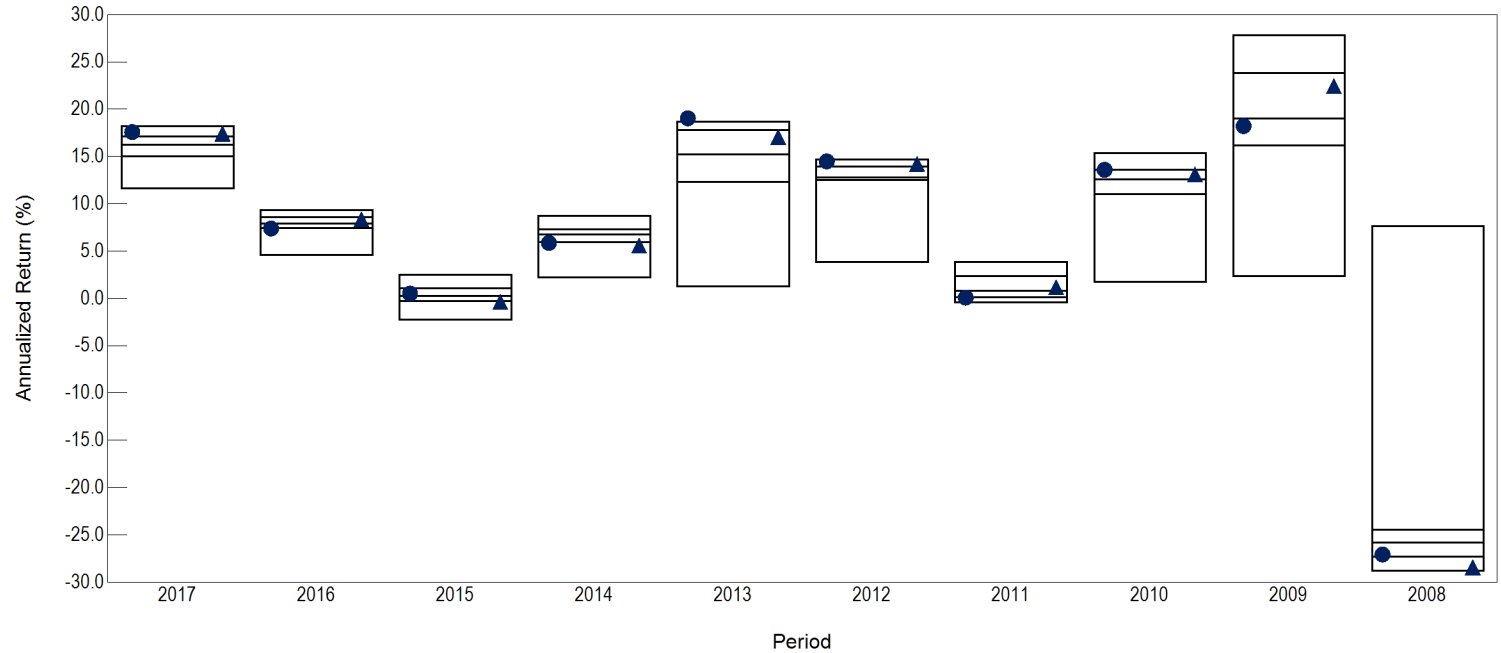
	Return (Rank)															
5th Percentile	1.32	8.96	12.99	12.59	8.54	9.41	8.81	7.35								
25th Percentile	0.59	8.31	12.13	11.95	7.57	8.63	8.25	6.88								
Median	0.10	7.67	11.25	11.45	7.17	8.16	8.04	6.51								
75th Percentile	-0.29	7.00	10.15	10.48	6.69	7.79	7.66	5.74								
95th Percentile	-0.89	6.03	8.96	8.17	5.10	4.53	3.69	3.09								
# of Portfolios	47	45	45	42	39	31	25	24								
● LACERS Master Trust	0.22	(40)	8.41	(14)	12.58	(14)	11.63	(37)	7.51	(29)	8.65	(24)	8.42	(17)	6.73	(40)
▲ Policy Index	-0.52	(82)	7.63	(52)	11.29	(48)	11.72	(30)	7.17	(51)	8.17	(50)	8.13	(40)	6.62	(43)



# Los Angeles City Employees' Retirement System

## TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

LACERS Master Trust vs. InvestorForce Public DB \$5-50B Gross



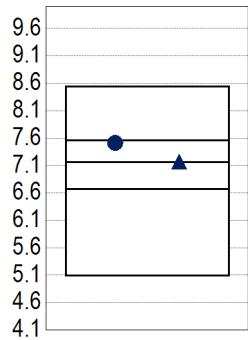
	Return (Rank)																			
5th Percentile	18.21	9.30	2.50	8.72	18.69	14.65	3.83	15.32	27.83	7.63										
25th Percentile	17.15	8.68	1.12	7.38	17.86	14.01	2.41	13.67	23.91	-24.40										
Median	16.29	7.99	0.35	6.79	15.31	12.83	0.86	12.66	19.07	-25.72										
75th Percentile	15.05	7.51	-0.24	6.04	12.36	12.58	0.21	11.06	16.24	-27.23										
95th Percentile	11.68	4.65	-2.20	2.25	1.36	3.92	-0.37	1.83	2.42	-28.75										
# of Portfolios	46	30	24	24	23	16	16	15	15	15										
● LACERS Master Trust	17.57	(12)	7.38	(78)	0.49	(41)	5.85	(81)	19.03	(4)	14.47	(7)	0.08	(89)	13.58	(29)	18.21	(67)	-27.07	(68)
▲ Policy Index	17.41	(14)	8.35	(41)	-0.39	(77)	5.58	(87)	17.06	(31)	14.23	(21)	1.17	(44)	13.11	(34)	22.44	(38)	-28.43	(94)



# TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

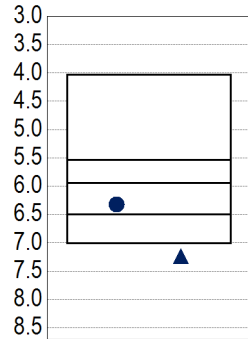
## LACERS Master Trust vs. InvestorForce Public DB \$5-50B Gross 3 Years

Annualized Return (%)



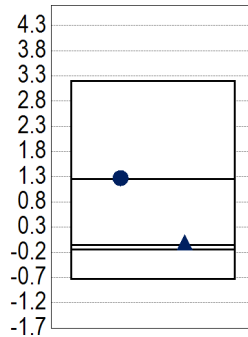
● LACERS Master Trust	
Value	7.51
Rank	29
▲ Policy Index	
Value	7.17
Rank	51
Universe	
5th %tile	8.54
25th %tile	7.57
Median	7.17
75th %tile	6.69
95th %tile	5.10

Annualized Standard Deviation



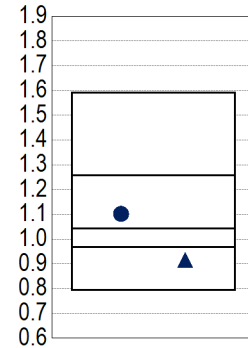
● LACERS Master Trust	
Value	6.32
Rank	68
▲ Policy Index	
Value	7.24
Rank	99
Universe	
5th %tile	4.03
25th %tile	5.53
Median	5.94
75th %tile	6.48
95th %tile	7.00

Annualized Alpha (%)



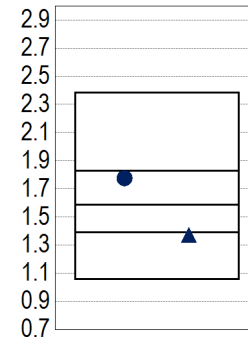
● LACERS Master Trust	
Value	1.27
Rank	25
▲ Policy Index	
Value	0.00
Rank	50
Universe	
5th %tile	3.20
25th %tile	1.27
Median	-0.04
75th %tile	-0.13
95th %tile	-0.72

Sharpe Ratio



● LACERS Master Trust	
Value	1.10
Rank	44
▲ Policy Index	
Value	0.92
Rank	83
Universe	
5th %tile	1.59
25th %tile	1.26
Median	1.05
75th %tile	0.97
95th %tile	0.80

Sortino Ratio Risk Free



● LACERS Master Trust	
Value	1.78
Rank	29
▲ Policy Index	
Value	1.37
Rank	77
Universe	
5th %tile	2.38
25th %tile	1.83
Median	1.59
75th %tile	1.40
95th %tile	1.06

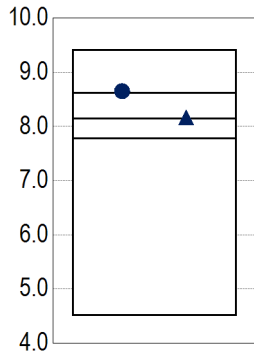
Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.



# TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

## LACERS Master Trust vs. InvestorForce Public DB \$5-50B Gross 5 Years

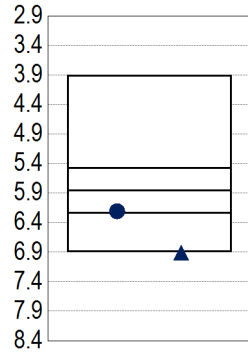
Annualized Return (%)



● LACERS Master Trust	
Value	8.65
Rank	24
▲ Policy Index	
Value	8.17
Rank	50

Universe	
5th %tile	9.41
25th %tile	8.63
Median	8.16
75th %tile	7.79
95th %tile	4.53

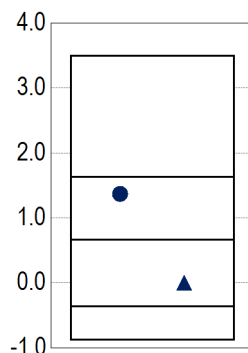
Annualized Standard Deviation



● LACERS Master Trust	
Value	6.21
Rank	73
▲ Policy Index	
Value	6.91
Rank	96

Universe	
5th %tile	3.91
25th %tile	5.47
Median	5.85
75th %tile	6.22
95th %tile	6.87

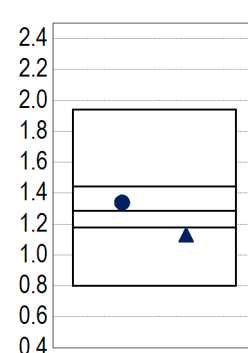
Annualized Alpha (%)



● LACERS Master Trust	
Value	1.37
Rank	28
▲ Policy Index	
Value	0.00
Rank	59

Universe	
5th %tile	3.50
25th %tile	1.64
Median	0.67
75th %tile	-0.35
95th %tile	-0.87

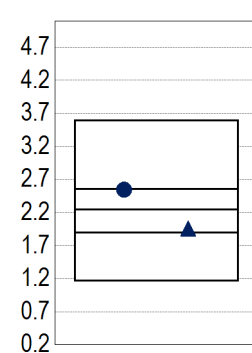
Sharpe Ratio



● LACERS Master Trust	
Value	1.34
Rank	41
▲ Policy Index	
Value	1.13
Rank	82

Universe	
5th %tile	1.94
25th %tile	1.45
Median	1.29
75th %tile	1.18
95th %tile	0.81

Sortino Ratio Risk Free



● LACERS Master Trust	
Value	2.55
Rank	27
▲ Policy Index	
Value	1.96
Rank	70

Universe	
5th %tile	3.60
25th %tile	2.56
Median	2.25
75th %tile	1.91
95th %tile	1.18

Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.

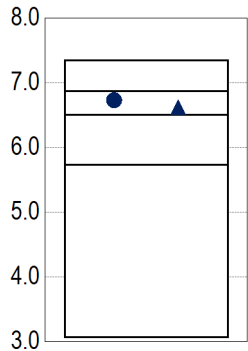




# TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

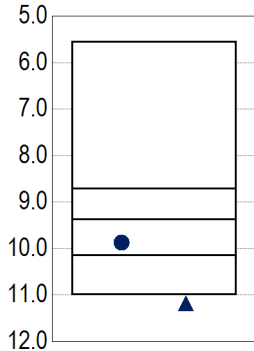
## LACERS Master Trust vs. InvestorForce Public DB \$5-50B Gross 10 Years

Annualized Return (%)



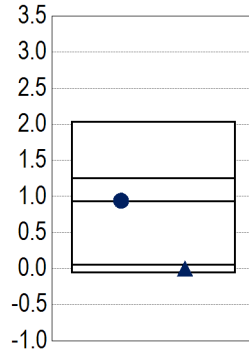
● LACERS Master Trust	
Value	6.73
Rank	40
▲ Policy Index	
Value	6.62
Rank	43
Universe	
5th %tile	7.35
25th %tile	6.88
Median	6.51
75th %tile	5.74
95th %tile	3.09

Annualized Standard Deviation



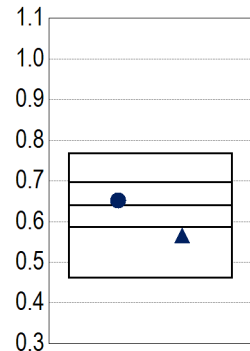
● LACERS Master Trust	
Value	9.87
Rank	70
▲ Policy Index	
Value	11.18
Rank	98
Universe	
5th %tile	5.54
25th %tile	8.70
Median	9.35
75th %tile	10.12
95th %tile	10.97

Annualized Alpha (%)



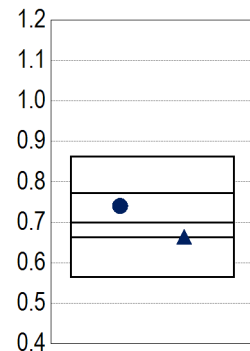
● LACERS Master Trust	
Value	0.94
Rank	51
▲ Policy Index	
Value	0.00
Rank	90
Universe	
5th %tile	2.03
25th %tile	1.26
Median	0.94
75th %tile	0.06
95th %tile	-0.04

Sharpe Ratio



● LACERS Master Trust	
Value	0.65
Rank	49
▲ Policy Index	
Value	0.57
Rank	90
Universe	
5th %tile	0.77
25th %tile	0.70
Median	0.64
75th %tile	0.59
95th %tile	0.46

Sortino Ratio Risk Free



● LACERS Master Trust	
Value	0.74
Rank	40
▲ Policy Index	
Value	0.66
Rank	75
Universe	
5th %tile	0.86
25th %tile	0.77
Median	0.70
75th %tile	0.66
95th %tile	0.57

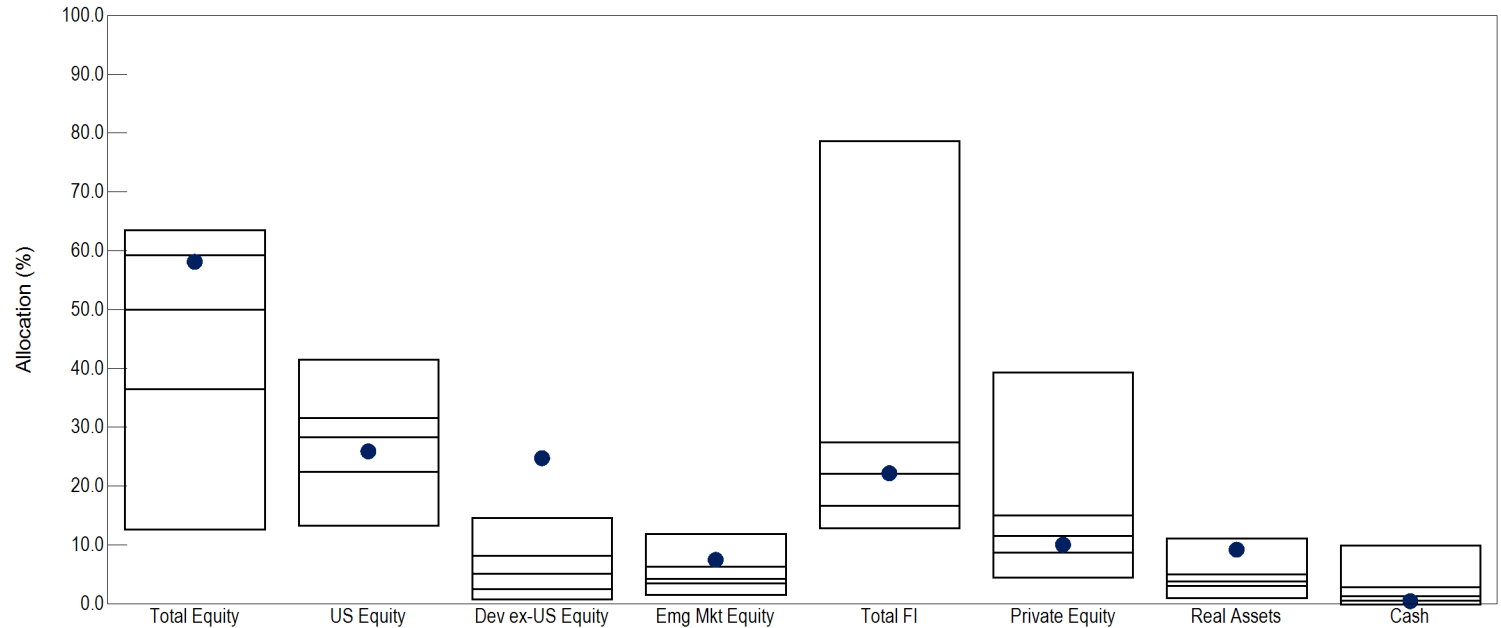
Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.



# Los Angeles City Employees' Retirement System

## TOTAL FUND ALLOCATION VS. PEER UNIVERSE

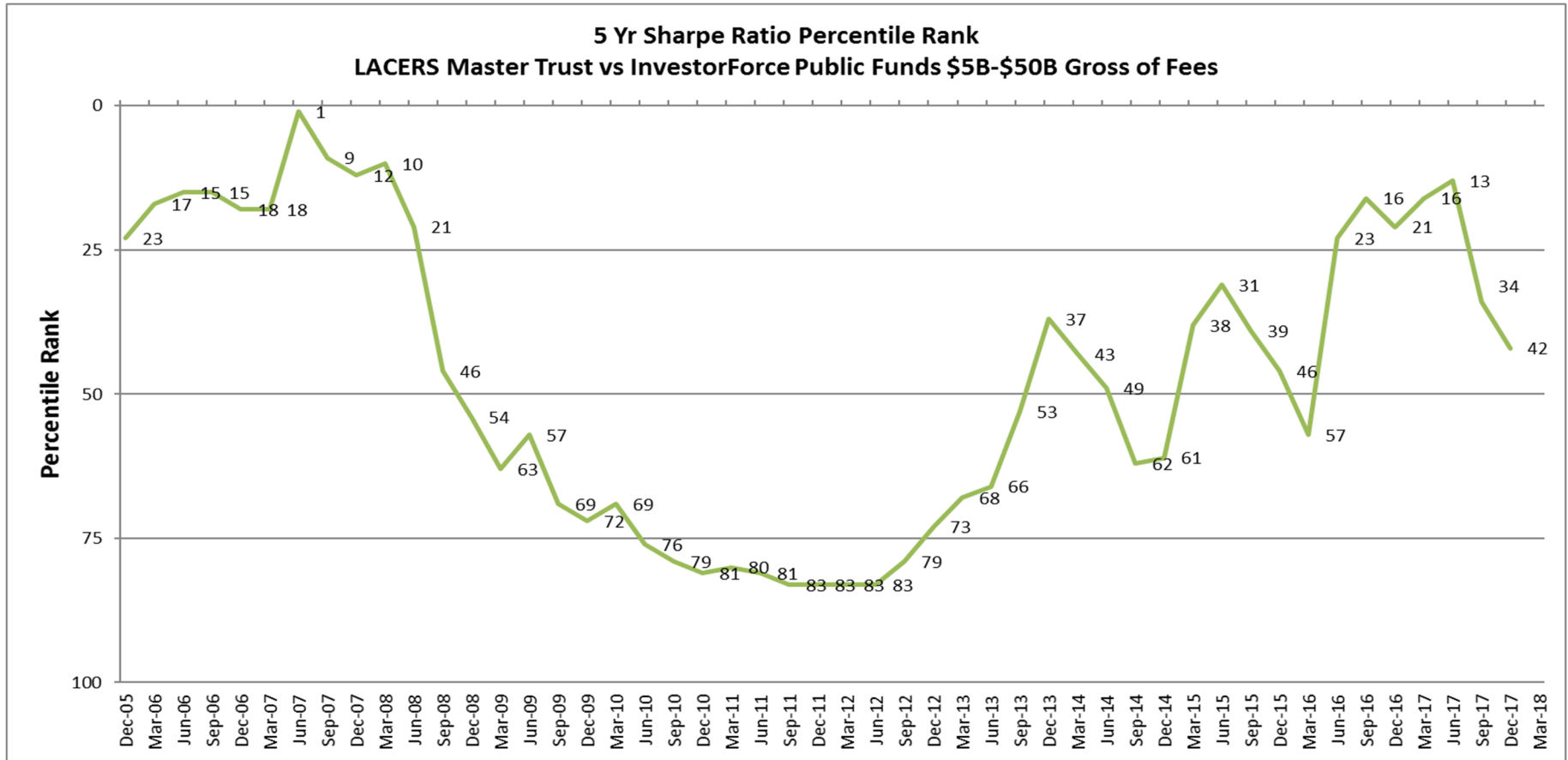
Total Plan Allocation vs. InvestorForce Public DB \$5-50B Gross



	Allocation (Rank)															
5th Percentile	63.47	41.47	14.57	11.86	78.65	39.35	11.12	9.88								
25th Percentile	59.35	31.68	8.26	6.41	27.60	15.12	5.10	2.92								
Median	50.10	28.43	5.23	4.31	22.25	11.60	3.94	1.40								
75th Percentile	36.55	22.48	2.55	3.62	16.77	8.84	3.15	0.65								
95th Percentile	12.68	13.39	0.81	1.63	12.96	4.52	1.11	0.00								
# of Portfolios	44	38	9	12	46	13	8	41								
● LACERS Master Trust	58.12	(33)	25.91	(60)	24.75	(1)	7.46	(19)	22.19	(51)	10.04	(59)	9.20	(9)	0.45	(83)



# HISTORICAL RISK ADJUSTED RETURN UNIVERSE COMPARISON



- Total Plan ranks in the 42nd percentile versus other large public plans on a Sharpe Ratio basis.
  - Overweight to non-U.S. equities with favorable Sharpe Ratio rank.
  - Use of passive investment strategies within U.S. Equity has contributed to the overall Sharpe Ratio rank.



# U.S. EQUITY

NEPC, LLC

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## Los Angeles City Employees' Retirement System

# U.S. EQUITY (GROSS)

	Market Value (\$)	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>U.S. Equity</b>	<b>4,407,968,889</b>	<b>-0.57</b>	<b>10.56</b>	<b>13.84</b>	<b>10.21</b>	<b>13.08</b>	<b>9.80</b>	<b>10.50</b>	<b>Oct-94</b>
U.S. Equity Blend		<u>-0.64</u>	<u>10.48</u>	<u>13.81</u>	<u>10.22</u>	<u>13.03</u>	<u>9.62</u>	<u>9.36</u>	Oct-94
Over/Under		0.07	0.08	0.03	-0.01	0.05	0.18	1.14	
Aronson, Johnson & Ortiz	181,957,865	-2.40	9.57	11.20	6.83	11.05	8.72	8.80	Oct-01
Russell 1000 Value		<u>-2.83</u>	<u>5.53</u>	<u>6.95</u>	<u>7.88</u>	<u>10.78</u>	<u>7.78</u>	<u>7.92</u>	Oct-01
Over/Under		0.43	4.04	4.25	-1.05	0.27	0.94	0.88	
Rhumblin Advisors Russell 2000	257,934,511	-0.06	9.12	11.81	8.23	--	--	7.99	Mar-15
Russell 2000		<u>-0.08</u>	<u>9.11</u>	<u>11.79</u>	<u>8.39</u>	<u>11.47</u>	<u>9.84</u>	<u>8.76</u>	Mar-15
Over/Under		0.02	0.01	0.02	-0.16			-0.77	
Rhumblin Advisors Russell 2000 Growth <sup>1</sup>	132,993,359	2.30	13.62	18.56	8.63	--	--	10.11	Jan-15
Russell 2000 Growth		<u>2.30</u>	<u>13.64</u>	<u>18.63</u>	<u>8.76</u>	<u>12.90</u>	<u>10.95</u>	<u>10.22</u>	Jan-15
Over/Under		0.00	-0.02	-0.07	-0.13			-0.11	
Rhumblin Advisors Russell 2000 Value <sup>1</sup>	104,453,529	-2.62	4.42	5.14	--	--	--	20.33	Mar-16
Russell 2000 Value		<u>-2.64</u>	<u>4.43</u>	<u>5.13</u>	<u>7.87</u>	<u>9.96</u>	<u>8.61</u>	<u>20.42</u>	Mar-16
Over/Under		0.02	-0.01	0.01				-0.09	
EAM Investors	111,798,536	2.04	17.97	21.95	--	--	--	12.85	Sep-15
Russell 2000 Growth		<u>2.30</u>	<u>13.64</u>	<u>18.63</u>	<u>8.76</u>	<u>12.90</u>	<u>10.95</u>	<u>16.07</u>	Sep-15
Over/Under		-0.26	4.33	3.32				-3.22	
PanAgora	119,603,499	-1.33	3.91	3.85	7.37	11.56	11.18	7.36	Feb-06
Russell 2000 Value		<u>-2.64</u>	<u>4.43</u>	<u>5.13</u>	<u>7.87</u>	<u>9.96</u>	<u>8.61</u>	<u>6.73</u>	Feb-06
Over/Under		1.31	-0.52	-1.28	-0.50	1.60	2.57	0.63	
Principal Global Investors <sup>1</sup>	147,262,760	0.01	12.06	17.33	10.55	--	--	13.06	Aug-14
Russell MidCap		<u>-0.46</u>	<u>9.25</u>	<u>12.20</u>	<u>8.01</u>	<u>12.09</u>	<u>10.21</u>	<u>9.74</u>	Aug-14
Over/Under		0.47	2.81	5.13	2.54			3.32	
Rhumblin Advisors S&P 500	3,165,173,406	-0.72	10.58	13.99	10.73	13.27	9.58	9.70	Feb-93
S&P 500		<u>-0.76</u>	<u>10.58</u>	<u>13.99</u>	<u>10.78</u>	<u>13.31</u>	<u>9.49</u>	<u>9.53</u>	Feb-93
Over/Under		0.04	0.00	0.00	-0.05	-0.04	0.09	0.17	
Rhumblin Advisors Russell 1000 Growth <sup>1</sup>	186,791,425	1.41	15.82	21.22	12.82	--	--	15.85	Jun-13
Russell 1000 Growth		<u>1.42</u>	<u>15.84</u>	<u>21.25</u>	<u>12.90</u>	<u>15.53</u>	<u>11.34</u>	<u>15.91</u>	Jun-13
Over/Under		-0.01	-0.02	-0.03	-0.08			-0.06	

1- Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

- U.S. Equity Blend = Russell 3000 from 1/1/2000 to present; 33.75% S&P 500/ 35% Russell 1000 Value/ 12.50% Russell 1000 Growth/ 12.50% Russell 2000 Value/ 6.25% Russell 2000 Growth prior to

eA = eVestment



## Los Angeles City Employees' Retirement System

# U.S. EQUITY (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>U.S. Equity</b>	<b>4,407,968,889</b>	<b>100.00</b>	<b>-0.59</b>	<b>60</b>	<b>10.51</b>	<b>47</b>	<b>13.77</b>	<b>48</b>	<b>10.12</b>	<b>24</b>	<b>12.95</b>	<b>31</b>	<b>9.62</b>	<b>29</b>	<b>--</b>	<b>Oct-94</b>
U.S. Equity Blend			<u>-0.64</u>	65	<u>10.48</u>	49	<u>13.81</u>	47	<u>10.22</u>	20	<u>13.03</u>	24	<u>9.62</u>	29	<u>9.36</u>	Oct-94
Over/Under			0.05		0.03		-0.04		-0.10		-0.08		0.00			
InvestorForce Public DB > \$1 Billion US Equity Net Median			-0.45		10.42		13.76		9.81		12.65		9.40		9.59	Oct-94
Aronson, Johnson & Ortiz	181,957,865	4.13	-2.47	55	9.34	32	10.89	39	6.52	80	10.72	61	8.42	45	8.51	Oct-01
Russell 1000 Value			<u>-2.83</u>	67	<u>5.53</u>	76	<u>6.95</u>	82	<u>7.88</u>	54	<u>10.78</u>	60	<u>7.78</u>	63	<u>7.92</u>	Oct-01
Over/Under			0.36		3.81		3.94		-1.36		-0.06		0.64		0.59	
eV US Large Cap Value Equity Net Median			-2.29		7.98		9.90		8.06		11.35		8.30		8.49	Oct-01
Rhumblin Advisors Russell 2000 <sup>1</sup>	257,934,511	5.85	-0.06	43	9.12	47	11.80	46	8.22	53	--	--	--	--	7.99	Mar-15
Russell 2000			<u>-0.08</u>	44	<u>9.11</u>	47	<u>11.79</u>	46	<u>8.39</u>	52	<u>11.47</u>	50	<u>9.84</u>	58	<u>8.76</u>	Mar-15
Over/Under			0.02		0.01		0.01		-0.17						-0.77	
eV US Small Cap Equity Net Median			-0.63		8.69		11.03		8.46		11.46		10.19		8.86	Mar-15
Rhumblin Advisors Russell 2000 Growth <sup>1</sup>	132,993,359	3.02	2.30	60	13.61	52	18.55	57	8.62	62	--	--	--	--	10.10	Jan-15
Russell 2000 Growth			<u>2.30</u>	60	<u>13.64</u>	52	<u>18.63</u>	56	<u>8.76</u>	62	<u>12.90</u>	56	<u>10.95</u>	57	<u>10.22</u>	Jan-15
Over/Under			0.00		-0.03		-0.08		-0.14						-0.12	
eV US Small Cap Growth Equity Net Median			2.96		13.86		20.32		9.58		13.17		11.23		10.73	Jan-15
Rhumblin Advisors Russell 2000 Value <sup>1</sup>	104,453,529	2.37	-2.63	59	4.42	76	5.13	69	--	--	--	--	--	--	20.32	Mar-16
Russell 2000 Value			<u>-2.64</u>	60	<u>4.43</u>	76	<u>5.13</u>	70	<u>7.87</u>	47	<u>9.96</u>	64	<u>8.61</u>	76	<u>20.42</u>	Mar-16
Over/Under			0.01		-0.01		0.00								-0.10	
eV US Small Cap Value Equity Net Median			-2.21		6.49		7.06		7.74		10.68		9.63		18.77	Mar-16

1- Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

- U.S. Equity Blend = Russell 3000 from 1/1/2000 to present; 33.75% S&P 500/ 35% Russell 1000 Value/ 12.50% Russell 1000 Growth/ 12.50% Russell 2000 Value/ 6.25% Russell 2000 Growth prior to

eA = eVestment



# Los Angeles City Employees' Retirement System

## U.S. EQUITY (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
EAM Investors	111,798,536	2.54	1.86	26	17.36	11	21.07	16	--	--	--	--	--	--	12.05	Sep-15
<i>Russell 2000 Growth</i>			<u>2.30</u>	23	<u>13.64</u>	22	<u>18.63</u>	22	<u>8.76</u>	46	<u>12.90</u>	28	<u>10.95</u>	34	<u>16.07</u>	Sep-15
Over/Under			-0.44		3.72		2.44								-4.02	
<i>eV US Small Cap Equity Net Median</i>			-0.63		8.69		11.03		8.46		11.46		10.19		14.99	Sep-15
PanAgora	119,603,499	2.71	-1.50	34	3.39	82	3.16	85	6.66	71	10.79	47	10.41	32	6.62	Feb-06
<i>Russell 2000 Value</i>			<u>-2.64</u>	60	<u>4.43</u>	76	<u>5.13</u>	70	<u>7.87</u>	47	<u>9.96</u>	64	<u>8.61</u>	76	<u>6.73</u>	Feb-06
Over/Under			1.14		-1.04		-1.97		-1.21		0.83		1.80		-0.11	
<i>eV US Small Cap Value Equity Net Median</i>			-2.21		6.49		7.06		7.74		10.68		9.63		7.79	Feb-06
Principal Global Investors <sup>1</sup>	147,262,760	3.34	-0.09	45	11.74	34	16.89	30	10.12	20	--	--	--	--	12.66	Aug-14
<i>Russell MidCap</i>			<u>-0.46</u>	50	<u>9.25</u>	51	<u>12.20</u>	51	<u>8.01</u>	49	<u>12.09</u>	41	<u>10.21</u>	52	<u>9.74</u>	Aug-14
Over/Under			0.37		2.49		4.69		2.11						2.92	
<i>eV US Mid Cap Equity Net Median</i>			-0.46		9.31		12.35		7.90		11.72		10.26		9.49	Aug-14
Rhumblin Advisors S&P 500	3,165,173,406	71.81	-0.72	47	10.58	49	13.98	47	10.72	25	13.26	33	9.57	41	--	Feb-93
<i>S&amp;P 500</i>			<u>-0.76</u>	48	<u>10.58</u>	49	<u>13.99</u>	47	<u>10.78</u>	24	<u>13.31</u>	32	<u>9.49</u>	43	<u>9.53</u>	Feb-93
Over/Under			0.04		0.00		-0.01		-0.06		-0.05		0.08			
<i>eV US Large Cap Equity Net Median</i>			-0.88		10.44		13.28		9.08		12.29		9.14		9.94	Feb-93
Rhumblin Advisors Russell 1000 Growth <sup>1</sup>	186,791,425	4.24	1.41	65	15.82	43	21.21	52	12.81	24	--	--	--	--	15.84	Jun-13
<i>Russell 1000 Growth</i>			<u>1.42</u>	65	<u>15.84</u>	42	<u>21.25</u>	51	<u>12.90</u>	23	<u>15.53</u>	29	<u>11.34</u>	23	<u>15.91</u>	Jun-13
Over/Under			-0.01		-0.02		-0.04		-0.09						-0.07	
<i>eV US Large Cap Growth Equity Net Median</i>			2.54		15.31		21.27		11.07		14.51		10.33		14.77	Jun-13

1- Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

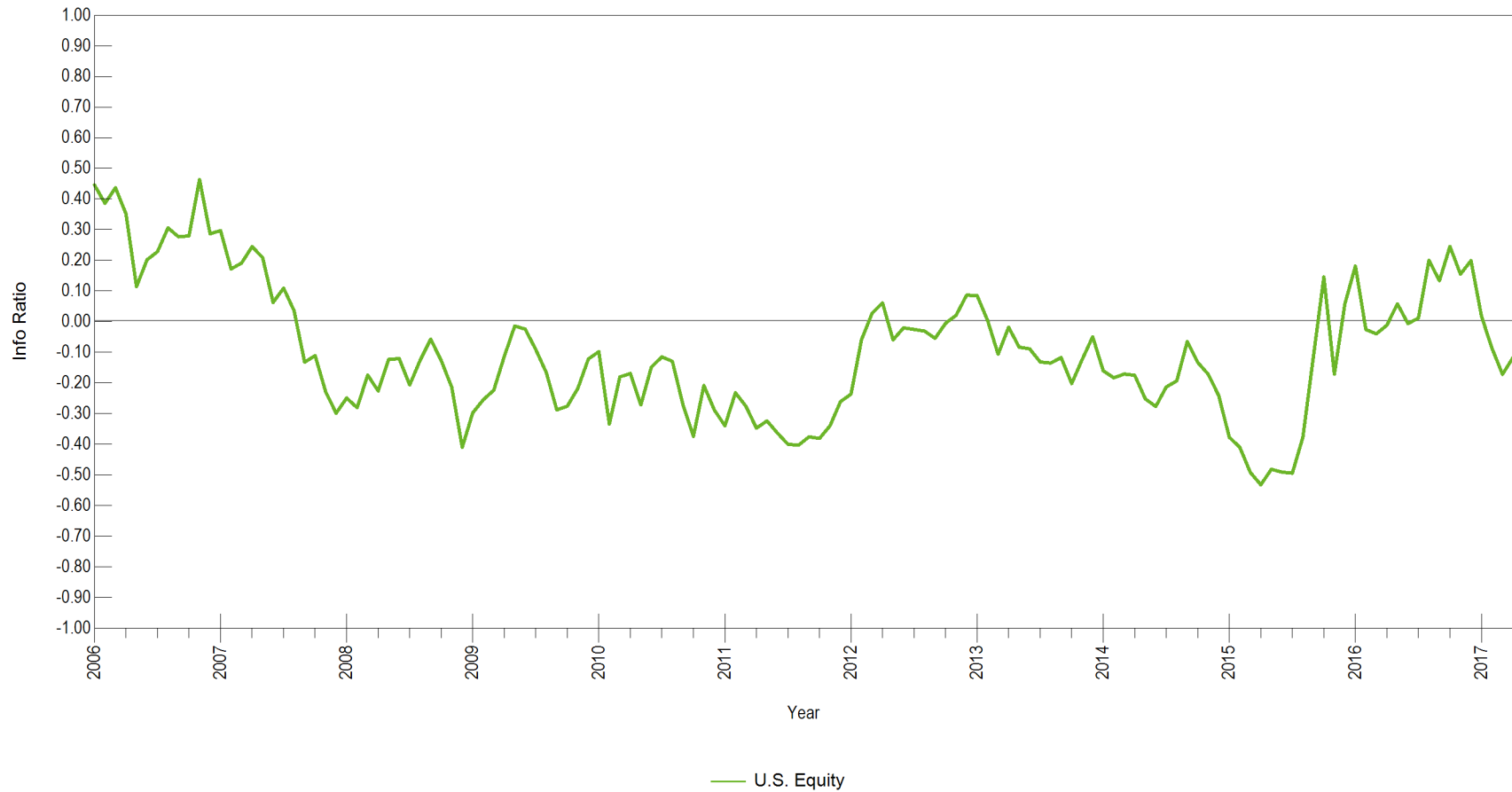
eA = eVestment



## Los Angeles City Employees' Retirement System

# U.S. EQUITY ROLLING 5 YEAR INFORMATION RATIO

Rolling 5 Year Information Ratio



\*Returns are net of fees.





# MANAGER REPORT CARD

U.S. Equity Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
AJO	Oct-01	Large Cap Value	✓	*	✓	✓	*	*	*	*	✓	449.7	On Watch since July 2016 due to performance.
Principal Global Investors	Jul-14	Mid Cap	✓	✓	✓	✓	✓	✓	N/A	N/A	✓	563.0	Performance compliant with LACERS' Manager Monitoring Policy
EAM Investors	Sep-15	Small Cap Growth	*	✓	✓	✓	N/A	N/A	N/A	N/A	*	501.2	LACERS' Manager Monitoring Policy requires at least 3 years of track record to evaluate performance
PanAgora	Feb-06	Small Cap Value	✓	✓	*	*	*	*	✓	✓	*	647.8	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Feb-93	S&P 500	✓	✓	*	✓	*	✓	*	✓	✓✓	100.9	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Jun-13	R1000 Growth	*	*	*	*	*	✓	N/A	N/A	✓	8.8	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Jun-15	R2000	✓	✓	✓	✓	✓	✓	N/A	N/A	*	11.9	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Jun-15	R2000 Growth	=	*	*	*	*	*	N/A	N/A	*	5.9	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Feb-16	R2000 Value	✓	*	=	*	N/A	N/A	N/A	N/A	*	2.2	LACERS' Manager Monitoring Policy requires at least 3 years of track record to evaluate performance

Note: Managers are placed on Watch List for concerns with organization, process and performance. Managers are normally on the Watch List for 12 months though may be longer if manager issues remain but not severe enough to warrant termination recommendation.

- Annual Management Fee Paid as of fiscal year ending June 30, 2017.
- \* Where net of fees performance is not available gross of fee returns are evaluated.

Legend	
✓	Outperformed
*	Underperformed
=	Equal to
✓✓	Gross Return



# NON-U.S. EQUITY

NEPC, LLC

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## Los Angeles City Employees' Retirement System

# NON-U.S. EQUITY (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Non-U.S. Equity</b>	<b>5,481,335,376</b>	<b>100.00</b>	<b>-0.06</b>	<b>12.49</b>	<b>20.15</b>	<b>8.38</b>	<b>7.71</b>	<b>4.21</b>	<b>7.52</b>	<b>Aug-01</b>
<i>MSCI ACWI ex USA</i>			<i>-1.18</i>	<i>10.16</i>	<i>16.53</i>	<i>6.18</i>	<i>5.89</i>	<i>2.70</i>	<i>6.58</i>	<i>Aug-01</i>
Over/Under			1.12	2.33	3.62	2.20	1.82	1.51	0.94	
<b>Developed ex-U.S.</b>	<b>4,211,191,010</b>	<b>76.83</b>	<b>-0.70</b>	<b>10.80</b>	<b>18.67</b>	<b>7.54</b>	<b>7.67</b>	<b>--</b>	<b>10.27</b>	<b>Jun-12</b>
<i>MSCI EAFE</i>			<i>-1.53</i>	<i>8.18</i>	<i>14.80</i>	<i>5.55</i>	<i>6.50</i>	<i>2.74</i>	<i>9.00</i>	<i>Jun-12</i>
Over/Under			0.83	2.62	3.87	1.99	1.17		1.27	
AQR Capital <sup>1</sup>	389,688,048	7.11	0.10	15.04	24.48	13.31	--	--	8.77	Feb-14
<i>MSCI EAFE Small Cap</i>			<i>0.24</i>	<i>14.24</i>	<i>23.49</i>	<i>12.25</i>	<i>11.10</i>	<i>6.48</i>	<i>7.94</i>	<i>Feb-14</i>
Over/Under			-0.14	0.80	0.99	1.06			0.83	
Barrow Hanley <sup>1</sup>	554,217,538	10.11	-0.81	8.06	14.14	5.78	--	--	4.37	Nov-13
<i>MSCI EAFE Value</i>			<i>-2.03</i>	<i>7.08</i>	<i>12.19</i>	<i>4.29</i>	<i>5.78</i>	<i>1.97</i>	<i>2.86</i>	<i>Nov-13</i>
Over/Under			1.22	0.98	1.95	1.49			1.51	
Lazard Asset Management <sup>1</sup>	603,772,167	11.02	2.21	15.74	24.57	6.22	--	--	6.17	Nov-13
<i>MSCI EAFE</i>			<i>-1.53</i>	<i>8.18</i>	<i>14.80</i>	<i>5.55</i>	<i>6.50</i>	<i>2.74</i>	<i>4.11</i>	<i>Nov-13</i>
Over/Under			3.74	7.56	9.77	0.67			2.06	
MFS Institutional Advisors	569,469,685	10.39	-1.76	9.49	20.97	9.03	--	--	6.81	Oct-13
<i>MSCI World ex US Growth</i>			<i>-1.56</i>	<i>8.69</i>	<i>16.28</i>	<i>6.06</i>	<i>6.57</i>	<i>3.03</i>	<i>5.02</i>	<i>Oct-13</i>
Over/Under			-0.20	0.80	4.69	2.97			1.79	
Oberweis Asset Mgmt <sup>1</sup>	168,262,929	3.07	2.47	21.16	32.00	15.19	--	--	12.10	Jan-14
<i>MSCI EAFE Small Cap</i>			<i>0.24</i>	<i>14.24</i>	<i>23.49</i>	<i>12.25</i>	<i>11.10</i>	<i>6.48</i>	<i>9.17</i>	<i>Jan-14</i>
Over/Under			2.23	6.92	8.51	2.94			2.93	
SSgA World ex US IMI	1,925,780,643	35.13	-1.66	8.86	15.43	6.51	6.97	3.51	6.00	Aug-93
<i>MSCI World ex USA IMI NR USD<sup>2</sup></i>			<i>-1.81</i>	<i>8.58</i>	<i>14.95</i>	<i>6.10</i>	<i>6.53</i>	<i>3.00</i>	--	<i>Aug-93</i>
Over/Under			0.15	0.28	0.48	0.41	0.44	0.51		

1 Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

2 Since inception index return sourced from SSgA.

eA = eVestment



# Los Angeles City Employees' Retirement System

## NON-U.S. EQUITY (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Emerging Markets</b>	<b>1,270,144,366</b>	<b>23.17</b>	<b>1.97</b>	<b>18.06</b>	<b>24.97</b>	<b>9.77</b>	<b>5.15</b>	<b>--</b>	<b>6.43</b>	<b>Jun-12</b>
<i>MSCI Emerging Markets</i>			<u>1.42</u>	<u>17.56</u>	<u>24.93</u>	<u>8.81</u>	<u>4.99</u>	<u>3.02</u>	<u>6.38</u>	<i>Jun-12</i>
Over/Under			0.55	0.50	0.04	0.96	0.16		0.05	
Axiom Emerging Markets	404,916,492	7.39	2.15	20.13	29.08	10.84	--	--	8.14	Mar-14
<i>MSCI Emerging Markets Growth NR USD</i>			<u>1.22</u>	<u>20.36</u>	<u>31.73</u>	<u>10.89</u>	<u>7.35</u>	<u>3.96</u>	<u>9.03</u>	<i>Mar-14</i>
Over/Under			0.93	-0.23	-2.65	-0.05			-0.89	
DFA Emerging Markets <sup>1</sup>	404,370,994	7.38	1.69	16.04	19.65	9.59	--	--	3.55	Jul-14
<i>MSCI Emerging Markets Value NR USD</i>			<u>1.62</u>	<u>14.51</u>	<u>18.14</u>	<u>6.65</u>	<u>2.62</u>	<u>2.20</u>	<u>1.87</u>	<i>Jul-14</i>
Over/Under			0.07	1.53	1.51	2.94			1.68	
QMA Emerging Markets <sup>1</sup>	460,856,880	8.41	2.07	18.04	26.28	9.07	--	--	7.59	Apr-14
<i>MSCI Emerging Markets</i>			<u>1.42</u>	<u>17.56</u>	<u>24.93</u>	<u>8.81</u>	<u>4.99</u>	<u>3.02</u>	<u>6.71</u>	<i>Apr-14</i>
Over/Under			0.65	0.48	1.35	0.26			0.88	

1 Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.  
eA = eVestment



# Los Angeles City Employees' Retirement System

## NON-U.S. EQUITY (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Non-U.S. Equity</b>	<b>5,481,335,376</b>	<b>100.00</b>	<b>-0.16</b>	<b>26</b>	<b>12.19</b>	<b>26</b>	<b>19.72</b>	<b>20</b>	<b>8.00</b>	<b>31</b>	<b>7.37</b>	<b>39</b>	<b>3.85</b>	<b>22</b>	<b>7.16</b>	<b>Aug-01</b>
MSCI ACWI ex USA			<u>-1.18</u>	77	<u>10.16</u>	57	<u>16.53</u>	66	<u>6.18</u>	84	<u>5.89</u>	82	<u>2.70</u>	72	<u>6.58</u>	Aug-01
Over/Under			1.02		2.03		3.19		1.82		1.48		1.15		0.58	
<b>Developed ex-U.S.</b>	<b>4,211,191,010</b>	<b>76.83</b>	<b>-0.78</b>	<b>22</b>	<b>10.55</b>	<b>15</b>	<b>18.30</b>	<b>8</b>	<b>7.21</b>	<b>31</b>	<b>7.38</b>	<b>34</b>	<b>--</b>	<b>--</b>	<b>9.99</b>	<b>Jun-12</b>
MSCI EAFE			<u>-1.53</u>	81	<u>8.18</u>	71	<u>14.80</u>	66	<u>5.55</u>	79	<u>6.50</u>	90	<u>2.74</u>	65	<u>9.00</u>	Jun-12
Over/Under			0.75		2.37		3.50		1.66		0.88		0.99			
InvestorForce Public DB > \$1 Billion Dev Mkt ex-US Eq Net Median			-1.17		9.04		15.89		6.45		7.11		3.58		9.49	Jun-12
AQR Capital <sup>1</sup>	389,688,048	7.11	-0.10	48	14.38	45	23.55	56	12.46	50	--	--	--	--	8.06	Feb-14
MSCI EAFE Small Cap			<u>0.24</u>	40	<u>14.24</u>	47	<u>23.49</u>	56	<u>12.25</u>	54	<u>11.10</u>	65	<u>6.48</u>	78	<u>7.94</u>	Feb-14
Over/Under			-0.34		0.14		0.06		0.21						0.12	
eV EAFE Small Cap Equity Net Median			-0.25		14.01		24.49		12.44		11.89		7.38		8.25	Feb-14
Barrow Hanley <sup>1</sup>	554,217,538	10.11	-0.93	23	7.66	47	13.59	50	5.24	71	--	--	--	--	3.86	Nov-13
MSCI EAFE Value			<u>-2.03</u>	58	<u>7.08</u>	50	<u>12.19</u>	69	<u>4.29</u>	83	<u>5.78</u>	81	<u>1.97</u>	85	<u>2.86</u>	Nov-13
Over/Under			1.10		0.58		1.40		0.95						1.00	
eV EAFE Value Equity Net Median			-1.81		7.06		13.41		6.03		7.33		4.40		4.35	Nov-13
Lazard Asset Management <sup>1</sup>	603,772,167	11.02	2.08	6	15.32	11	23.96	16	5.65	70	--	--	--	--	5.62	Nov-13
MSCI EAFE			<u>-1.53</u>	64	<u>8.18</u>	65	<u>14.80</u>	68	<u>5.55</u>	72	<u>6.50</u>	72	<u>2.74</u>	86	<u>4.11</u>	Nov-13
Over/Under			3.61		7.14		9.16		0.10						1.51	
eV All EAFE Equity Net Median			-1.05		9.57		16.39		6.67		7.54		4.10		5.19	Nov-13
MFS Institutional Advisors	569,469,685	10.39	-1.88	99	9.09	76	20.40	42	8.47	28	--	--	--	--	6.30	Oct-13
MSCI World ex US Growth			<u>-1.56</u>	96	<u>8.69</u>	83	<u>16.28</u>	87	<u>6.06</u>	85	<u>6.57</u>	95	<u>3.03</u>	62	<u>5.02</u>	Oct-13
Over/Under			-0.32		0.40		4.12		2.41						1.28	
eV EAFE All Cap Growth Net Median			0.10		12.05		19.59		7.46		7.66		4.16		6.17	Oct-13

<sup>1</sup> Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

eA = eVestment



# Los Angeles City Employees' Retirement System

## NON-U.S. EQUITY (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Oberweis Asset Mgmt <sup>1</sup>	168,262,929	3.07	2.23	10	20.38	4	30.89	7	14.22	23	--	--	--	--	11.17	Jan-14
MSCI EAFE Small Cap			0.24	40	14.24	47	23.49	56	12.25	54	11.10	65	6.48	78	9.17	Jan-14
Over/Under			1.99		6.14		7.40		1.97						2.00	
eV EAFE Small Cap Equity Net Median			-0.25		14.01		24.49		12.44		11.89		7.38		9.60	Jan-14
SSgA World ex US IMI	1,925,780,643	35.13	-1.67	71	8.84	64	15.40	69	6.49	60	6.94	71	3.48	62	--	Aug-93
MSCI World ex USA IMI NR USD <sup>2</sup>			-1.81	76	8.58	66	14.95	72	6.10	65	6.53	76	3.00	77	--	Aug-93
Over/Under			0.14		0.26		0.45		0.39		0.41		0.48			
eV EAFE Core Equity Net Median			-1.04		9.98		16.93		6.84		7.73		3.92		7.65	Aug-93
<b>Emerging Markets</b>	<b>1,270,144,366</b>	<b>23.17</b>	<b>1.83</b>	<b>23</b>	<b>17.61</b>	<b>14</b>	<b>24.33</b>	<b>24</b>	<b>9.17</b>	<b>24</b>	<b>4.51</b>	<b>36</b>	<b>--</b>	<b>--</b>	<b>5.76</b>	<b>Jun-12</b>
MSCI Emerging Markets			1.42	42	17.56	15	24.93	17	8.81	28	4.99	20	3.02	42	6.38	Jun-12
Over/Under			0.41		0.05		-0.60		0.36		-0.48				-0.62	
InvestorForce Public DB > \$1 Billion Emg Mkt Eq Net Median			1.05		14.87		20.13		8.06		4.32		2.90		5.73	Jun-12
Axiom Emerging Markets	404,916,492	7.39	1.96	38	19.51	27	28.20	23	10.06	36	--	--	--	--	7.45	Mar-14
MSCI Emerging Markets Growth NR USD			1.22	56	20.36	19	31.73	11	10.89	24	7.35	18	3.96	48	9.03	Mar-14
Over/Under			0.74		-0.85		-3.53		-0.83						-1.58	
eV Emg Mkts Equity Net Median			1.39		16.96		23.96		9.04		5.27		3.91		6.99	Mar-14
DFA Emerging Markets <sup>1</sup>	404,370,994	7.38	1.55	47	15.62	59	19.07	78	9.04	50	--	--	--	--	3.06	Jul-14
MSCI Emerging Markets Value NR USD			1.62	46	14.51	67	18.14	83	6.65	84	2.62	91	2.20	91	1.87	Jul-14
Over/Under			-0.07		1.11		0.93		2.39						1.19	
eV Emg Mkts Equity Net Median			1.39		16.96		23.96		9.04		5.27		3.91		5.47	Jul-14
QMA Emerging Markets <sup>1</sup>	460,856,880	8.41	1.97	38	17.71	44	25.82	34	8.59	57	--	--	--	--	7.12	Apr-14
MSCI Emerging Markets			1.42	50	17.56	45	24.93	42	8.81	54	4.99	59	3.02	75	6.71	Apr-14
Over/Under			0.55		0.15		0.89		-0.22						0.41	
eV Emg Mkts Equity Net Median			1.39		16.96		23.96		9.04		5.27		3.91		6.99	Apr-14

1 Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

2 Since inception index return sourced from SSgA.

eA = eVestment



## Los Angeles City Employees' Retirement System

# NON-U.S. EQUITY COUNTRY ALLOCATION

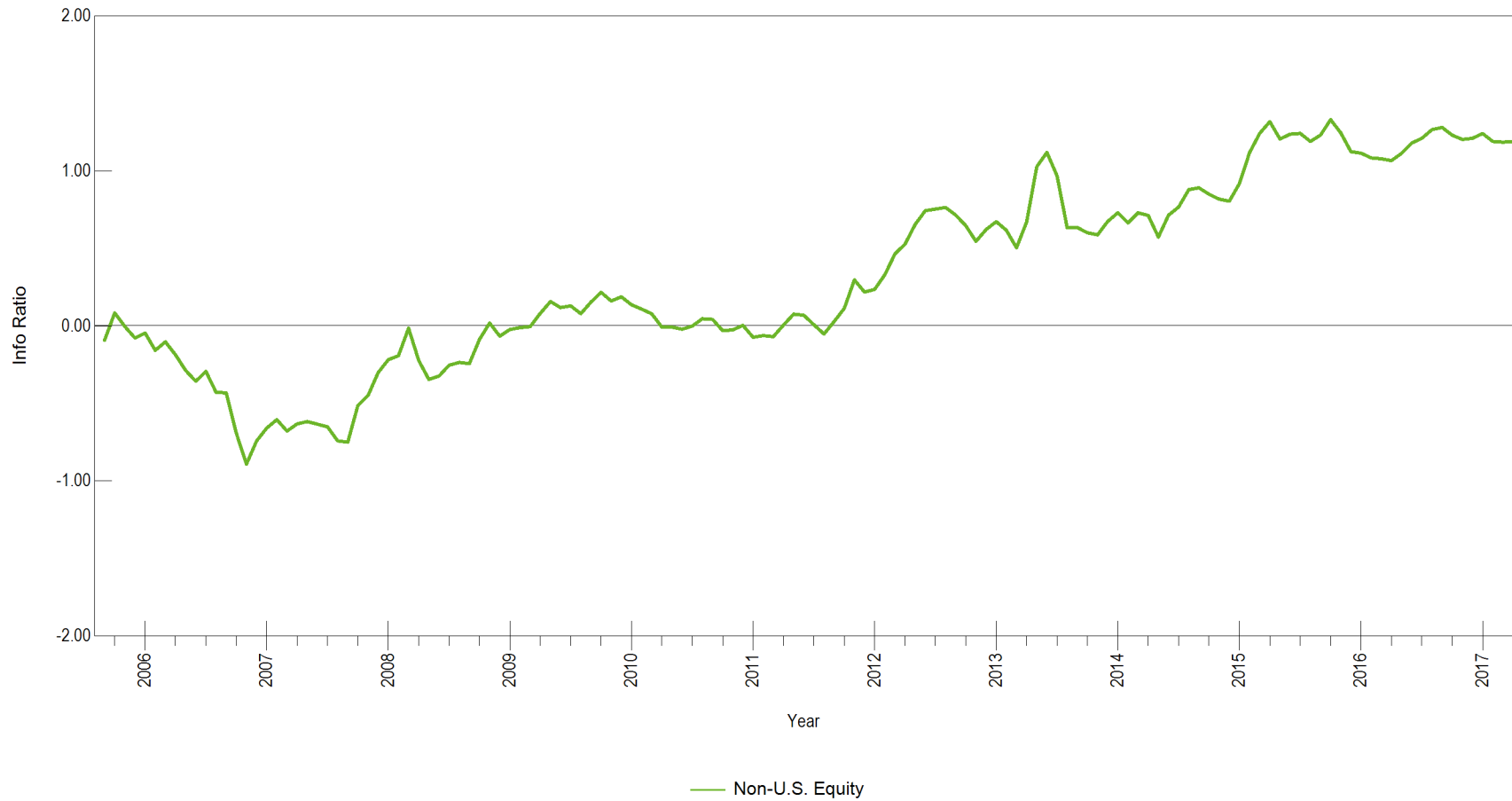
Versus MSCI ACWI ex USA - Quarter Ending March 31, 2018		
	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Europe</b>		
Austria	0.4%	0.2%
Belgium	0.4%	0.8%
Bulgaria**	0.0%	0.0%
Croatia**	0.0%	0.0%
Czech Republic*	0.0%	0.0%
Denmark	1.1%	1.3%
Estonia**	0.0%	0.0%
Finland	1.0%	0.7%
France	8.2%	7.5%
Germany	6.4%	6.6%
Greece*	0.1%	0.1%
Hungary*	0.1%	0.1%
Ireland	0.7%	0.3%
Italy	2.4%	1.7%
Lithuania**	0.0%	0.0%
Luxembourg	0.1%	0.0%
Netherlands	3.0%	2.5%
Norway	0.6%	0.5%
Poland*	0.2%	0.3%
Portugal	0.1%	0.1%
Romania**	0.0%	0.0%
Russia*	0.8%	0.9%
Serbia**	0.0%	0.0%
Slovenia**	0.0%	0.0%
Spain	1.7%	2.2%
Sweden	1.6%	1.8%
Switzerland	5.1%	5.4%
United Kingdom	11.4%	11.9%
<b>Total-Europe</b>	<b>45.4%</b>	<b>44.8%</b>

Versus MSCI ACWI ex USA - Quarter Ending March 31, 2018		
	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Americas</b>		
Argentina**	0.1%	0.0%
Brazil*	2.2%	1.9%
Canada	4.5%	6.1%
Chile*	0.2%	0.3%
Colombia*	0.1%	0.1%
Mexico*	0.9%	0.7%
Peru*	0.1%	0.1%
United States	1.6%	0.0%
<b>Total-Americas</b>	<b>9.6%</b>	<b>9.2%</b>
<b>AsiaPacific</b>		
Australia	2.8%	4.5%
China*	4.6%	7.6%
Hong Kong	5.3%	2.5%
India*	2.4%	2.1%
Indonesia*	0.5%	0.5%
Japan	15.0%	16.7%
Korea*	3.7%	3.8%
Malaysia*	0.8%	0.6%
New Zealand	0.2%	0.1%
Philippines*	0.3%	0.3%
Singapore	1.4%	0.9%
Taiwan*	3.6%	3.0%
Thailand*	0.7%	0.6%
<b>Total-AsiaPacific</b>	<b>41.3%</b>	<b>43.3%</b>
<b>Other</b>		
Egypt*	0.1%	0.0%
Israel	0.3%	0.3%
Other Countries	0.1%	0.0%
Qatar*	0.1%	0.1%
South Africa*	1.5%	1.7%
Turkey*	0.3%	0.2%
United Arab Emirates*	0.1%	0.2%
<b>Total-Other</b>	<b>2.5%</b>	<b>2.6%</b>
<b>Totals</b>		
Developed	75.3%	74.5%
Emerging*	23.3%	25.5%
Frontier**	0.1%	0.0%
Other	0.1%	
Cash	1.2%	



# NON-U.S. EQUITY ROLLING 5 YEAR INFORMATION

Rolling 5 Year Information Ratio



\*Returns are net of fees





# MANAGER REPORT CARD

Non-U.S. Equity Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
Axiom International	Mar-14	Emerging Markets	✓	✓	✘	✓	✘	✓	N/A	N/A	✘	1,866.9	Performance compliant with LACERS' Manager Monitoring Policy
Q.M.A.	Apr-14	Emerging Markets	✓	✓	✓	✓	✘	✘	N/A	N/A	✓	1,219.4	Performance compliant with LACERS' Manager Monitoring Policy
DFA Emerging Markets	Jul-14	Emerging Markets	✘	✓	✓	✘	✓	=	N/A	N/A	✓	1,188.2	Performance compliant with LACERS' Manager Monitoring Policy
AQR	Feb-14	Non-U.S. Developed	✘	✓	✓	✘	✓	✘	N/A	N/A	✓	2,314.2	Performance compliant with LACERS' Manager Monitoring Policy
Oberweis Asset Mgt.	Jan-14	Non-U.S. Developed	✓	✓	✓	✓	✓	✓	N/A	N/A	✓	568.5	Performance compliant with LACERS' Manager Monitoring Policy
Barrow, Hanley, Mewhinney & Strauss	Nov-13	Non-U.S. Developed	✓	✓	✓	✓	✓	✘	N/A	N/A	✓	2,097.9	Performance compliant with LACERS' Manager Monitoring Policy
Lazard Asset Mgt.	Nov-13	Non-U.S. Developed	✓	✓	✓	✓	✓	✘	N/A	N/A	✓	2,467.4	Performance compliant with LACERS' Manager Monitoring Policy
MFS Institutional Advisors	Oct-13	Non-U.S. Developed	✘	✘	✓	✘	✓	✘	N/A	N/A	✓	2,313.6	Performance compliant with LACERS' Manager Monitoring Policy
SsgA (Passive)	Aug-93	Non-U.S. Developed	✓	✘	✓	✘	✓	✘	✓	✘	✓✓	368.9	Performance compliant with LACERS' Manager Monitoring Policy

Note: Managers are placed on Watch List for concerns with organization, process and performance. Managers are normally on the Watch List for 12 months though may be longer if manager issues remain but not severe enough to warrant termination recommendation.

- Annual Management Fee Paid as of fiscal year ending June 30, 2017.
- \* Where net of fees performance is not available gross of fee returns are evaluated.

Legend	
✓	Outperformed
✘	Underperformed
=	Equal to
✓✓	Gross Return



# CORE FIXED INCOME

NEPC, LLC

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## Los Angeles City Employees' Retirement System

# CORE FIXED INCOME (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Core Fixed Income</b>	<b>2,981,563,282</b>	<b>100.00</b>	<b>-1.29</b>	<b>0.06</b>	<b>1.59</b>	<b>1.67</b>	<b>2.28</b>	<b>--</b>	<b>2.79</b>	<b>Jul-12</b>
<i>Core Fixed Income Blend</i>			<i>-1.46</i>	<i>-0.24</i>	<i>1.20</i>	<i>1.20</i>	<i>1.82</i>	<i>3.82</i>	<i>2.04</i>	<i>Jul-12</i>
Over/Under			0.17	0.30	0.39	0.47	0.46		0.75	
Baird Advisors	211,344,802	7.09	-0.87	-0.20	0.93	1.63	1.92	3.99	4.24	Mar-05
<i>BBgBarc US Govt/Credit Int TR</i>			<i>-0.98</i>	<i>-0.59</i>	<i>0.35</i>	<i>0.94</i>	<i>1.25</i>	<i>2.92</i>	<i>3.54</i>	<i>Mar-05</i>
Over/Under			0.11	0.39	0.58	0.69	0.67	1.07	0.70	
LM Capital	272,547,143	9.14	-1.56	0.04	1.60	1.75	2.27	4.21	4.54	Mar-05
<i>Core Fixed Income Blend</i>			<i>-1.46</i>	<i>-0.24</i>	<i>1.20</i>	<i>1.20</i>	<i>1.82</i>	<i>3.82</i>	<i>4.20</i>	<i>Mar-05</i>
Over/Under			-0.10	0.28	0.40	0.55	0.45	0.39	0.34	
Loomis Sayles	731,963,088	24.55	-1.21	0.38	2.25	2.23	2.87	5.27	9.17	Jul-80
<i>Core Fixed Income Blend</i>			<i>-1.46</i>	<i>-0.24</i>	<i>1.20</i>	<i>1.20</i>	<i>1.82</i>	<i>3.82</i>	--	<i>Jul-80</i>
Over/Under			0.25	0.62	1.05	1.03	1.05	1.45		
Neuberger Berman	729,975,849	24.48	-1.20	0.20	1.59	1.65	2.14	5.35	5.73	Sep-01
<i>Core Fixed Income Blend</i>			<i>-1.46</i>	<i>-0.24</i>	<i>1.20</i>	<i>1.20</i>	<i>1.82</i>	<i>3.82</i>	<i>4.53</i>	<i>Sep-01</i>
Over/Under			0.26	0.44	0.39	0.45	0.32	1.53	1.20	
SSgA U.S. Aggregate Bond <sup>1</sup>	1,035,732,400	34.74	-1.45	-0.23	1.22	1.21	--	--	2.05	Jul-14
<i>BBgBarc US Aggregate TR</i>			<i>-1.46</i>	<i>-0.24</i>	<i>1.20</i>	<i>1.20</i>	<i>1.82</i>	<i>3.63</i>	<i>2.03</i>	<i>Jul-14</i>
Over/Under			0.01	0.01	0.02	0.01			0.02	

1 Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

BBgBarc = Bloomberg Barclays



# Los Angeles City Employees' Retirement System

## CORE FIXED INCOME (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Core Fixed Income</b>	<b>2,981,563,282</b>	<b>100.00</b>	<b>-1.32</b>	<b>76</b>	<b>-0.01</b>	<b>88</b>	<b>1.49</b>	<b>87</b>	<b>1.57</b>	<b>85</b>	<b>2.17</b>	<b>73</b>	<b>--</b>	<b>--</b>	<b>2.67</b>	<b>Jul-12</b>
Core Fixed Income Blend			-1.46	82	-0.24	99	1.20	99	1.20	99	1.82	92	3.82	92	2.04	Jul-12
Over/Under			0.14		0.23		0.29		0.37		0.35				0.63	
InvestorForce Public DB > \$1 Billion US Fixed Income Net Median			-0.81		0.94		2.49		2.39		2.62		4.84		3.04	Jul-12
Baird Advisors	211,344,802	7.09	-0.91	28	-0.29	35	0.80	24	1.50	13	1.79	13	3.85	17	4.10	Mar-05
BBgBarc US Govt/Credit Int TR			-0.98	44	-0.59	74	0.35	69	0.94	57	1.25	52	2.92	75	3.54	Mar-05
Over/Under			0.07		0.30		0.45		0.56		0.54		0.93		0.56	
eV US Interm Duration Fixed Inc Net Median			-1.00		-0.42		0.52		1.02		1.26		3.24		3.66	Mar-05
LM Capital	272,547,143	9.14	-1.59	78	-0.04	41	1.49	41	1.64	28	2.14	33	4.06	50	--	Mar-05
Core Fixed Income Blend			-1.46	57	-0.24	61	1.20	66	1.20	71	1.82	61	3.82	66	4.20	Mar-05
Over/Under			-0.13		0.20		0.29		0.44		0.32		0.24			
eV US Core Fixed Inc Net Median			-1.43		-0.14		1.38		1.39		1.92		4.04		4.29	Mar-05
Loomis Sayles	731,963,088	24.55	-1.24	22	0.29	20	2.12	13	2.10	11	2.73	9	5.13	7	--	Jul-80
Core Fixed Income Blend			-1.46	57	-0.24	61	1.20	66	1.20	71	1.82	61	3.82	66	--	Jul-80
Over/Under			0.22		0.53		0.92		0.90		0.91		1.31			
eV US Core Fixed Inc Net Median			-1.43		-0.14		1.38		1.39		1.92		4.04		--	Jul-80
Neuberger Berman	729,975,849	24.48	-1.24	22	0.09	29	1.44	44	1.49	41	1.98	46	5.18	6	5.58	Sep-01
Core Fixed Income Blend			-1.46	57	-0.24	61	1.20	66	1.20	71	1.82	61	3.82	66	4.53	Sep-01
Over/Under			0.22		0.33		0.24		0.29		0.16		1.36		1.05	
eV US Core Fixed Inc Net Median			-1.43		-0.14		1.38		1.39		1.92		4.04		4.50	Sep-01
SSgA U.S. Aggregate Bond <sup>1</sup>	1,035,732,400	34.74	-1.46	56	-0.25	62	1.19	67	1.17	74	--	--	--	--	2.01	Jul-14
BBgBarc US Aggregate TR			-1.46	57	-0.24	61	1.20	66	1.20	71	1.82	61	3.63	80	2.03	Jul-14
Over/Under			0.00		-0.01		-0.01		-0.03						-0.02	
eV US Core Fixed Inc Net Median			-1.43		-0.14		1.38		1.39		1.92		4.04		2.16	Jul-14

1 Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

BBgBarc = Bloomberg Barclays

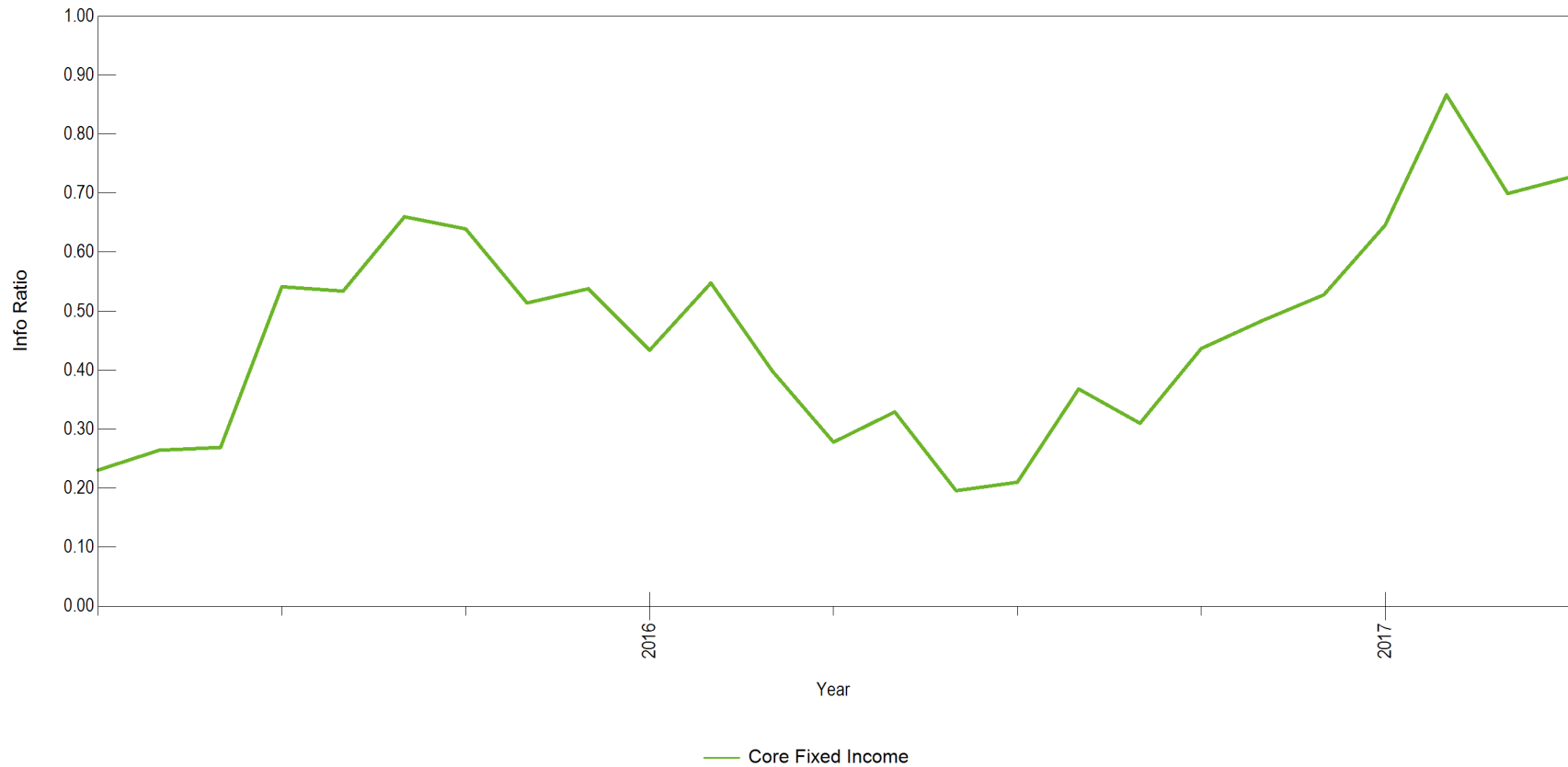
eV = eVestment



## Los Angeles City Employees' Retirement System

# CORE FIXED INCOME 3 YEAR INFORMATION RATIO

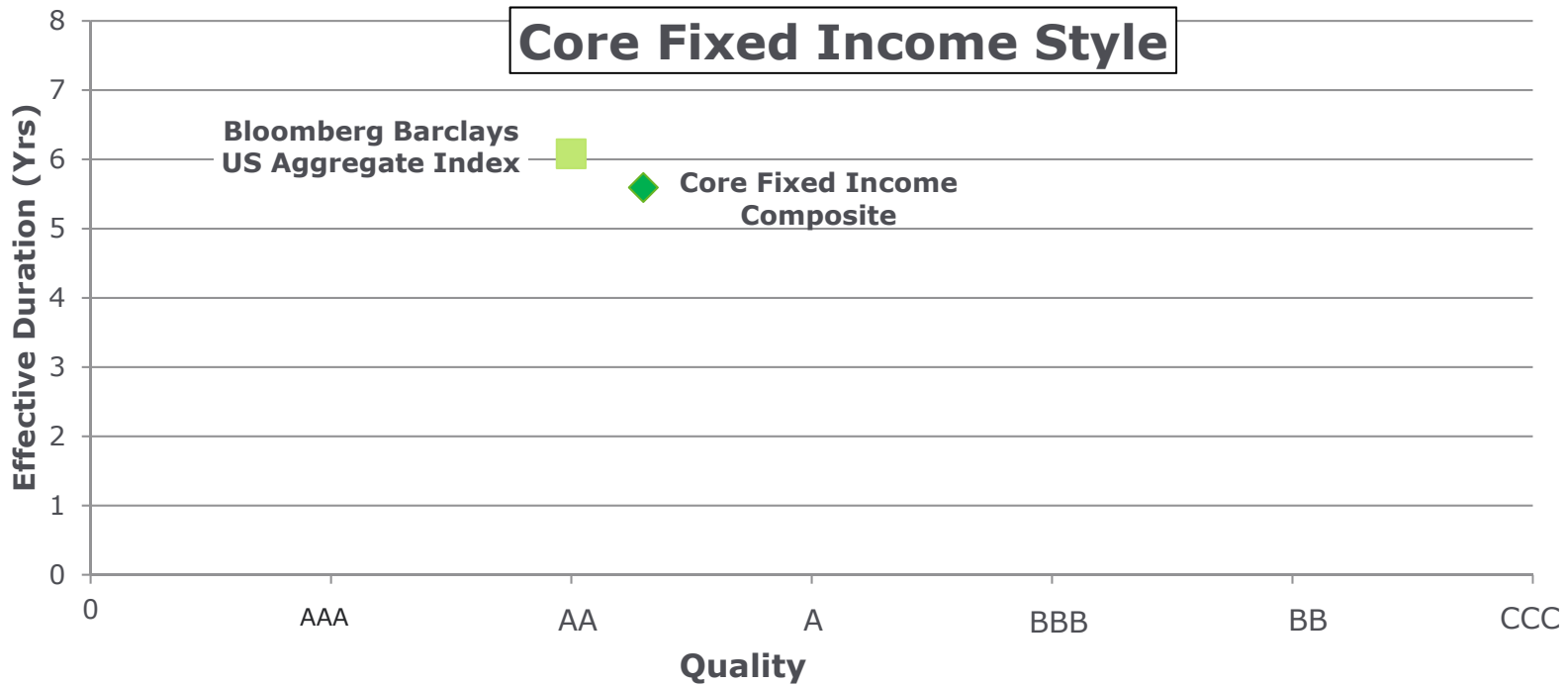
Rolling 3 Year Information Ratio



\*Returns are net of fees



# CORE FIXED INCOME STYLE ANALYSIS



- LACERS has a slightly lower duration (interest rate risk) than its benchmark.
- The Core Fixed Income Composite has slightly lower average quality rating than its benchmark.



# MANAGER REPORT CARD

Core Fixed Income Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
			Neuberger Berman	Sep-01	Core	✓	✓	✓	✓	✓	✓		
Loomis Sayles	Jul-80	Core	✓	✓	✓	✓	✓	✓	✓	✓✓	863.0	Performance compliant with LACERS' Manager Monitoring Policy	
Baird Advisors	Mar-05	Intermediate	✓	✓	✓	✓	✓	✓	✓	✓	291.7	Performance compliant with LACERS' Manager Monitoring Policy	
LM Capital Group	Mar-05	Core	✘	✘	✓	✓	✓	✓	✓	✓✓	240.1	Performance compliant with LACERS' Manager Monitoring Policy	
SSgA (Passive)	Jul-14	Core	=	✘	✘	✘	✘	✘	N/A	N/A	✘	369.3	Performance compliant with LACERS' Manager Monitoring Policy

Note: Managers are placed on Watch List for concerns with organization, process and performance. Managers are normally on the Watch List for 12 months though may be longer if manager issues remain but not severe enough to warrant termination recommendation.

- Annual Management Fee Paid as of fiscal year ending June 30, 2017.
- \* Where net of fees performance is not available gross of fee returns are evaluated.

Legend	
✓	Outperformed
✘	Underperformed
=	Equal to
✓✓	Gross Return



# CREDIT OPPORTUNITIES

NEPC, LLC

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## Los Angeles City Employees' Retirement System

# CREDIT OPPORTUNITIES (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Credit Opportunities</b>	<b>793,551,406</b>	<b>100.00</b>	<b>-0.77</b>	<b>2.70</b>	<b>4.96</b>	<b>5.04</b>	<b>--</b>	<b>--</b>	<b>5.66</b>	<b>Jun-13</b>
<i>Credit Opportunities Blend</i>			<i>-1.17</i>	<i>1.74</i>	<i>3.97</i>	<i>5.41</i>	<i>--</i>	<i>--</i>	<i>5.84</i>	<i>Jun-13</i>
Over/Under			0.40	0.96	0.99	-0.37			-0.18	
AEGON USA	391,212,519	49.30	-0.50	1.97	4.35	5.52	--	--	6.06	Jun-13
<i>BBgBarc US High Yield 2% Issuer Cap TR</i>			<i>-0.86</i>	<i>1.58</i>	<i>3.78</i>	<i>5.18</i>	<i>5.00</i>	<i>8.32</i>	<i>5.59</i>	<i>Jun-13</i>
Over/Under			0.36	0.39	0.57	0.34			0.47	
Prudential Emerging Markets	307,488,228	38.75	-1.70	3.42	5.91	6.27	--	--	5.62	May-14
<i>JP Morgan EMBI Global Diversified</i>			<i>-1.74</i>	<i>2.01</i>	<i>4.30</i>	<i>5.78</i>	<i>4.69</i>	<i>7.04</i>	<i>4.82</i>	<i>May-14</i>
Over/Under			0.04	1.41	1.61	0.49			0.80	
Bain Capital Senior Loan Fund, LP*	94,804,611	11.95	1.15	3.41	4.37	--	--	--	4.05	Jun-15
<i>Credit Suisse Leveraged Loans</i>			<i>1.58</i>	<i>3.86</i>	<i>4.64</i>	<i>4.33</i>	<i>4.17</i>	<i>5.36</i>	<i>4.44</i>	<i>Jun-15</i>
Over/Under			-0.43	-0.45	-0.27				-0.39	

- Credit Opportunities Blend = 65% BBgBarc US High Yield 2% Issuer Cap TR / 35% JP Morgan EMBI Global Diversified 7/01/2014 to present; BBgBarc US High Yield 2% Issuer Cap TR prior to

eA = eVestment

BBgBarc = Bloomberg Barclays

\*Net of fee return since vehicle is commingled.



## Los Angeles City Employees' Retirement System

# CREDIT OPPORTUNITIES (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Credit Opportunities</b>	<b>793,551,406</b>	<b>100.00</b>	<b>-0.86</b>	<b>--</b>	<b>2.43</b>	<b>--</b>	<b>4.60</b>	<b>--</b>	<b>4.66</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>5.31</b>	<b>Jun-13</b>
<i>Credit Opportunities Blend</i>			<i>-1.17</i>	<i>--</i>	<i>1.74</i>	<i>--</i>	<i>3.97</i>	<i>--</i>	<i>5.41</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>5.84</i>	<i>Jun-13</i>
Over/Under			0.31		0.69		0.63		-0.75						-0.53	
AEGON USA	391,212,519	49.30	-0.59	45	1.68	44	3.96	38	5.13	26	--	--	--	--	5.70	Jun-13
<i>BBgBarc US High Yield 2% Issuer Cap TR</i>			<i>-0.86</i>	<i>56</i>	<i>1.58</i>	<i>49</i>	<i>3.78</i>	<i>44</i>	<i>5.18</i>	<i>24</i>	<i>5.00</i>	<i>25</i>	<i>8.32</i>	<i>13</i>	<i>5.59</i>	<i>Jun-13</i>
Over/Under			0.27		0.10		0.18		-0.05						0.11	
<i>eV US High Yield Fixed Inc Net Median</i>			<i>-0.67</i>		<i>1.54</i>		<i>3.62</i>		<i>4.49</i>		<i>4.44</i>		<i>7.47</i>		<i>4.98</i>	<i>Jun-13</i>
Prudential Emerging Markets	307,488,228	38.75	-1.80	99	3.11	77	5.49	72	5.86	61	--	--	--	--	5.23	May-14
<i>JP Morgan EMBI Global Diversified</i>			<i>-1.74</i>	<i>99</i>	<i>2.01</i>	<i>95</i>	<i>4.30</i>	<i>92</i>	<i>5.78</i>	<i>65</i>	<i>4.69</i>	<i>8</i>	<i>7.04</i>	<i>30</i>	<i>4.82</i>	<i>May-14</i>
Over/Under			-0.06		1.10		1.19		0.08						0.41	
<i>eV Emg Mkt Fixed Inc Hedged Net Median</i>			<i>0.02</i>		<i>4.61</i>		<i>7.26</i>		<i>6.30</i>		<i>3.43</i>		<i>6.52</i>		<i>3.57</i>	<i>May-14</i>
Bain Capital Senior Loan Fund, LP	94,804,611	11.95	1.15	64	3.41	50	4.37	31	--	--	--	--	--	--	4.05	Jun-15
<i>Credit Suisse Leveraged Loans</i>			<i>1.58</i>	<i>13</i>	<i>3.86</i>	<i>25</i>	<i>4.64</i>	<i>23</i>	<i>4.33</i>	<i>35</i>	<i>4.17</i>	<i>30</i>	<i>5.36</i>	<i>45</i>	<i>4.44</i>	<i>Jun-15</i>
Over/Under			-0.43		-0.45		-0.27								-0.39	
<i>eV US Float-Rate Bank Loan Fixed Inc Net Median</i>			<i>1.23</i>		<i>3.40</i>		<i>4.21</i>		<i>3.94</i>		<i>3.75</i>		<i>5.25</i>		<i>4.05</i>	<i>Jun-15</i>

- Credit Opportunities Blend = 65% BBgBarc US High Yield 2% Issuer Cap TR / 35% JP Morgan EMBI Global Diversified 7/01/2014 to present; BBgBarc US High Yield 2% Issuer Cap TR prior to

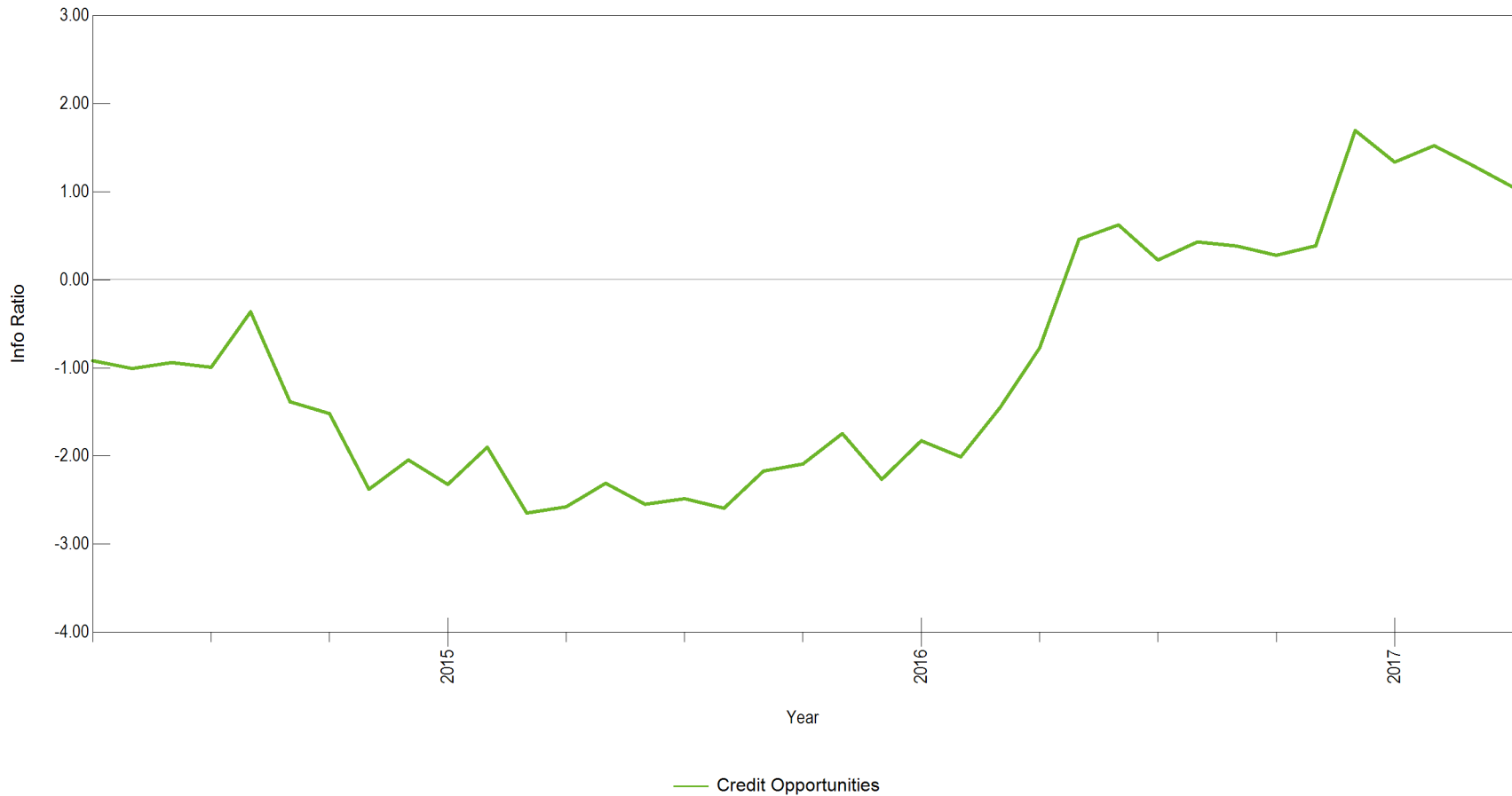
eA = eVestment

BBgBarc = Bloomberg Barclays



# CREDIT OPPORTUNITIES ROLLING 1 YEAR

Rolling 1 Year Information Ratio



\*Returns are net of fees



# MANAGER REPORT CARD

Credit Opportunities Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
AEGON USA	Jun-13	High Yield Bonds	✓	✓	✓	✓	*	✓	N/A	N/A	✓	781.6	Watch pursuant to LACERS' Manager Monitoring Policy for a period of one year ending October 5, 2018
Prudential	May-14	Emerging Market Debt	*	*	✓	*	✓	*	N/A	N/A	✓	1230.2	Performance compliant with LACERS' Manager Monitoring Policy
Bain	Jun-15	Bank Loans	*	*	*	✓	N/A	N/A	N/A	N/A	*	330.0	LACERS' Manager Monitoring Policy requires at least 3 years of track record to evaluate performance

Note: Managers are placed on Watch List for concerns with organization, process and performance. Managers are normally on the Watch List for 12 months though may be longer if manager issues remain but not severe enough to warrant termination recommendation.

- Annual Management Fee Paid as of fiscal year ending June 30, 2017.
- \* Where net of fees performance is not available gross of fee returns are evaluated.

Legend	
✓	Outperformed
*	Underperformed
=	Equal to
✓✓	Gross Return



# REAL ASSETS

NEPC, LLC

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## Los Angeles City Employees' Retirement System

# REAL ASSETS (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Real Assets</b>	<b>1,565,247,855</b>	<b>100.00</b>	<b>0.46</b>	<b>3.86</b>	<b>5.31</b>	<b>5.89</b>	<b>8.18</b>	<b>-0.17</b>	<b>6.34</b>	<b>Nov-94</b>
<i>CPI + 5% (Unadjusted)</i>			<u>2.47</u>	<u>5.67</u>	<u>7.47</u>	<u>6.95</u>	<u>6.47</u>	<u>6.64</u>	<u>7.32</u>	<i>Nov-94</i>
Over/Under			-2.01	-1.81	-2.16	-1.06	1.71	-6.81	-0.98	
<b>Public Real Assets</b>	<b>772,068,346</b>	<b>49.33</b>	<b>-1.38</b>	<b>2.29</b>	<b>1.65</b>	<b>1.39</b>	<b>--</b>	<b>--</b>	<b>0.78</b>	<b>Jun-14</b>
<i>Public Real Assets Blend</i>			<u>-2.29</u>	<u>0.37</u>	<u>-0.89</u>	<u>-0.45</u>	<u>--</u>	<u>--</u>	<u>-2.12</u>	<i>Jun-14</i>
Over/Under			0.91	1.92	2.54	1.84			2.90	
<b>TIPS</b>	<b>506,626,262</b>	<b>32.37</b>	<b>-0.92</b>	<b>1.10</b>	<b>0.84</b>	<b>1.35</b>	<b>--</b>	<b>--</b>	<b>0.75</b>	<b>Jul-14</b>
<i>BBgBarc US TIPS TR</i>			<u>-0.79</u>	<u>1.33</u>	<u>0.92</u>	<u>1.30</u>	<u>0.05</u>	<u>2.92</u>	<u>0.87</u>	<i>Jul-14</i>
Over/Under			-0.13	-0.23	-0.08	0.05			-0.12	
DFA US TIPS <sup>1</sup>	506,626,262	32.37	-0.92	1.10	0.84	1.57	--	--	0.95	Jul-14
<i>BBgBarc US TIPS TR</i>			<u>-0.79</u>	<u>1.33</u>	<u>0.92</u>	<u>1.30</u>	<u>0.05</u>	<u>2.92</u>	<u>0.87</u>	<i>Jul-14</i>
Over/Under			-0.13	-0.23	-0.08	0.27			0.08	
<b>REITS</b>	<b>90,333,849</b>	<b>5.77</b>	<b>-6.34</b>	<b>-1.33</b>	<b>0.17</b>	<b>4.82</b>	<b>--</b>	<b>--</b>	<b>4.82</b>	<b>Mar-15</b>
<i>FTSE NAREIT All Equity REIT</i>			<u>-6.66</u>	<u>-3.29</u>	<u>-1.09</u>	<u>2.90</u>	<u>6.66</u>	<u>6.88</u>	<u>2.90</u>	<i>Mar-15</i>
Over/Under			0.32	1.96	1.26	1.92			1.92	
CenterSquare US Real Estate <sup>1</sup>	90,333,849	5.77	-6.34	-1.33	0.17	--	--	--	6.07	Apr-15
<i>FTSE NAREIT All Equity REIT</i>			<u>-6.66</u>	<u>-3.29</u>	<u>-1.09</u>	<u>2.90</u>	<u>6.66</u>	<u>6.88</u>	<u>4.79</u>	<i>Apr-15</i>
Over/Under			0.32	1.96	1.26				1.28	
<b>Commodities</b>	<b>175,108,235</b>	<b>11.19</b>	<b>0.39</b>	<b>8.83</b>	<b>5.52</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-4.26</b>	<b>Jun-15</b>
<i>Bloomberg Commodity Index TR USD</i>			<u>-0.40</u>	<u>6.92</u>	<u>3.71</u>	<u>-3.21</u>	<u>-8.32</u>	<u>-7.71</u>	<u>-5.08</u>	<i>Jun-15</i>
Over/Under			0.79	1.91	1.81				0.82	
CoreCommodity Mgmt <sup>1</sup>	175,108,235	11.19	0.39	8.83	5.52	--	--	--	-4.26	Jun-15
<i>Bloomberg Commodity Index TR USD</i>			<u>-0.40</u>	<u>6.92</u>	<u>3.71</u>	<u>-3.21</u>	<u>-8.32</u>	<u>-7.71</u>	<u>-5.08</u>	<i>Jun-15</i>
Over/Under			0.79	1.91	1.81				0.82	
<b>Private Real Estate</b>	<b>772,766,844</b>	<b>49.37</b>	<b>2.26</b>	<b>5.52</b>	<b>8.76</b>	<b>9.71</b>	<b>10.86</b>	<b>1.06</b>	<b>6.88</b>	<b>Oct-94</b>
<i>Real Estate Blend</i>			<u>2.39</u>	<u>6.89</u>	<u>8.92</u>	<u>10.86</u>	<u>11.76</u>	<u>7.03</u>	<u>9.99</u>	<i>Oct-94</i>
Over/Under			-0.13	-1.37	-0.16	-1.15	-0.90	-5.97	-3.11	
<b>Timber</b>	<b>20,412,666</b>	<b>1.30</b>	<b>0.00</b>	<b>-0.24</b>	<b>3.60</b>	<b>1.82</b>	<b>6.27</b>	<b>4.71</b>	<b>9.80</b>	<b>Sep-99</b>

<sup>1</sup> Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

- Public Real Assets Custom Benchmark = 60% BBgBarc US TIPS TR / 20% Bloomberg Commodity Index TR USD / 10% Alerian MLP TR USD / 10% FTSE NAREIT All REIT - Real Estate

Blend = NCREIF-ODCE + 80bps 7/1/2014 to present; NCREIF Property Index 1 Qtr Lag plus 100bps 7/1/2012 - 6/30/2014; NCREIF Property Index prior to

eA = eVestment



## Los Angeles City Employees' Retirement System

# REAL ASSETS (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Real Assets</b>	<b>1,565,247,855</b>	<b>100.00</b>	<b>0.43</b>	<b>--</b>	<b>3.74</b>	<b>--</b>	<b>5.15</b>	<b>--</b>	<b>5.73</b>	<b>--</b>	<b>8.03</b>	<b>--</b>	<b>-0.30</b>	<b>--</b>	<b>--</b>	<b>Nov-94</b>
<i>CPI + 5% (Unadjusted)</i>			<u>2.47</u>	<b>--</b>	<u>5.67</u>	<b>--</b>	<u>7.47</u>	<b>--</b>	<u>6.95</u>	<b>--</b>	<u>6.47</u>	<b>--</b>	<u>6.64</u>	<b>--</b>	<u>7.32</u>	<i>Nov-94</i>
Over/Under			<b>-2.04</b>		<b>-1.93</b>		<b>-2.32</b>		<b>-1.22</b>		1.56		<b>-6.94</b>			
<b>Public Real Assets</b>	<b>772,068,346</b>	<b>49.33</b>	<b>-1.43</b>	<b>--</b>	<b>2.10</b>	<b>--</b>	<b>1.40</b>	<b>--</b>	<b>1.16</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.59</b>	<b>Jun-14</b>
<i>Public Real Assets Blend</i>			<u>-2.29</u>	<b>--</b>	<u>0.37</u>	<b>--</b>	<u>-0.89</u>	<b>--</b>	<u>-0.45</u>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<u>-2.12</u>	<i>Jun-14</i>
Over/Under			0.86		1.73		2.29		1.61						2.71	
<b>TIPS</b>	<b>506,626,262</b>	<b>32.37</b>	<b>-0.93</b>	<b>--</b>	<b>1.06</b>	<b>--</b>	<b>0.79</b>	<b>--</b>	<b>1.29</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.70</b>	<b>Jul-14</b>
<i>BBgBarc US TIPS TR</i>			<u>-0.79</u>	<b>--</b>	<u>1.33</u>	<b>--</b>	<u>0.92</u>	<b>--</b>	<u>1.30</u>	<b>--</b>	<u>0.05</u>	<b>--</b>	<u>2.92</u>	<b>--</b>	<u>0.87</u>	<i>Jul-14</i>
Over/Under			<b>-0.14</b>		<b>-0.27</b>		<b>-0.13</b>		<b>-0.01</b>						<b>-0.17</b>	
<b>DFA US TIPS<sup>1</sup></b>	<b>506,626,262</b>	<b>32.37</b>	<b>-0.93</b>	<b>86</b>	<b>1.06</b>	<b>77</b>	<b>0.79</b>	<b>68</b>	<b>1.51</b>	<b>22</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.90</b>	<b>Jul-14</b>
<i>BBgBarc US TIPS TR</i>			<u>-0.79</u>	<b>49</b>	<u>1.33</u>	<b>51</b>	<u>0.92</u>	<b>53</b>	<u>1.30</u>	<b>34</b>	<u>0.05</u>	<b>41</b>	<u>2.92</u>	<b>52</b>	<u>0.87</u>	<i>Jul-14</i>
Over/Under			<b>-0.14</b>		<b>-0.27</b>		<b>-0.13</b>		0.21						0.03	
<i>eV US TIPS / Inflation Fixed Inc Net Median</i>			-0.80		1.33		0.98		1.17		-0.03		2.95		0.60	<i>Jul-14</i>
<b>REITS</b>	<b>90,333,849</b>	<b>5.77</b>	<b>-6.34</b>	<b>--</b>	<b>-1.56</b>	<b>--</b>	<b>-0.18</b>	<b>--</b>	<b>4.41</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>4.41</b>	<b>Mar-15</b>
<i>FTSE NAREIT All Equity REIT</i>			<u>-6.66</u>	<b>--</b>	<u>-3.29</u>	<b>--</b>	<u>-1.09</u>	<b>--</b>	<u>2.90</u>	<b>--</b>	<u>6.66</u>	<b>--</b>	<u>6.88</u>	<b>--</b>	<u>2.90</u>	<i>Mar-15</i>
Over/Under			0.32		1.73		0.91		1.51						1.51	
<b>CenterSquare US Real Estate<sup>1</sup></b>	<b>90,333,849</b>	<b>5.77</b>	<b>-6.34</b>	<b>26</b>	<b>-1.56</b>	<b>10</b>	<b>-0.18</b>	<b>16</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>5.65</b>	<b>Apr-15</b>
<i>FTSE NAREIT All Equity REIT</i>			<u>-6.66</u>	<b>42</b>	<u>-3.29</u>	<b>31</b>	<u>-1.09</u>	<b>23</b>	<u>2.90</u>	<b>19</b>	<u>6.66</u>	<b>47</b>	<u>6.88</u>	<b>55</b>	<u>4.79</u>	<i>Apr-15</i>
Over/Under			0.32		1.73		0.91								0.86	
<i>eV US REIT Net Median</i>			-6.87		-3.64		-2.30		1.59		6.57		7.04		3.71	<i>Apr-15</i>
<b>Commodities</b>	<b>175,108,235</b>	<b>11.19</b>	<b>0.17</b>	<b>--</b>	<b>8.15</b>	<b>--</b>	<b>4.63</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-4.98</b>	<b>Jun-15</b>
<i>Bloomberg Commodity Index TR USD</i>			<u>-0.40</u>	<b>--</b>	<u>6.92</u>	<b>--</b>	<u>3.71</u>	<b>--</b>	<u>-3.21</u>	<b>--</b>	<u>-8.32</u>	<b>--</b>	<u>-7.71</u>	<b>--</b>	<u>-5.08</u>	<i>Jun-15</i>
Over/Under			0.57		1.23		0.92								0.10	
<b>CoreCommodity Mgmt<sup>1</sup></b>	<b>175,108,235</b>	<b>11.19</b>	<b>0.17</b>	<b>--</b>	<b>8.15</b>	<b>--</b>	<b>4.63</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-4.98</b>	<b>Jun-15</b>
<i>Bloomberg Commodity Index TR USD</i>			<u>-0.40</u>	<b>--</b>	<u>6.92</u>	<b>--</b>	<u>3.71</u>	<b>--</b>	<u>-3.21</u>	<b>--</b>	<u>-8.32</u>	<b>--</b>	<u>-7.71</u>	<b>--</b>	<u>-5.08</u>	<i>Jun-15</i>
Over/Under			0.57		1.23		0.92								0.10	

1 Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance. No universe is available.

- Public Real Assets Custom Benchmark = 60% BBgBarc US TIPS TR / 20% Bloomberg Commodity Index TR USD / 10% Alerian MLP TR USD / 10% FTSE NAREIT All REIT

eA = eVestment



## Los Angeles City Employees' Retirement System

# REAL ASSETS (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Private Real Estate</b>	<b>772,766,844</b>	<b>49.37</b>	<b>2.24</b>	<b>11</b>	<b>5.46</b>	<b>59</b>	<b>8.68</b>	<b>9</b>	<b>9.61</b>	<b>33</b>	<b>10.74</b>	<b>50</b>	<b>0.94</b>	<b>99</b>	<b>--</b>	<b>Oct-94</b>
<i>Real Estate Blend</i>			<u>2.39</u>	4	<u>6.89</u>	5	<u>8.92</u>	5	<u>10.86</u>	10	<u>11.76</u>	13	<u>7.03</u>	9	<u>9.99</u>	Oct-94
Over/Under			-0.15		-1.43		-0.24		-1.25		-1.02		-6.09			
<i>InvestorForce Public DB Real Estate Priv Net Median</i>			1.89		5.67		7.53		9.27		10.71		4.01		7.36	Oct-94
<b>Timber</b>	<b>20,412,666</b>	<b>1.30</b>	<b>0.00</b>	<b>--</b>	<b>-0.24</b>	<b>--</b>	<b>3.60</b>	<b>--</b>	<b>1.82</b>	<b>--</b>	<b>6.27</b>	<b>--</b>	<b>4.70</b>	<b>--</b>	<b>--</b>	<b>Sep-99</b>

- Real Estate Blend = NCREIF-ODCE + 80bps 7/1/2014 to present; NCREIF Property Index 1 Qtr Lag plus 100bps 7/1/2012 - 6/30/2014; NCREIF Property Index prior to eA = eVestment





# MANAGER REPORT CARD

Real Assets Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
DFA	Jul-14	U.S. TIPS	x	x	x	x	✓	✓	N/A	N/A	✓	194.6	Performance compliant with LACERS' Manager Monitoring Policy
CenterSquare	Apr-15	REITS	✓	✓	✓	✓	N/A	N/A	N/A	N/A	✓	399.8	LACERS' Manager Monitoring Policy requires at least 3 years of track record to evaluate performance
CoreCommodity Mgt.	Jul-15	Commodities	✓	N/A	✓	N/A	N/A	N/A	N/A	N/A	✓	860.4	LACERS' Manager Monitoring Policy requires at least 3 years of track record to evaluate performance

Note: Managers are placed on Watch List for concerns with organization, process and performance. Managers are normally on the Watch List for 12 months though may be longer if manager issues remain but not severe enough to warrant termination recommendation.

- Annual Management Fee Paid as of fiscal year ending June 30, 2017.
- \* Where net of fees performance is not available gross of fee returns are evaluated.

Legend	
✓	Outperformed
x	Underperformed
=	Equal to
✓✓	Gross Return



# APPENDIX

NEPC, LLC

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# **U.S. EQUITY MANAGER PERFORMANCE**

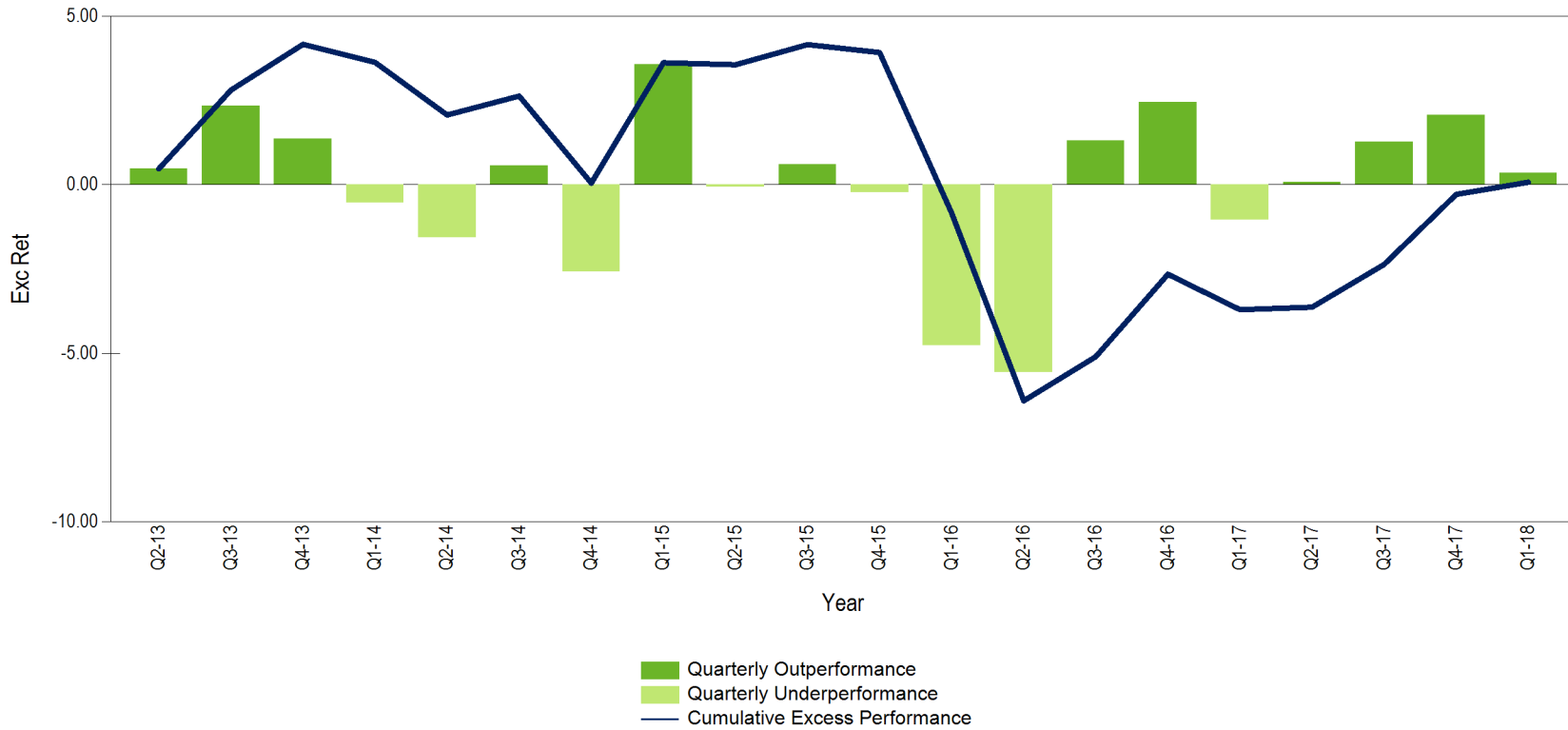
NEPC, LLC

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Los Angeles City Employees' Retirement System

# ARONSON, JOHNSON & ORTIZ

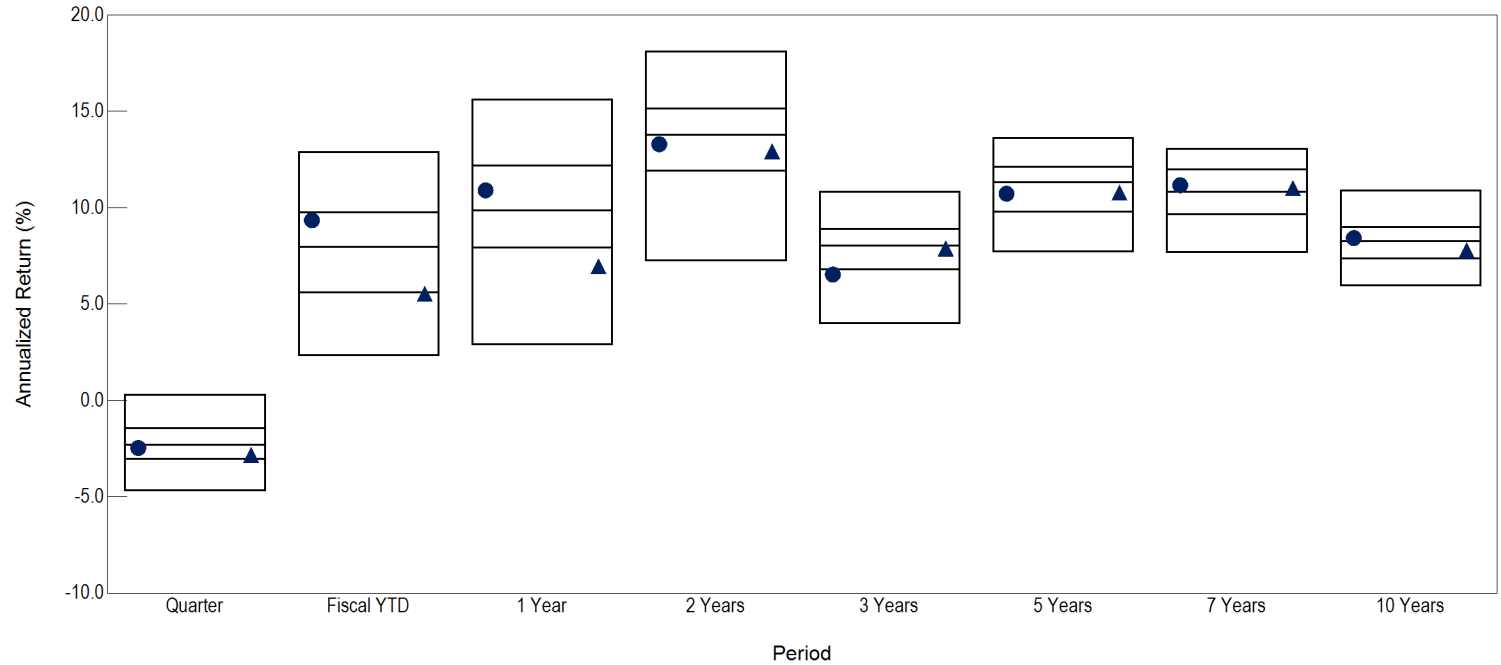
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## ARONSON, JOHNSON & ORTIZ

Aronson, Johnson & Ortiz vs. eV US Large Cap Value Equity Net

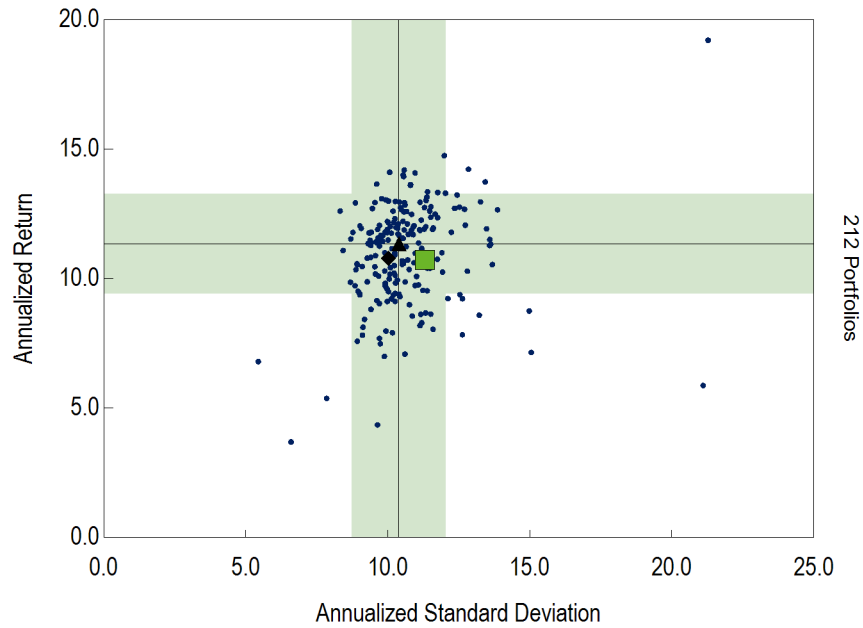


	Return (Rank)															
5th Percentile	0.28	12.87	15.60	18.10	10.81	13.61	13.06	10.88								
25th Percentile	-1.42	9.79	12.20	15.19	8.93	12.16	12.01	9.04								
Median	-2.29	7.98	9.90	13.81	8.06	11.35	10.86	8.30								
75th Percentile	-3.02	5.63	7.97	11.93	6.84	9.83	9.67	7.39								
95th Percentile	-4.64	2.38	2.94	7.29	4.05	7.76	7.73	5.99								
# of Portfolios	230	230	230	228	227	212	188	167								
● Aronson, Johnson & Ortiz	-2.47	(55)	9.34	(32)	10.89	(39)	13.29	(58)	6.52	(80)	10.72	(61)	11.16	(45)	8.42	(45)
▲ Russell 1000 Value	-2.83	(67)	5.53	(76)	6.95	(82)	12.92	(66)	7.88	(54)	10.78	(60)	11.00	(48)	7.78	(63)

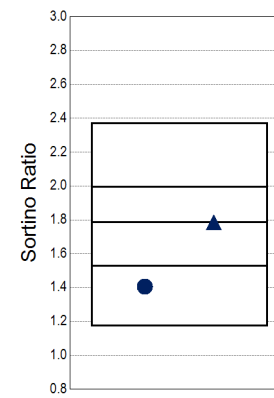
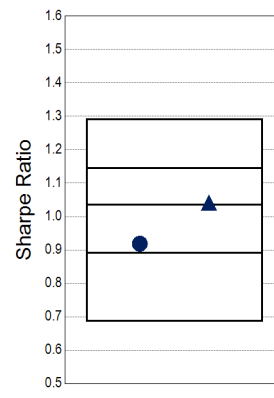
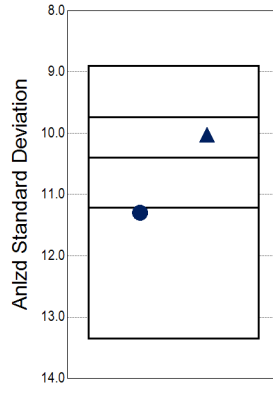
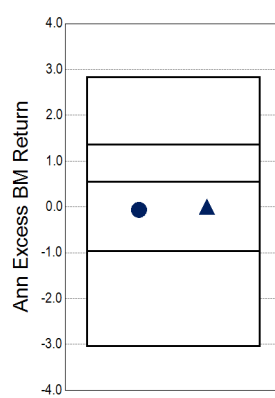
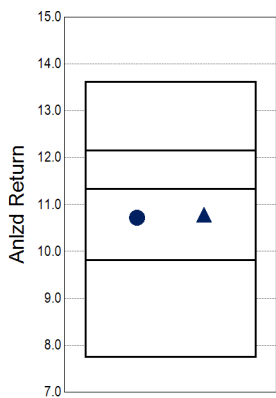
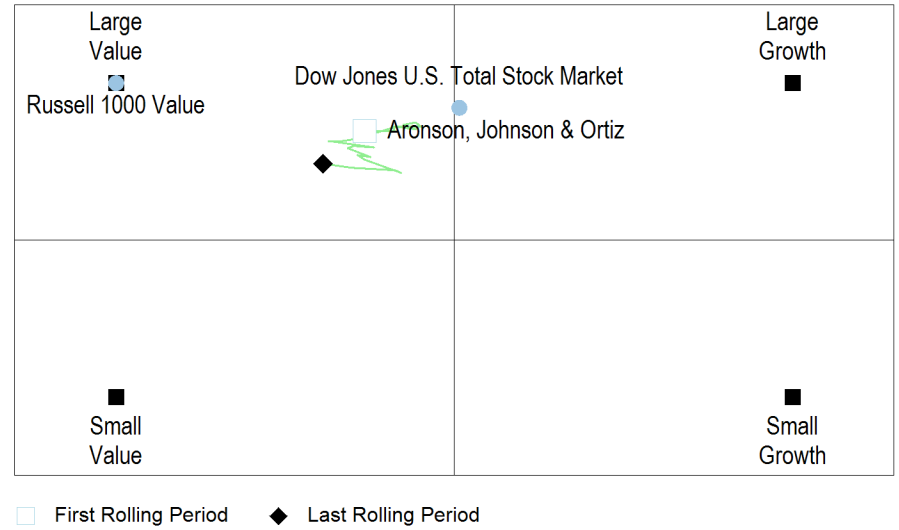


# ARONSON, JOHNSON & ORTIZ

5 Year Risk Return



5 Year Style Map



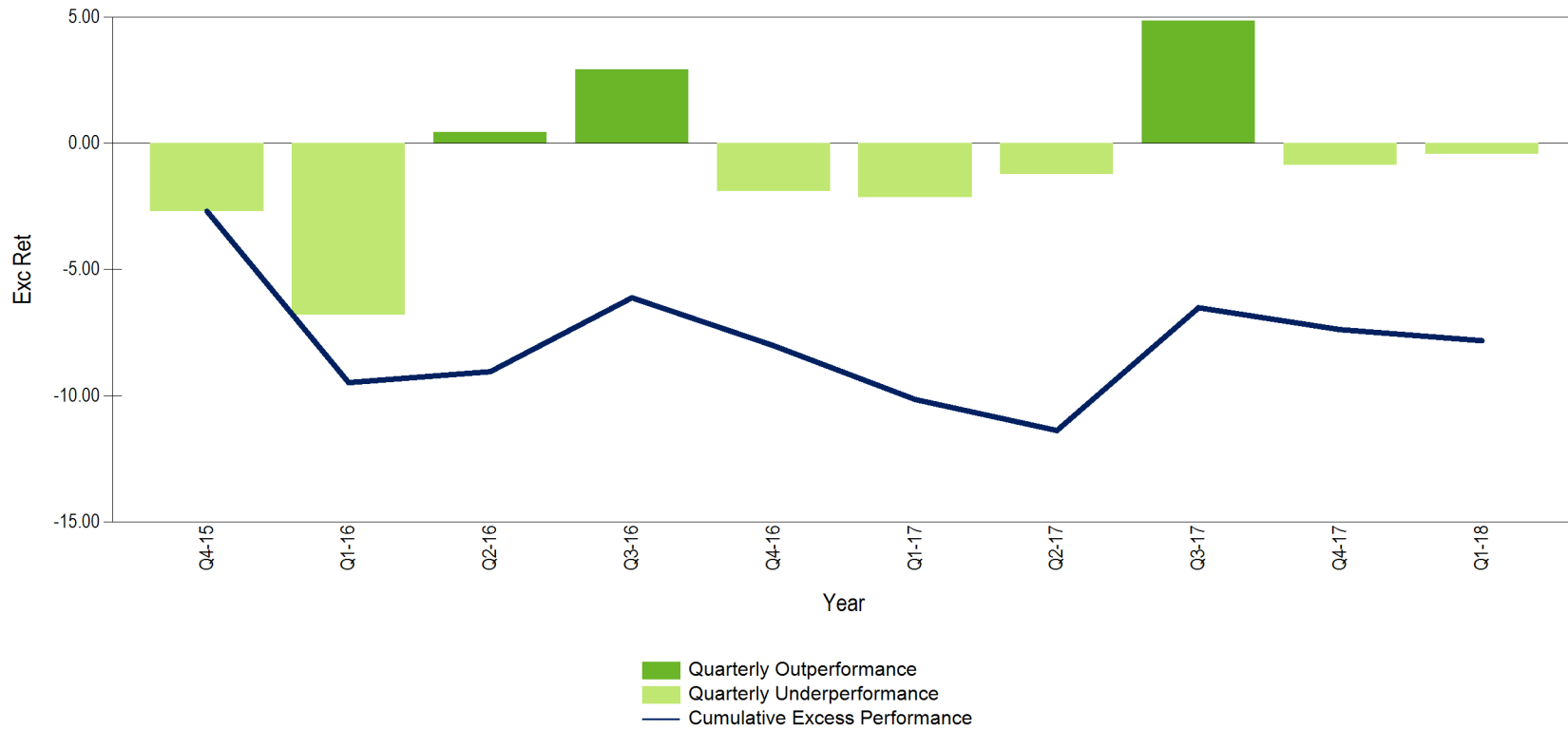
- Aronson, Johnson & Ortiz
- ▲ Russell 1000 Value
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



# Los Angeles City Employees' Retirement System

## EAM INVESTORS

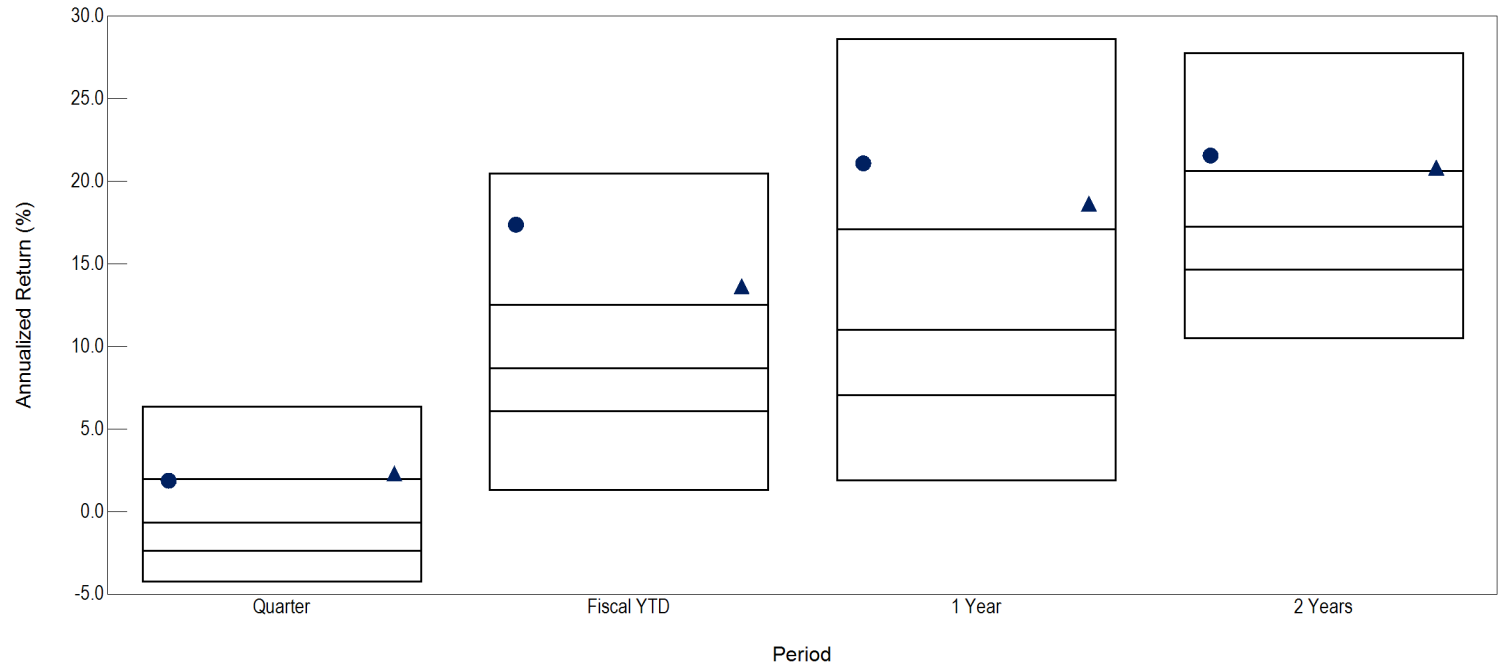
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## EAM INVESTORS

EAM Investors vs. eV US Small Cap Equity Net



	Return (Rank)							
5th Percentile	6.34		20.45		28.59		27.75	
25th Percentile	2.01		12.55		17.13		20.64	
Median	-0.63		8.69		11.03		17.28	
75th Percentile	-2.35		6.12		7.06		14.67	
95th Percentile	-4.22		1.35		1.93		10.51	
# of Portfolios	405		404		404		398	
● EAM Investors	1.86	(26)	17.36	(11)	21.07	(16)	21.54	(19)
▲ Russell 2000 Growth	2.30	(23)	13.64	(22)	18.63	(22)	20.81	(23)

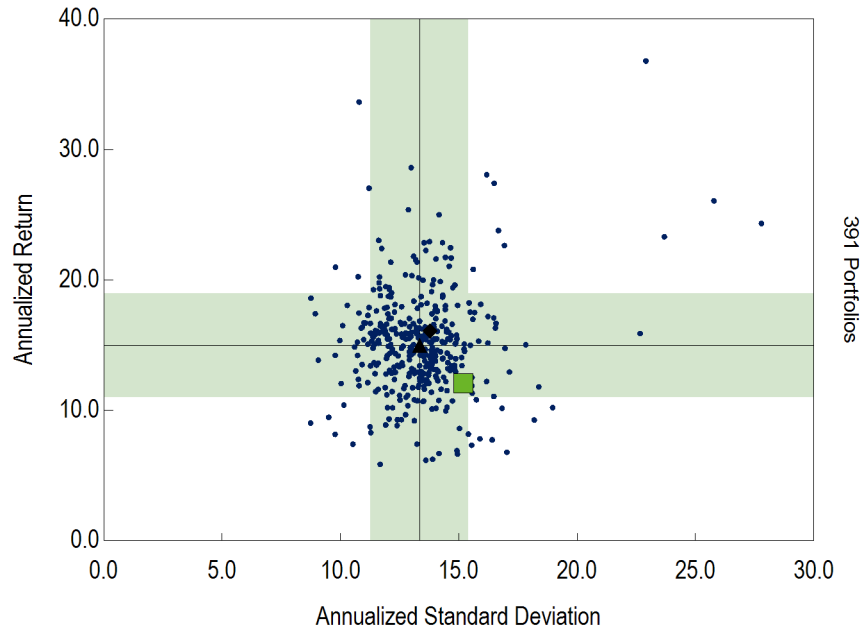




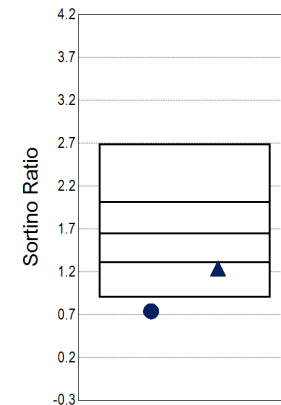
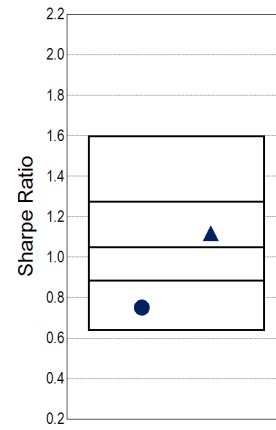
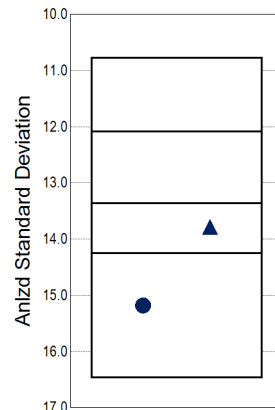
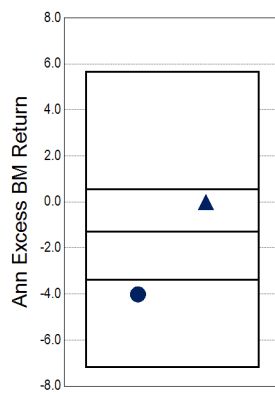
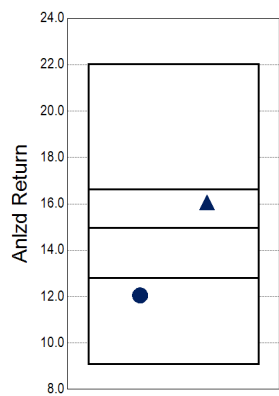
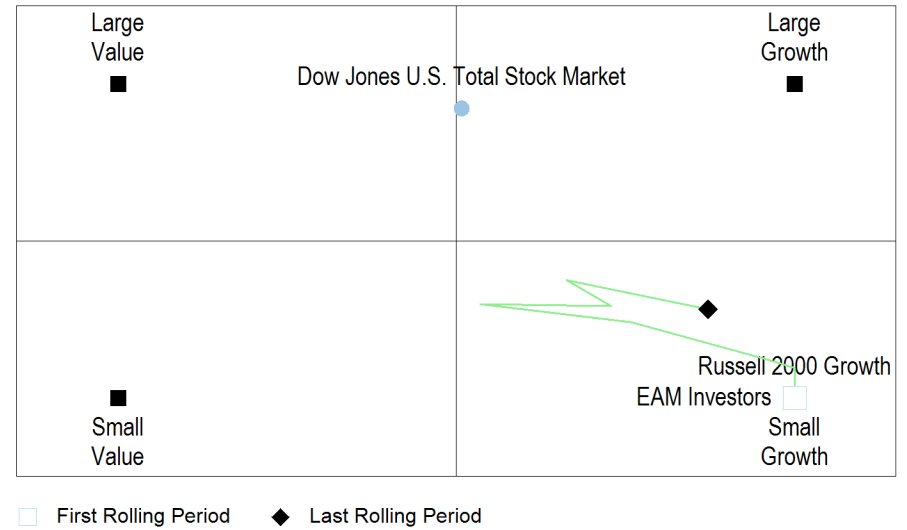
# Los Angeles City Employees' Retirement System

## EAM INVESTORS

Since Inception Risk Return



Since Inception Style Map



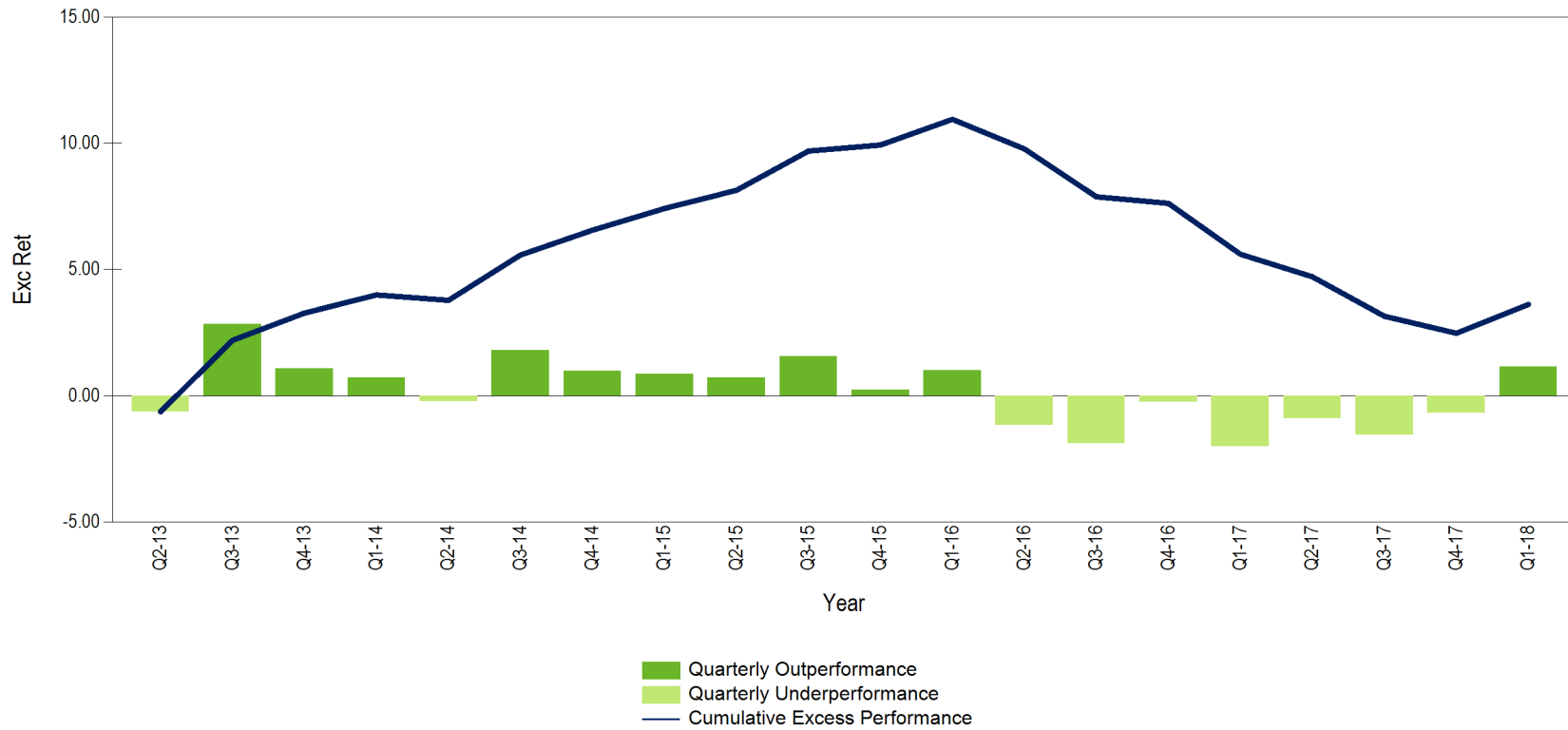
- EAM Investors
- ▲ Russell 2000 Growth
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



# Los Angeles City Employees' Retirement System

## PANAGORA

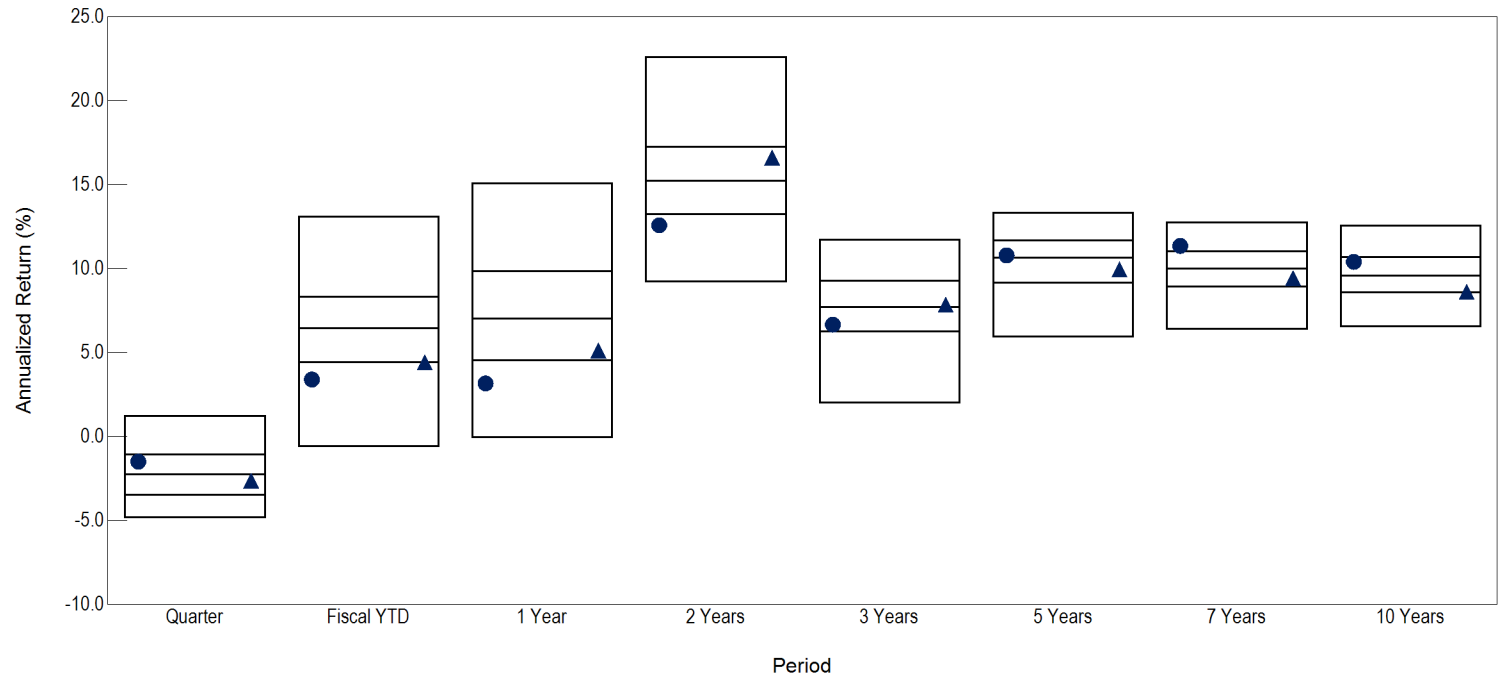
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## PANAGORA

PanAgora vs. eV US Small Cap Value Equity Net



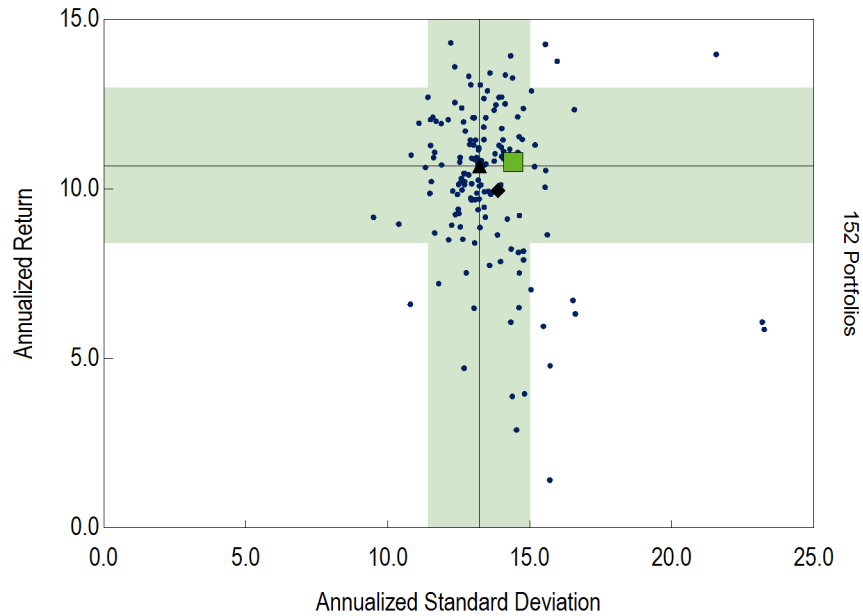
	Return (Rank)															
5th Percentile	1.22	13.11	15.09	22.62	11.71	13.34	12.76	12.54								
25th Percentile	-1.02	8.35	9.88	17.29	9.31	11.73	11.07	10.72								
Median	-2.21	6.49	7.06	15.28	7.74	10.68	10.03	9.63								
75th Percentile	-3.42	4.46	4.59	13.28	6.31	9.20	8.98	8.64								
95th Percentile	-4.78	-0.55	0.00	9.29	2.05	6.01	6.47	6.62								
# of Portfolios	172	172	172	170	162	152	143	127								
● PanAgora	-1.50	(34)	3.39	(82)	3.16	(85)	12.58	(79)	6.66	(71)	10.79	(47)	11.35	(20)	10.41	(32)
▲ Russell 2000 Value	-2.64	(60)	4.43	(76)	5.13	(70)	16.62	(34)	7.87	(47)	9.96	(64)	9.42	(66)	8.61	(76)



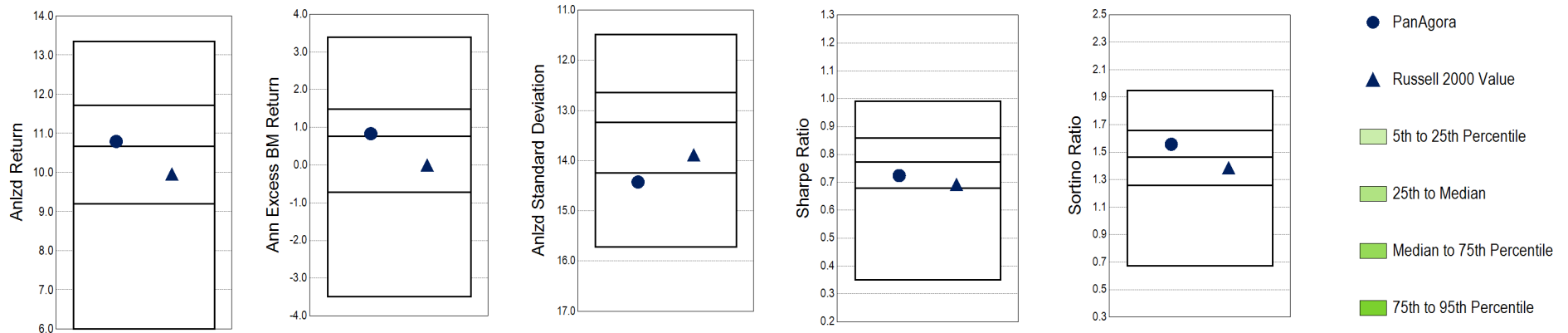
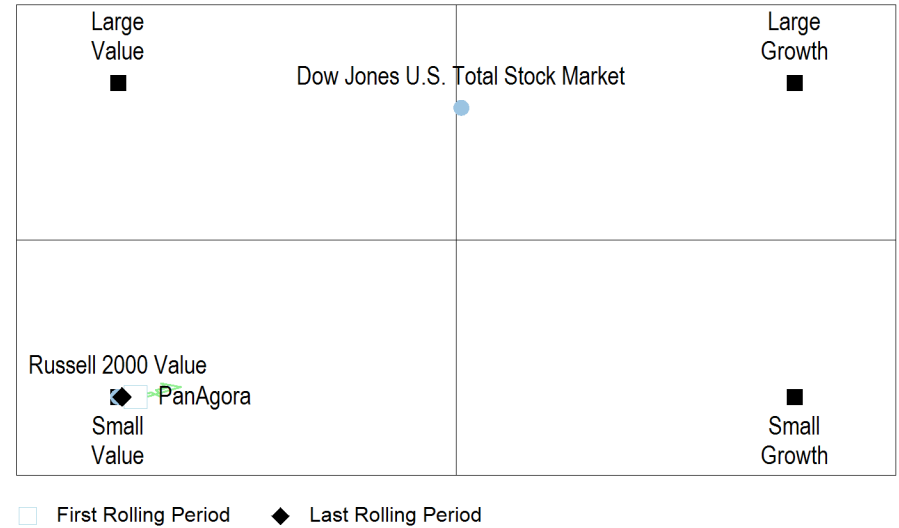
# Los Angeles City Employees' Retirement System

## PANAGORA

5 Year Risk Return



5 Year Style Map



# PRINCIPAL GLOBAL INVESTORS

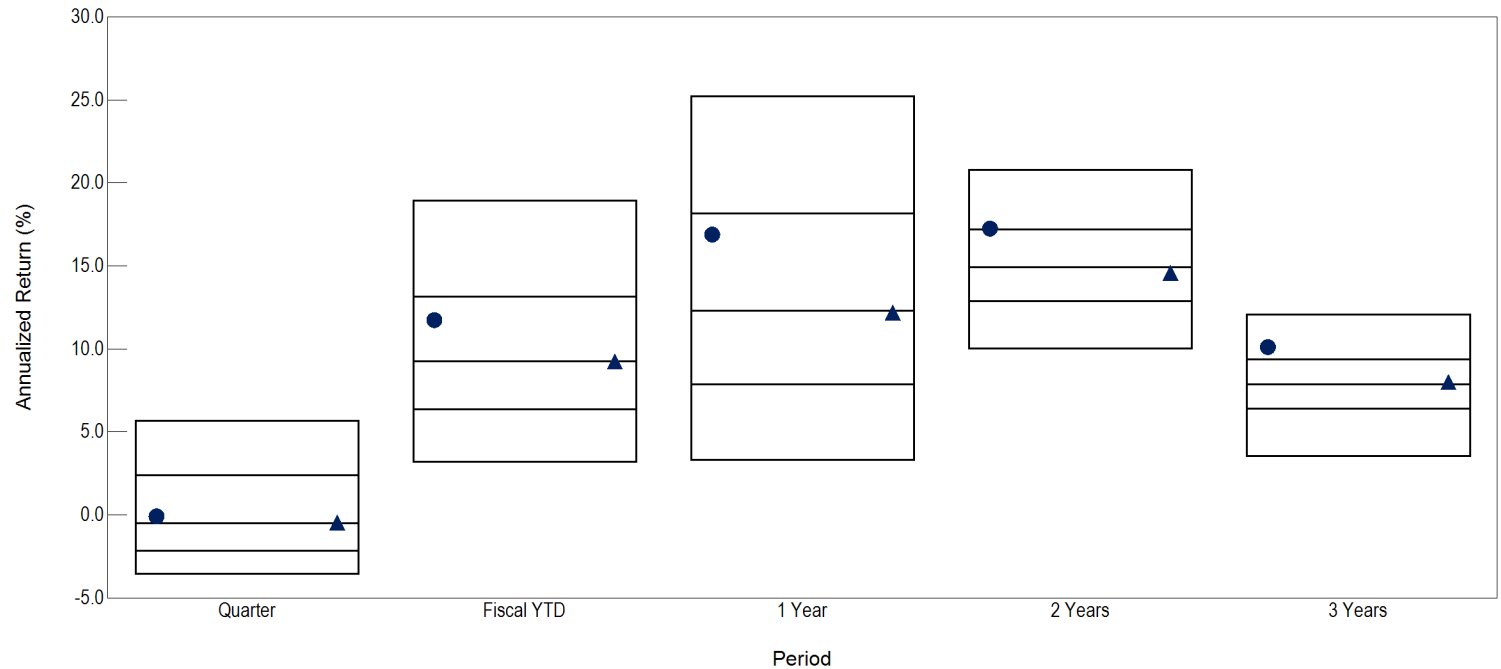
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## PRINCIPAL GLOBAL INVESTORS

Principal Global Investors vs. eV US Mid Cap Equity Net



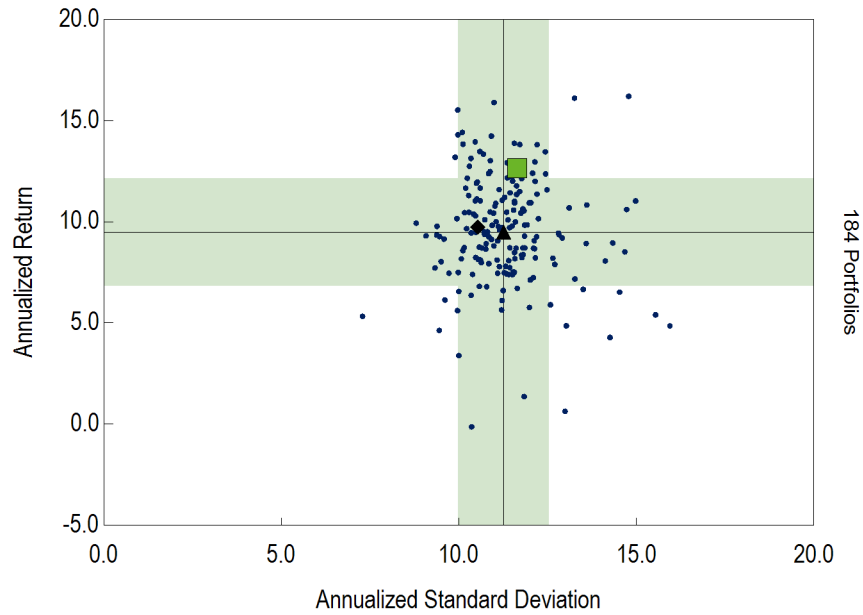
	Return (Rank)									
5th Percentile	5.68		18.94		25.24		20.78		12.07	
25th Percentile	2.45		13.19		18.22		17.23		9.41	
Median	-0.46		9.31		12.35		14.95		7.90	
75th Percentile	-2.12		6.40		7.92		12.92		6.45	
95th Percentile	-3.49		3.24		3.35		10.06		3.61	
# of Portfolios	191		190		190		188		188	
● Principal Global Investors	-0.09	(45)	11.74	(34)	16.89	(30)	17.25	(25)	10.12	(20)
▲ Russell MidCap	-0.46	(50)	9.25	(51)	12.20	(51)	14.59	(55)	8.01	(49)



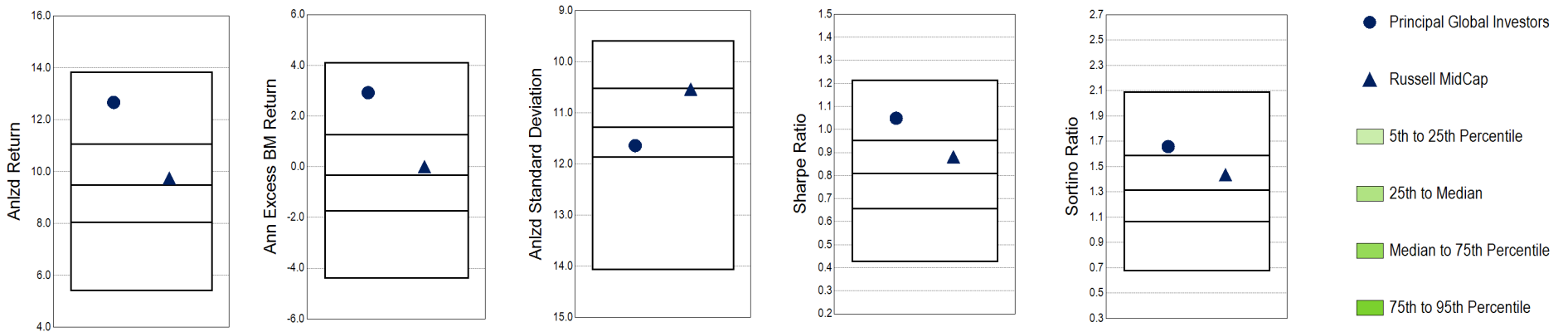
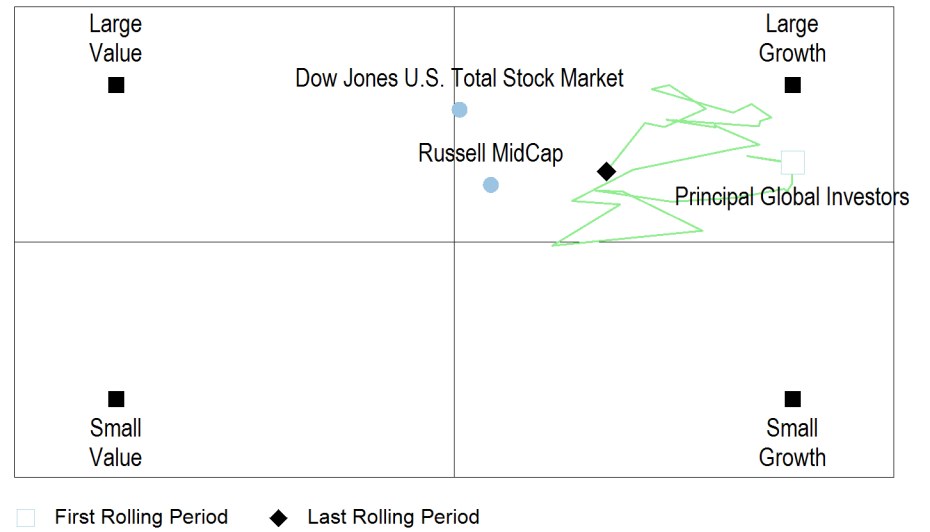
# Los Angeles City Employees' Retirement System

## PRINCIPAL GLOBAL INVESTORS

Since Inception Risk Return



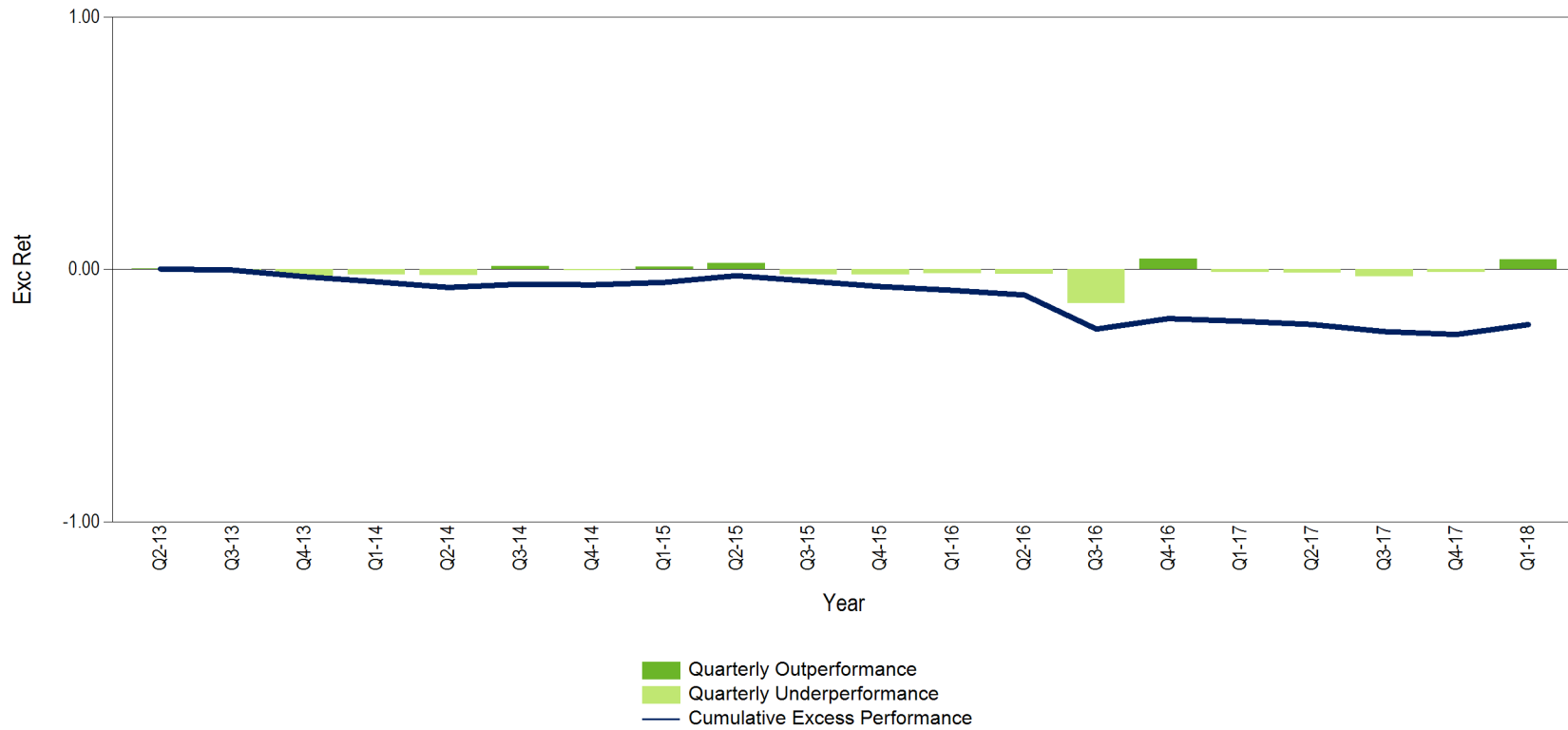
Since Inception Style Map



# Los Angeles City Employees' Retirement System

## RHUMBLINE ADVISORS S&P 500

Quarterly and Cumulative Excess Performance

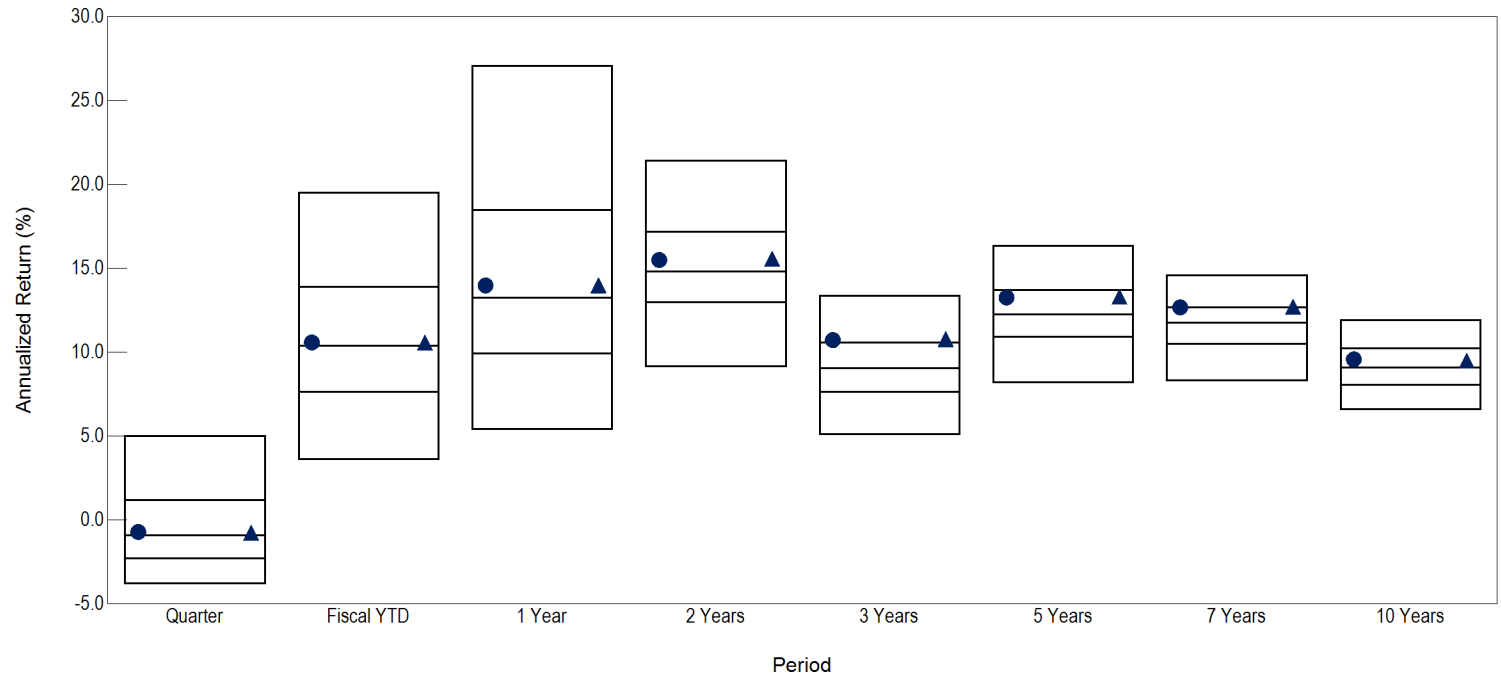




# Los Angeles City Employees' Retirement System

## RHUMBLINE ADVISORS S&P 500

Rhumbline Advisors S&P 500 vs. eV US Large Cap Equity Net

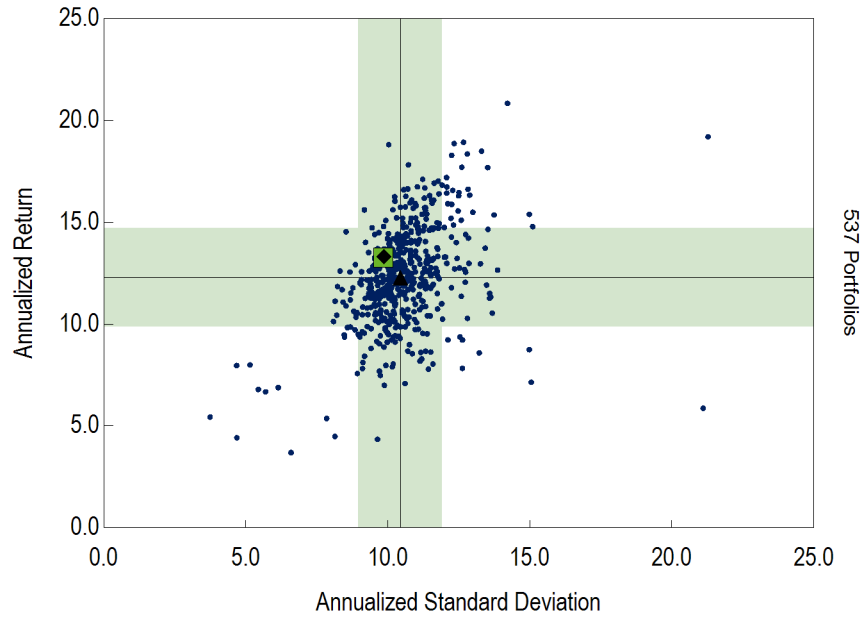


	Return (Rank)															
5th Percentile	4.99	19.50	27.07	21.40	13.38	16.34	14.58	11.92								
25th Percentile	1.21	13.92	18.52	17.22	10.63	13.75	12.71	10.26								
Median	-0.88	10.44	13.28	14.84	9.08	12.29	11.81	9.14								
75th Percentile	-2.27	7.66	9.97	13.00	7.66	10.97	10.52	8.11								
95th Percentile	-3.72	3.65	5.46	9.22	5.16	8.27	8.36	6.66								
# of Portfolios	594	593	593	585	576	537	484	435								
● Rhumbline Advisors S&P 500	-0.72	(47)	10.58	(49)	13.98	(47)	15.50	(41)	10.72	(25)	13.26	(33)	12.67	(26)	9.57	(41)
▲ S&P 500	-0.76	(48)	10.58	(49)	13.99	(47)	15.57	(40)	10.78	(24)	13.31	(32)	12.71	(26)	9.49	(43)

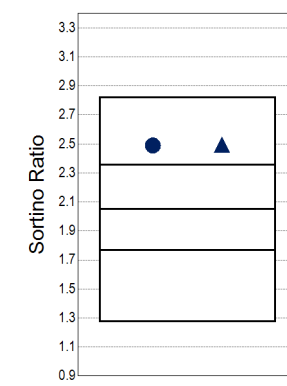
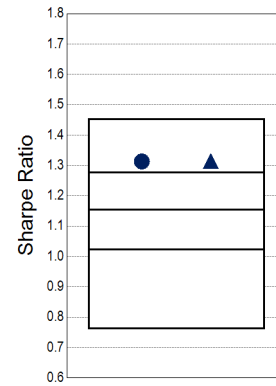
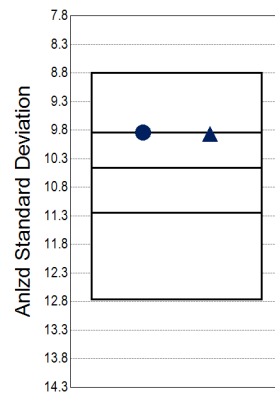
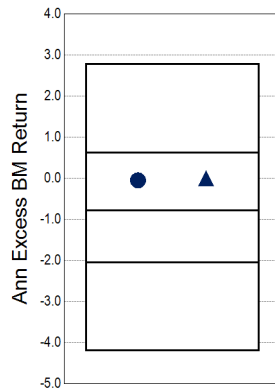
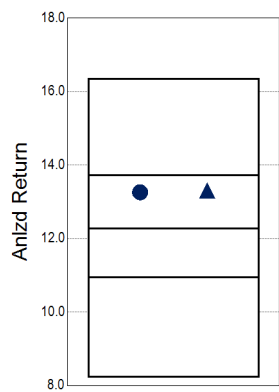
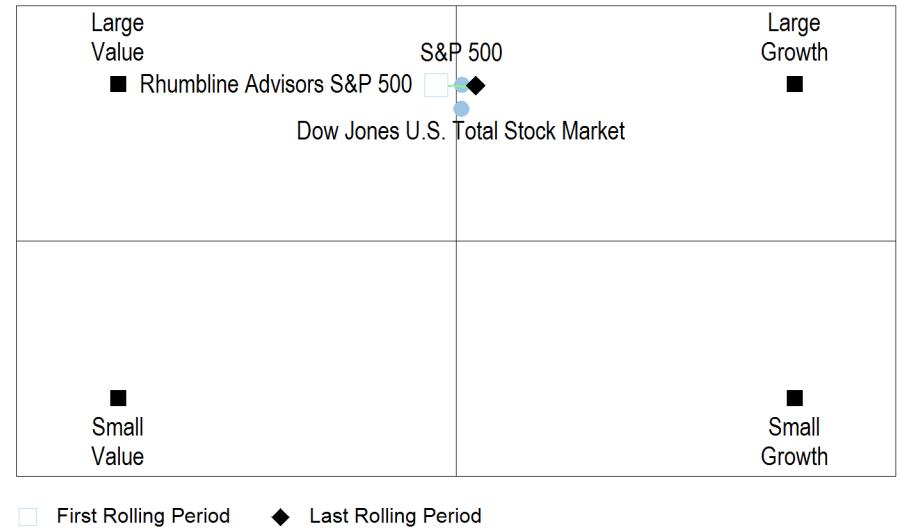


# RHUMBLINE ADVISORS S&P 500

5 Year Risk Return



5 Year Style Map

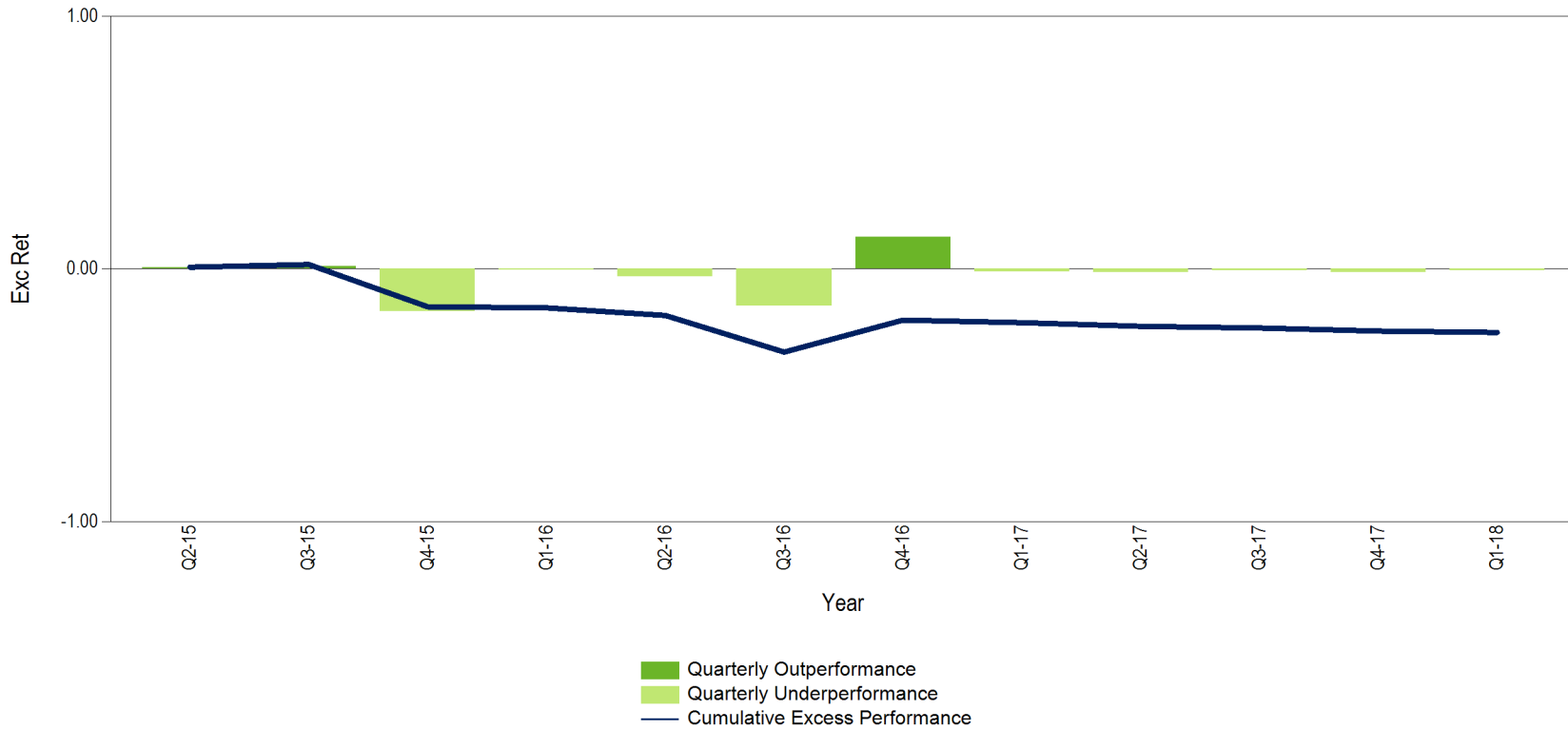


- Rhumbline Advisors S&P 500
- ▲ S&P 500
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



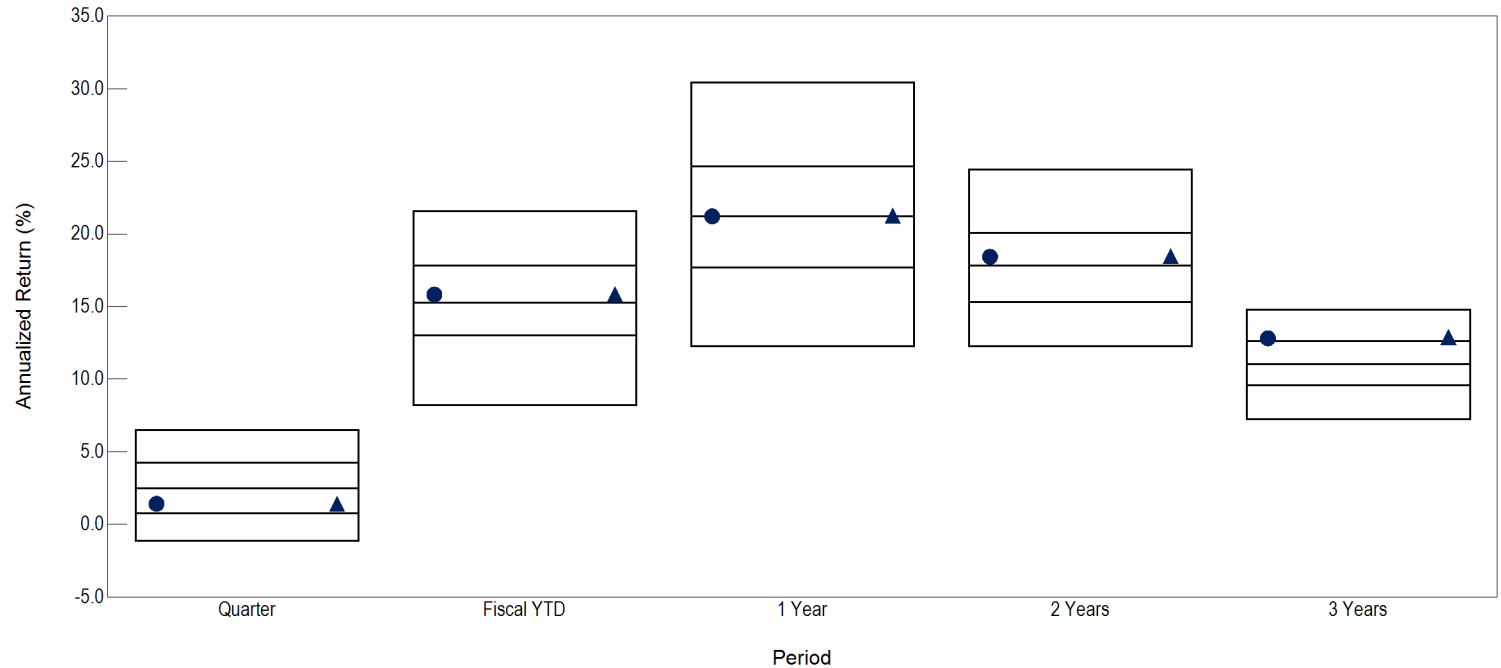
# RHUMBLINE ADVISORS RUSSELL 1000 GROWTH

Quarterly and Cumulative Excess Performance



# RHUMBLINE ADVISORS RUSSELL 1000 GROWTH

Rhumbline Advisors Russell 1000 Growth vs. eV US Large Cap Growth Equity Net

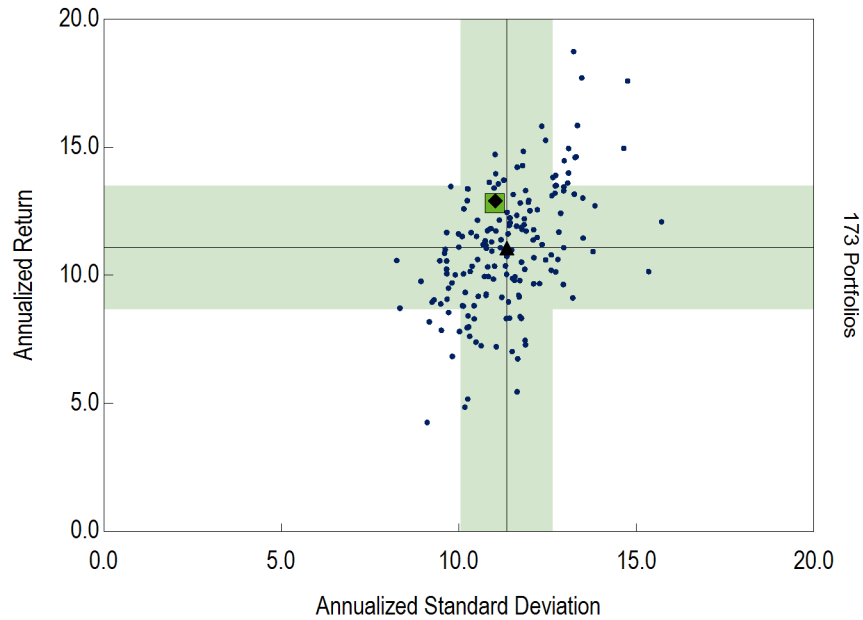


	Return (Rank)									
5th Percentile	6.47		21.57		30.40		24.43		14.76	
25th Percentile	4.30		17.84		24.69		20.11		12.66	
Median	2.54		15.31		21.27		17.88		11.07	
75th Percentile	0.82		13.06		17.71		15.33		9.64	
95th Percentile	-1.07		8.24		12.32		12.31		7.26	
# of Portfolios	180		180		180		176		173	
● Rhumbline Advisors Russell 1000 Growth	1.41	(65)	15.82	(43)	21.21	(52)	18.42	(43)	12.81	(24)
▲ Russell 1000 Growth	1.42	(65)	15.84	(42)	21.25	(51)	18.47	(42)	12.90	(23)

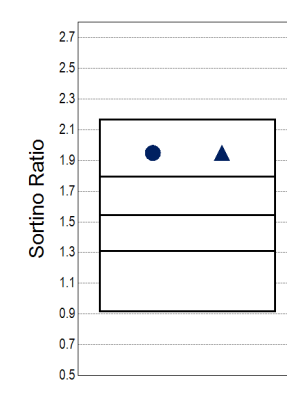
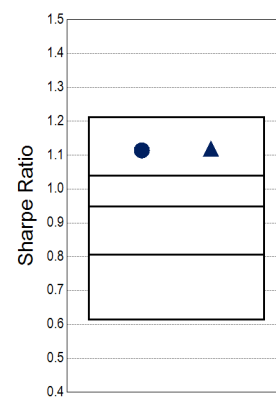
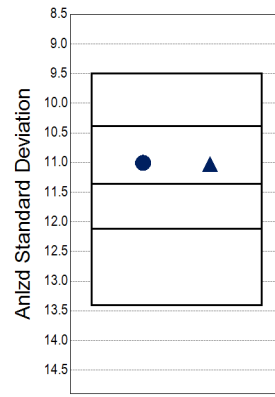
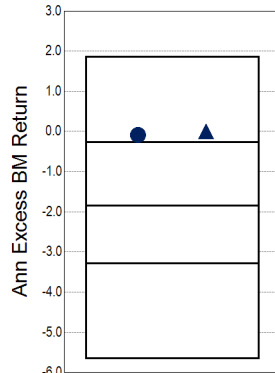
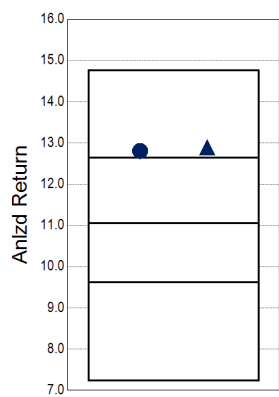
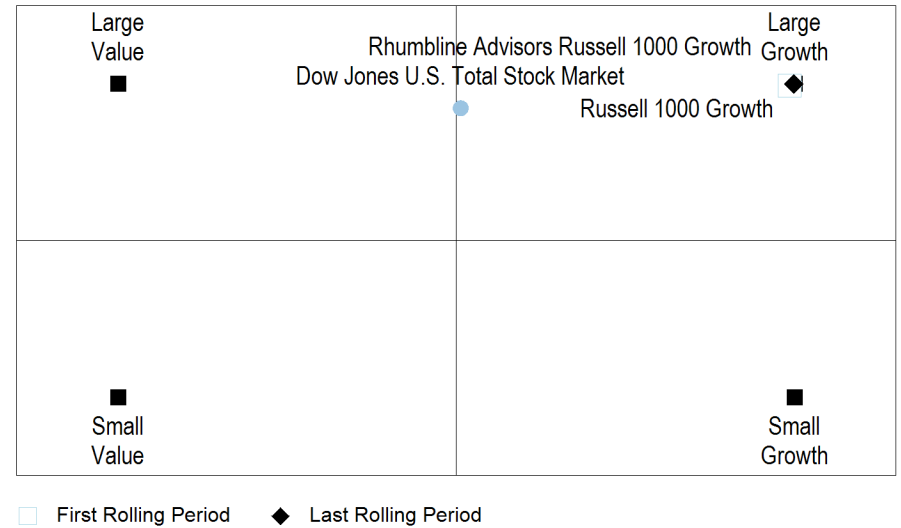


# RHUMBLINE ADVISORS RUSSELL 1000 GROWTH

3 Year Risk Return



3 Year Style Map

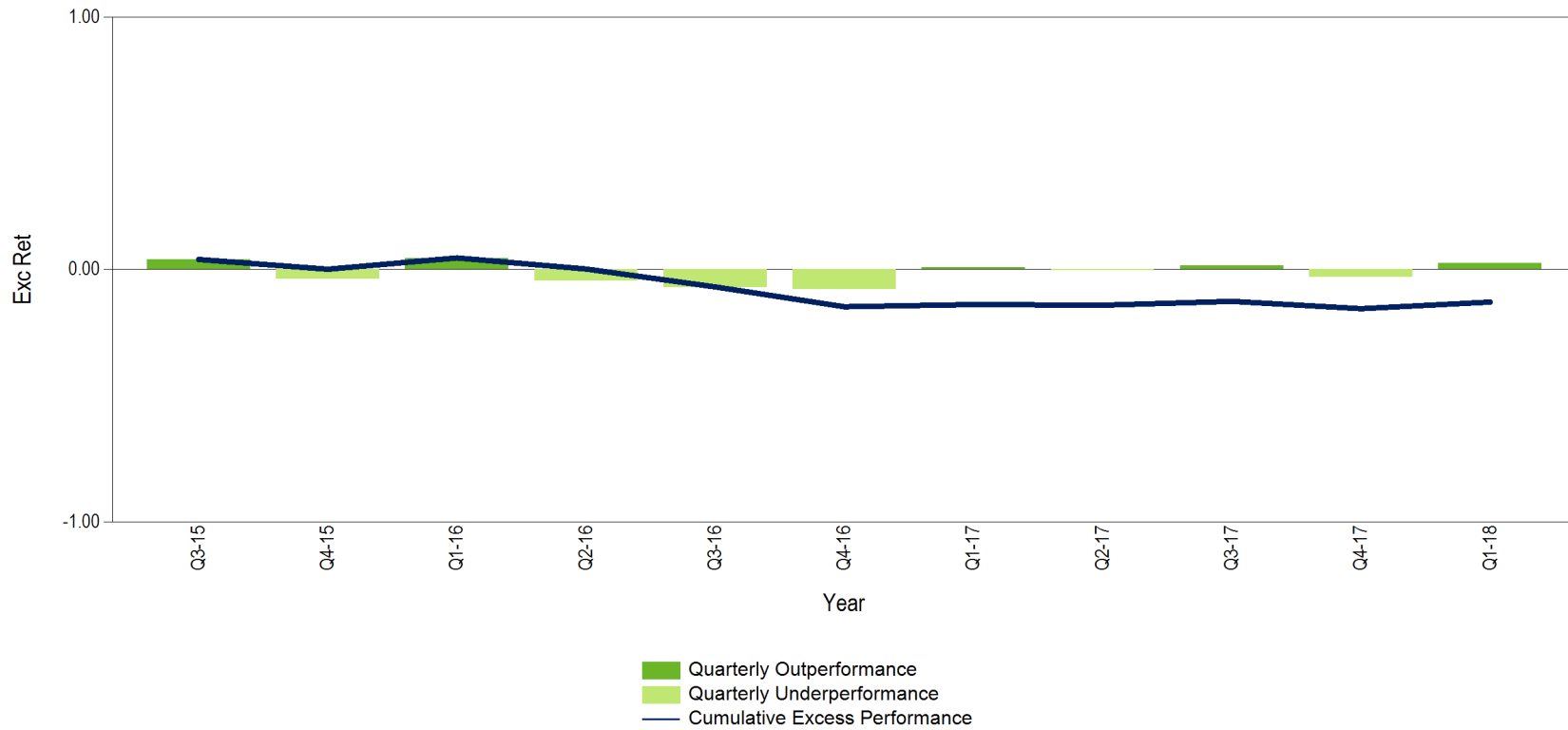


- Rhumbline Advisors Russell 1000 Growth
- ▲ Russell 1000 Growth
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



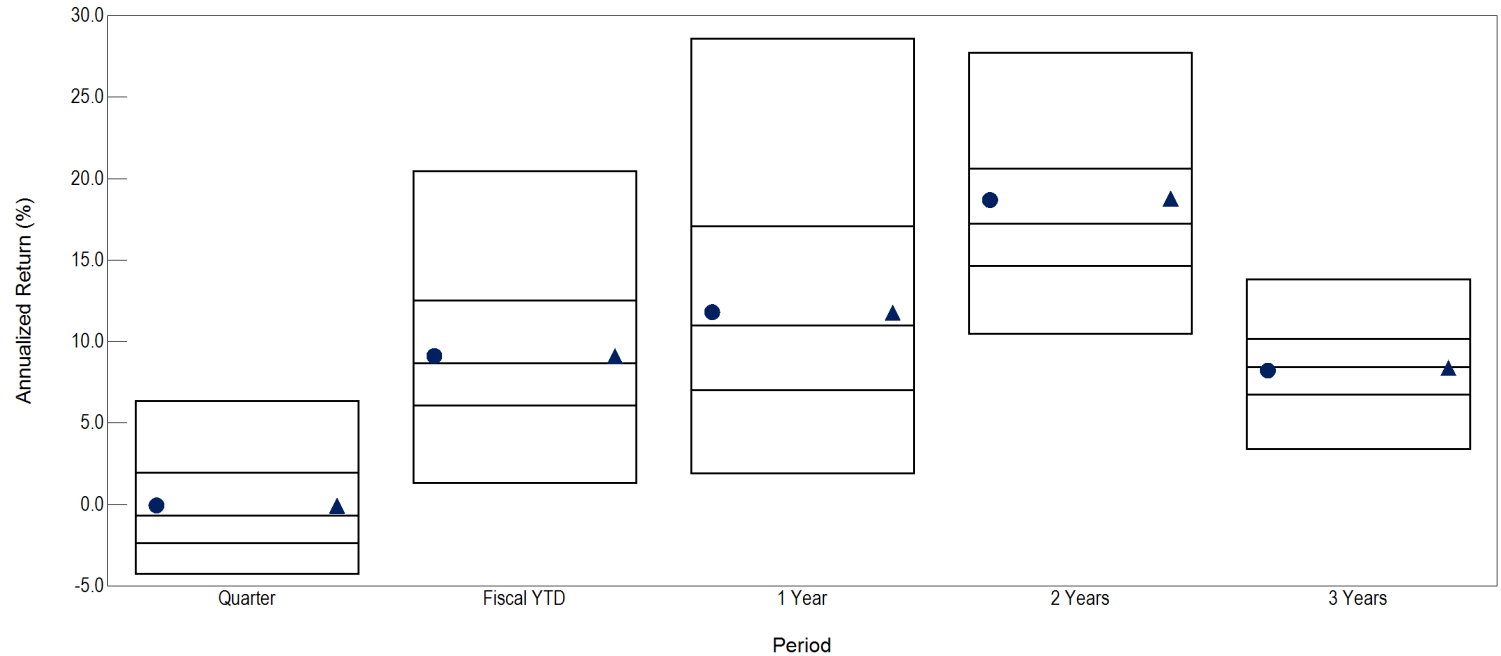
# RHUMBLINE ADVISORS RUSSELL 2000

Quarterly and Cumulative Excess Performance



# RHUMBLINE ADVISORS RUSSELL 2000

Rhumbline Advisors Russell 2000 vs. eV US Small Cap Equity Net

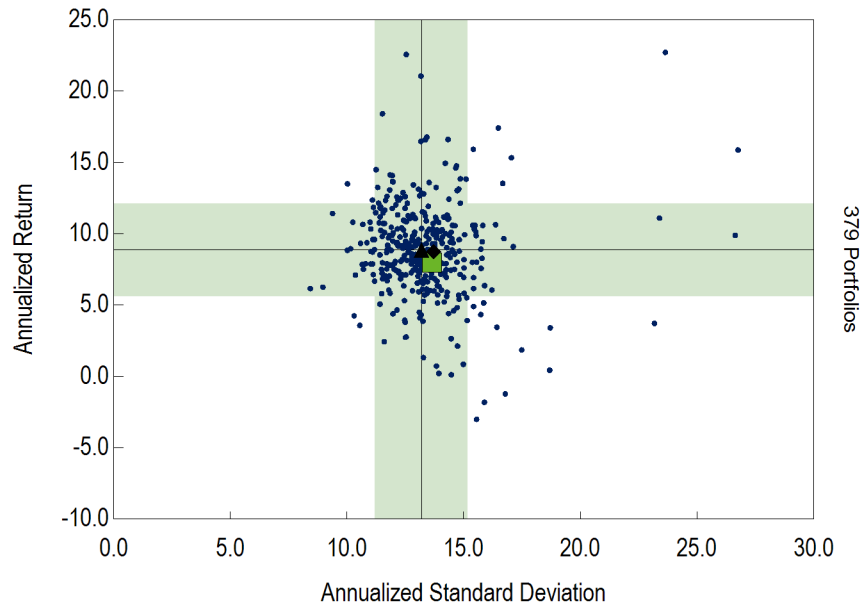


	Return (Rank)									
5th Percentile	6.34		20.45		28.59		27.75		13.80	
25th Percentile	2.01		12.55		17.13		20.64		10.20	
Median	-0.63		8.69		11.03		17.28		8.46	
75th Percentile	-2.35		6.12		7.06		14.67		6.78	
95th Percentile	-4.22		1.35		1.93		10.51		3.43	
# of Portfolios	405		404		404		398		384	
● Rhumbline Advisors Russell 2000	-0.06	(43)	9.12	(47)	11.80	(46)	18.69	(37)	8.22	(53)
▲ Russell 2000	-0.08	(44)	9.11	(47)	11.79	(46)	18.79	(36)	8.39	(52)

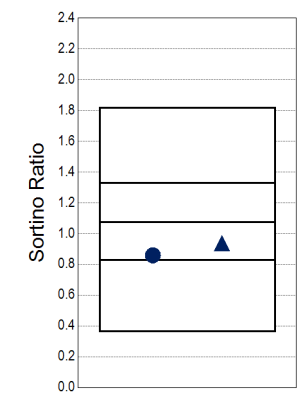
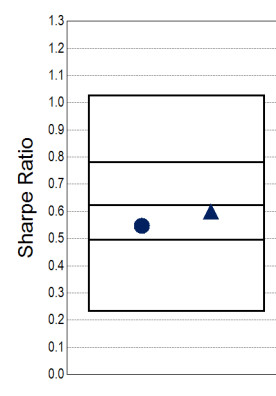
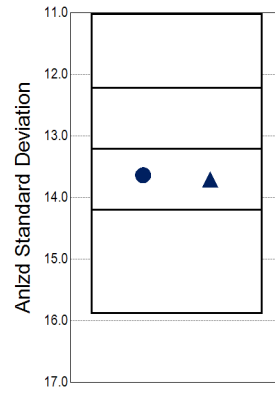
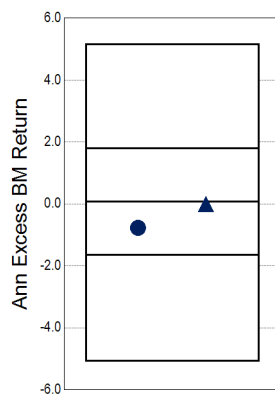
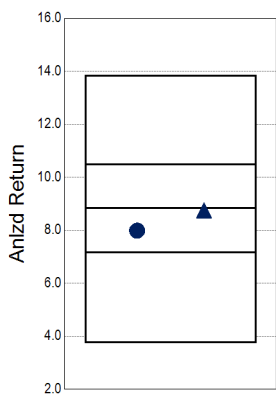
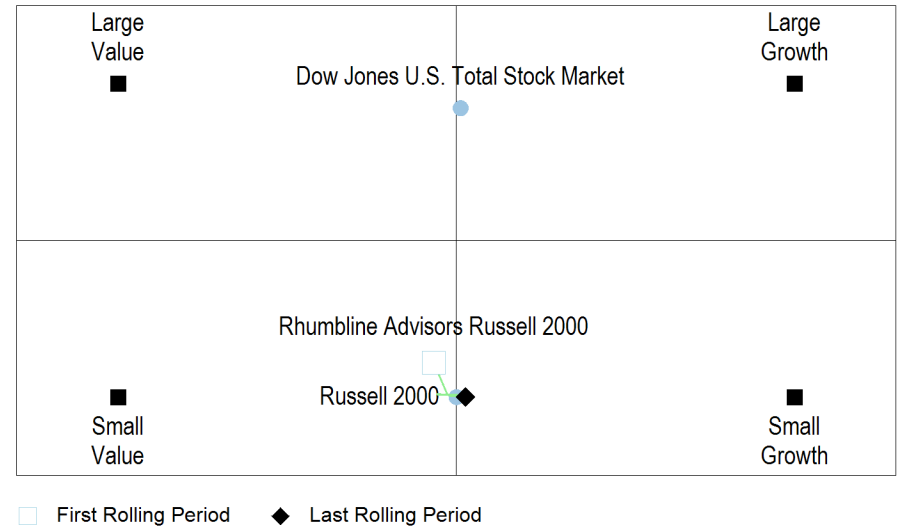


# RHUMBLINE ADVISORS RUSSELL 2000

Since Inception Risk Return



Since Inception Style Map



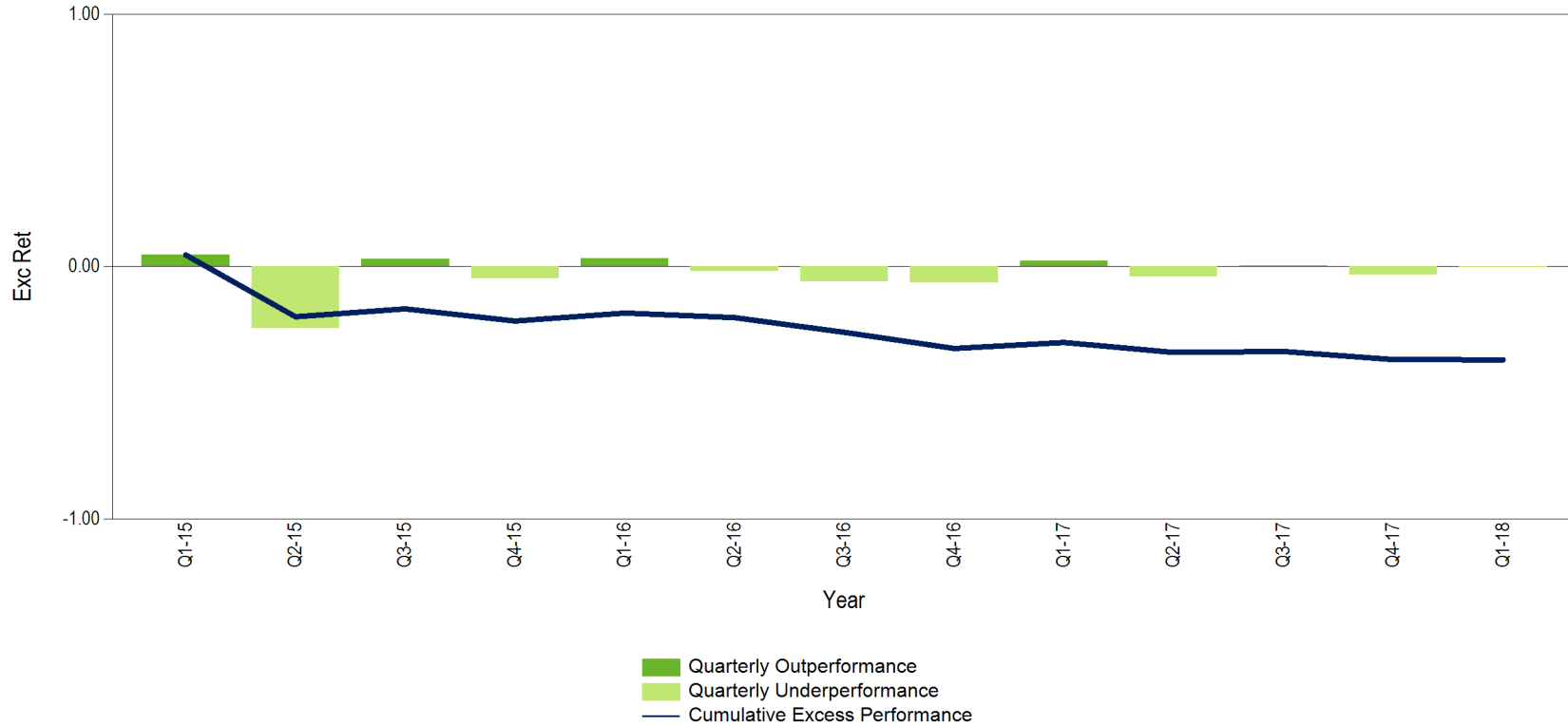
- Rhumbline Advisors Russell 2000
- ▲ Russell 2000
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile





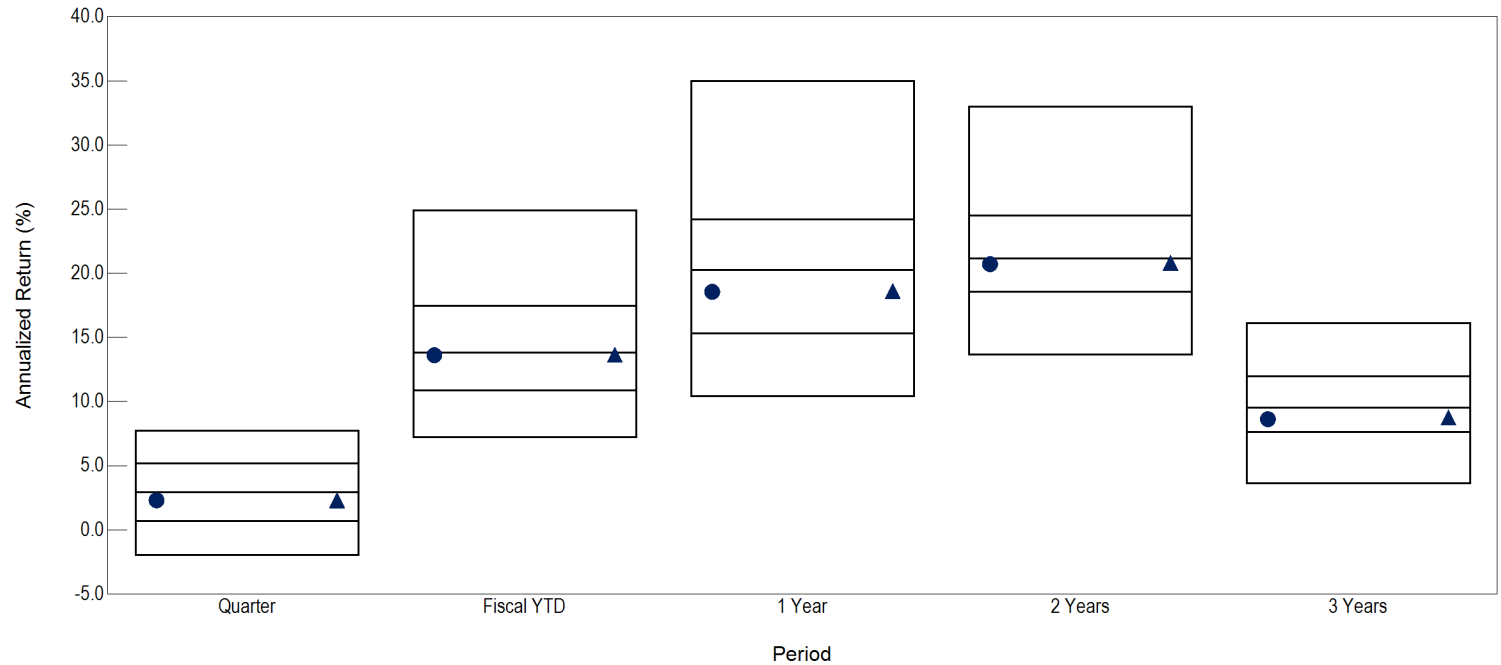
# RHUMBLINE ADVISORS RUSSELL 2000 GROWTH

Quarterly and Cumulative Excess Performance



# RHUMBLINE ADVISORS RUSSELL 2000 GROWTH

Rhumbline Advisors Russell 2000 Growth vs. eV US Small Cap Growth Equity Net

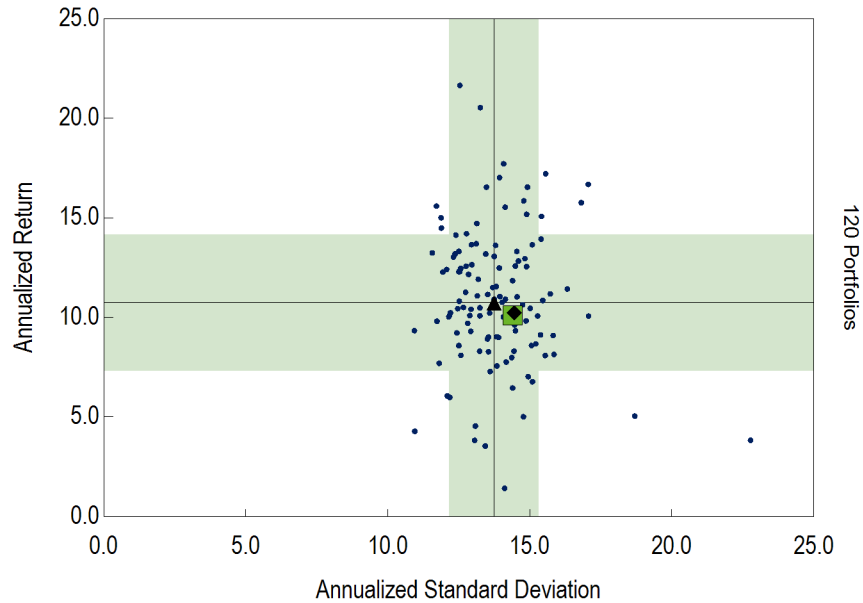


	Return (Rank)									
5th Percentile	7.74		24.91		34.99		32.98		16.11	
25th Percentile	5.21		17.51		24.25		24.53		12.00	
Median	2.96		13.86		20.32		21.21		9.58	
75th Percentile	0.76		10.93		15.38		18.61		7.68	
95th Percentile	-1.92		7.27		10.47		13.71		3.66	
# of Portfolios	131		131		131		128		123	
● Rhumbline Advisors Russell 2000 Growth	2.30	(60)	13.61	(52)	18.55	(57)	20.71	(55)	8.62	(62)
▲ Russell 2000 Growth	2.30	(60)	13.64	(52)	18.63	(56)	20.81	(54)	8.76	(62)

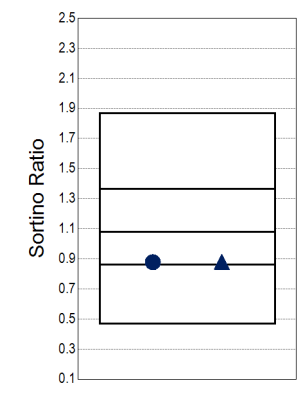
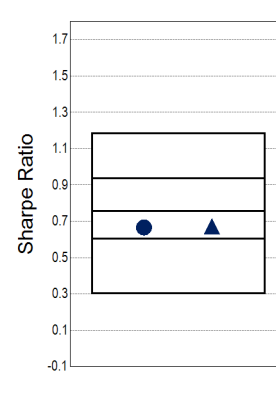
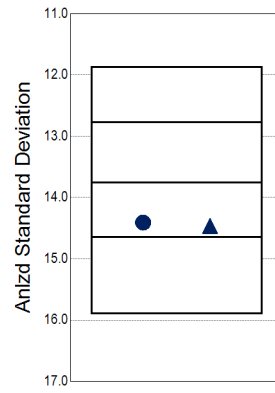
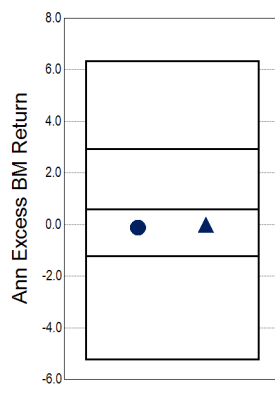
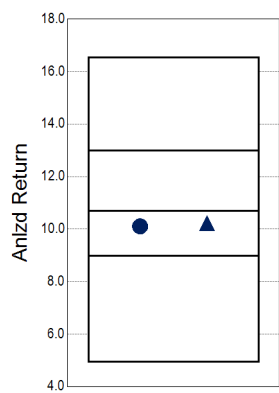
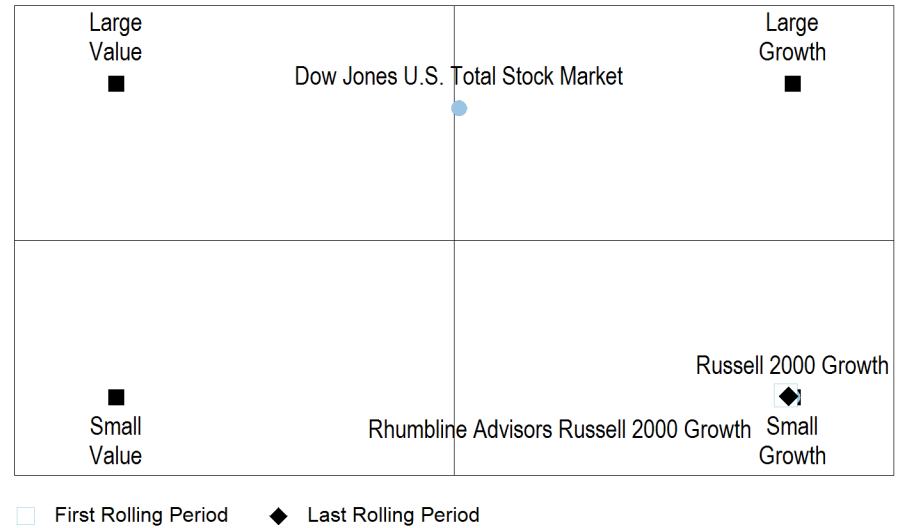


# RHUMBLINE ADVISORS RUSSELL 2000 GROWTH

Since Inception Risk Return



Since Inception Style Map

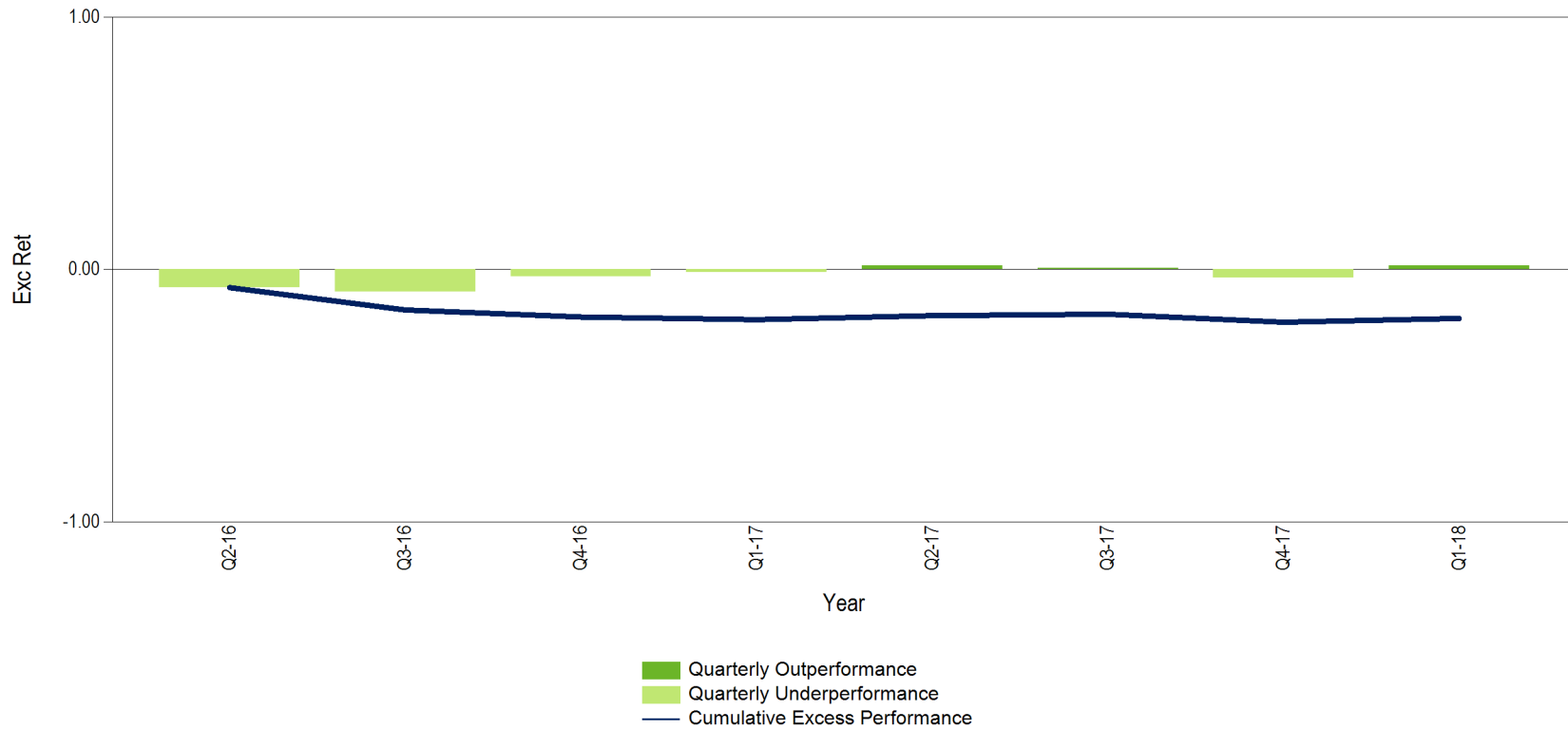


- Rhumbline Advisors Russell 2000 Growth
- ▲ Russell 2000 Growth
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



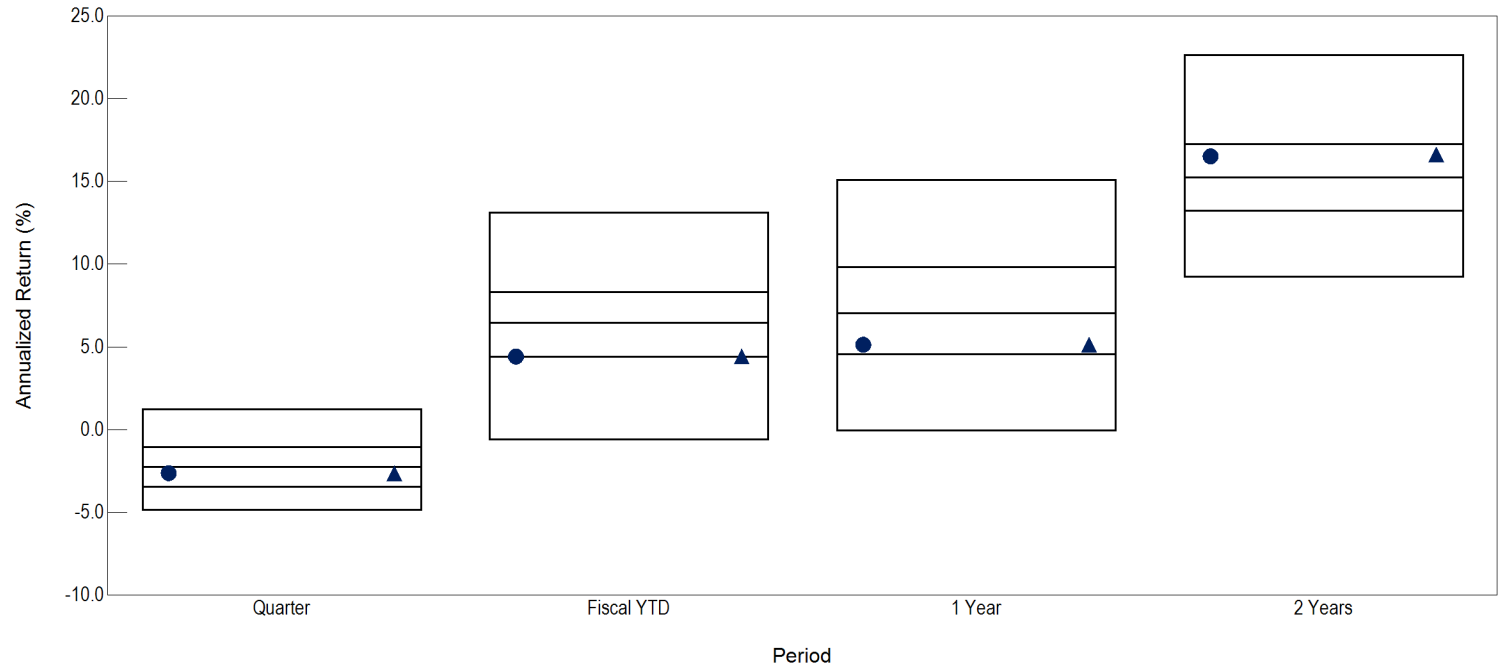
# RHUMBLINE ADVISORS RUSSELL 2000 VALUE

Quarterly and Cumulative Excess Performance



# RHUMBLINE ADVISORS RUSSELL 2000 VALUE

Rhumbline Advisors Russell 2000 Value vs. eV US Small Cap Value Equity Net

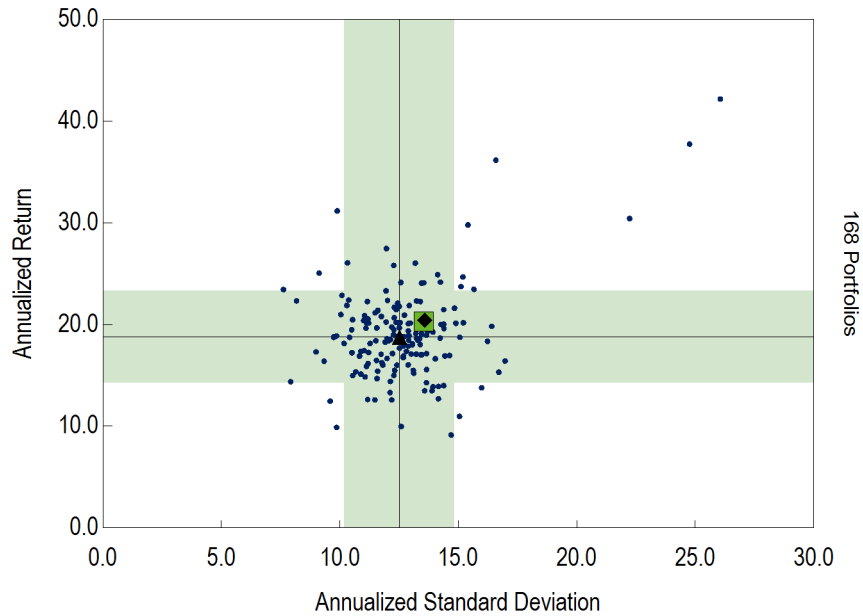


	Return (Rank)			
	Quarter	Fiscal YTD	1 Year	2 Years
5th Percentile	1.22	13.11	15.09	22.62
25th Percentile	-1.02	8.35	9.88	17.29
Median	-2.21	6.49	7.06	15.28
75th Percentile	-3.42	4.46	4.59	13.28
95th Percentile	-4.78	-0.55	0.00	9.29
# of Portfolios	172	172	172	170
● Rhumbline Advisors Russell 2000 Value	-2.63 (59)	4.42 (76)	5.13 (69)	16.51 (35)
▲ Russell 2000 Value	-2.64 (60)	4.43 (76)	5.13 (70)	16.62 (34)

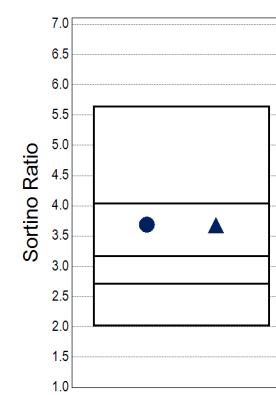
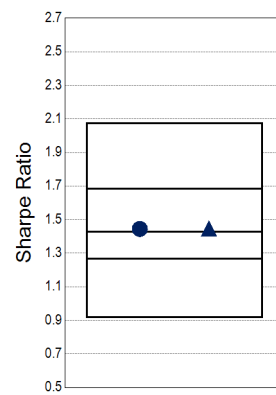
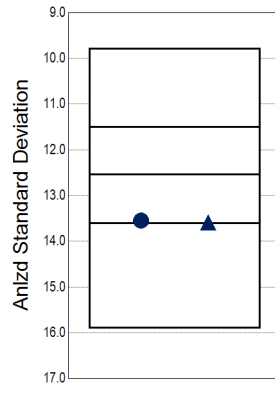
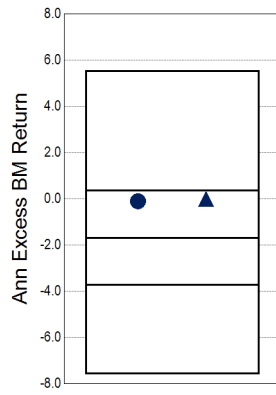
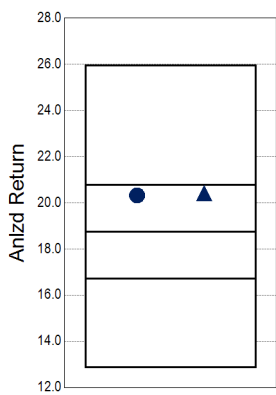
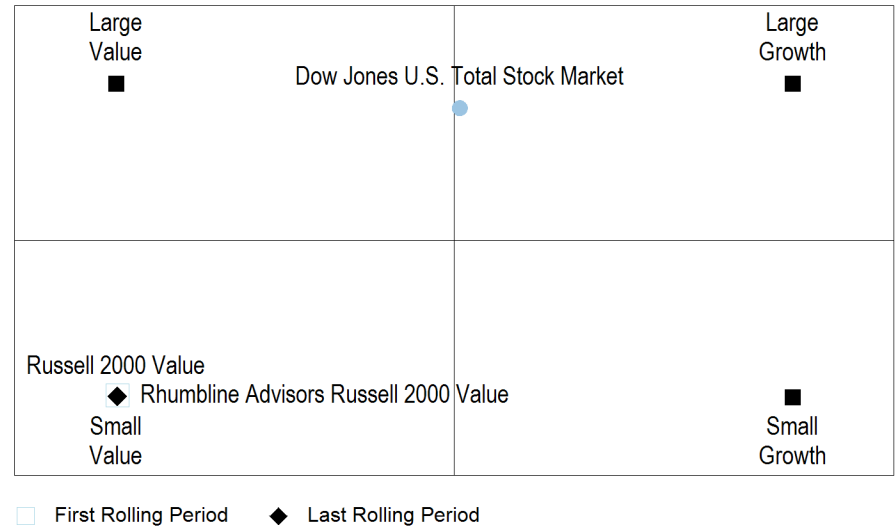


# RHUMBLINE ADVISORS RUSSELL 2000 VALUE

Since Inception Risk Return



Since Inception Style Map



- Rhumbline Advisors Russell 2000 Value
- ▲ Russell 2000 Value
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



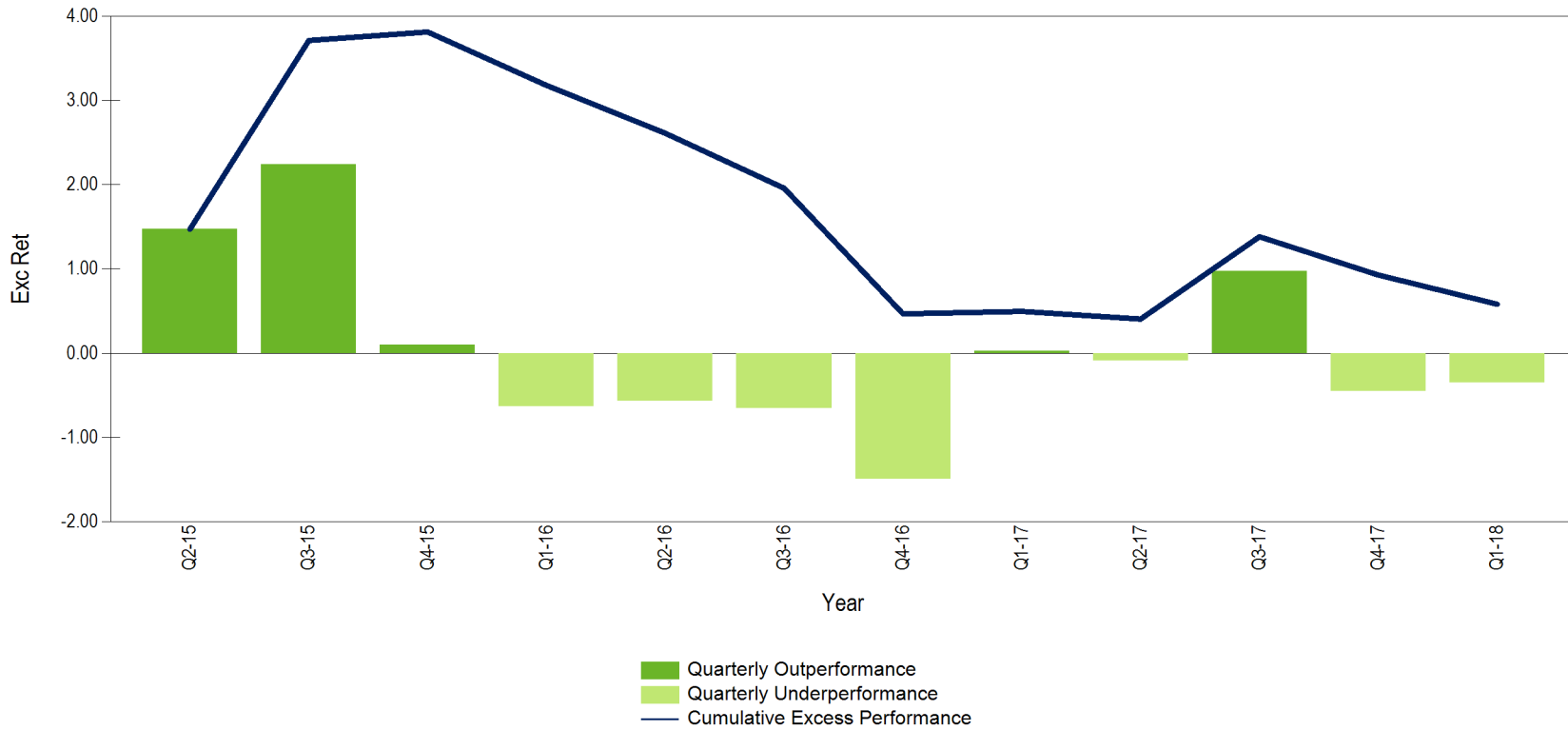
# **NON-U.S. EQUITY MANAGER PERFORMANCE**

NEPC, LLC

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# AQR CAPITAL

Quarterly and Cumulative Excess Performance

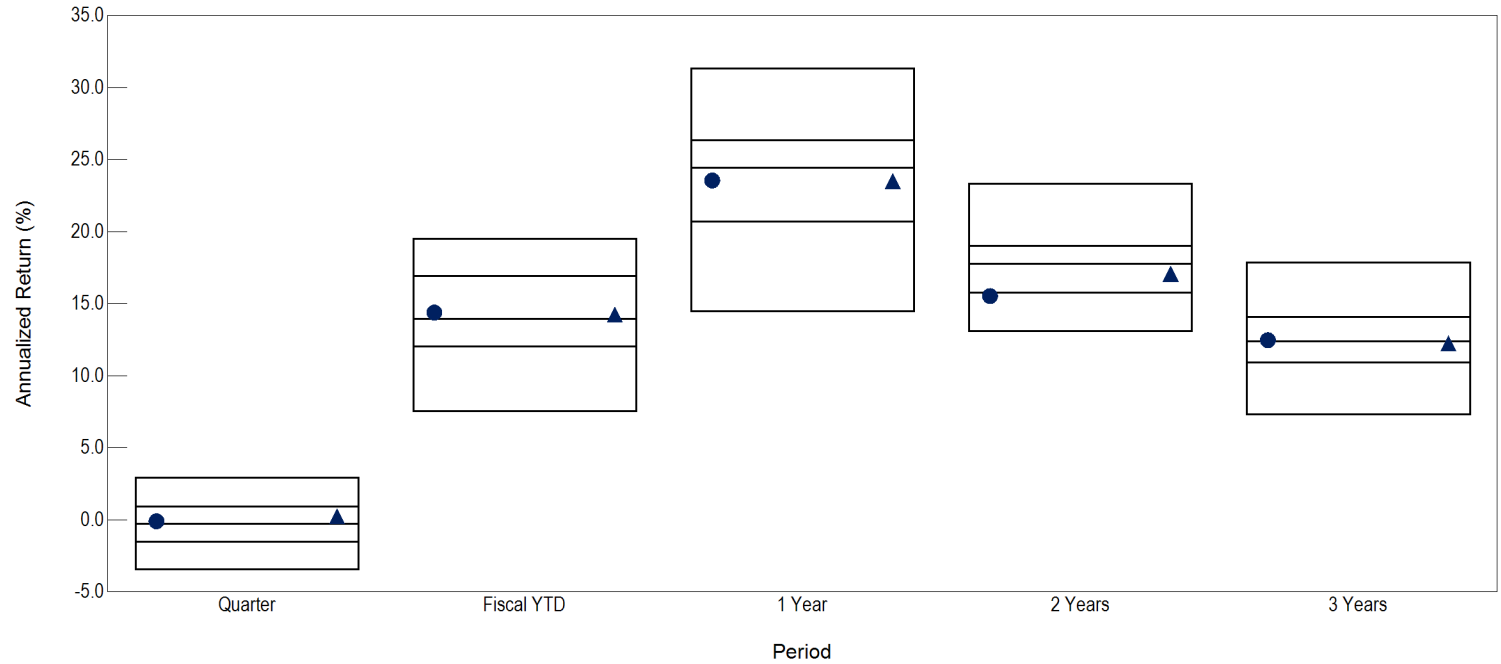




# Los Angeles City Employees' Retirement System

## AQR CAPITAL

AQR Capital vs. eV EAFE Small Cap Equity Net



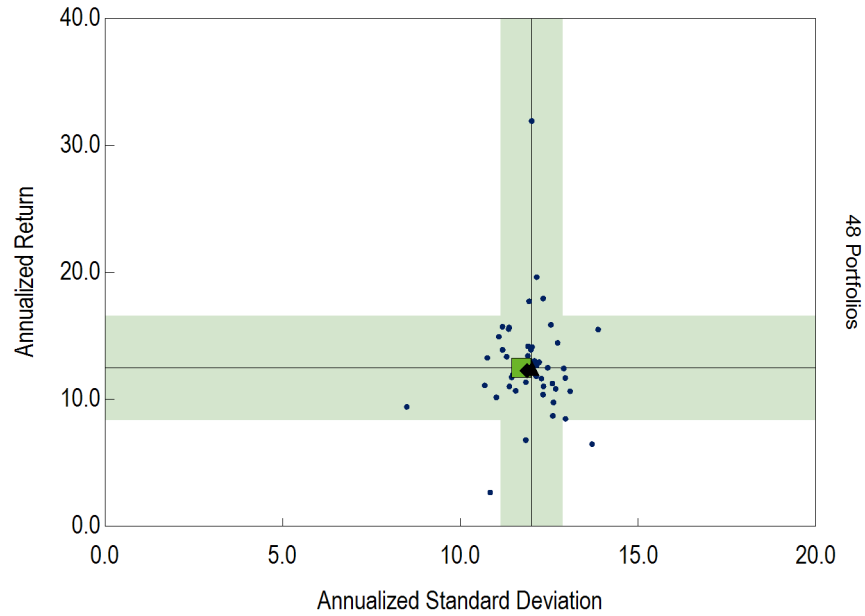
	Return (Rank)									
5th Percentile	2.92		19.48		31.32		23.31		17.85	
25th Percentile	0.97		16.97		26.37		19.07		14.11	
Median	-0.25		14.01		24.49		17.79		12.44	
75th Percentile	-1.48		12.06		20.74		15.80		10.95	
95th Percentile	-3.38		7.60		14.51		13.15		7.36	
# of Portfolios	52		52		52		52		48	
● AQR Capital	-0.10	(48)	14.38	(45)	23.55	(56)	15.52	(77)	12.46	(50)
▲ MSCI EAFE Small Cap	0.24	(40)	14.24	(47)	23.49	(56)	17.07	(63)	12.25	(54)



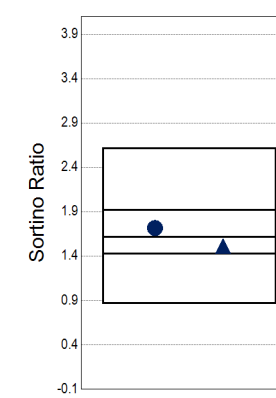
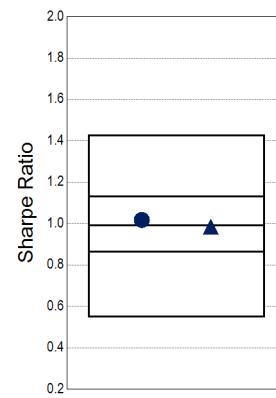
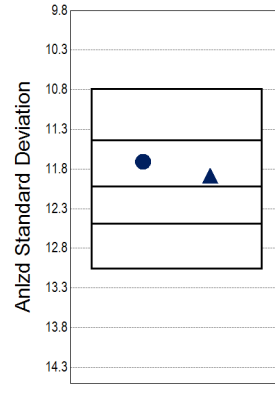
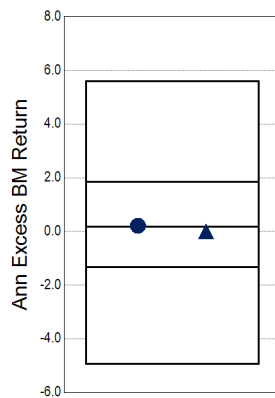
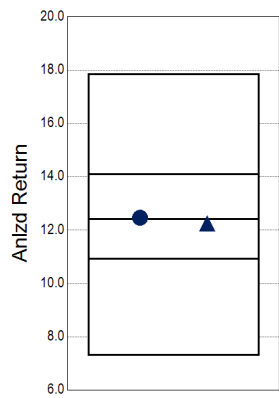
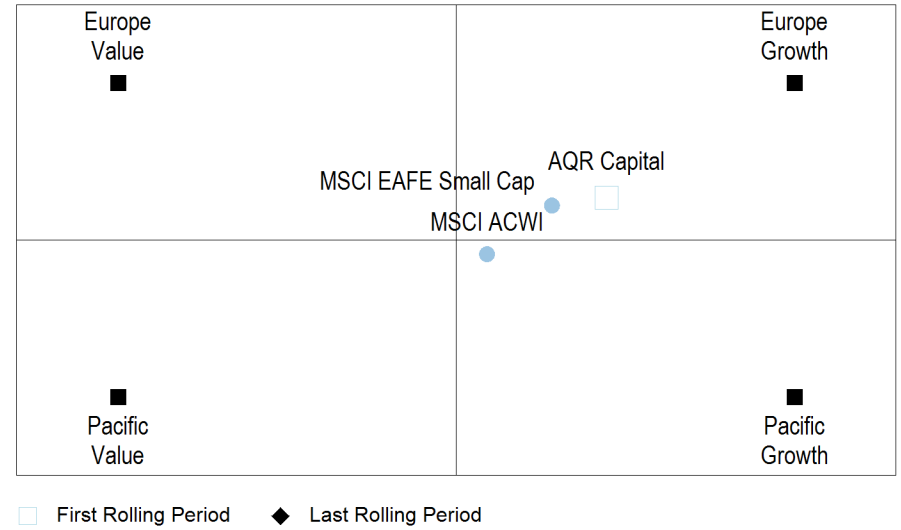
# Los Angeles City Employees' Retirement System

## AQR CAPITAL

3 Year Risk Return



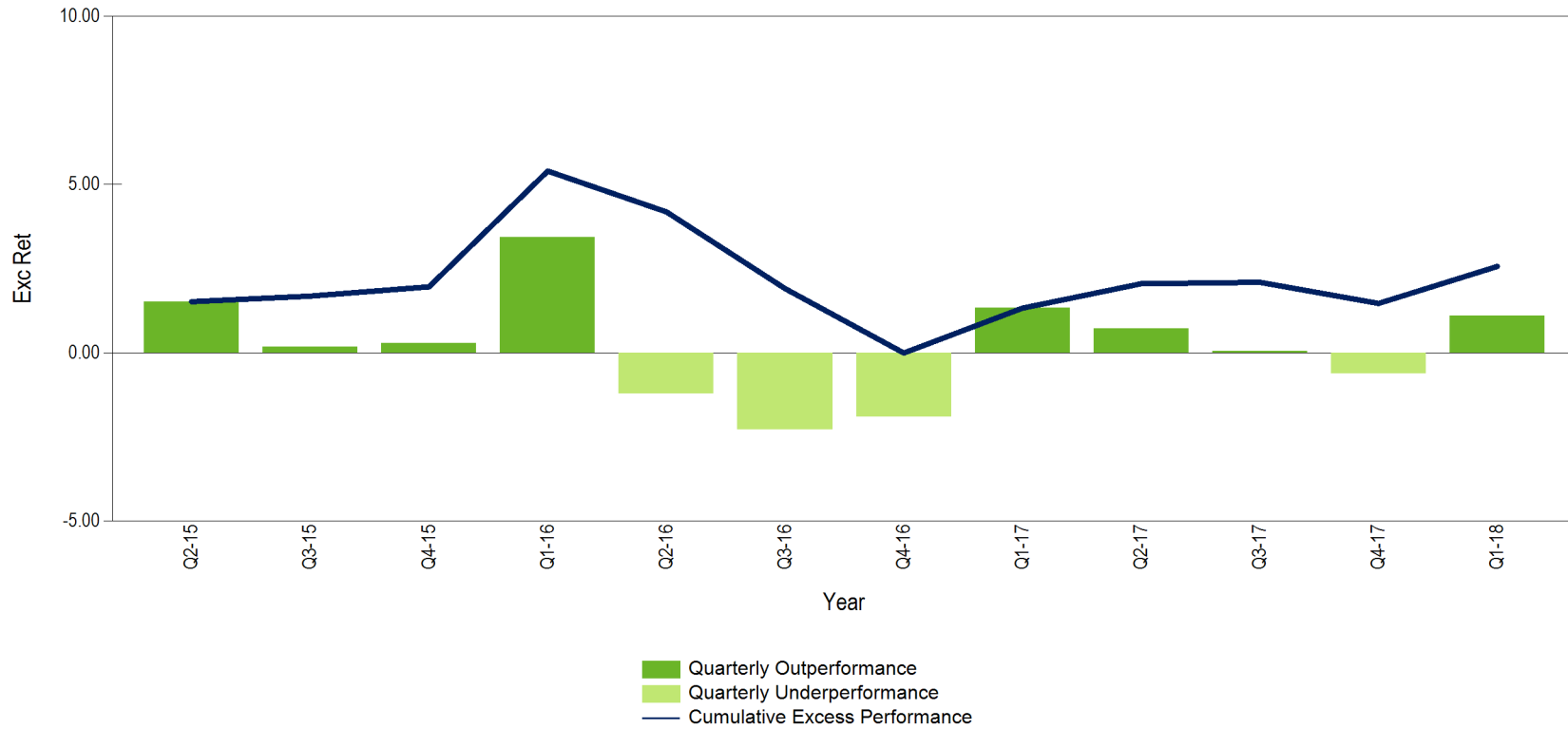
3 Year Style Map



- AQR Capital
- ▲ MSCI EAFE Small Cap
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



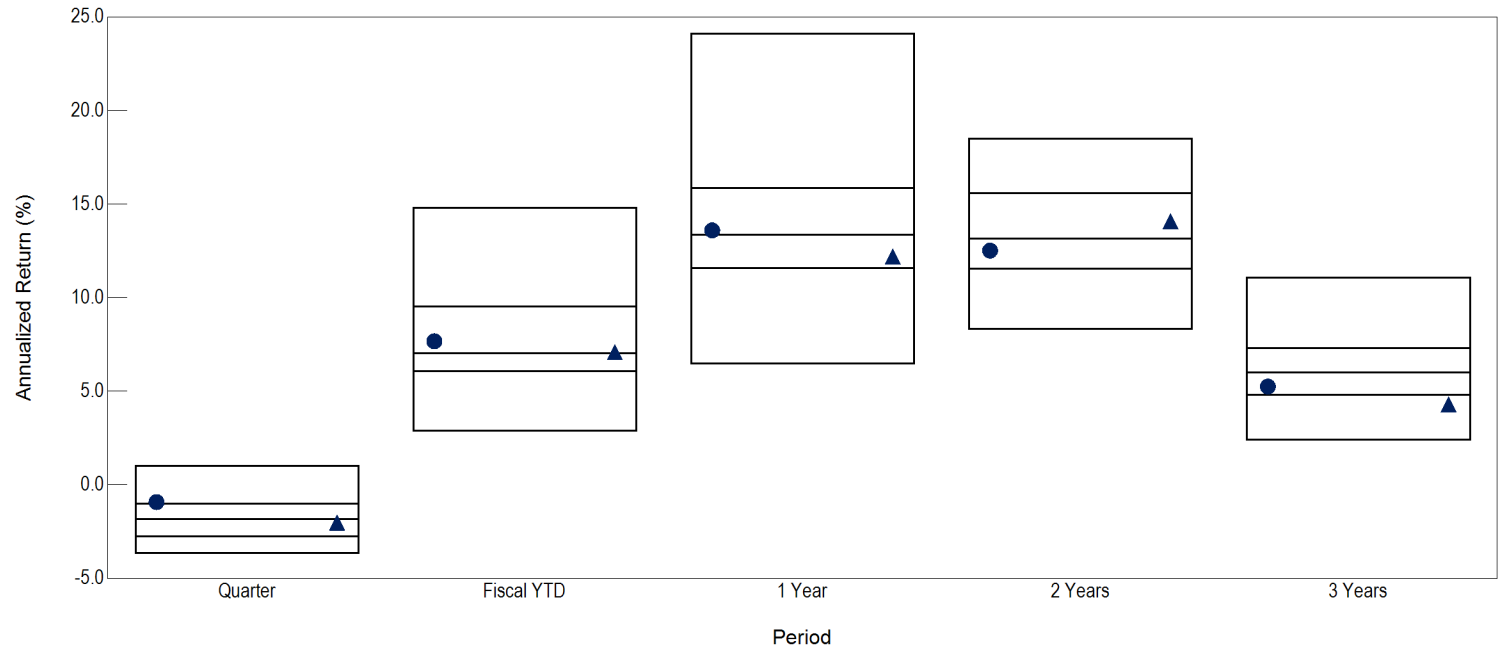
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## BARROW HANLEY

Barrow Hanley vs. eV EAFE Value Equity Net



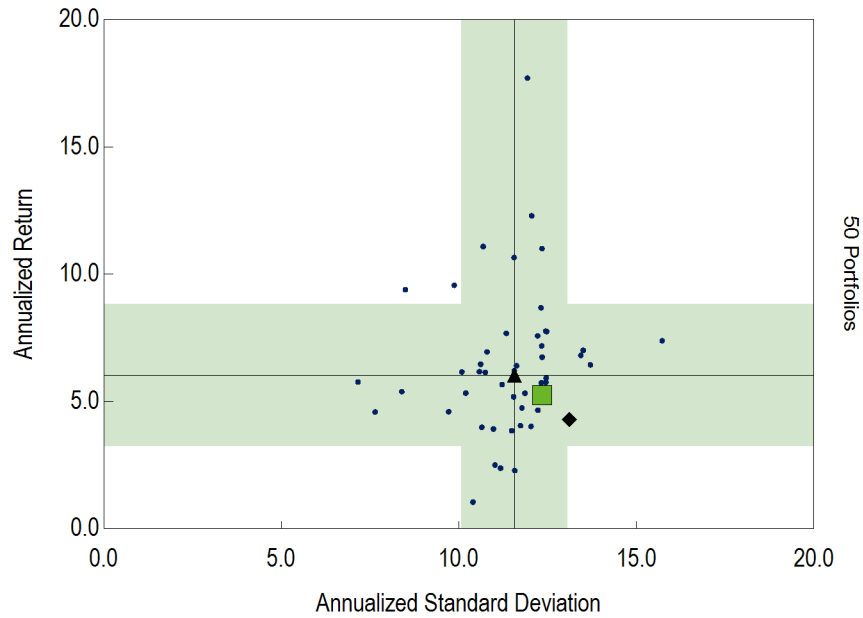
	Return (Rank)									
5th Percentile	1.01		14.79		24.11		18.49		11.05	
25th Percentile	-0.99		9.57		15.90		15.63		7.33	
Median	-1.81		7.06		13.41		13.17		6.03	
75th Percentile	-2.71		6.09		11.61		11.58		4.85	
95th Percentile	-3.61		2.92		6.53		8.36		2.44	
# of Portfolios	53		53		53		53		50	
● Barrow Hanley	-0.93	(23)	7.66	(47)	13.59	(50)	12.51	(57)	5.24	(71)
▲ MSCI EAFE Value	-2.03	(58)	7.08	(50)	12.19	(69)	14.07	(41)	4.29	(83)



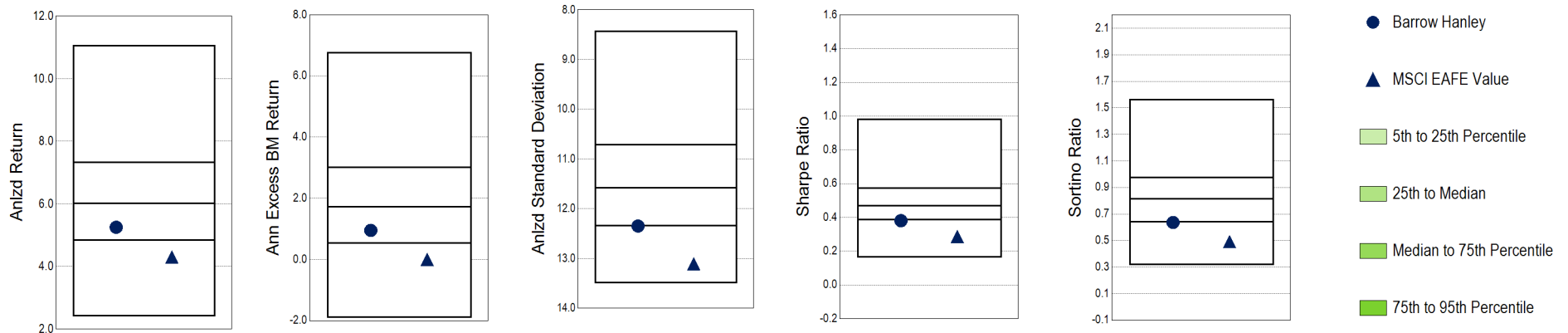
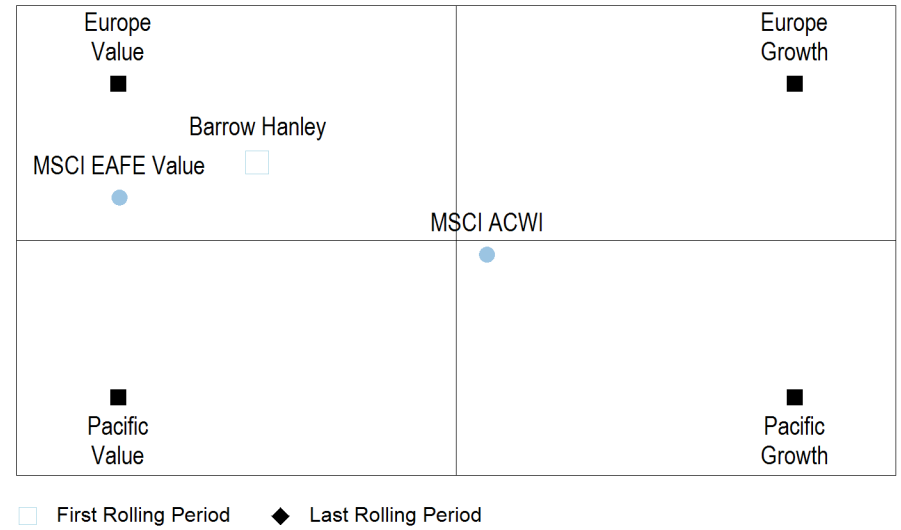
# Los Angeles City Employees' Retirement System

## BARROW HANLEY

3 Year Risk Return

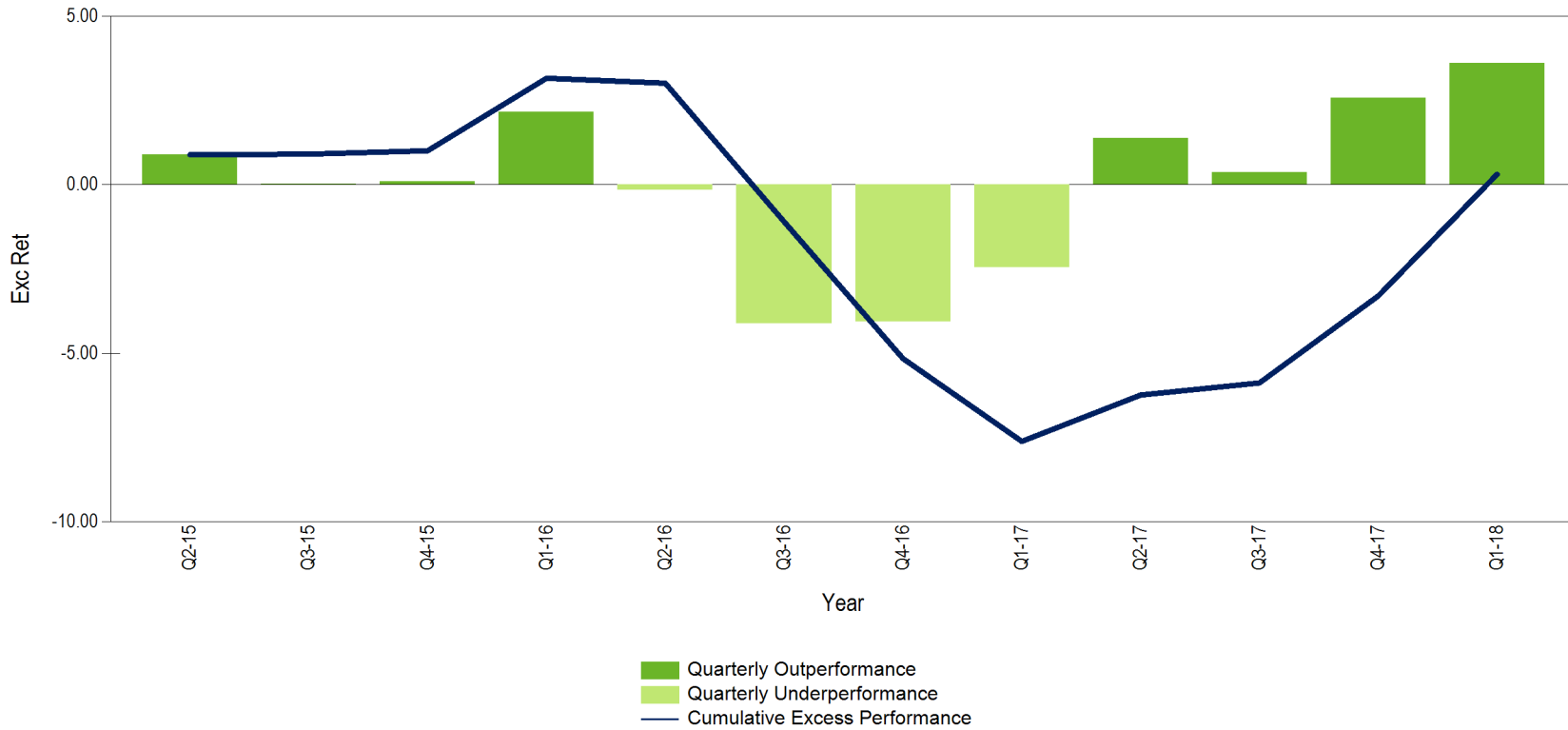


3 Year Style Map



# LAZARD ASSET MANAGEMENT

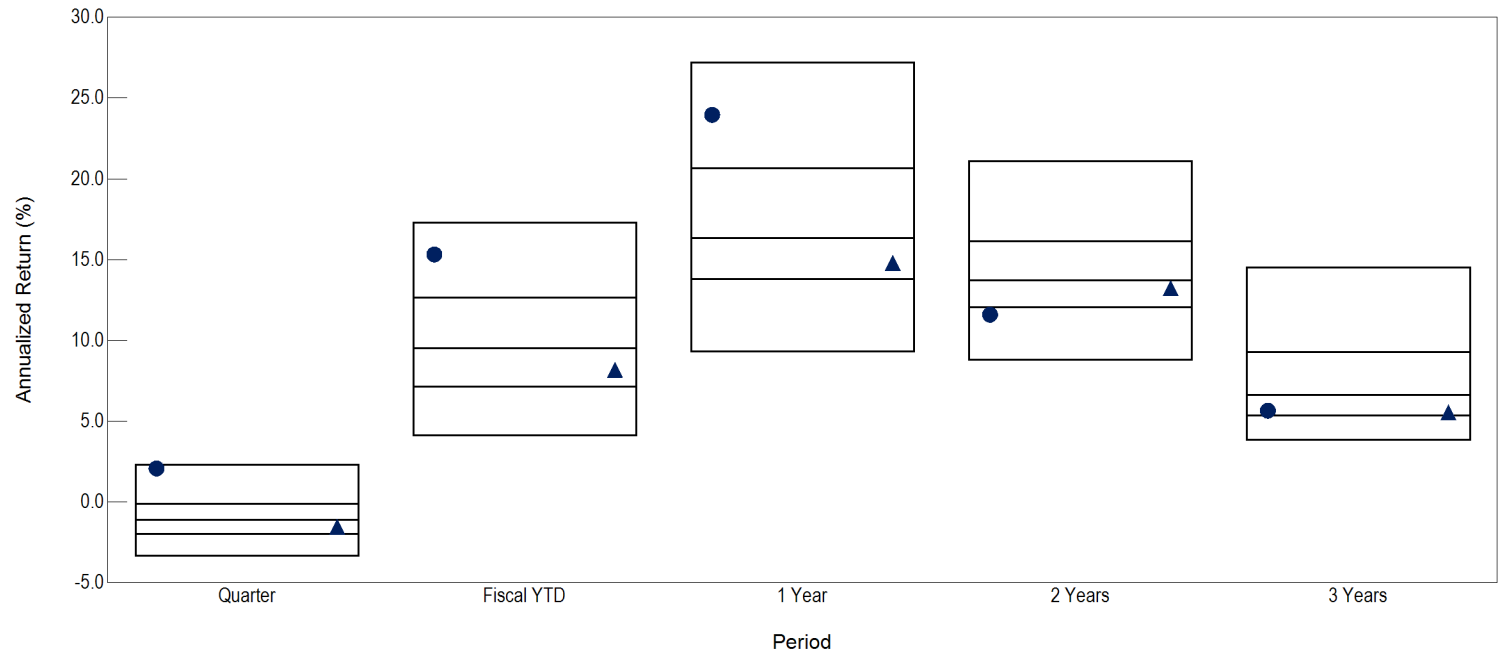
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## LAZARD ASSET MANAGEMENT

Lazard Asset Management vs. eV All EAFE Equity Net

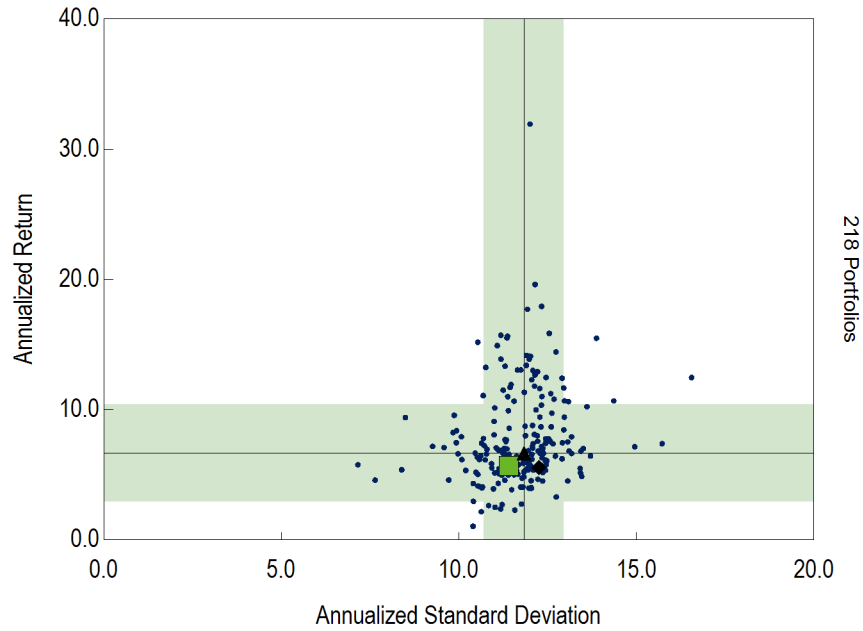


	Return (Rank)									
5th Percentile	2.32		17.29		27.19		21.10		14.50	
25th Percentile	-0.07		12.68		20.71		16.17		9.32	
Median	-1.05		9.57		16.39		13.74		6.67	
75th Percentile	-1.92		7.18		13.85		12.10		5.40	
95th Percentile	-3.28		4.17		9.34		8.84		3.91	
# of Portfolios	237		235		235		231		218	
● Lazard Asset Management	2.08	(6)	15.32	(11)	23.96	(16)	11.59	(79)	5.65	(70)
▲ MSCI EAFE	-1.53	(64)	8.18	(65)	14.80	(68)	13.23	(57)	5.55	(72)

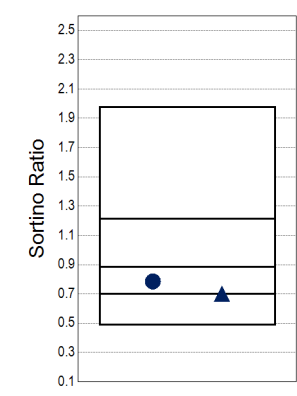
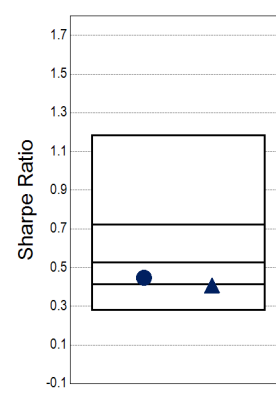
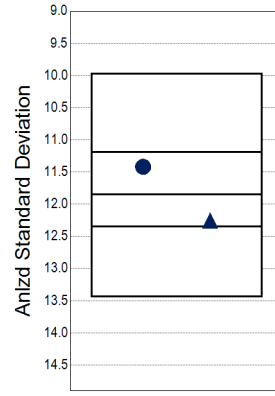
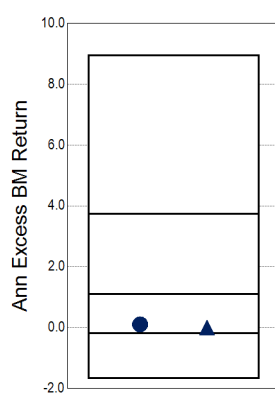
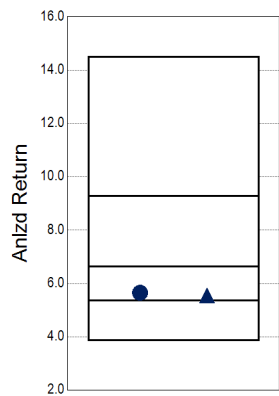
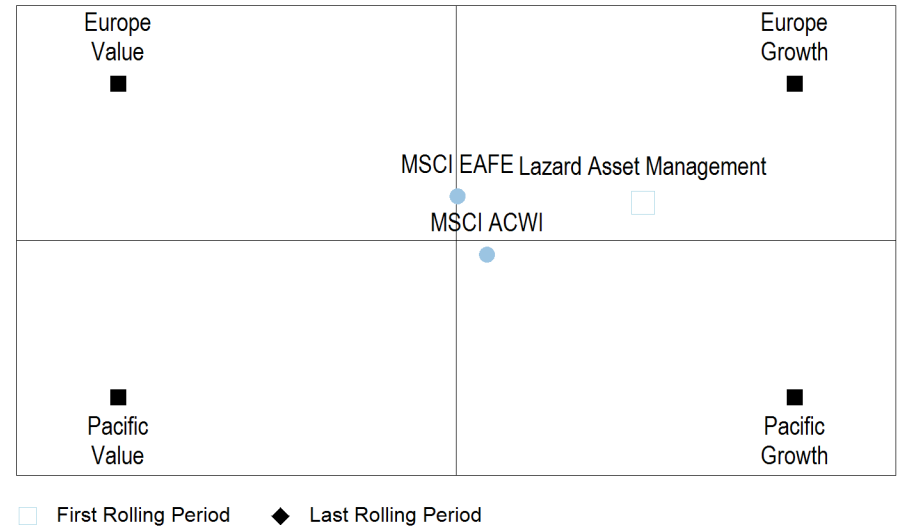


# LAZARD ASSET MANAGEMENT

3 Year Risk Return



3 Year Style Map



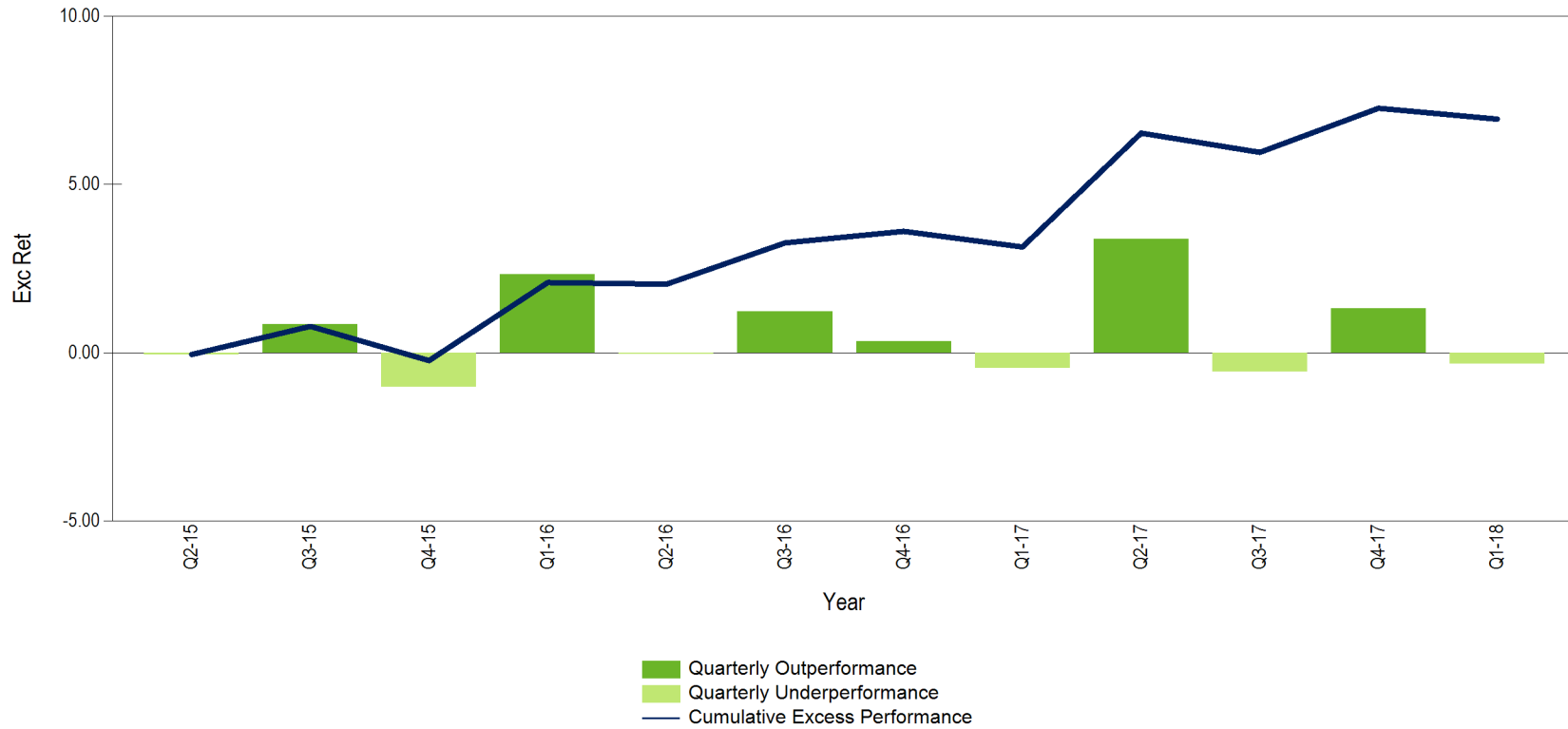
- Lazard Asset Management
- ▲ MSCI EAFE
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile





# MFS INSTITUTIONAL ADVISORS

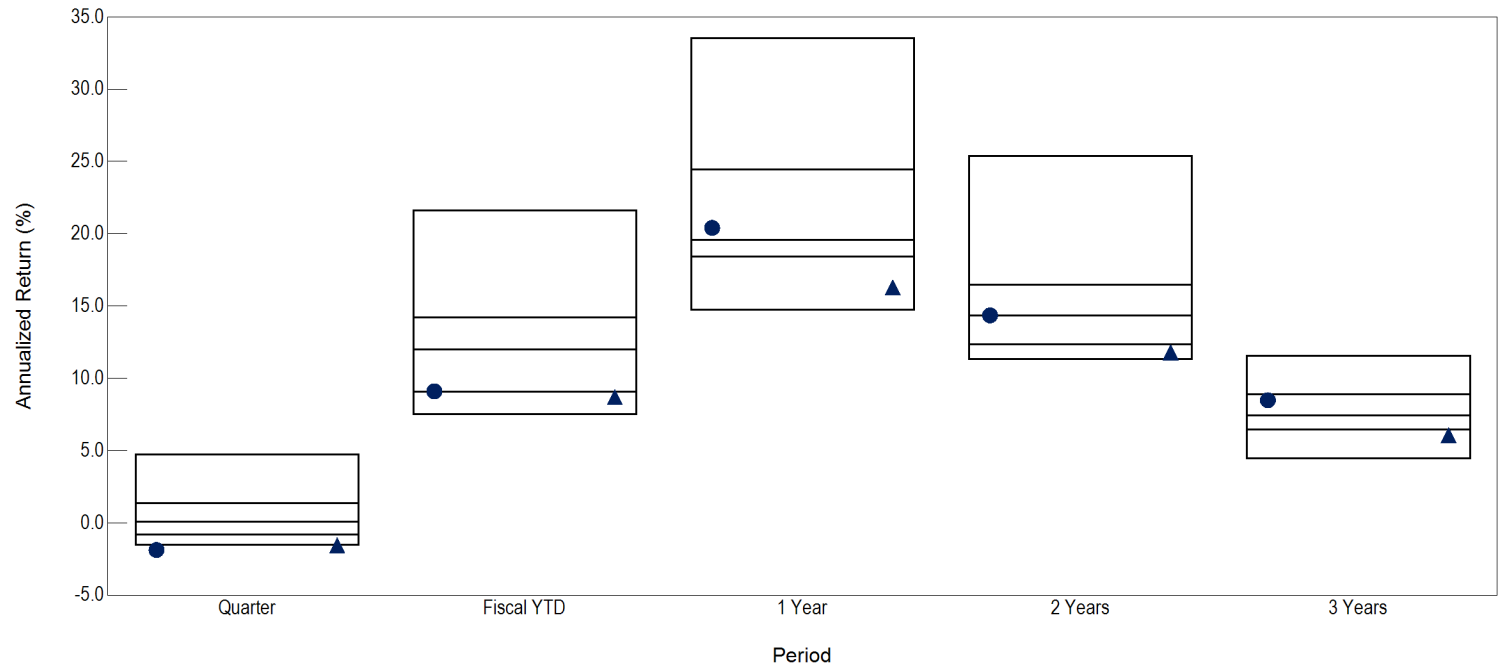
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## MFS INSTITUTIONAL ADVISORS

MFS Institutional Advisors vs. eV EAFE All Cap Growth Net

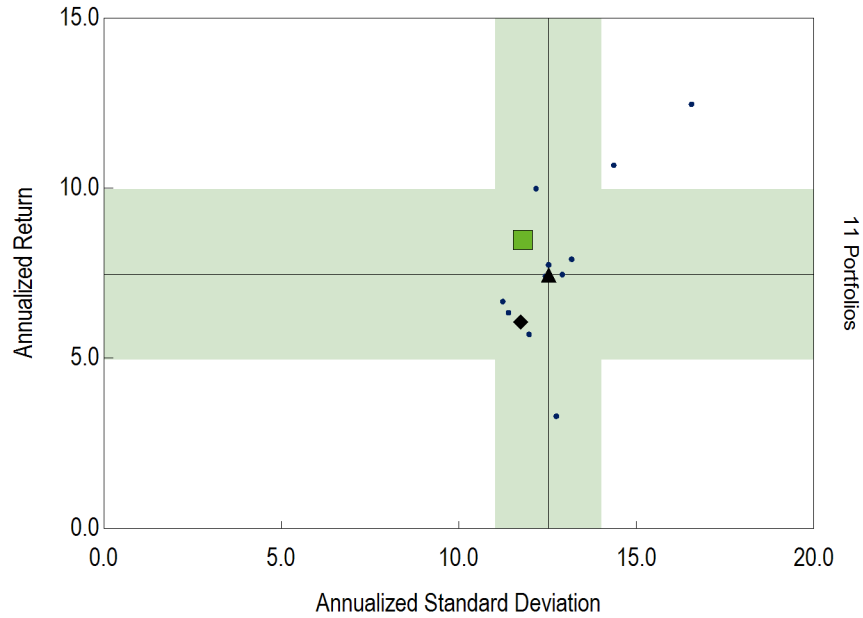


	Return (Rank)									
5th Percentile	4.71	21.60	33.52	25.39	11.57					
25th Percentile	1.40	14.26	24.48	16.51	8.95					
Median	0.10	12.05	19.59	14.40	7.46					
75th Percentile	-0.75	9.12	18.47	12.39	6.50					
95th Percentile	-1.47	7.58	14.76	11.39	4.50					
# of Portfolios	11	11	11	11	11					
● MFS Institutional Advisors	-1.88	(99)	9.09	(76)	20.40	(42)	14.35	(51)	8.47	(28)
▲ MSCI World ex US Growth	-1.56	(96)	8.69	(83)	16.28	(87)	11.79	(87)	6.06	(85)

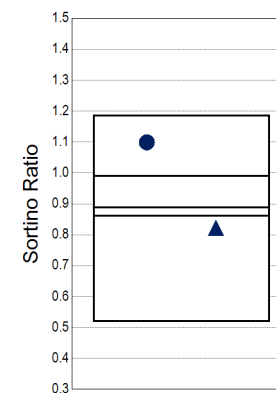
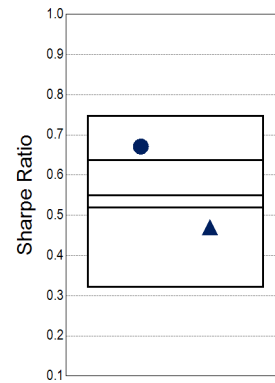
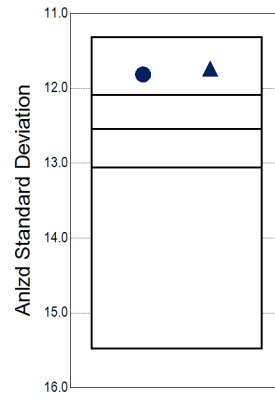
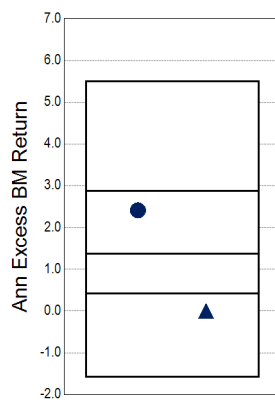
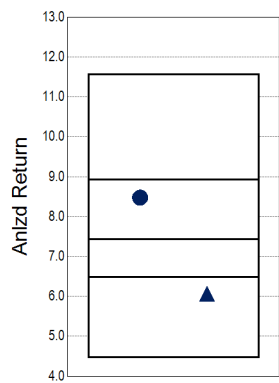
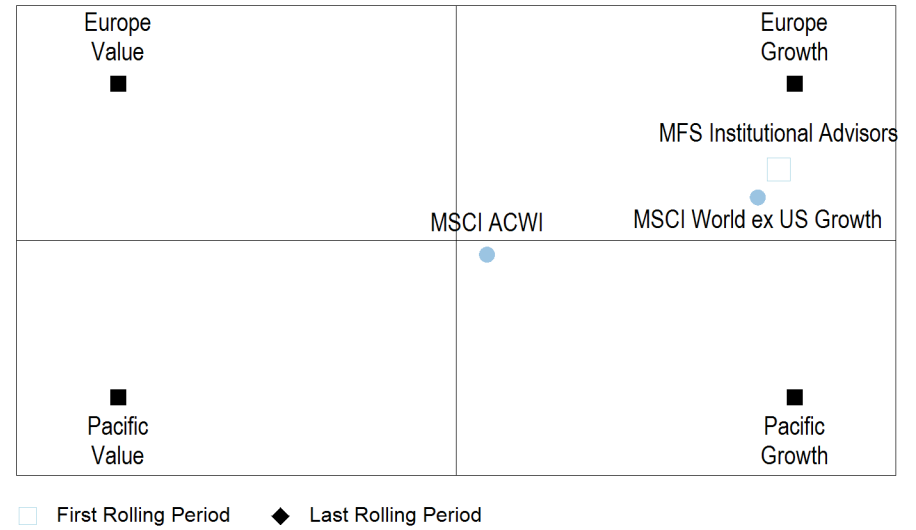


# MFS INSTITUTIONAL ADVISORS

3 Year Risk Return



3 Year Style Map



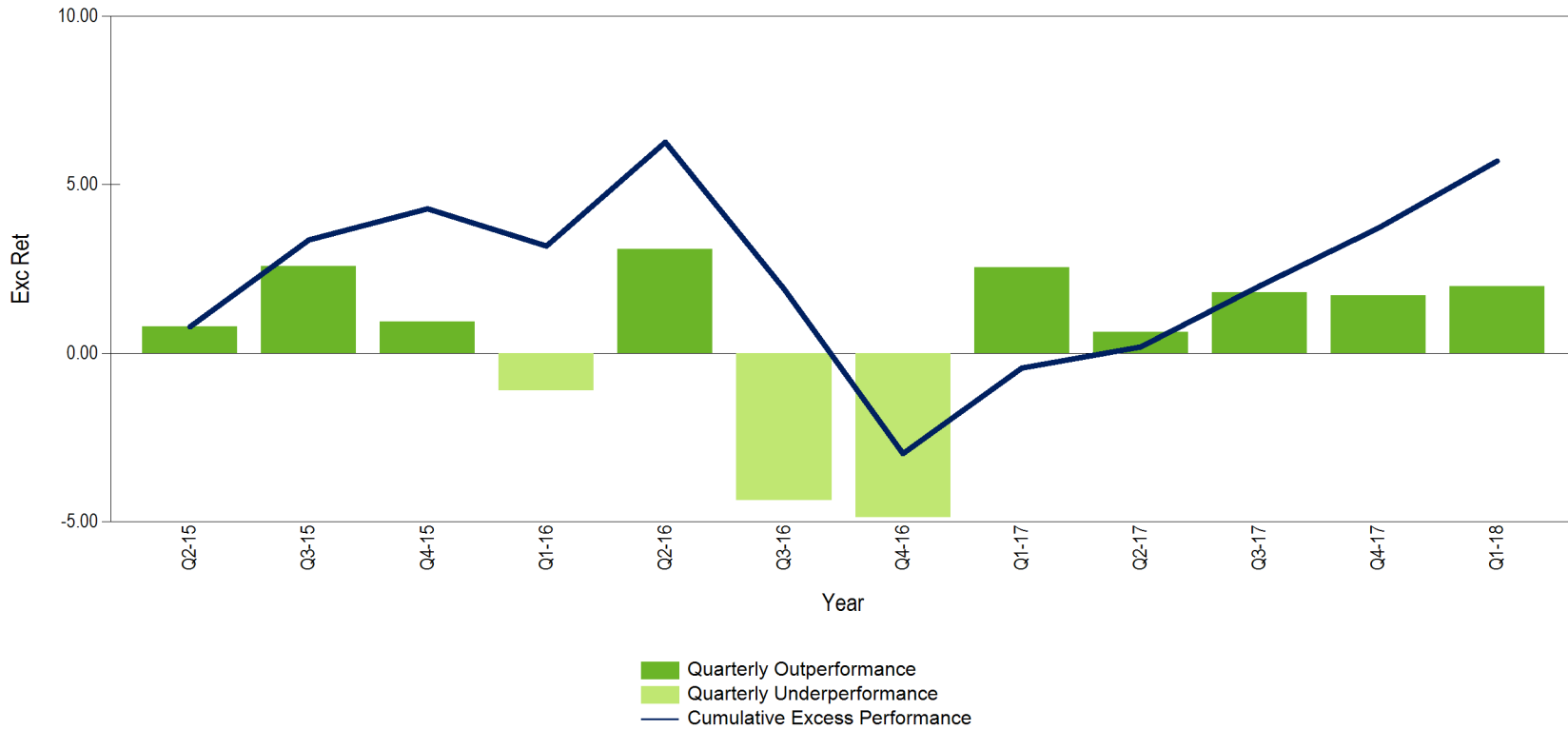
- MFS Institutional Advisors
- ▲ MSCI World ex US Growth
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



# Los Angeles City Employees' Retirement System

## OBERWEIS ASSET MGMT

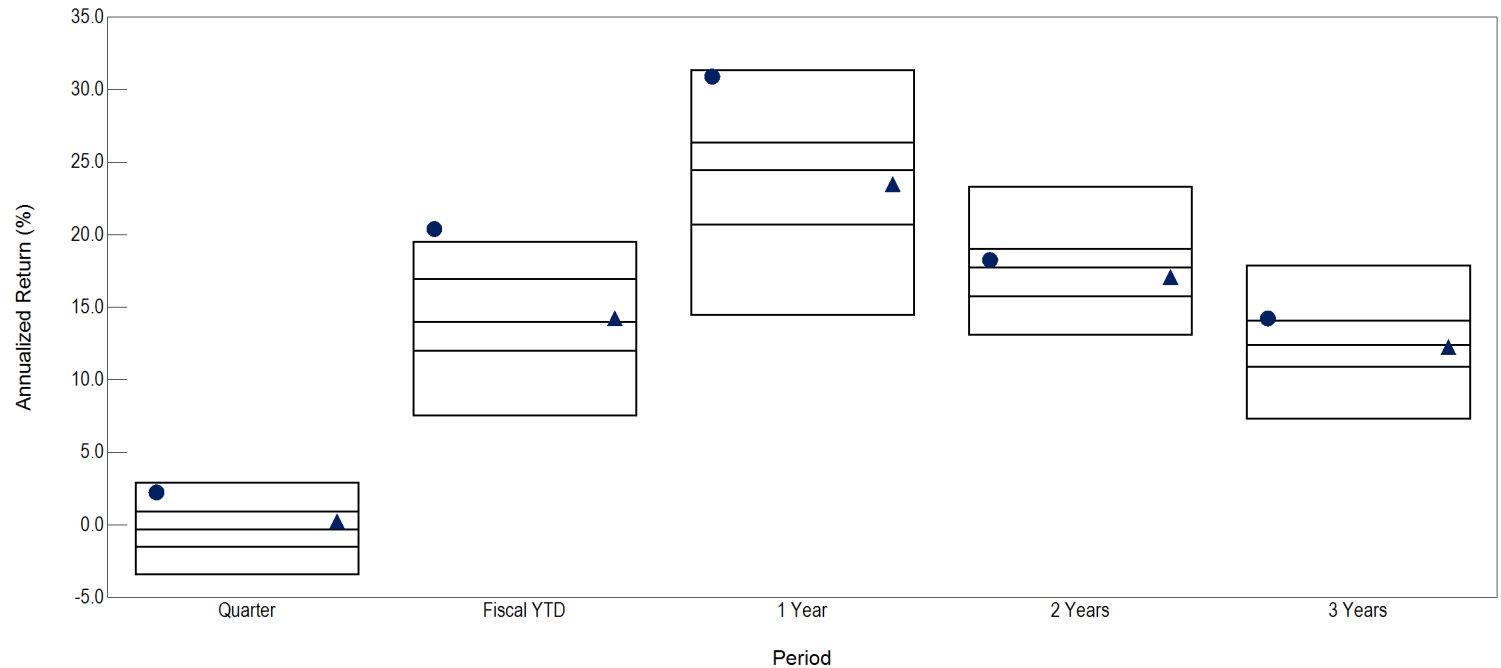
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## OBERWEIS ASSET MGMT

Oberweis Asset Mgmt vs. eV EAFE Small Cap Equity Net



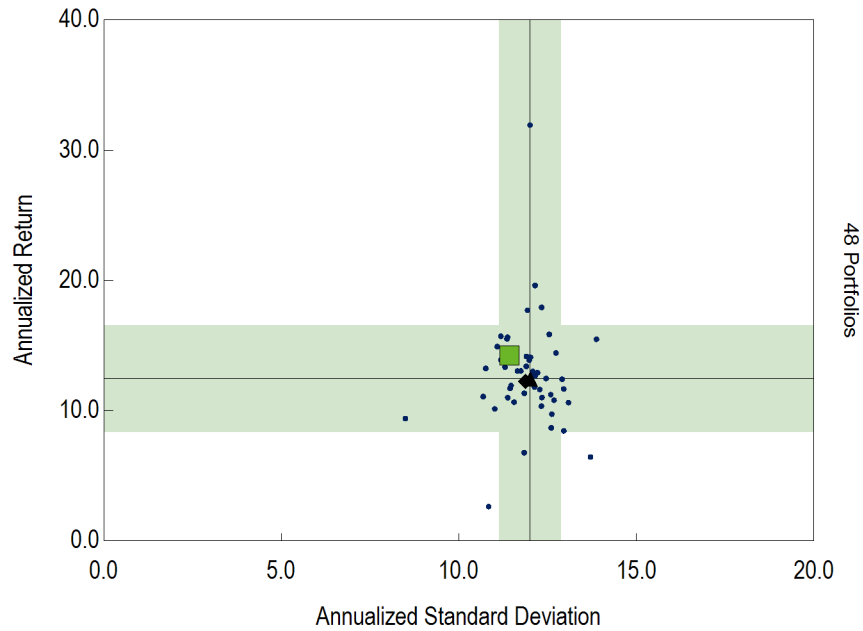
	Return (Rank)									
5th Percentile	2.92		19.48		31.32		23.31		17.85	
25th Percentile	0.97		16.97		26.37		19.07		14.11	
Median	-0.25		14.01		24.49		17.79		12.44	
75th Percentile	-1.48		12.06		20.74		15.80		10.95	
95th Percentile	-3.38		7.60		14.51		13.15		7.36	
# of Portfolios	52		52		52		52		48	
● Oberweis Asset Mgmt	2.23	(10)	20.38	(4)	30.89	(7)	18.25	(44)	14.22	(23)
▲ MSCI EAFE Small Cap	0.24	(40)	14.24	(47)	23.49	(56)	17.07	(63)	12.25	(54)



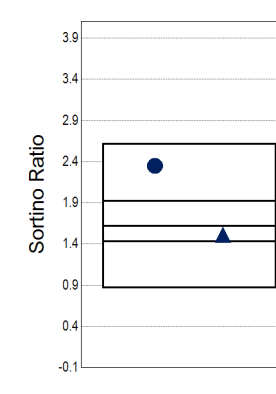
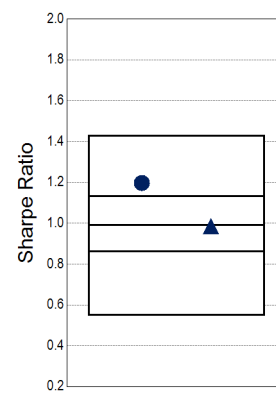
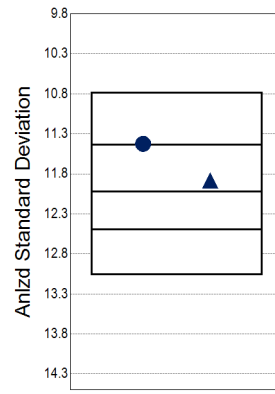
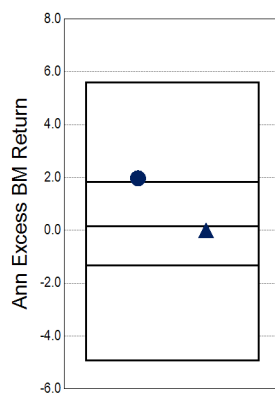
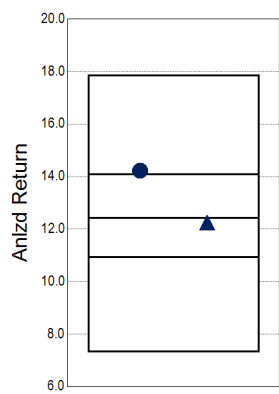
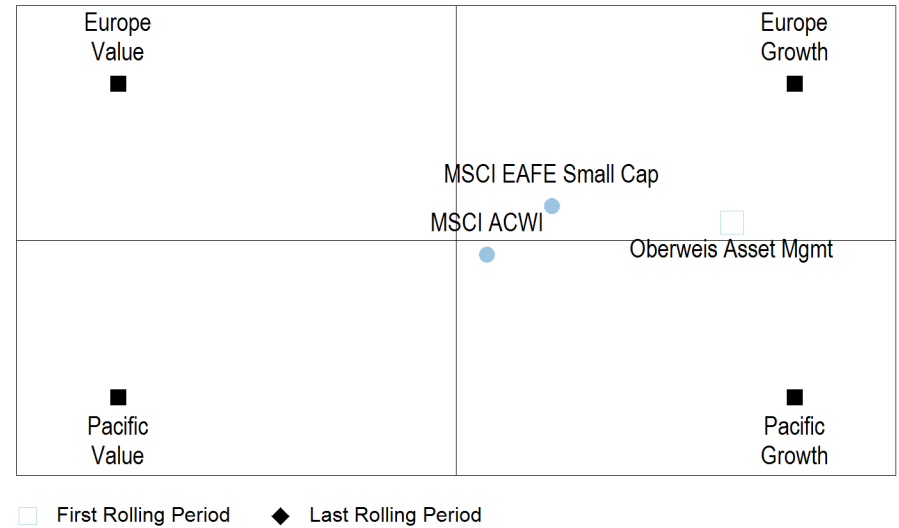
# Los Angeles City Employees' Retirement System

## OBERWEIS ASSET MGMT

3 Year Risk Return



3 Year Style Map



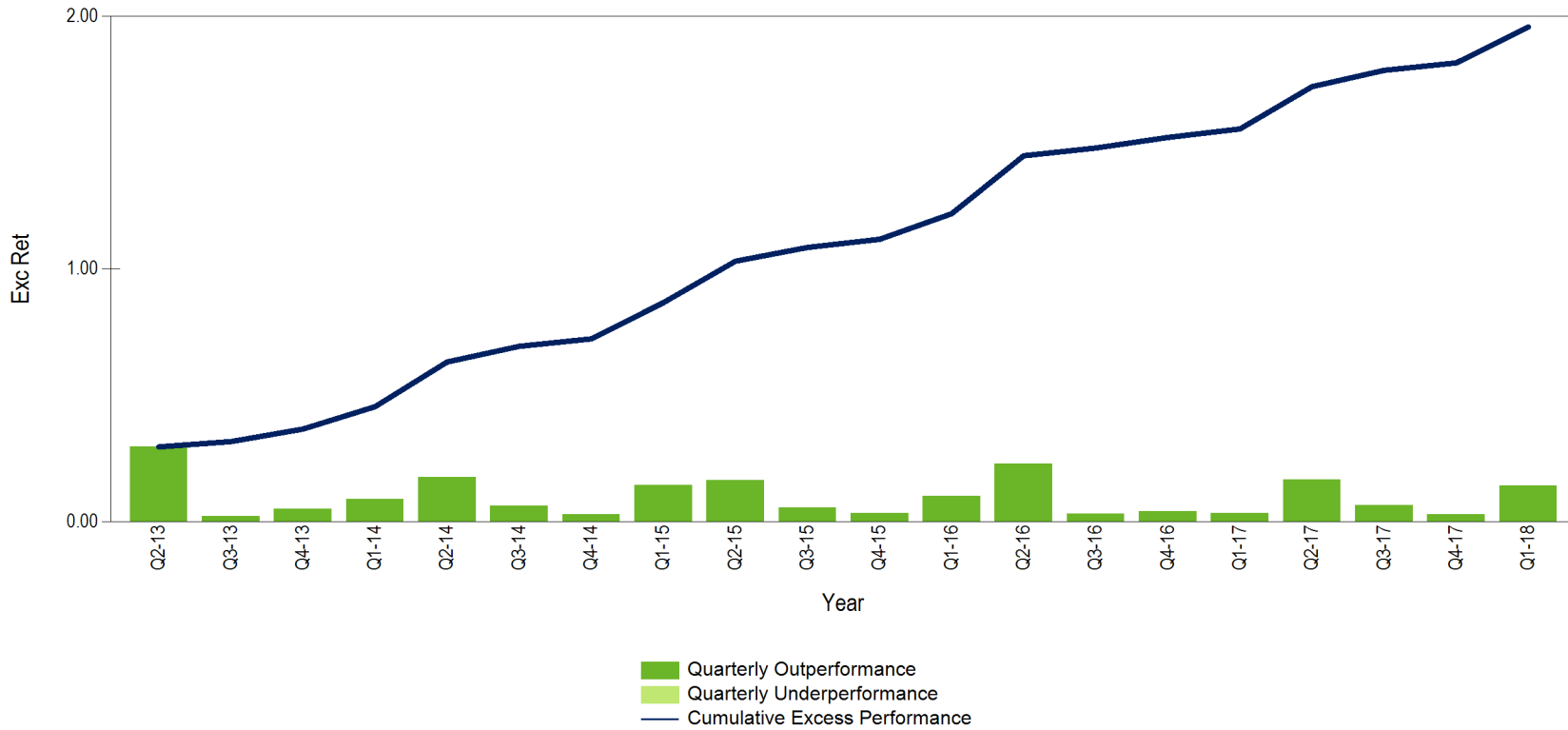
- Oberweis Asset Mgmt
- ▲ MSCI EAFE Small Cap
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



# Los Angeles City Employees' Retirement System

## SSGA WORLD EX US IMI

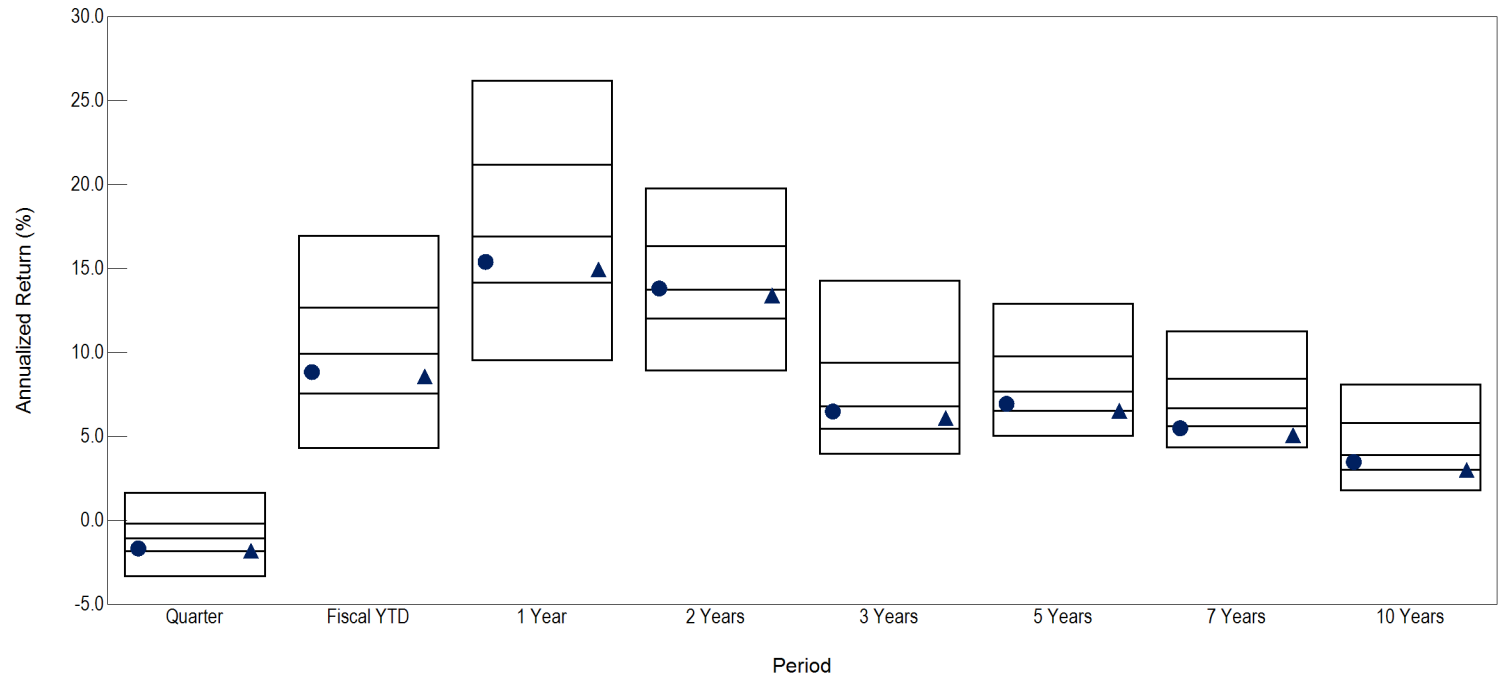
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## SSGA WORLD EX US IMI

SSgA World ex US IMI vs. eV EAFE Core Equity Net



	Return (Rank)															
5th Percentile	1.65	16.97	26.20	19.79	14.29	12.89	11.25	8.08								
25th Percentile	-0.16	12.71	21.23	16.40	9.43	9.82	8.48	5.84								
Median	-1.04	9.98	16.93	13.80	6.84	7.73	6.74	3.92								
75th Percentile	-1.81	7.59	14.20	12.05	5.49	6.56	5.66	3.04								
95th Percentile	-3.27	4.34	9.60	8.97	4.00	5.09	4.39	1.82								
# of Portfolios	140	138	138	136	129	108	93	80								
● SSGA World ex US IMI	-1.67	(71)	8.84	(64)	15.40	(69)	13.81	(50)	6.49	(60)	6.94	(71)	5.49	(79)	3.48	(62)
▲ MSCI World ex USA IMI NR USD	-1.81	(76)	8.58	(66)	14.95	(72)	13.40	(58)	6.10	(65)	6.53	(76)	5.07	(88)	3.00	(77)

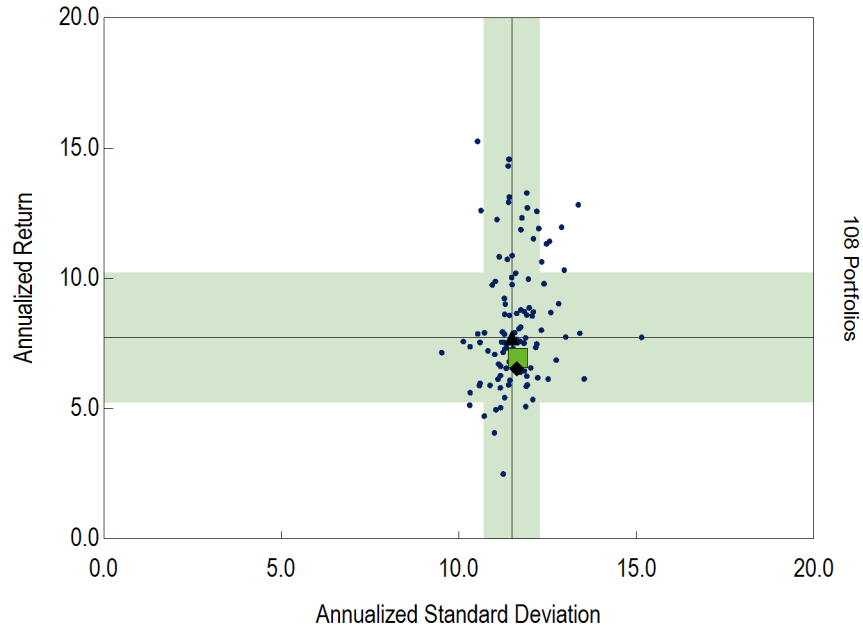




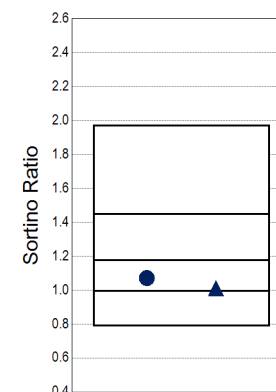
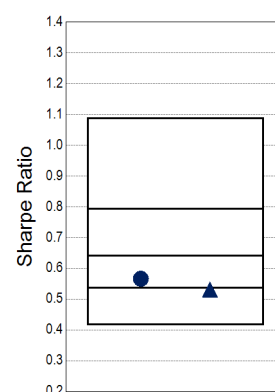
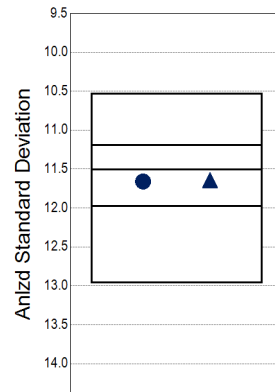
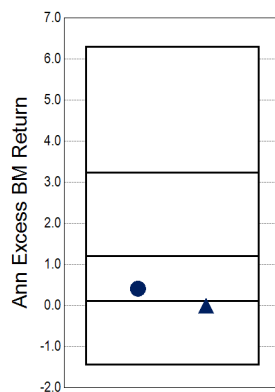
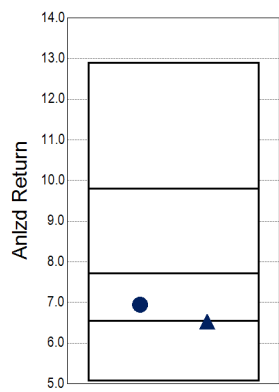
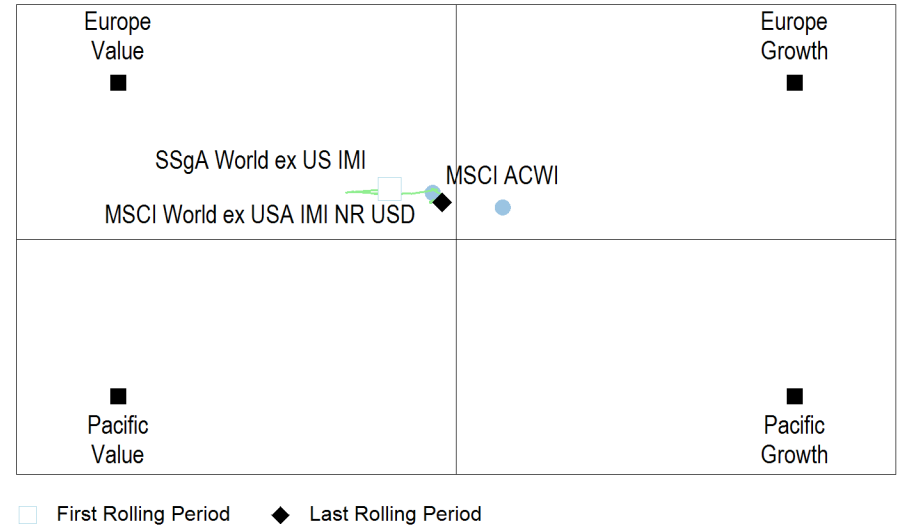
# Los Angeles City Employees' Retirement System

## SSGA WORLD EX US IMI

5 Year Risk Return



5 Year Style Map

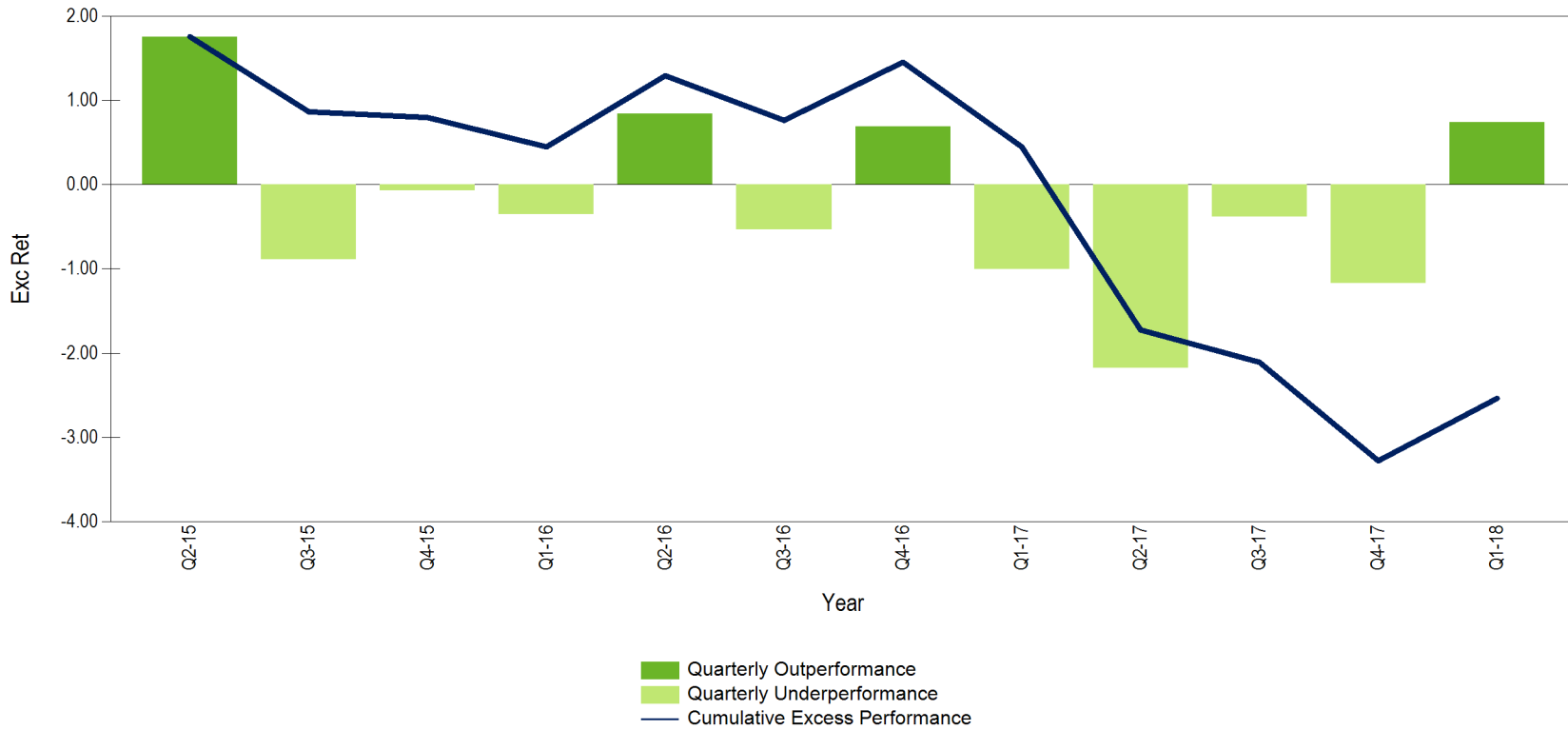


- SSGA World ex US IMI
- ▲ MSCI World ex USA IMI NR USD
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



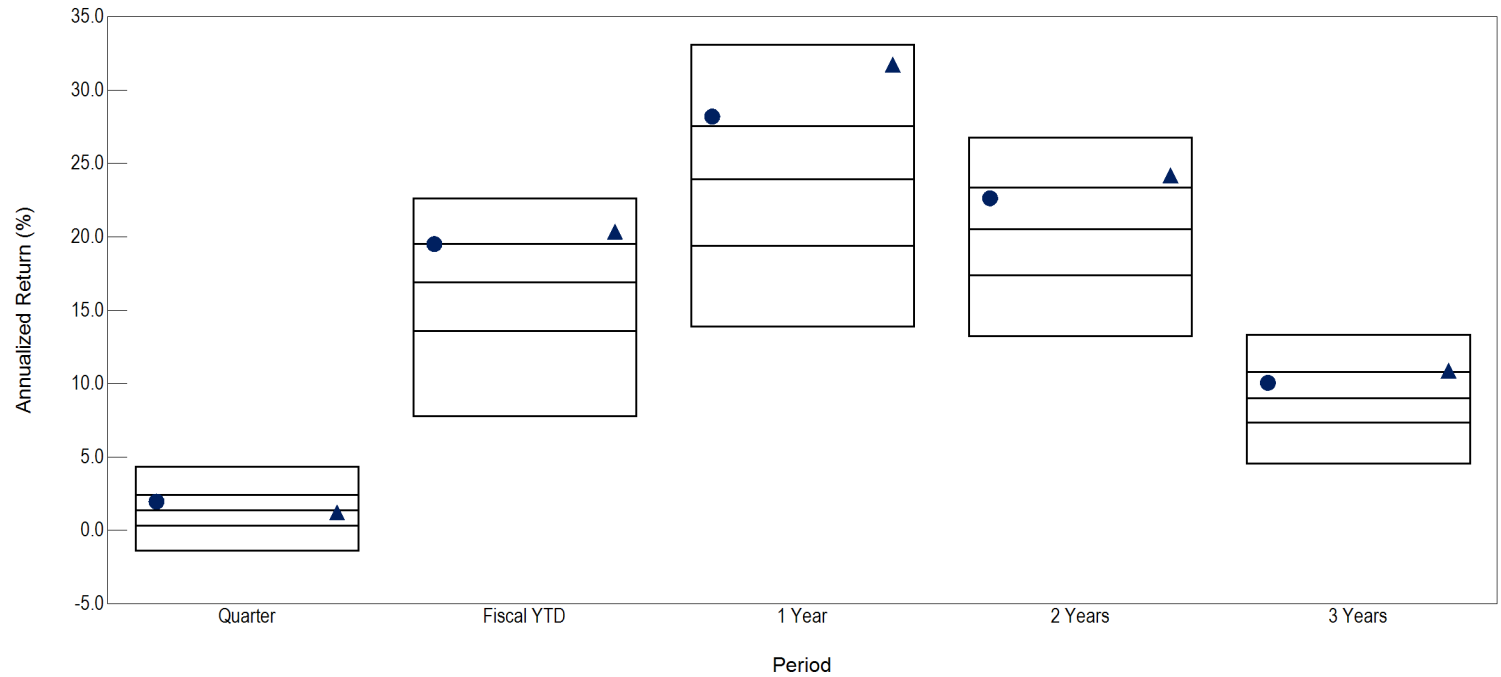
# AXIOM EMERGING MARKETS

Quarterly and Cumulative Excess Performance



# AXIOM EMERGING MARKETS

Axiom Emerging Markets vs. eV Emg Mkts Equity Net

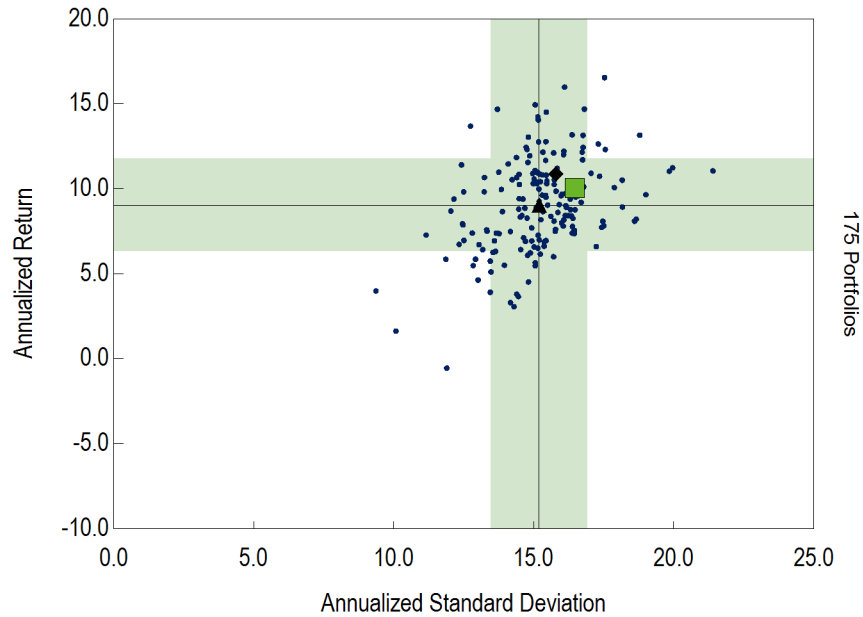


	Return (Rank)									
5th Percentile	4.34		22.61		33.07		26.78		13.33	
25th Percentile	2.45		19.58		27.58		23.42		10.83	
Median	1.39		16.96		23.96		20.58		9.04	
75th Percentile	0.38		13.63		19.43		17.44		7.37	
95th Percentile	-1.36		7.82		13.93		13.28		4.59	
# of Portfolios	195		194		192		187		175	
● Axiom Emerging Markets	1.96	(38)	19.51	(27)	28.20	(23)	22.63	(33)	10.06	(36)
▲ MSCI Emerging Markets Growth NR USD	1.22	(56)	20.36	(19)	31.73	(11)	24.19	(20)	10.89	(24)

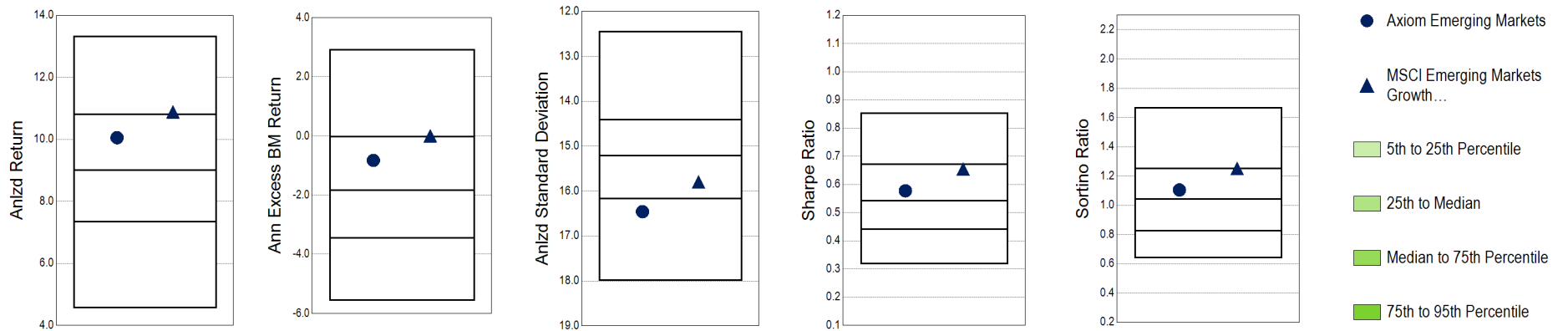
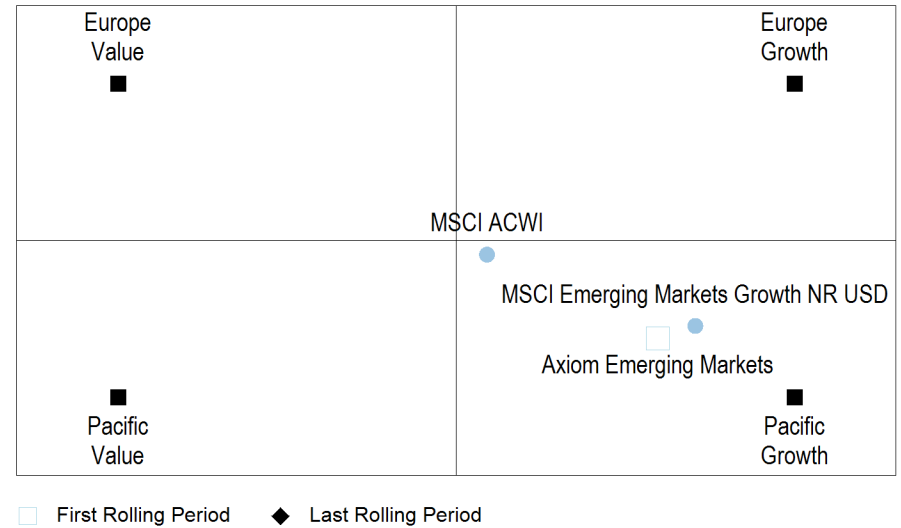


# AXIOM EMERGING MARKETS

3 Year Risk Return



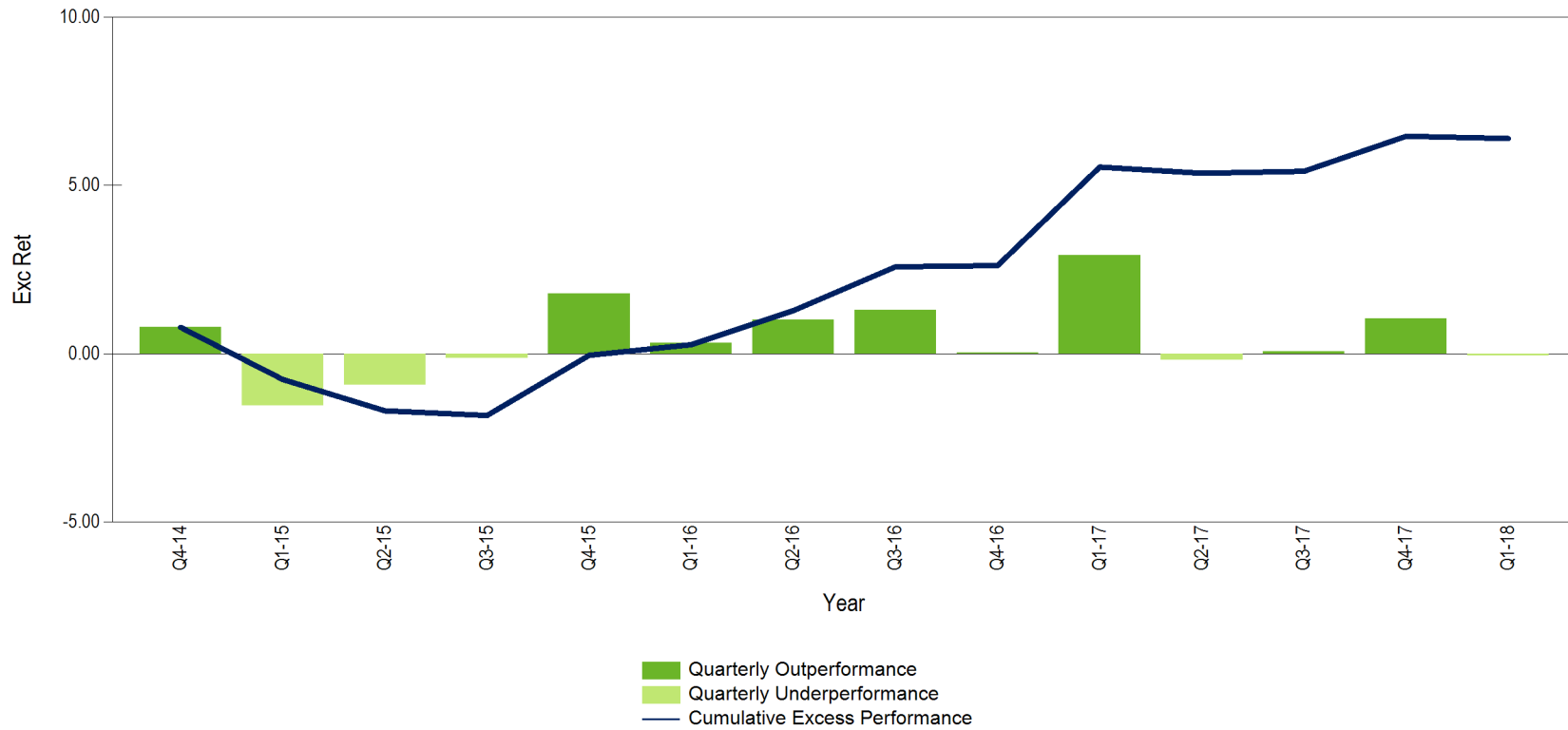
3 Year Style Map



# Los Angeles City Employees' Retirement System

## DFA EMERGING MARKETS

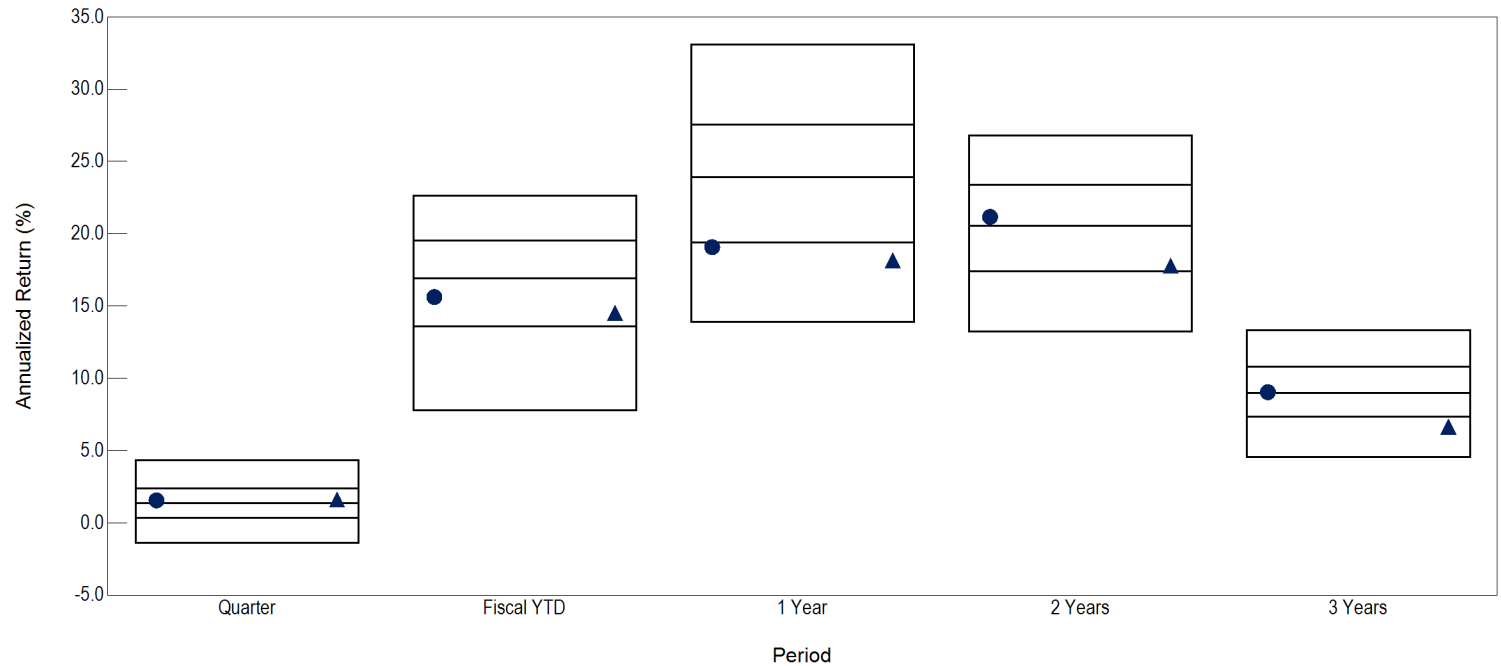
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## DFA EMERGING MARKETS

DFA Emerging Markets vs. eV Emg Mkts Equity Net



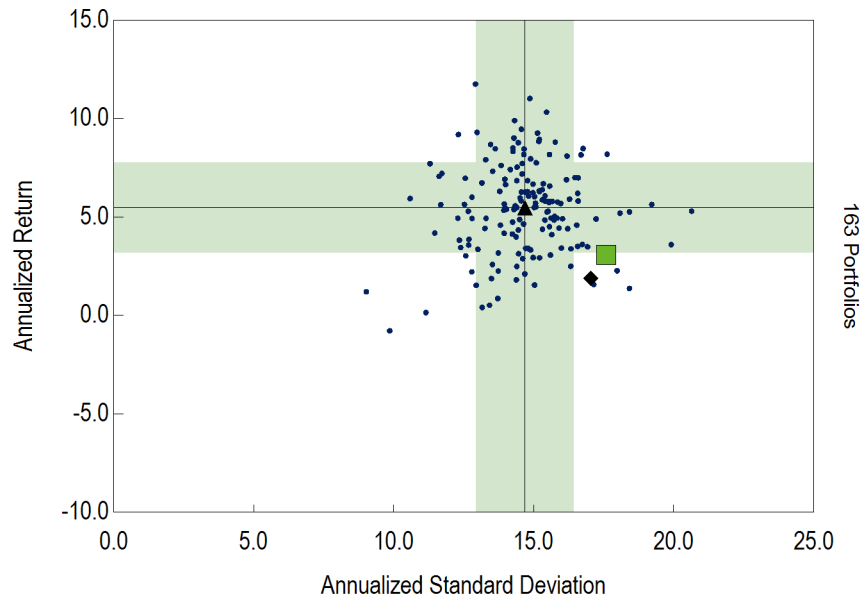
	Return (Rank)									
5th Percentile	4.34		22.61		33.07		26.78		13.33	
25th Percentile	2.45		19.58		27.58		23.42		10.83	
Median	1.39		16.96		23.96		20.58		9.04	
75th Percentile	0.38		13.63		19.43		17.44		7.37	
95th Percentile	-1.36		7.82		13.93		13.28		4.59	
# of Portfolios	195		194		192		187		175	
● DFA Emerging Markets	1.55	(47)	15.62	(59)	19.07	(78)	21.16	(45)	9.04	(50)
▲ MSCI Emerging Markets Value NR USD	1.62	(46)	14.51	(67)	18.14	(83)	17.78	(74)	6.65	(84)



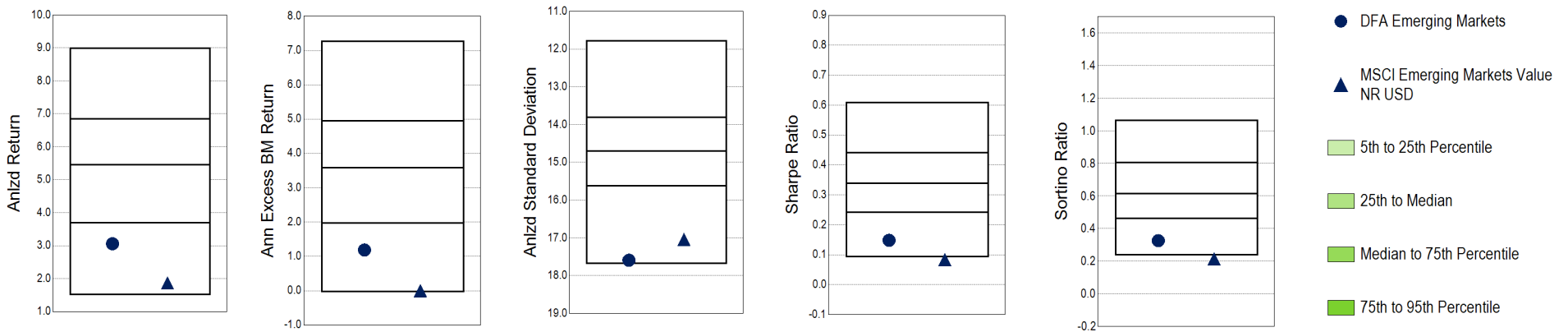
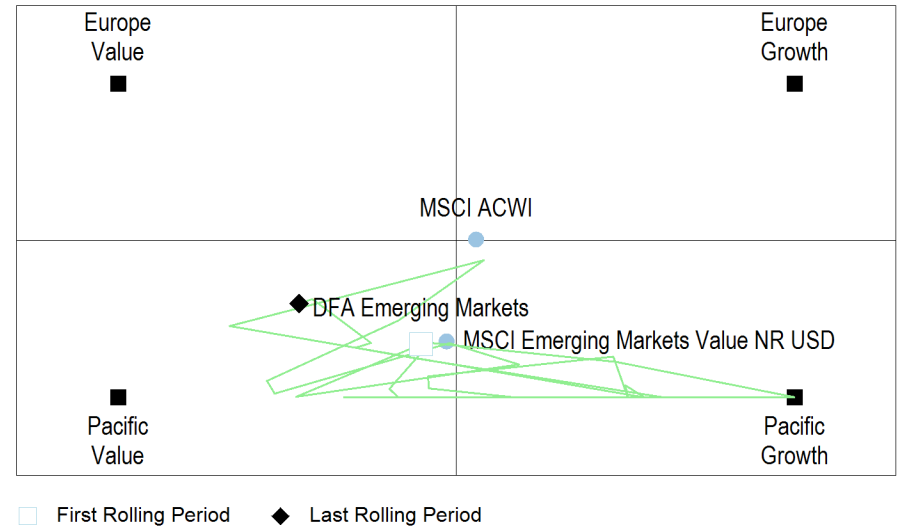
# Los Angeles City Employees' Retirement System

## DFA EMERGING MARKETS

Since Inception Risk Return



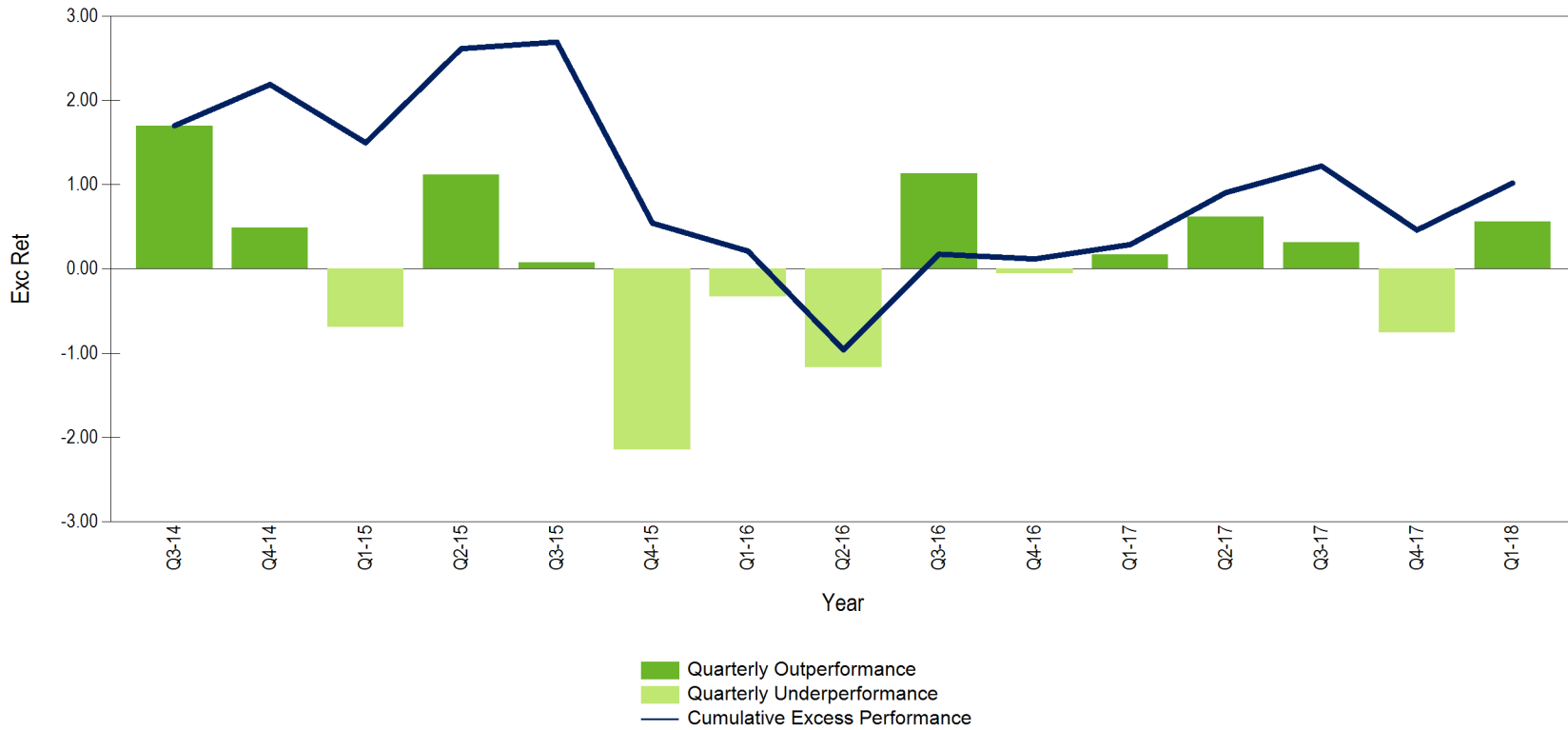
Since Inception Style Map



# Los Angeles City Employees' Retirement System

## QMA EMERGING MARKETS

Quarterly and Cumulative Excess Performance

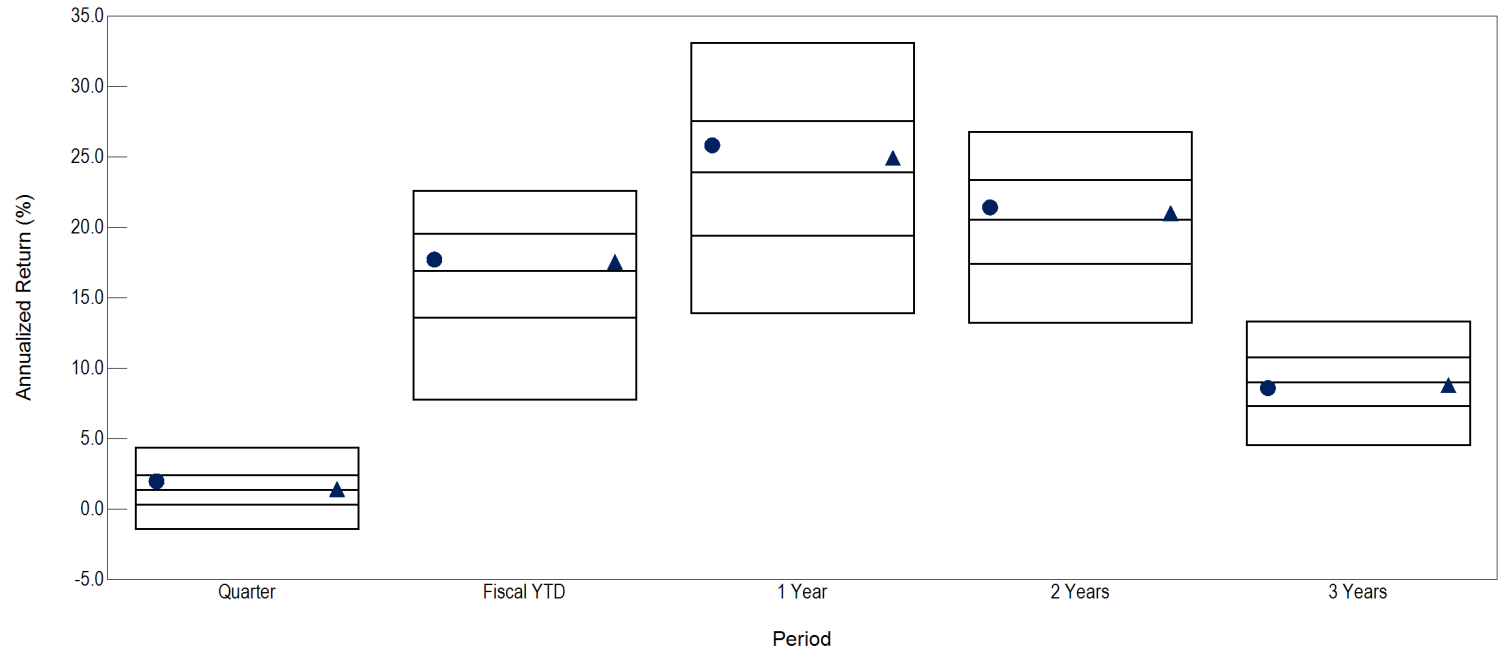




# Los Angeles City Employees' Retirement System

## QMA EMERGING MARKETS

QMA Emerging Markets vs. eV Emg Mkts Equity Net



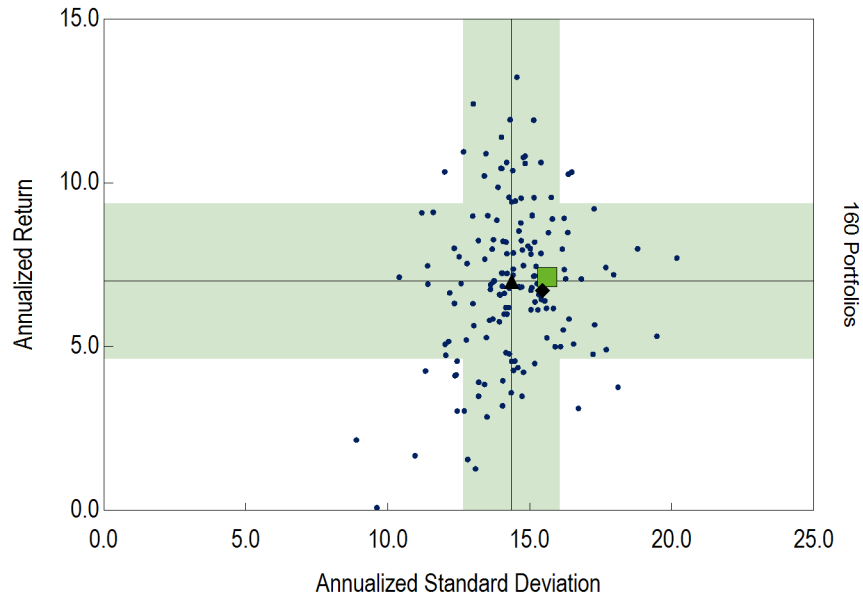
	Return (Rank)									
5th Percentile	4.34		22.61		33.07		26.78		13.33	
25th Percentile	2.45		19.58		27.58		23.42		10.83	
Median	1.39		16.96		23.96		20.58		9.04	
75th Percentile	0.38		13.63		19.43		17.44		7.37	
95th Percentile	-1.36		7.82		13.93		13.28		4.59	
# of Portfolios	195		194		192		187		175	
● QMA Emerging Markets	1.97	(38)	17.71	(44)	25.82	(34)	21.42	(44)	8.59	(57)
▲ MSCI Emerging Markets	1.42	(50)	17.56	(45)	24.93	(42)	21.01	(46)	8.81	(54)



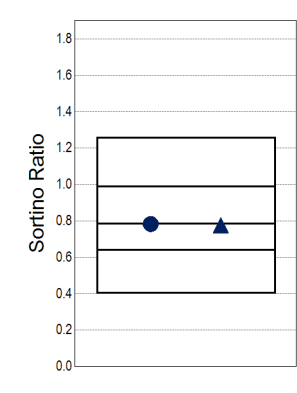
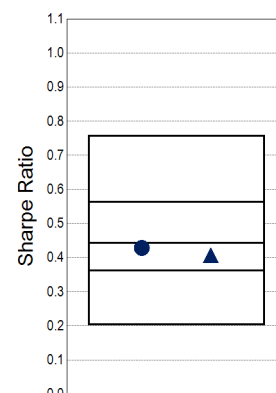
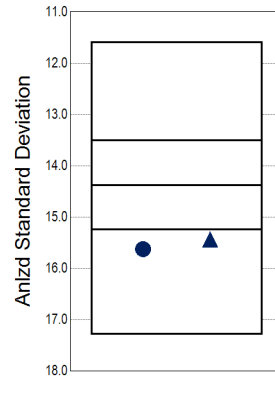
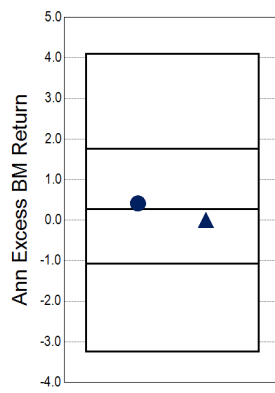
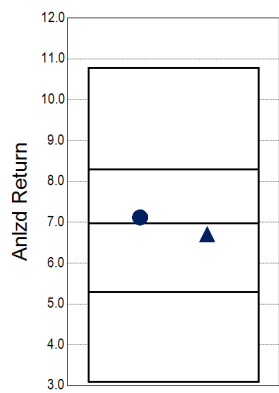
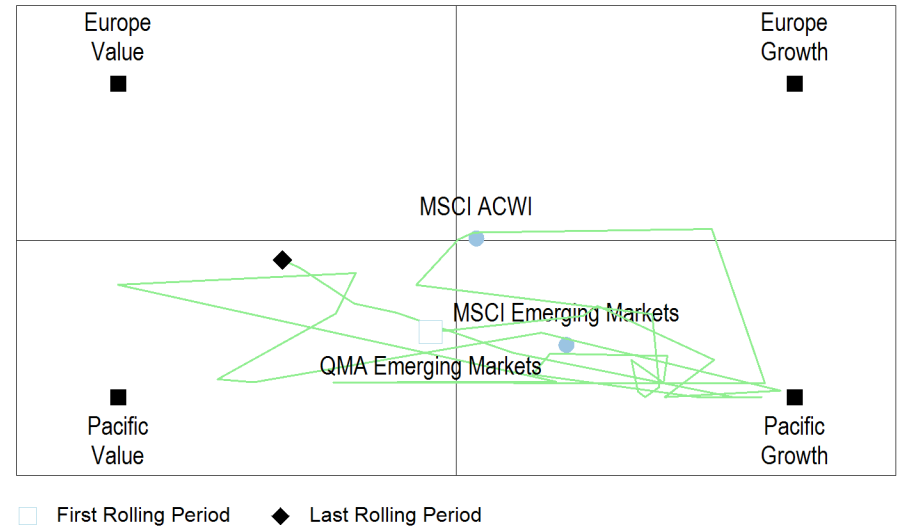
# Los Angeles City Employees' Retirement System

## QMA EMERGING MARKETS

Since Inception Risk Return



Since Inception Style Map



- QMA Emerging Markets
- ▲ MSCI Emerging Markets
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



# **CORE FIXED INCOME MANAGER PERFORMANCE**

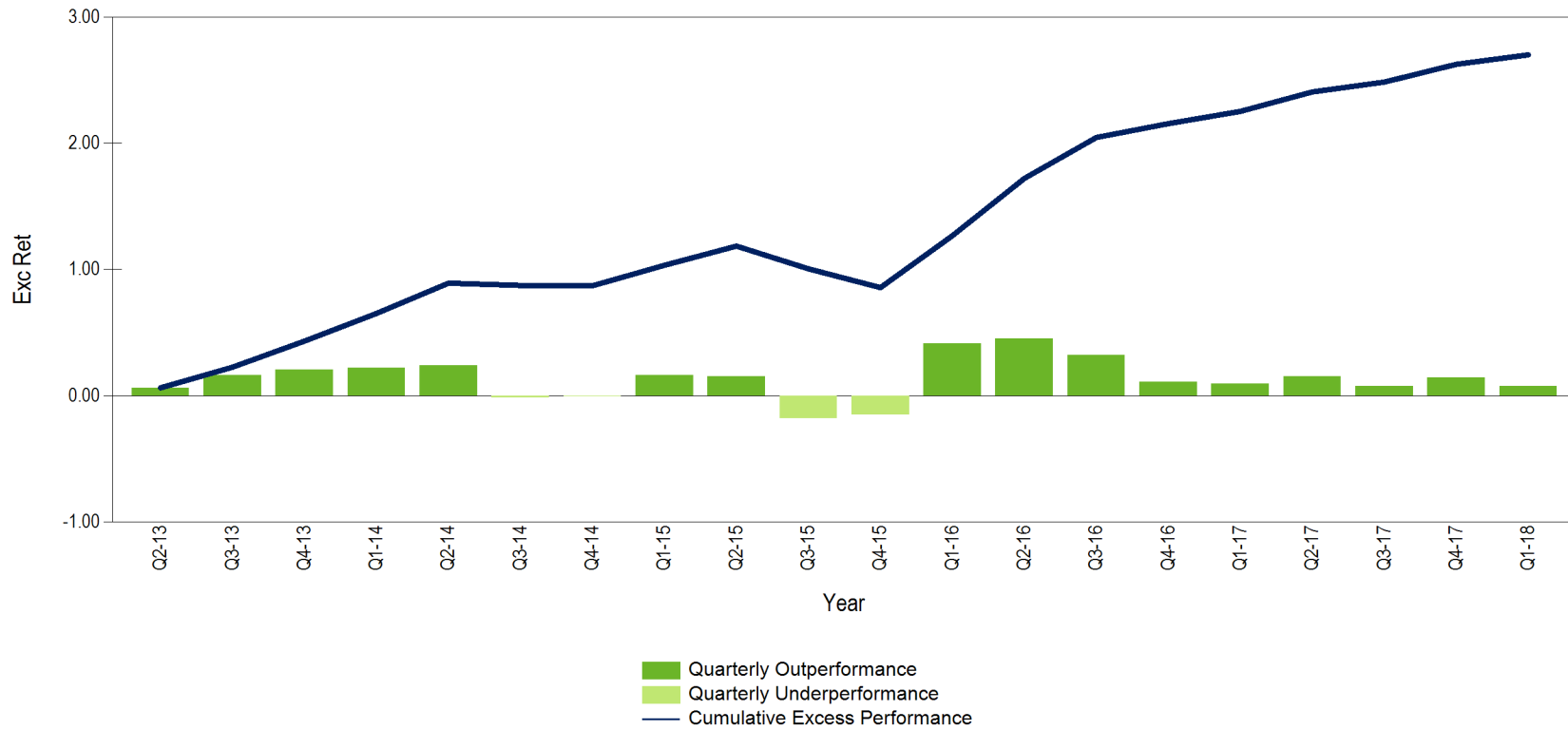
NEPC, LLC

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# Los Angeles City Employees' Retirement System

## BAIRD ADVISORS

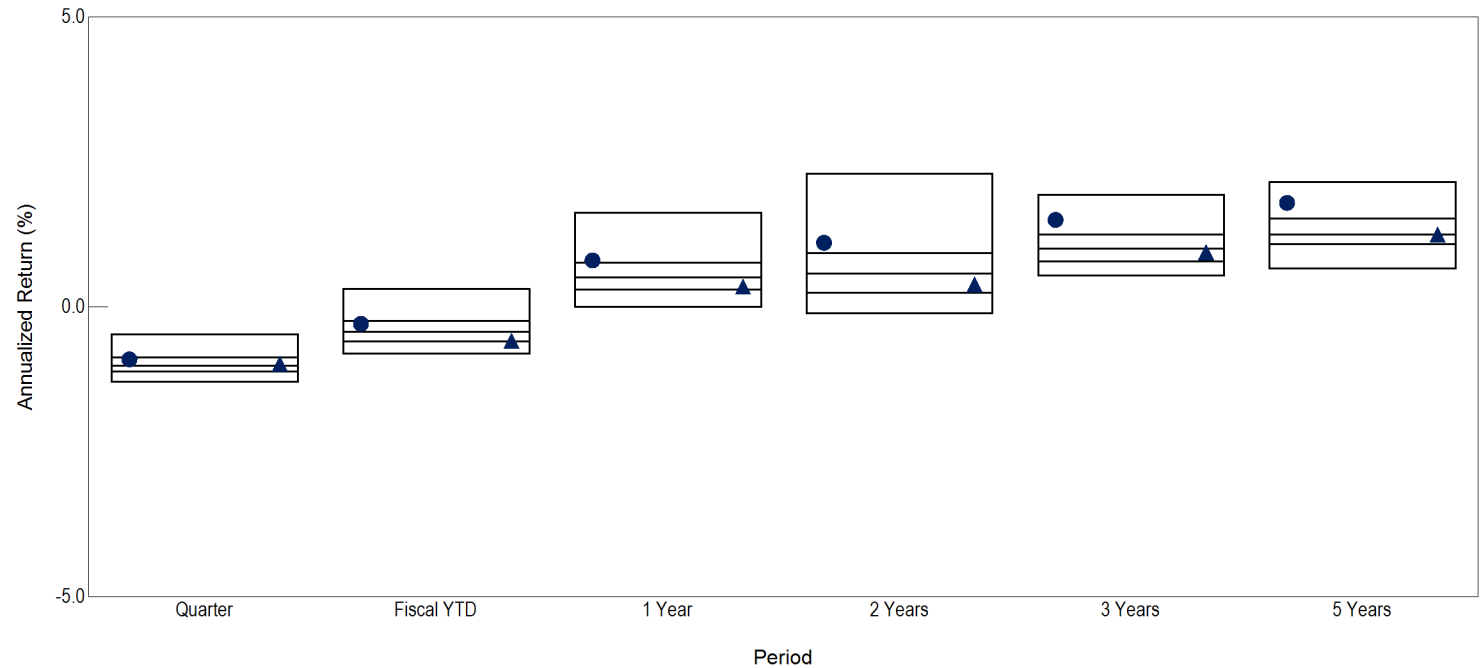
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## BAIRD ADVISORS

Baird Advisors vs. eV US Interm Duration Fixed Inc Net



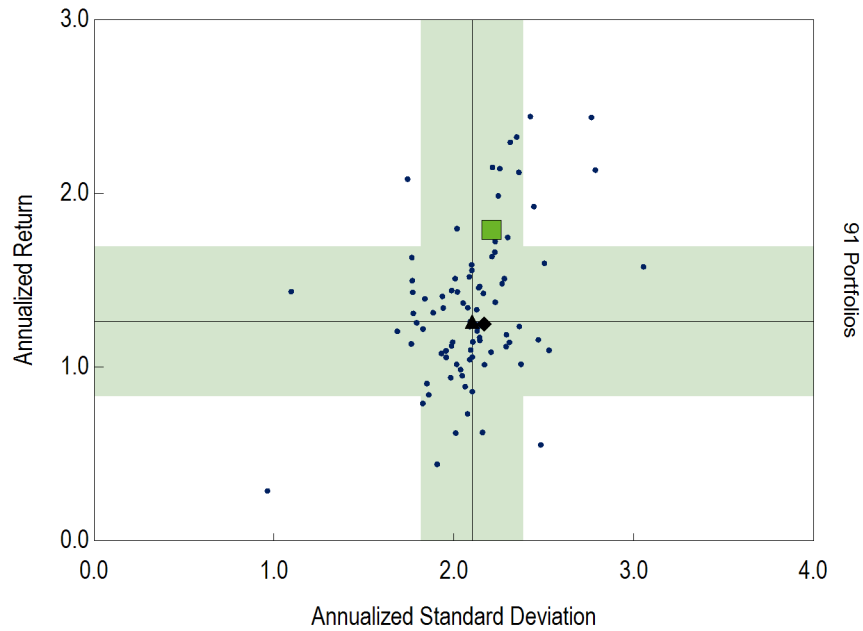
	Return (Rank)											
5th Percentile	-0.47		0.30		1.62		2.29		1.94		2.15	
25th Percentile	-0.86		-0.24		0.77		0.94		1.26		1.54	
Median	-1.00		-0.42		0.52		0.59		1.02		1.26	
75th Percentile	-1.11		-0.59		0.31		0.26		0.79		1.10	
95th Percentile	-1.28		-0.80		0.01		-0.09		0.55		0.68	
# of Portfolios	100		99		96		96		96		91	
● Baird Advisors	-0.91	(28)	-0.29	(35)	0.80	(24)	1.10	(19)	1.50	(13)	1.79	(13)
▲ BBgBarc US Govt/Credit Int TR	-0.98	(44)	-0.59	(74)	0.35	(69)	0.39	(63)	0.94	(57)	1.25	(52)



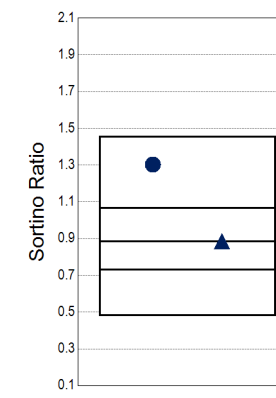
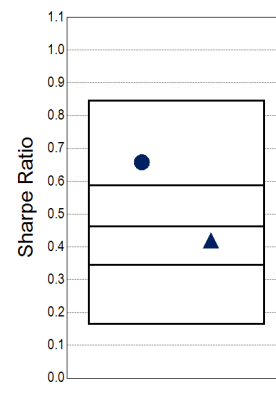
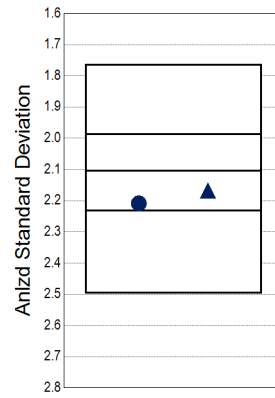
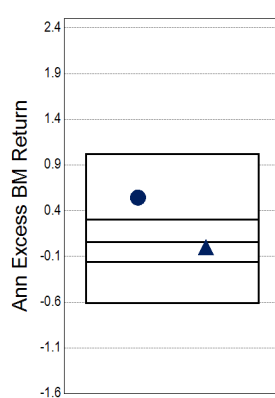
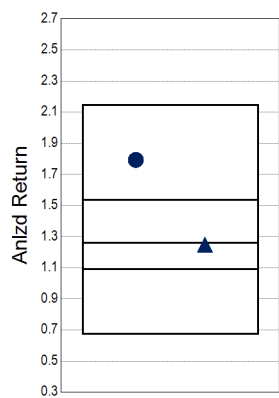
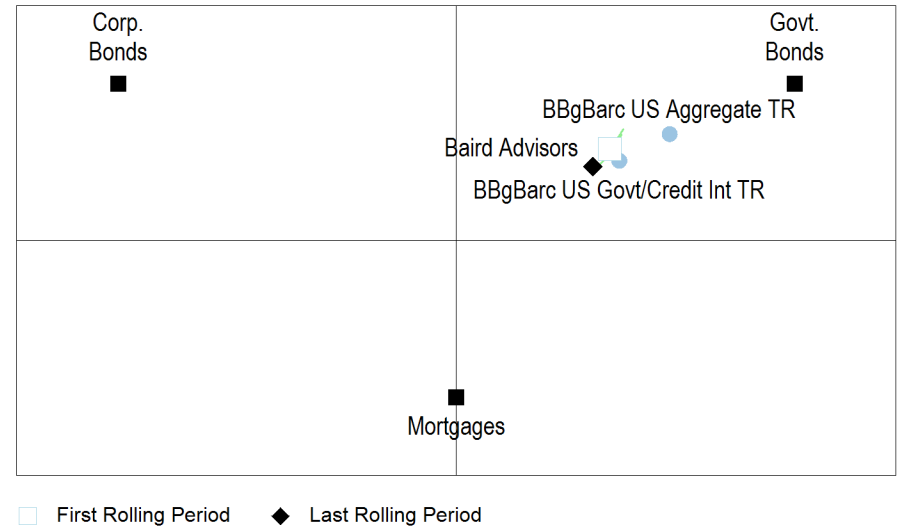
# Los Angeles City Employees' Retirement System

## BAIRD ADVISORS

5 Year Risk Return



5 Year Style Map



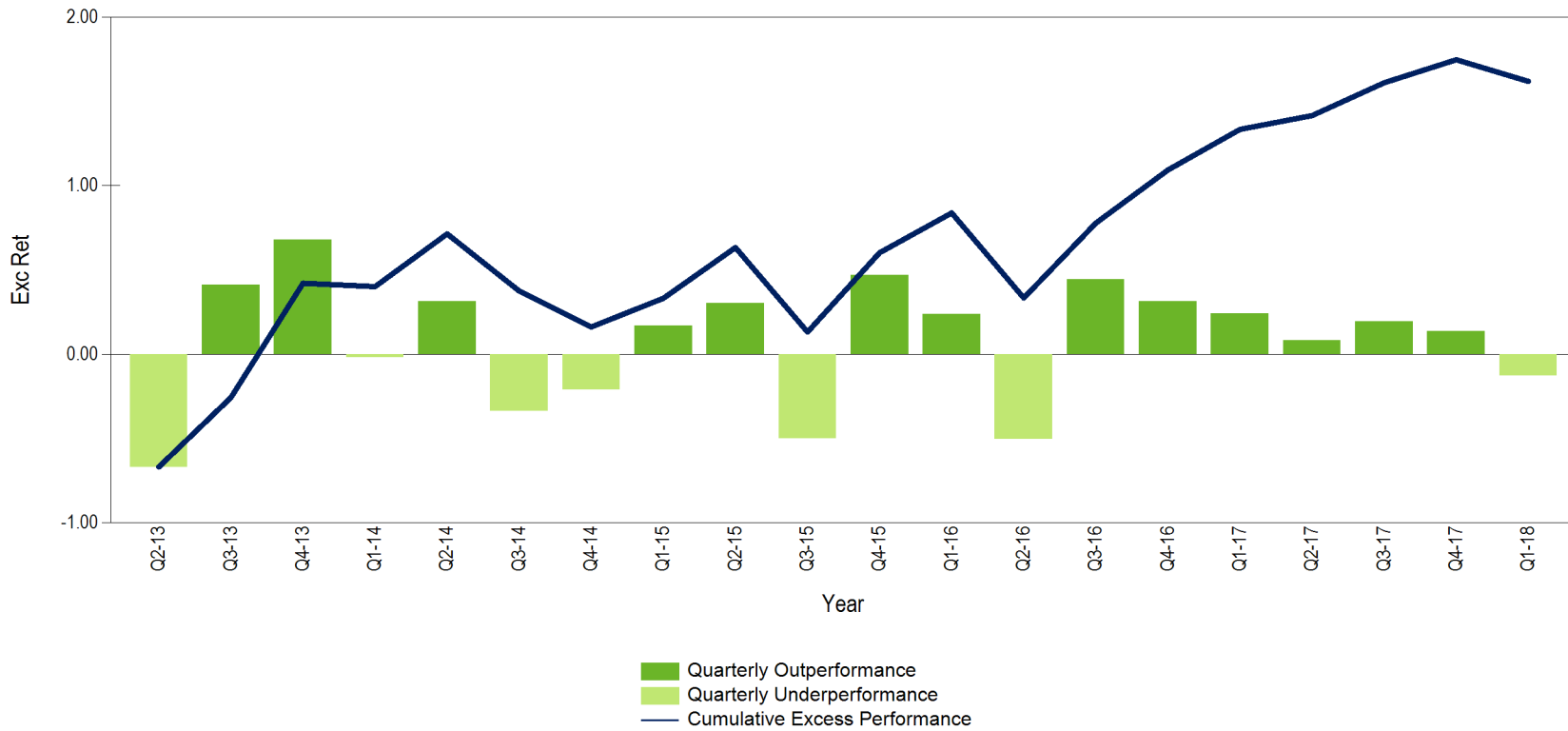
- Baird Advisors
- ▲ BgBarc US Govt/Credit Int TR
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



# Los Angeles City Employees' Retirement System

## LM CAPITAL

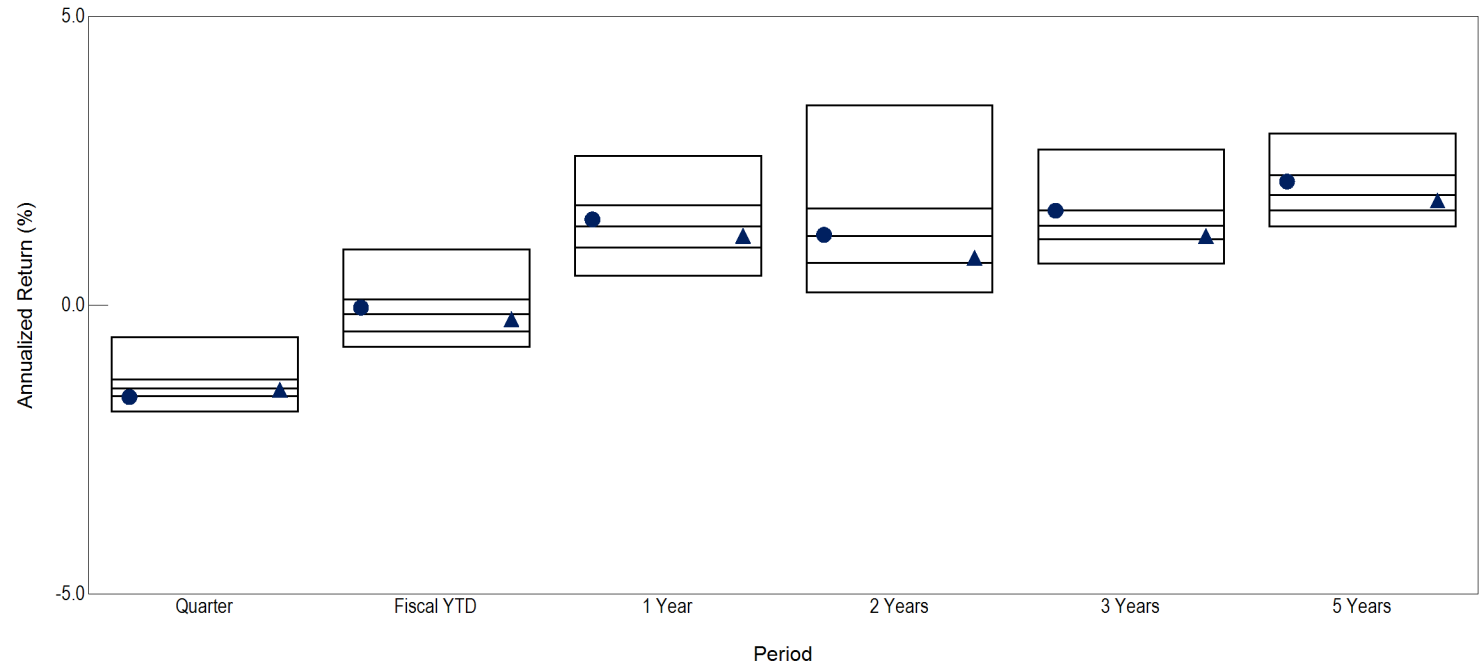
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## LM CAPITAL

Core Fixed Income Managers vs. eV US Core Fixed Inc Net



	Return (Rank)											
5th Percentile	-0.56		0.96		2.58		3.46		2.70		2.98	
25th Percentile	-1.27		0.12		1.74		1.68		1.66		2.26	
Median	-1.43		-0.14		1.38		1.21		1.39		1.92	
75th Percentile	-1.57		-0.44		1.02		0.75		1.16		1.66	
95th Percentile	-1.82		-0.71		0.53		0.23		0.73		1.38	
# of Portfolios	146		143		140		137		136		134	
● LM Capital	-1.59	(78)	-0.04	(41)	1.49	(41)	1.22	(49)	1.64	(28)	2.14	(33)
▲ Core Fixed Income Blend	-1.46	(57)	-0.24	(61)	1.20	(66)	0.82	(71)	1.20	(71)	1.82	(61)

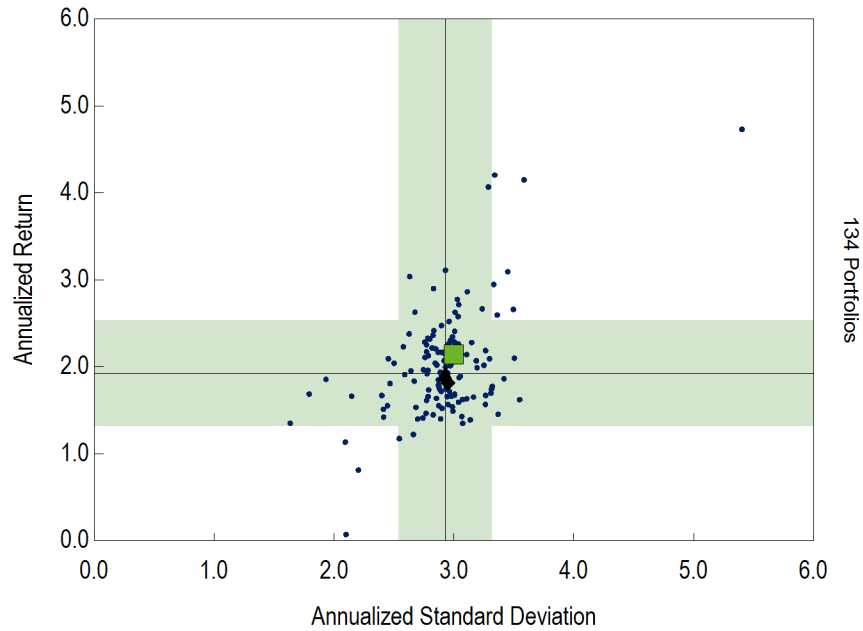




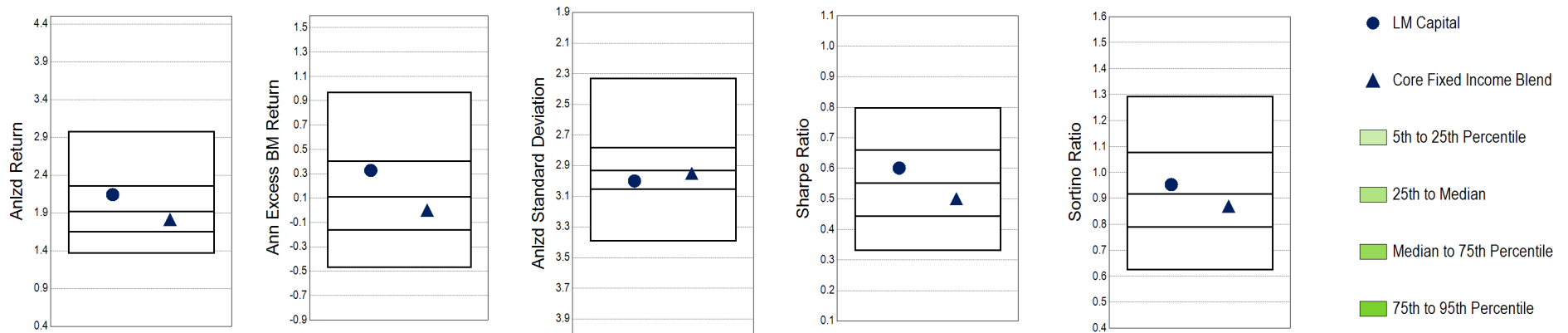
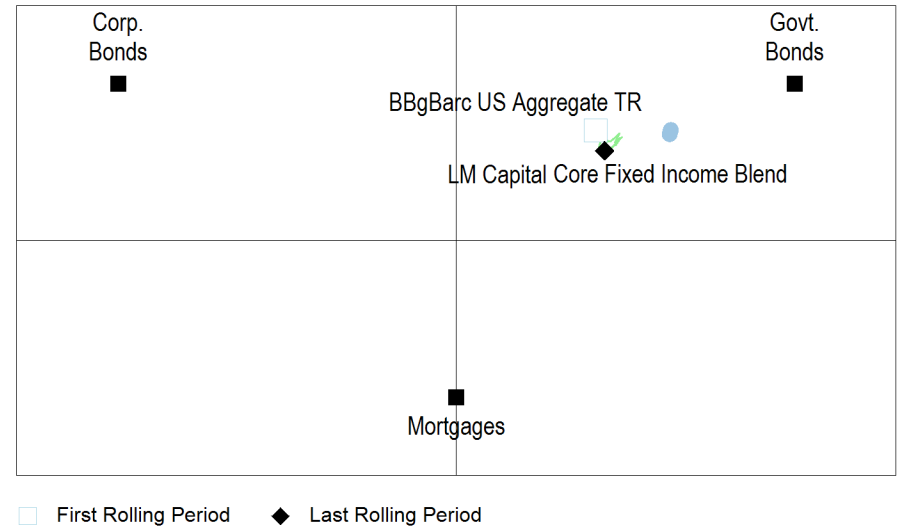
# Los Angeles City Employees' Retirement System

## LM CAPITAL

5 Year Risk Return



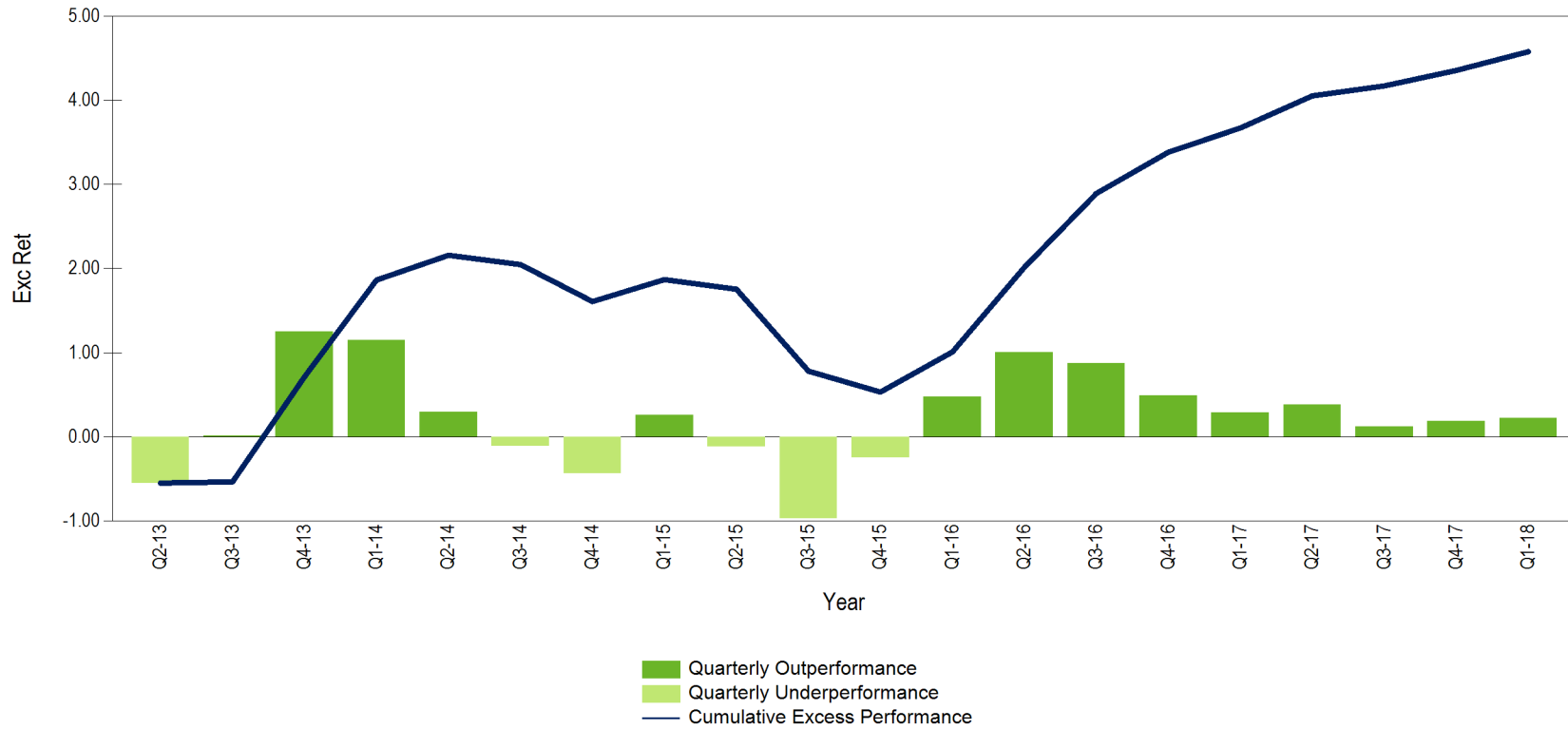
5 Year Style Map



# Los Angeles City Employees' Retirement System

## LOOMIS SAYLES

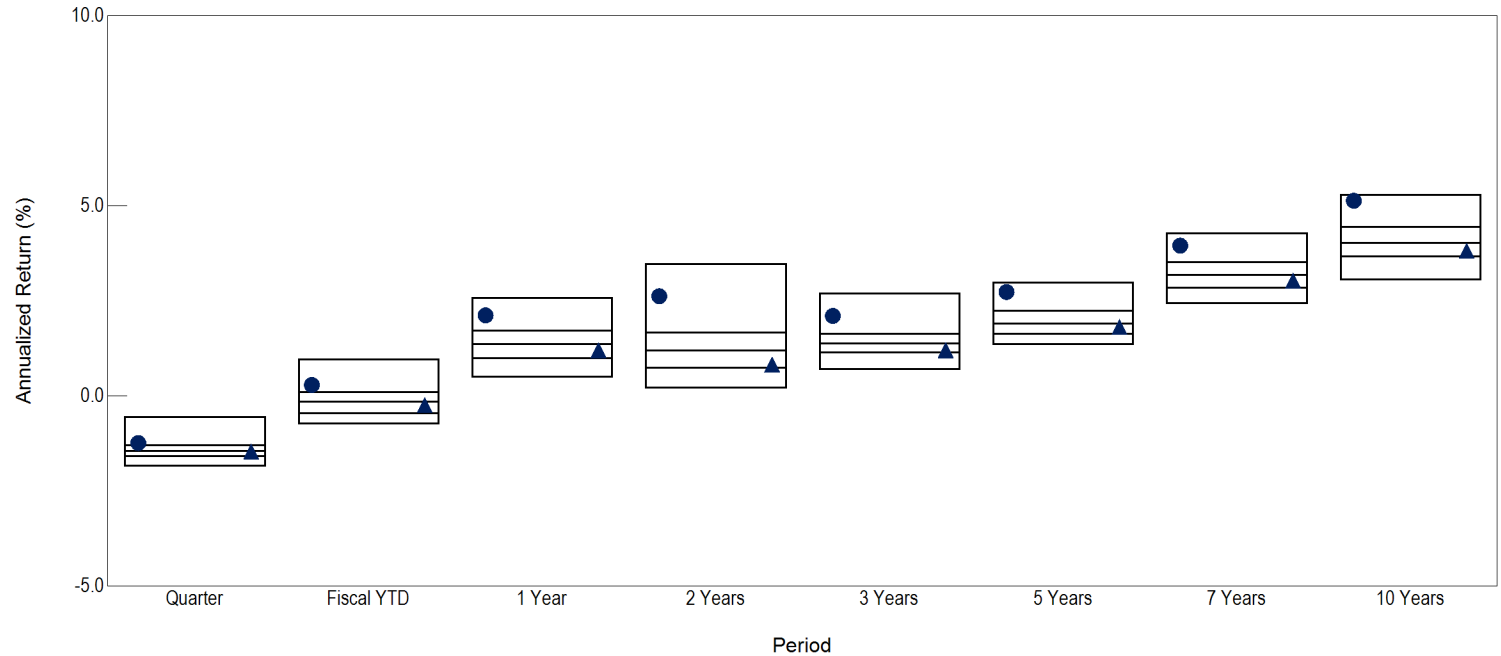
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## LOOMIS SAYLES

Loomis Sayles vs. eV US Core Fixed Inc Net



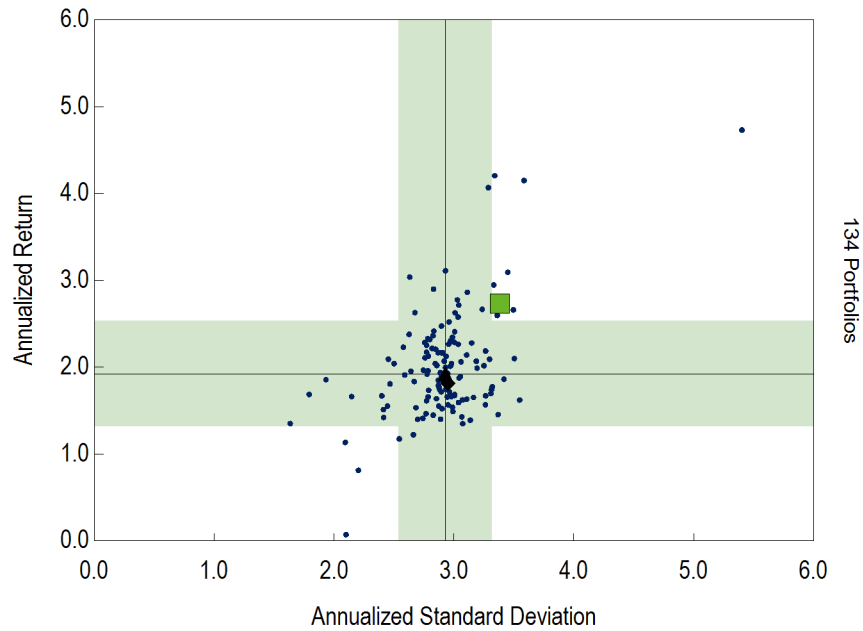
	Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)			
5th Percentile	-0.56		0.96		2.58		3.46		2.70		2.98		4.28		5.28	
25th Percentile	-1.27		0.12		1.74		1.68		1.66		2.26		3.53		4.46	
Median	-1.43		-0.14		1.38		1.21		1.39		1.92		3.20		4.04	
75th Percentile	-1.57		-0.44		1.02		0.75		1.16		1.66		2.86		3.68	
95th Percentile	-1.82		-0.71		0.53		0.23		0.73		1.38		2.45		3.09	
# of Portfolios	146		143		140		137		136		134		126		112	
● Loomis Sayles	-1.24	(22)	0.29	(20)	2.12	(13)	2.62	(8)	2.10	(11)	2.73	(9)	3.95	(10)	5.13	(7)
▲ Core Fixed Income Blend	-1.46	(57)	-0.24	(61)	1.20	(66)	0.82	(71)	1.20	(71)	1.82	(61)	3.03	(64)	3.82	(66)



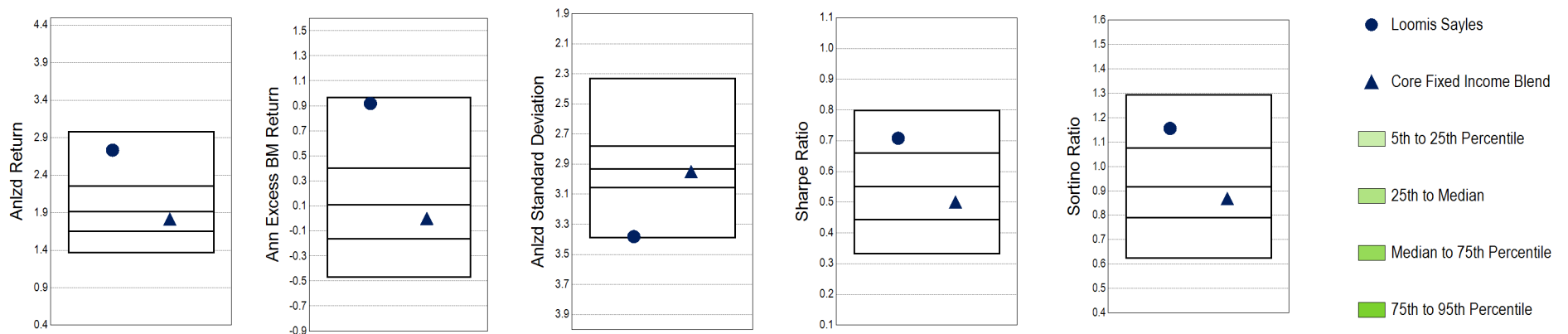
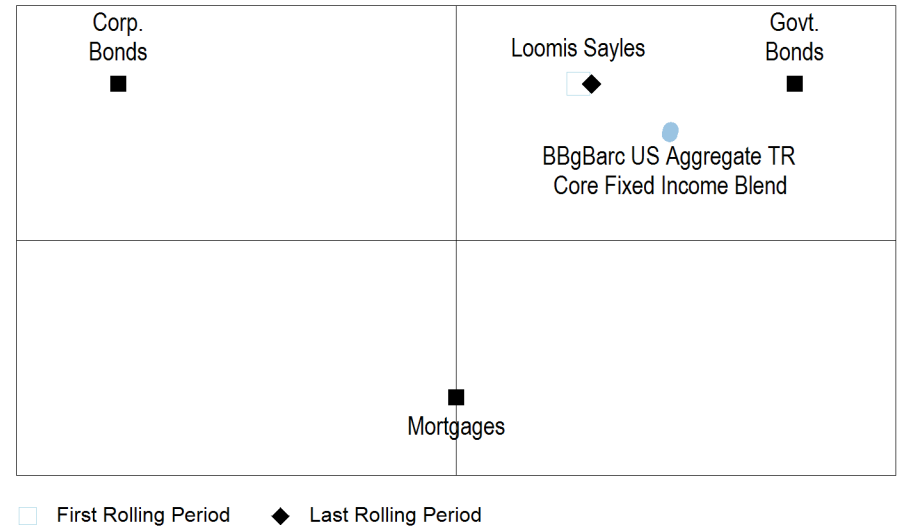
# Los Angeles City Employees' Retirement System

## LOOMIS SAYLES

### 5 Year Risk Return



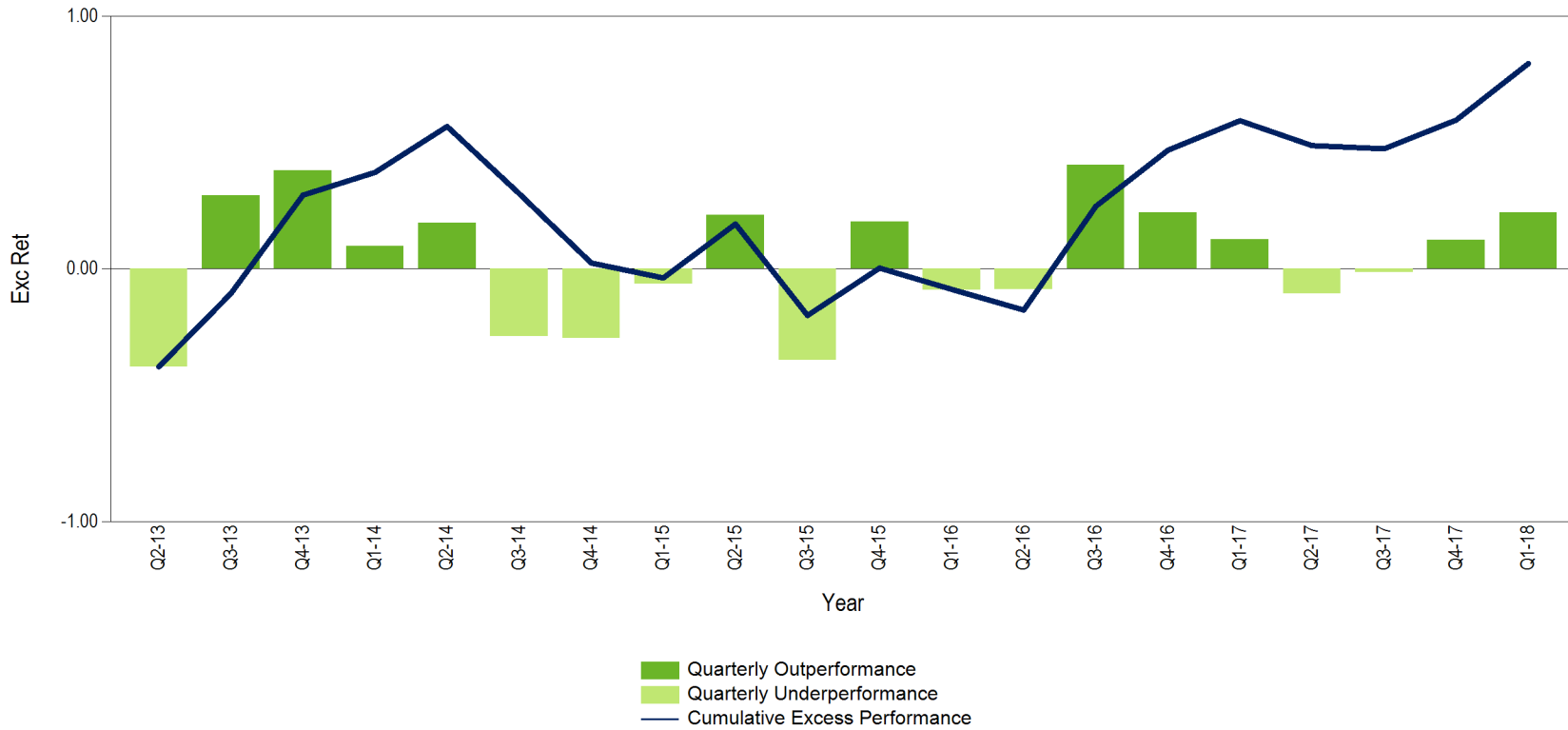
### 5 Year Style Map



# Los Angeles City Employees' Retirement System

## NEUBERGER BERMAN

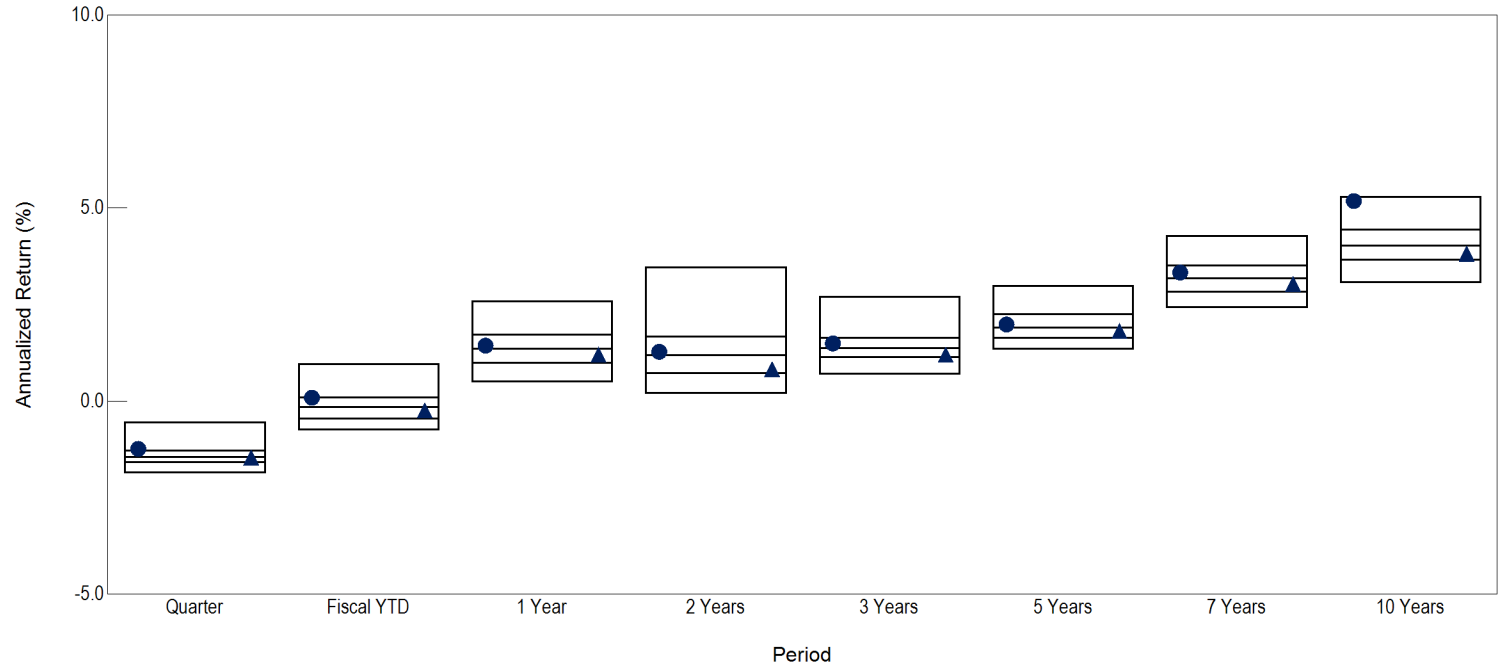
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## NEUBERGER BERMAN

Neuberger Berman vs. eV US Core Fixed Inc Net



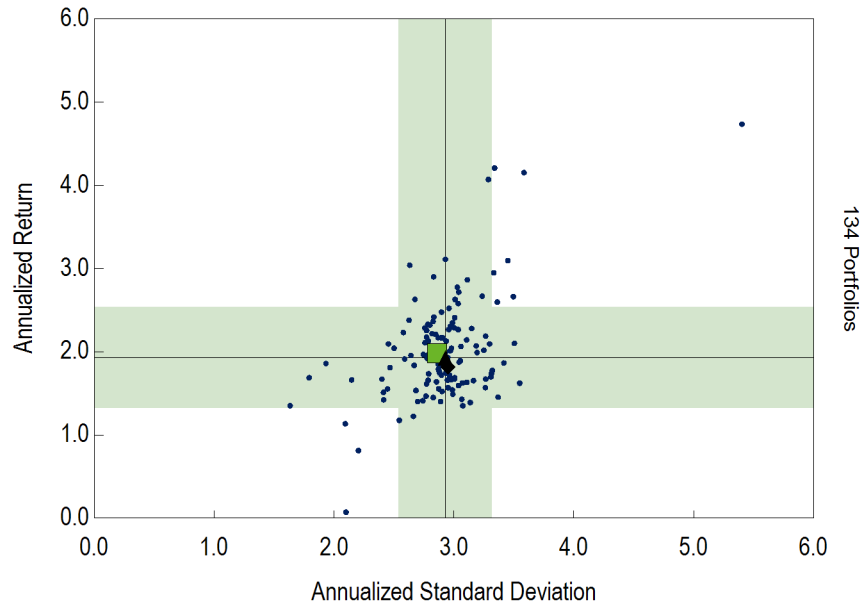
	Return (Rank)															
5th Percentile	-0.56	0.96	2.58	3.46	2.70	2.98	4.28	5.28								
25th Percentile	-1.27	0.12	1.74	1.68	1.66	2.26	3.53	4.46								
Median	-1.43	-0.14	1.38	1.21	1.39	1.92	3.20	4.04								
75th Percentile	-1.57	-0.44	1.02	0.75	1.16	1.66	2.86	3.68								
95th Percentile	-1.82	-0.71	0.53	0.23	0.73	1.38	2.45	3.09								
# of Portfolios	146	143	140	137	136	134	126	112								
● Neuberger Berman	-1.24	(22)	0.09	(29)	1.44	(44)	1.28	(45)	1.49	(41)	1.98	(46)	3.33	(41)	5.18	(6)
▲ Core Fixed Income Blend	-1.46	(57)	-0.24	(61)	1.20	(66)	0.82	(71)	1.20	(71)	1.82	(61)	3.03	(64)	3.82	(66)



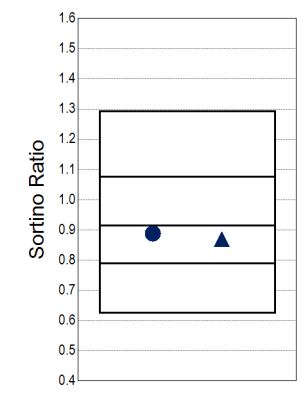
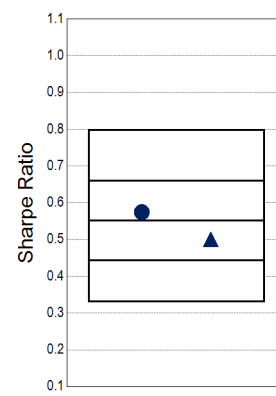
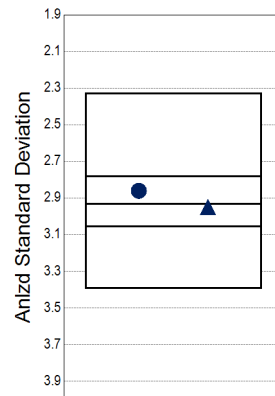
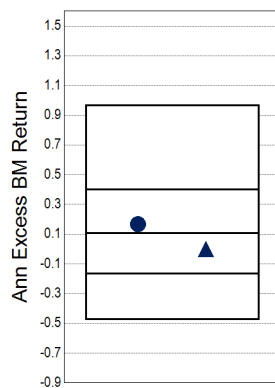
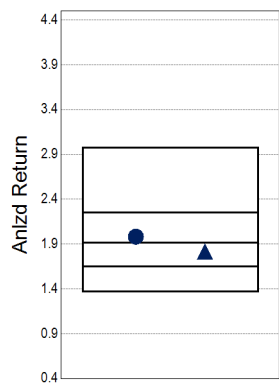
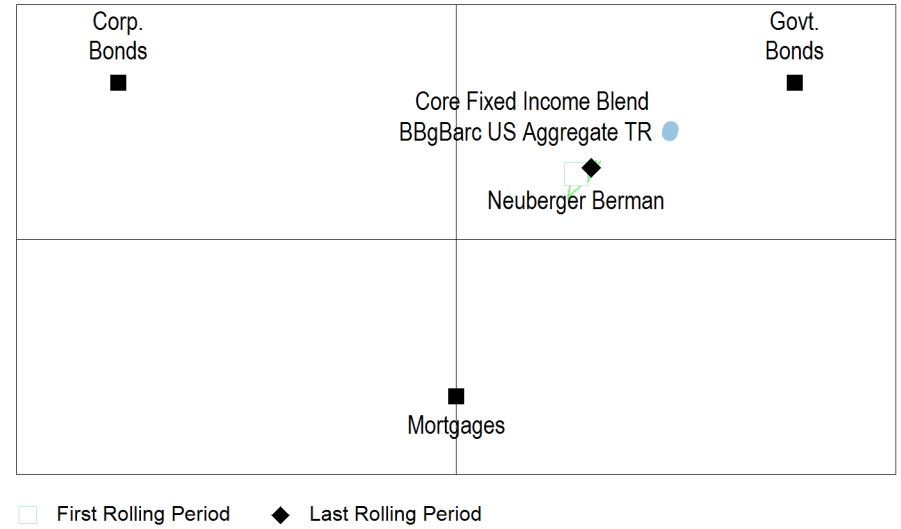
# Los Angeles City Employees' Retirement System

## NEUBERGER BERMAN

5 Year Risk Return



5 Year Style Map



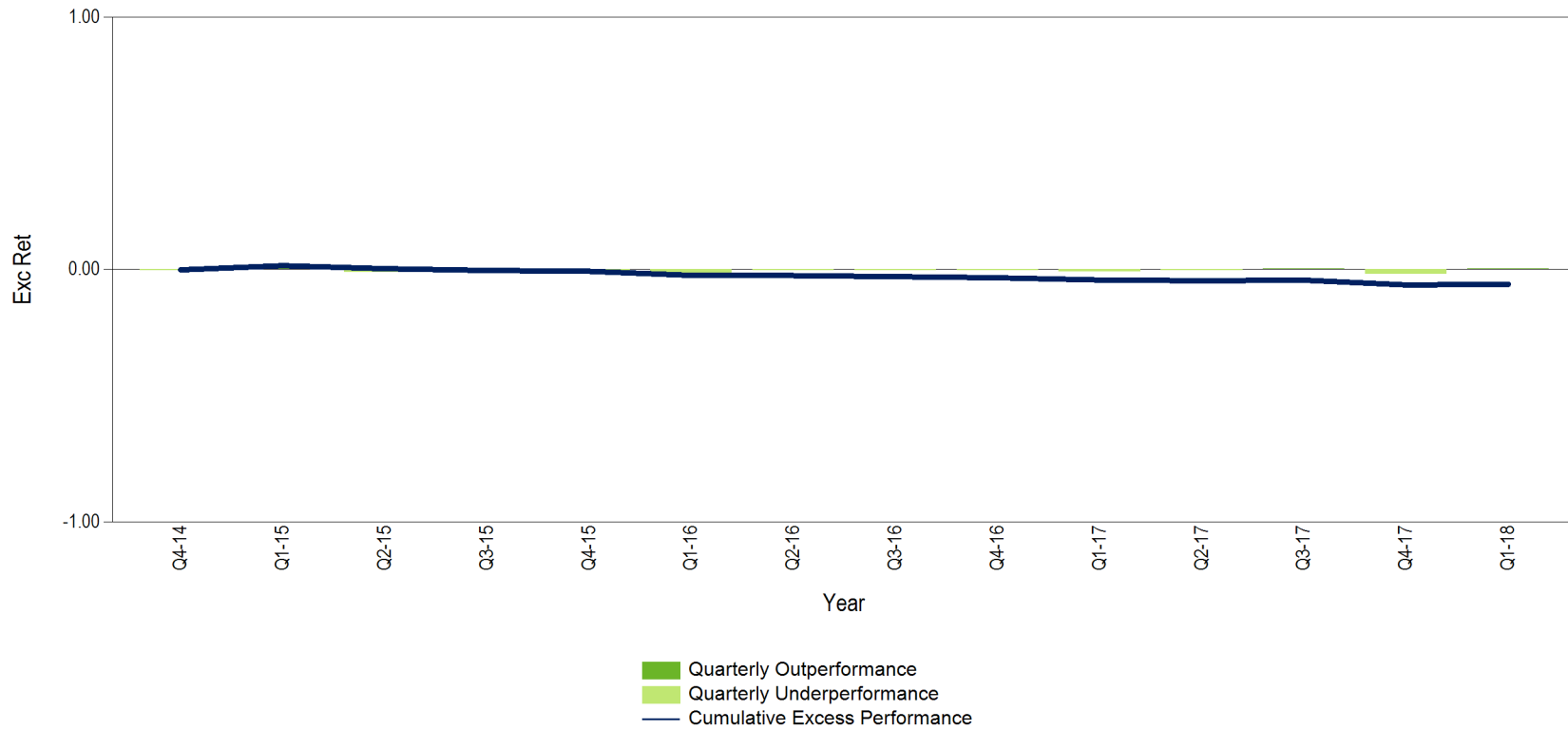
- Neuberger Berman
- ▲ Core Fixed Income Blend
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



# Los Angeles City Employees' Retirement System

## SSGA U.S. AGGREGATE BOND

Quarterly and Cumulative Excess Performance

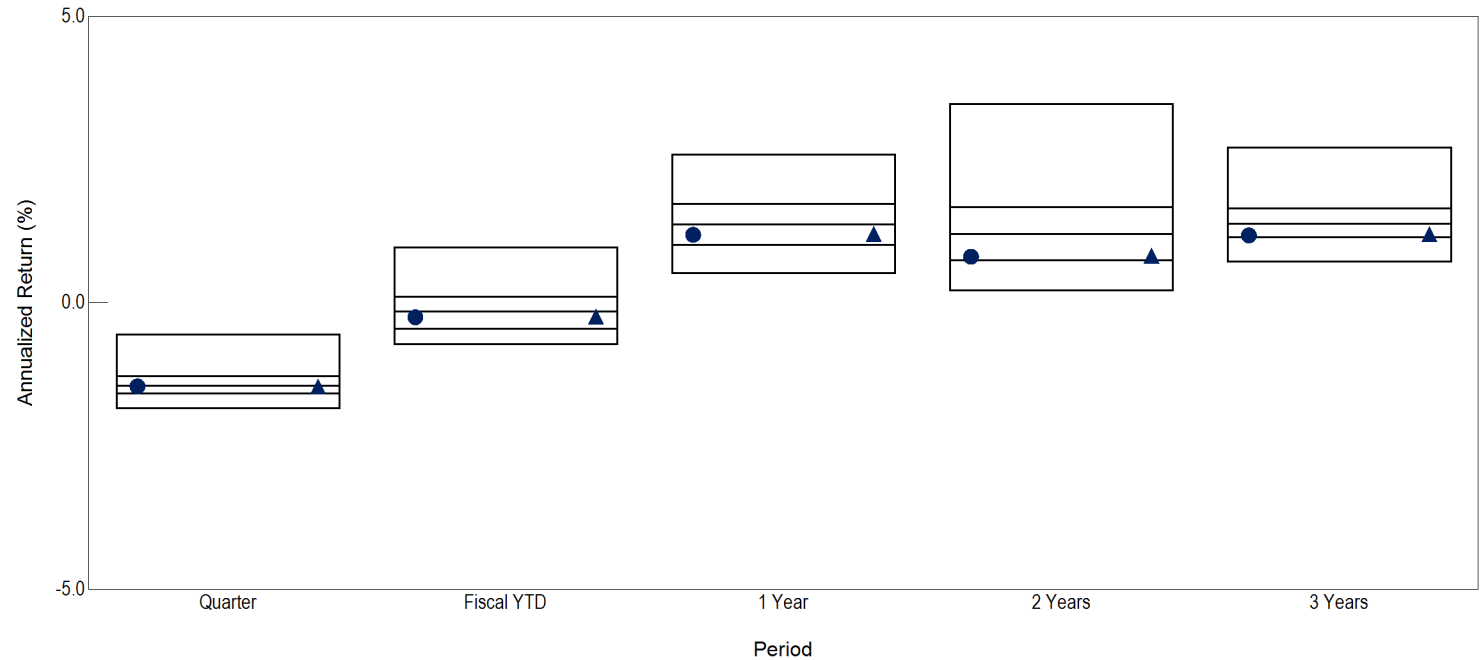




# Los Angeles City Employees' Retirement System

## SSGA U.S. AGGREGATE BOND

SSgA U.S. Aggregate Bond vs. eV US Core Fixed Inc Net



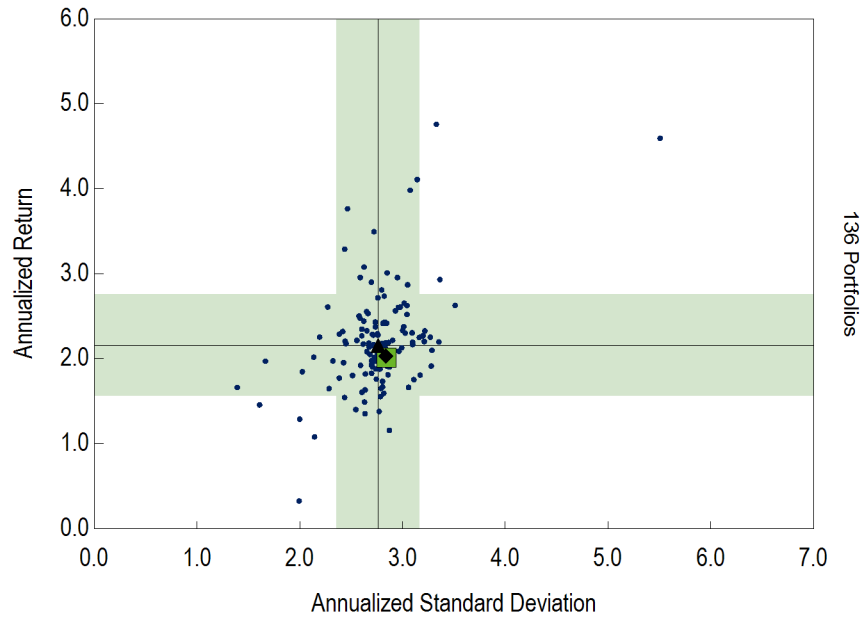
	Return (Rank)									
5th Percentile	-0.56		0.96		2.58		3.46		2.70	
25th Percentile	-1.27		0.12		1.74		1.68		1.66	
Median	-1.43		-0.14		1.38		1.21		1.39	
75th Percentile	-1.57		-0.44		1.02		0.75		1.16	
95th Percentile	-1.82		-0.71		0.53		0.23		0.73	
# of Portfolios	146		143		140		137		136	
● SSGA U.S. Aggregate Bond	-1.46	(56)	-0.25	(62)	1.19	(67)	0.80	(72)	1.17	(74)
▲ BBgBarc US Aggregate TR	-1.46	(57)	-0.24	(61)	1.20	(66)	0.82	(71)	1.20	(71)



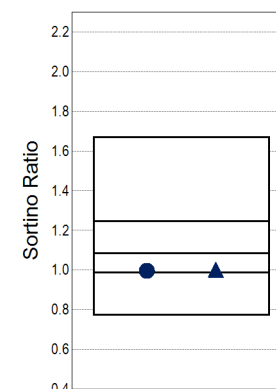
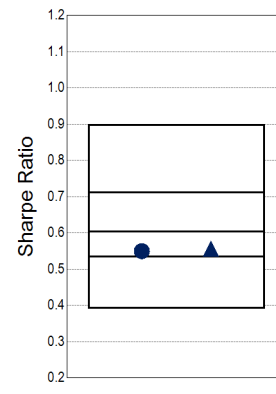
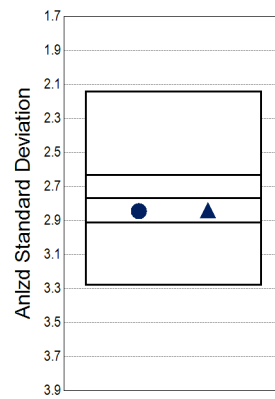
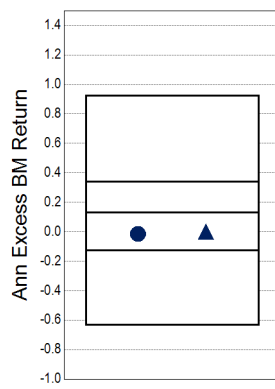
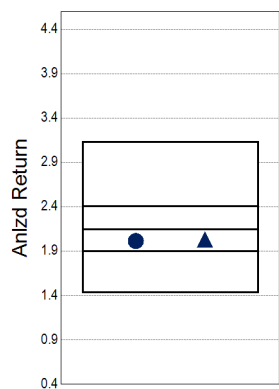
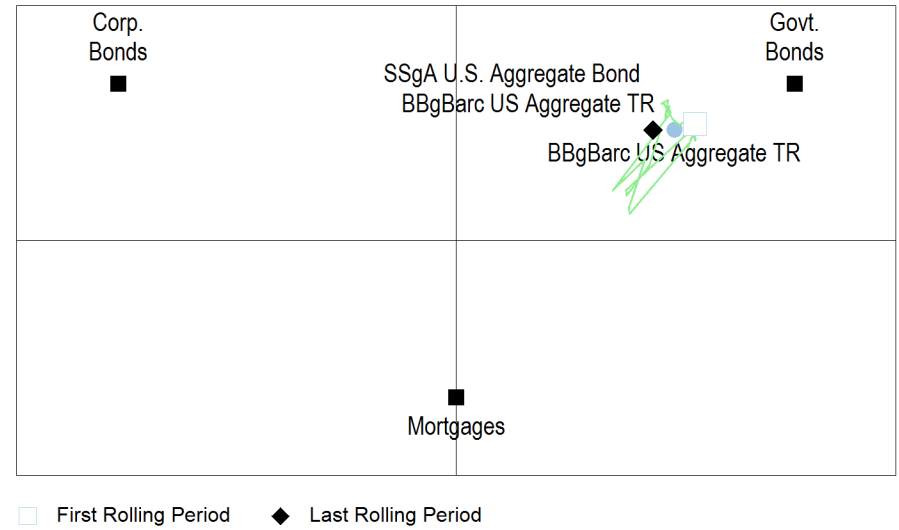
# Los Angeles City Employees' Retirement System

## SSGA U.S. AGGREGATE BOND

Since Inception Risk Return



Since Inception Style Map



- SSGA U.S. Aggregate Bond
- ▲ BBgBarc US Aggregate TR
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



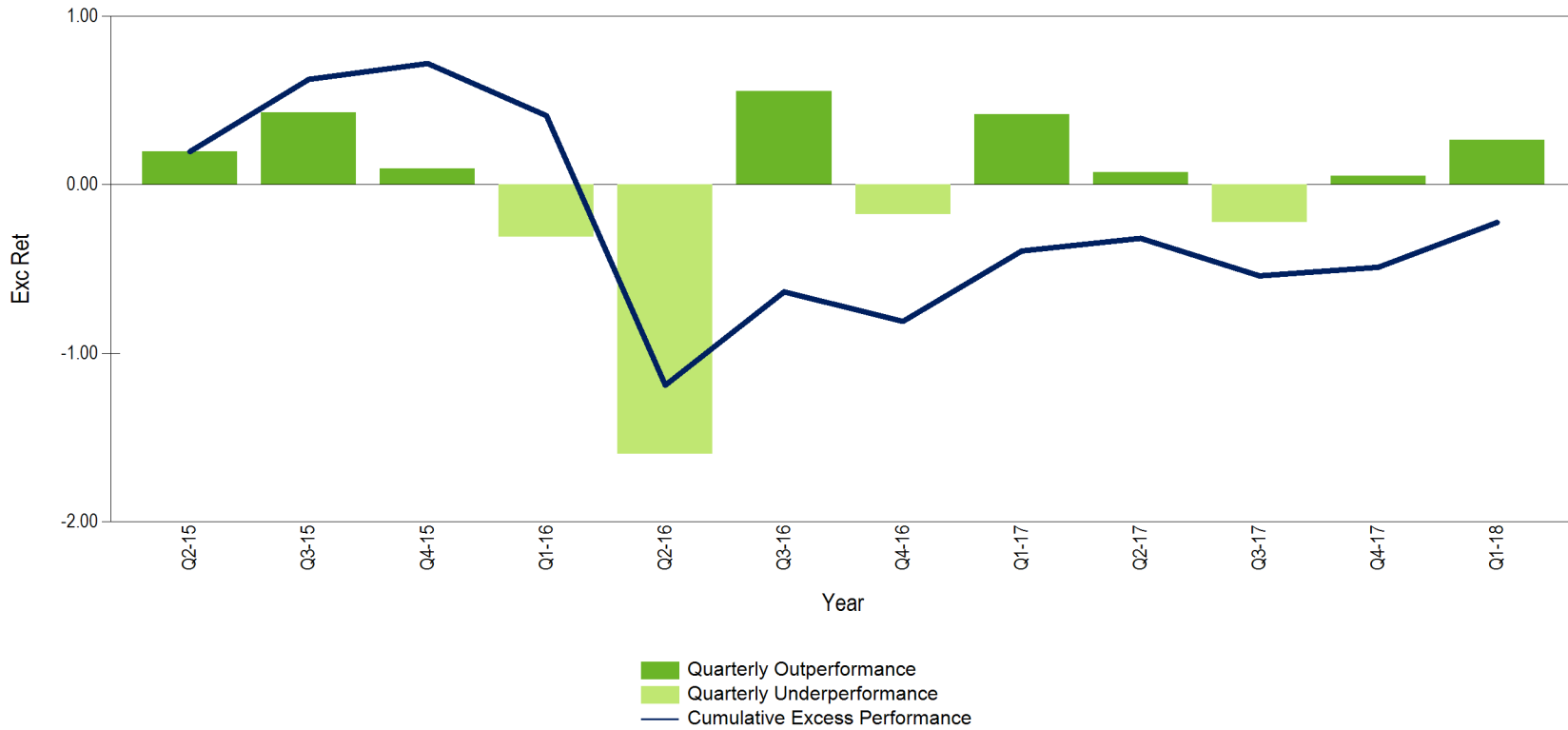
**CREDIT  
OPPORTUNITIES  
MANAGER  
PERFORMANCE**

NEPC, LLC

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# AEGON USA

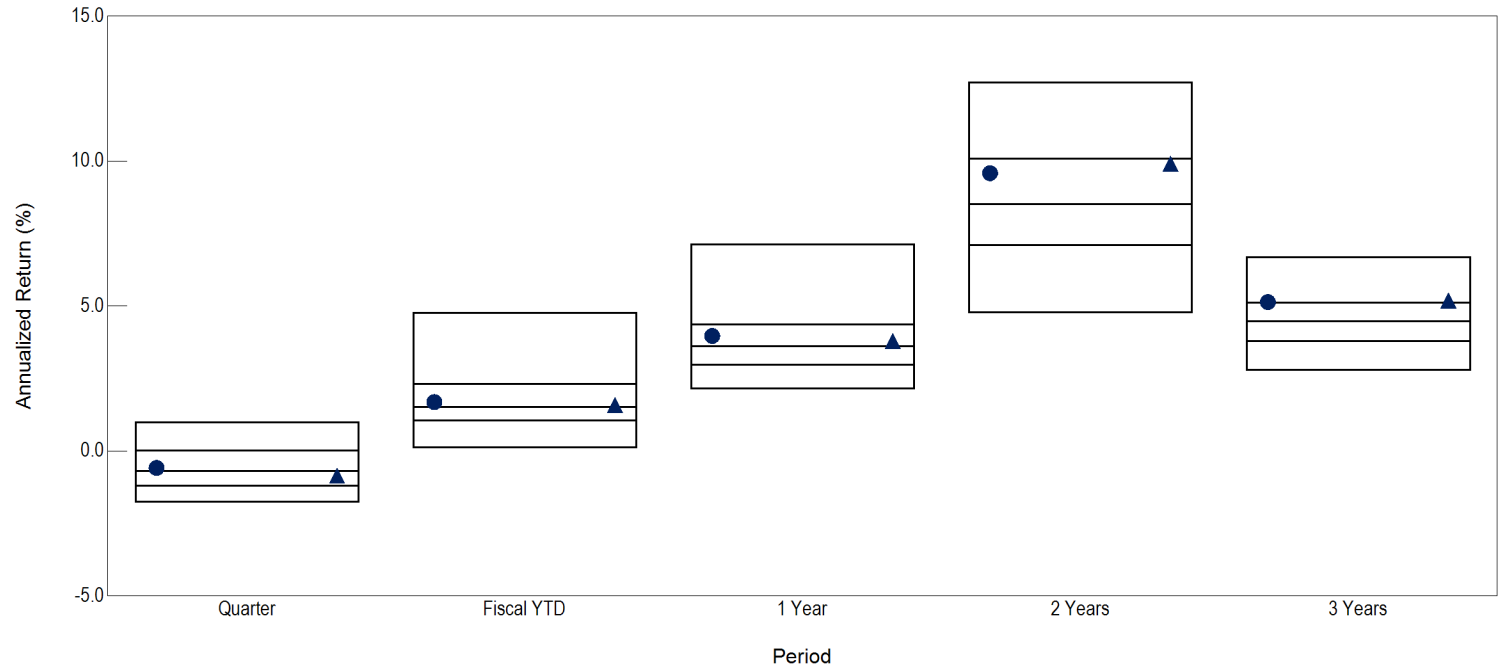
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## AEGON USA

AEGON USA vs. eV US High Yield Fixed Inc Net



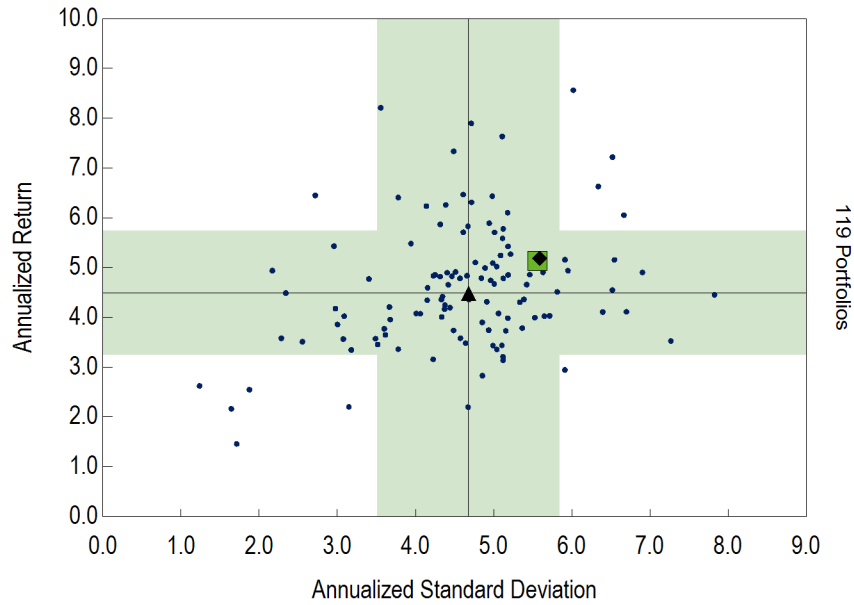
	Return (Rank)									
5th Percentile	0.99		4.76		7.13		12.72		6.68	
25th Percentile	0.04		2.33		4.38		10.10		5.14	
Median	-0.67		1.54		3.62		8.54		4.49	
75th Percentile	-1.19		1.06		3.00		7.11		3.82	
95th Percentile	-1.72		0.15		2.17		4.80		2.81	
# of Portfolios	129		128		128		123		119	
● AEGON USA	-0.59	(45)	1.68	(44)	3.96	(38)	9.58	(33)	5.13	(26)
▲ BBgBarc US High Yield 2% Issuer Cap TR	-0.86	(56)	1.58	(49)	3.78	(44)	9.90	(28)	5.18	(24)



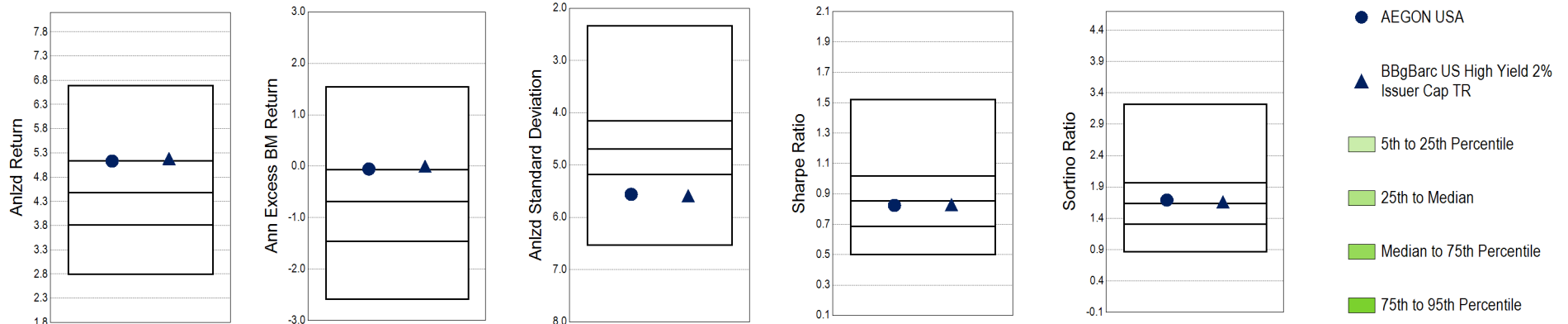
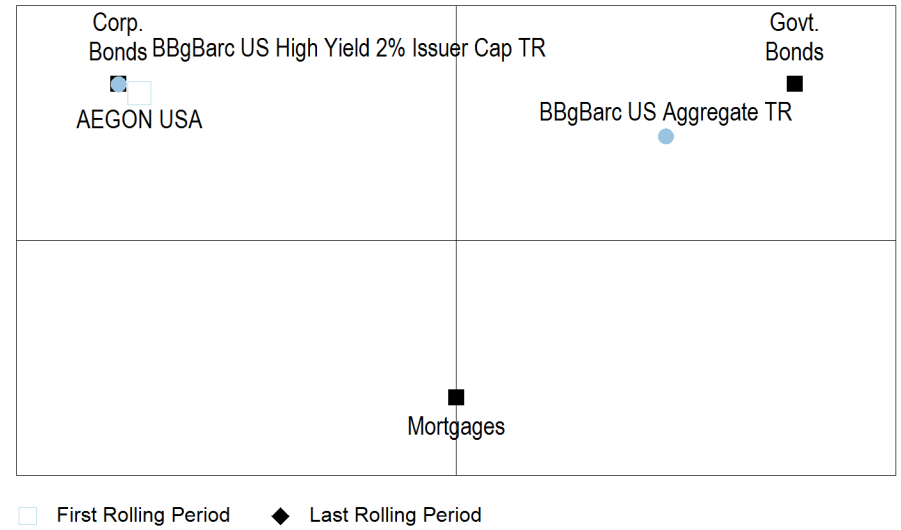
# Los Angeles City Employees' Retirement System

## AEGON USA

3 Year Risk Return

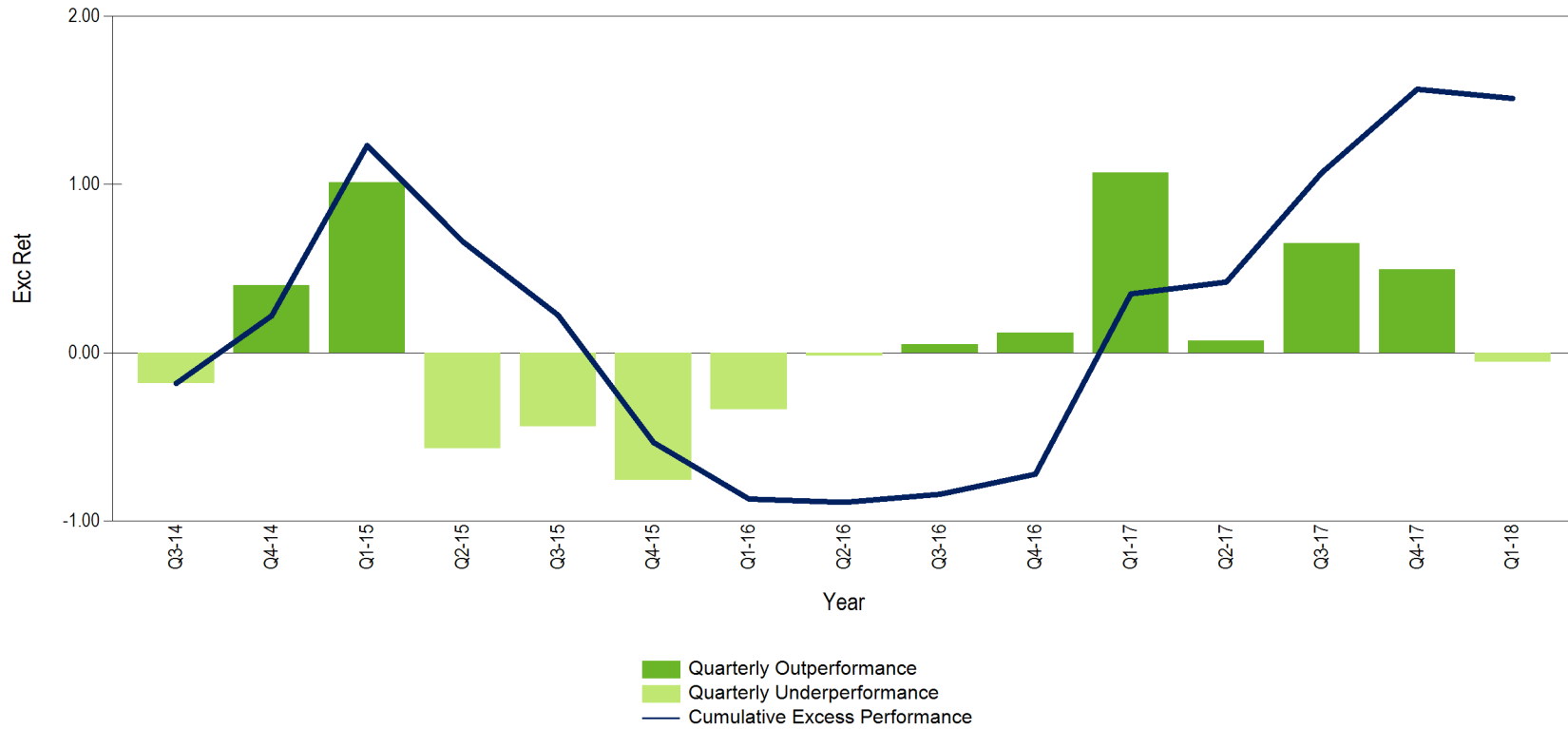


3 Year Style Map



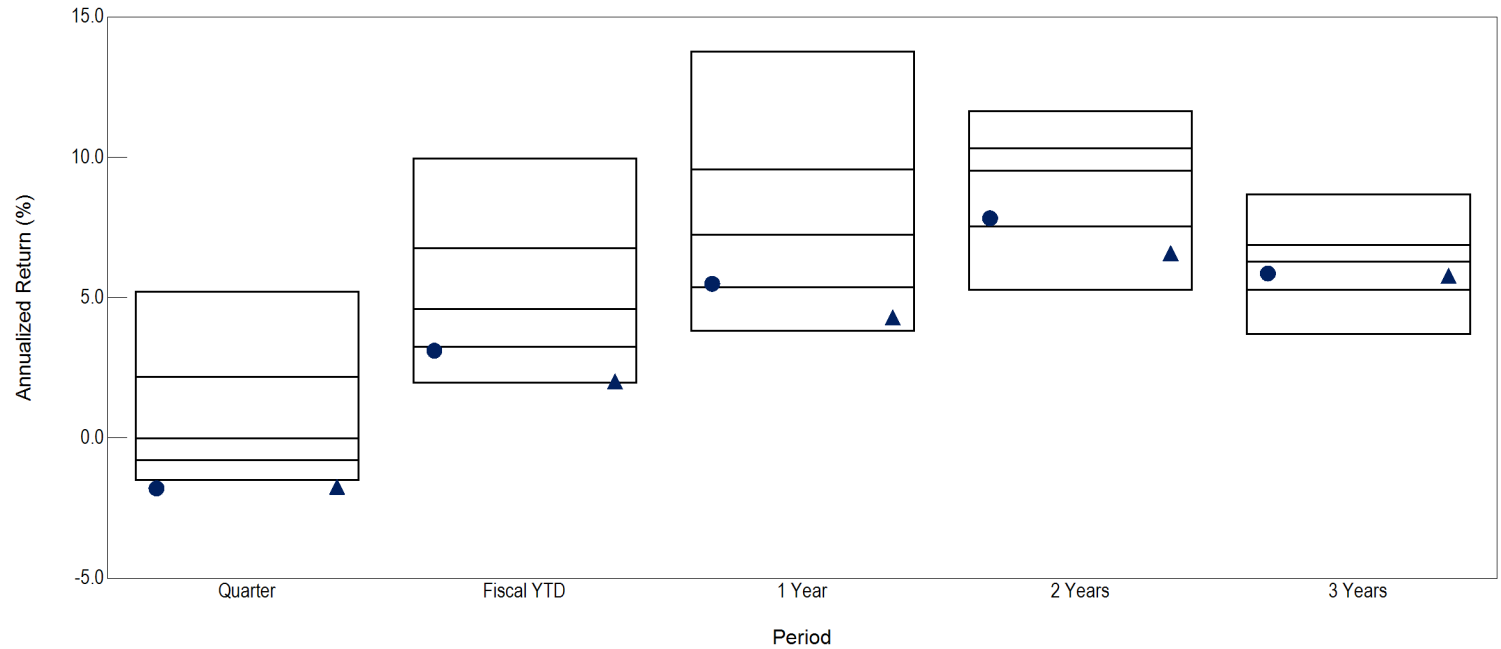
# PRUDENTIAL EMERGING MARKETS

Quarterly and Cumulative Excess Performance



# PRUDENTIAL EMERGING MARKETS

Prudential Emerging Markets vs. eV Emg Mkt Fixed Inc Hedged Net



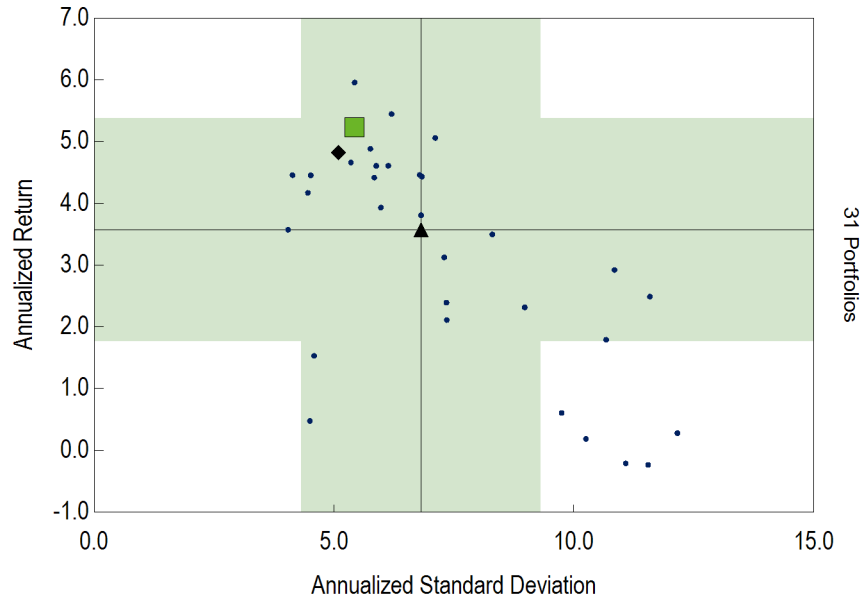
	Return (Rank)									
5th Percentile	5.22		9.96		13.77		11.64		8.67	
25th Percentile	2.20		6.78		9.59		10.34		6.88	
Median	0.02		4.61		7.26		9.54		6.30	
75th Percentile	-0.77		3.26		5.38		7.56		5.30	
95th Percentile	-1.47		2.00		3.85		5.29		3.72	
# of Portfolios	41		41		41		41		37	
● Prudential Emerging Markets	-1.80	(99)	3.11	(77)	5.49	(72)	7.82	(70)	5.86	(61)
▲ JP Morgan EMBI Global Diversified	-1.74	(99)	2.01	(95)	4.30	(92)	6.58	(85)	5.78	(65)



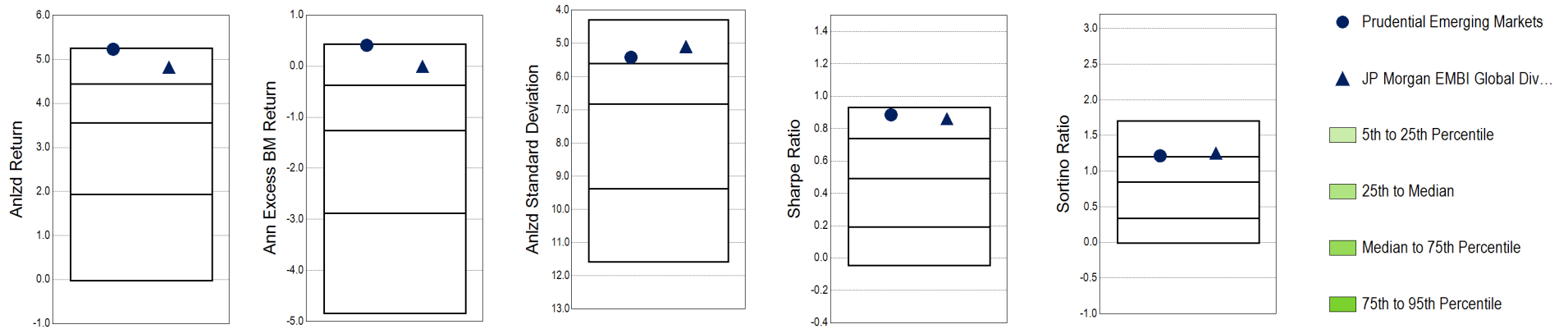
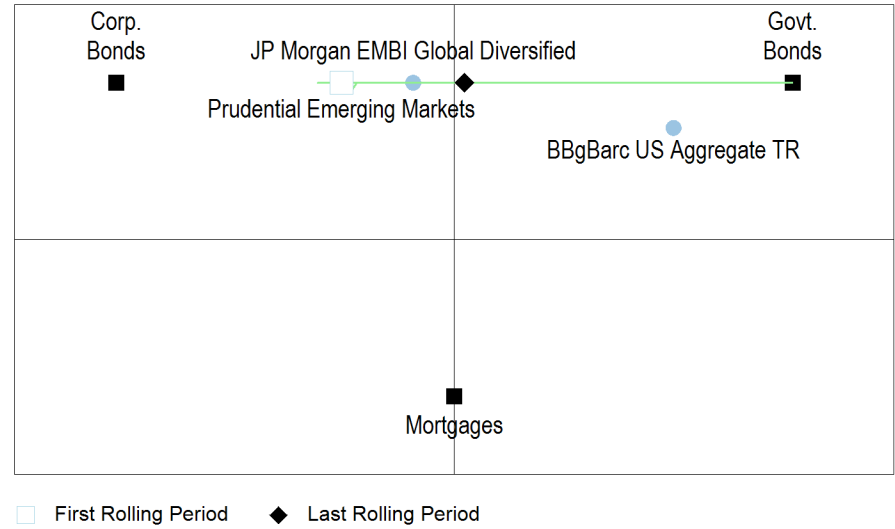


# PRUDENTIAL EMERGING MARKETS

Since Inception Risk Return

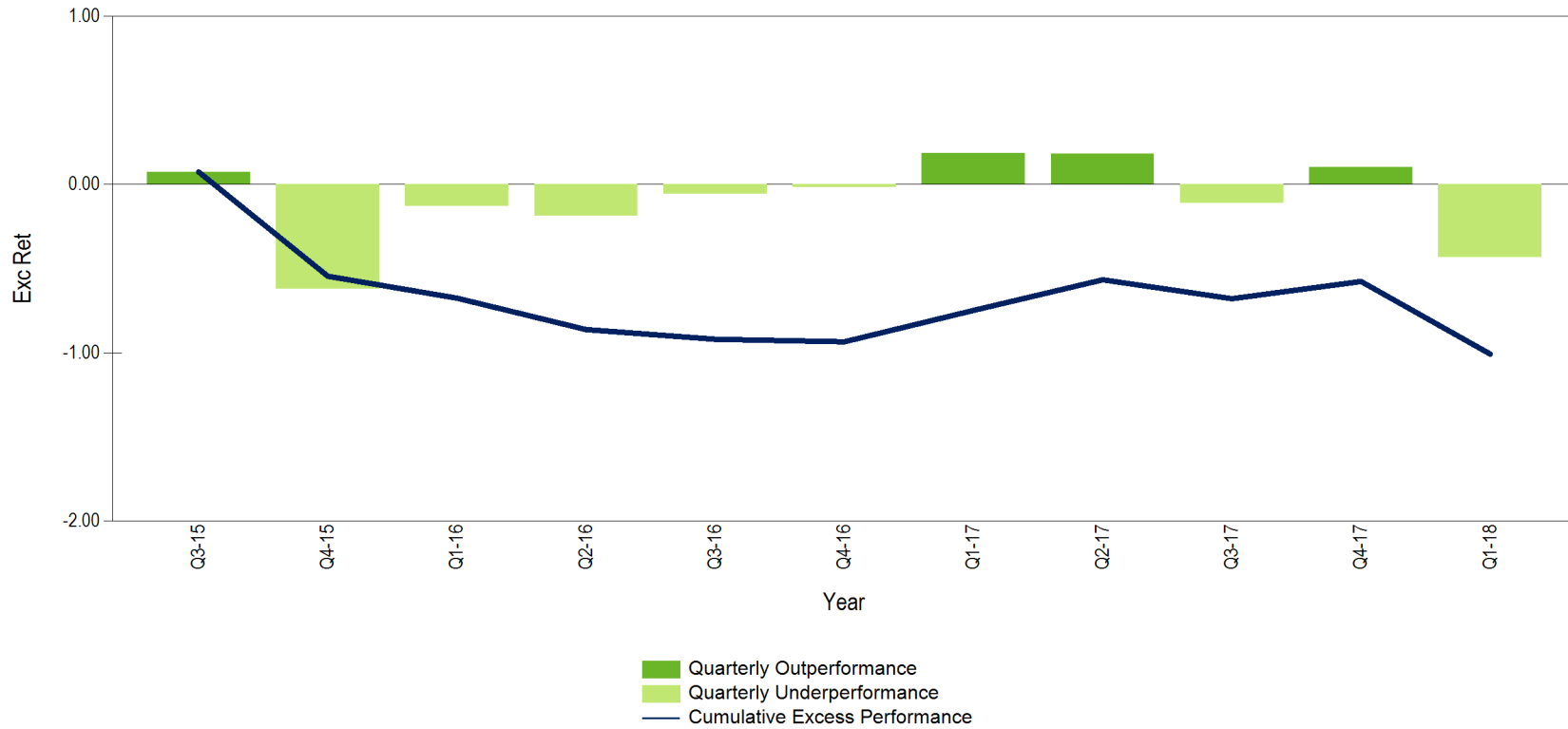


Since Inception Style Map



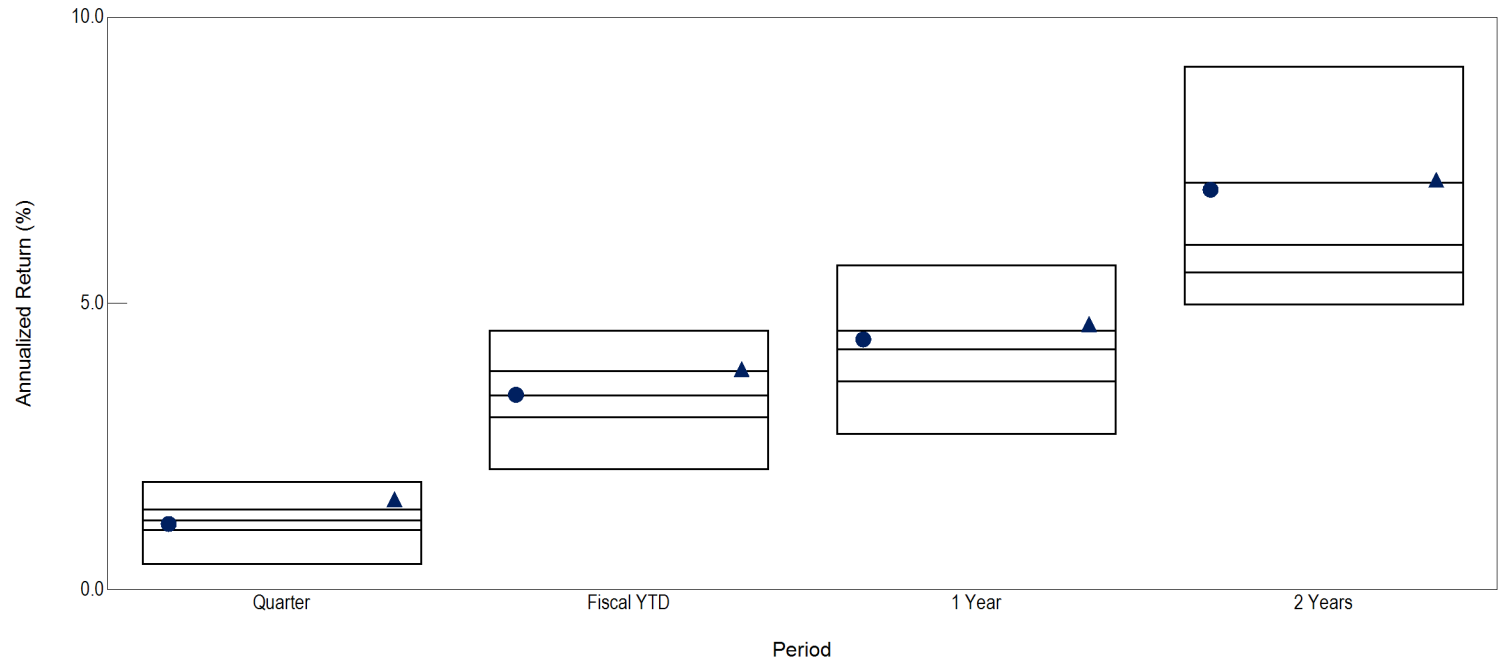
# BAIN CAPITAL SENIOR LOAN FUND, LP

Quarterly and Cumulative Excess Performance



# BAIN CAPITAL SENIOR LOAN FUND, LP

Bain Capital Senior Loan Fund, LP vs. eV US Float-Rate Bank Loan Fixed Inc Net

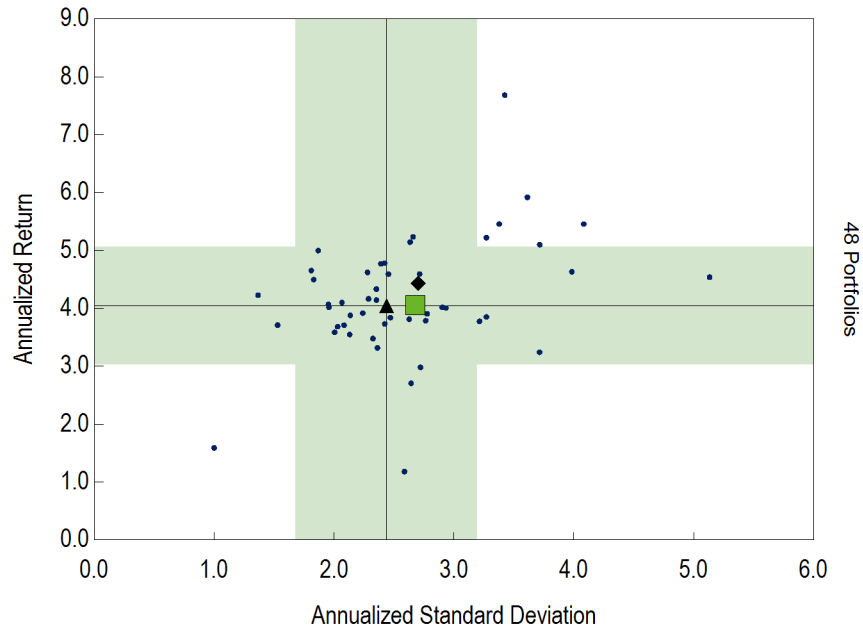


	Return (Rank)			
	Quarter	Fiscal YTD	1 Year	2 Years
5th Percentile	1.88	4.52	5.66	9.13
25th Percentile	1.41	3.83	4.54	7.12
Median	1.23	3.40	4.21	6.04
75th Percentile	1.06	3.02	3.66	5.56
95th Percentile	0.46	2.12	2.74	4.99
# of Portfolios	50	50	49	49
● Bain Capital Senior Loan Fund, LP	1.15 (64)	3.41 (50)	4.37 (31)	6.99 (28)
▲ Credit Suisse Leveraged Loans	1.58 (13)	3.86 (25)	4.64 (23)	7.16 (25)

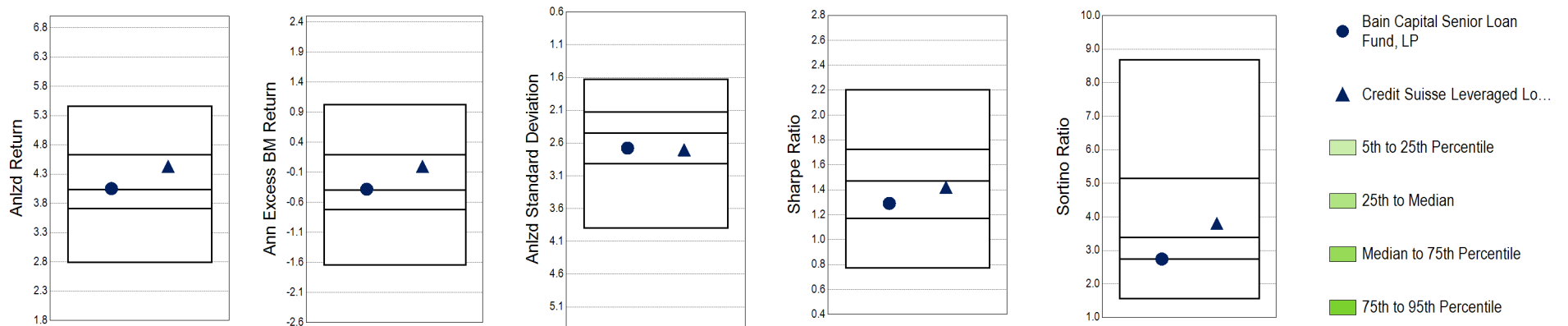
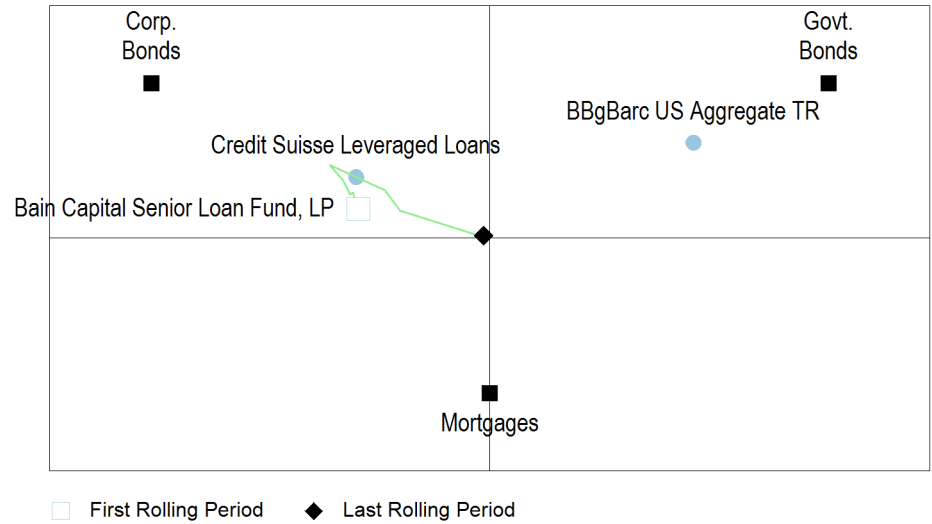


# BAIN CAPITAL SENIOR LOAN FUND, LP

Since Inception Risk Return



Since Inception Style Map



# **REAL ASSETS MANAGER PERFORMANCE**

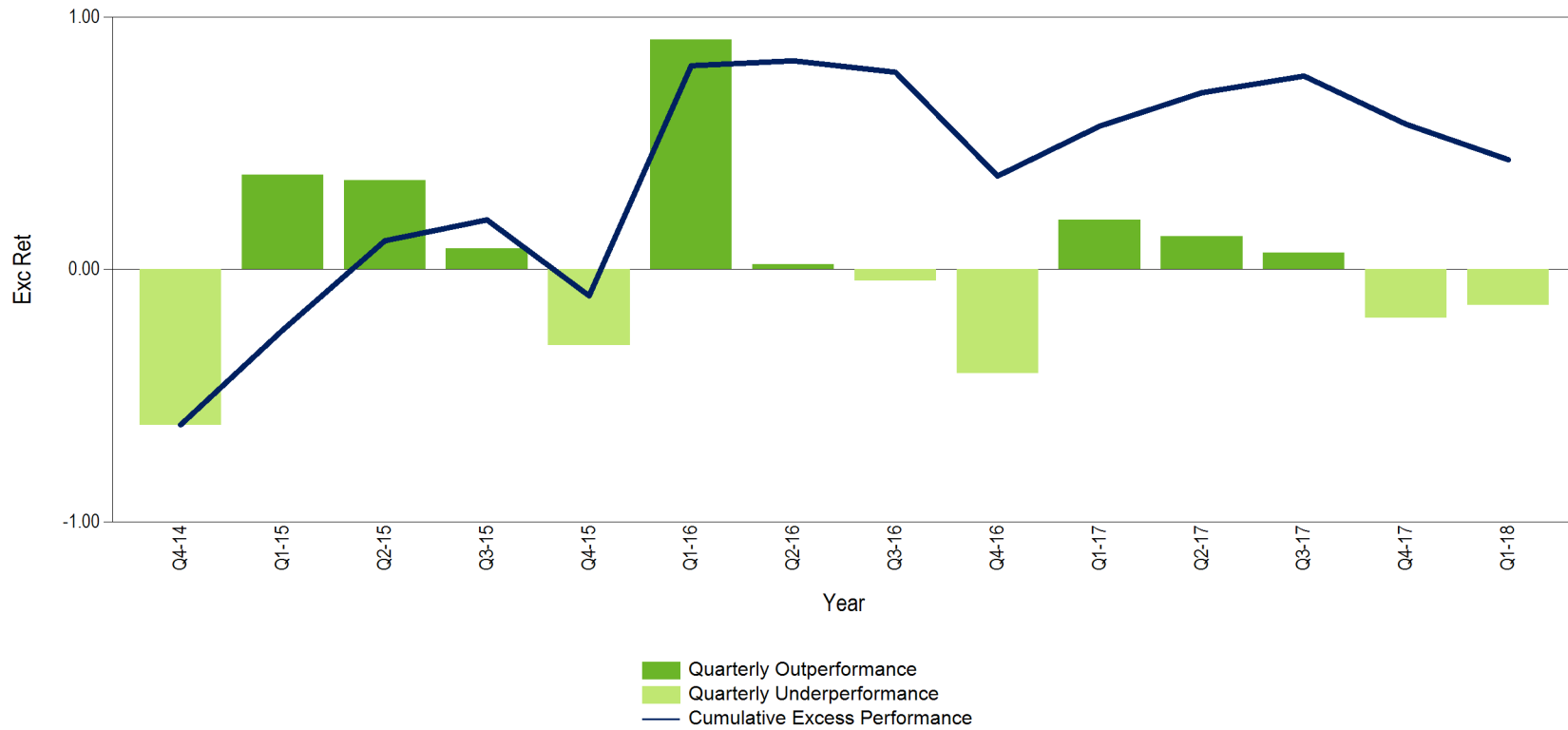
NEPC, LLC

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# Los Angeles City Employees' Retirement System

## DFA US TIPS

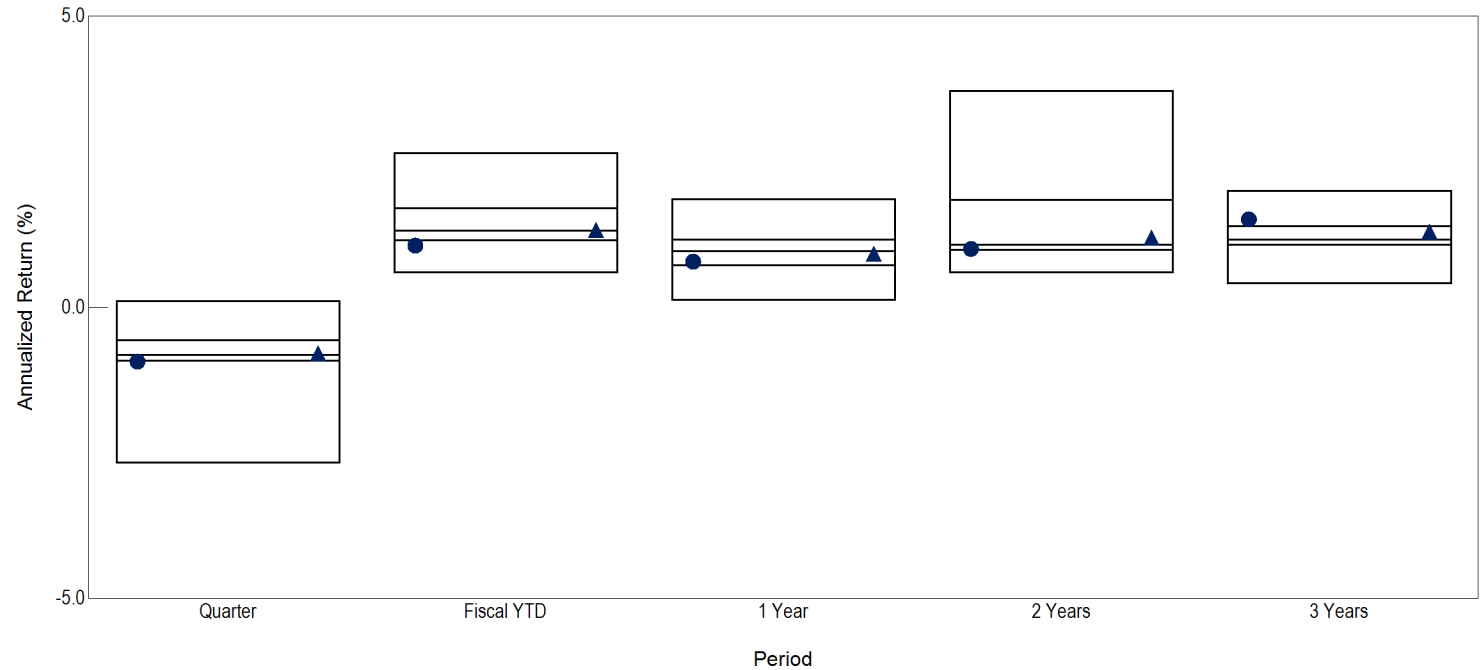
Quarterly and Cumulative Excess Performance



# Los Angeles City Employees' Retirement System

## DFA US TIPS

DFA US TIPS vs. eV US TIPS / Inflation Fixed Inc Net



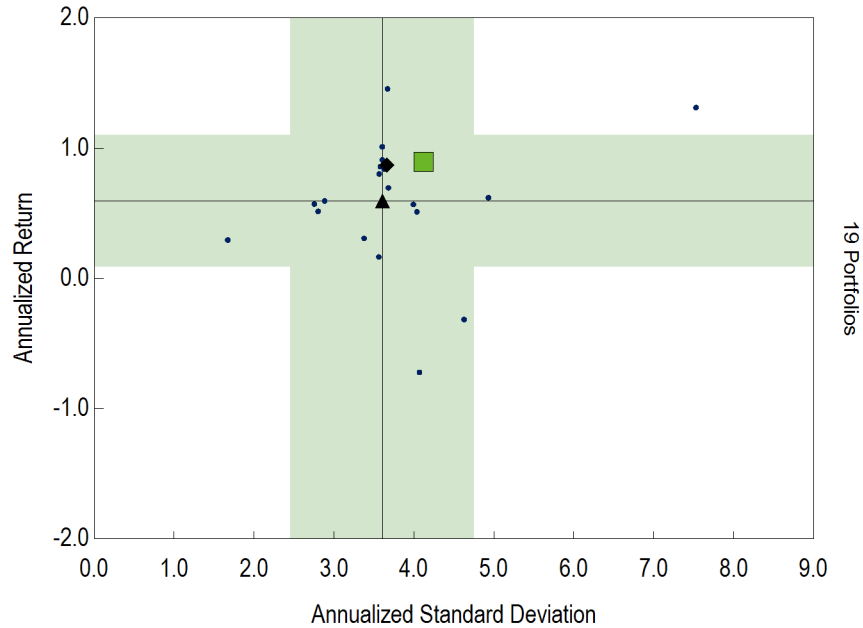
	Return (Rank)									
5th Percentile	0.11		2.64		1.86		3.72		2.00	
25th Percentile	-0.55		1.72		1.18		1.86		1.41	
Median	-0.80		1.33		0.98		1.09		1.17	
75th Percentile	-0.90		1.17		0.73		1.00		1.08	
95th Percentile	-2.66		0.61		0.14		0.61		0.43	
# of Portfolios	21		21		21		21		20	
● DFA US TIPS	-0.93	(86)	1.06	(77)	0.79	(68)	1.00	(75)	1.51	(22)
▲ BbgBarc US TIPS TR	-0.79	(49)	1.33	(51)	0.92	(53)	1.20	(43)	1.30	(34)



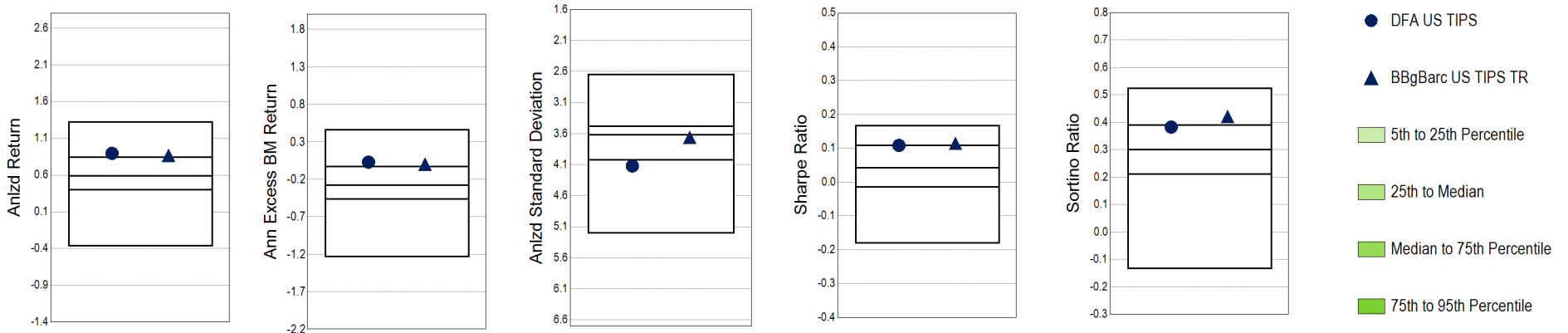
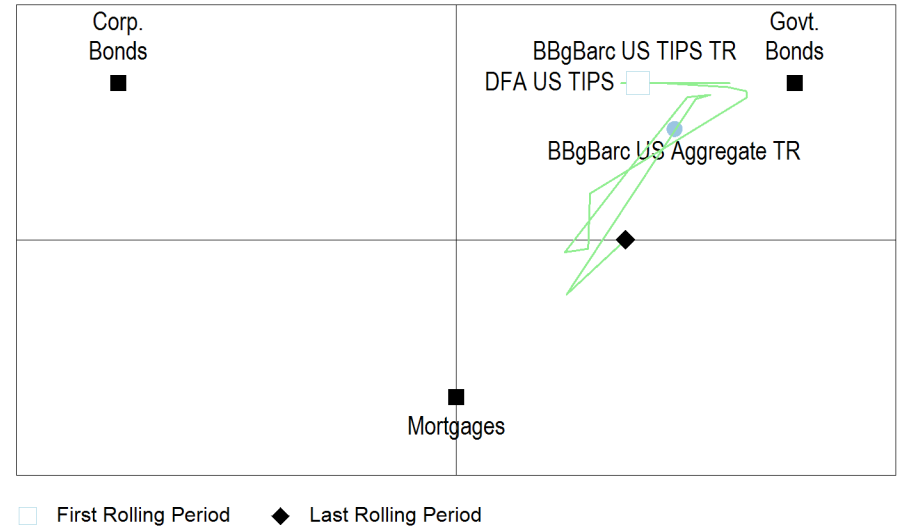
# Los Angeles City Employees' Retirement System

## DFA US TIPS

Since Inception Risk Return



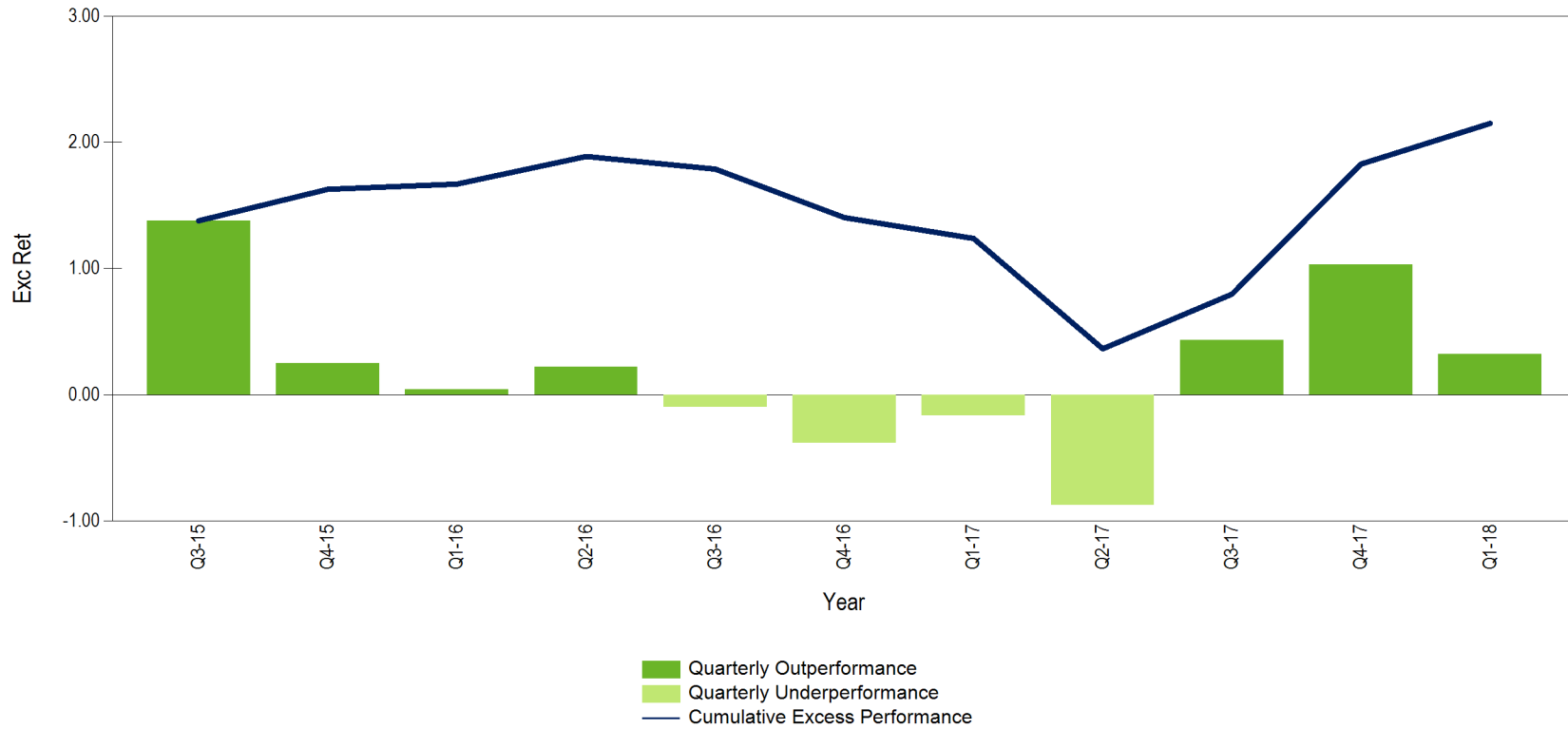
Since Inception Style Map





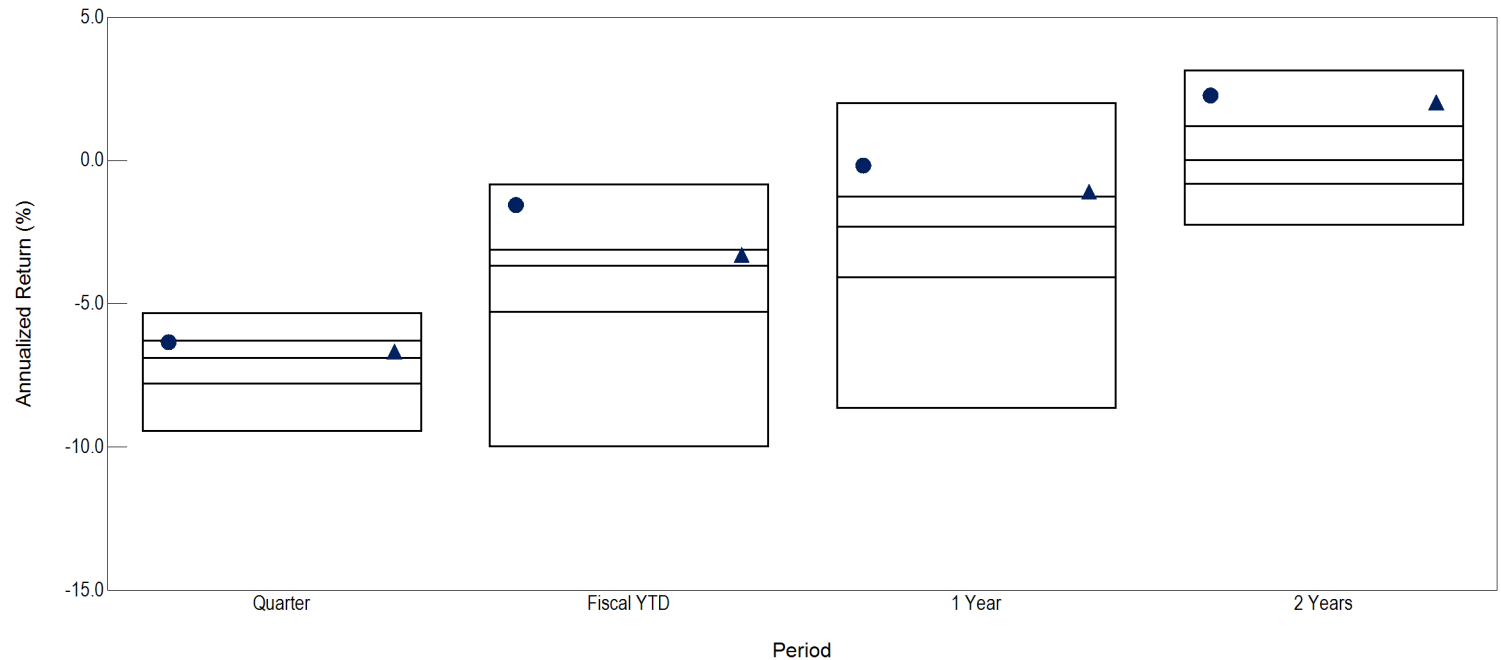
# CENTERSQUARE US REAL ESTATE

Quarterly and Cumulative Excess Performance



# CENTERSQUARE US REAL ESTATE

CenterSquare US Real Estate vs. eV US REIT Net

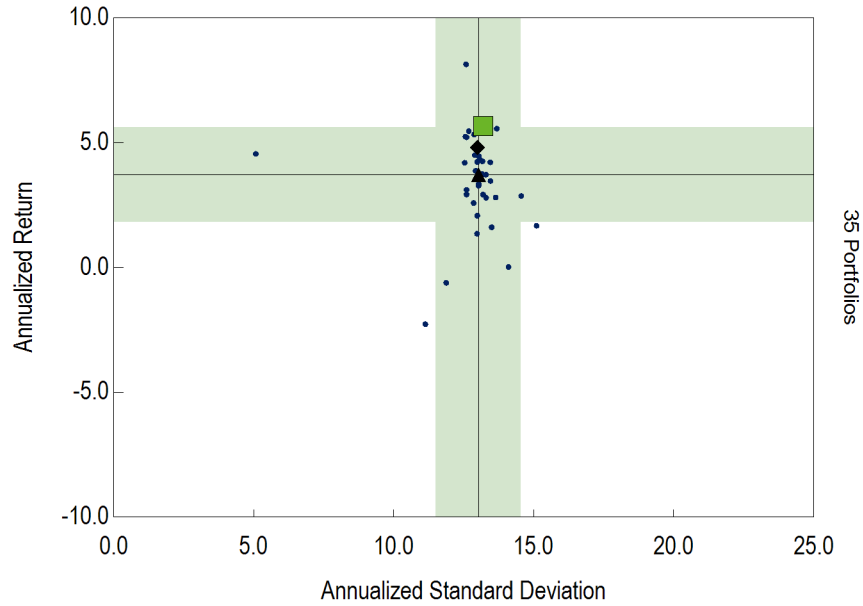


	Return (Rank)							
5th Percentile	-5.32		-0.84		2.01		3.13	
25th Percentile	-6.27		-3.09		-1.23		1.21	
Median	-6.87		-3.64		-2.30		0.03	
75th Percentile	-7.76		-5.26		-4.06		-0.79	
95th Percentile	-9.41		-9.95		-8.60		-2.23	
# of Portfolios	36		36		36		35	
● CenterSquare US Real Estate	-6.34	(26)	-1.56	(10)	-0.18	(16)	2.27	(15)
▲ FTSE NAREIT All Equity REIT	-6.66	(42)	-3.29	(31)	-1.09	(23)	2.03	(17)

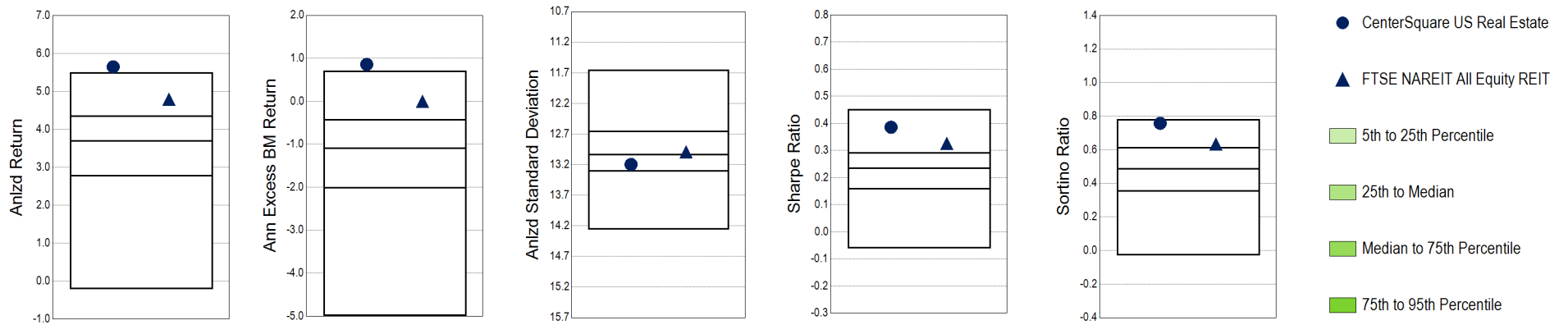
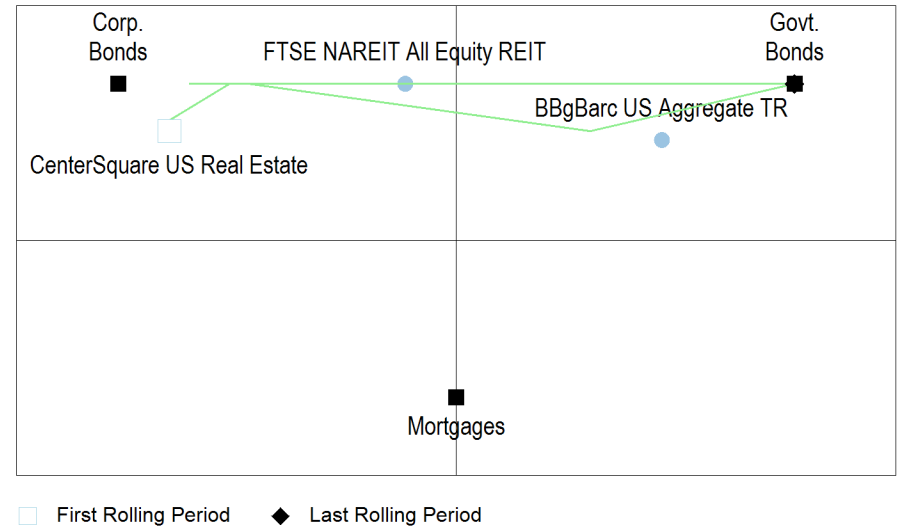


# CENTERSQUARE US REAL ESTATE

Since Inception Risk Return



Since Inception Style Map



# Los Angeles City Employees' Retirement System

## CORE COMMODITY MGMT

Quarterly and Cumulative Excess Performance



# MARKET ENVIRONMENT

NEPC, LLC

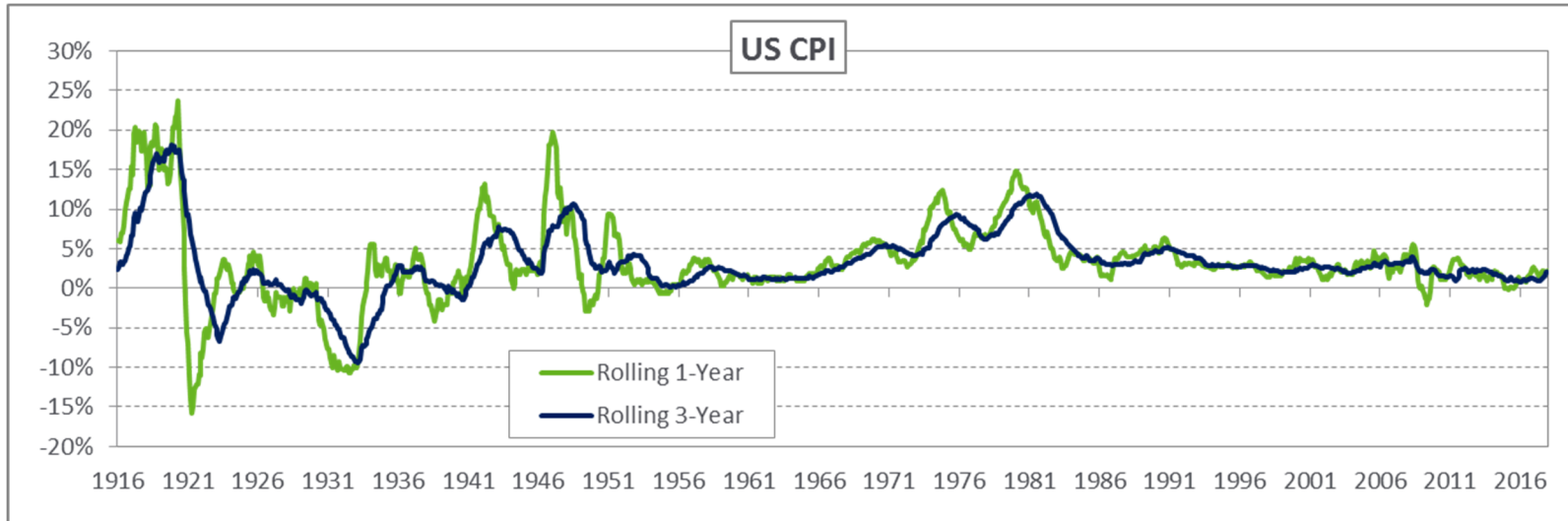
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# MACRO

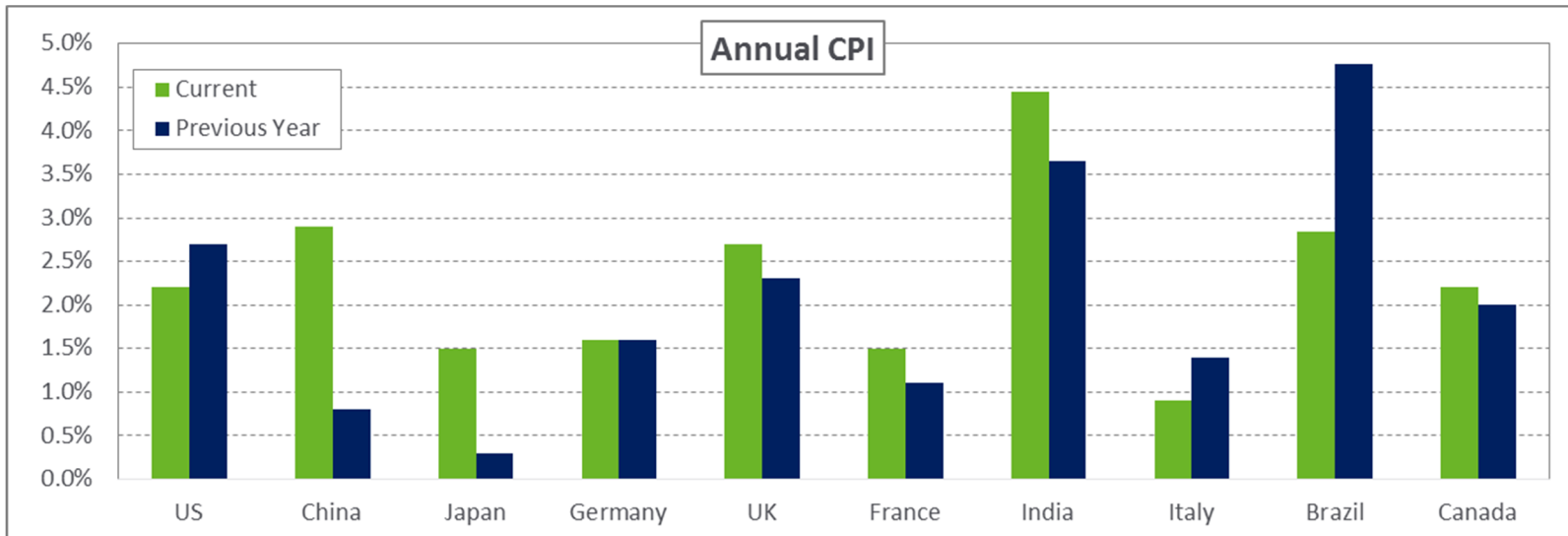
NEPC, LLC

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# INFLATION



Source: Bureau of Labor Statistics, Bloomberg, NEPC



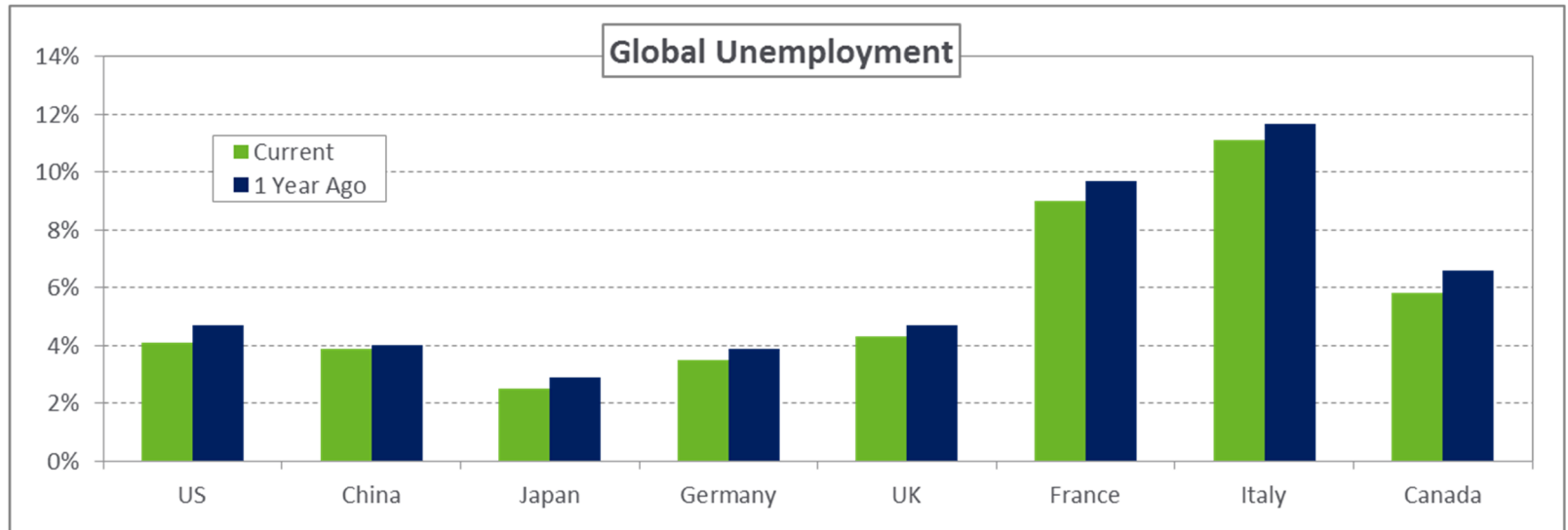
Source: Bureau of Labor Statistics, National Bureau of Statistics of China, Ministry of Internal Affairs and Communications (Japan), German Federal Statistics Office, UK Office for National Statistics, National Statistics Office of France, India Central Statistical Organization, ISTAT, IBGE, STCA, Bloomberg



# UNEMPLOYMENT



Source: Bureau of Labor Statistics, Bloomberg

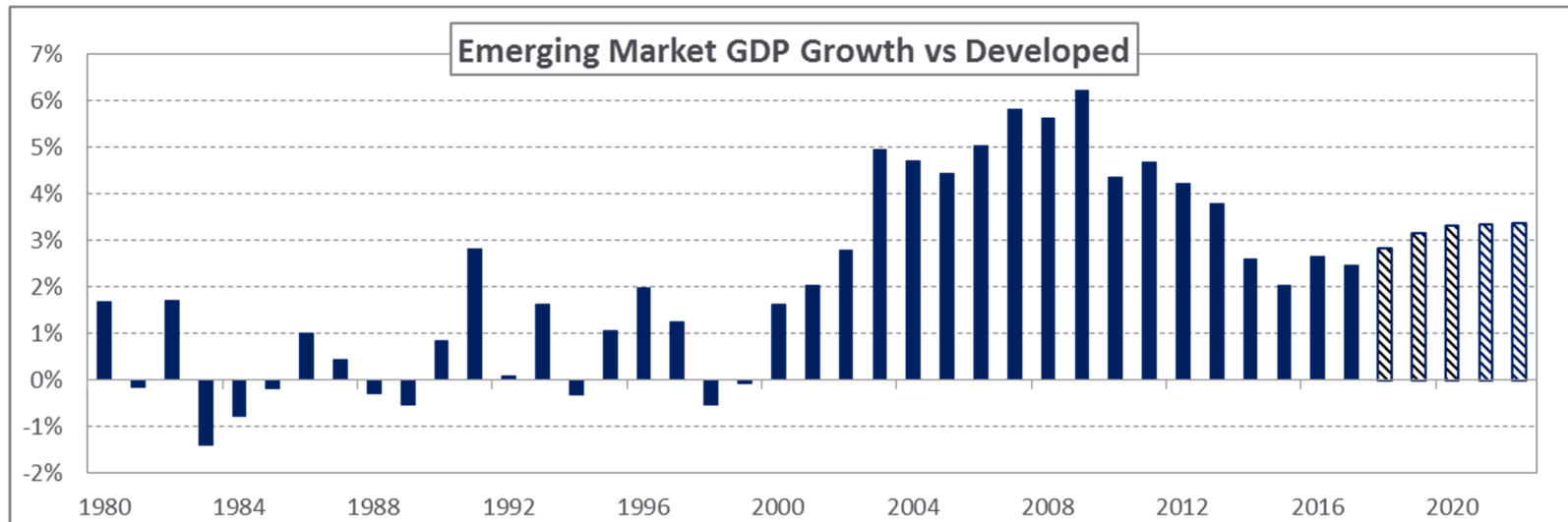


Source: Bureau of Labor Statistics, STA, National Bureau of Statistics of China, Ministry of Internal Affairs and Communications (Japan), German Federal Statistics Office, UK Office for National Statistics, National Statistics Office of France, ISTAT, IBGE, Bloomberg

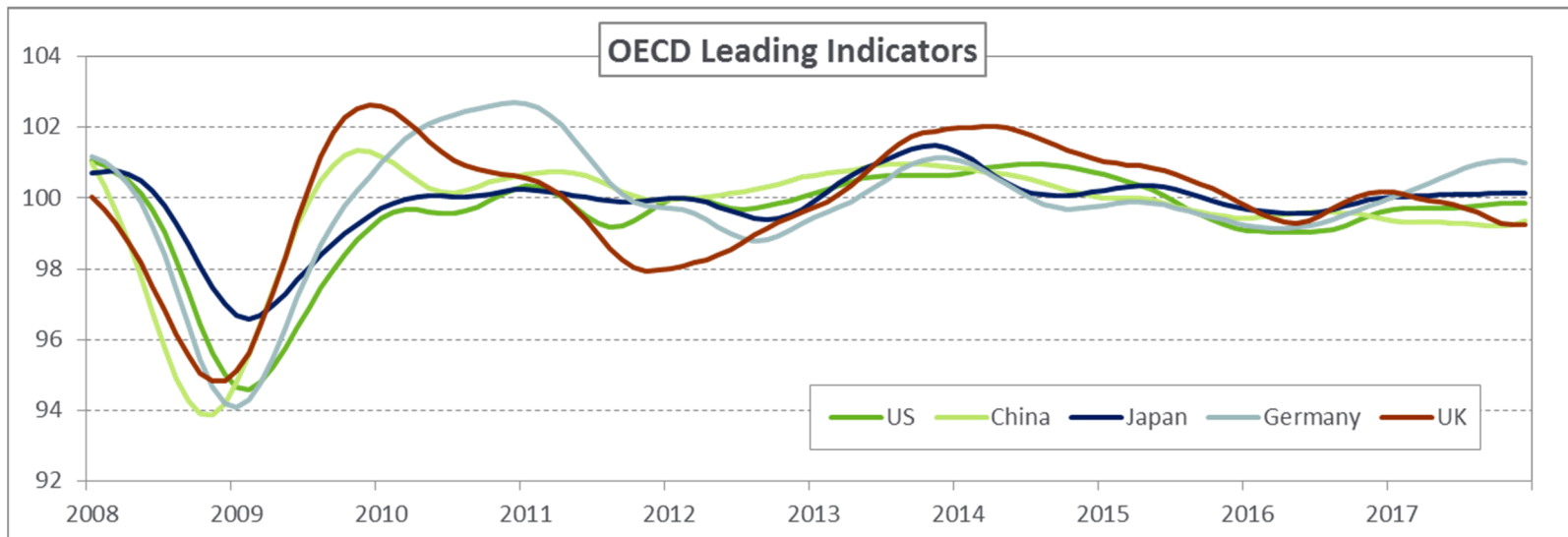




# ECONOMIC INDICATORS



Source: IMF



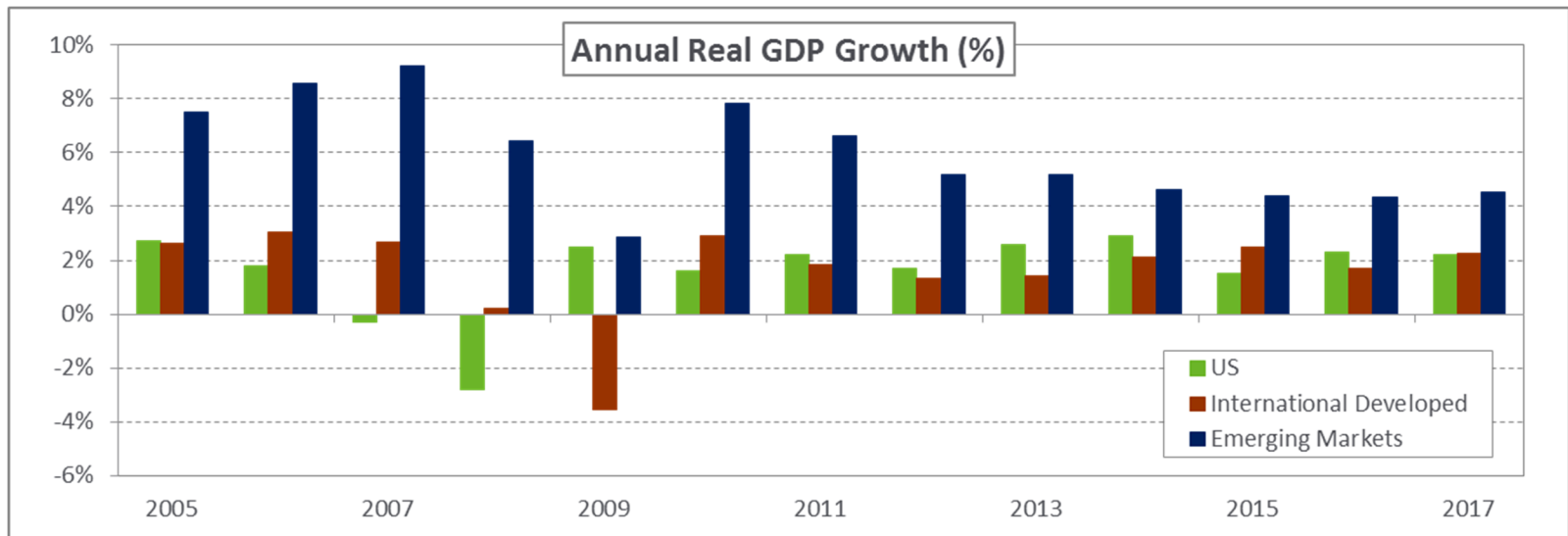
Source: OECD, Bloomberg



# GROSS DOMESTIC PRODUCT



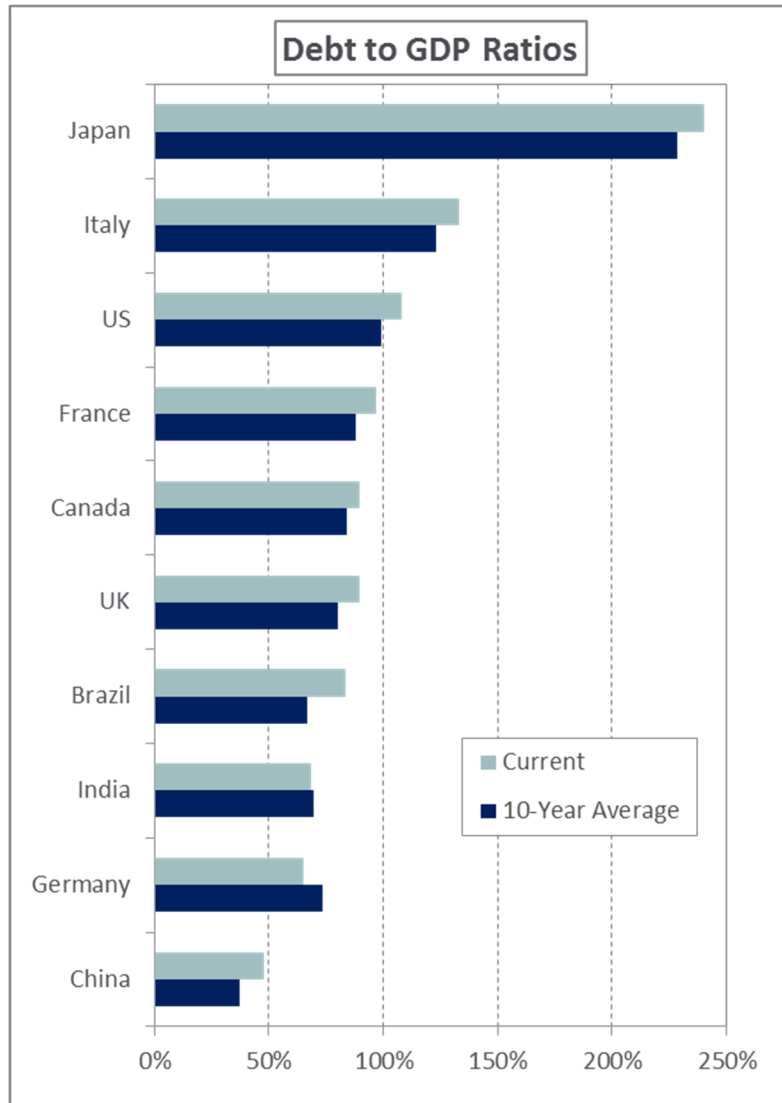
Source: Bloomberg



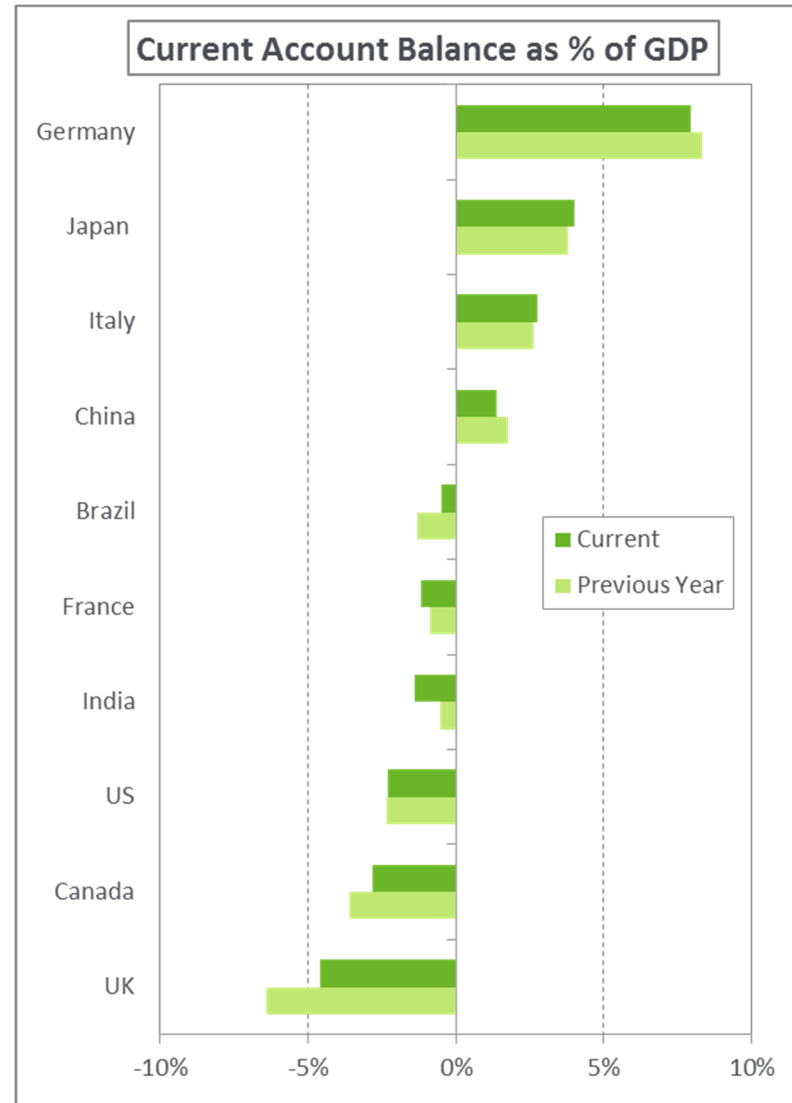
Source: Bloomberg



# GROSS DOMESTIC PRODUCT METRICS



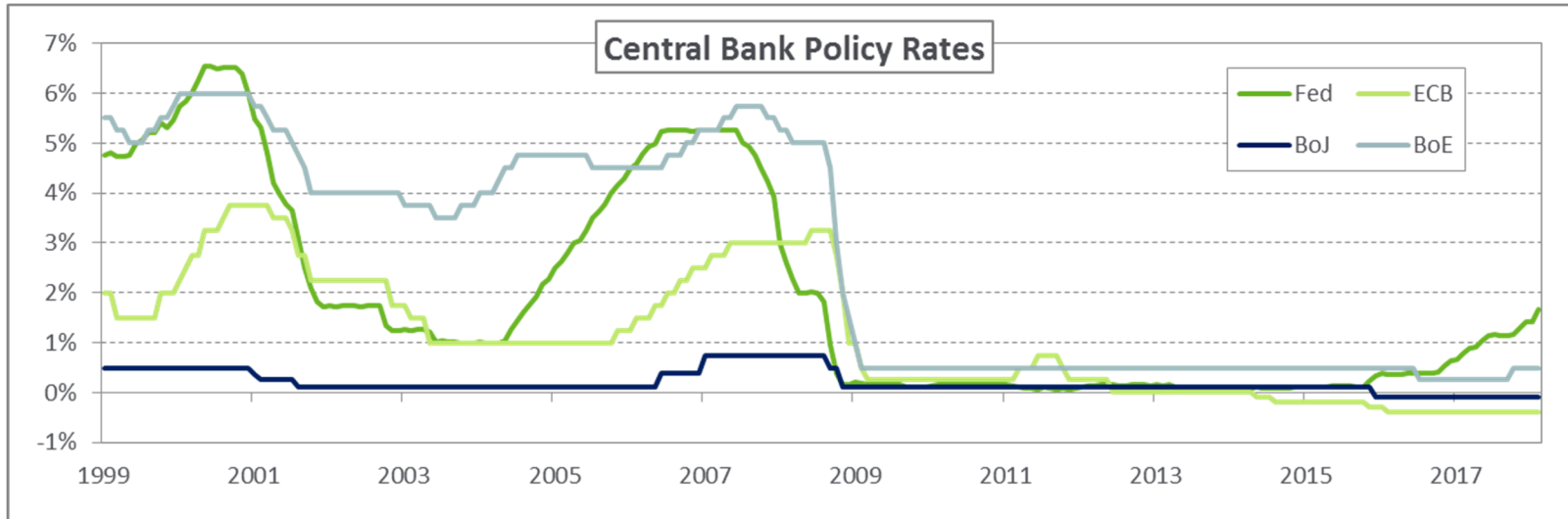
Source: IMF, Bloomberg



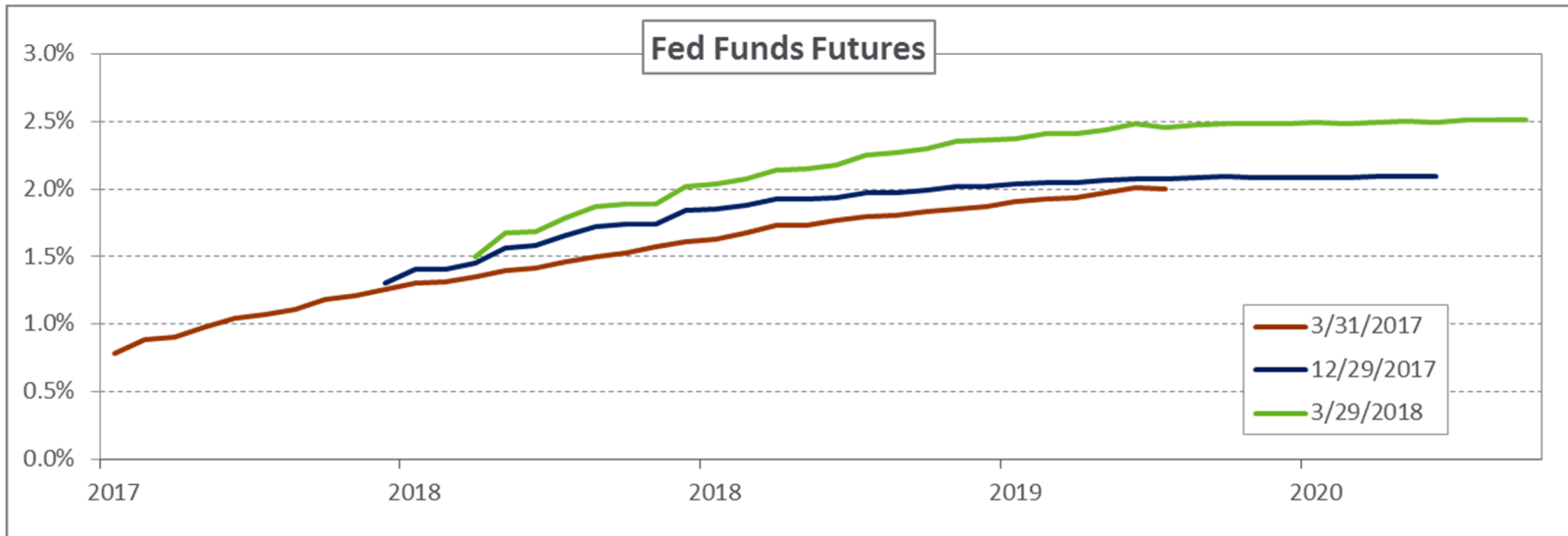
Source: Bloomberg



# CENTRAL BANK RATES



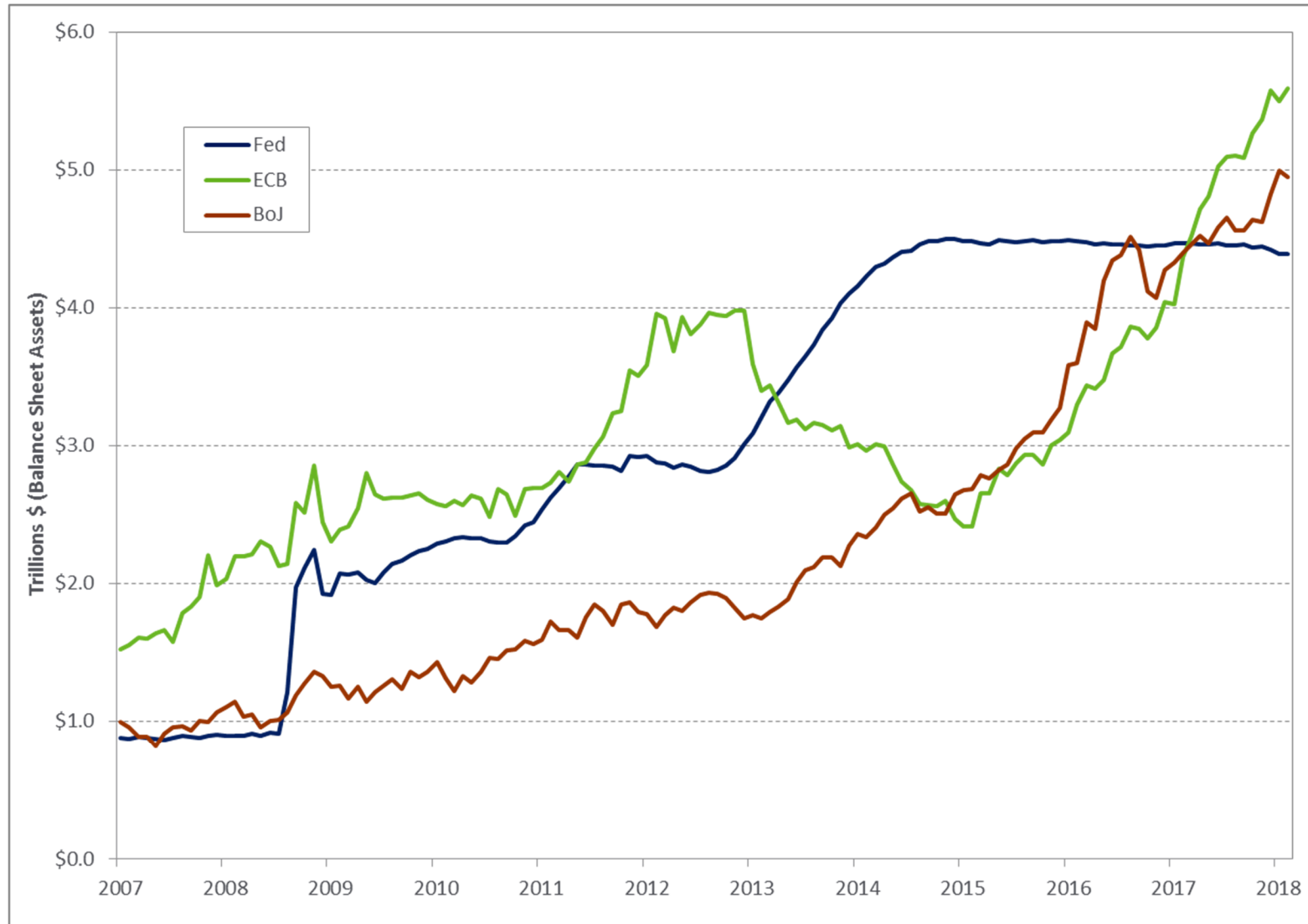
Source: Federal Reserve, ECB, Bank of Japan, Bank of England, Bloomberg



Source: Bloomberg



# CENTRAL BANK BALANCE SHEETS



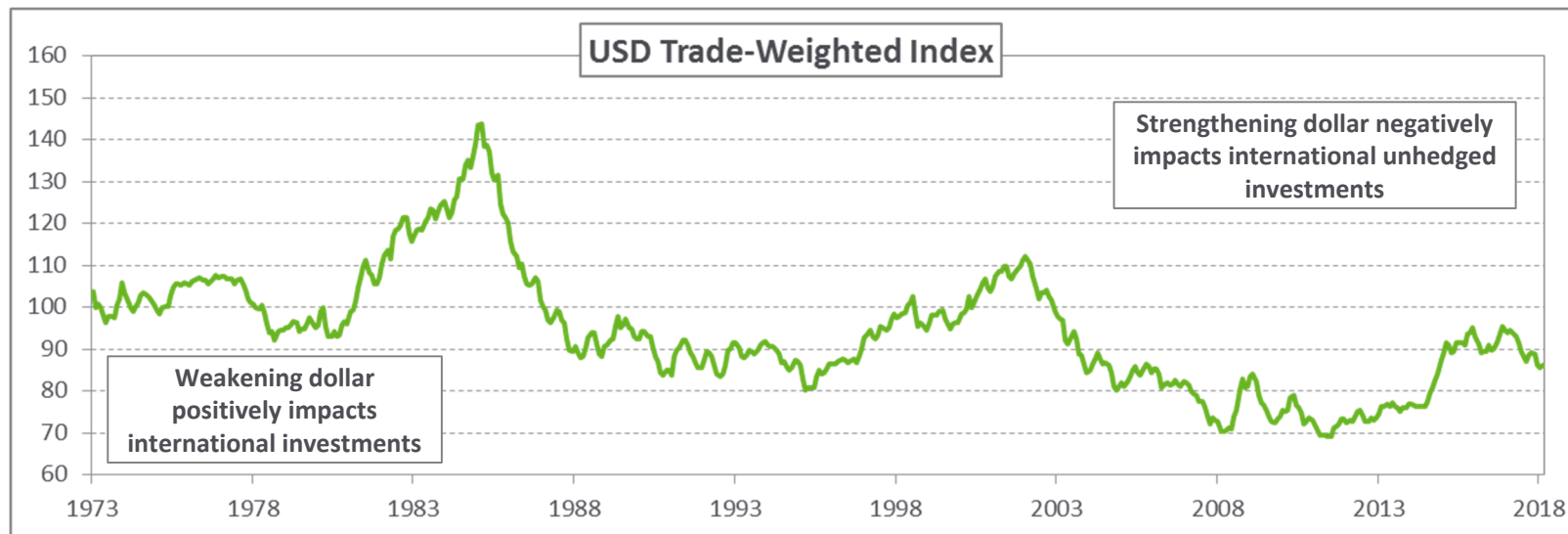
Source: Federal Reserve, Bank of Japan, ECB, Bloomberg, NEPC



# CURRENCIES

Currencies	% Change Relative to USD			
	Spot	1 Month	YTD	1 Year
Euro	1.23	1.1%	2.7%	15.7%
British Pound	1.40	1.9%	3.7%	11.7%
Japanese Yen	106.28	0.4%	6.0%	4.8%
Swiss Franc	0.95	-1.0%	2.1%	5.1%
Australian Dollar	0.77	-1.1%	-1.7%	0.7%
Chinese Yuan	6.29	0.6%	3.4%	9.3%
Brazilian Real	3.31	-2.0%	0.2%	-5.6%
Russian Ruble	57.34	-1.7%	0.6%	-1.9%
Indian Rupee	65.08	0.3%	-1.9%	-0.4%
Mexican Peso	18.18	3.6%	8.1%	3.0%
South African Rand	11.84	-0.4%	4.5%	13.4%

Source: Bloomberg



Source: Bloomberg

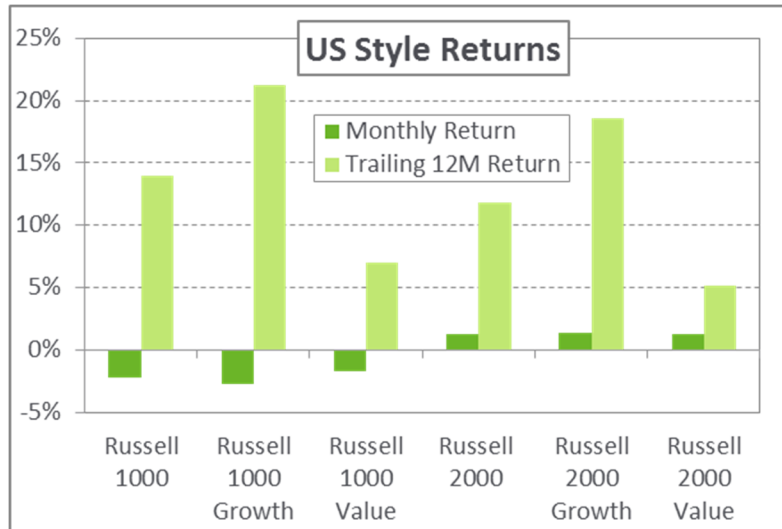


# EQUITY

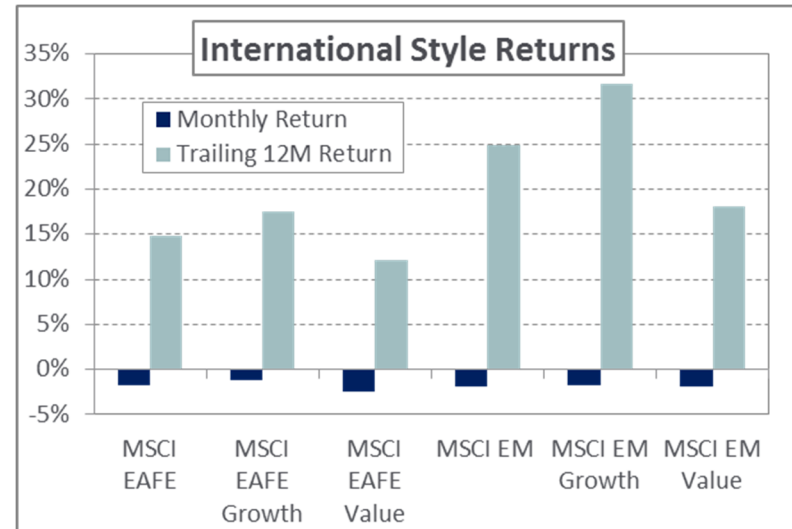
NEPC, LLC

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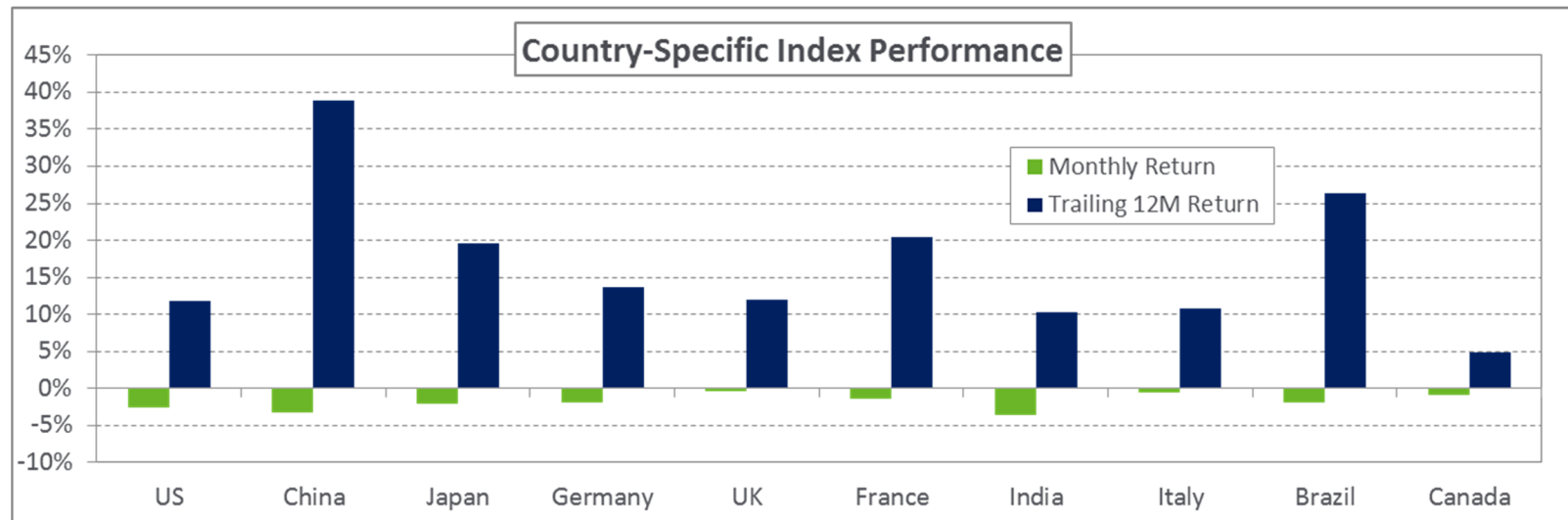
# EQUITY INDEX PERFORMANCE



Source: Russell, Bloomberg



Source: MSCI, Bloomberg



Source: MSCI, Bloomberg  
Represents returns in USD



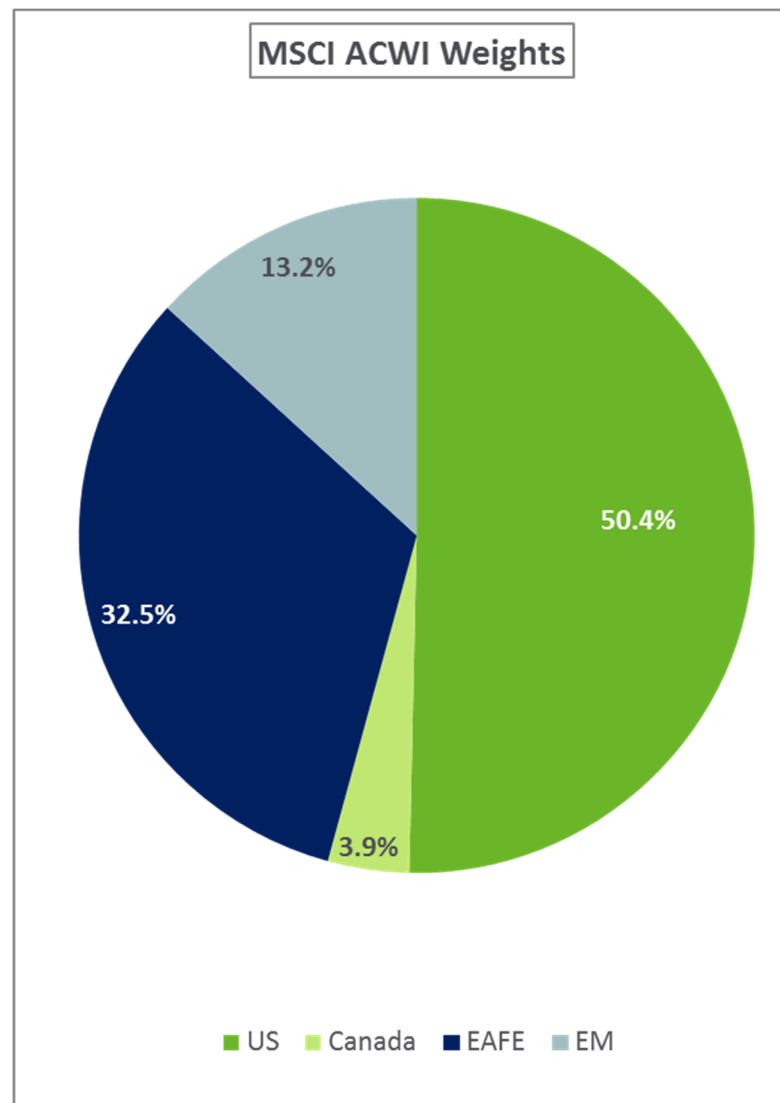


# INDEX COMPOSITION

	MTD	QTD	YTD	Index Weight
<b>S&amp;P 500</b>	<b>-2.5%</b>	<b>-0.8%</b>	<b>-0.8%</b>	<b>100%</b>
Cons Disc	-2.4%	3.0%	3.0%	12.7%
Cons Staples	-1.0%	-7.3%	-7.3%	7.7%
Energy	1.6%	-6.1%	-6.1%	5.8%
Financials	-4.4%	-1.1%	-1.1%	14.2%
Health Care	-3.1%	-1.3%	-1.3%	13.9%
Industrials	-2.7%	-1.7%	-1.7%	10.3%
Info Tech	-3.9%	3.4%	3.4%	24.8%
Materials	-4.3%	-5.7%	-5.7%	2.9%
Real Estate	3.6%	-5.3%	-5.3%	2.8%
Telecom	-1.0%	-7.8%	-7.8%	2.0%
Utilities	3.7%	-3.6%	-3.6%	2.9%

	MTD	QTD	YTD	Index Weight
<b>MSCI ACWI</b>	<b>-2.1%</b>	<b>-0.9%</b>	<b>-0.9%</b>	<b>100%</b>
Cons Disc	-2.7%	1.0%	1.0%	12.0%
Cons Staples	0.1%	-4.9%	-4.9%	8.0%
Energy	0.7%	-3.8%	-3.8%	6.3%
Financials	-3.8%	-1.0%	-1.0%	18.5%
Health Care	-2.0%	-1.0%	-1.0%	10.6%
Industrials	-2.4%	-1.6%	-1.6%	11.1%
Info Tech	-3.0%	3.2%	3.2%	18.9%
Materials	-3.6%	-3.7%	-3.7%	5.4%
Real Estate	2.1%	-3.6%	-3.6%	3.2%
Telecom	-1.5%	-5.4%	-5.4%	3.1%
Utilities	3.8%	-1.3%	-1.3%	2.9%

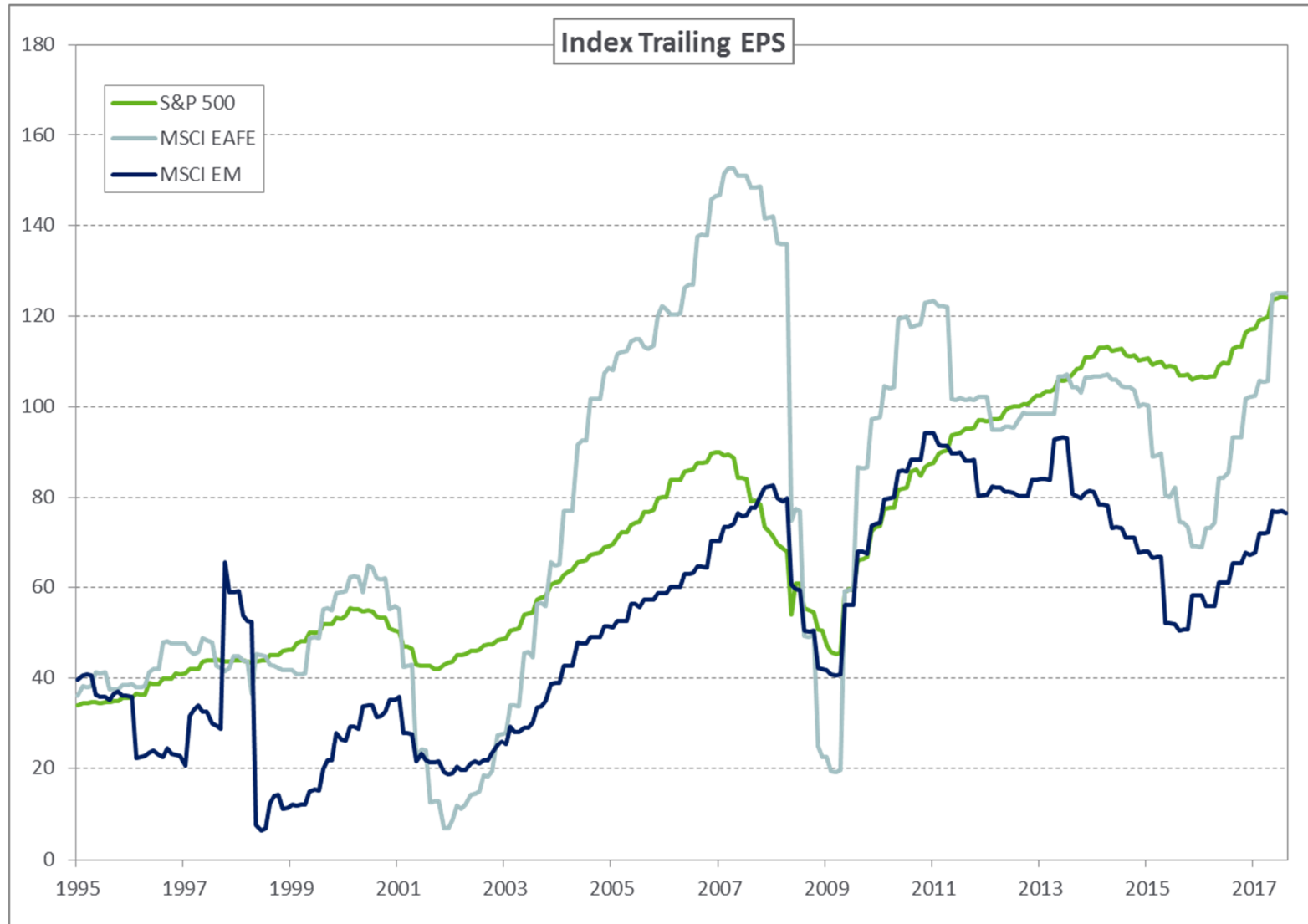
Source: S&P, MSCI, Bloomberg



Source: MSCI, Bloomberg



# EARNINGS



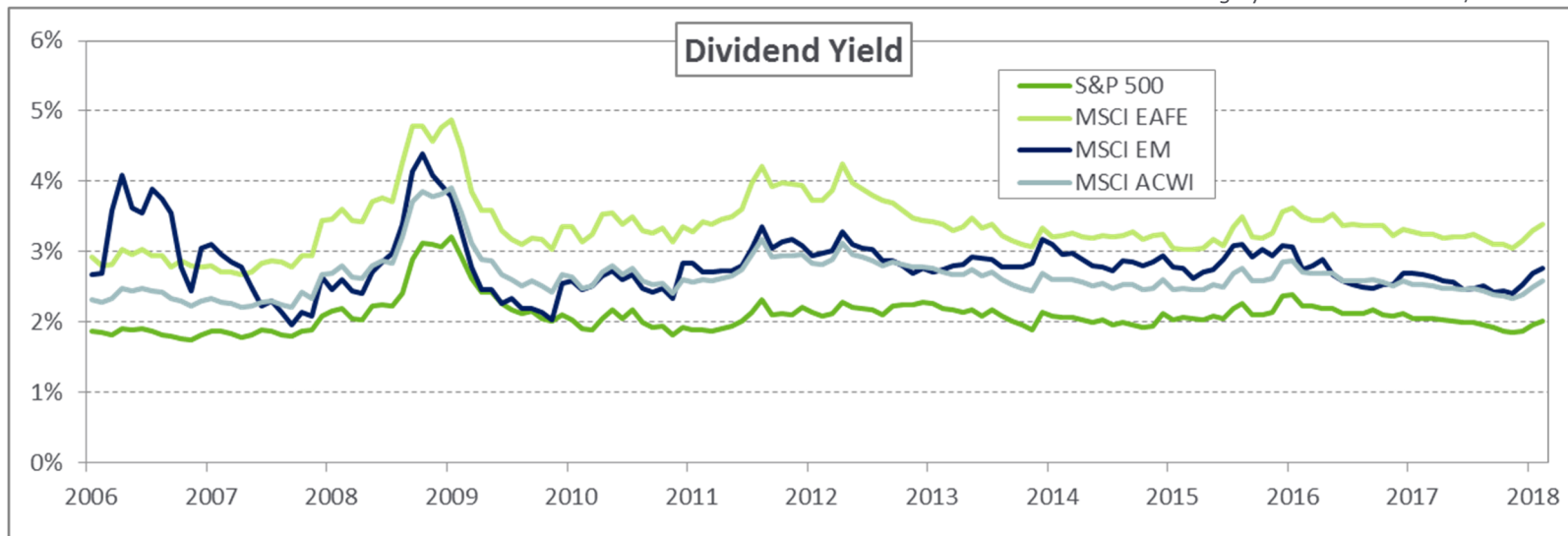
Source: S&P, MSCI, Bloomberg



# YIELDS



Source: S&P, MSCI, Bloomberg  
Earnings yield calculated as 1/PE Ratio



Source: S&P, MSCI, Bloomberg



# CREDIT

NEPC, LLC

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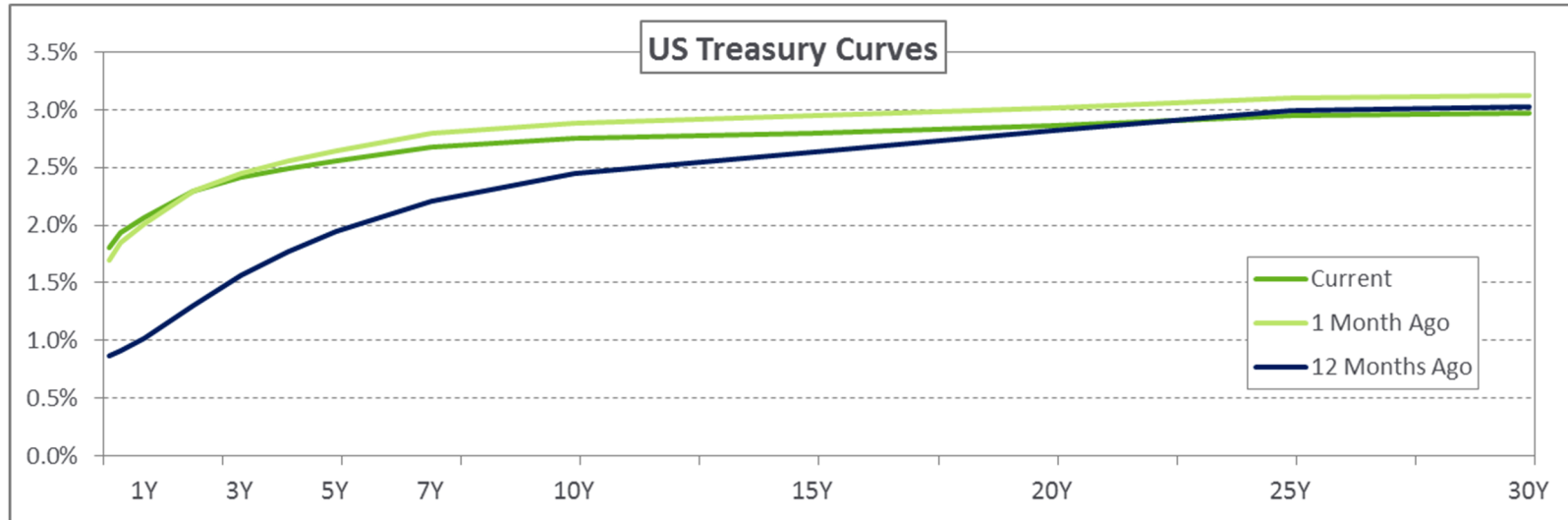
# FIXED INCOME CHARACTERISTICS

	Averages			Total Returns (%)		
	Yield to Worst	Spread (bps)	Duration (Years)	1-Month	YTD	1-Year
Barclays Aggregate	3.1%	41	6.1	0.6%	-1.5%	1.2%
Barclays Treasury	2.6%	-	6.1	0.9%	-1.2%	0.4%
Barclays Agency	2.6%	12	3.9	0.6%	-0.5%	0.8%
Barclays MBS	3.3%	29	5.1	0.6%	-1.2%	0.8%
Barclays ABS	2.8%	43	2.3	0.2%	-0.5%	0.5%
Barclays CMBS	3.3%	67	5.4	0.4%	-1.3%	1.1%
Barclays Corp IG	3.8%	109	7.5	0.3%	-2.3%	2.7%
Barclays Muni	2.7%	-	6.0	0.4%	-1.1%	2.7%
Barclays HY Muni	5.3%	-	8.1	1.5%	0.6%	6.0%
Barclays TIPS	2.8%	-	5.0	1.1%	-0.8%	0.9%
Barclays HY	6.2%	354	4.1	-0.6%	-0.9%	3.8%
Barclays Global Agg	1.8%	38	7.1	1.1%	1.4%	7.0%
JPM EMBI Glob Div	5.9%	326	7.4	0.3%	-1.7%	4.3%
JPM CEMBI Broad	4.6%	244	4.7	-0.2%	-1.1%	3.7%
JPM GBI - EM	6.0%	-	5.2	1.0%	4.4%	13.0%

Source: Barclays, JPM, Bloomberg



# TREASURIES



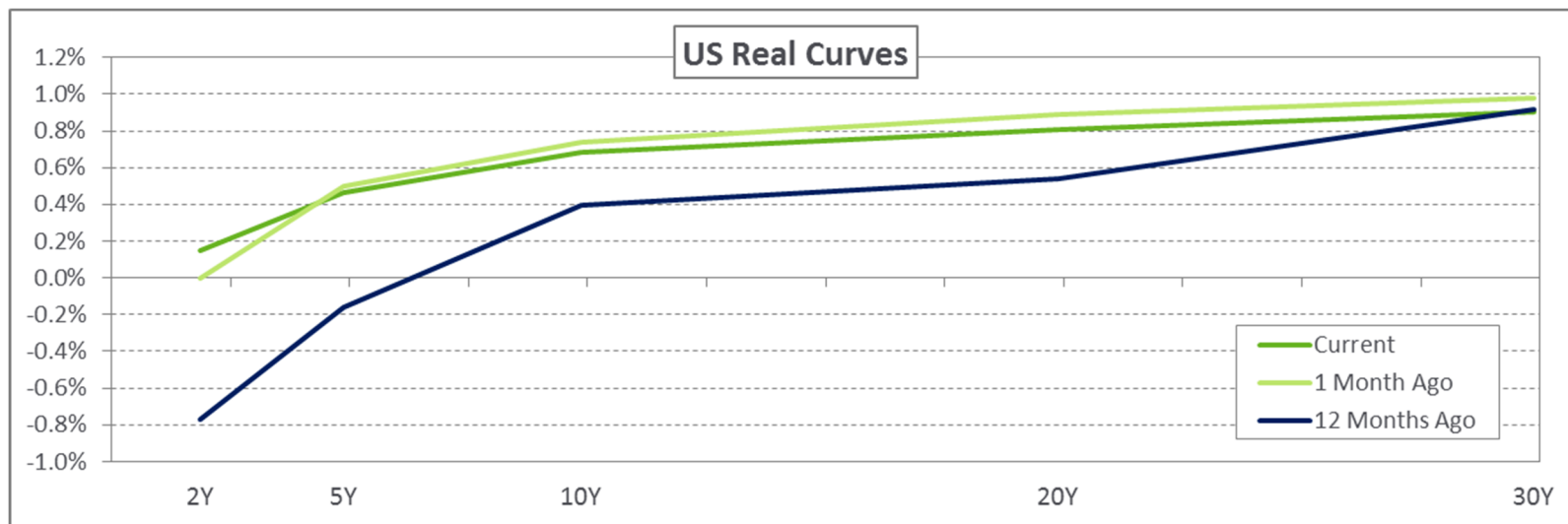
Source: Bloomberg

	Yield (%)			Total Return (%)	
	Current	1 Month Ago	12 Months Ago	1 Month	12 Months
<b>3M Treasury</b>	1.81%	1.70%	0.86%	0.13%	1.05%
<b>6M Treasury</b>	1.94%	1.85%	0.91%	0.14%	1.07%
<b>2Y Treasury</b>	2.30%	2.29%	1.31%	0.17%	-0.17%
<b>5Y Treasury</b>	2.56%	2.65%	1.94%	0.65%	-0.81%
<b>10Y Treasury</b>	2.75%	2.89%	2.45%	1.32%	-1.09%
<b>30Y Treasury</b>	2.98%	3.13%	3.03%	3.37%	3.54%

Source: Barclays, Bloomberg



# REAL YIELDS



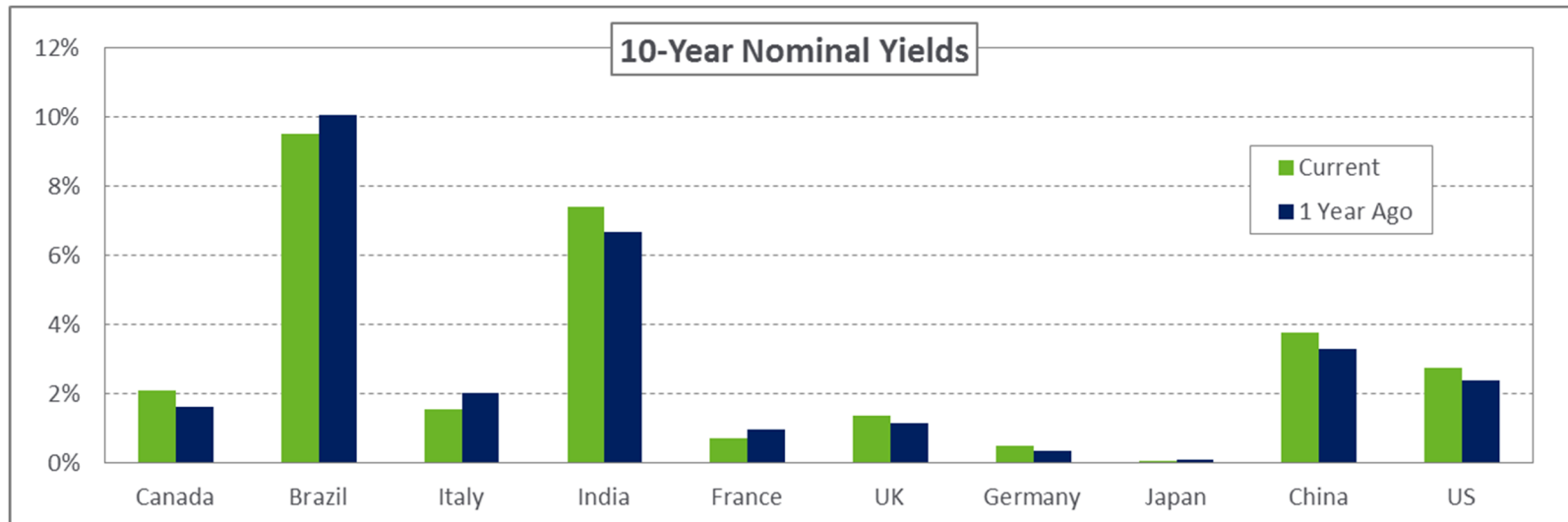
Source: Bloomberg

	Real Rates			Breakeven Rates	
	Current	1 Month Ago	12 Months Ago	Current	12 Months Ago
<b>2Y Treasury</b>	0.15%	0.00%	-0.77%	1.98%	1.82%
<b>5Y Treasury</b>	0.47%	0.50%	-0.16%	2.04%	1.95%
<b>10Y Treasury</b>	0.68%	0.74%	0.40%	2.06%	1.98%
<b>20Y Treasury</b>	0.81%	0.89%	0.54%	2.00%	1.94%
<b>30Y Treasury</b>	0.90%	0.98%	0.91%	2.07%	2.09%

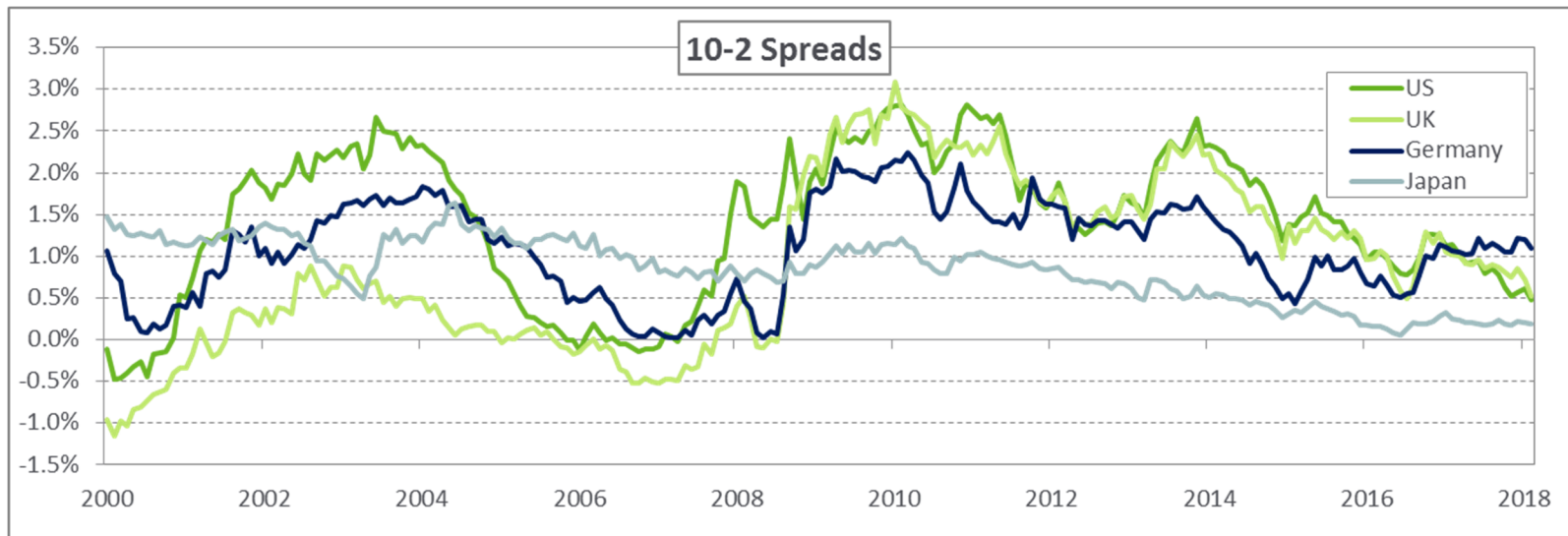
Source: Barclays, Bloomberg



# NOMINAL YIELDS



Source: Bloomberg

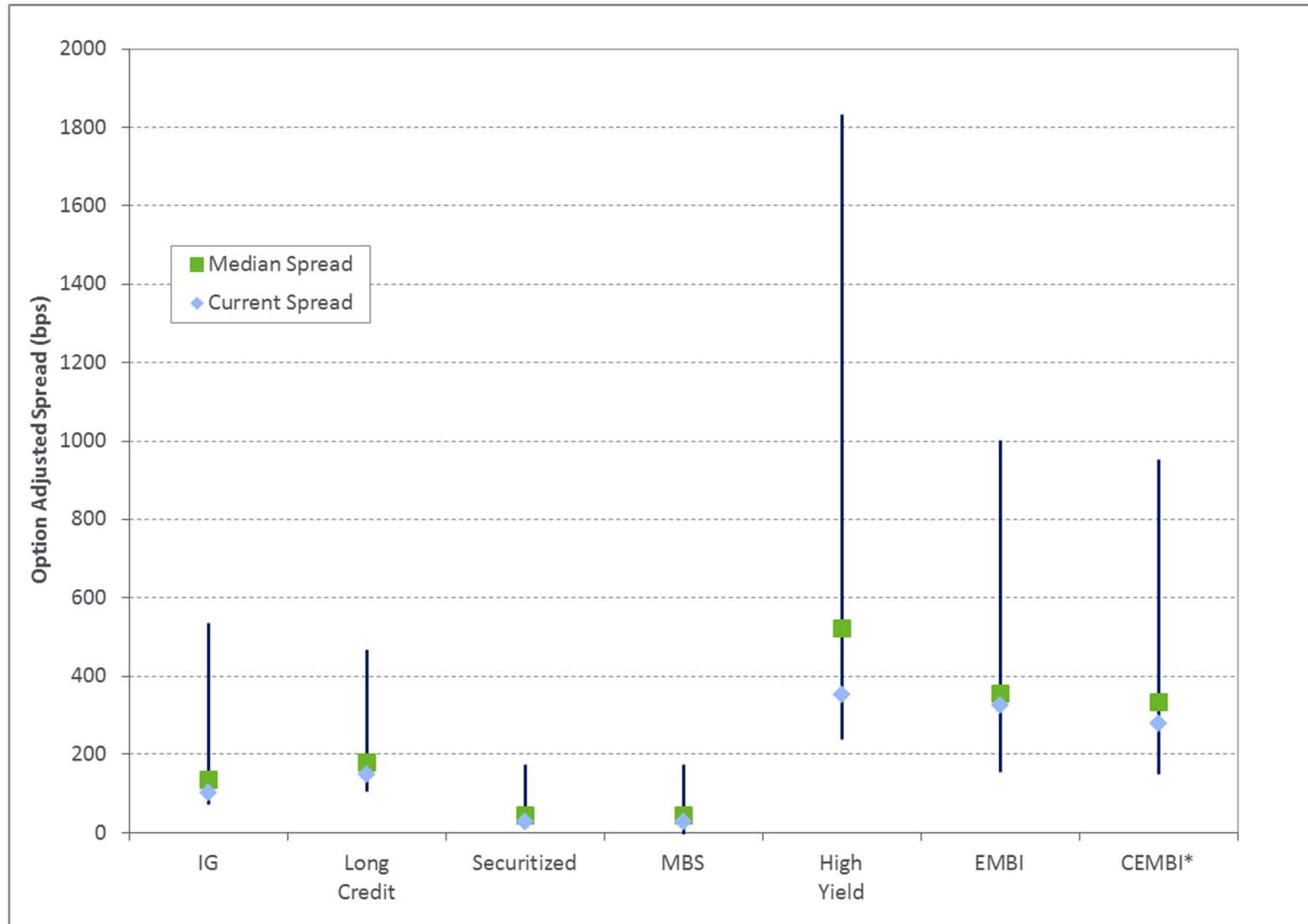


Source: Bloomberg





# CREDIT SPREADS



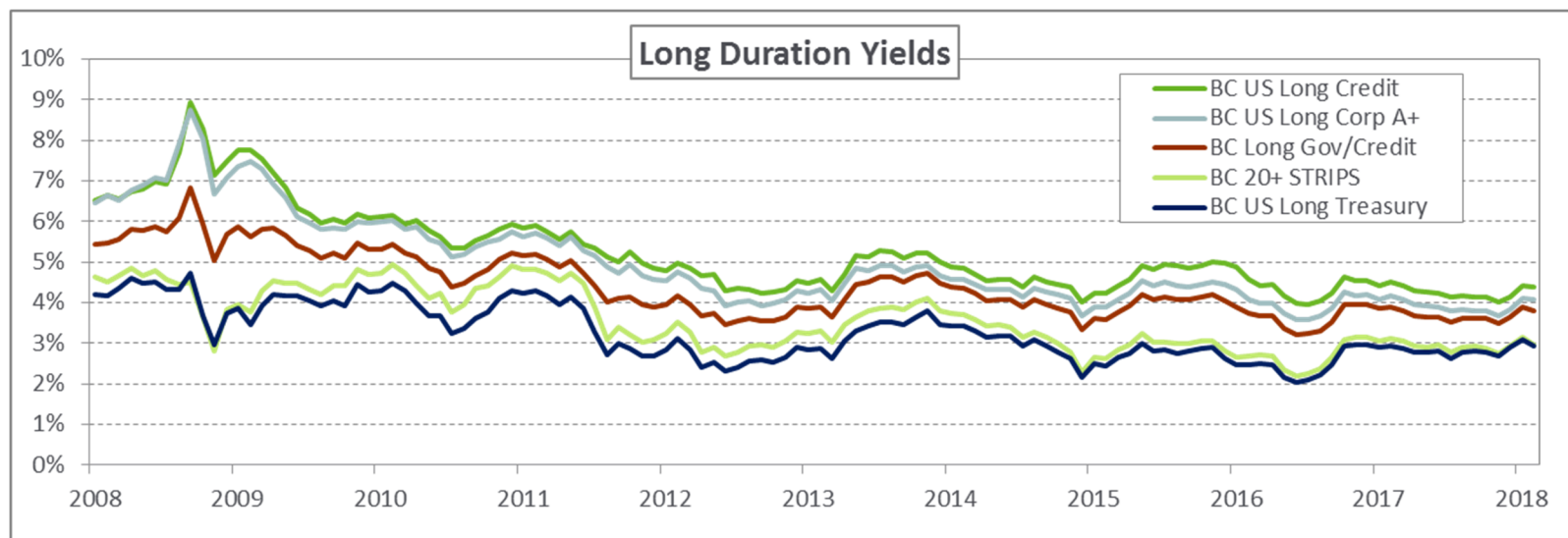
Source: Barclays, JPM, Bloomberg  
 Ranges calculated since 01/31/2000  
 \*JPM CEMBI calculated as of 12/31/2001



# LONG DURATION

Index	Month-End Yield	1 Month Prior Yield	1 Year Prior Yield	Duration
Barclays Long Treasury	2.9%	3.1%	3.0%	17.3
Barclays 20+ STRIPS	3.0%	3.2%	3.1%	25.5
Barclays Long Gov/Credit	3.8%	3.9%	3.9%	15.2
Barclays Long Credit	4.4%	4.4%	4.5%	13.8
Barclays Long Corp A+	4.1%	4.1%	4.2%	14.4

Source: Barclays, Bloomberg



Source: Barclays, Bloomberg



# REAL ASSETS

NEPC, LLC

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# REAL ASSETS INDEX PERFORMANCE

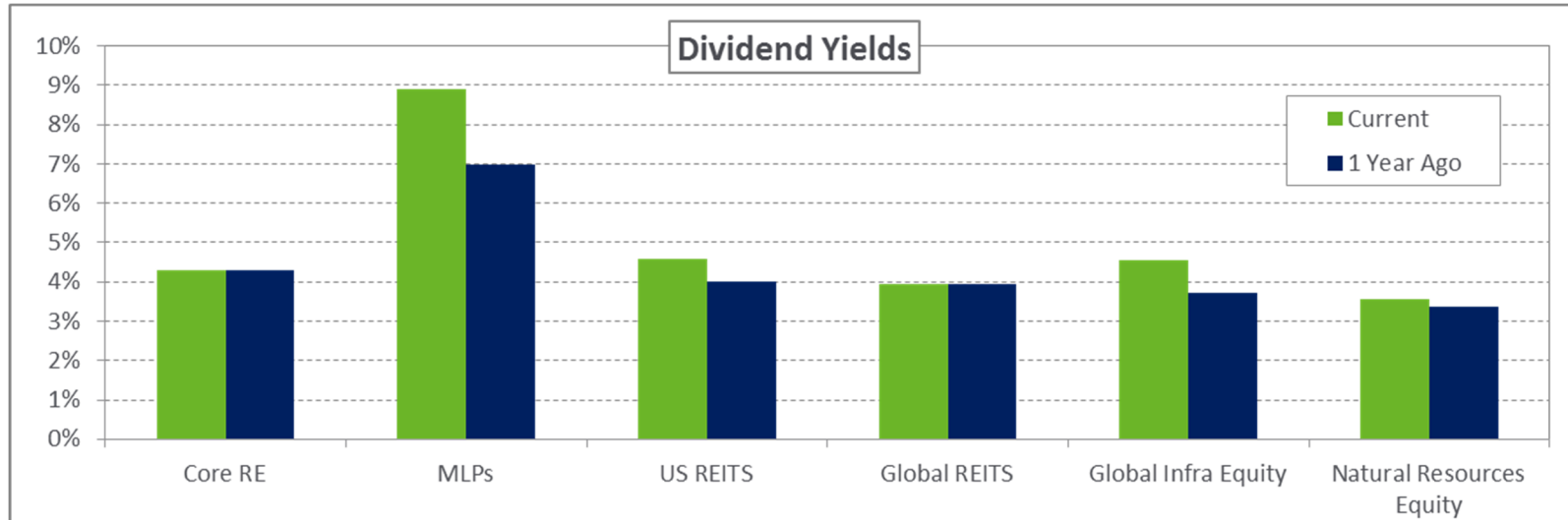
Index	1 Month	3 Month	YTD	1 Year	3 Year	5 Year
<b>Bloomberg Commodity Index</b>	<b>-0.6%</b>	<b>-0.4%</b>	<b>-0.4%</b>	<b>3.7%</b>	<b>-3.2%</b>	<b>-8.3%</b>
<b>Bloomberg Sub Agriculture Index</b>	<b>-2.8%</b>	<b>3.1%</b>	<b>3.1%</b>	<b>-5.4%</b>	<b>-4.6%</b>	<b>-8.7%</b>
Coffee	-3.0%	-7.6%	-7.6%	-22.5%	-12.6%	-11.7%
Corn	1.6%	8.7%	8.7%	-5.9%	-9.1%	-15.8%
Cotton	-1.6%	2.6%	2.6%	7.0%	8.0%	-0.6%
Soybean	-1.0%	7.5%	7.5%	4.9%	0.3%	-0.2%
Soybean Oil	-1.1%	-4.8%	-4.8%	-3.5%	-2.7%	-11.8%
Sugar	-7.6%	-17.9%	-17.9%	-28.8%	-4.5%	-15.2%
Wheat	-8.8%	3.2%	3.2%	-11.3%	-15.0%	-16.7%
<b>Bloomberg Sub Energy</b>	<b>4.9%</b>	<b>1.8%</b>	<b>1.8%</b>	<b>9.9%</b>	<b>-9.0%</b>	<b>-16.2%</b>
Brent Crude	7.2%	5.4%	5.4%	30.5%	-3.2%	-14.6%
Heating Oil	6.2%	-0.3%	-0.3%	27.7%	-2.9%	-11.7%
Natural Gas	1.5%	-6.9%	-6.9%	-28.6%	-23.9%	-24.3%
Unleaded Gas	4.3%	0.9%	0.9%	18.1%	-1.5%	-12.2%
WTI Crude Oil	5.8%	8.8%	8.8%	25.7%	-7.1%	-16.4%
<b>Bloomberg Sub Industrial Metals</b>	<b>-4.4%</b>	<b>-6.2%</b>	<b>-6.2%</b>	<b>12.7%</b>	<b>4.0%</b>	<b>-1.5%</b>
Aluminum	-6.2%	-12.0%	-12.0%	0.0%	0.6%	-3.7%
Copper	-3.3%	-8.6%	-8.6%	12.0%	1.8%	-3.4%
Nickel	-3.6%	4.2%	4.2%	31.3%	1.0%	-5.8%
Zinc	-4.9%	-0.8%	-0.8%	19.7%	15.3%	9.3%
<b>Bloomberg Sub Precious Metals</b>	<b>0.2%</b>	<b>-0.5%</b>	<b>-0.5%</b>	<b>0.5%</b>	<b>1.8%</b>	<b>-6.1%</b>
Gold	0.4%	1.0%	1.0%	5.2%	3.1%	-4.2%
Silver	-0.7%	-5.2%	-5.2%	-12.0%	-2.0%	-11.7%
<b>Bloomberg Sub Livestock</b>	<b>-7.1%</b>	<b>-10.0%</b>	<b>-10.0%</b>	<b>-4.4%</b>	<b>-6.7%</b>	<b>-3.4%</b>
Lean Hogs	-0.6%	-10.7%	-10.7%	-1.4%	-4.8%	-7.6%
Live Cattle	-10.4%	-10.4%	-10.4%	-7.0%	-7.9%	-1.0%

Source: Bloomberg

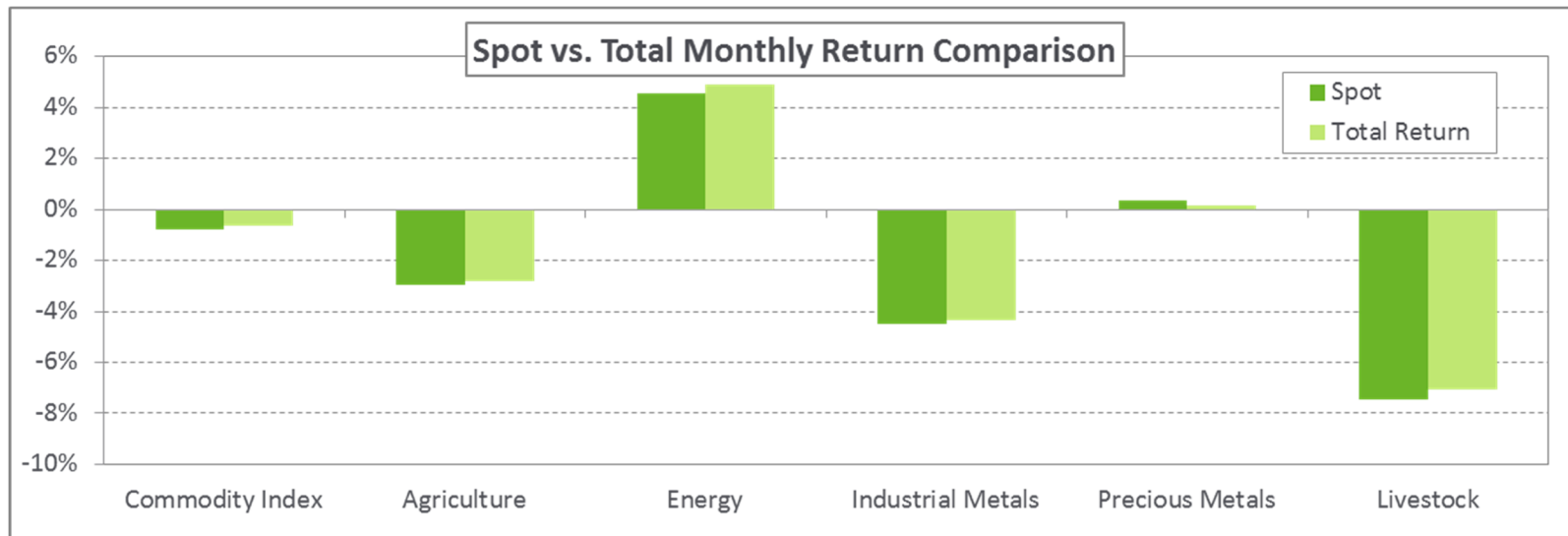
Bloomberg subindex total return indices reflects the return of the underlying one month commodity futures price movements



# INCOME YIELD



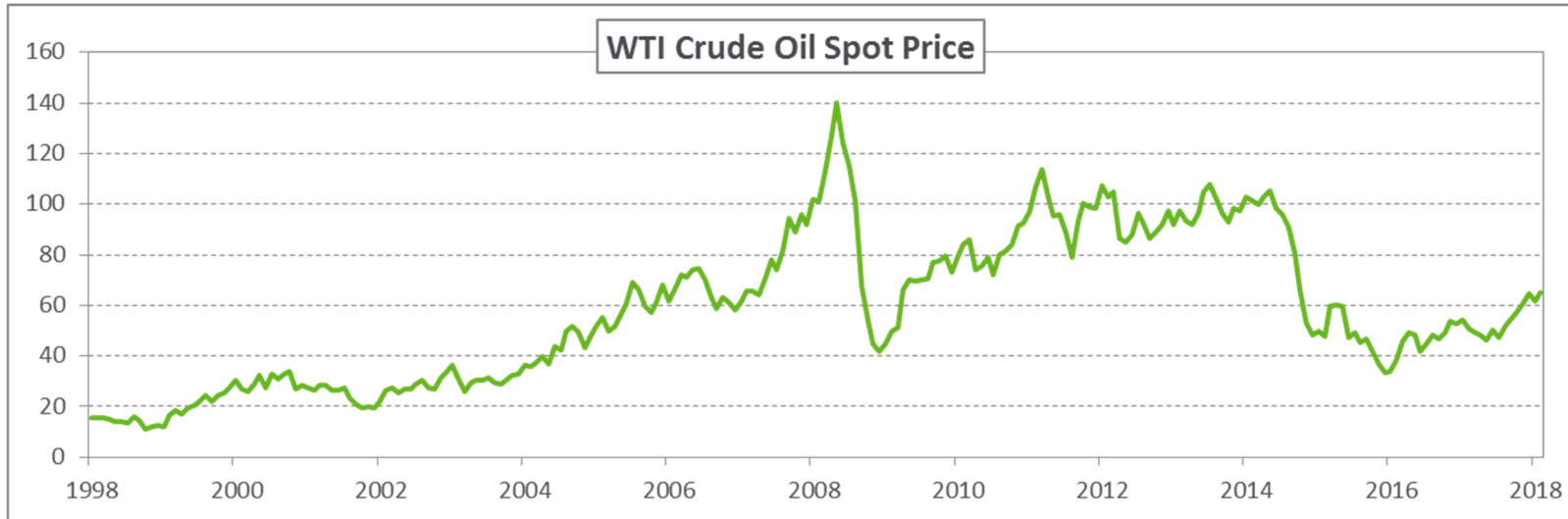
Source: Alerian, NAREIT, S&P, Bloomberg



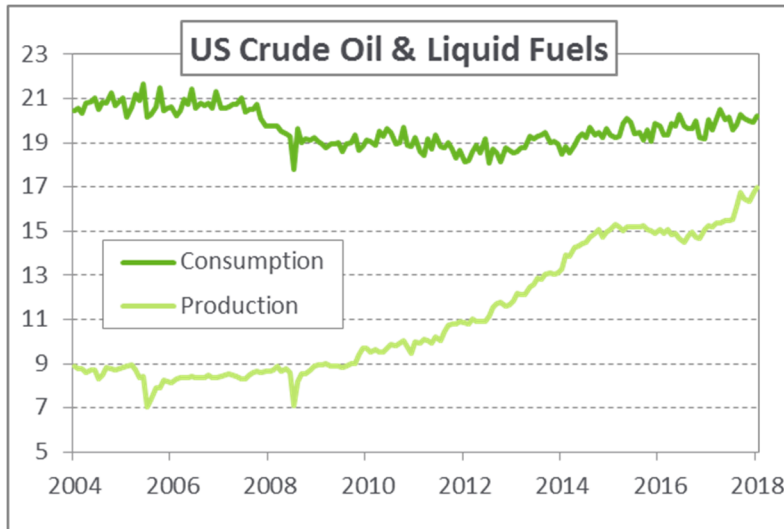
Source: Bloomberg, NEPC



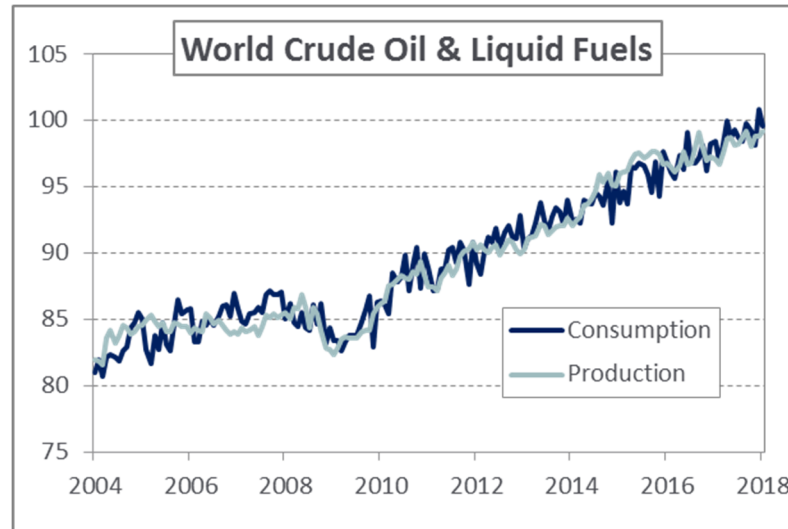
# OIL MARKETS



Source: New York Mercantile Exchange, Bloomberg



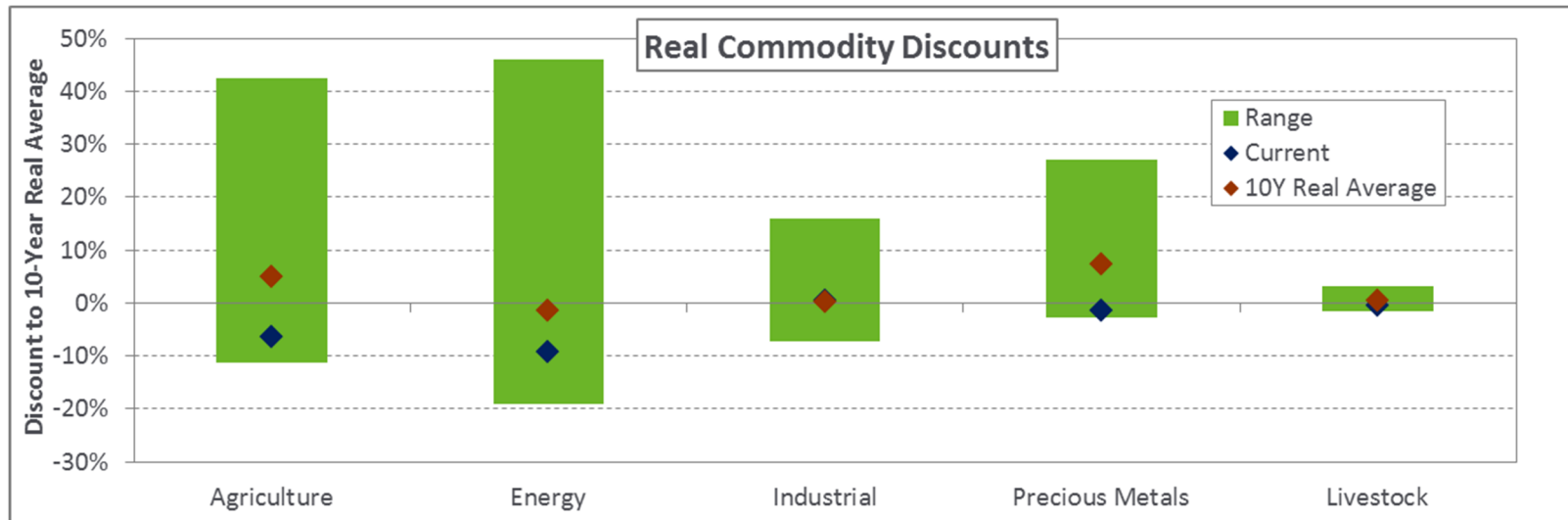
Source: US Department of Energy, Bloomberg



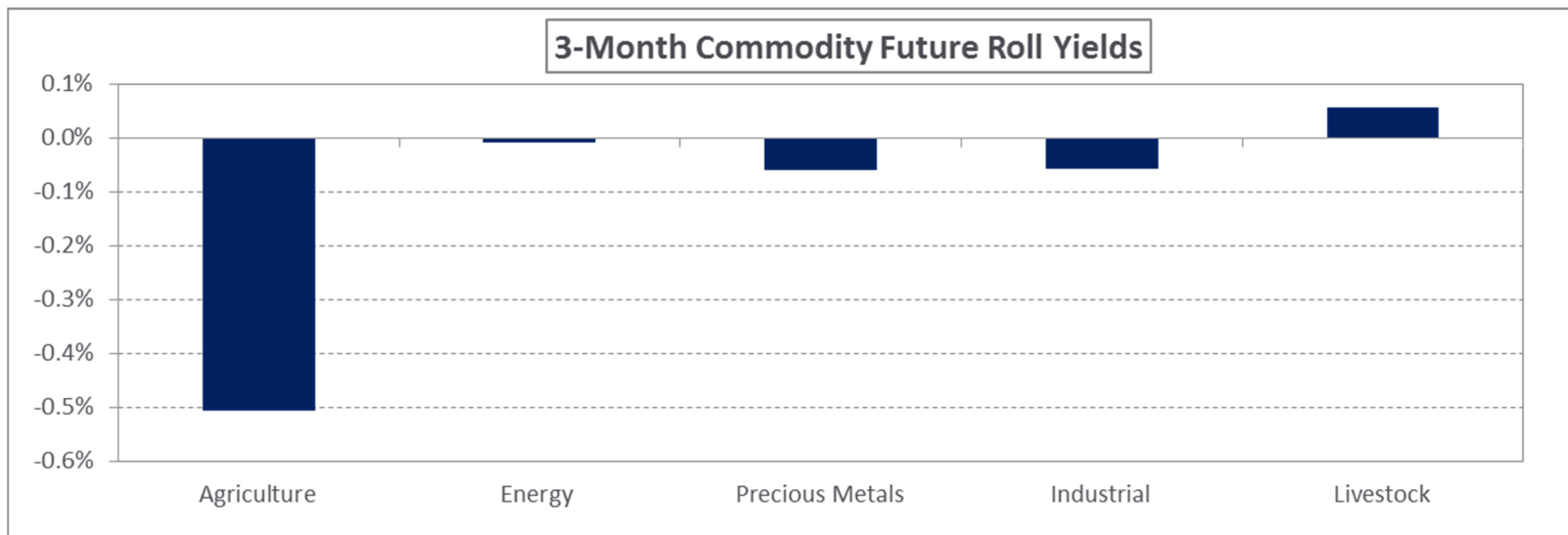
Source: OECD, Bloomberg



# VALUATIONS



Source: Bloomberg, NEPC



Source: Bloomberg



# DEFINITIONS

NEPC, LLC

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# POLICY INDEX DEFINITIONS

**Policy Index:** Current (adopted January 10, 2012) 24% Russell 3000 Index, 29% MSCI ACWI ex USA Net Index, 19% Bbg Barclays U.S. Aggregate Bond Index, 5% Credit Opportunities Blend, 10% Real Assets Blend, 12% Private Equity Blend, 1% Citi 3 Month T-Bill Index

**U.S. Equity Blend:** July 1, 2011 - Current: Russell 3000 Index; September 30, 1994 - December 31, 1999 S&P 500 Index 33.75, Russell 1000 Value Index 35%, Russell 1000 Growth 12.5%, Russell 2000 Value 12.5%, Russell 2000 Growth 6.25%

**Core Fixed Income Blend:** July 1, 2013 – Current: Bbg Barclays U.S. Aggregate Bond Index

**Credit Opportunities Blend:** 65% Bbg Barclays U.S. HY 2% Cap Index, 35% JPM EMBIGD Index

**Public Real Assets Blend:** 60% Bbg Barclays U.S. TIPS Index, 20% Bbg Commodity Index, 10% FTSE NAREIT All Equity Index, 10% Alerian MLP Index

**Real Estate Blend:** July 1, 2014 - Current NCREIF ODCE + 0.80%; July 1, 2012 - June 30, 2014 NCREIF Property Index Lagged +1%; October 1, 1994 - June 30, 2012 NCREIF Property Index Lagged

**Private Equity Blend:** February 1, 2012 – current: Russell 3000 + 3%; Inception – January 31, 2012: Russell 3000 + 4%

Note: See Investment Policy for a full description of the indices listed.



# GLOSSARY OF INVESTMENT TERMINOLOGY

**# Of Portfolios/Observations<sup>1</sup>** - The total number of data points that make up a specified universe

**Allocation Index<sup>3</sup>** - The allocation index measures the value added (or subtracted) to each portfolio by active management. It is calculated monthly: The portfolio asset allocation to each category from the prior month-end is multiplied by a specified market index.

**Asset Allocation Effect<sup>2</sup>** - Measures an investment manager's ability to effectively allocate their portfolio's assets to various sectors. The allocation effect determines whether the overweighting or underweighting of sectors relative to benchmark contributes positively or negatively to the overall portfolio return. Positive allocation occurs when the portfolio is over weighted in a sector that outperforms the benchmark and underweighted in a sector that underperforms the benchmark. Negative allocation occurs when the portfolio is over weighted in a sector that underperforms the benchmark and under weighted in a sector that outperforms the benchmark.

**Agency Bonds (Agencies)<sup>3</sup>** - The full faith and credit of the United States government is normally not pledged to payment of principal and interest on the majority of government agencies issuing these bonds, with maturities of up to ten years. Their yields, therefore, are normally higher than government and their marketability is good, thereby qualifying them as a low risk-high liquidity type of investment. They are eligible as security for advances to the member banks by the Federal Reserve, which attests to their standing.

**Asset Backed Securities (ABS)<sup>3</sup>** - Bonds which are similar to mortgage-backed securities but are collateralized by assets other than mortgages; commonly backed by credit card receivables, auto loans, or other types of consumer financing.

**Attribution<sup>3</sup>** - Attribution is an analytical technique that allows us to evaluate the performance of the portfolio relative to the benchmark. A proper attribution tells us where value was added or subtracted as a result of the manager's decisions.

**Average Effective Maturity<sup>4</sup>** - For a single bond, it is a measure of maturity that takes into account the possibility that a bond might be called back to the issuer.

For a portfolio of bonds, average effective maturity is the weighted average of the maturities of the underlying bonds. The measure is computed by weighing each bond's maturity by its market value with respect to the portfolio and the likelihood of any of the bonds being called. In a pool of mortgages, this would also account for the likelihood of prepayments on the mortgages.

**Batting Average<sup>1</sup>** - A measurement representing an investment manager's ability to meet or beat an index.

*Formula: Divide the number of days (or months, quarters, etc.) in which the manager beats or matches the index by the total number of days (or months, quarters, etc.) in the period of question and multiply that factor by 100.*

**Brinson Fachler (BF) Attribution<sup>1</sup>** - The BF methodology is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance. The main advantage of the BF methodology is that rather than using the overall return of the benchmark, it goes a level deeper than BHB and measures whether the benchmark sector, country, etc. outperformed/or underperformed the overall benchmark.

**Brinson Hood Beebower (BHB) Attribution<sup>1</sup>** - The BHB methodology shows that excess return must be equal to the sum of all other factors (i.e., allocation effect, selection effect, interaction effect, etc.). The advantage to using the BHB methodology is that it is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance.

**Corporate Bond (Corp)<sup>4</sup>** - A debt security issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations. In some cases, the company's physical assets may be used as collateral for bonds.

**Correlation<sup>1</sup>** - A range of statistical relationships between two or more random variables or observed data values. A correlation is a single number that describes the degree of relationship between variables.

Data Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net



# GLOSSARY OF INVESTMENT TERMINOLOGY

**Coupon<sup>4</sup>** – The interest rate stated on a bond when it is issued. The coupon is typically paid semiannually. This is also referred to as the "coupon rate" or "coupon percent rate."

**Currency Effect<sup>1</sup>** – Is the effect that changes in currency exchange rates over time affect excess performance.

**Derivative Instrument<sup>2</sup>** – A financial obligation that derives its precise value from the value of one or more other instruments (or assets) at the same point of time. For example, the relationship between the value of an S&P 500 futures contract (the derivative instrument in this case) is determined by the value of the S&P 500 Index and the value of a U.S. Treasury bill that matures at the expiration of the futures contract.

**Downside Deviation<sup>1</sup>** – Equals the standard deviation of negative return or the measure of downside risk focusing on the standard deviation of negative returns.

*Formula:*

*Annualized Standard Deviation (Fund Return - Average Fund Return) where average fund return is greater than individual fund returns, monthly or quarterly.*

**Duration<sup>3</sup>** – Duration is a measure of interest rate risk. The greater the duration of a bond, or a portfolio of bonds, the greater its price volatility will be in response to a change in interest rates. A bond's duration is inversely related to interest rates and directly related to time to maturity.

**Equity/Debt/Cash Ratio<sup>1</sup>** – The percentage of an investment or portfolio that is in Equity, Debt, and/or Cash (i.e. A 7/89/4 ratio represents an investment that is made up of 7% Equity, 89% Debt, and 4% Cash).

**Foreign Bond<sup>3</sup>** – A bond that is issued in a domestic market by a foreign entity, in the domestic market's currency. A foreign bond is most often issued by a foreign firm to raise capital in a domestic market that would be most interested in purchasing the firm's debt. For foreign firms doing a large amount of business in the domestic market, issuing foreign bonds is a common practice.

**Hard Hurdle<sup>5</sup>** – is a hurdle rate that once beaten allows a fund manager to charge a performance fee on only the funds above the specified hurdle rate.

**High-Water Mark<sup>4</sup>** – The highest peak in value that an investment fund/account has reached. This term is often used in the context of fund manager compensation, which is performance based. Some performance-based fees only get paid when fund performance exceeds the high-water mark. The high-water mark ensures that the manager does not get paid large sums for poor performance.

**Hurdle Rate<sup>4</sup>** – The minimum rate of return on an investment required, in order for a manager to collect incentive fees from the investor, which is usually tied to a benchmark.

**Interaction Effects<sup>2</sup>** – The interaction effect measures the combined impact of an investment manager's selection and allocation decisions within a sector. For example, if an investment manager had superior selection and over weighted that particular sector, the interaction effect is positive. If an investment manager had superior selection, but underweighted that sector, the interaction effect is negative. In this case, the investment manager did not take advantage of the superior selection by allocating more assets to that sector. Since many investment managers consider the interaction effect to be part of the selection or the allocation, it is often combined with the either effect.

**Median<sup>3</sup>** – The value (rate of return, market sensitivity, etc.) that exceeds one-half of the values in the population and that is exceeded by one-half of the values. The median has a percentile rank of 50.

**Modified Duration<sup>3</sup>** – The percentage change in the price of a fixed income security that results from a change in yield.

**Mortgage Backed Securities (MBS)<sup>3</sup>** – Bonds which are a general obligation of the issuing institution but are also collateralized by a pool of mortgages.

**Municipal Bond (Muni)<sup>4</sup>** – A debt security issued by a state, municipality or county to finance its capital expenditures.

**Net Investment Change<sup>1</sup>** – Is the change in an investment after accounting for all Net Cash Flows.

**Performance Fee<sup>4</sup>** – A payment made to a fund manager for generating positive returns. The performance fee is generally calculated as a percentage of investment profits, often both realized and unrealized.

*Data Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net*



# GLOSSARY OF INVESTMENT TERMINOLOGY

**Policy Index<sup>3</sup>** - A custom benchmark designed to indicate the returns that a passive investor would earn by consistently following the asset allocation targets set forth in this investment policy statement.

**Price to Book (P/B)<sup>4</sup>** - A ratio used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share, also known as the "price-equity ratio".

**Price to Earnings (P/E)<sup>3</sup>** - The weighted equity P/E is based on current price and trailing 12 months earnings per share (EPS).

**Price to Sales (P/S)<sup>4</sup>** - A ratio for valuing a stock relative to its own past performance, other companies, or the market itself. Price to sales is calculated by dividing a stock's current price by its revenue per share for the trailing 12 months.

**Return on Equity (ROE)<sup>4</sup>** - The amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

**Selection (or Manager) Effect<sup>2</sup>** - Measures the investment manager's ability to select securities within a given sector relative to a benchmark. The over or underperformance of the portfolio is weighted by the benchmark weight, therefore, selection is not affected by the manager's allocation to the sector. The weight of the sector in the portfolio determines the size of the effect—the larger the sector, the larger the effect is, positive or negative.

**Soft Hurdle rate<sup>5</sup>** - is a hurdle rate that once beaten allows a fund manager to charge a performance fee based on the entire annualized return.

**Tiered Fee<sup>1</sup>** - A fee structure that is paid to fund managers based on the size of the investment (i.e. 1.00% fee on the first \$10M invested, 0.90% on the next \$10M, and 0.80% on the remaining balance).

**Total Effects<sup>2</sup>** - The active management (total) effect is the sum of the selection, allocation, and interaction effects. It is also the difference between the total portfolio return and the total benchmark return. You can use the active management effect to determine the amount the investment manager has added to a portfolio's return.

**Total Return<sup>1</sup>** - The actual rate of return of an investment over a specified time period. Total return includes interest, capital gains, dividends, and distributions realized over a defined time period.

**Universe<sup>3</sup>** - The list of all assets eligible for inclusion in a portfolio.

**Upside Deviation<sup>1</sup>** - Standard Deviation of Positive Returns

**Weighted Avg. Market Cap.<sup>4</sup>** - A stock market index weighted by the market capitalization of each stock in the index. In such a weighting scheme, larger companies account for a greater portion of the index. Most indexes are constructed in this manner, with the best example being the S&P 500.

**Yield (%)<sup>3</sup>** - The current yield of a security is the current indicated annual dividend rate divided by current price.

**Yield to Maturity<sup>3</sup>** - The discount rate that equates the present value of cash flows, both principal and interest, to market price.

Data Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net



# DISCLOSURES

NEPC, LLC

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### **Information Disclaimer**

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
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### **Reporting Methodology**

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.

