

PORTFOLIO PERFORMANCE REVIEW

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

Quarter Ending September 30, 2018

November 27, 2018



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

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EXECUTIVE SUMMARY

NEPC, LLC

EXECUTIVE SUMMARY

Q3 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
											
0.7%	-4.0	20 bps	7.7%	1.4%	-1.1%	0.0%	2.4%	1.9%	-1.2%	-4.8%	0.7%

LACERS Investment Summary (Gross of Fees)

	Market Value	3 Mo Rank	YTD Rank	1 Yr Rank	3 Yrs Rank	5 Yrs Rank	10 Yrs Rank	15 Yrs Rank	Inception	Inception Date							
LACERS Master Trust	\$17,773,157,100	2.58%	43	3.59%	69	7.76%	53	10.31%	53	8.08%	23	8.19%	32	8.00%	8	8.34%	Oct-94
Policy Index		3.12%	17	3.50%	71	7.67%	56	10.77%	16	7.84%	58	8.17%	34	7.78%	36	8.27%	Oct-94
InvestorForce Public DB \$5-50B Gross Median		2.39%		4.17%		7.84%		10.31%		8.02%		7.90%		7.66%		7.96%	Oct-94

- LACERS 2018 investment results have been largely driven by the continued strength in US equity markets, supported by strong macroeconomic data and a tight labor market**
 - US equity composite returned 11.0% YTD, but private equity (+13.7%) has also been a strong contributor
- Non-US markets have trended lower in 2018 amid slowing growth, ongoing currency weakness and trade tensions**
 - Emerging markets equity composite in particular weighed on results after declining 7.5% YTD
- Rising rates have weighed on treasury bonds, however, high yield and bank loans have performed well**
 - LACERS' core bond and credit opportunities composites returned -1.4% and +0.3%, respectively, in 2018















MARKET OUTLOOK

NEPC, LLC

PERFORMANCE OVERVIEW

Q3 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
											
0.7%	-4.0	20 bps	7.7%	1.4%	-1.1%	0.0%	2.4%	1.9%	-1.2%	-4.8%	0.7%

- **US equities increased during the quarter, supported by strong macroeconomic data and a tight labor market**
- **Emerging market equities broadly declined with ongoing currency weakness and trade tensions weighing on sentiment**
- **The Federal Reserve hiked rates for the third time this year and is expected to hike rates again in December**

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

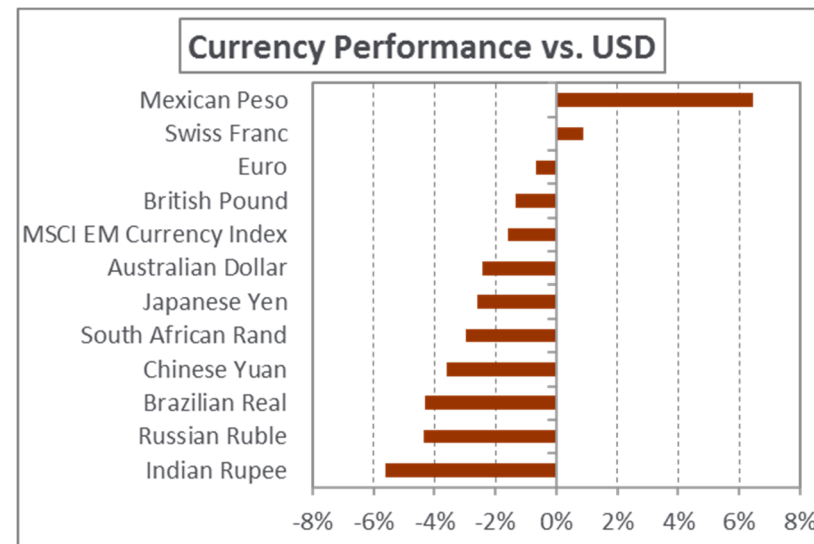
Q3 Macro Market Summary

- The global growth outlook remains in tact, despite trade policy issues
- Global bond yields increased as central banks transition toward tighter monetary policy
- Higher rates in the US supported the dollar – adding further pressure to emerging market currencies

	Yield 06/30/18	Yield 09/30/18	Δ
US 10-Yr	2.86%	3.06%	0.20%
US 30-Yr	2.99%	3.21%	0.22%
US Real 10-Yr	0.74%	0.92%	0.18%
German 10-Yr	0.30%	0.47%	0.17%
Japan 10-Yr	0.04%	0.13%	0.09%
China 10-Yr	3.48%	3.63%	0.15%
EM Local Debt	6.59%	6.62%	0.03%

Source: Bloomberg

Central Banks	Current Rate	CPI YOY	Notes from the Quarter
Federal Reserve	2.00% - 2.25%	2.7%	The Fed increased its benchmark interest rate to 2.00% - 2.25% in September and is expected to hike rates one more time in 2018
European Central Bank	0.0%	2.1%	The ECB maintained its current benchmark interest rate, but continues its plan to scale back its QE Program
Bank of Japan	-0.1%	1.3%	The BoJ will continue its ultra-easy QE program with inflation remaining well below target



Source: Bloomberg



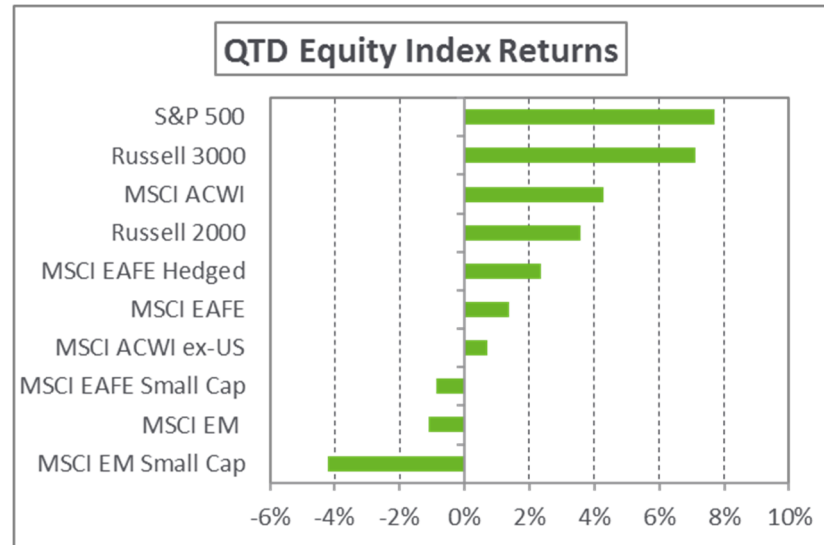
EQUITY PERFORMANCE OVERVIEW

Q3 Equity Market Summary

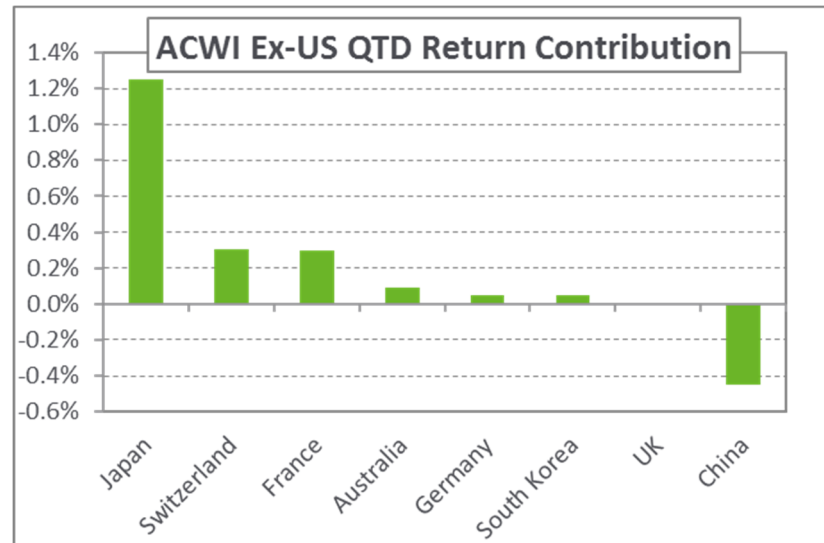
- **Strong economic data and positive sentiment helped US equities to outperform global equities**
- **Trade-sensitive economies disproportionately declined as escalating trade tensions and currency weakness weighed on returns**

Russell 3000 QTD Sector Return Contribution	
Information Technology	1.7%
Consumer Discretionary	0.3%
Financials	0.5%
Industrials	1.4%
Consumer Staples	0.0%
Energy	0.4%
Materials	0.0%
Health Care	0.5%
Real Estate	0.6%
Communication Services	-1.0%
Utilities	0.1%

Source: Russell, Bloomberg



Source: MSCI, Russell, S&P, Bloomberg



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



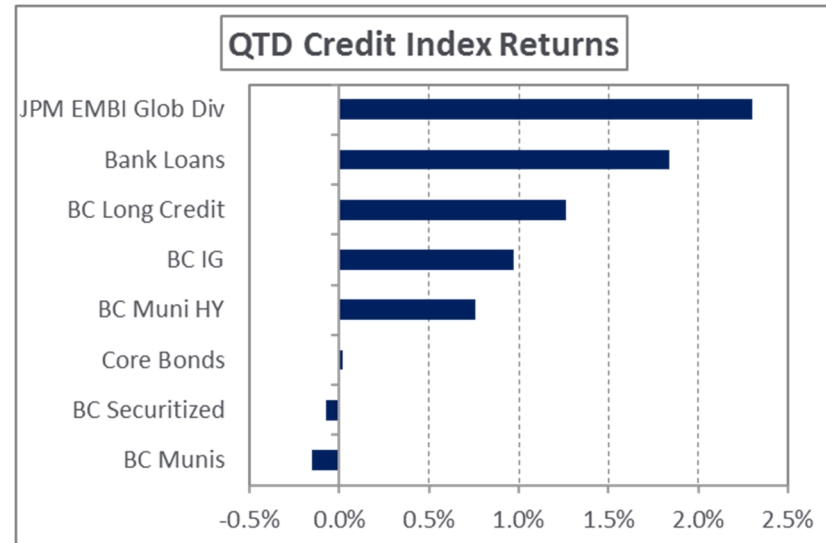
CREDIT PERFORMANCE OVERVIEW

Q3 Credit Market Summary

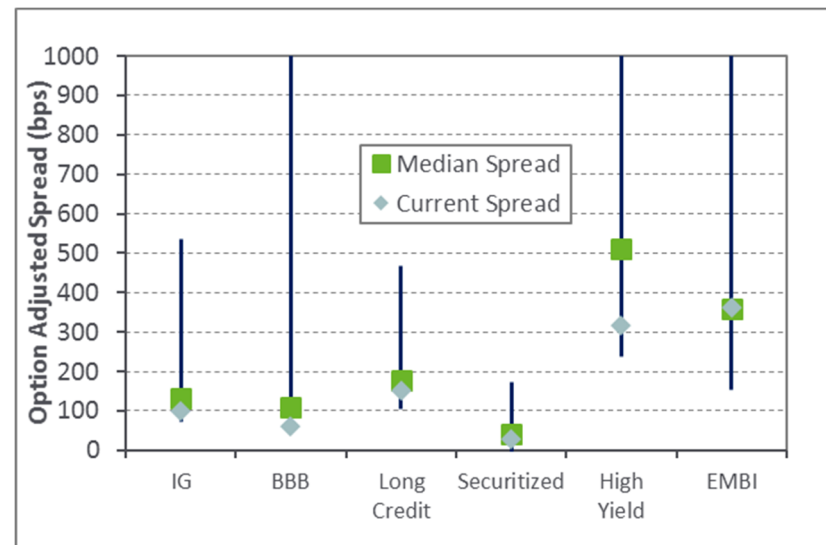
- **Credit spreads broadly declined and remain below medians in most areas of the credit market**
- **Dollar-denominated emerging market debt increased by 2.3% as spreads tightened**

Credit Spread (Basis Points)	06/30/18	09/30/18	\Delta
BC IG Credit	116	100	-16
BC Long Credit	174	153	-21
BC Securitized	28	28	0
BC High Yield	363	316	-47
Muni HY	253	198	-55
JPM EMBI	388	362	-26
Bank Loans - Libor	303	281	-22

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



Source: Barclays, JPM, S&P, Bloomberg



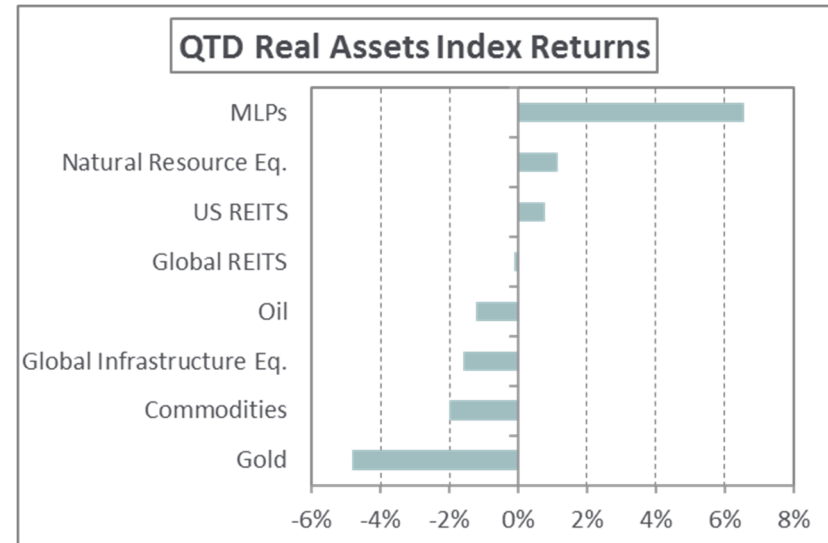
Source: Barclays, JPM, S&P, Bloomberg; as of 01/31/2000



REAL ASSETS PERFORMANCE OVERVIEW

Q3 Real Assets Market Summary

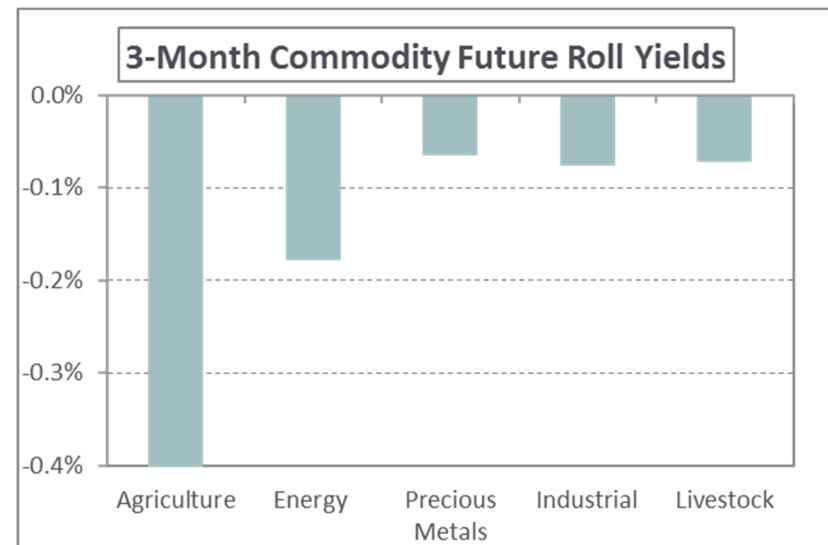
- **Oil declined 1.2% for the quarter, but is up 41.8% for the year**
- **Agricultural commodities declined substantially due to robust supply and trade war-related concerns**
- **MLP's increased 6.6%, supported by rising commodity prices and ongoing industry simplification**



Source: S&P, NAREIT, Alerian, Bloomberg

Real Asset Yields	06/30/18	09/30/18
MLPs	8.1%	8.0%
Core Real Estate	4.2%	4.4%
US REITs	4.4%	4.2%
Global REITs	3.7%	3.7%
Global Infrastructure Equities	4.4%	4.5%
Natural Resource Equities	3.5%	3.5%
US 10-Yr Breakeven Inflation	2.1%	2.1%
Commodity Index Roll Yield	0.1%	-1.2%

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



Source: Bloomberg, NEPC Calculated as of 09/28/2018

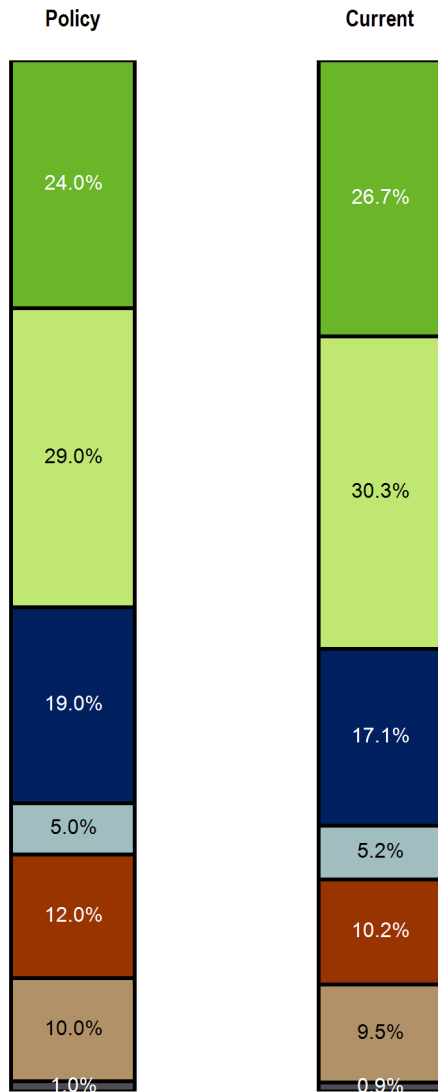


ASSET CLASS POLICY OVERVIEW

NEPC, LLC

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	\$4,746,787,640	24.00%	26.71%	2.71%	19.00% - 29.00%	Yes
Non-US Equity	\$5,387,281,503	29.00%	30.31%	1.31%	24.00% - 34.00%	Yes
Core Fixed Income	\$3,047,726,713	19.00%	17.15%	-1.85%	15.00% - 22.00%	Yes
Credit Opportunities	\$927,728,179	5.00%	5.22%	0.22%	0.00% - 10.00%	Yes
Private Equity	\$1,815,136,023	12.00%	10.21%	-1.79%		Yes
Real Assets	\$1,692,613,101	10.00%	9.52%	-0.48%	7.00% - 13.00%	Yes
Cash	\$155,883,942	1.00%	0.88%	-0.12%	0.00% - 2.00%	Yes
Total	\$17,773,157,100	100.00%	100.00%			

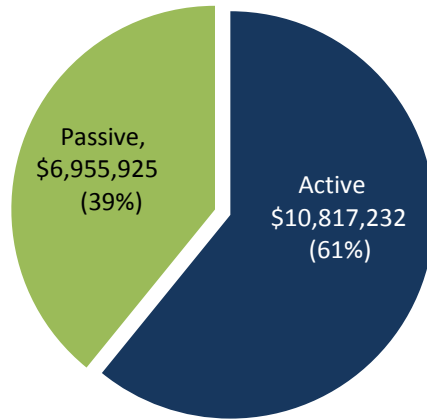
*Difference between Policy and Current Allocation



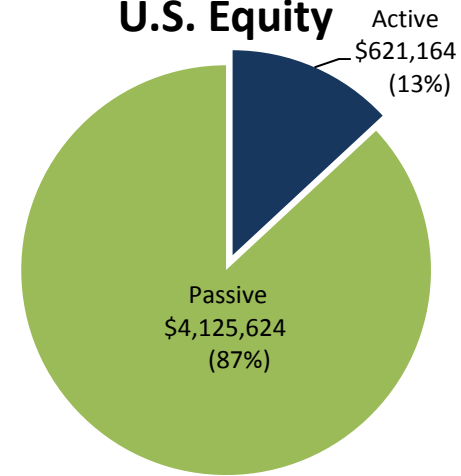
ACTIVE VS. PASSIVE MANAGER BREAKDOWN

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

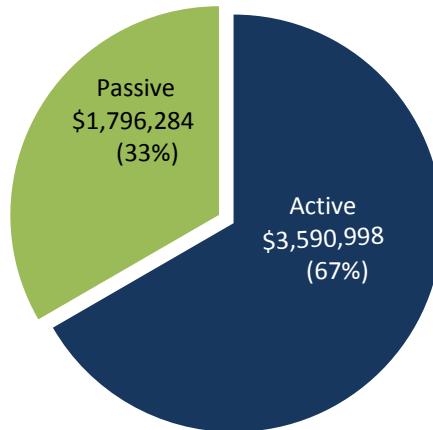
Total Fund



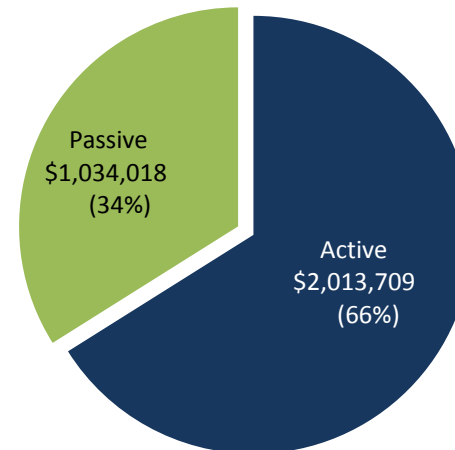
U.S. Equity



Non-U.S. Equity



Core Fixed Income



- Of the Total Fund, LACERS allocated 61% to active managers and 39% to passive managers.

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



PERFORMANCE OVERVIEW

NEPC, LLC

TOTAL FUND PERFORMANCE SUMMARY (GROSS OF FEES)

	Market Value	3 Mo Rank	YTD Rank	1 Yr Rank	3 Yrs Rank	5 Yrs Rank	10 Yrs Rank	15 Yrs Rank	Inception	Inception Date							
LACERS Master Trust	\$17,773,157,100	2.58%	43	3.59%	69	7.76%	53	10.31%	53	8.08%	23	8.19%	32	8.00%	8	8.34%	Oct-94
Policy Index		3.12%	17	3.50%	71	7.67%	56	10.77%	16	7.84%	58	8.17%	34	7.78%	36	8.27%	Oct-94
InvestorForce Public DB \$5-50B Gross Median		2.39%		4.17%		7.84%		10.31%		8.02%		7.90%		7.66%		7.96%	Oct-94

Over the past five years, the Fund returned 8.08% per year, outperforming the policy index by 0.24% and ranked in the 23rd percentile in the InvestorForce Public Funds \$5 Billion- \$50 Billion universe. The Fund's volatility was 5.86% ranking in the 69th percentile over this period. The Fund's risk-adjusted performance, as measured by the Sharpe Ratio, ranks in the 50th percentile in its peer group.

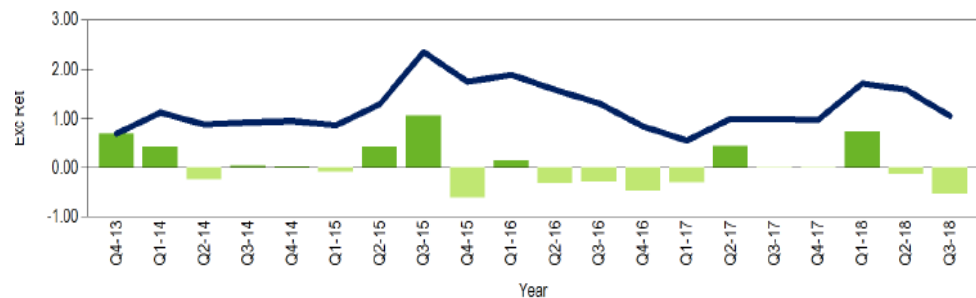
Over the past three years, the Fund returned 10.31% per year, underperforming the policy index by 0.46% and ranked in the 53rd percentile in its peer group. The Fund's volatility ranks in the 58th percentile resulting in a three-year Sharpe Ratio of 1.72, ranking in the 61st percentile.

In the one year ended September 30, 2018, the Fund experienced a net investment gain of \$1.29 billion, which includes a net investment gain of \$447.4 million during the third calendar quarter. Assets increased from \$16.7 billion twelve months ago to \$17.8 billion on September 30, 2018. The Fund returned 7.76%, outperforming the policy index by 0.09% and ranked in the 53rd percentile in its peer group.

All asset classes were within policy range as of September 30, 2018.

The InvestorForce Public Funds \$5 Billion- \$50 Billion Universe contains 20 observations for the period ending September 30, 2018.

Quarterly and Cumulative Excess Performance



5 Years Ending September 30, 2018

	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
LACERS Master Trust	8.08%	23	5.86%	69	1.29	50	2.15	17
Policy Index	7.84%	58	6.49%	94	1.13	83	1.75	65
InvestorForce Public DB \$5-50B Gross Median	8.02%	--	5.75%	--	1.29	--	1.90	--

3 Years Ending September 30, 2018

	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
LACERS Master Trust	10.31%	53	5.48%	58	1.72	61	2.50	27
Policy Index	10.77%	16	6.22%	99	1.59	81	2.24	54
InvestorForce Public DB \$5-50B Gross Median	10.31%	--	5.34%	--	1.77	--	2.28	--



Los Angeles City Employees' Retirement System

TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
LACERS Master Trust	17,773,157,100	100.00	2.58	3.59	7.76	10.31	8.08	8.19	8.34	Oct-94
<i>Policy Index</i>			<u>3.12</u>	<u>3.50</u>	<u>7.67</u>	<u>10.77</u>	<u>7.84</u>	<u>8.17</u>	<u>8.27</u>	<i>Oct-94</i>
Over/Under			-0.54	0.09	0.09	-0.46	0.24	0.02	0.07	
U.S. Equity	4,746,787,640	26.71	7.02	11.00	17.73	17.08	13.48	12.13	10.78	Oct-94
<i>U.S. Equity Blend</i>			<u>7.12</u>	<u>10.57</u>	<u>17.58</u>	<u>17.07</u>	<u>13.46</u>	<u>12.01</u>	<u>9.65</u>	<i>Oct-94</i>
Over/Under			-0.10	0.43	0.15	0.01	0.02	0.12	1.13	
Non-U.S. Equity	5,387,281,503	30.31	0.14	-2.28	3.21	11.20	5.56	6.58	7.16	Aug-01
<i>MSCI ACWI ex USA</i>			<u>0.71</u>	<u>-3.09</u>	<u>1.76</u>	<u>9.97</u>	<u>4.12</u>	<u>5.18</u>	<u>6.26</u>	<i>Aug-01</i>
Over/Under			-0.57	0.81	1.45	1.23	1.44	1.40	0.90	
Core Fixed Income	3,047,726,713	17.15	0.19	-1.44	-0.99	1.85	2.66		2.54	Jul-12
<i>Core Fixed Income Blend</i>			<u>0.02</u>	<u>-1.60</u>	<u>-1.22</u>	<u>1.31</u>	<u>2.16</u>		<u>1.86</u>	<i>Jul-12</i>
Over/Under			0.17	0.16	0.23	0.54	0.50		0.68	
Credit Opportunities	927,728,179	5.22	1.97	0.32	1.46	7.05	5.12		5.33	Jun-13
<i>Credit Opportunities Blend</i>			<u>2.38</u>	<u>0.59</u>	<u>1.31</u>	<u>7.43</u>	<u>5.43</u>		<u>5.62</u>	<i>Jun-13</i>
Over/Under			-0.41	-0.27	0.15	-0.38	-0.31		-0.29	
Real Assets	1,692,613,101	9.52	0.42	2.84	4.85	6.18	7.40	0.21	6.30	Nov-94
<i>CPI + 5% (Unadjusted)</i>			<u>1.41</u>	<u>6.21</u>	<u>7.38</u>	<u>7.08</u>	<u>6.58</u>	<u>6.51</u>	<u>7.32</u>	<i>Nov-94</i>
Over/Under			-0.99	-3.37	-2.53	-0.90	0.82	-6.30	-1.02	
Public Real Assets	907,972,870	5.11	-0.81	-0.73	1.41	2.94			0.85	Jun-14
<i>Public Real Assets Blend</i>			<u>-0.17</u>	<u>0.05</u>	<u>1.92</u>	<u>2.77</u>			<u>-1.32</u>	<i>Jun-14</i>
Over/Under			-0.64	-0.78	-0.51	0.17			2.17	
Private Real Estate	764,186,280	4.30	1.82	6.61	8.55	9.31	10.46	1.63	6.92	Oct-94
<i>Real Estate Blend</i>			<u>2.29</u>	<u>7.11</u>	<u>9.54</u>	<u>9.66</u>	<u>11.46</u>	<u>7.47</u>	<u>9.97</u>	<i>Oct-94</i>
Over/Under			-0.47	-0.50	-0.99	-0.35	-1.00	-5.84	-3.05	
Private Equity	1,815,136,023	10.21	5.01	13.65	16.71	11.14	12.29	10.09	10.53	Nov-95
<i>Private Equity Blend</i>			<u>7.90</u>	<u>13.02</u>	<u>21.06</u>	<u>20.54</u>	<u>16.83</u>	<u>15.76</u>	<u>13.29</u>	<i>Nov-95</i>
Over/Under			-2.89	0.63	-4.35	-9.40	-4.54	-5.67	-2.76	
Cash	155,883,942	0.88								



Note - See appendix for blended benchmark definitions.

Los Angeles City Employees' Retirement System

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
LACERS Master Trust	17,773,157,100	100.00	2.54	3.45	7.56	10.11	7.89	7.99		Oct-94
Policy Index			<u>3.12</u>	<u>3.50</u>	<u>7.67</u>	<u>10.77</u>	<u>7.84</u>	<u>8.17</u>		Oct-94
Over/Under			-0.58	-0.05	-0.11	-0.66	0.05	-0.18		
U.S. Equity	4,746,787,640	26.71	7.00	10.95	17.66	16.99	13.36	11.95		Oct-94
U.S. Equity Blend			<u>7.12</u>	<u>10.57</u>	<u>17.58</u>	<u>17.07</u>	<u>13.46</u>	<u>12.01</u>		Oct-94
Over/Under			-0.12	0.38	0.08	-0.08	-0.10	-0.06		
Non-U.S. Equity	5,387,281,503	30.31	0.04	-2.56	2.82	10.80	5.21	6.22	6.79	Aug-01
MSCI ACWI ex USA			<u>0.71</u>	<u>-3.09</u>	<u>1.76</u>	<u>9.97</u>	<u>4.12</u>	<u>5.18</u>	<u>6.26</u>	Aug-01
Over/Under			-0.67	0.53	1.06	0.83	1.09	1.04	0.53	
Core Fixed Income	3,047,726,713	17.15	0.17	-1.51	-1.08	1.75	2.55		2.42	Jul-12
Core Fixed Income Blend			<u>0.02</u>	<u>-1.60</u>	<u>-1.22</u>	<u>1.31</u>	<u>2.16</u>		<u>1.86</u>	Jul-12
Over/Under			0.15	0.09	0.14	0.44	0.39		0.56	
Credit Opportunities	927,728,179	5.22	1.90	0.08	1.13	6.66	4.76		4.98	Jun-13
Credit Opportunities Blend			<u>2.38</u>	<u>0.59</u>	<u>1.31</u>	<u>7.43</u>	<u>5.43</u>		<u>5.62</u>	Jun-13
Over/Under			-0.48	-0.51	-0.18	-0.77	-0.67		-0.64	
Real Assets	1,692,613,101	9.52	0.38	2.72	4.69	6.00	7.24	0.08		Nov-94
CPI + 5% (Unadjusted)			<u>1.41</u>	<u>6.21</u>	<u>7.38</u>	<u>7.08</u>	<u>6.58</u>	<u>6.51</u>		Nov-94
Over/Under			-1.03	-3.49	-2.69	-1.08	0.66	-6.43		
Public Real Assets	907,972,870	5.11	-0.87	-0.92	1.15	2.68			0.65	Jun-14
Public Real Assets Blend			<u>-0.17</u>	<u>0.05</u>	<u>1.92</u>	<u>2.77</u>			<u>-1.32</u>	Jun-14
Over/Under			-0.70	-0.97	-0.77	-0.09			1.97	
Private Real Estate	764,186,280	4.30	1.80	6.56	8.48	9.22	10.35	1.52		Oct-94
Real Estate Blend			<u>2.29</u>	<u>7.11</u>	<u>9.54</u>	<u>9.66</u>	<u>11.46</u>	<u>7.47</u>		Oct-94
Over/Under			-0.49	-0.55	-1.06	-0.44	-1.11	-5.95		
Private Equity	1,815,136,023	10.21	5.01	13.65	16.72	11.15	12.30	10.09		Nov-95
Private Equity Blend			<u>7.90</u>	<u>13.02</u>	<u>21.06</u>	<u>20.54</u>	<u>16.83</u>	<u>15.76</u>		Nov-95
Over/Under			-2.89	0.63	-4.34	-9.39	-4.53	-5.67		
Cash	155,883,942	0.88								



Note - See appendix for blended benchmark definitions.

Los Angeles City Employees' Retirement System

TOTAL FUND RISK STATISTICS (NET)

3 Years Ending September 30, 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%	10.11%	56	5.49%	59	0.57%	52	-0.66	--	2.42	38	1.01%	52
U.S. Equity	26.71%	16.99%	24	9.46%	50	-0.32%	35	-0.12	--	2.21	54	0.66%	11
Non-U.S. Equity	30.31%	10.80%	30	10.65%	62	1.07%	32	0.72	12	1.82	27	1.16%	14
Developed ex-U.S.	22.98%	10.24%	51	10.18%	38	1.54%	42	0.65	34	1.65	34	1.55%	34
Emerging Markets	7.33%	12.36%	8	14.70%	99	-0.31%	29	0.00	8	1.68	15	0.97%	1
Core Fixed Income	17.15%	1.75%	82	2.56%	55	0.46%	76	0.83	44	0.45	76	0.52%	24
Credit Opportunities	5.22%	6.66%	--	4.55%	--	-0.48%	--	-0.76	--	2.25	--	1.02%	--
Real Assets	9.52%	6.00%	--	2.15%	--	0.41%	--	-0.52	--	10.22	--	2.07%	--
Public Real Assets	5.11%	2.68%	--	4.02%	--	0.34%	--	-0.05	--	1.06	--	1.93%	--
Private Real Estate	4.30%	9.22%	8	1.89%	31	10.56%	2	-0.09	--	28.28	60	4.82%	93
Private Equity	10.21%	11.15%	67	4.06%	12	10.52%	38	-0.92	--	11.46	50	10.25%	82

5 Years Ending September 30, 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%	7.89%	56	5.86%	69	0.81%	41	0.06	73	2.04	34	0.98%	49
U.S. Equity	26.71%	13.36%	17	9.76%	48	-0.22%	21	-0.16	--	2.02	31	0.66%	14
Non-U.S. Equity	30.31%	5.21%	37	10.90%	53	1.21%	28	0.82	7	0.74	30	1.33%	16
Developed ex-U.S.	22.98%	5.43%	42	10.55%	23	1.22%	42	0.70	34	0.78	42	1.46%	34
Emerging Markets	7.33%	3.00%	36	15.14%	99	-0.69%	50	-0.36	--	0.29	43	1.70%	15
Core Fixed Income	17.15%	2.55%	67	2.60%	57	0.48%	69	0.69	43	1.20	67	0.56%	29
Real Assets	9.52%	7.24%	--	2.21%	--	5.12%	--	0.28	--	15.45	--	2.31%	--
Private Real Estate	4.30%	10.35%	40	1.89%	21	12.17%	3	-0.20	--	33.23	53	5.58%	96
Private Equity	10.21%	12.30%	82	4.29%	13	11.45%	54	-0.44	--	13.12	44	10.38%	74

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



PRIVATE MARKETS PERFORMANCE AS OF JUNE 30, 2018

Private Equity	10 Year IRR	Since Inception IRR	Since Inception Multiple
Aggregate Portfolio	9.7%	11.3%	1.55x
Core Portfolio	10.2%	11.8%	1.58x
Specialized Portfolio	2.8%	2.1%	1.12x
Russell 3000 + 300 bps	13.2%	12.0%	N/A

Real Estate	10 Year Return (Net)	Since Inception Return (Net)
Total Portfolio (TWR) ¹	0.98%	5.98%
NFI-ODCE + 80 basis points (TWR)	5.13%	7.15%

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.

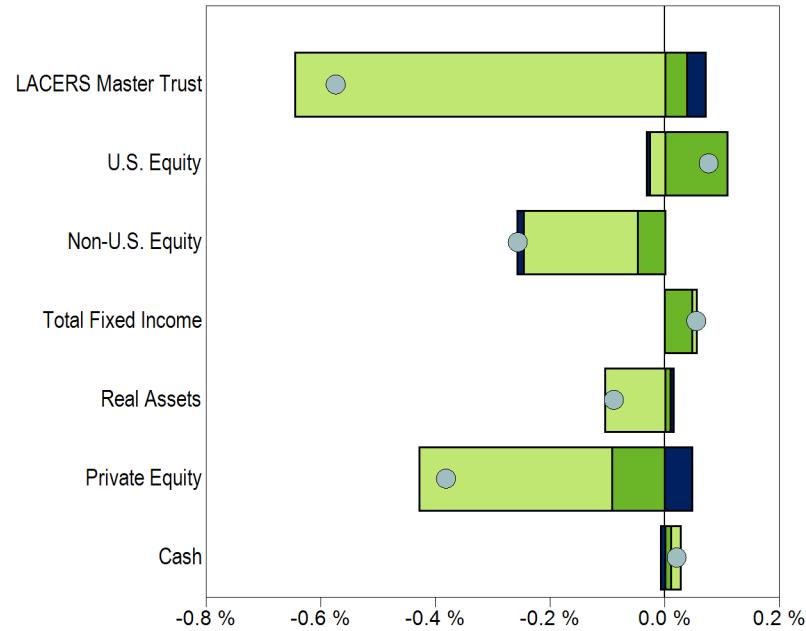
1 - IRR is not available for the Real Estate portfolio and therefore only time weighted returns (TWR) are reported.



Los Angeles City Employees' Retirement System

TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects
3 Months Ending September 30, 2018



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

Attribution Summary								
3 Months Ending September 30, 2018								
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
U.S. Equity	24.00%	7.00%	7.12%	-0.12%	-0.03%	0.11%	0.00%	0.08%
Non-U.S. Equity	29.00%	0.04%	0.71%	-0.66%	-0.20%	-0.05%	-0.01%	-0.26%
Total Fixed Income	24.00%	0.54%	0.51%	0.03%	0.01%	0.05%	0.00%	0.06%
Real Assets	10.00%	0.38%	1.41%	-1.02%	-0.10%	0.01%	0.00%	-0.09%
Private Equity	12.00%	5.01%	7.90%	-2.89%	-0.34%	-0.09%	0.05%	-0.38%
Cash	1.00%	2.04%	0.49%	1.54%	0.02%	0.01%	-0.01%	0.02%
Total	100.00%	2.54%	3.12%	-0.57%	-0.64%	0.04%	0.03%	-0.57%

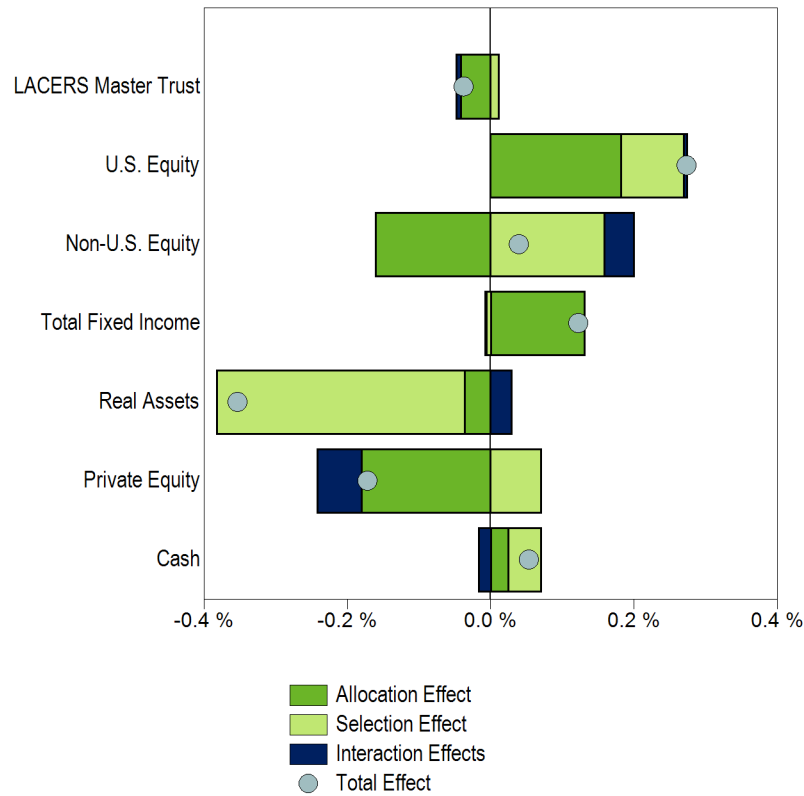
Wtd. = Weighted



Los Angeles City Employees' Retirement System

TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects YTD Ending September 30, 2018



Attribution Summary YTD Ending September 30, 2018								
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
U.S. Equity	24.00%	10.95%	10.57%	0.38%	0.09%	0.18%	0.00%	0.27%
Non-U.S. Equity	29.00%	-2.56%	-3.09%	0.53%	0.16%	-0.16%	0.04%	0.04%
Total Fixed Income	24.00%	-1.15%	-1.14%	-0.02%	-0.01%	0.13%	0.00%	0.12%
Real Assets	10.00%	2.72%	6.21%	-3.49%	-0.34%	-0.04%	0.03%	-0.35%
Private Equity	12.00%	13.65%	13.02%	0.63%	0.07%	-0.18%	-0.06%	-0.17%
Cash	1.00%	5.83%	1.34%	4.50%	0.04%	0.02%	-0.02%	0.05%
Total	100.00%	3.46%	3.50%	-0.04%	0.01%	-0.04%	-0.01%	-0.04%

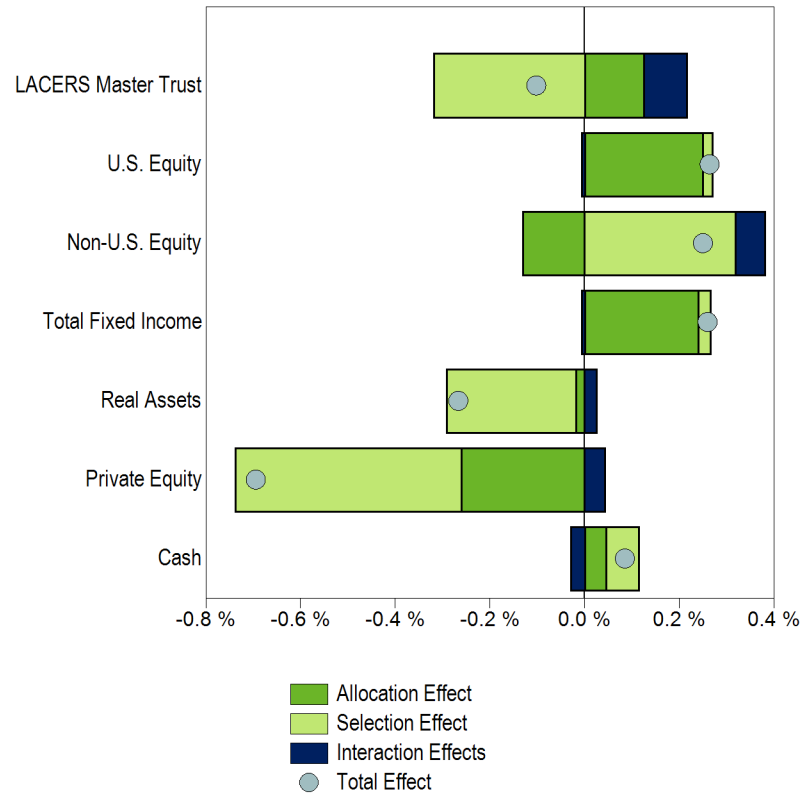
Wtd. = Weighted



Los Angeles City Employees' Retirement System

TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects 1 Year Ending September 30, 2018



Attribution Summary 1 Year Ending September 30, 2018								
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
U.S. Equity	24.00%	17.66%	17.58%	0.08%	0.02%	0.25%	0.00%	0.26%
Non-U.S. Equity	29.00%	2.82%	1.76%	1.06%	0.32%	-0.13%	0.06%	0.25%
Total Fixed Income	24.00%	-0.59%	-0.69%	0.10%	0.02%	0.24%	0.00%	0.26%
Real Assets	10.00%	4.69%	7.38%	-2.70%	-0.27%	-0.02%	0.02%	-0.27%
Private Equity	12.00%	16.72%	21.06%	-4.34%	-0.48%	-0.26%	0.04%	-0.69%
Cash	1.00%	8.24%	1.64%	6.60%	0.07%	0.05%	-0.03%	0.09%
Total	100.00%	7.57%	7.67%	-0.10%	-0.32%	0.13%	0.09%	-0.10%

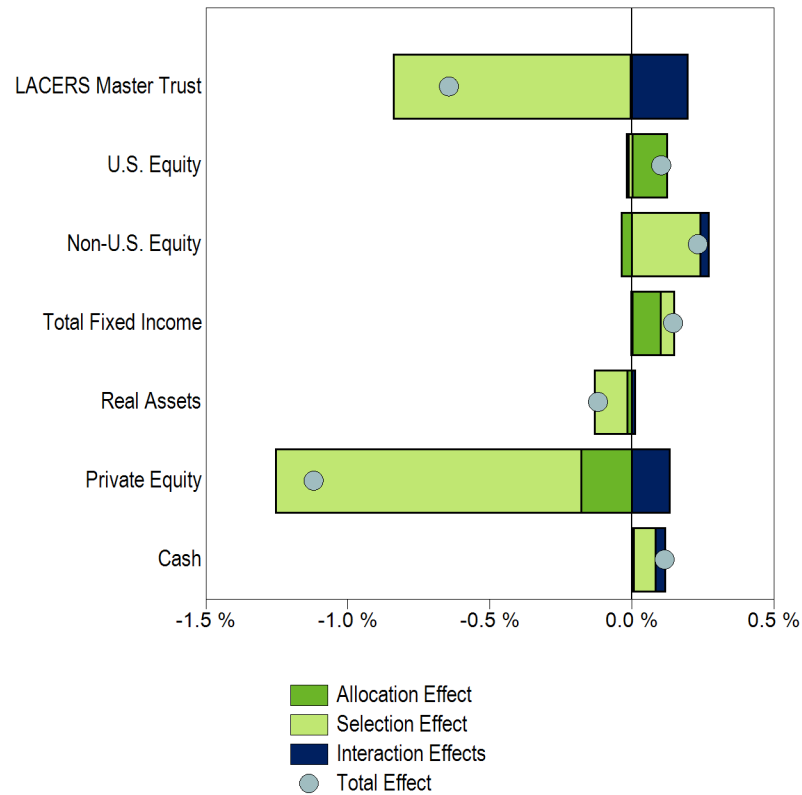
Wtd. = Weighted



Los Angeles City Employees' Retirement System

TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects
3 Years Ending September 30, 2018

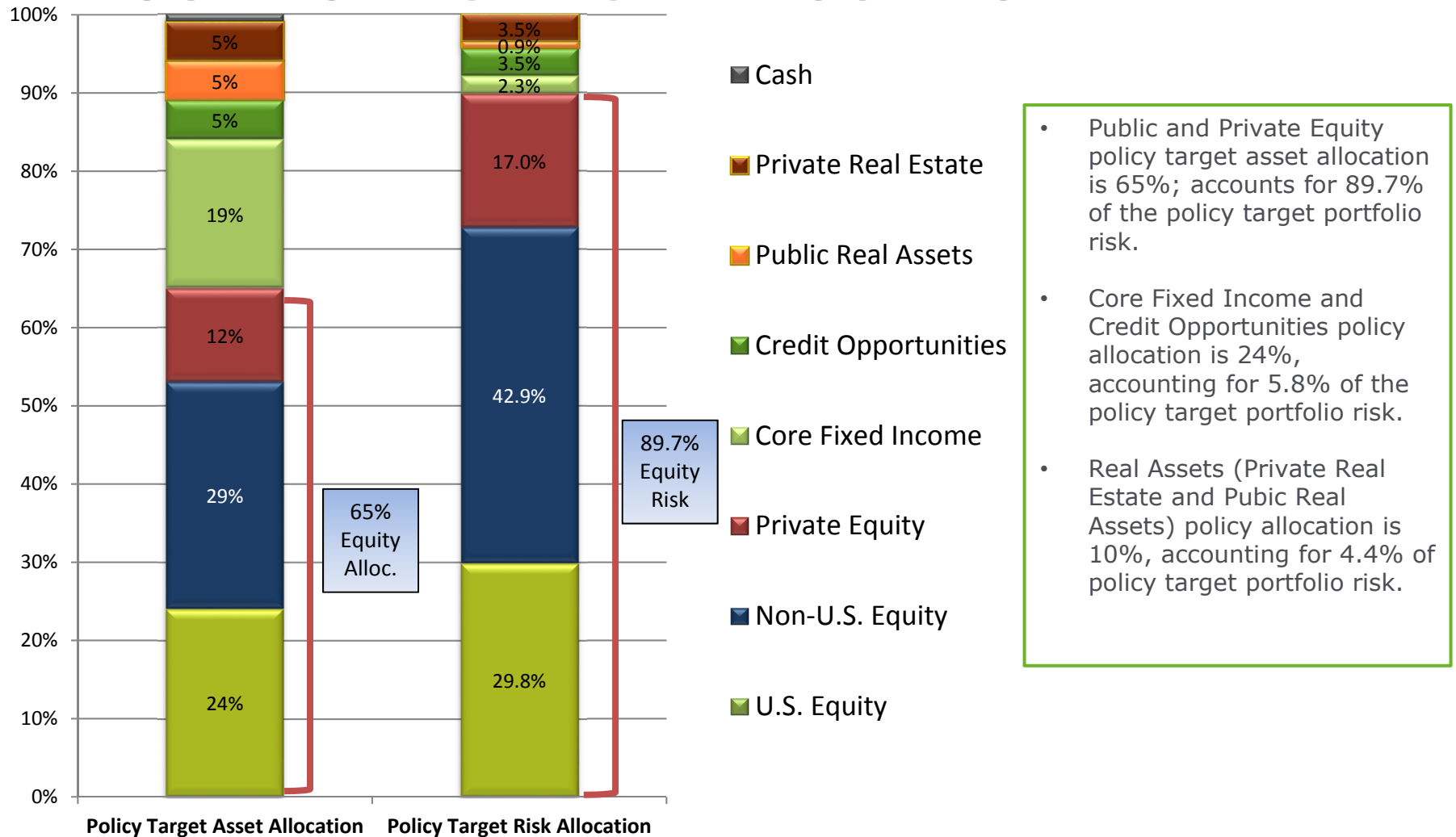


Attribution Summary								
3 Years Ending September 30, 2018								
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
U.S. Equity	24.00%	16.99%	17.07%	-0.08%	-0.01%	0.12%	0.00%	0.10%
Non-U.S. Equity	29.00%	10.80%	9.97%	0.83%	0.24%	-0.04%	0.03%	0.23%
Total Fixed Income	24.00%	2.76%	2.57%	0.19%	0.05%	0.10%	0.00%	0.14%
Real Assets	10.00%	6.00%	7.08%	-1.08%	-0.11%	-0.02%	0.01%	-0.12%
Private Equity	12.00%	11.15%	20.54%	-9.39%	-1.07%	-0.18%	0.13%	-1.12%
Cash	1.00%	8.19%	0.86%	7.33%	0.08%	0.01%	0.03%	0.12%
Total	100.00%	10.13%	10.77%	-0.64%	-0.83%	-0.01%	0.19%	-0.64%

Wtd. = Weighted



TOTAL FUND RISK ALLOCATION – ASSET ALLOCATION VS. RISK ALLOCATION



- 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.

Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 24, 2018.



PUBLIC MARKETS RISK BUDGET COMPARISON AS OF SEPTEMBER 30, 2018

Public Markets Asset Class	Target Risk Budget	Actual 3 Yr Tracking Error
U.S. Equity	0.50%	0.66%
Non-U.S. Equity	1.20%	1.16%
Core Fixed Income	1.00%	0.52%
Credit Opportunities	1.50%	1.02%
Public Real Assets*	3.00%	1.93%

- Current LACERS public market asset class composite tracking error statistics 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.

Note: The new Target Risk Budget was approved by the Board of Directors on August 14, 2018 and is not reflected in the chart.

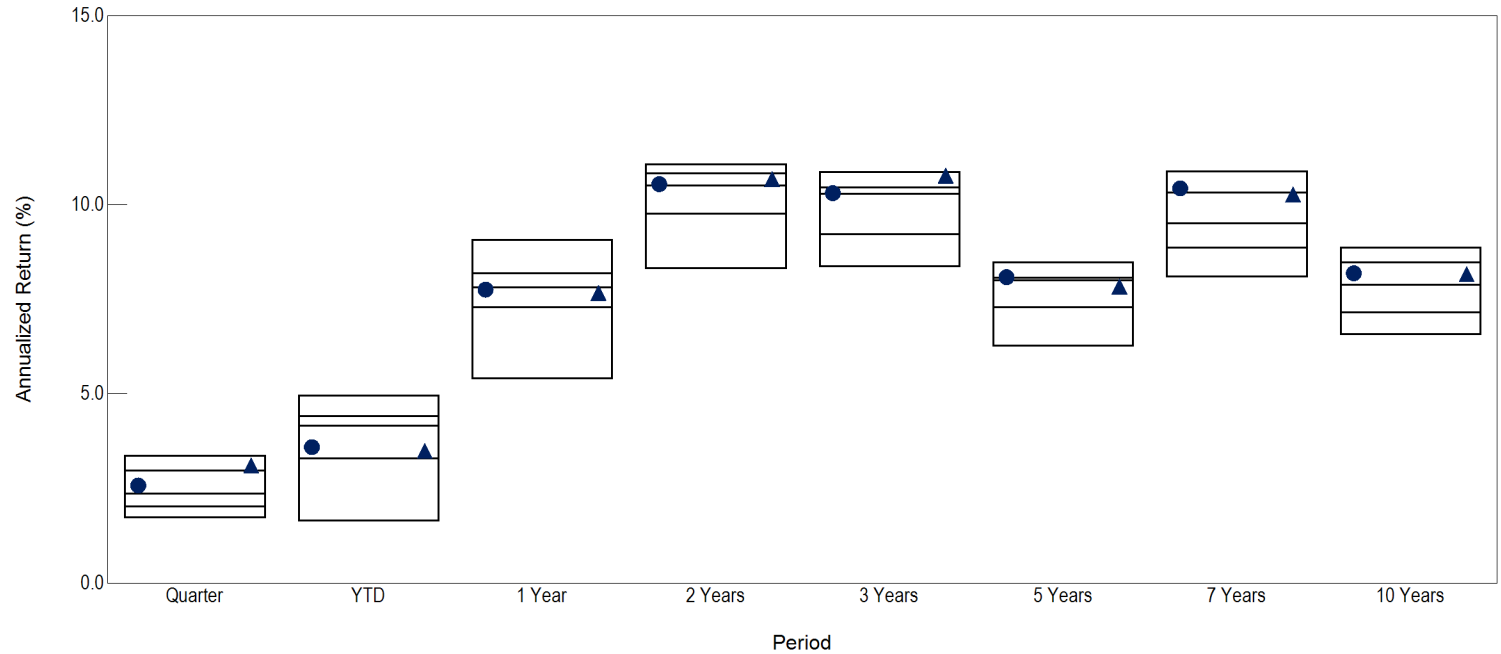
* The benchmark for the Public Real Assets composite is a custom policy benchmark that is comprised of the target weights of the public real asset components. The public real asset benchmark weights are 60% TIPS, 20% Commodities, 10% REITs, and 10% MLPs.



Los Angeles City Employees' Retirement System

TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

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



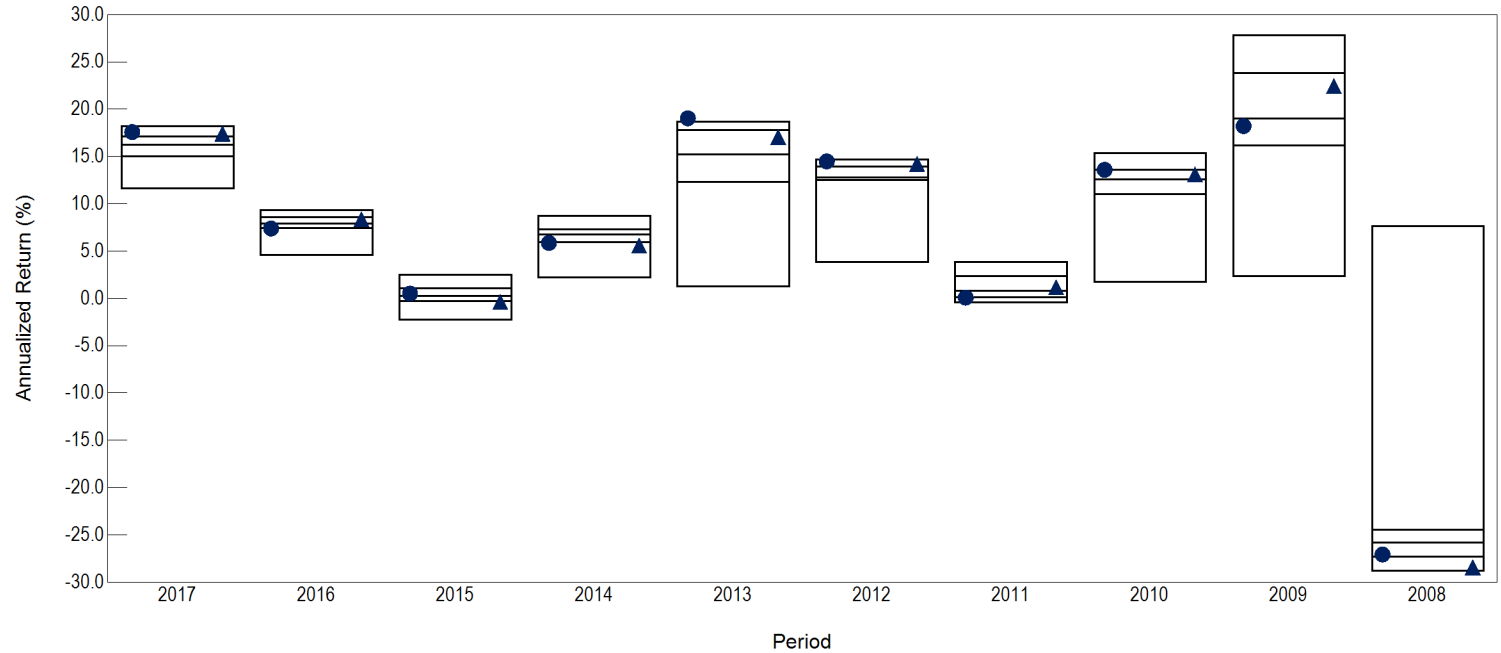
	Return (Rank)															
5th Percentile	3.37	4.95	9.06	11.07	10.87	8.48	10.87	8.86								
25th Percentile	3.00	4.42	8.21	10.84	10.48	8.08	10.34	8.49								
Median	2.39	4.17	7.84	10.52	10.31	8.02	9.52	7.90								
75th Percentile	2.05	3.31	7.30	9.79	9.24	7.30	8.88	7.17								
95th Percentile	1.76	1.67	5.43	8.34	8.40	6.30	8.12	6.60								
# of Portfolios	20	20	20	20	20	19	18	17								
● LACERS Master Trust	2.58	(43)	3.59	(69)	7.76	(53)	10.54	(48)	10.31	(53)	8.08	(23)	10.43	(24)	8.19	(32)
▲ Policy Index	3.12	(17)	3.50	(71)	7.67	(56)	10.68	(31)	10.77	(16)	7.84	(58)	10.27	(27)	8.17	(34)



Los Angeles City Employees' Retirement System

TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

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



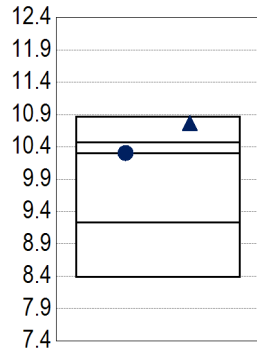
	Return (Rank)																			
5th Percentile	18.21	9.30	2.50	8.72	18.69	14.65	3.83	15.32	27.83	7.63										
25th Percentile	17.15	8.68	1.12	7.38	17.86	14.01	2.41	13.67	23.91	-24.40										
Median	16.29	7.99	0.35	6.79	15.31	12.83	0.86	12.66	19.07	-25.72										
75th Percentile	15.05	7.51	-0.24	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

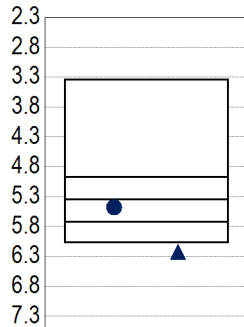
LACERS Master Trust vs. InvestorForce Public DB \$5-50B Gross 3 Years

Annualized Return (%)	Annualized Standard Deviation	Annualized Alpha (%)	Sharpe Ratio	Sortino Ratio Risk Free	Tracking Error
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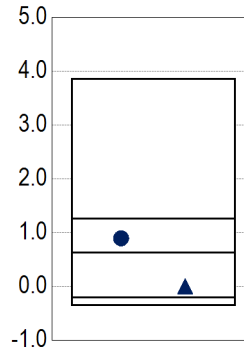
● LACERS Master Trust	Value	10.31
	Rank	53
▲ Policy Index	Value	10.77
	Rank	16

Universe	
5th %tile	10.87
25th %tile	10.48
Median	10.31
75th %tile	9.24
95th %tile	8.40



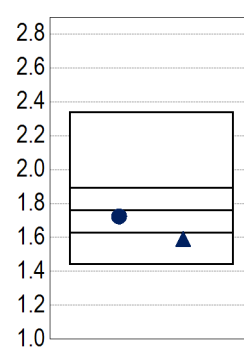
● LACERS Master Trust	Value	5.48
	Rank	58
▲ Policy Index	Value	6.22
	Rank	99

Universe	
5th %tile	3.34
25th %tile	4.96
Median	5.34
75th %tile	5.71
95th %tile	6.06



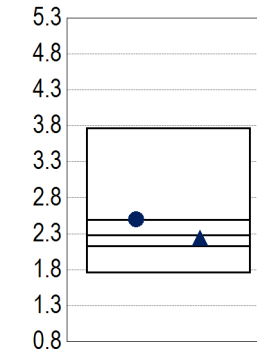
● LACERS Master Trust	Value	0.89
	Rank	45
▲ Policy Index	Value	0.00
	Rank	67

Universe	
5th %tile	3.86
25th %tile	1.28
Median	0.64
75th %tile	-0.20
95th %tile	-0.33



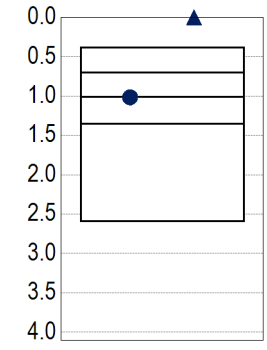
● LACERS Master Trust	Value	1.72
	Rank	61
▲ Policy Index	Value	1.59
	Rank	81

Universe	
5th %tile	2.34
25th %tile	1.90
Median	1.77
75th %tile	1.63
95th %tile	1.45



● LACERS Master Trust	Value	2.50
	Rank	27
▲ Policy Index	Value	2.24
	Rank	54

Universe	
5th %tile	3.77
25th %tile	2.50
Median	2.28
75th %tile	2.14
95th %tile	1.77



● LACERS Master Trust	Value	1.02
	Rank	56
▲ Policy Index	Value	0.00
	Rank	1

Universe	
5th %tile	0.38
25th %tile	0.69
Median	1.01
75th %tile	1.35
95th %tile	2.58

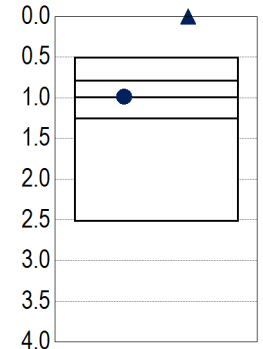
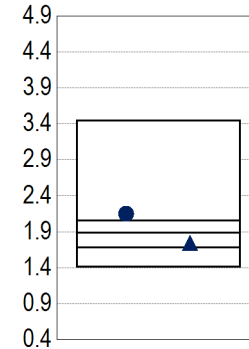
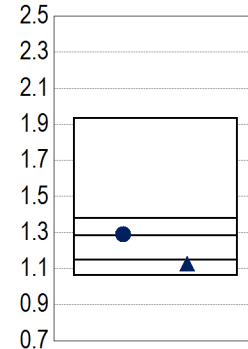
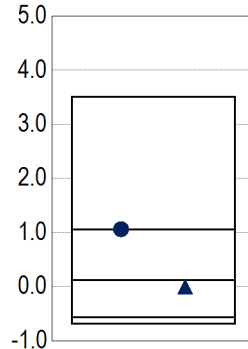
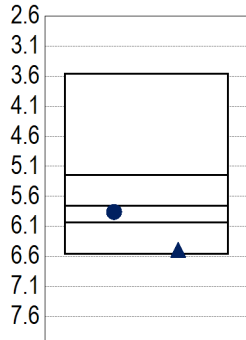
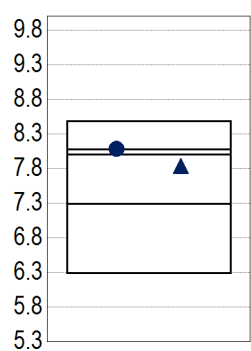
Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

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

- Annualized Return (%)
- Annualized Standard Deviation
- Annualized Alpha (%)
- Sharpe Ratio
- Sortino Ratio Risk Free
- Tracking Error



● LACERS Master Trust
Value 8.08
Rank 23
▲ Policy Index
Value 7.84
Rank 58

● LACERS Master Trust
Value 5.86
Rank 69
▲ Policy Index
Value 6.49
Rank 94

● LACERS Master Trust
Value 1.06
Rank 38
▲ Policy Index
Value 0.00
Rank 65

● LACERS Master Trust
Value 1.29
Rank 50
▲ Policy Index
Value 1.13
Rank 83

● LACERS Master Trust
Value 2.15
Rank 17
▲ Policy Index
Value 1.75
Rank 65

● LACERS Master Trust
Value 0.99
Rank 51
▲ Policy Index
Value 0.00
Rank 1

Universe
5th %tile 8.48
25th %tile 8.08
Median 8.02
75th %tile 7.30
95th %tile 6.30

Universe
5th %tile 3.56
25th %tile 5.23
Median 5.75
75th %tile 6.03
95th %tile 6.55

Universe
5th %tile 3.51
25th %tile 1.06
Median 0.14
75th %tile -0.56
95th %tile -0.68

Universe
5th %tile 1.93
25th %tile 1.38
Median 1.29
75th %tile 1.15
95th %tile 1.07

Universe
5th %tile 3.45
25th %tile 2.07
Median 1.90
75th %tile 1.69
95th %tile 1.42

Universe
5th %tile 0.50
25th %tile 0.78
Median 0.99
75th %tile 1.25
95th %tile 2.51

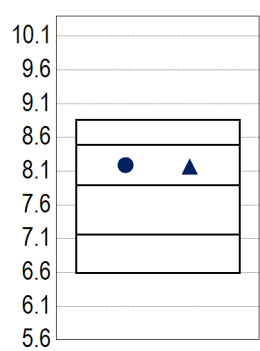
Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

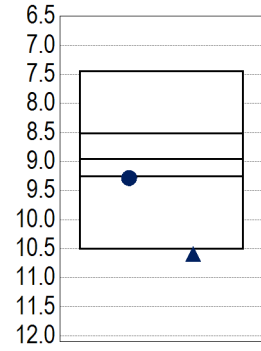
LACERS Master Trust vs. InvestorForce Public DB \$5-50B Gross 10 Years

Annualized Return (%)	Annualized Standard Deviation	Annualized Alpha (%)	Sharpe Ratio	Sortino Ratio Risk Free	Tracking Error
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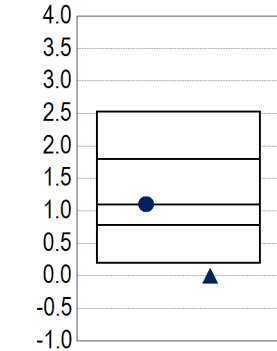
● LACERS Master Trust	Value	8.19
	Rank	32
▲ Policy Index	Value	8.17
	Rank	34

Universe	
5th %tile	8.86
25th %tile	8.49
Median	7.90
75th %tile	7.17
95th %tile	6.60



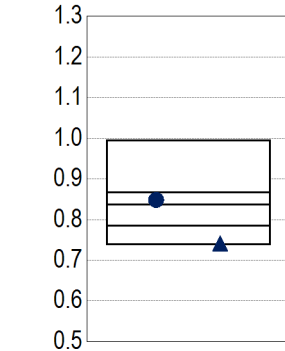
● LACERS Master Trust	Value	9.29
	Rank	76
▲ Policy Index	Value	10.59
	Rank	97

Universe	
5th %tile	7.45
25th %tile	8.50
Median	8.94
75th %tile	9.25
95th %tile	10.49



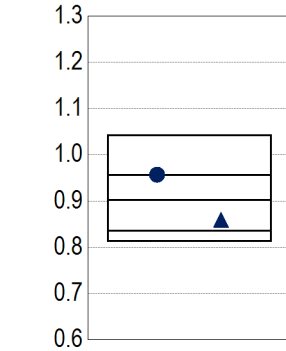
● LACERS Master Trust	Value	1.10
	Rank	51
▲ Policy Index	Value	0.00
	Rank	99

Universe	
5th %tile	2.52
25th %tile	1.81
Median	1.10
75th %tile	0.80
95th %tile	0.21



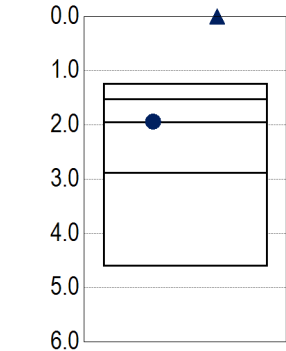
● LACERS Master Trust	Value	0.85
	Rank	40
▲ Policy Index	Value	0.74
	Rank	95

Universe	
5th %tile	0.99
25th %tile	0.87
Median	0.84
75th %tile	0.79
95th %tile	0.74



● LACERS Master Trust	Value	0.96
	Rank	32
▲ Policy Index	Value	0.86
	Rank	67

Universe	
5th %tile	1.04
25th %tile	0.96
Median	0.90
75th %tile	0.84
95th %tile	0.81



● LACERS Master Trust	Value	1.94
	Rank	50
▲ Policy Index	Value	0.00
	Rank	1

Universe	
5th %tile	1.24
25th %tile	1.52
Median	1.94
75th %tile	2.87
95th %tile	4.58

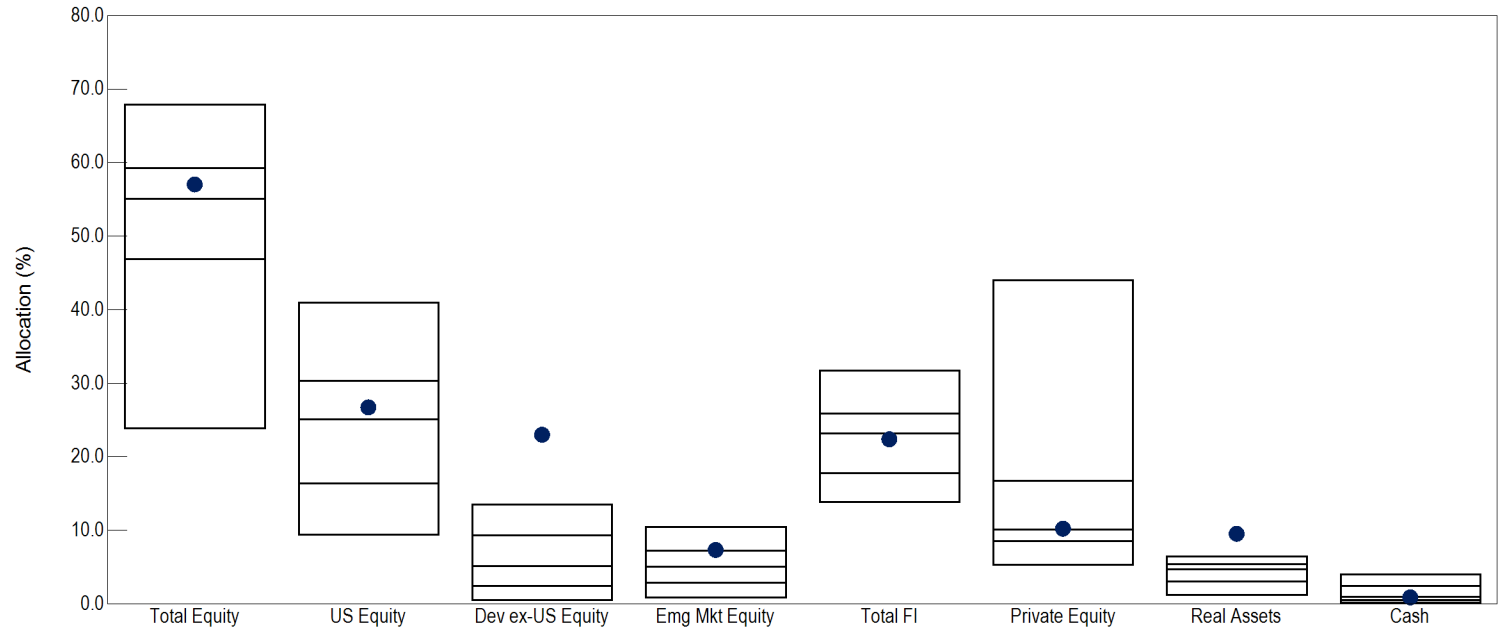
Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.



Los Angeles City Employees' Retirement System

TOTAL FUND ALLOCATION VS. PEER UNIVERSE

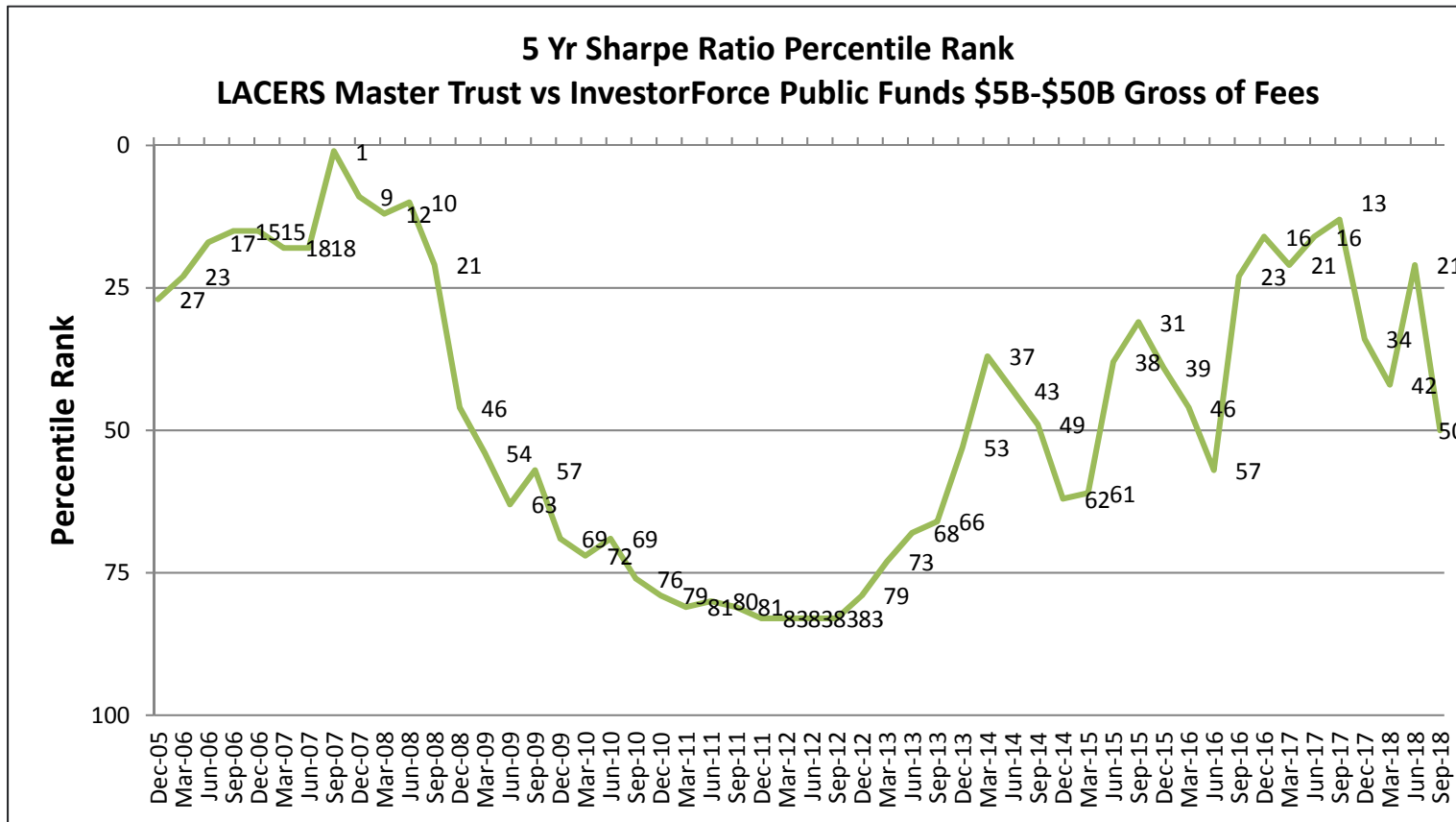
Total Plan Allocation vs. InvestorForce Public DB \$5-50B Gross



	Allocation (Rank)															
5th Percentile	67.84	40.91	13.52	10.41	31.69	43.99	6.43	4.03								
25th Percentile	59.35	30.37	9.36	7.33	25.98	16.85	5.45	2.49								
Median	55.12	25.17	5.25	5.11	23.22	10.21	4.82	1.04								
75th Percentile	46.93	16.46	2.54	2.93	17.84	8.65	3.12	0.64								
95th Percentile	23.97	9.50	0.64	0.92	13.89	5.41	1.32	0.22								
# of Portfolios	17	16	6	9	18	11	8	17								
● LACERS Master Trust	57.02	(38)	26.71	(41)	22.98	(1)	7.33	(26)	22.37	(56)	10.21	(50)	9.52	(1)	0.88	(69)



HISTORICAL RISK ADJUSTED RETURN UNIVERSE COMPARISON



- Total Plan ranks in the 50th percentile versus other large public plans on a Sharpe Ratio basis.
 - Overweight to non-U.S. equities with contributed positively to Sharpe Ratio rank.
 - Use of passive investment strategies within U.S. Equity has contributed to the overall Sharpe Ratio rank (higher than median).
 - Core Fixed Income contributed negatively to Sharpe Ratio rank.



U.S. EQUITY

NEPC, LLC

Los Angeles City Employees' Retirement System

U.S. EQUITY (GROSS)

	Market Value (\$)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
U.S. Equity	4,746,787,640	7.02	11.00	17.73	17.08	13.48	12.13	10.78	Oct-94
U.S. Equity Blend		<u>7.12</u>	<u>10.57</u>	<u>17.58</u>	<u>17.07</u>	<u>13.46</u>	<u>12.01</u>	<u>9.65</u>	Oct-94
Over/Under		-0.10	0.43	0.15	0.01	0.02	0.12	1.13	
Aronson, Johnson & Ortiz	191,021,751	4.56	3.70	11.45	11.93	10.22	10.39	8.92	Oct-01
Russell 1000 Value		<u>5.70</u>	<u>3.92</u>	<u>9.45</u>	<u>13.55</u>	<u>10.72</u>	<u>9.79</u>	<u>8.10</u>	Oct-01
Over/Under		-1.14	-0.22	2.00	-1.62	-0.50	0.60	0.82	
Rhumblin Advisors Russell 2000	285,985,393	3.60	11.54	15.24	17.07			10.42	Apr-15
Russell 2000		<u>3.58</u>	<u>11.51</u>	<u>15.24</u>	<u>17.12</u>			<u>10.56</u>	Apr-15
Over/Under		0.02	0.03	0.00	-0.05			-0.14	
Rhumblin Advisors Russell 2000 Growth ¹	149,965,195	5.56	15.78	21.05	17.92			12.35	Jan-15
Russell 2000 Growth		<u>5.52</u>	<u>15.76</u>	<u>21.06</u>	<u>17.98</u>			<u>12.44</u>	Jan-15
Over/Under		0.04	0.02	-0.01	-0.06			-0.09	
Rhumblin Advisors Russell 2000 Value ¹	113,797,062	1.60	7.12	9.28				20.46	Mar-16
Russell 2000 Value		<u>1.60</u>	<u>7.14</u>	<u>9.33</u>				<u>20.55</u>	Mar-16
Over/Under		0.00	-0.02	-0.05				-0.09	
EAM Investors	143,676,355	13.49	31.73	36.86	20.43			20.43	Sep-15
Russell 2000 Growth		<u>5.52</u>	<u>15.76</u>	<u>21.06</u>	<u>17.98</u>			<u>17.98</u>	Sep-15
Over/Under		7.97	15.97	15.80	2.45			2.45	
PanAgora	126,838,693	-0.14	5.91	7.53	13.57	10.45	12.24	7.66	Feb-06
Russell 2000 Value		<u>1.60</u>	<u>7.14</u>	<u>9.33</u>	<u>16.12</u>	<u>9.92</u>	<u>9.52</u>	<u>7.27</u>	Feb-06
Over/Under		-1.74	-1.23	-1.80	-2.55	0.53	2.72	0.39	
Principal Global Investors	159,627,167	4.67	8.61	14.61	16.92			13.64	Aug-14
Russell MidCap		<u>5.00</u>	<u>7.46</u>	<u>13.98</u>	<u>14.52</u>			<u>10.54</u>	Aug-14
Over/Under		-0.33	1.15	0.63	2.40			3.10	
Rhumblin Advisors S&P 500	3,361,654,655	7.71	10.60	17.94	17.25	13.91	12.03	9.97	Feb-93
S&P 500		<u>7.71</u>	<u>10.56</u>	<u>17.91</u>	<u>17.31</u>	<u>13.95</u>	<u>11.97</u>	<u>9.80</u>	Feb-93
Over/Under		0.00	0.04	0.03	-0.06	-0.04	0.06	0.17	
Rhumblin Advisors Russell 1000 Growth ¹	214,221,367	9.17	17.08	26.27	20.46	16.52		17.41	Jun-13
Russell 1000 Growth		<u>9.17</u>	<u>17.09</u>	<u>26.30</u>	<u>20.55</u>	<u>16.58</u>		<u>17.47</u>	Jun-13
Over/Under		0.00	-0.01	-0.03	-0.09	-0.06		-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 Alliance



Los Angeles City Employees' Retirement System

U.S. EQUITY (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
U.S. Equity	4,746,787,640	100.00	7.00	19	10.95	26	17.66	30	16.99	24	13.36	17	11.95	28		Oct-94
U.S. Equity Blend			<u>7.12</u>	15	<u>10.57</u>	32	<u>17.58</u>	31	<u>17.07</u>	17	<u>13.46</u>	15	<u>12.01</u>	26		Oct-94
Over/Under			-0.12		0.38		0.08		-0.08		-0.10		-0.06			
InvestorForce Public DB > \$1 Billion US Equity Net Median			6.63		10.05		16.92		16.51		12.99		11.60			Oct-94
Aronson, Johnson & Ortiz	191,021,751	4.02	4.49	72	3.48	67	11.14	50	11.61	88	9.89	67	10.08	53	8.63	Oct-01
Russell 1000 Value			<u>5.70</u>	47	<u>3.92</u>	62	<u>9.45</u>	64	<u>13.55</u>	57	<u>10.72</u>	52	<u>9.79</u>	60	<u>8.10</u>	Oct-01
Over/Under			-1.21		-0.44		1.69		-1.94		-0.83		0.29		0.53	
eV US Large Cap Value Equity Net Median			5.50		4.56		11.11		13.86		10.81		10.15		8.62	Oct-01
Rhumblin Advisors Russell 2000 ¹	285,985,393	6.02	3.59	50	11.54	42	15.23	44	17.06	41					10.41	Apr-15
Russell 2000			<u>3.58</u>	50	<u>11.51</u>	42	<u>15.24</u>	44	<u>17.12</u>	41					<u>10.56</u>	Apr-15
Over/Under			0.01		0.03		-0.01		-0.06						-0.15	
eV US Small Cap Equity Net Median			3.57		9.17		13.41		16.08						10.16	Apr-15
Rhumblin Advisors Russell 2000 Growth ¹	149,965,195	3.16	5.56	74	15.77	74	21.04	73	17.91	66					12.34	Jan-15
Russell 2000 Growth			<u>5.52</u>	75	<u>15.76</u>	74	<u>21.06</u>	73	<u>17.98</u>	65					<u>12.44</u>	Jan-15
Over/Under			0.04		0.01		-0.02		-0.07						-0.10	
eV US Small Cap Growth Equity Net Median			7.55		20.83		25.90		19.20						14.16	Jan-15
Rhumblin Advisors Russell 2000 Value ¹	113,797,062	2.40	1.59	46	7.12	31	9.28	40							20.46	Mar-16
Russell 2000 Value			<u>1.60</u>	45	<u>7.14</u>	31	<u>9.33</u>	40							<u>20.55</u>	Mar-16
Over/Under			-0.01		-0.02		-0.05								-0.09	
eV US Small Cap Value Equity Net Median			1.35		4.55		8.00								17.90	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 Alliance



Los Angeles City Employees' Retirement System

U.S. EQUITY (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
EAM Investors	143,676,355	3.03	13.32	2	31.08	5	35.96	6	19.59	20					19.59	Sep-15
<i>Russell 2000 Growth</i>			<u>5.52</u>	32	<u>15.76</u>	29	<u>21.06</u>	29	<u>17.98</u>	32					<u>17.98</u>	Sep-15
Over/Under			7.80		15.32		14.90		1.61						1.61	
<i>eV US Small Cap Equity Net Median</i>			3.57		9.17		13.41		16.08						16.08	Sep-15
PanAgora	126,838,693	2.67	-0.31	82	5.39	43	6.84	61	12.83	66	9.69	47	11.46	36	6.93	Feb-06
<i>Russell 2000 Value</i>			<u>1.60</u>	45	<u>7.14</u>	31	<u>9.33</u>	40	<u>16.12</u>	26	<u>9.92</u>	43	<u>9.52</u>	84	<u>7.27</u>	Feb-06
Over/Under			-1.91		-1.75		-2.49		-3.29		-0.23		1.94		-0.34	
<i>eV US Small Cap Value Equity Net Median</i>			1.35		4.55		8.00		14.11		9.51		10.74		8.23	Feb-06
Principal Global Investors ¹	159,627,167	3.36	4.57	52	8.30	45	14.19	48	16.46	22					13.23	Aug-14
<i>Russell MidCap</i>			<u>5.00</u>	48	<u>7.46</u>	48	<u>13.98</u>	49	<u>14.52</u>	46					<u>10.54</u>	Aug-14
Over/Under			-0.43		0.84		0.21		1.94						2.69	
<i>eV US Mid Cap Equity Net Median</i>			4.62		7.03		13.61		14.19						10.38	Aug-14
Rhumblin Advisors S&P 500	3,361,654,655	70.82	7.71	30	10.60	35	17.94	36	17.24	26	13.90	28	12.03	36	--	Feb-93
<i>S&P 500</i>			<u>7.71</u>	29	<u>10.56</u>	35	<u>17.91</u>	36	<u>17.31</u>	26	<u>13.95</u>	27	<u>11.97</u>	38	<u>9.80</u>	Feb-93
Over/Under			0.00		0.04		0.03		-0.07		-0.05		0.06			
<i>eV US Large Cap Equity Net Median</i>			6.66		8.26		15.23		15.13		12.25		11.22		10.14	Feb-93
Rhumblin Advisors Russell 1000 Growth	214,221,367	4.51	9.17	21	17.07	45	26.27	35	20.45	19	16.51	15			17.40	Jun-13
<i>Russell 1000 Growth</i>			<u>9.17</u>	21	<u>17.09</u>	44	<u>26.30</u>	35	<u>20.55</u>	19	<u>16.58</u>	14			<u>17.47</u>	Jun-13
Over/Under			0.00		-0.02		-0.03		-0.10		-0.07				-0.07	
<i>eV US Large Cap Growth Equity Net Median</i>			7.84		16.30		23.89		18.60		15.00				16.31	Jun-13

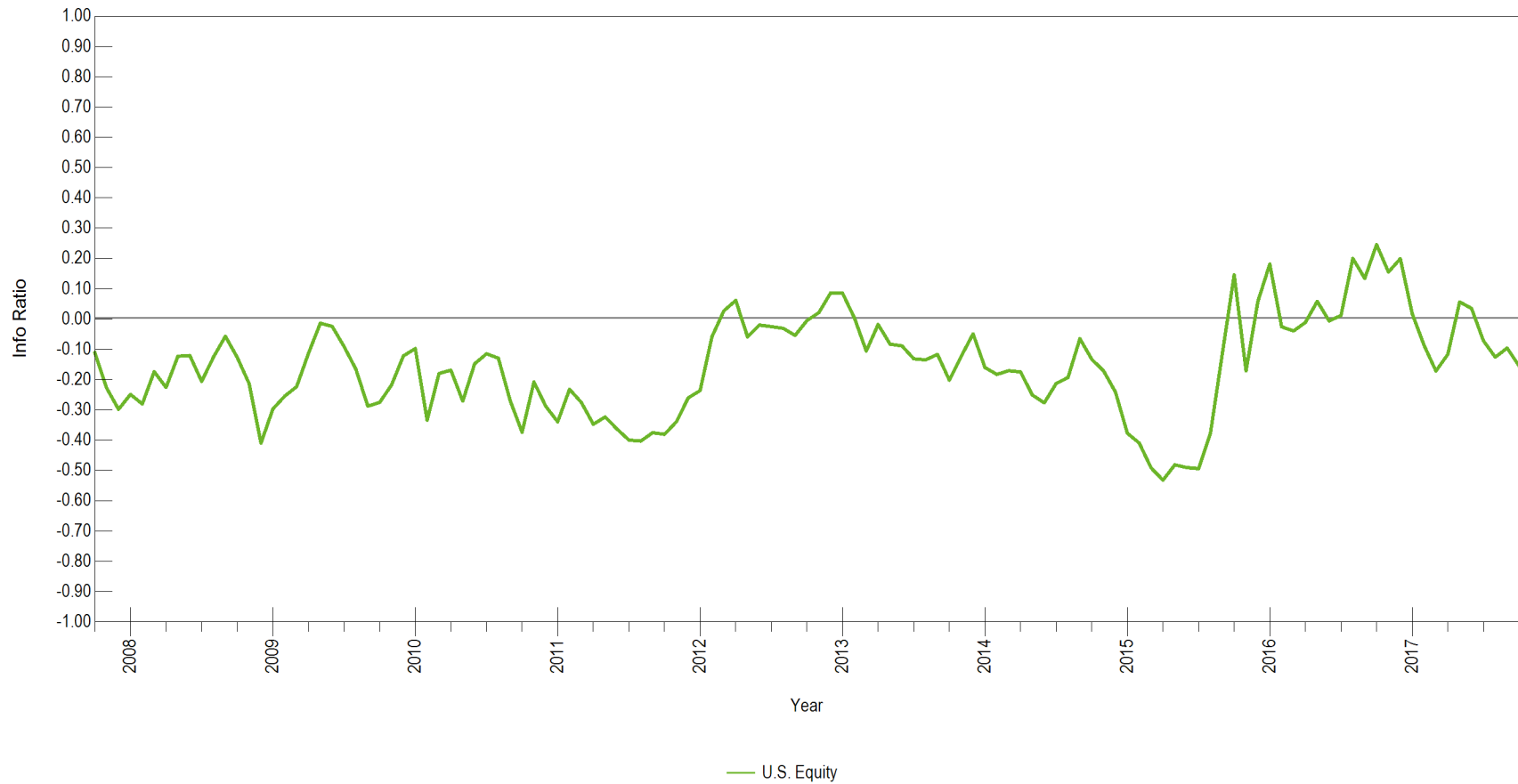
1- Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

eA = eVestment Alliance



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	x	x	✓	=	x	x	x	x	✓	449.7	On Watch since July 2016 due to performance.
Principal Global Investors	Jul-14	Mid Cap	x	x	✓	✓	✓	✓	N/A	N/A	✓	563.0	Performance compliant with LACERS' Manager Monitoring Policy
EAM Investors	Sep-15	Small Cap Growth	✓	✓	✓	✓	✓	✓	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	x	x	x	x	x	x	x	✓	x	647.8	On Watch since November 2018 due to performance.
Rhumblin (Passive)	Feb-93	S&P 500	=	✓	✓	✓	x	✓	x	✓	✓✓	100.9	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Jun-13	R1000 Growth	=	✓	x	✓	x	✓	x	✓	x	8.8	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Jun-15	R2000	✓	=	x	✓	x	✓	N/A	N/A	x	11.9	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Jun-15	R2000 Growth	✓	x	x	x	x	x	N/A	N/A	x	5.9	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Feb-16	R2000 Value	x	✓	x	✓	N/A	N/A	N/A	N/A	x	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
x	Underperformed
=	Equal to
✓✓	Gross Return



NON-U.S. EQUITY

NEPC, LLC

Los Angeles City Employees' Retirement System

NON-U.S. EQUITY (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Non-U.S. Equity	5,387,281,503	100.00	0.14	-2.28	3.21	11.20	5.56	6.58	7.16	Aug-01
MSCI ACWI ex USA			0.71	-3.09	1.76	9.97	4.12	5.18	6.26	Aug-01
Over/Under			-0.57	0.81	1.45	1.23	1.44	1.40	0.90	
Developed ex-U.S.	4,085,098,473	75.83	0.60	-0.67	4.42	10.59	5.73		9.42	Jun-12
MSCI EAFE			1.35	-1.43	2.74	9.23	4.42		8.26	Jun-12
Over/Under			-0.75	0.76	1.68	1.36	1.31		1.16	
AQR Capital ¹	372,054,520	6.91	-1.73	-4.06	1.50	11.24			6.79	Feb-14
MSCI EAFE Small Cap			-0.88	-2.19	3.73	12.39			6.47	Feb-14
Over/Under			-0.85	-1.87	-2.23	-1.15			0.32	
Barrow Hanley ¹	539,900,960	10.02	-0.95	-3.12	-0.47	8.64			3.40	Nov-13
MSCI EAFE Value			1.18	-3.49	-0.36	8.12			2.24	Nov-13
Over/Under			-2.13	0.37	-0.11	0.52			1.16	
Lazard Asset Management ¹	598,405,834	11.11	1.04	1.56	8.61	9.22			5.38	Nov-13
MSCI EAFE			1.35	-1.43	2.74	9.23			3.69	Nov-13
Over/Under			-0.31	2.99	5.87	-0.01			1.69	
MFS Institutional Advisors	599,476,425	11.13	2.64	3.66	10.39	13.84			7.27	Oct-13
MSCI World ex USA Growth NR USD			1.46	0.39	5.47	9.91			4.91	Oct-13
Over/Under			1.18	3.27	4.92	3.93			2.36	
Oberweis Asset Mgmt ¹	178,976,976	3.32	-2.45	-1.30	6.60	13.33			9.85	Jan-14
MSCI EAFE Small Cap			-0.88	-2.19	3.73	12.39			7.58	Jan-14
Over/Under			-1.57	0.89	2.87	0.94			2.27	
SSgA World ex US IMI	1,796,283,757	33.34	1.05	-1.15	3.30	10.17	5.05	6.04	5.90	Aug-93
MSCI World ex USA IMI NR USD ²			0.98	-1.62	2.78	9.72	4.62	5.64	5.63	Aug-93
Over/Under			0.07	0.47	0.52	0.45	0.43	0.40	0.17	

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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Emerging Markets	1,302,183,030	24.17	-1.26	-7.52	-0.85	12.94	3.61		4.25	Jun-12
<i>MSCI Emerging Markets</i>			<i>-1.09</i>	<i>-7.68</i>	<i>-0.81</i>	<i>12.36</i>	<i>3.61</i>		<i>4.28</i>	<i>Jun-12</i>
Over/Under			<i>-0.17</i>	<i>0.16</i>	<i>-0.04</i>	<i>0.58</i>	<i>0.00</i>		<i>-0.03</i>	
Axiom Emerging Markets	422,928,577	7.85	-2.76	-8.94	-2.64	13.08			4.50	Mar-14
<i>MSCI Emerging Markets Growth NR USD</i>			<i>-5.38</i>	<i>-10.94</i>	<i>-3.89</i>	<i>13.03</i>			<i>4.96</i>	<i>Mar-14</i>
Over/Under			<i>2.62</i>	<i>2.00</i>	<i>1.25</i>	<i>0.05</i>			<i>-0.46</i>	
DFA Emerging Markets ¹	443,579,302	8.23	1.28	-6.01	1.51	14.17			1.19	Jul-14
<i>MSCI Emerging Markets Value NR USD</i>			<i>3.44</i>	<i>-4.28</i>	<i>2.27</i>	<i>11.55</i>			<i>0.20</i>	<i>Jul-14</i>
Over/Under			<i>-2.16</i>	<i>-1.73</i>	<i>-0.76</i>	<i>2.62</i>			<i>0.99</i>	
QMA Emerging Markets ¹	435,675,151	8.09	-2.22	-7.66	-1.41	11.83			4.30	Apr-14
<i>MSCI Emerging Markets</i>			<i>-1.09</i>	<i>-7.68</i>	<i>-0.81</i>	<i>12.36</i>			<i>3.70</i>	<i>Apr-14</i>
Over/Under			<i>-1.13</i>	<i>0.02</i>	<i>-0.60</i>	<i>-0.53</i>			<i>0.60</i>	

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	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Non-U.S. Equity	5,387,281,503	100.00	0.04	76	-2.56	41	2.82	24	10.80	30	5.21	37	6.22	36	6.79	Aug-01
MSCI ACWI ex USA			<u>0.71</u>	47	<u>-3.09</u>	56	<u>1.76</u>	53	<u>9.97</u>	72	<u>4.12</u>	78	<u>5.18</u>	79	<u>6.26</u>	Aug-01
Over/Under			-0.67		0.53		1.06		0.83		1.09		1.04		0.53	
Developed ex-U.S.	4,085,098,473	75.83	0.51	70	-0.92	39	4.08	24	10.24	51	5.43	42			9.13	Jun-12
MSCI EAFE			<u>1.35</u>	20	<u>-1.43</u>	56	<u>2.74</u>	44	<u>9.23</u>	79	<u>4.42</u>	73			<u>8.26</u>	Jun-12
Over/Under			-0.84		0.51		1.34		1.01		1.01				0.87	
InvestorForce Public DB > \$1 Billion Dev Mkt ex-US Eq Net Median			0.97		-1.21		2.33		10.24		5.12				9.13	Jun-12
AQR Capital ¹	372,054,520	6.91	-1.93	67	-4.62	57	0.71	61	10.39	72					6.08	Feb-14
MSCI EAFE Small Cap			<u>-0.88</u>	48	<u>-2.19</u>	33	<u>3.73</u>	39	<u>12.39</u>	45					<u>6.47</u>	Feb-14
Over/Under			-1.05		-2.43		-3.02		-2.00						-0.39	
eV EAFE Small Cap Equity Net Median			-1.30		-3.56		1.41		12.28						6.88	Feb-14
Barrow Hanley ¹	539,900,960	10.02	-1.07	97	-3.49	56	-0.97	69	8.09	65					2.90	Nov-13
MSCI EAFE Value			<u>1.18</u>	39	<u>-3.49</u>	56	<u>-0.36</u>	60	<u>8.12</u>	63					<u>2.24</u>	Nov-13
Over/Under			-2.25		0.00		-0.61		-0.03						0.66	
eV EAFE Value Equity Net Median			0.67		-3.33		0.54		8.53						3.62	Nov-13
Lazard Asset Management ¹	598,405,834	11.11	0.91	46	1.17	19	8.06	10	8.65	67					4.83	Nov-13
MSCI EAFE			<u>1.35</u>	34	<u>-1.43</u>	43	<u>2.74</u>	46	<u>9.23</u>	55					<u>3.69</u>	Nov-13
Over/Under			-0.44		2.60		5.32		-0.58						1.14	
eV All EAFE Equity Net Median			0.77		-2.11		2.36		9.49						4.61	Nov-13
MFS Institutional Advisors	599,476,425	11.13	2.51	10	3.29	36	9.86	8	13.28	27					6.75	Oct-13
MSCI World ex USA Growth NR USD			<u>1.46</u>	15	<u>0.39</u>	74	<u>5.47</u>	49	<u>9.91</u>	67					<u>4.91</u>	Oct-13
Over/Under			1.05		2.90		4.39		3.37						1.84	
eV EAFE All Cap Growth Net Median			0.35		1.45		5.41		11.26						5.57	Oct-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

NON-U.S. EQUITY (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Oberweis Asset Mgmt ¹	178,976,976	3.32	-2.65	78	-1.95	30	5.67	24	12.40	42					8.93	Jan-14
MSCI EAFE Small Cap			<u>-0.88</u>	48	<u>-2.19</u>	33	<u>3.73</u>	39	<u>12.39</u>	45					<u>7.58</u>	Jan-14
Over/Under			-1.77		0.24		1.94		0.01						1.35	
eV EAFE Small Cap Equity Net Median			-1.30		-3.56		1.41		12.28						7.91	Jan-14
SSgA World ex US IMI	1,796,283,757	33.34	1.05	43	-1.17	40	3.27	41	10.14	41	5.03	66	6.01	68		Aug-93
MSCI World ex USA IMI NR USD ²			<u>0.98</u>	45	<u>-1.62</u>	46	<u>2.78</u>	46	<u>9.72</u>	49	<u>4.62</u>	74	<u>5.64</u>	78		Aug-93
Over/Under			0.07		0.45		0.49		0.42		0.41		0.37			
eV EAFE Core Equity Net Median			0.78		-1.85		2.44		9.61		5.67		6.50			Aug-93
Emerging Markets	1,302,183,030	24.17	-1.37	63	-7.89	27	-1.37	20	12.36	8	3.00	36			3.61	Jun-12
MSCI Emerging Markets			<u>-1.09</u>	56	<u>-7.68</u>	7	<u>-0.81</u>	7	<u>12.36</u>	8	<u>3.61</u>	2			<u>4.28</u>	Jun-12
Over/Under			-0.28		-0.21		-0.56		0.00		-0.61				-0.67	
InvestorForce Public DB > \$1 Billion Emg Mkt Eq Net Median			-1.08		-8.91		-3.68		9.58		2.74				3.22	Jun-12
Axiom Emerging Markets	422,928,577	7.85	-2.91	50	-9.42	49	-3.31	51	12.29	34					3.83	Mar-14
MSCI Emerging Markets Growth NR USD			<u>-5.38</u>	83	<u>-10.94</u>	68	<u>-3.89</u>	56	<u>13.03</u>	26					<u>4.96</u>	Mar-14
Over/Under			2.47		1.52		0.58		-0.74						-1.13	
eV Emg Mkts Equity Net Median			-3.00		-9.50		-3.20		11.19						3.61	Mar-14
DFA Emerging Markets ¹	443,579,302	8.23	1.17	11	-6.36	17	1.02	11	13.66	18					0.71	Jul-14
MSCI Emerging Markets Value NR USD			<u>3.44</u>	2	<u>-4.28</u>	8	<u>2.27</u>	8	<u>11.55</u>	43					<u>0.20</u>	Jul-14
Over/Under			-2.27		-2.08		-1.25		2.11						0.51	
eV Emg Mkts Equity Net Median			-3.00		-9.50		-3.20		11.19						2.05	Jul-14
QMA Emerging Markets ¹	435,675,151	8.09	-2.31	42	-7.96	31	-1.82	32	11.37	48					3.85	Apr-14
MSCI Emerging Markets			<u>-1.09</u>	29	<u>-7.68</u>	24	<u>-0.81</u>	26	<u>12.36</u>	33					<u>3.70</u>	Apr-14
Over/Under			-1.22		-0.28		-1.01		-0.99						0.15	
eV Emg Mkts Equity Net Median			-3.00		-9.50		-3.20		11.19						3.55	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

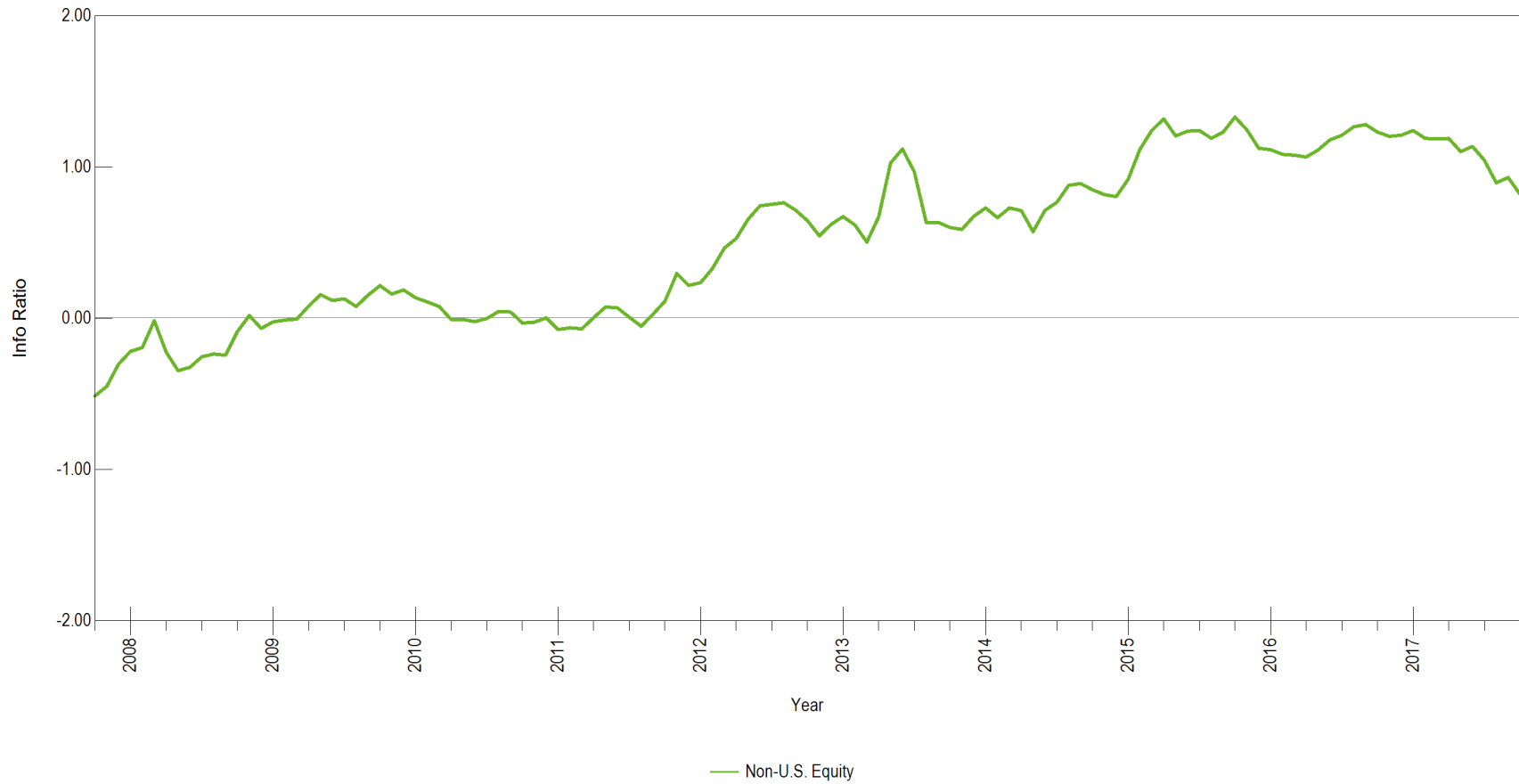
Versus MSCI ACWI ex USA - Quarter Ending September 30, 2018		
	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Europe		
Austria	0.2%	0.2%
Belgium	0.5%	0.7%
Bulgaria**	0.0%	0.0%
Croatia**	0.0%	0.0%
Czech Republic*	0.1%	0.0%
Denmark	1.4%	1.2%
Estonia**	0.0%	0.0%
Finland	1.3%	0.7%
France	8.6%	7.8%
Germany	6.9%	6.5%
Greece*	0.0%	0.1%
Hungary*	0.0%	0.1%
Ireland	0.8%	0.4%
Italy	2.0%	1.6%
Lithuania**	0.0%	0.0%
Luxembourg	0.3%	0.0%
Netherlands	3.1%	2.3%
Norway	1.0%	0.5%
Poland*	0.2%	0.3%
Portugal	0.1%	0.1%
Romania**	0.0%	0.0%
Russia*	0.7%	0.9%
Serbia**	0.0%	0.0%
Slovenia**	0.0%	0.0%
Spain	1.7%	2.1%
Sweden	2.1%	1.9%
Switzerland	5.5%	5.7%
United Kingdom	12.1%	12.1%
Total-Europe	48.6%	45.1%

Versus MSCI ACWI ex USA - Quarter Ending September 30, 2018		
	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Americas		
Brazil*	1.2%	1.5%
Canada	4.8%	6.6%
Chile*	0.1%	0.3%
Colombia*	0.1%	0.1%
Mexico*	0.7%	0.8%
Peru*	0.1%	0.1%
United States	1.7%	0.0%
Total-Americas	8.6%	9.4%
AsiaPacific		
Australia	3.5%	4.6%
China*	3.8%	7.6%
Hong Kong	4.5%	2.4%
India*	1.8%	2.1%
Indonesia*	0.3%	0.5%
Japan	17.6%	16.7%
Korea*	2.4%	3.7%
Malaysia*	0.5%	0.6%
New Zealand	0.2%	0.1%
Philippines*	0.1%	0.2%
Singapore	1.5%	0.9%
Taiwan*	2.5%	3.0%
Thailand*	0.6%	0.6%
Total-AsiaPacific	39.3%	43.0%
Other		
Egypt*	0.1%	0.0%
Israel	0.4%	0.4%
Other Countries	0.1%	0.0%
Qatar*	0.1%	0.2%
South Africa*	0.8%	1.5%
Turkey*	0.1%	0.2%
United Arab Emirates*	0.0%	0.2%
Total-Other	1.7%	2.5%
Totals		
Developed	81.7%	75.4%
Emerging*	16.4%	24.6%
Other	0.1%	
Cash	1.9%	



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

Los Angeles City Employees' Retirement System

CORE FIXED INCOME (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Fixed Income	3,047,726,713	100.00	0.19	-1.44	-0.99	1.85	2.66		2.54	Jul-12
Core Fixed Income Blend			<u>0.02</u>	<u>-1.60</u>	<u>-1.22</u>	<u>1.31</u>	<u>2.16</u>		<u>1.86</u>	<u>Jul-12</u>
Over/Under			0.17	0.16	0.23	0.54	0.50		0.68	
Baird Advisors	257,150,448	8.44	0.32	-0.55	-0.58	1.62	2.15	4.26	4.10	Mar-05
BBgBarc US Govt/Credit Int TR			<u>0.21</u>	<u>-0.76</u>	<u>-0.96</u>	<u>0.91</u>	<u>1.52</u>	<u>3.22</u>	<u>3.43</u>	<u>Mar-05</u>
Over/Under			0.11	0.21	0.38	0.71	0.63	1.04	0.67	
LM Capital	299,697,930	9.83	0.48	-1.48	-0.94	1.98	2.70	4.80	4.38	Mar-05
Core Fixed Income Blend			<u>0.02</u>	<u>-1.60</u>	<u>-1.22</u>	<u>1.31</u>	<u>2.16</u>	<u>3.68</u>	<u>3.77</u>	<u>Mar-05</u>
Over/Under			0.46	0.12	0.28	0.67	0.54	1.12	0.61	
Loomis Sayles	730,787,371	23.98	0.11	-1.30	-0.71	2.71	3.32	6.11	9.04	Jul-80
BC US Agg LACERS custom			<u>0.02</u>	<u>-1.60</u>	<u>-1.22</u>	<u>1.31</u>	<u>2.16</u>	<u>4.01</u>	<u>7.55</u>	<u>Jul-80</u>
Over/Under			0.09	0.30	0.51	1.40	1.16	2.10	1.49	
Neuberger Berman	726,072,930	23.82	0.37	-1.66	-1.13	1.67	2.42	5.75	5.53	Sep-01
Core Fixed Income Blend			<u>0.02</u>	<u>-1.60</u>	<u>-1.22</u>	<u>1.31</u>	<u>2.16</u>	<u>4.01</u>	<u>4.38</u>	<u>Sep-01</u>
Over/Under			0.35	-0.06	0.09	0.36	0.26	1.74	1.15	
SSgA U.S. Aggregate Bond ¹	1,034,018,033	33.93	0.02	-1.59	-1.22	1.32			1.77	Jul-14
BBgBarc US Aggregate TR			<u>0.02</u>	<u>-1.60</u>	<u>-1.22</u>	<u>1.31</u>			<u>1.75</u>	<u>Jul-14</u>
Over/Under			0.00	0.01	0.00	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	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Core Fixed Income	3,047,726,713	100.00	0.17	53	-1.51	78	-1.08	84	1.75	82	2.55	67			2.42	Jul-12
<i>Core Fixed Income Blend</i>			<u>0.02</u>	75	<u>-1.60</u>	80	<u>-1.22</u>	87	<u>1.31</u>	98	<u>2.16</u>	84			<u>1.86</u>	<i>Jul-12</i>
<i>Over/Under</i>			0.15		0.09		0.14		0.44		0.39				0.56	
<i>InvestorForce Public DB > \$1 Billion US Fixed Income Net Median</i>			0.19		-1.20		-0.71		2.50		2.74				2.40	<i>Jul-12</i>
Baird Advisors	257,150,448	8.44	0.29	57	-0.64	47	-0.70	48	1.49	22	2.03	23	4.13	24	3.97	Mar-05
<i>BBgBarc US Govt/Credit Int TR</i>			<u>0.21</u>	78	<u>-0.76</u>	62	<u>-0.96</u>	84	<u>0.91</u>	72	<u>1.52</u>	71	<u>3.22</u>	76	<u>3.43</u>	<i>Mar-05</i>
<i>Over/Under</i>			0.08		0.12		0.26		0.58		0.51		0.91		0.54	
<i>eV US Interm Duration Fixed Inc Net Median</i>			0.32		-0.67		-0.74		1.10		1.62		3.50		3.68	<i>Mar-05</i>
LM Capital	299,697,930	9.83	0.46	11	-1.56	58	-1.04	48	1.87	27	2.58	30	4.66	29	4.23	Mar-05
<i>Core Fixed Income Blend</i>			<u>0.02</u>	77	<u>-1.60</u>	64	<u>-1.22</u>	66	<u>1.31</u>	70	<u>2.16</u>	67	<u>3.68</u>	84	<u>3.77</u>	<i>Mar-05</i>
<i>Over/Under</i>			0.44		0.04		0.18		0.56		0.42		0.98		0.46	
<i>eV US Core Fixed Inc Net Median</i>			0.14		-1.51		-1.06		1.57		2.31		4.34		4.13	<i>Mar-05</i>
Loomis Sayles	730,787,371	23.98	0.07	70	-1.40	40	-0.83	30	2.58	9	3.19	9	5.97	4		Jul-80
<i>BC US Agg LACERS custom</i>			<u>0.02</u>	77	<u>-1.60</u>	64	<u>-1.22</u>	66	<u>1.31</u>	70	<u>2.16</u>	67	<u>4.01</u>	66		<i>Jul-80</i>
<i>Over/Under</i>			0.05		0.20		0.39		1.27		1.03		1.96			
<i>eV US Core Fixed Inc Net Median</i>			0.14		-1.51		-1.06		1.57		2.31		4.34			<i>Jul-80</i>
Neuberger Berman	726,072,930	23.82	0.33	17	-1.77	78	-1.27	72	1.52	54	2.27	57	5.58	6	5.37	Sep-01
<i>Core Fixed Income Blend</i>			<u>0.02</u>	77	<u>-1.60</u>	64	<u>-1.22</u>	66	<u>1.31</u>	70	<u>2.16</u>	67	<u>4.01</u>	69	<u>4.38</u>	<i>Sep-01</i>
<i>Over/Under</i>			0.31		-0.17		-0.05		0.21		0.11		1.57		0.99	
<i>eV US Core Fixed Inc Net Median</i>			0.14		-1.51		-1.06		1.57		2.31		4.34		4.38	<i>Sep-01</i>
SSgA U.S. Aggregate Bond¹	1,034,018,033	33.93	0.01	79	-1.62	65	-1.26	72	1.29	74					1.73	Jul-14
<i>BBgBarc US Aggregate TR</i>			<u>0.02</u>	77	<u>-1.60</u>	64	<u>-1.22</u>	66	<u>1.31</u>	70					<u>1.75</u>	<i>Jul-14</i>
<i>Over/Under</i>			-0.01		-0.02		-0.04		-0.02						-0.02	
<i>eV US Core Fixed Inc Net Median</i>			0.14		-1.51		-1.06		1.57						1.86	<i>Jul-14</i>

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

BBgBarc = Bloomberg Barclays

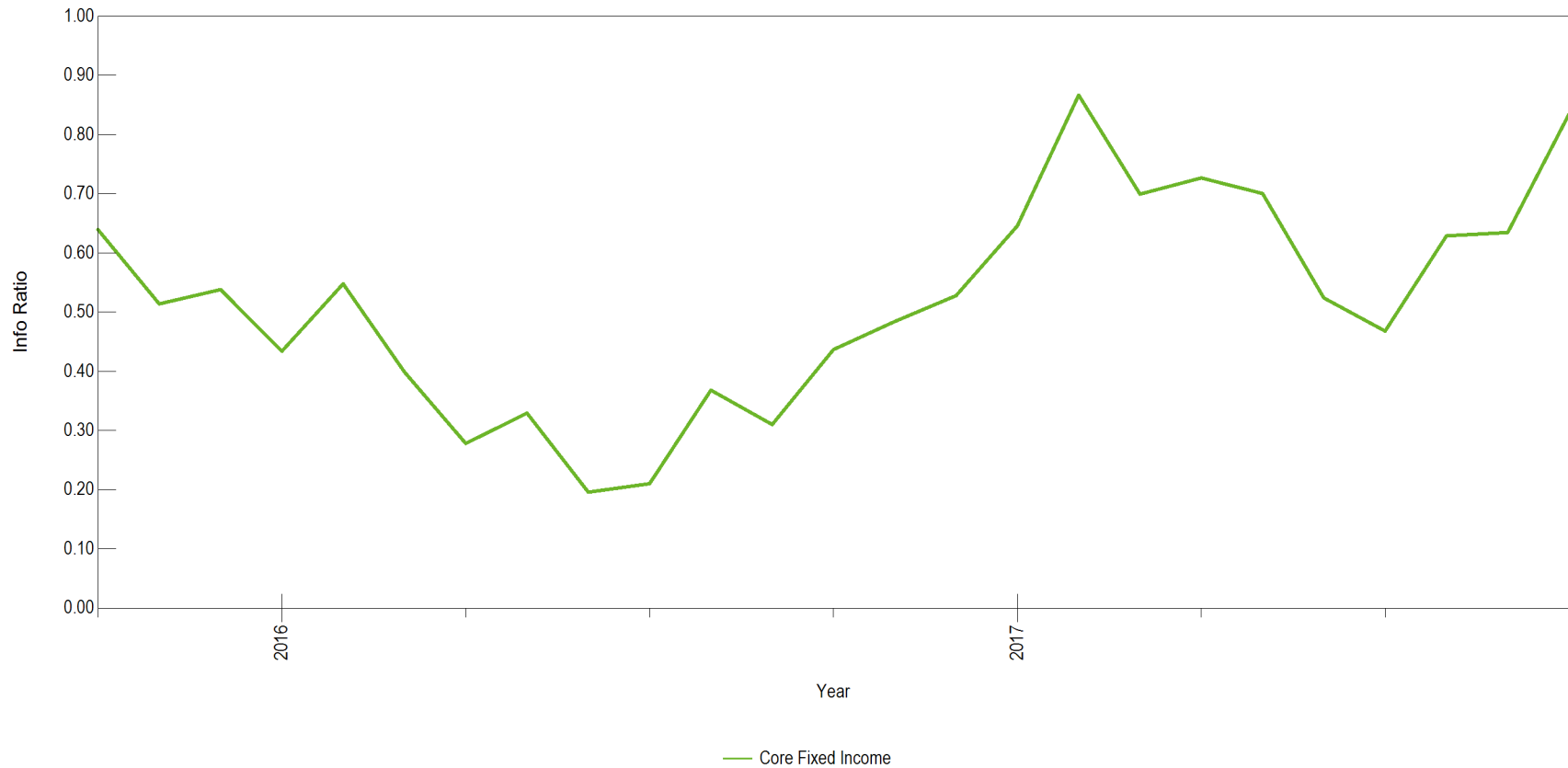
eV = eVestment



Los Angeles City Employees' Retirement System

CORE FIXED INCOME 3 YEAR INFORMATION RATIO

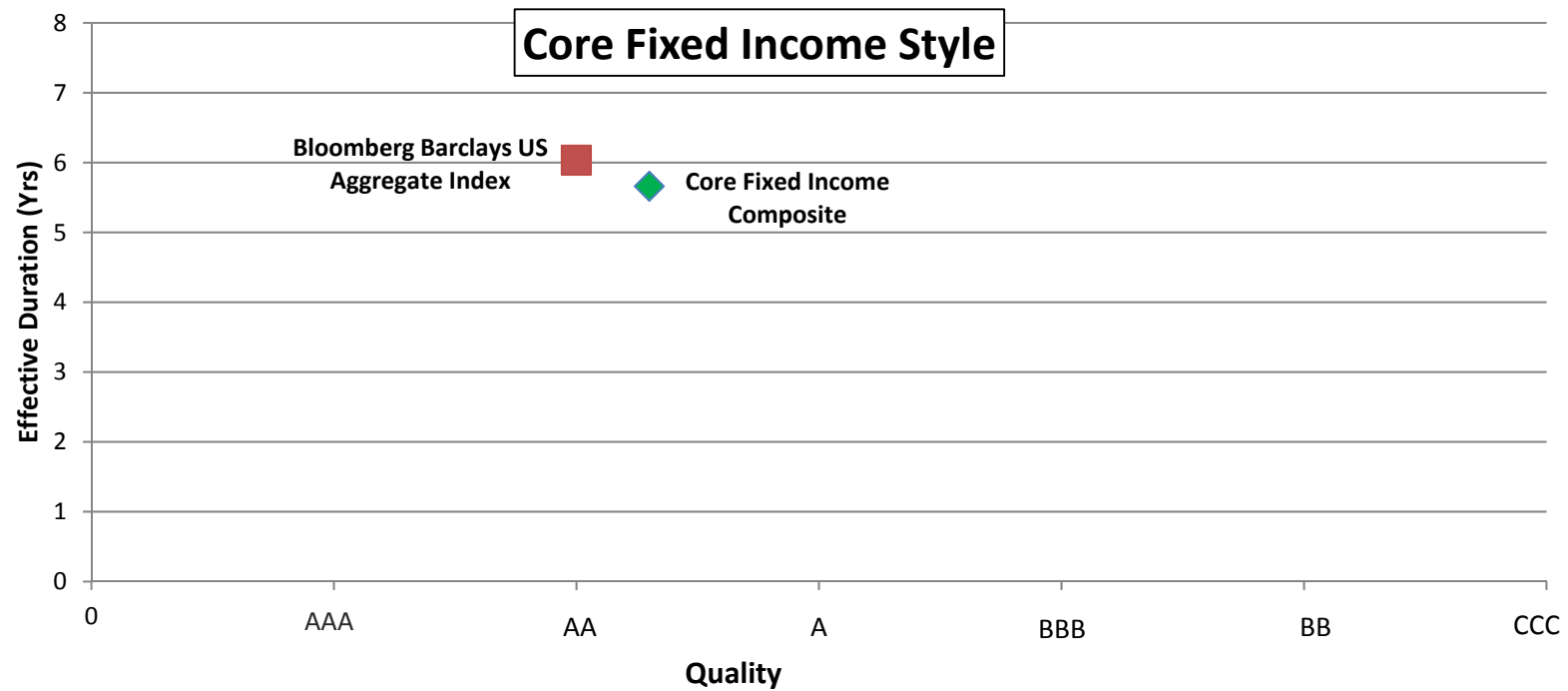
Rolling 3 Year Information Ratio



*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			
Neuberger Berman	Sep-01	Core	✓	✓	✗	✗	✓	✗	✓	✗	✓	1010.3	Performance compliant with LACERS' Manager Monitoring Policy
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

Los Angeles City Employees' Retirement System

CREDIT OPPORTUNITIES (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Credit Opportunities	927,728,179	100.00	1.97	0.32	1.46	7.05	5.12		5.33	Jun-13
<i>Credit Opportunities Blend</i>			<u>2.38</u>	<u>0.59</u>	<u>1.31</u>	<u>7.43</u>	<u>5.43</u>		<u>5.62</u>	<i>Jun-13</i>
Over/Under			-0.41	-0.27	0.15	-0.38	-0.31		-0.29	
AEGON USA	389,864,384	42.02	2.17	2.61	3.25	8.07	5.99		6.09	Jun-13
<i>BBgBarc US High Yield 2% Issuer Cap TR</i>			<u>2.40</u>	<u>2.57</u>	<u>3.05</u>	<u>8.15</u>	<u>5.55</u>		<u>5.73</u>	<i>Jun-13</i>
Over/Under			-0.23	0.04	0.20	-0.08	0.44		0.36	
Prudential Emerging Markets	353,828,148	38.14	1.78	-3.59	-1.90	6.65			4.49	May-14
<i>JP Morgan EMBI Global Diversified</i>			<u>2.30</u>	<u>-3.04</u>	<u>-1.92</u>	<u>6.04</u>			<u>3.94</u>	<i>May-14</i>
Over/Under			-0.52	-0.55	0.02	0.61			0.55	
Bain Capital Senior Loan Fund, LP*	184,013,237	19.83	1.63	3.72	5.04	4.98			4.22	Jun-15
<i>Credit Suisse Leveraged Loans</i>			<u>1.93</u>	<u>4.36</u>	<u>5.58</u>	<u>5.43</u>			<u>4.60</u>	<i>Jun-15</i>
Over/Under			-0.30	-0.64	-0.54	-0.45			-0.38	

- 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 Alliance

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	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Credit Opportunities	927,728,179	100.00	1.90		0.08		1.13		6.66		4.76				4.98	Jun-13
<i>Credit Opportunities Blend</i>			<u>2.38</u>		<u>0.59</u>		<u>1.31</u>		<u>7.43</u>		<u>5.43</u>				<u>5.62</u>	<i>Jun-13</i>
Over/Under			-0.48		-0.51		-0.18		-0.77		-0.67				-0.64	
AEGON USA	389,864,384	42.02	2.07	57	2.33	34	2.86	40	7.68	24	5.61	20			5.72	Jun-13
<i>BBgBarc US High Yield 2% Issuer Cap TR</i>			<u>2.40</u>	22	<u>2.57</u>	26	<u>3.05</u>	33	<u>8.15</u>	14	<u>5.55</u>	22			<u>5.73</u>	<i>Jun-13</i>
Over/Under			-0.33		-0.24		-0.19		-0.47		0.06				-0.01	
<i>eV US High Yield Fixed Inc Net Median</i>			2.14		1.97		2.60		6.90		4.88				5.04	<i>Jun-13</i>
Prudential Emerging Markets	353,828,148	38.14	1.69	23	-3.87	30	-2.28	25	6.19	44					4.10	May-14
<i>JP Morgan EMBI Global Diversified</i>			<u>2.30</u>	6	<u>-3.04</u>	22	<u>-1.92</u>	22	<u>6.04</u>	49					<u>3.94</u>	<i>May-14</i>
Over/Under			-0.61		-0.83		-0.36		0.15						0.16	
<i>eV Emg Mkt Fixed Inc Hedged Net Median</i>			1.05		-5.47		-4.71		5.89						1.92	<i>May-14</i>
Bain Capital Senior Loan Fund, LP	184,013,237	19.83	1.63	73	3.72	40	5.04	36	4.98	39					4.22	Jun-15
<i>Credit Suisse Leveraged Loans</i>			<u>1.93</u>	24	<u>4.36</u>	10	<u>5.58</u>	15	<u>5.43</u>	24					<u>4.60</u>	<i>Jun-15</i>
Over/Under			-0.30		-0.64		-0.54		-0.45						-0.38	
<i>eV US Float-Rate Bank Loan Fixed Inc Net Median</i>			1.76		3.68		4.79		4.76						4.14	<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

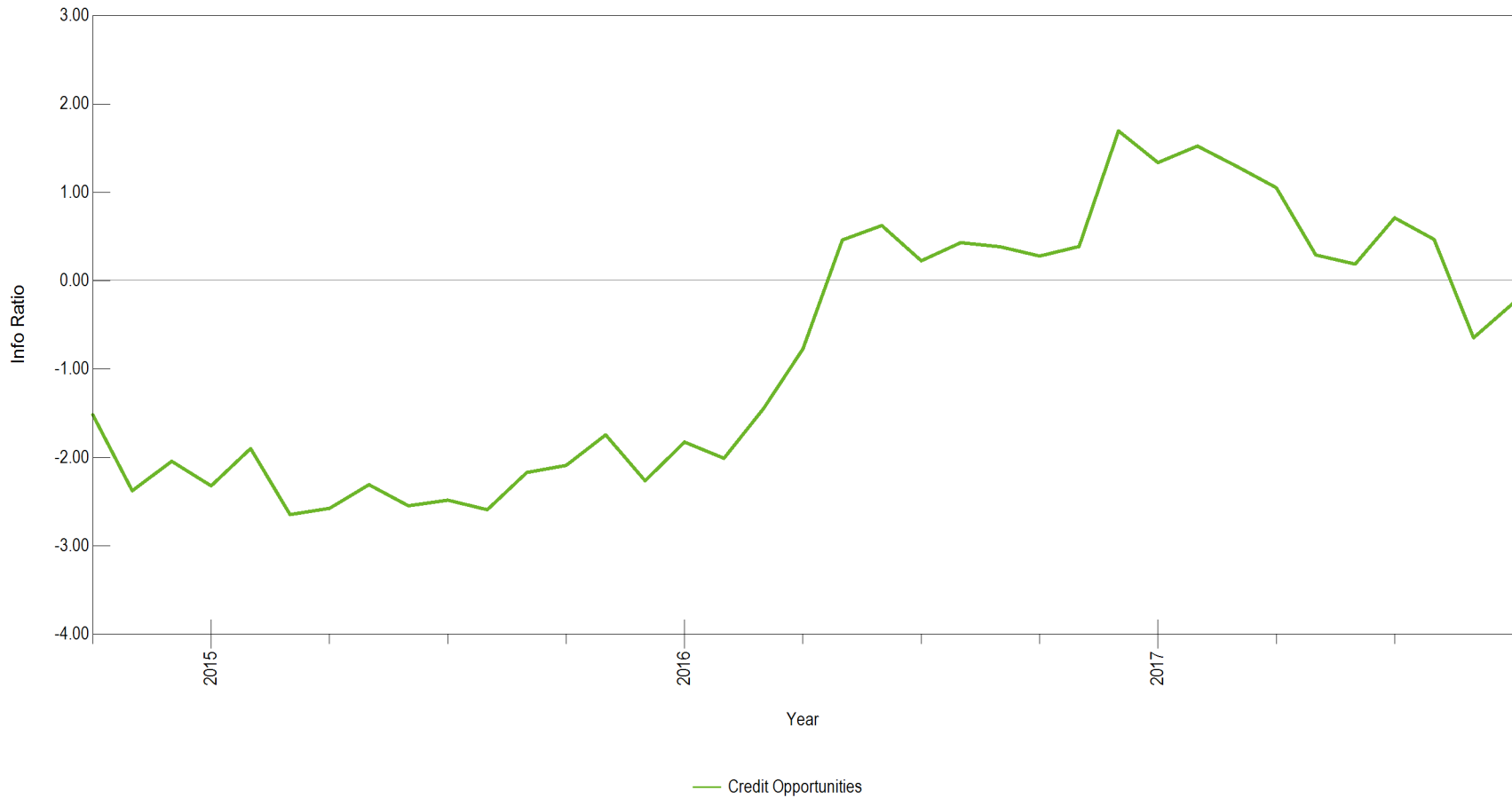
eA = eVestment Alliance

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	x	x	x	✓	x	✓	✓	✓	x	781.6	Watch pursuant to LACERS' Manager Monitoring Policy for a period of one year ending October 5, 2019
Prudential	May-14	Emerging Market Debt	x	✓	x	✓	✓	✓	N/A	N/A	✓	1230.2	Performance compliant with LACERS' Manager Monitoring Policy
Bain	Jun-15	Bank Loans	x	x	x	✓	x	✓	N/A	N/A	x	330.0	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
x	Underperformed
=	Equal to
✓✓	Gross Return



REAL ASSETS

NEPC, LLC

Los Angeles City Employees' Retirement System

REAL ASSETS (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Assets	1,692,613,101	100.00	0.42	2.84	4.85	6.18	7.40	0.21	6.30	Nov-94
<i>CPI + 5% (Unadjusted)</i>			<u>1.41</u>	<u>6.21</u>	<u>7.38</u>	<u>7.08</u>	<u>6.58</u>	<u>6.51</u>	<u>7.32</u>	<i>Nov-94</i>
Over/Under			-0.99	-3.37	-2.53	-0.90	0.82	-6.30	-1.02	
Public Real Assets	907,972,870	53.64	-0.81	-0.73	1.41	2.94			0.85	Jun-14
<i>Public Real Assets Blend</i>			<u>-0.17</u>	<u>0.05</u>	<u>1.92</u>	<u>2.77</u>			<u>-1.32</u>	<i>Jun-14</i>
Over/Under			-0.64	-0.78	-0.51	0.17			2.17	
TIPS	609,568,737	36.01	-0.93	-1.10	-0.03	1.94			0.62	Jul-14
<i>BBgBarc US TIPS TR</i>			<u>-0.82</u>	<u>-0.84</u>	<u>0.41</u>	<u>2.04</u>			<u>0.75</u>	<i>Jul-14</i>
Over/Under			-0.11	-0.26	-0.44	-0.10			-0.13	
<i>DFA US TIPS¹</i>	<i>609,568,737</i>	<i>36.01</i>	<i>-0.93</i>	<i>-1.10</i>	<i>-0.03</i>	<i>2.10</i>			<i>0.79</i>	<i>Jul-14</i>
<i>BBgBarc US TIPS TR</i>			<u>-0.82</u>	<u>-0.84</u>	<u>0.41</u>	<u>2.04</u>			<u>0.75</u>	<i>Jul-14</i>
Over/Under			-0.11	-0.26	-0.44	0.06			0.04	
REITS	126,522,109	7.47	1.14	2.42	6.14	9.72			6.81	Mar-15
<i>FTSE NAREIT All Equity REIT</i>			<u>0.50</u>	<u>1.78</u>	<u>4.31</u>	<u>8.97</u>			<u>5.05</u>	<i>Mar-15</i>
Over/Under			0.64	0.64	1.83	0.75			1.76	
<i>CenterSquare US Real Estate¹</i>	<i>126,522,109</i>	<i>7.47</i>	<i>1.14</i>	<i>2.42</i>	<i>6.14</i>	<i>9.72</i>			<i>7.95</i>	<i>Apr-15</i>
<i>FTSE NAREIT All Equity REIT</i>			<u>0.50</u>	<u>1.78</u>	<u>4.31</u>	<u>8.97</u>			<u>6.75</u>	<i>Apr-15</i>
Over/Under			0.64	0.64	1.83	0.75			1.20	
Commodities	171,882,024	10.15	-1.64	-1.08	3.76	0.81			-4.05	Jun-15
<i>Bloomberg Commodity Index TR USD</i>			<u>-2.02</u>	<u>-2.03</u>	<u>2.59</u>	<u>-0.11</u>			<u>-4.80</u>	<i>Jun-15</i>
Over/Under			0.38	0.95	1.17	0.92			0.75	
<i>CoreCommodity Mgmt¹</i>	<i>171,882,024</i>	<i>10.15</i>	<i>-1.64</i>	<i>-1.08</i>	<i>3.76</i>	<i>0.81</i>			<i>-4.05</i>	<i>Jun-15</i>
<i>Bloomberg Commodity Index TR USD</i>			<u>-2.02</u>	<u>-2.03</u>	<u>2.59</u>	<u>-0.11</u>			<u>-4.80</u>	<i>Jun-15</i>
Over/Under			0.38	0.95	1.17	0.92			0.75	
Private Real Estate	764,186,280	45.15	1.82	6.61	8.55	9.31	10.46	1.63	6.92	Oct-94
<i>Real Estate Blend</i>			<u>2.29</u>	<u>7.11</u>	<u>9.54</u>	<u>9.66</u>	<u>11.46</u>	<u>7.47</u>	<u>9.97</u>	<i>Oct-94</i>
Over/Under			-0.47	-0.50	-0.99	-0.35	-1.00	-5.84	-3.05	
Timber	20,453,951	1.21	-0.12	1.51	1.27	2.67	6.33	4.64	9.61	Sep-99

¹ 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 Alliance



Los Angeles City Employees' Retirement System

REAL ASSETS (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Real Assets	1,692,613,101	100.00	0.38		2.72		4.69		6.00		7.24		0.08			Nov-94
<i>CPI + 5% (Unadjusted)</i>			<u>1.41</u>		<u>6.21</u>		<u>7.38</u>		<u>7.08</u>		<u>6.58</u>		<u>6.51</u>			Nov-94
Over/Under			-1.03		-3.49		-2.69		-1.08		0.66		-6.43			
Public Real Assets	907,972,870	53.64	-0.87		-0.92		1.15		2.68				0.65			Jun-14
<i>Public Real Assets Blend</i>			<u>-0.17</u>		<u>0.05</u>		<u>1.92</u>		<u>2.77</u>				<u>-1.32</u>			Jun-14
Over/Under			-0.70		-0.97		-0.77		-0.09				1.97			
TIPS	609,568,737	36.01	-0.95		-1.14		-0.09		1.88				0.56			Jul-14
<i>BBgBarc US TIPS TR</i>			<u>-0.82</u>		<u>-0.84</u>		<u>0.41</u>		<u>2.04</u>				<u>0.75</u>			Jul-14
Over/Under			-0.13		-0.30		-0.50		-0.16				-0.19			
DFA US TIPS¹	609,568,737	36.01	-0.95	91	-1.14	82	-0.09	96	2.04	46			0.74			Jul-14
<i>BBgBarc US TIPS TR</i>			<u>-0.82</u>	63	<u>-0.84</u>	45	<u>0.41</u>	40	<u>2.04</u>	47			<u>0.75</u>			Jul-14
Over/Under			-0.13		-0.30		-0.50		0.00				-0.01			
<i>eV US TIPS / Inflation Fixed Inc Net Median</i>			-0.74		-0.92		0.36		2.00				0.59			Jul-14
REITS	126,522,109	7.47	1.05		2.08		5.67		9.21				6.36			Mar-15
<i>FTSE NAREIT All Equity REIT</i>			<u>0.50</u>		<u>1.78</u>		<u>4.31</u>		<u>8.97</u>				<u>5.05</u>			Mar-15
Over/Under			0.55		0.30		1.36		0.24				1.31			
CenterSquare US Real Estate¹	126,522,109	7.47	1.05	38	2.08	35	5.67	18	9.21	14			7.48			Apr-15
<i>FTSE NAREIT All Equity REIT</i>			<u>0.50</u>	68	<u>1.78</u>	46	<u>4.31</u>	45	<u>8.97</u>	15			<u>6.75</u>			Apr-15
Over/Under			0.55		0.30		1.36		0.24				0.73			
<i>eV US REIT Net Median</i>			0.82		1.68		3.87		7.32				5.63			Apr-15
Commodities	171,882,024	10.15	-1.84		-1.67		2.93		0.01				-4.77			Jun-15
<i>Bloomberg Commodity Index TR USD</i>			<u>-2.02</u>		<u>-2.03</u>		<u>2.59</u>		<u>-0.11</u>				<u>-4.80</u>			Jun-15
Over/Under			0.18		0.36		0.34		0.12				0.03			
CoreCommodity Mgmt¹	171,882,024	10.15	-1.84		-1.67		2.93		0.01				-4.77			Jun-15
<i>Bloomberg Commodity Index TR USD</i>			<u>-2.02</u>		<u>-2.03</u>		<u>2.59</u>		<u>-0.11</u>				<u>-4.80</u>			Jun-15
Over/Under			0.18		0.36		0.34		0.12				0.03			

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 Alliance



Los Angeles City Employees' Retirement System

REAL ASSETS (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Private Real Estate	764,186,280	45.15	1.80	54	6.56	40	8.48	44	9.22	8	10.35	40	1.52	99		Oct-94
<i>Real Estate Blend</i>			<u>2.29</u>	28	<u>7.11</u>	3	<u>9.54</u>	5	<u>9.66</u>	7	<u>11.46</u>	6	<u>7.47</u>	11		Oct-94
<i>Over/Under</i>			-0.49		-0.55		-1.06		-0.44		-1.11		-5.95			
<i>InvestorForce Public DB Real Estate Priv Net Median</i>			1.86		5.88		8.08		8.71		9.92		4.63			Oct-94
Timber	20,453,951	1.21	-0.12		1.51		1.27		2.67		6.32		4.60			Sep-99

- 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 Alliance



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	x	194.6	Performance compliant with LACERS' Manager Monitoring Policy
CenterSquare	Apr-15	REITS	✓	✓	✓	✓	✓	✓	N/A	N/A	✓	399.8	Performance compliant with LACERS' Manager Monitoring Policy
CoreCommodity Mgt.	Jul-15	Commodities	✓	N/A	✓	N/A	✓	N/A	N/A	N/A	✓	860.4	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
x	Underperformed
=	Equal to
✓✓	Gross Return



APPENDIX

NEPC, LLC

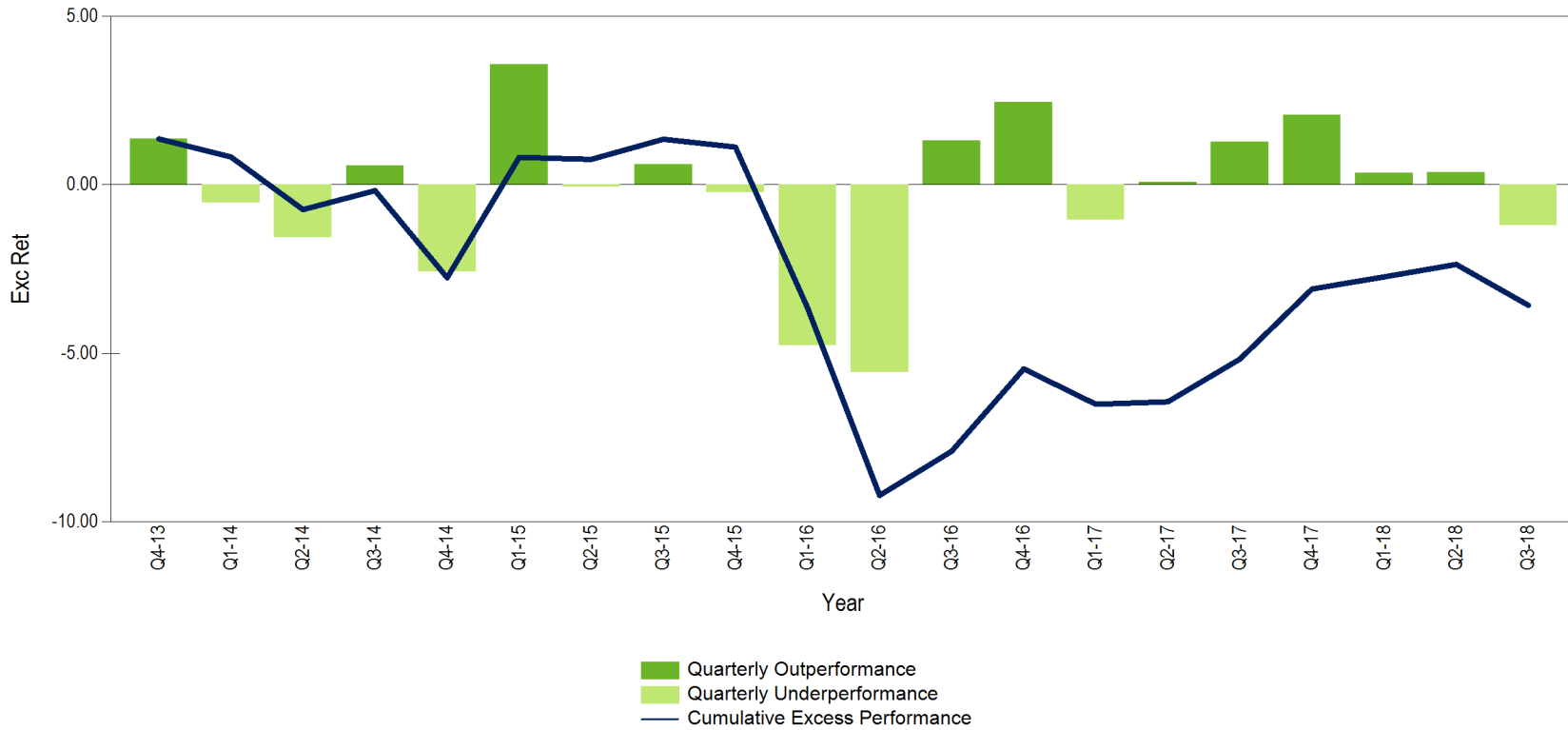
U.S. EQUITY MANAGER PERFORMANCE

NEPC, LLC

Los Angeles City Employees' Retirement System

ARONSON, JOHNSON & ORTIZ

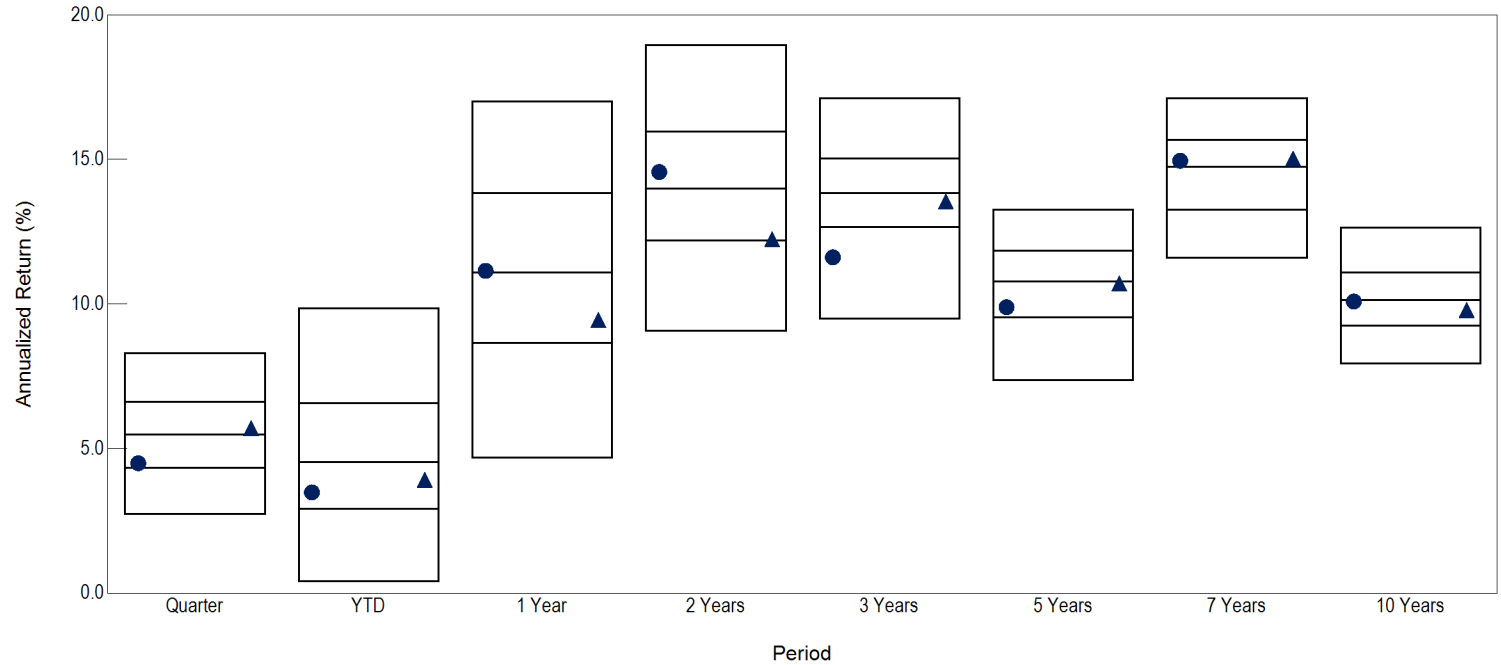
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

ARONSON, JOHNSON & ORTIZ

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

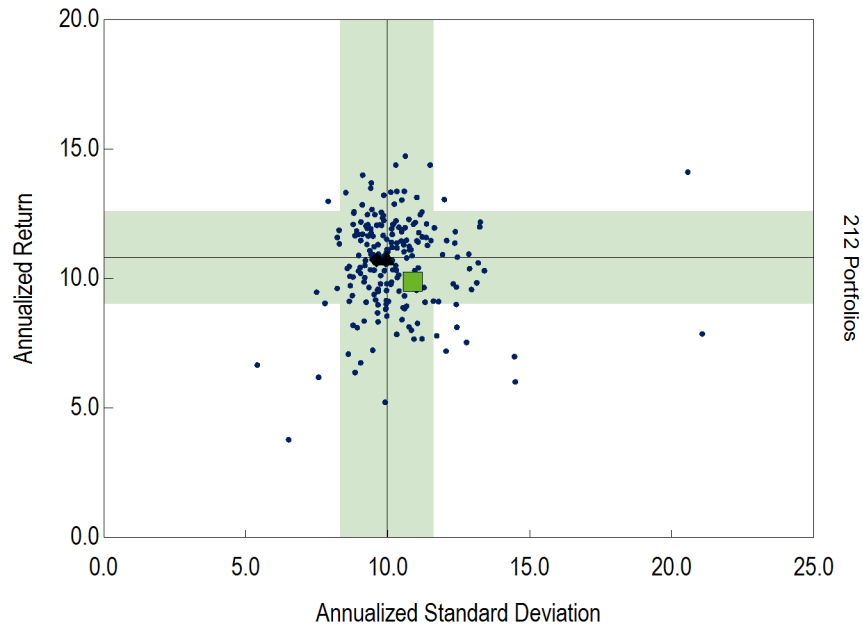


	Return (Rank)															
5th Percentile	8.30	9.85	17.00	18.95	17.12	13.26	17.11	12.65								
25th Percentile	6.63	6.59	13.86	15.99	15.05	11.87	15.69	11.11								
Median	5.50	4.56	11.11	14.00	13.86	10.81	14.76	10.15								
75th Percentile	4.36	2.94	8.68	12.22	12.69	9.55	13.27	9.27								
95th Percentile	2.76	0.43	4.70	9.09	9.52	7.40	11.61	7.96								
# of Portfolios	227	226	225	224	223	212	188	168								
● Aronson, Johnson & Ortiz	4.49	(72)	3.48	(67)	11.14	(50)	14.56	(43)	11.61	(88)	9.89	(67)	14.95	(43)	10.08	(53)
▲ Russell 1000 Value	5.70	(47)	3.92	(62)	9.45	(64)	12.25	(75)	13.55	(57)	10.72	(52)	15.02	(43)	9.79	(60)

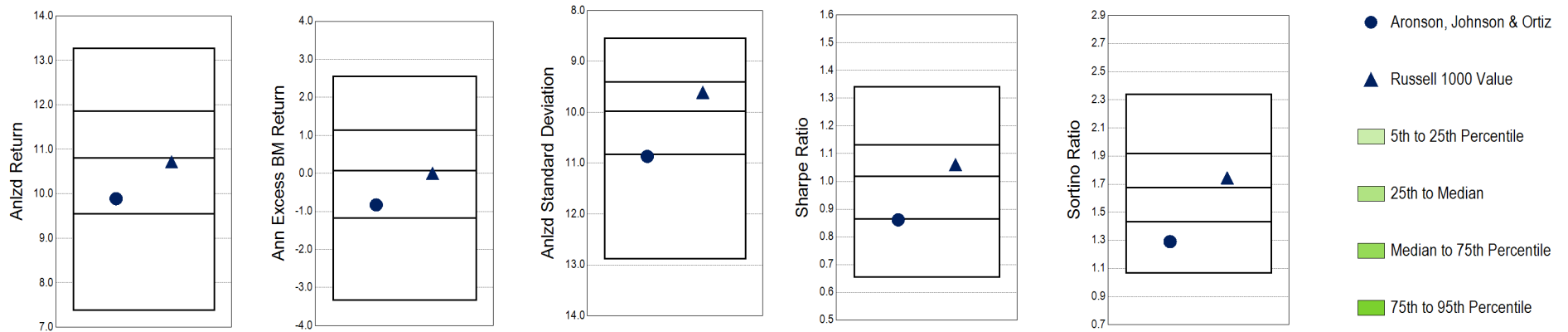
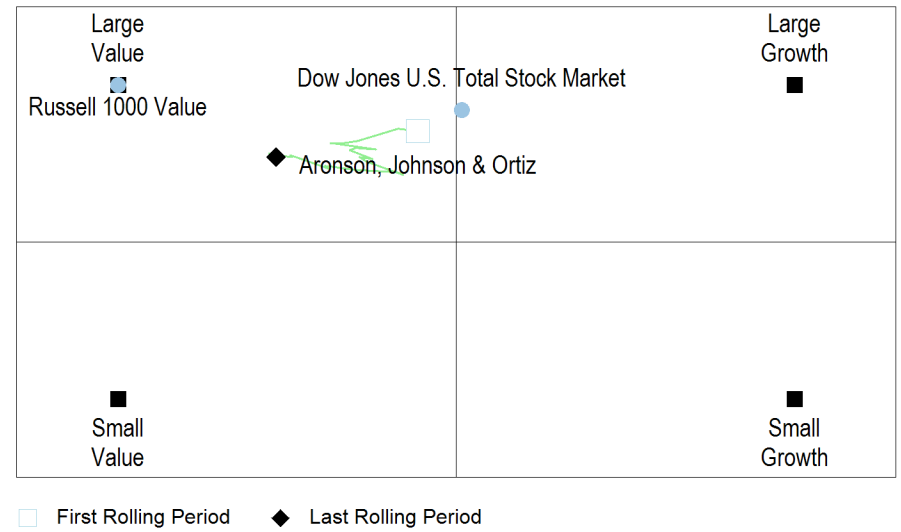


ARONSON, JOHNSON & ORTIZ

5 Year Risk Return



5 Year Style Map



Los Angeles City Employees' Retirement System

EAM INVESTORS

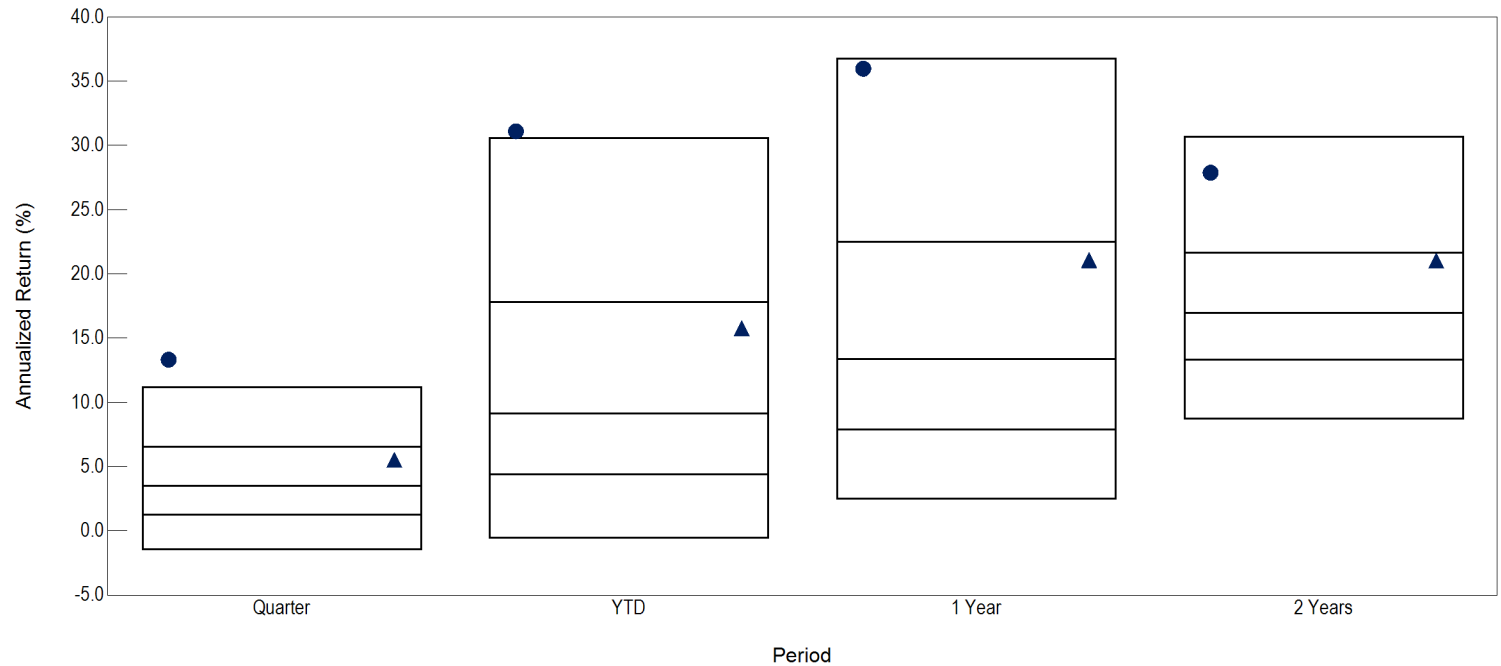
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

EAM INVESTORS

EAM Investors vs. eV US Small Cap Equity Net



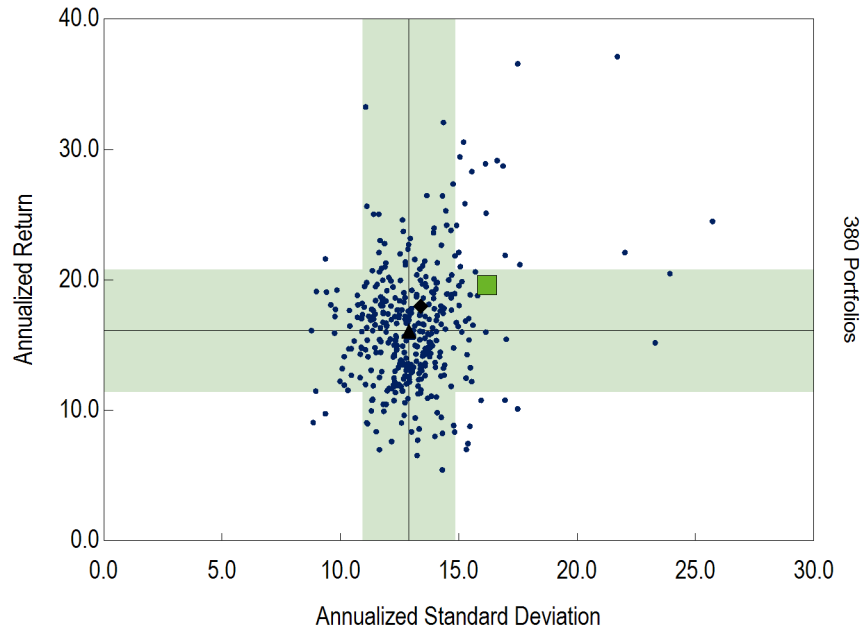
	Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)	
5th Percentile	11.16		30.55		36.74		30.65	
25th Percentile	6.61		17.86		22.56		21.70	
Median	3.57		9.17		13.41		17.03	
75th Percentile	1.33		4.47		7.93		13.37	
95th Percentile	-1.41		-0.51		2.54		8.76	
# of Portfolios	395		395		394		390	
● EAM Investors	13.32	(2)	31.08	(5)	35.96	(6)	27.86	(9)
▲ Russell 2000 Growth	5.52	(32)	15.76	(29)	21.06	(29)	21.02	(27)



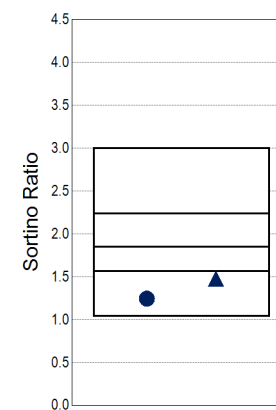
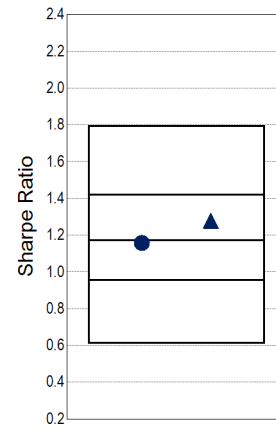
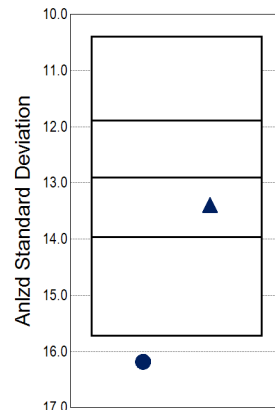
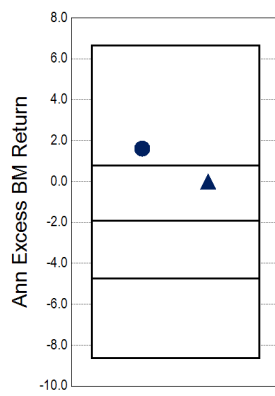
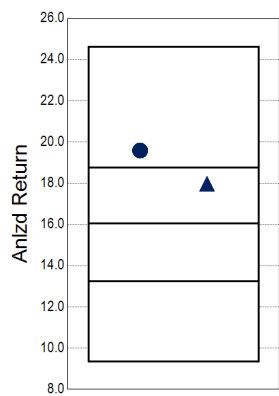
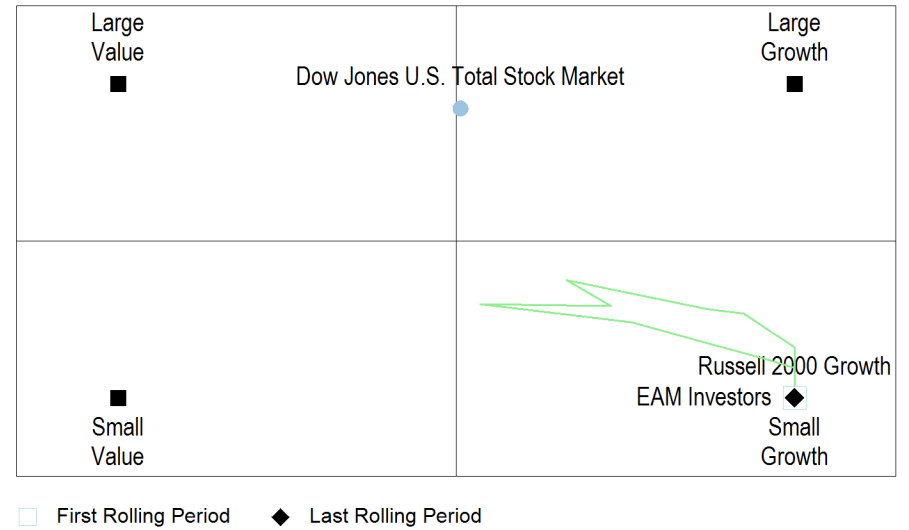
Los Angeles City Employees' Retirement System

EAM INVESTORS

Since Inception Risk Return



Since Inception Style Map



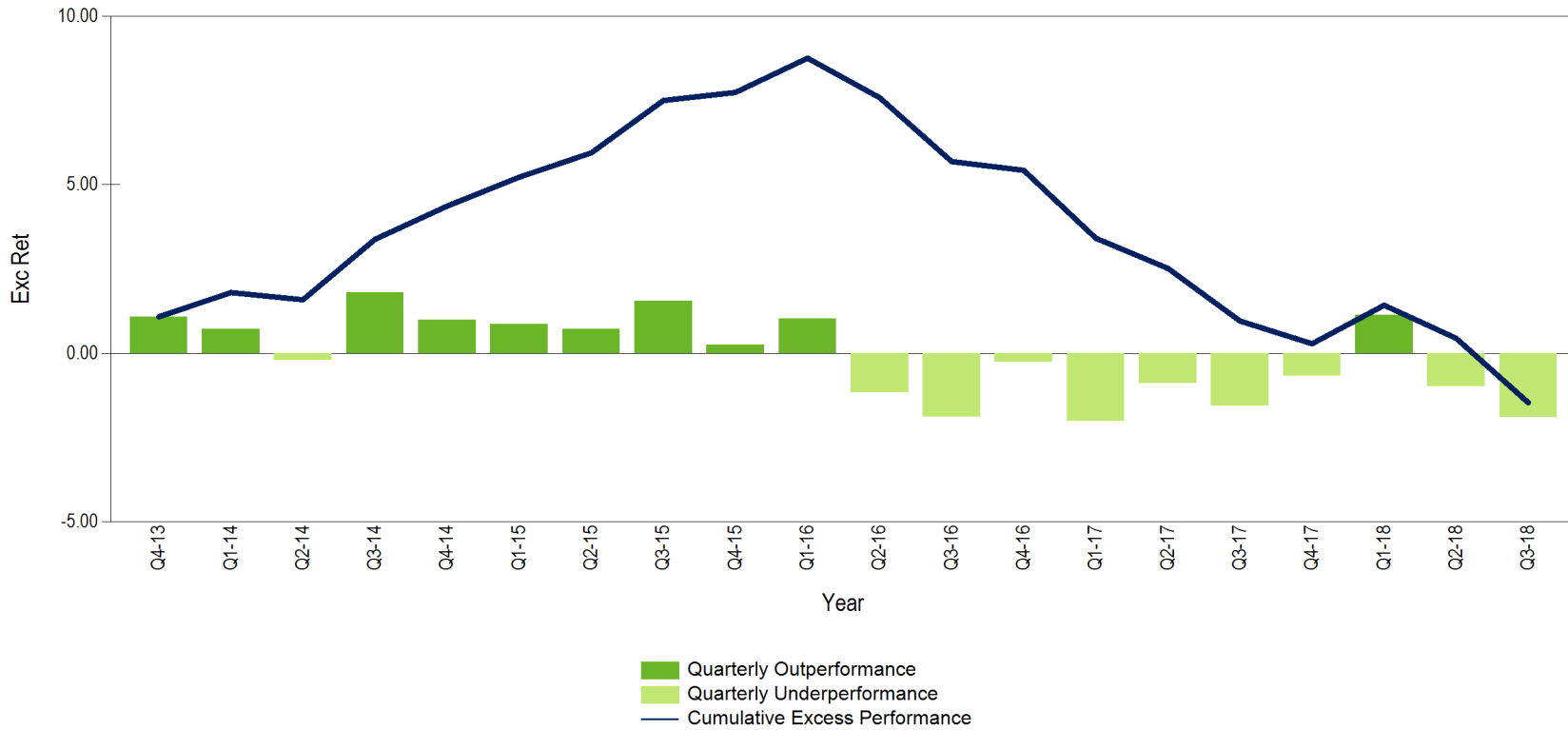
- EAM Investors
- ▲ Russell 2000 Growth
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

PANAGORA

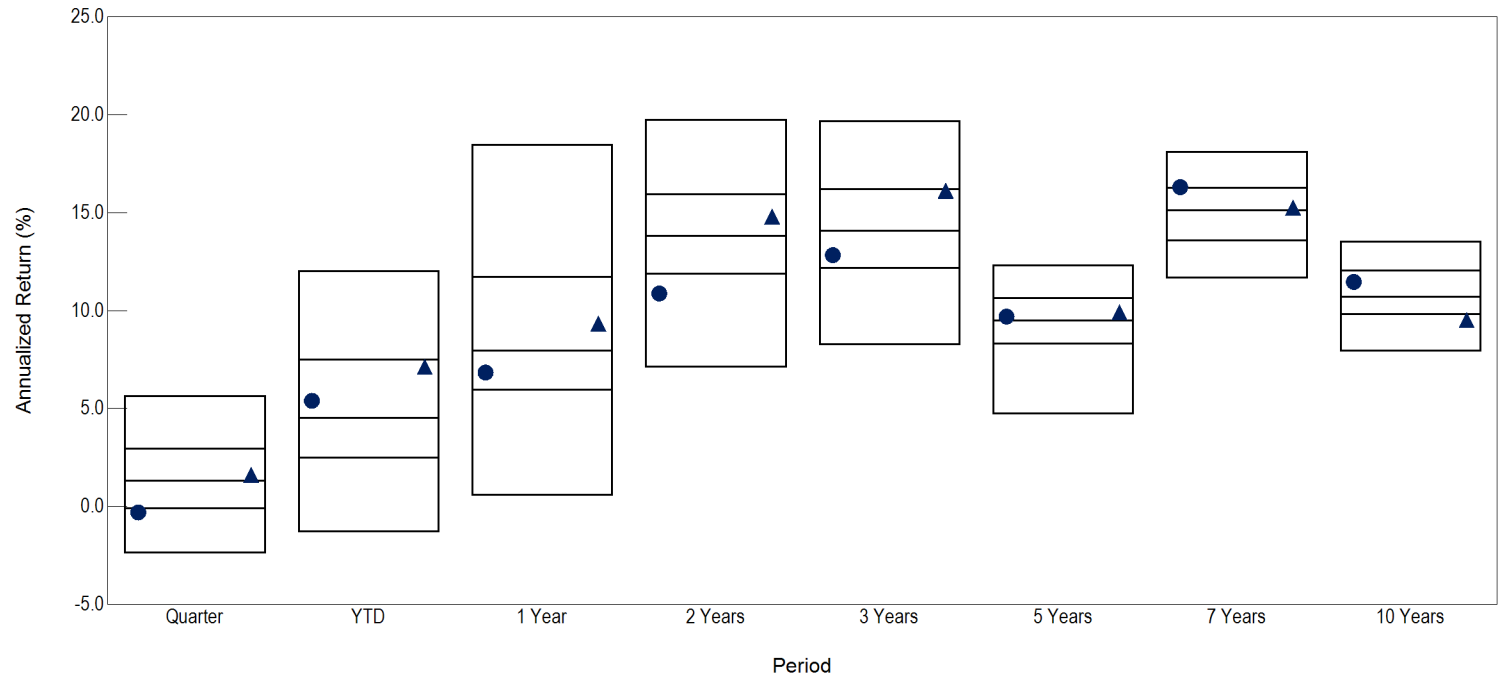
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

PANAGORA

PanAgora vs. eV US Small Cap Value Equity Net



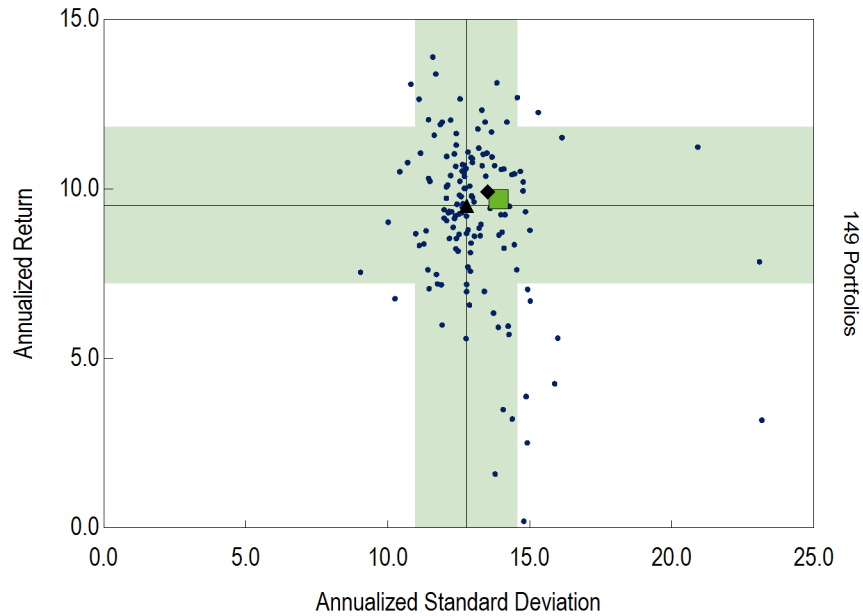
	Return (Rank)															
5th Percentile	5.64	12.01	18.47	19.72	19.69	12.30	18.11	13.52								
25th Percentile	2.99	7.55	11.76	15.96	16.24	10.69	16.29	12.09								
Median	1.35	4.55	8.00	13.83	14.11	9.51	15.16	10.74								
75th Percentile	-0.05	2.53	6.00	11.91	12.20	8.35	13.61	9.86								
95th Percentile	-2.31	-1.25	0.63	7.18	8.32	4.78	11.73	7.98								
# of Portfolios	165	165	165	165	159	149	137	121								
● PanAgora	-0.31	(82)	5.39	(43)	6.84	(61)	10.87	(84)	12.83	(66)	9.69	(47)	16.30	(25)	11.46	(36)
▲ Russell 2000 Value	1.60	(45)	7.14	(31)	9.33	(40)	14.80	(37)	16.12	(26)	9.92	(43)	15.26	(48)	9.52	(84)



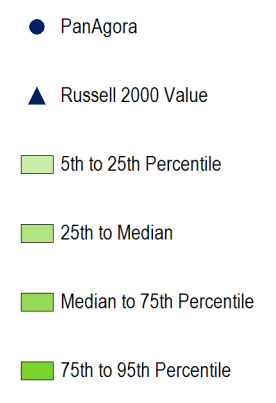
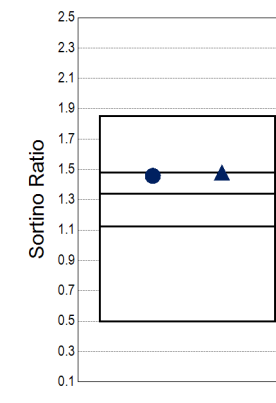
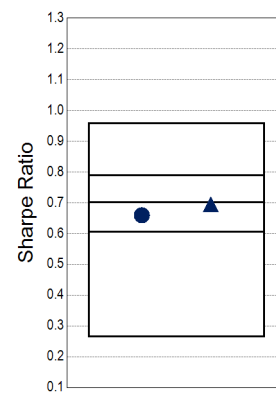
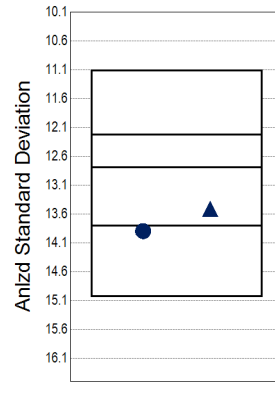
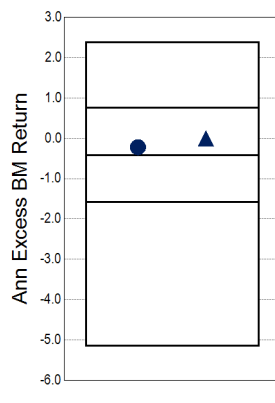
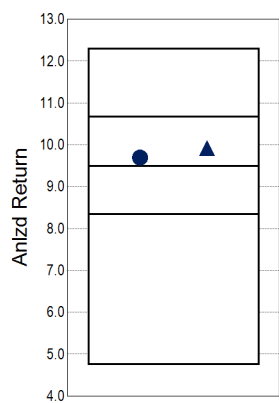
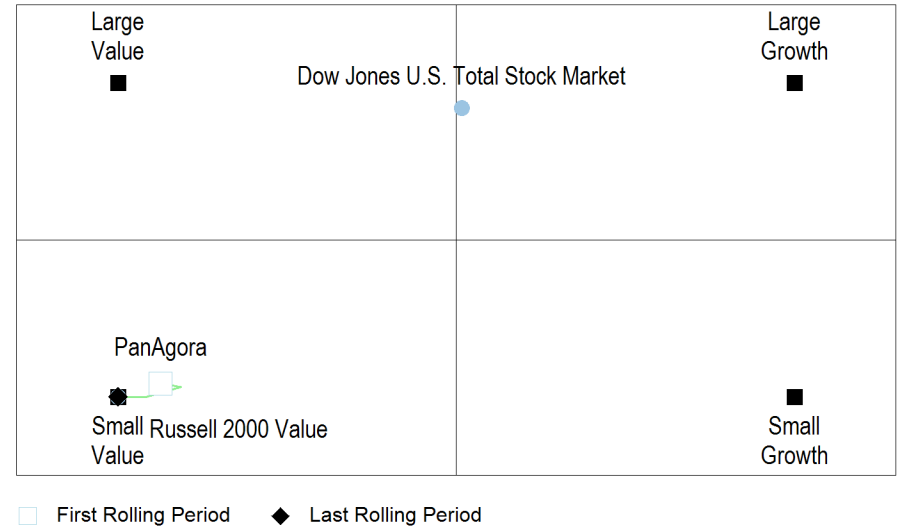
Los Angeles City Employees' Retirement System

PANAGORA

5 Year Risk Return

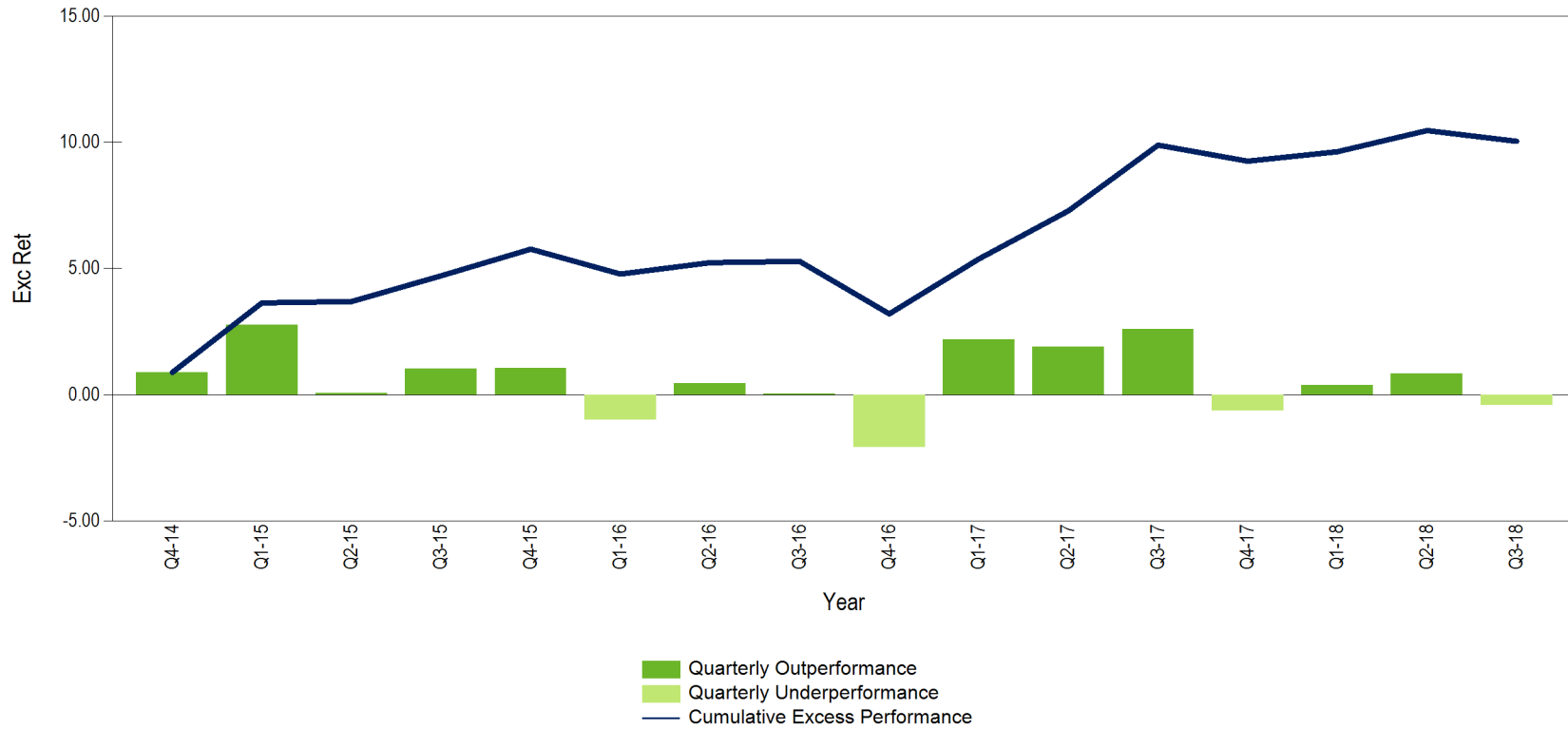


5 Year Style Map



PRINCIPAL GLOBAL INVESTORS

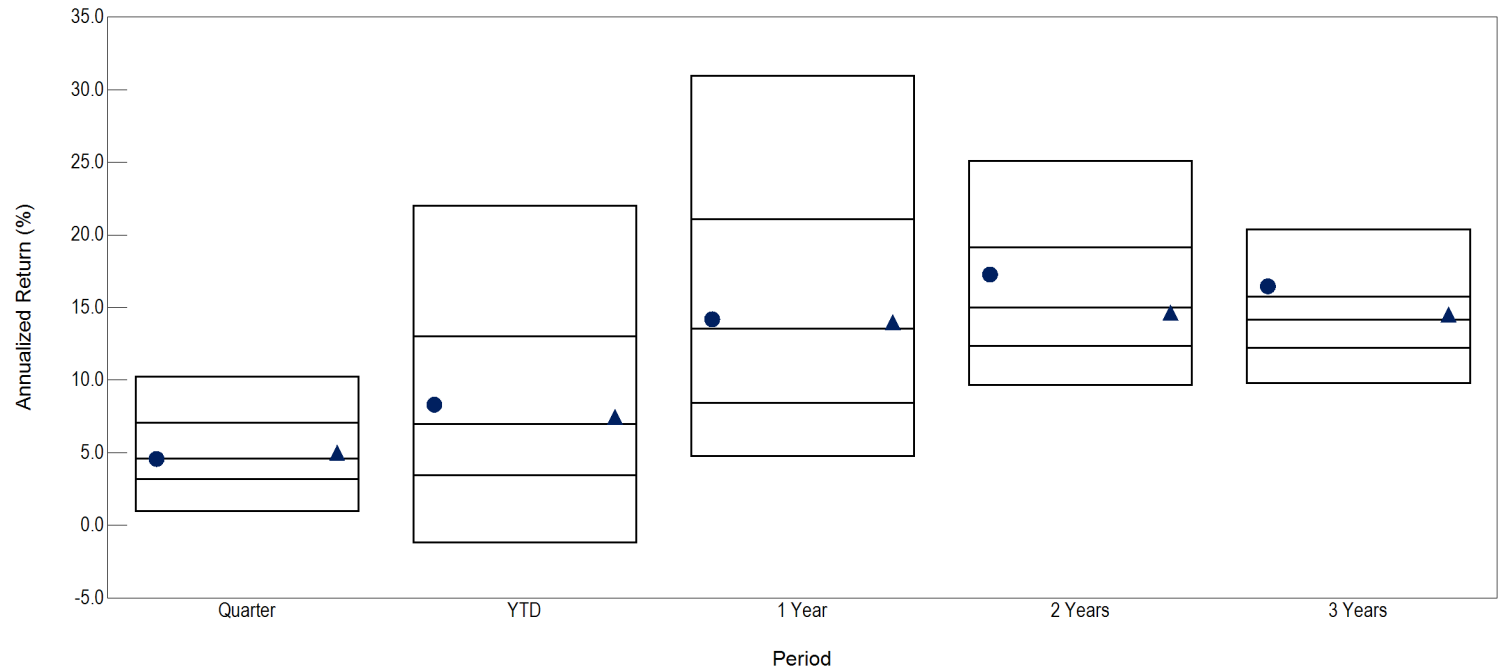
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

PRINCIPAL GLOBAL INVESTORS

Principal Global Investors vs. eV US Mid Cap Equity Net

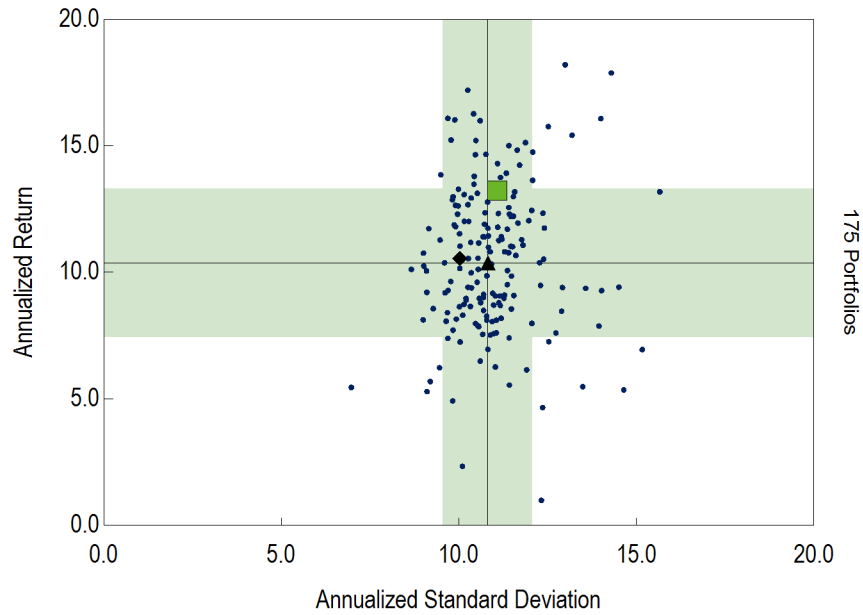


	Return (Rank)									
5th Percentile	10.22		22.00		30.96		25.09		20.38	
25th Percentile	7.10		13.05		21.12		19.17		15.80	
Median	4.62		7.03		13.61		15.06		14.19	
75th Percentile	3.24		3.51		8.46		12.38		12.26	
95th Percentile	1.04		-1.14		4.83		9.69		9.86	
# of Portfolios	182		182		182		180		180	
● Principal Global Investors	4.57	(52)	8.30	(45)	14.19	(48)	17.27	(37)	16.46	(22)
▲ Russell MidCap	5.00	(48)	7.46	(48)	13.98	(49)	14.65	(54)	14.52	(46)

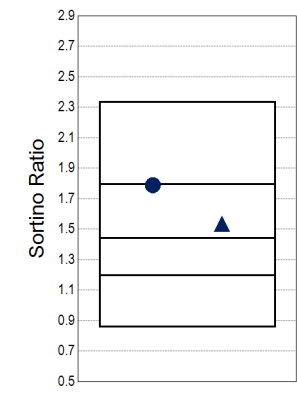
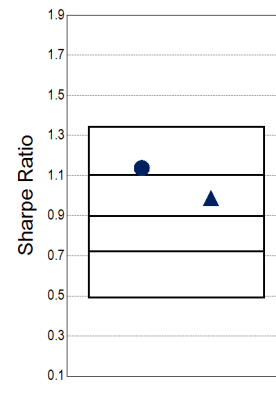
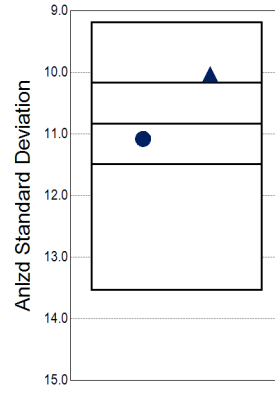
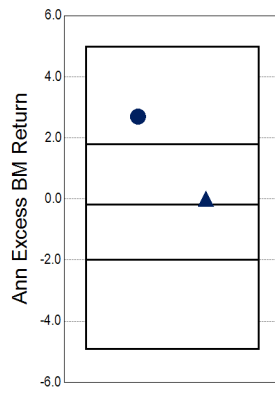
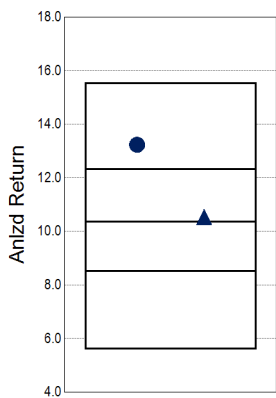
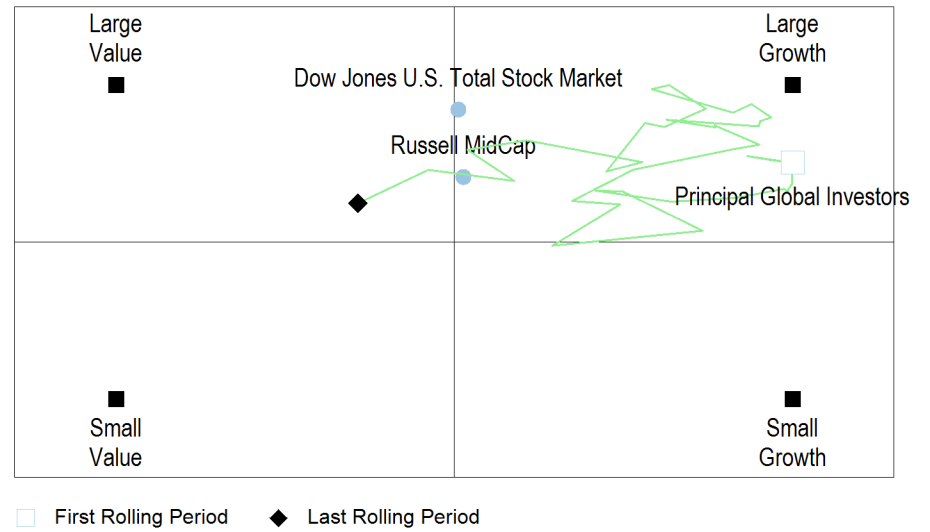


PRINCIPAL GLOBAL INVESTORS

Since Inception Risk Return



Since Inception Style Map



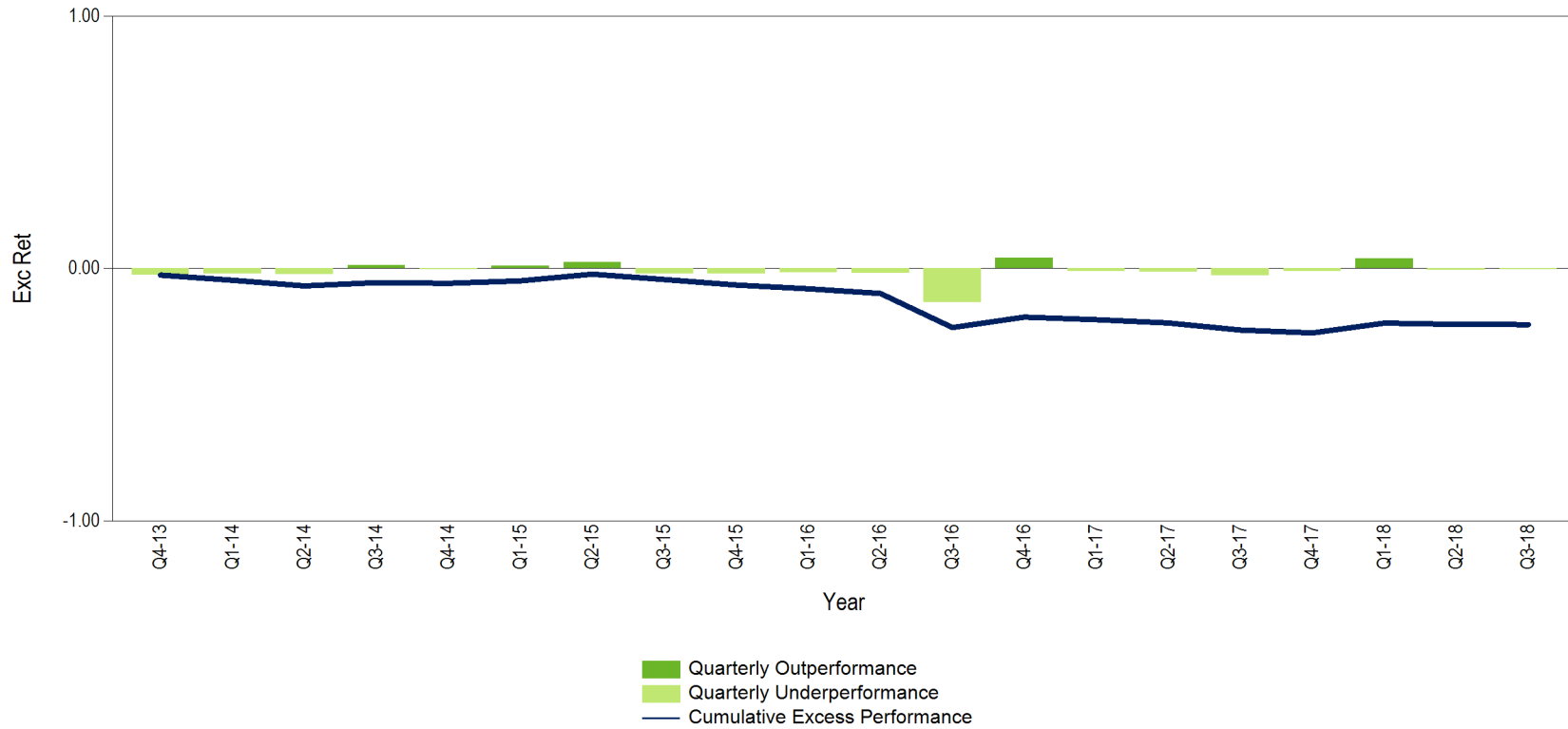
- Principal Global Investors
- ▲ Russell MidCap
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS S&P 500

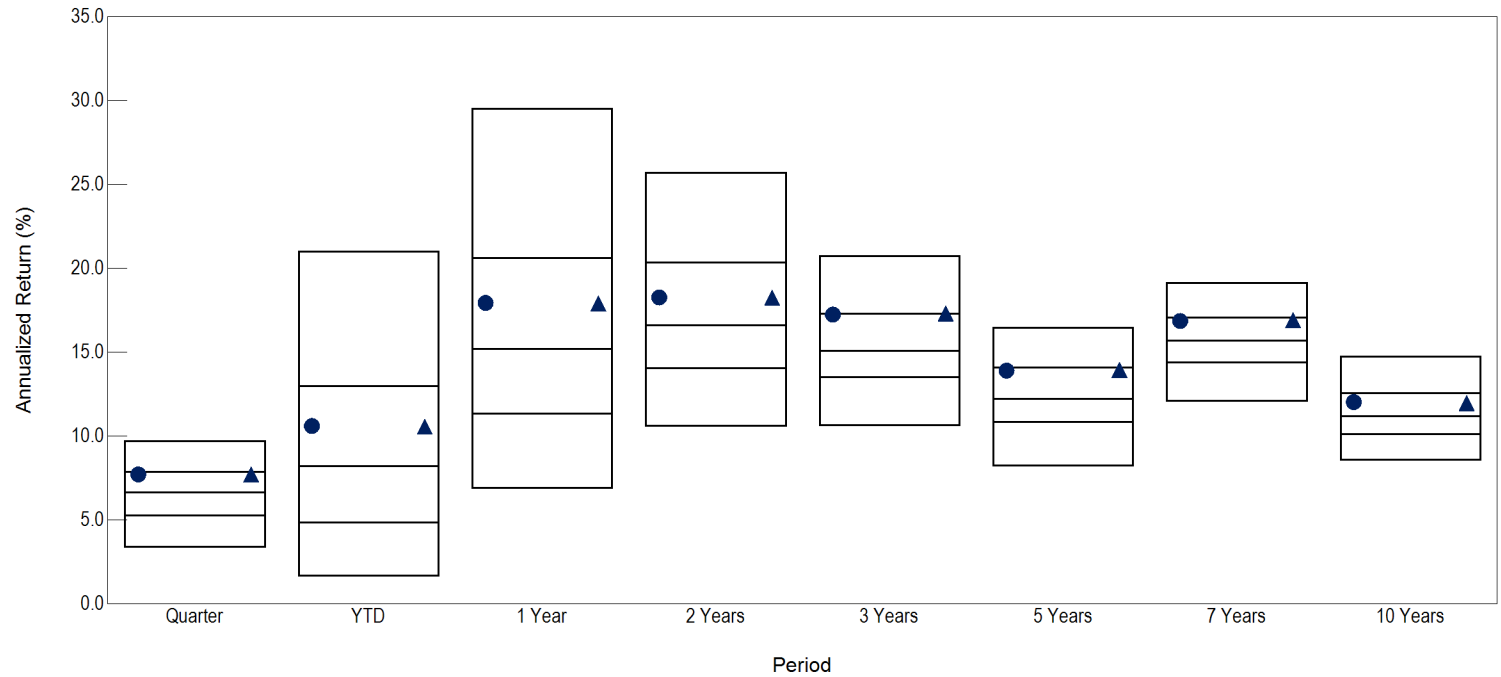
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS S&P 500

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

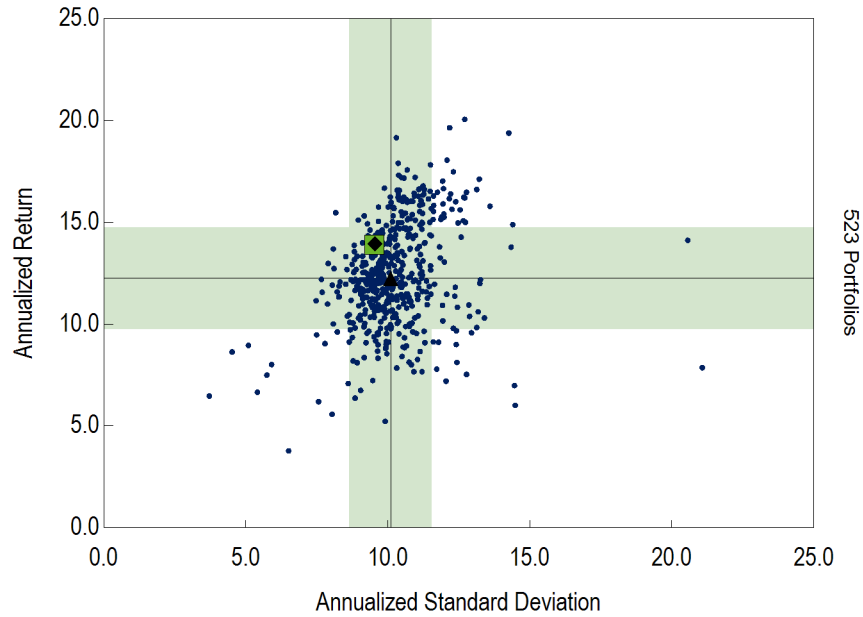


	Return (Rank)															
5th Percentile	9.70	21.00	29.51	25.70	20.75	16.47	19.12	14.73	9.70	21.00	29.51	25.70	20.75	16.47	19.12	14.73
25th Percentile	7.90	13.00	20.66	20.37	17.35	14.14	17.11	12.58	7.90	13.00	20.66	20.37	17.35	14.14	17.11	12.58
Median	6.66	8.26	15.23	16.63	15.13	12.25	15.73	11.22	6.66	8.26	15.23	16.63	15.13	12.25	15.73	11.22
75th Percentile	5.32	4.89	11.37	14.09	13.55	10.89	14.43	10.15	5.32	4.89	11.37	14.09	13.55	10.89	14.43	10.15
95th Percentile	3.44	1.73	6.94	10.63	10.70	8.27	12.14	8.64	3.44	1.73	6.94	10.63	10.70	8.27	12.14	8.64
# of Portfolios	567	566	565	558	545	523	465	419	567	566	565	558	545	523	465	419
● Rhumbline Advisors S&P 500	7.71	(30)	10.60	(35)	17.94	(36)	18.27	(37)	17.24	(26)	13.90	(28)	16.86	(30)	12.03	(36)
▲ S&P 500	7.71	(29)	10.56	(35)	17.91	(36)	18.26	(37)	17.31	(26)	13.95	(27)	16.91	(30)	11.97	(38)

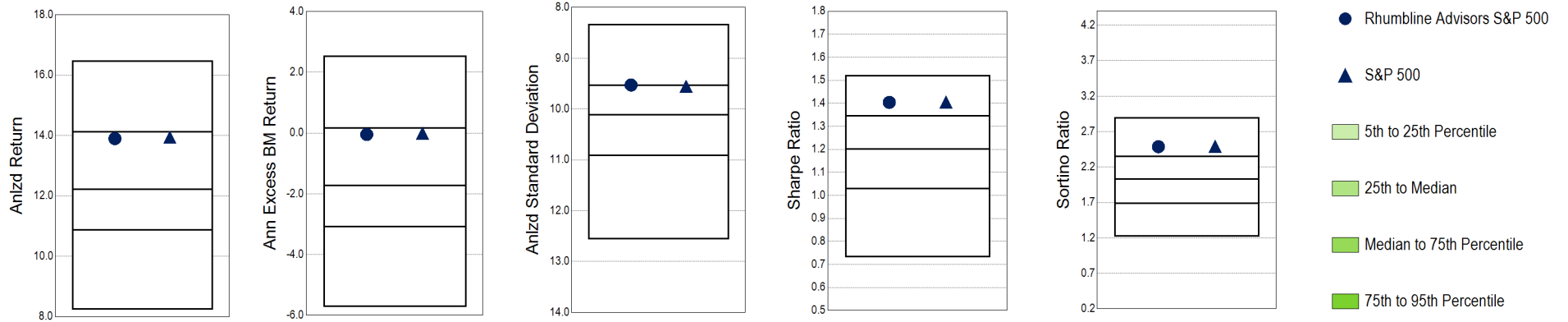
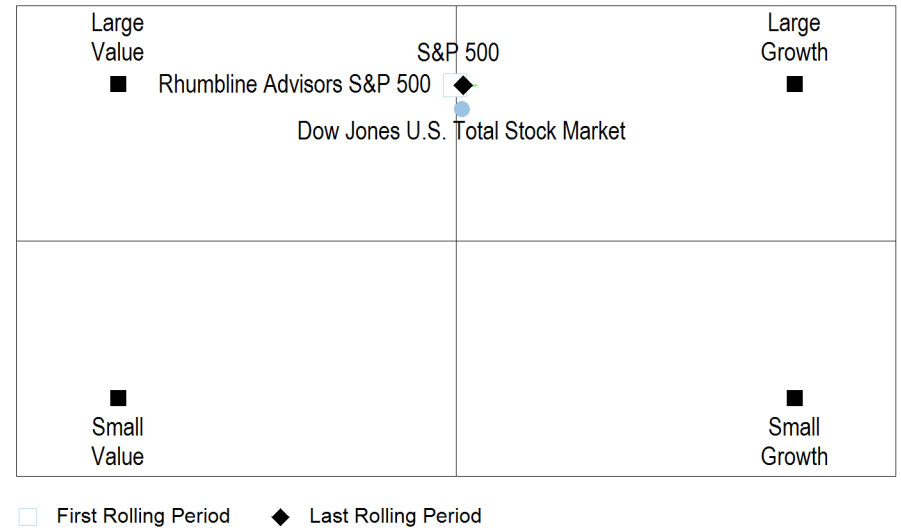


RHUMBLINE ADVISORS S&P 500

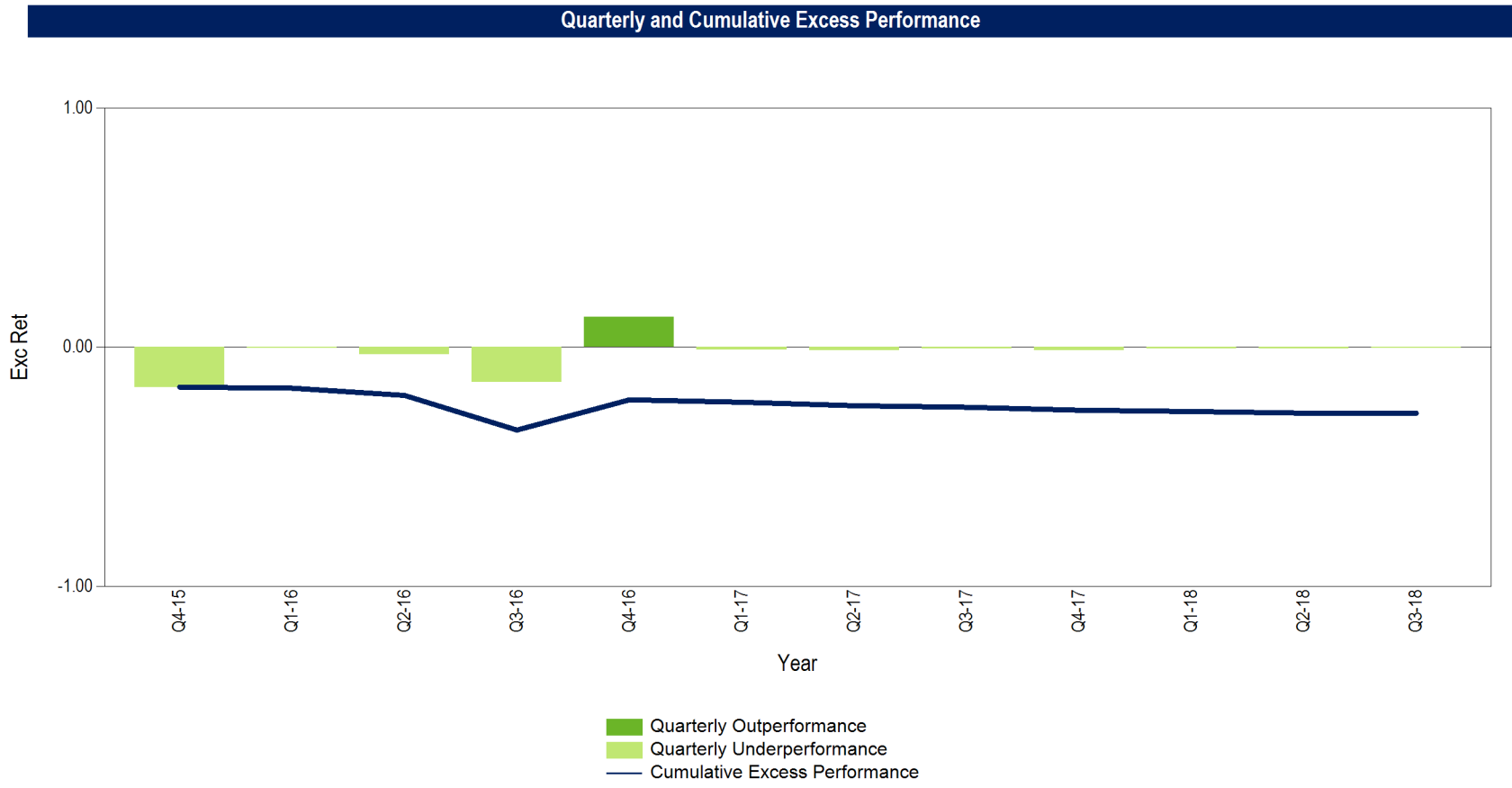
5 Year Risk Return



5 Year Style Map

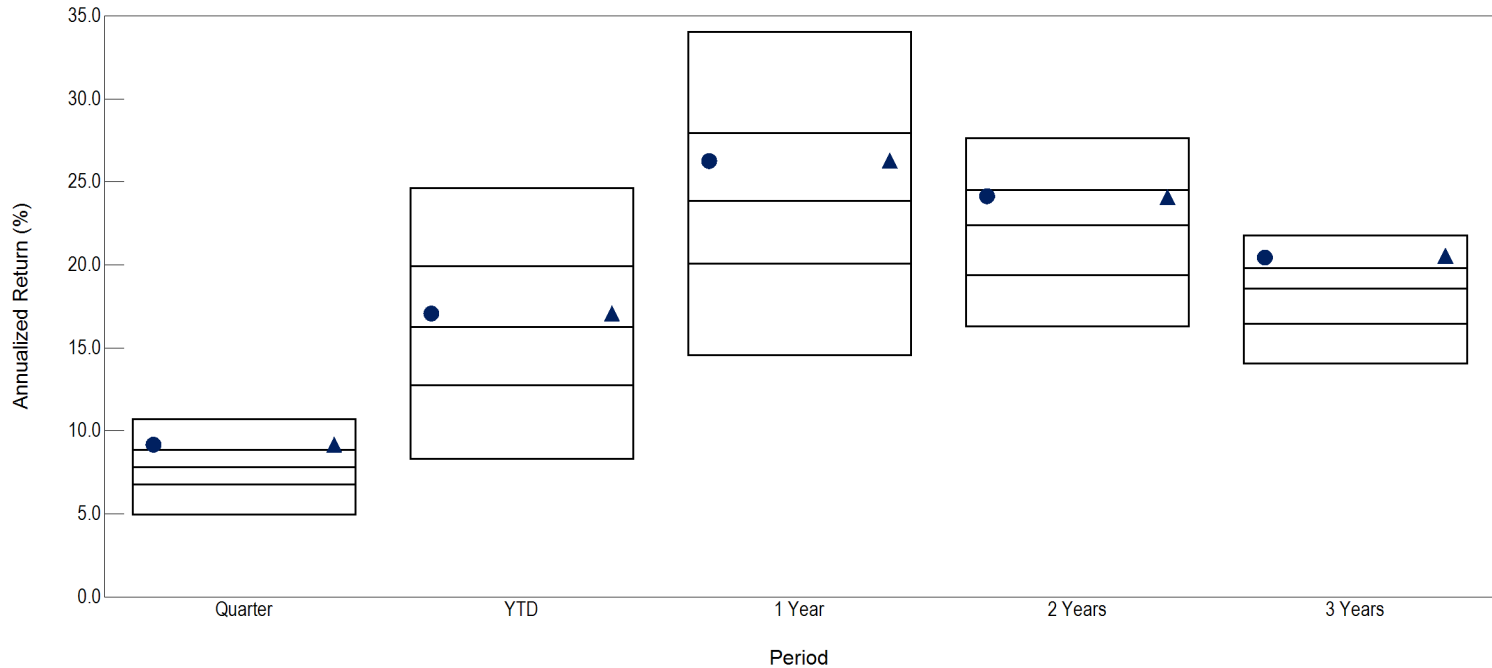


RHUMBLINE ADVISORS RUSSELL 1000 GROWTH



RHUMBLINE ADVISORS RUSSELL 1000 GROWTH

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

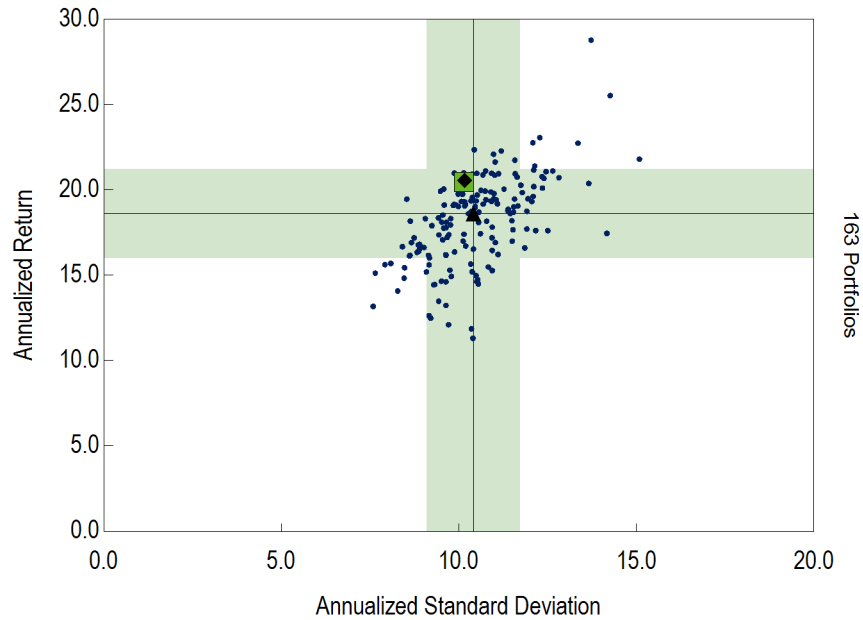


	Return (Rank)									
5th Percentile	10.72		24.62		34.05		27.65		21.79	
25th Percentile	8.89		19.96		27.98		24.57		19.86	
Median	7.84		16.30		23.89		22.44		18.60	
75th Percentile	6.82		12.80		20.10		19.41		16.48	
95th Percentile	4.99		8.36		14.59		16.32		14.10	
# of Portfolios	172		172		172		169		163	
● Rhumbline Advisors Russell 1000 Growth	9.17	(21)	17.07	(45)	26.27	(35)	24.14	(33)	20.45	(19)
▲ Russell 1000 Growth	9.17	(21)	17.09	(44)	26.30	(35)	24.10	(33)	20.55	(19)

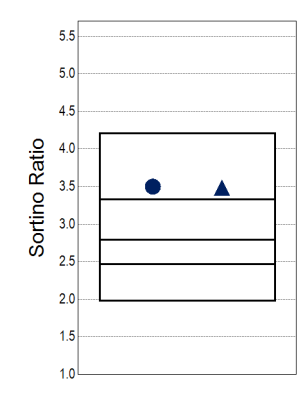
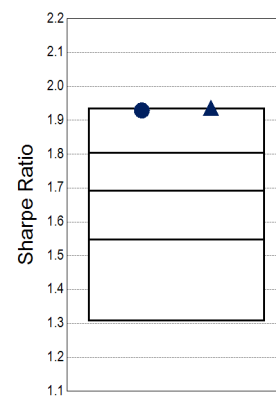
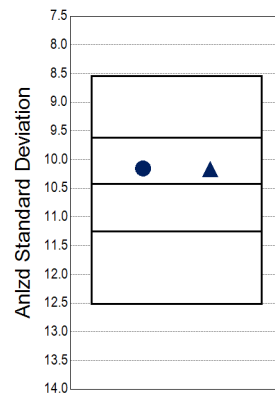
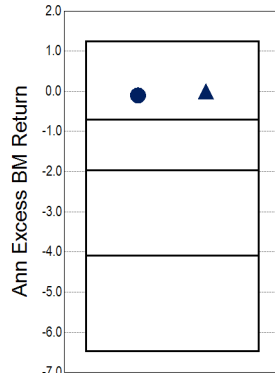
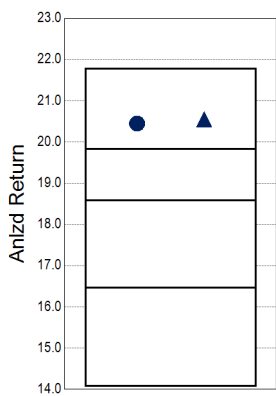
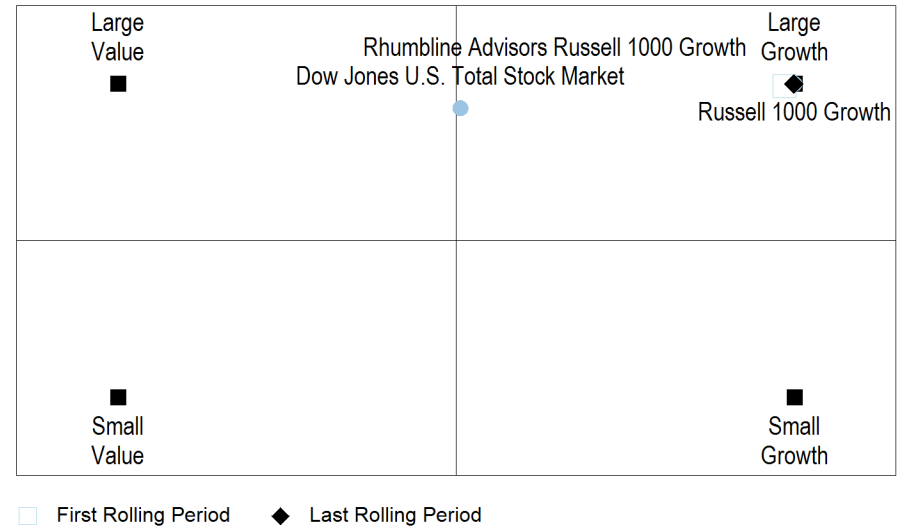


RHUMBLINE ADVISORS RUSSELL 1000 GROWTH

3 Year Risk Return



3 Year Style Map

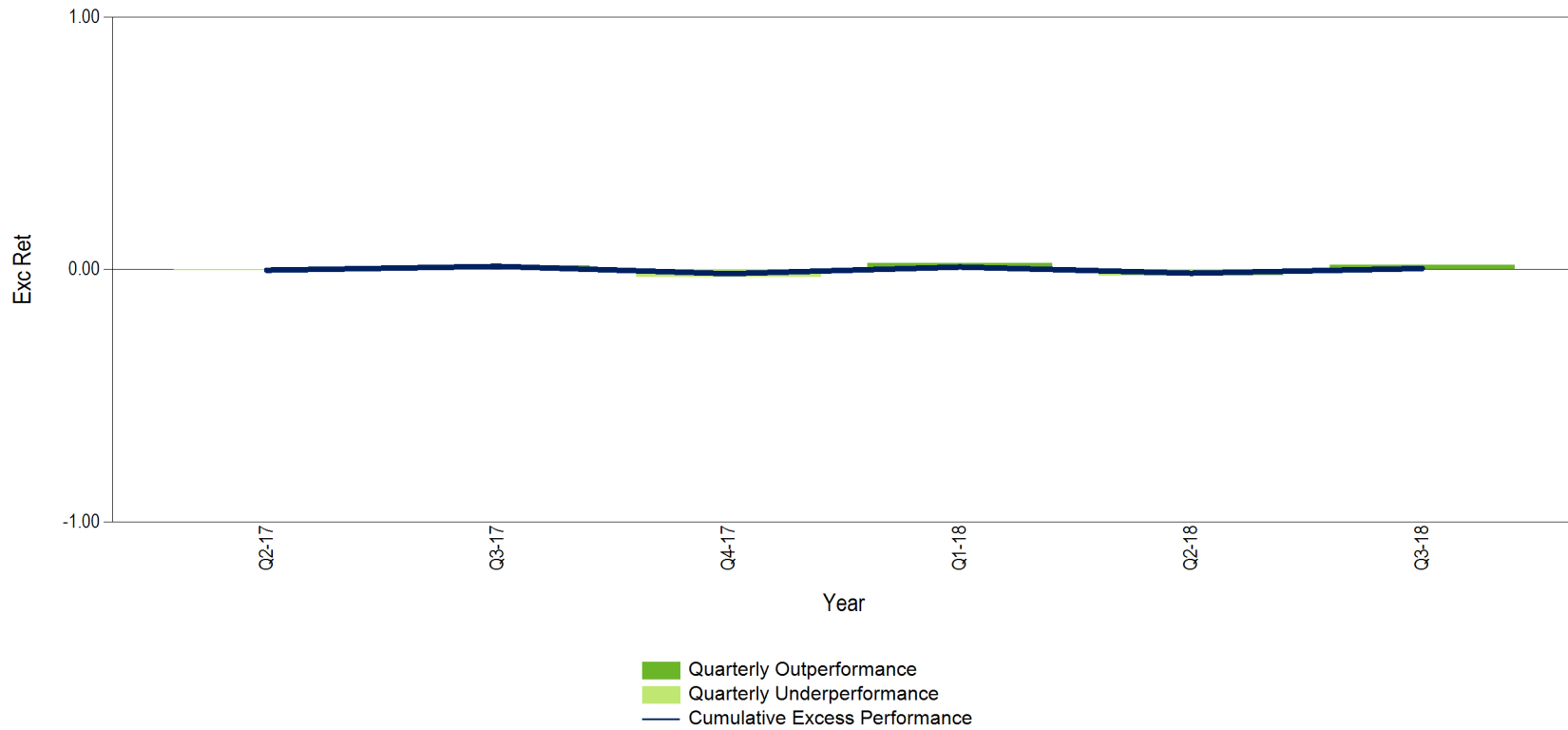


- Rhumbline Advisors Russell 1000 Growth
- ▲ Russell 1000 Growth
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



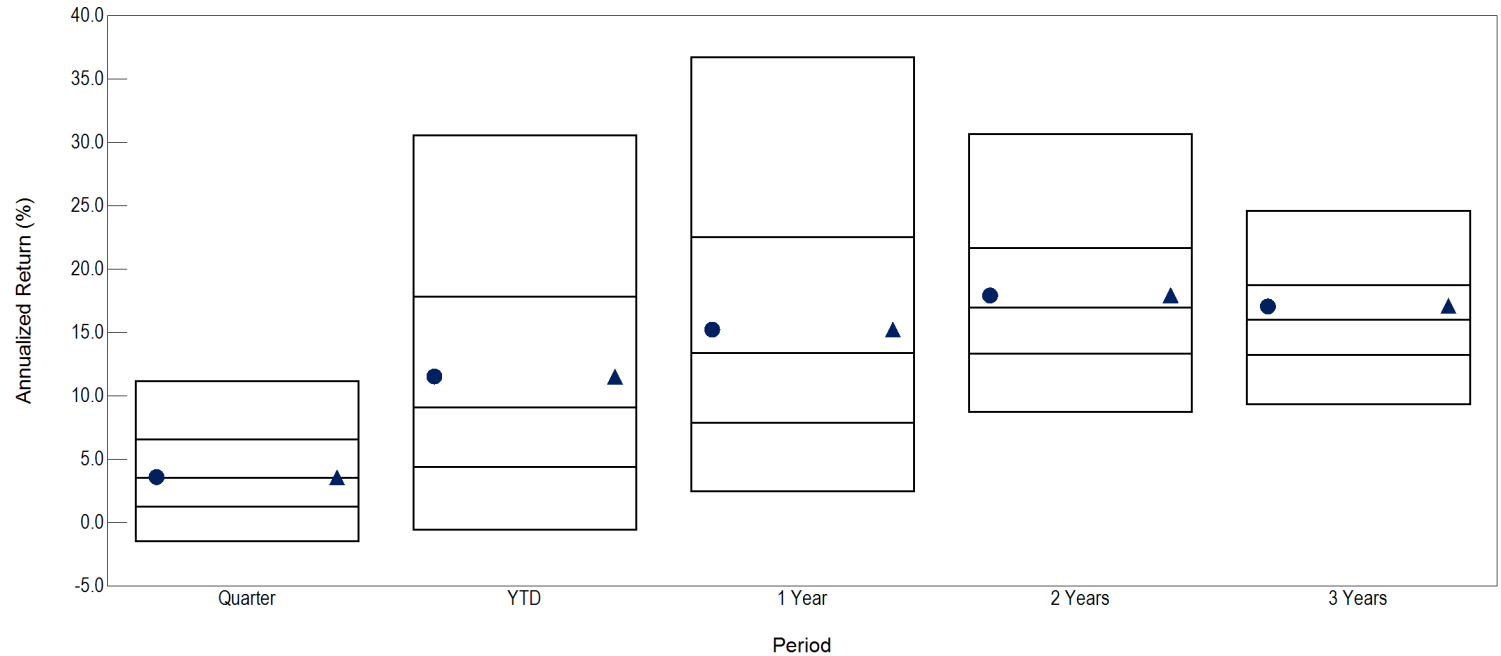
RHUMBLINE ADVISORS RUSSELL 2000

Quarterly and Cumulative Excess Performance



RHUMBLINE ADVISORS RUSSELL 2000

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

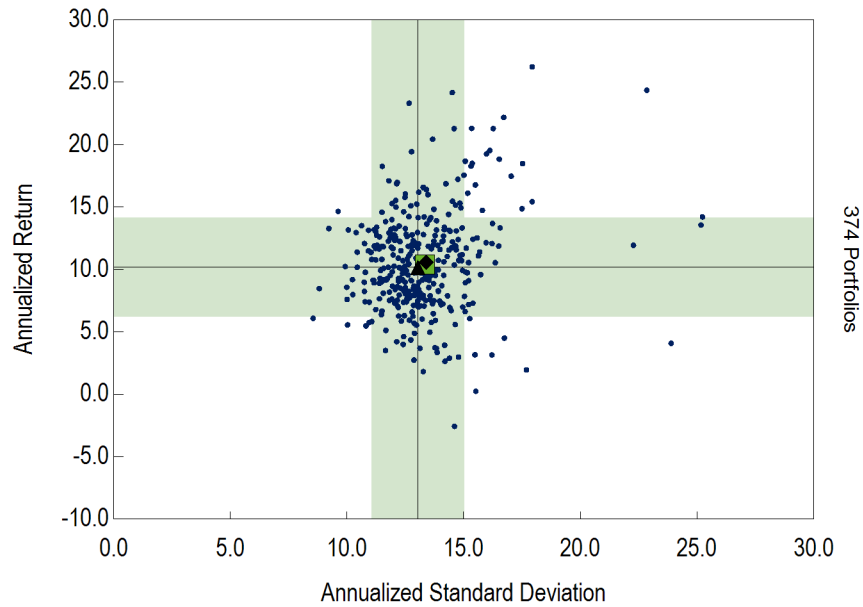


	Return (Rank)									
5th Percentile	11.16		30.55		36.74		30.65		24.62	
25th Percentile	6.61		17.86		22.56		21.70		18.80	
Median	3.57		9.17		13.41		17.03		16.08	
75th Percentile	1.33		4.47		7.93		13.37		13.27	
95th Percentile	-1.41		-0.51		2.54		8.76		9.39	
# of Portfolios	395		395		394		390		380	
● Rhumbline Advisors Russell 2000	3.59	(50)	11.54	(42)	15.23	(44)	17.92	(43)	17.06	(41)
▲ Russell 2000	3.58	(50)	11.51	(42)	15.24	(44)	17.96	(43)	17.12	(41)

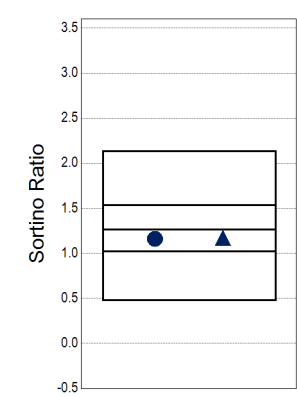
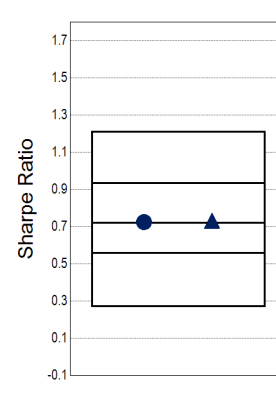
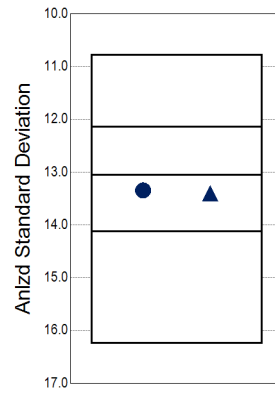
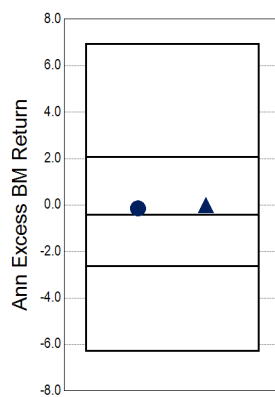
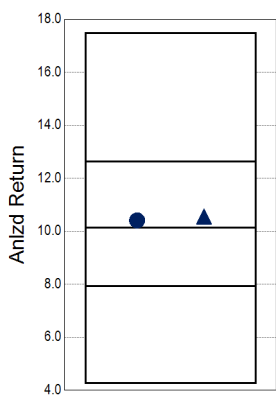
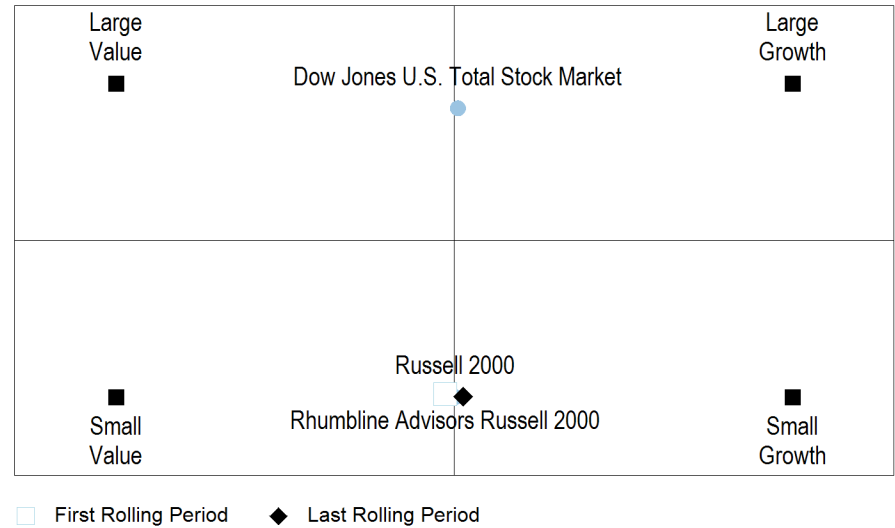


RHUMBLINE ADVISORS RUSSELL 2000

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



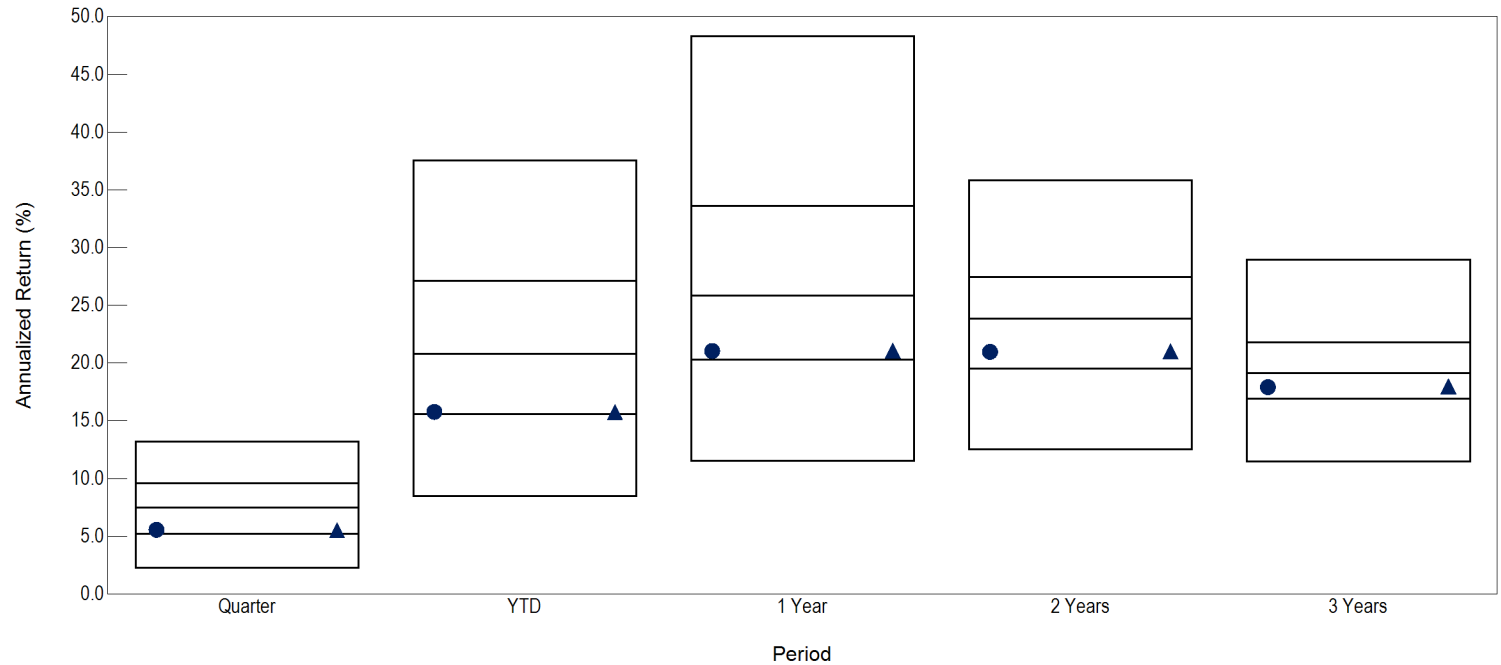
RHUMBLINE ADVISORS RUSSELL 2000 GROWTH

Quarterly and Cumulative Excess Performance



RHUMBLINE ADVISORS RUSSELL 2000 GROWTH

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

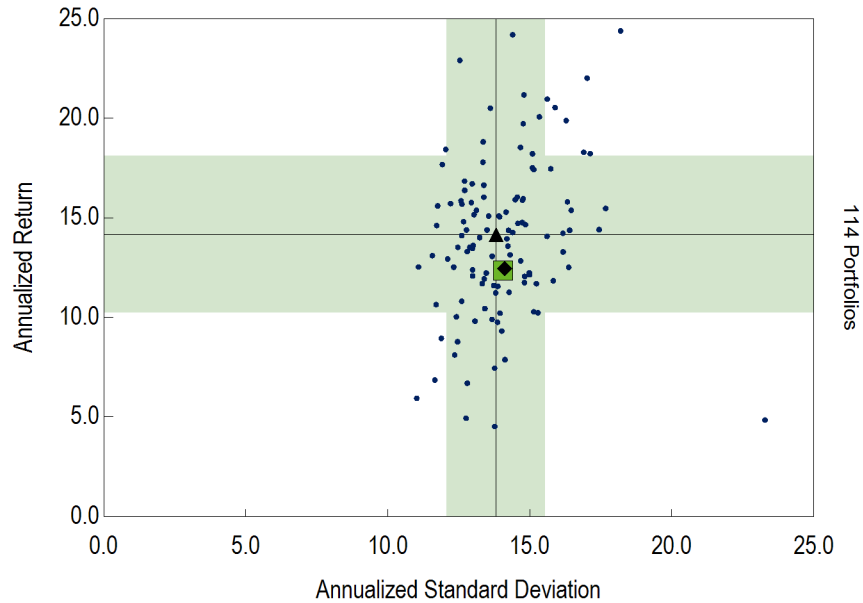


	Return (Rank)									
5th Percentile	13.20		37.54		48.33		35.82		28.93	
25th Percentile	9.66		27.17		33.65		27.52		21.86	
Median	7.55		20.83		25.90		23.89		19.20	
75th Percentile	5.25		15.66		20.33		19.58		16.97	
95th Percentile	2.31		8.52		11.60		12.60		11.51	
# of Portfolios	125		125		125		123		119	
● Rhumbline Advisors Russell 2000 Growth	5.56	(74)	15.77	(74)	21.04	(73)	20.97	(70)	17.91	(66)
▲ Russell 2000 Growth	5.52	(75)	15.76	(74)	21.06	(73)	21.02	(70)	17.98	(65)

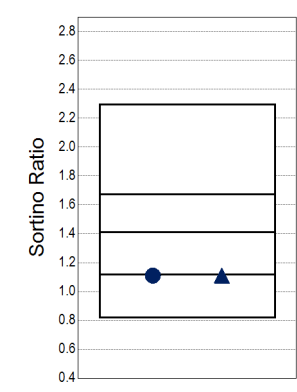
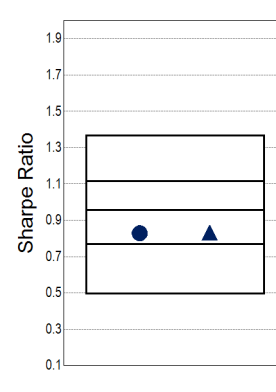
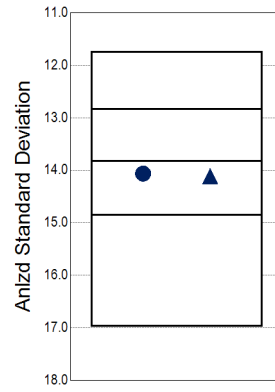
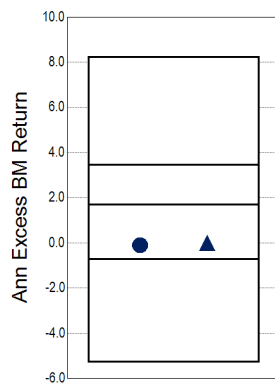
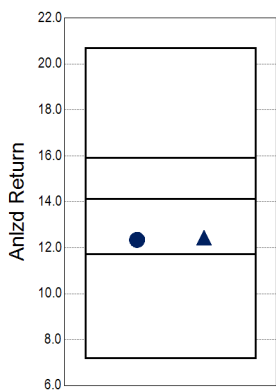
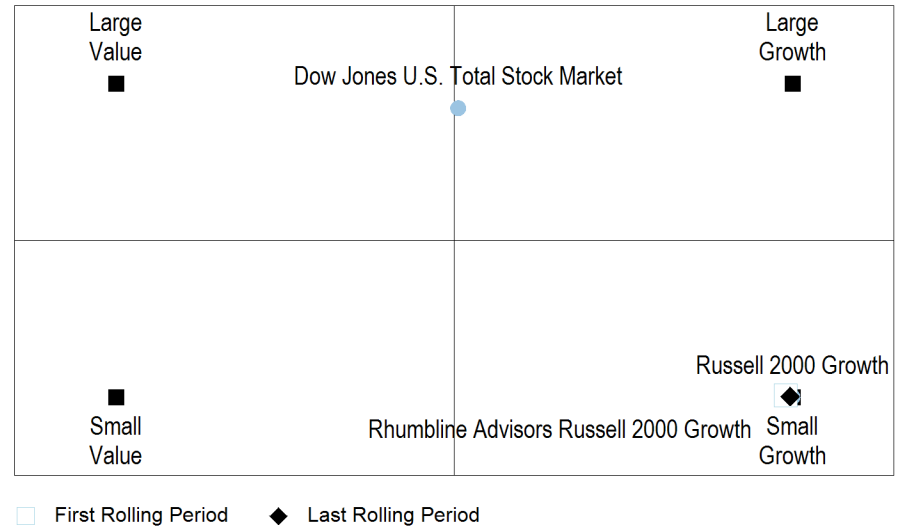


RHUMBLINE ADVISORS RUSSELL 2000 GROWTH

Since Inception Risk Return



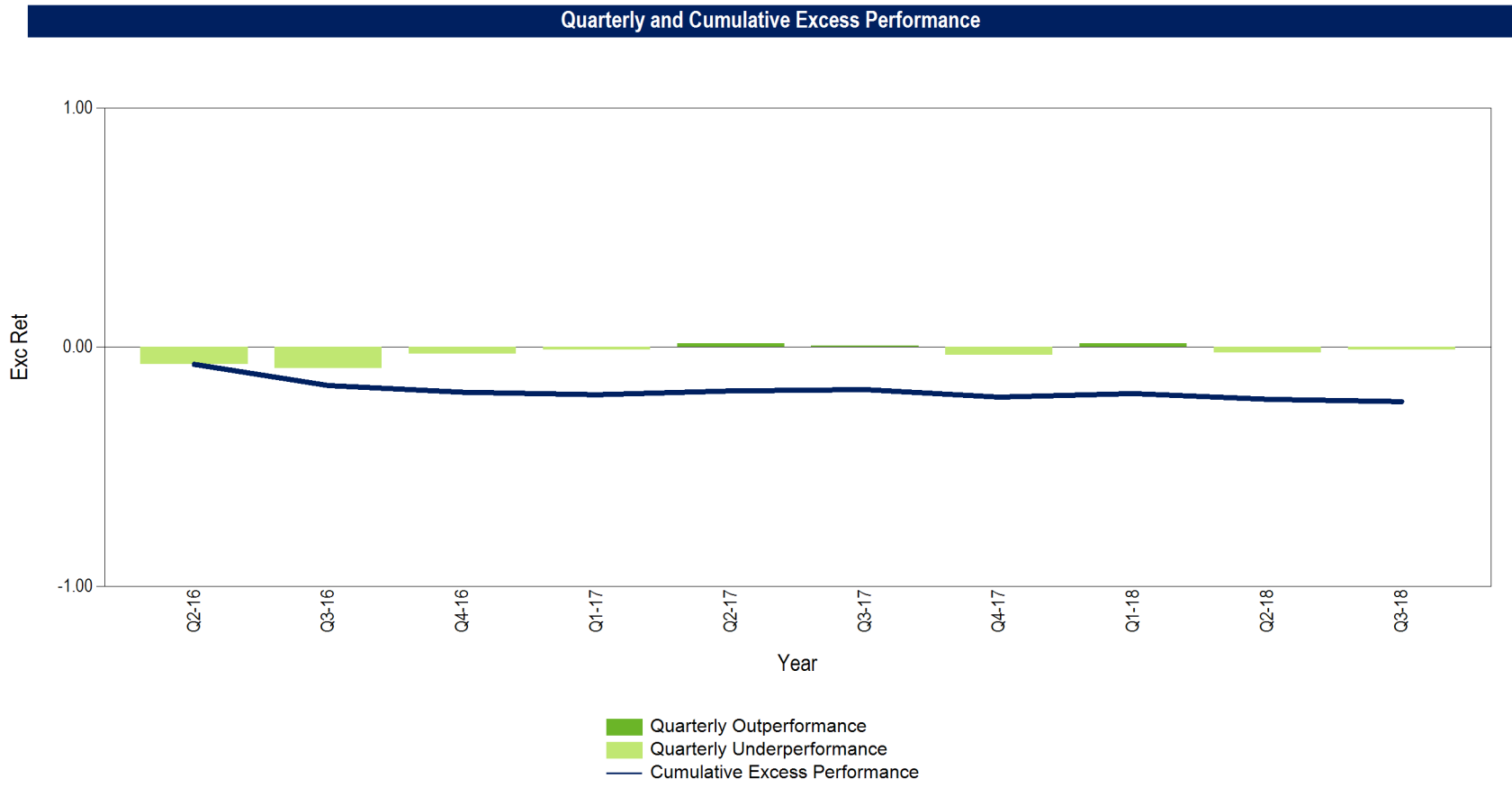
Since Inception Style Map



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



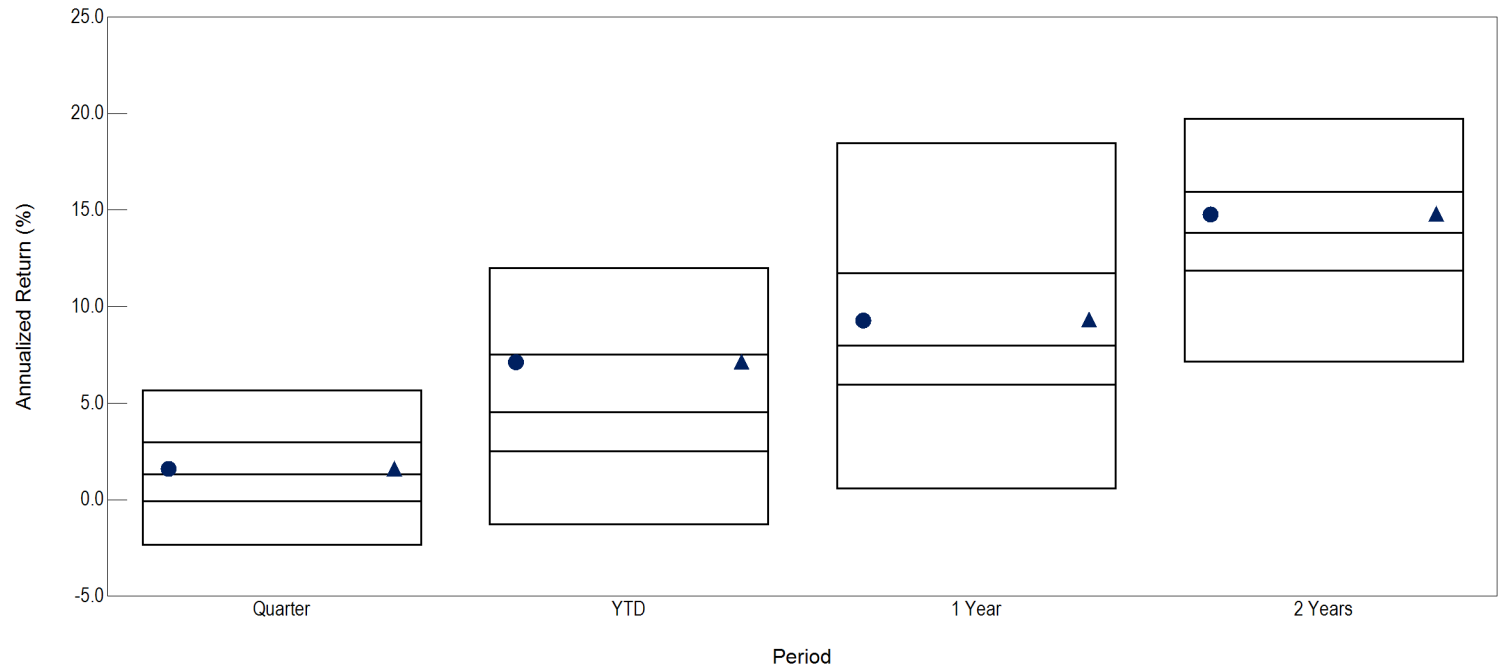
RHUMBLINE ADVISORS RUSSELL 2000 VALUE



Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS RUSSELL 2000 VALUE

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

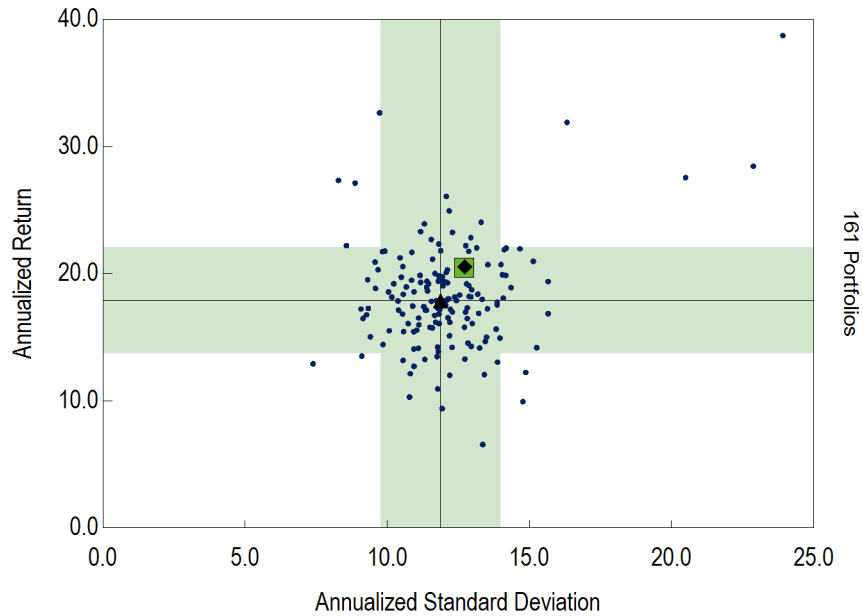


	Return (Rank)			
	Quarter	YTD	1 Year	2 Years
5th Percentile	5.64	12.01	18.47	19.72
25th Percentile	2.99	7.55	11.76	15.96
Median	1.35	4.55	8.00	13.83
75th Percentile	-0.05	2.53	6.00	11.91
95th Percentile	-2.31	-1.25	0.63	7.18
# of Portfolios	165	165	165	165
● Rhumbline Advisors Russell 2000 Value	1.59 (46)	7.12 (31)	9.28 (40)	14.77 (37)
▲ Russell 2000 Value	1.60 (45)	7.14 (31)	9.33 (40)	14.80 (37)

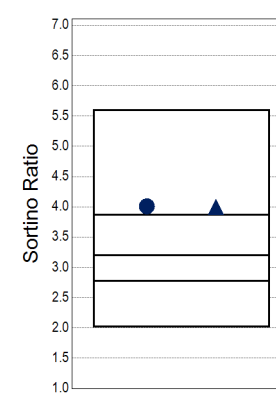
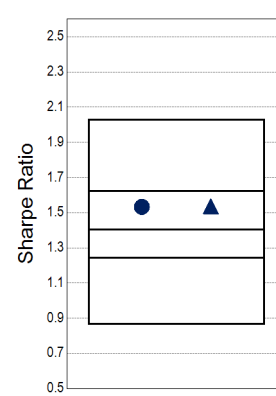
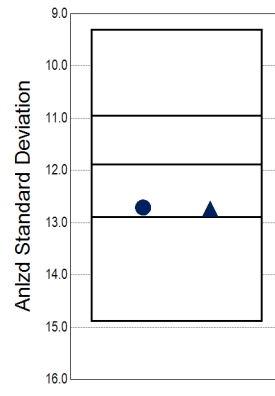
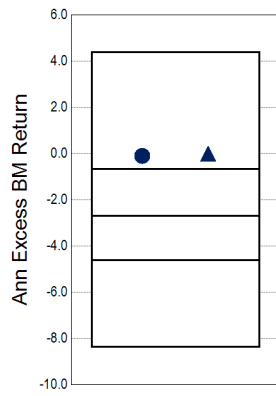
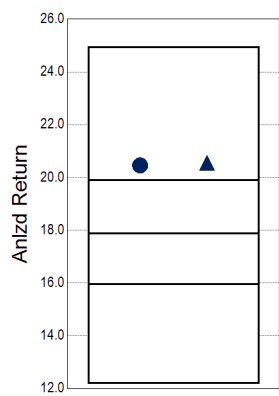
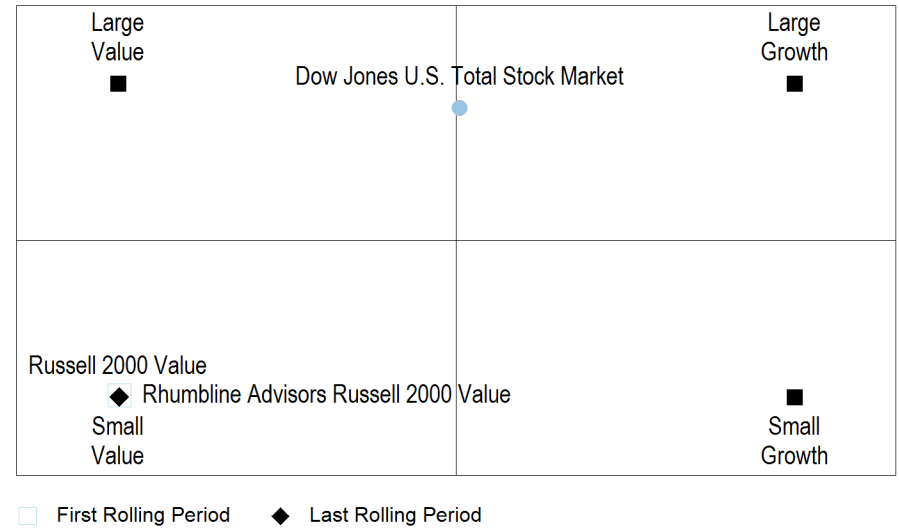


RHUMBLINE ADVISORS RUSSELL 2000 VALUE

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

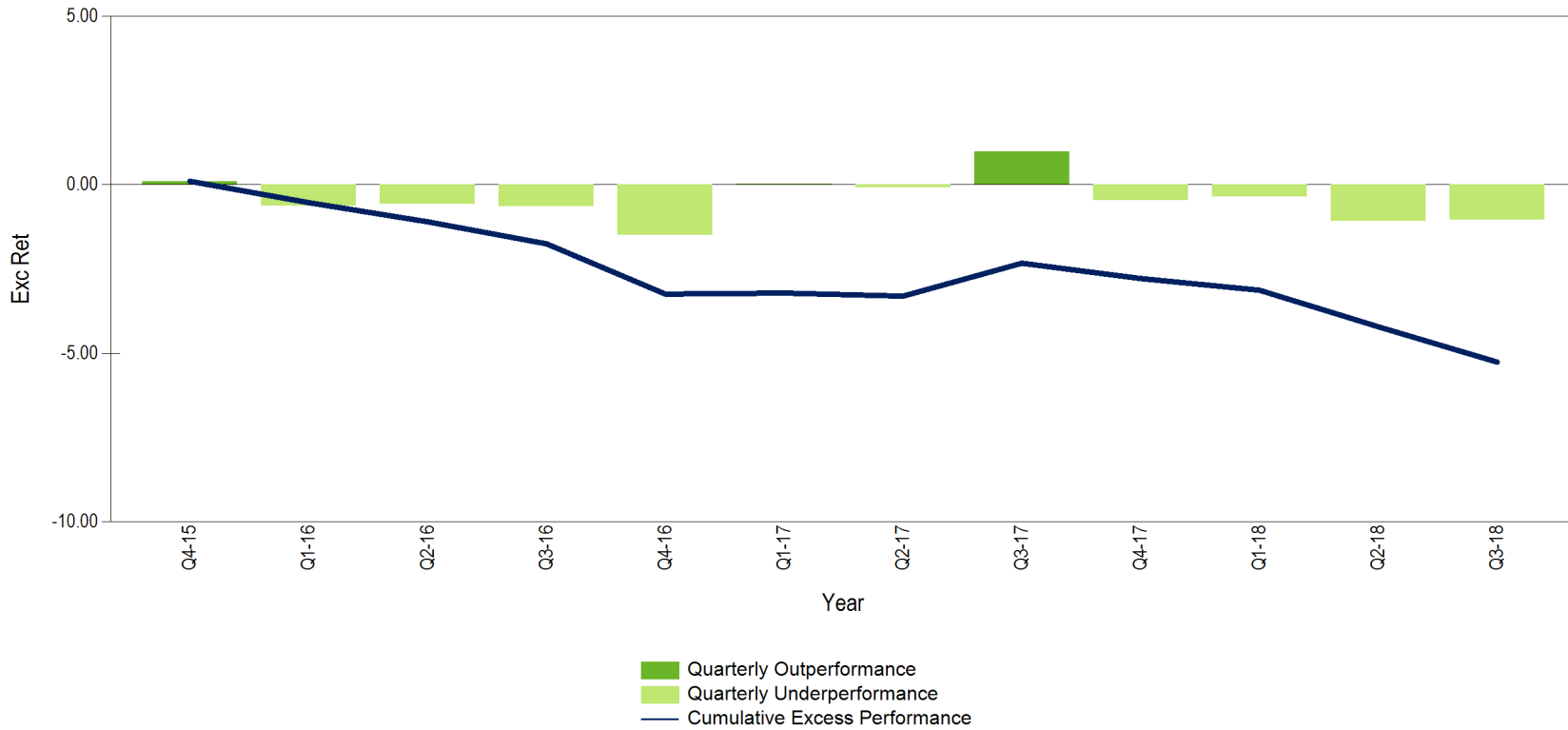


NON-U.S. EQUITY MANAGER PERFORMANCE

NEPC, LLC

AQR CAPITAL

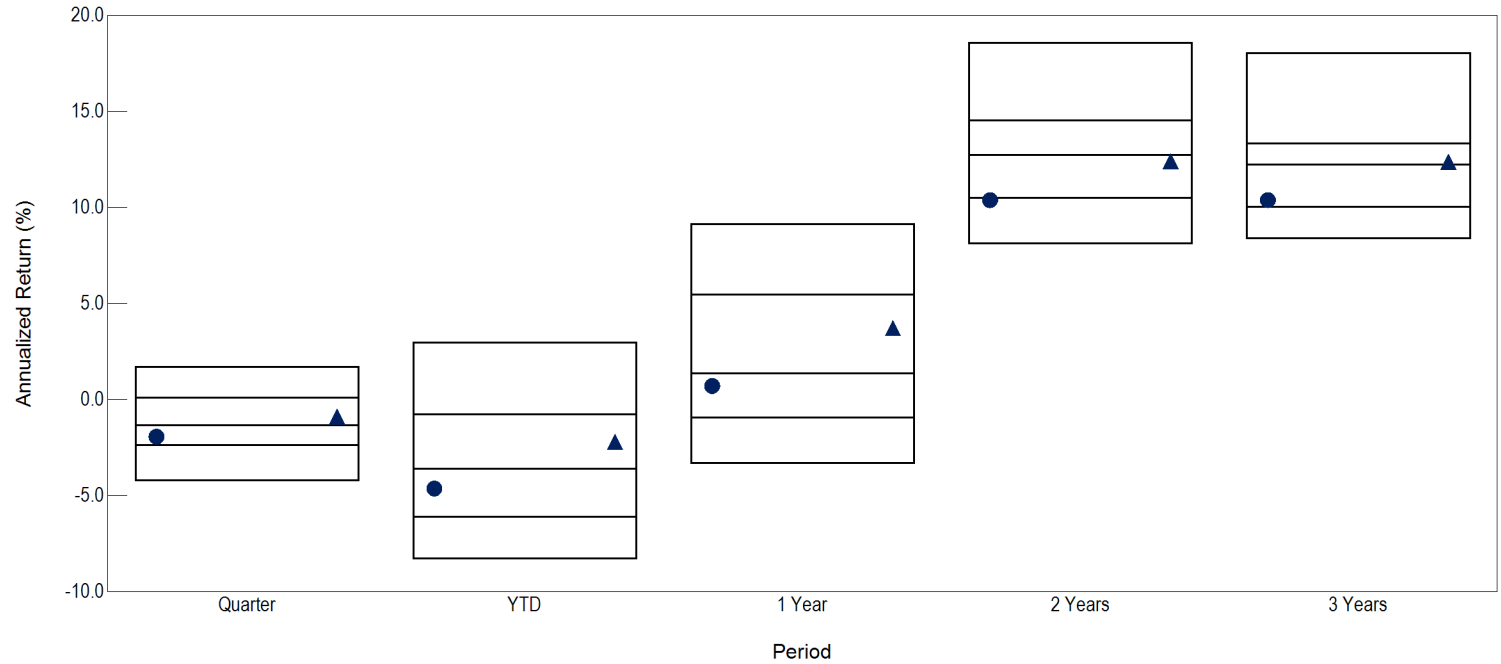
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

AQR CAPITAL

AQR Capital vs. eV EAFE Small Cap Equity Net



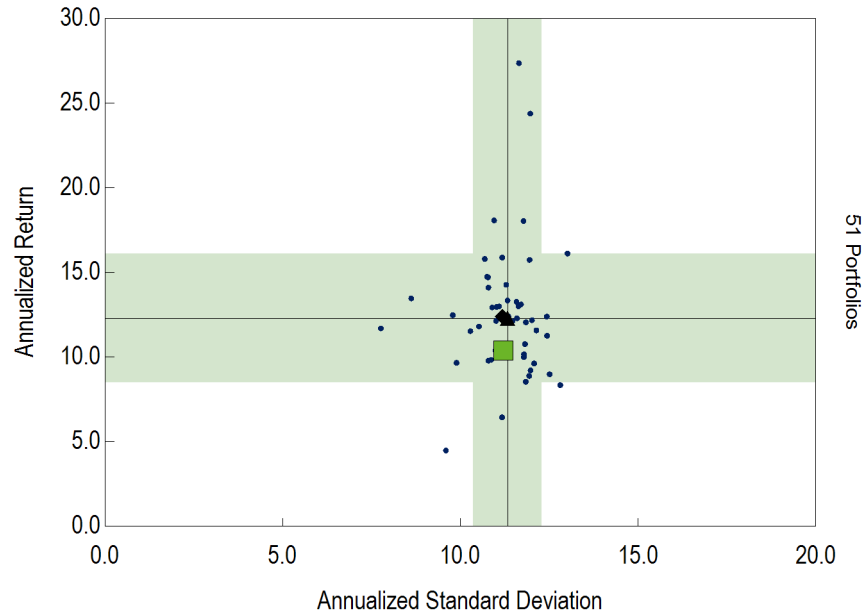
	Return (Rank)									
5th Percentile	1.72		2.98		9.14		18.59		18.05	
25th Percentile	0.13		-0.73		5.51		14.56		13.39	
Median	-1.30		-3.56		1.41		12.77		12.28	
75th Percentile	-2.32		-6.07		-0.88		10.54		10.06	
95th Percentile	-4.17		-8.24		-3.25		8.19		8.43	
# of Portfolios	54		54		54		54		51	
● AQR Capital	-1.93	(67)	-4.62	(57)	0.71	(61)	10.39	(78)	10.39	(72)
▲ MSCI EAFE Small Cap	-0.88	(48)	-2.19	(33)	3.73	(39)	12.42	(59)	12.39	(45)



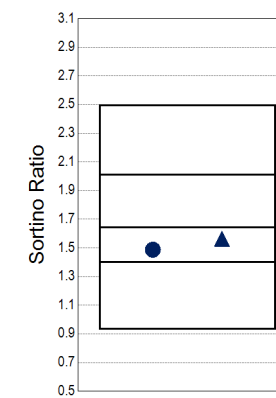
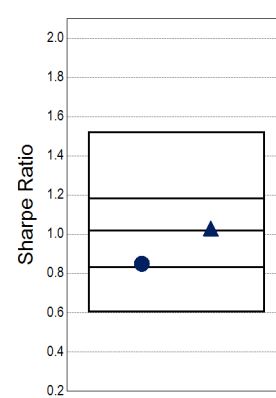
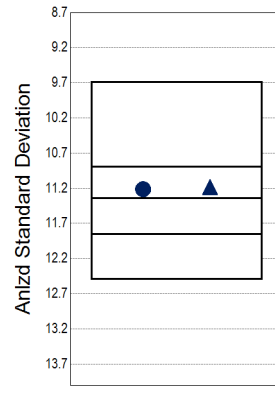
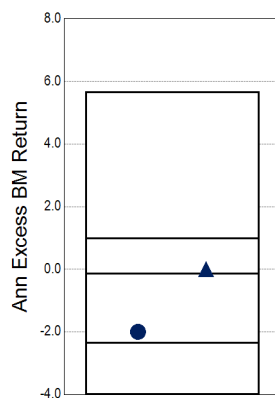
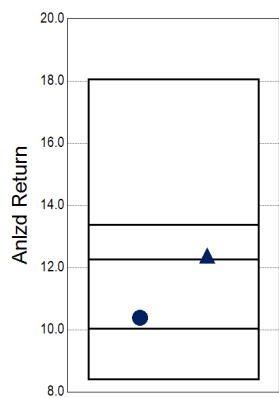
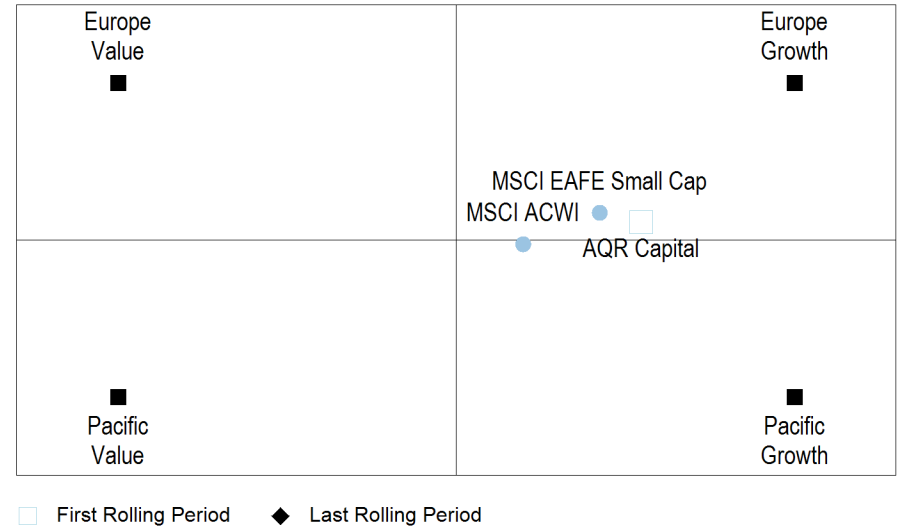
Los Angeles City Employees' Retirement System

AQR CAPITAL

3 Year Risk Return



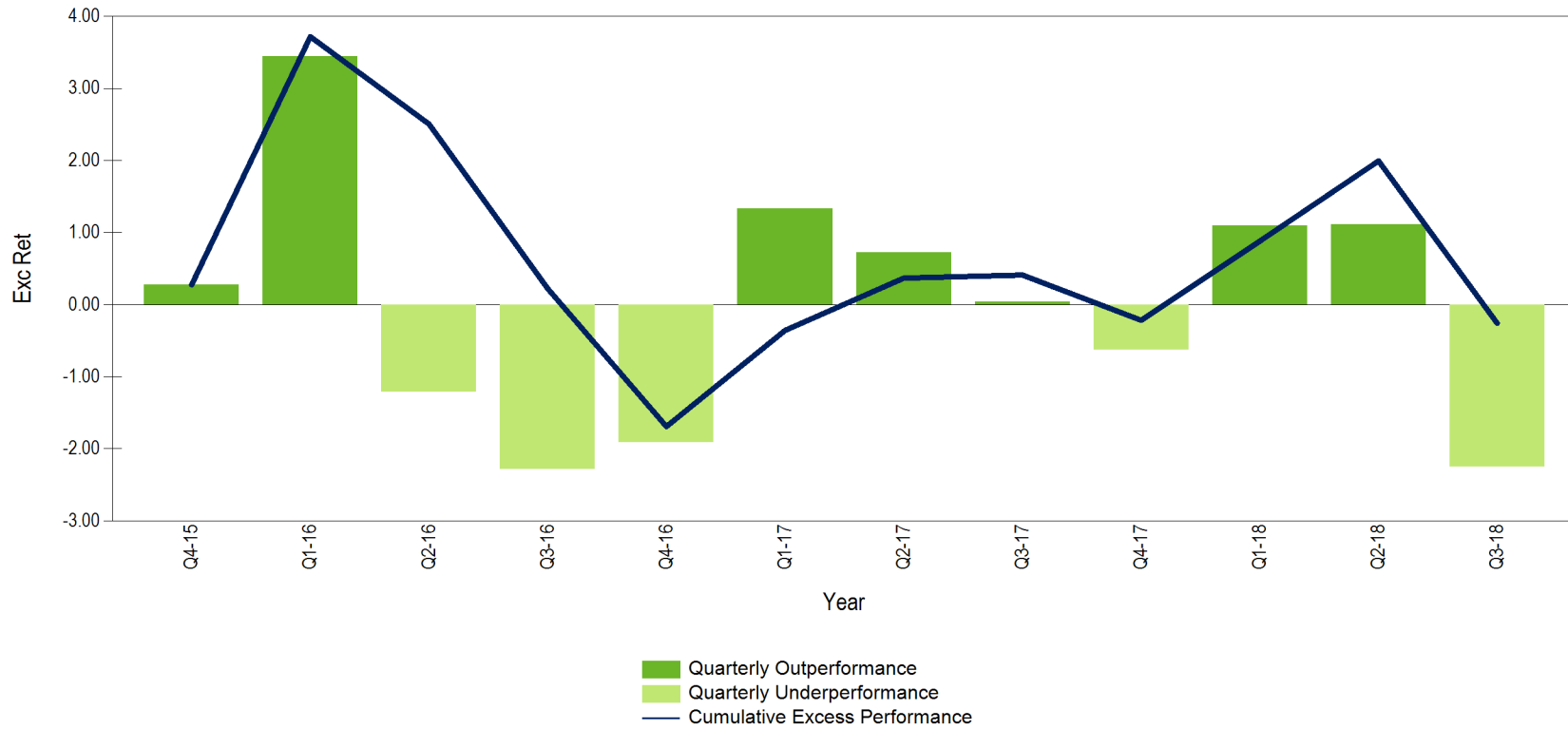
3 Year Style Map



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



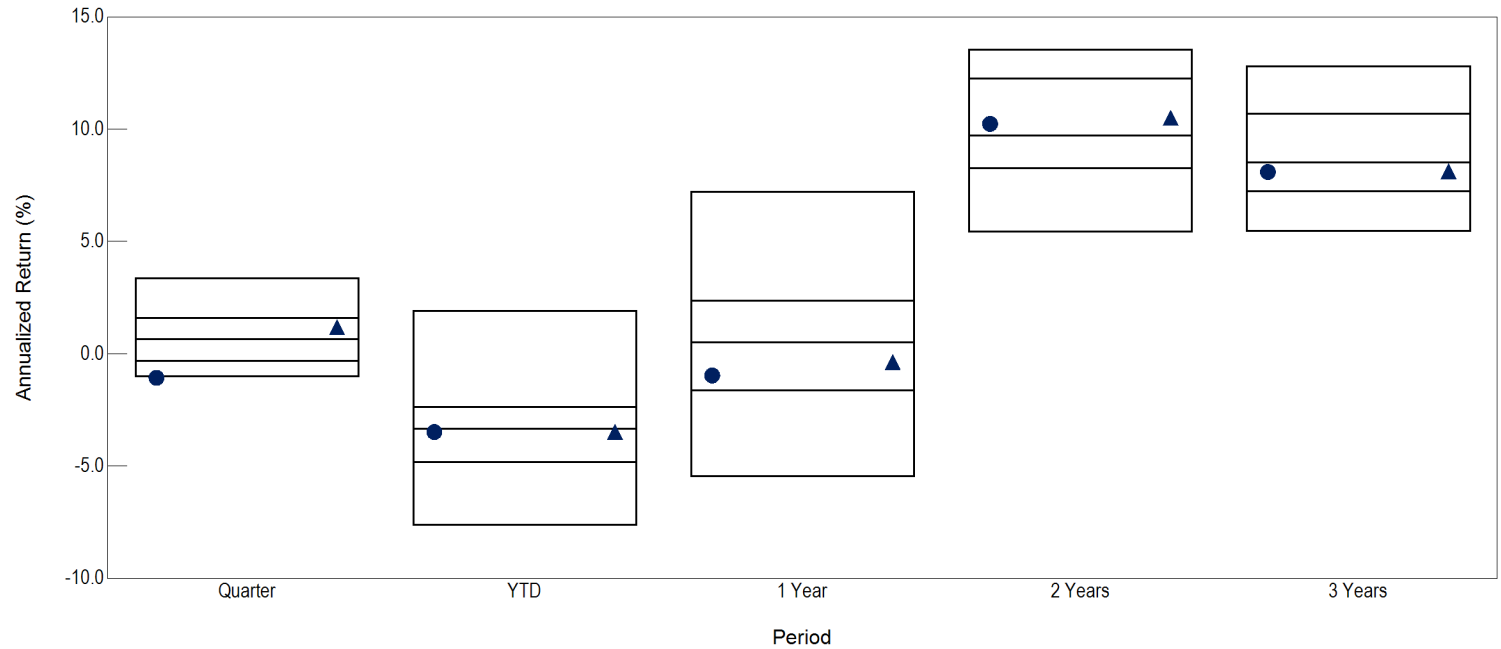
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

BARROW HANLEY

Barrow Hanley vs. eV EAFE Value Equity Net



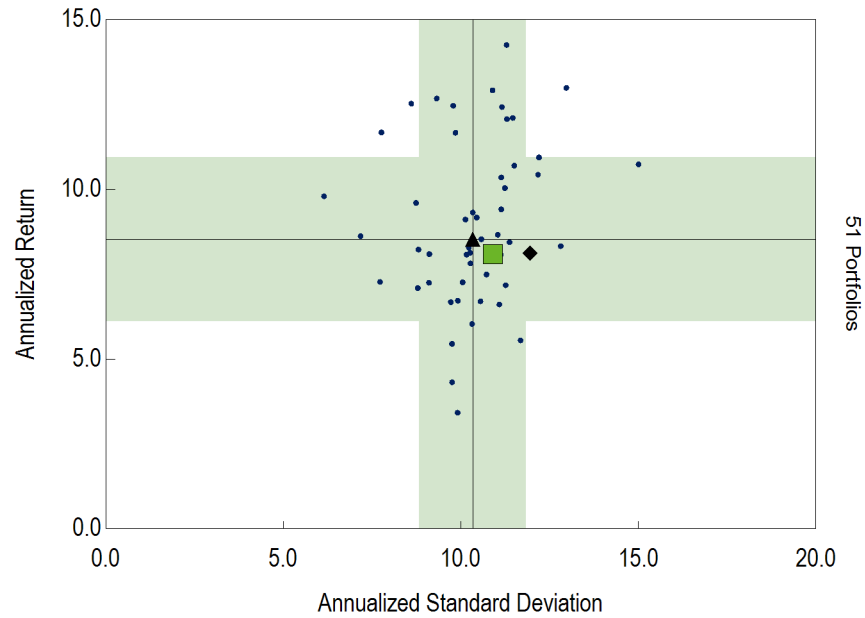
	Return (Rank)									
	Quarter	YTD	1 Year	2 Years	3 Years	Quarter	YTD	1 Year	2 Years	3 Years
5th Percentile	3.37	1.90	7.21	13.53	12.80					
25th Percentile	1.63	-2.33	2.38	12.29	10.72					
Median	0.67	-3.33	0.54	9.73	8.53					
75th Percentile	-0.30	-4.81	-1.61	8.30	7.27					
95th Percentile	-0.97	-7.60	-5.43	5.47	5.50					
# of Portfolios	53	53	53	53	51					
● Barrow Hanley	-1.07	(97)	-3.49	(56)	-0.97	(69)	10.23	(45)	8.09	(65)
▲ MSCI EAFE Value	1.18	(39)	-3.49	(56)	-0.36	(60)	10.50	(39)	8.12	(63)



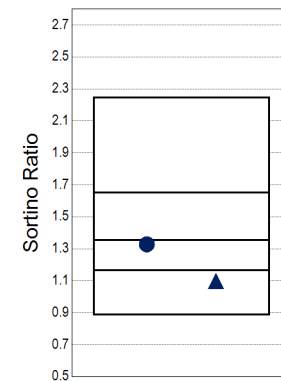
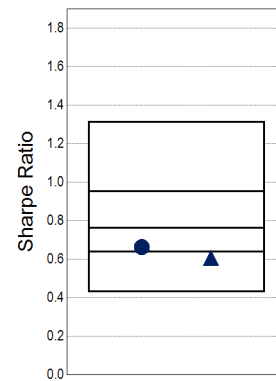
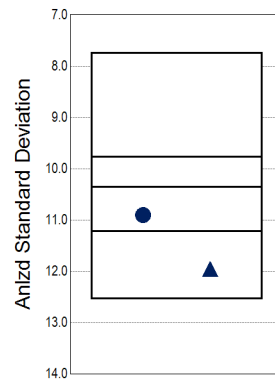
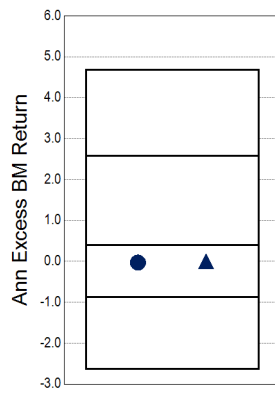
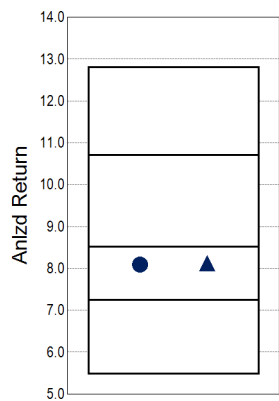
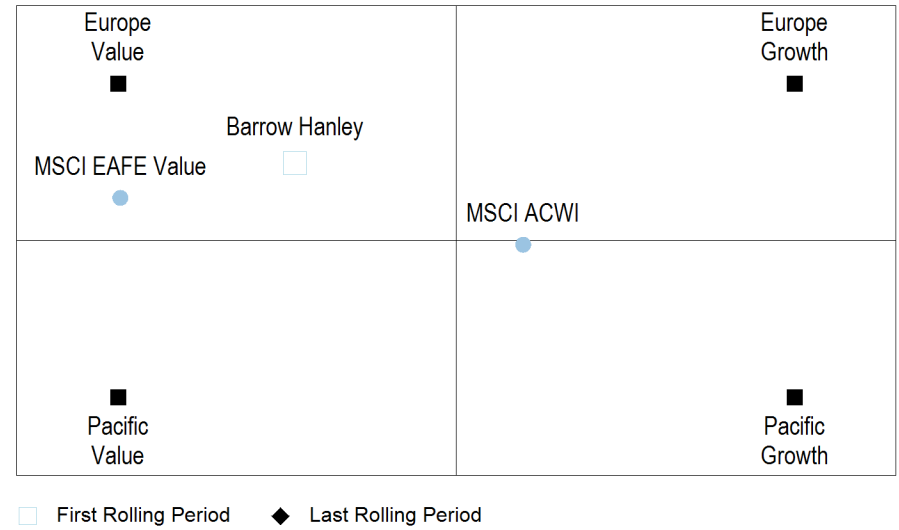
Los Angeles City Employees' Retirement System

BARROW HANLEY

3 Year Risk Return



3 Year Style Map

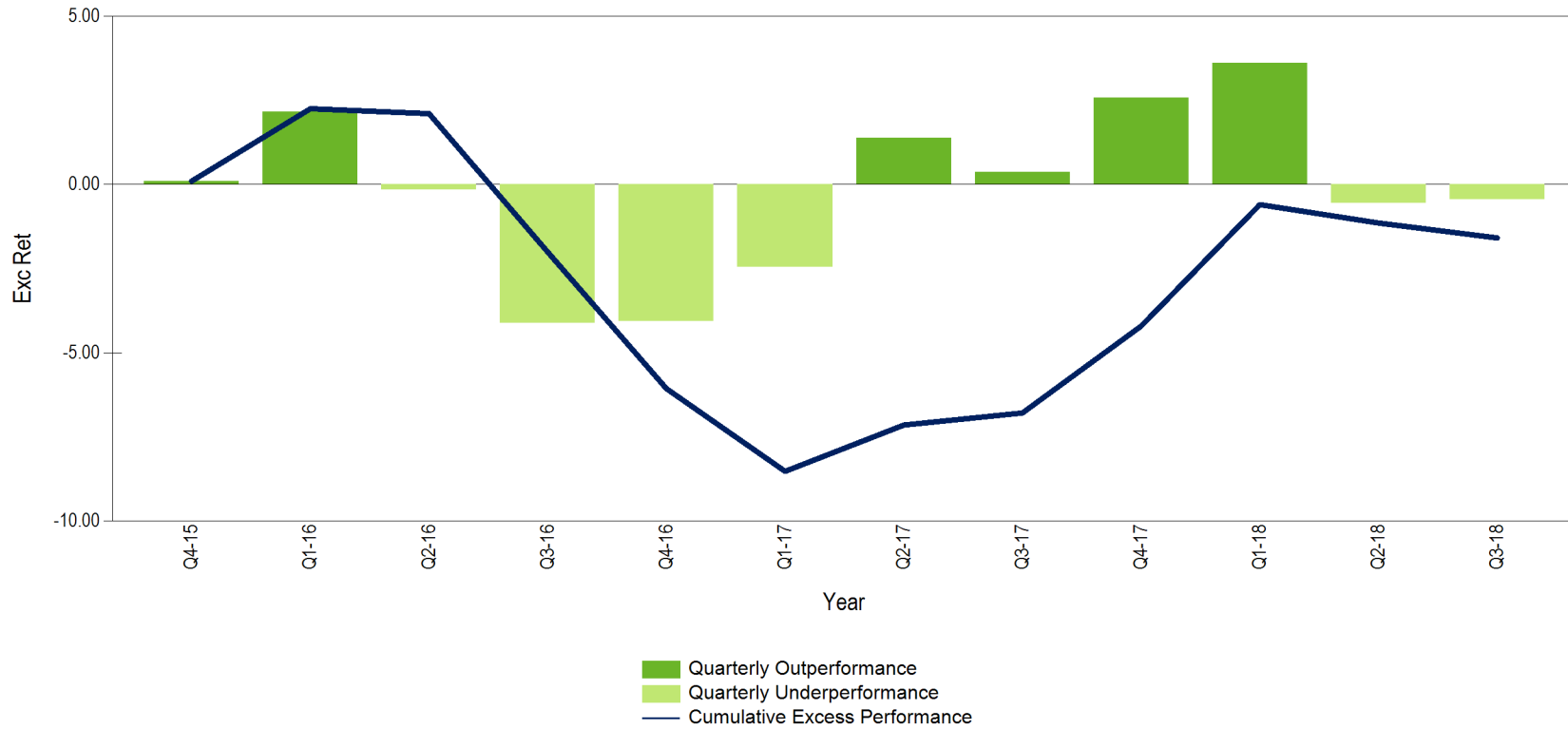


- Barrow Hanley
- ▲ MSCI EAFE Value
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



LAZARD ASSET MANAGEMENT

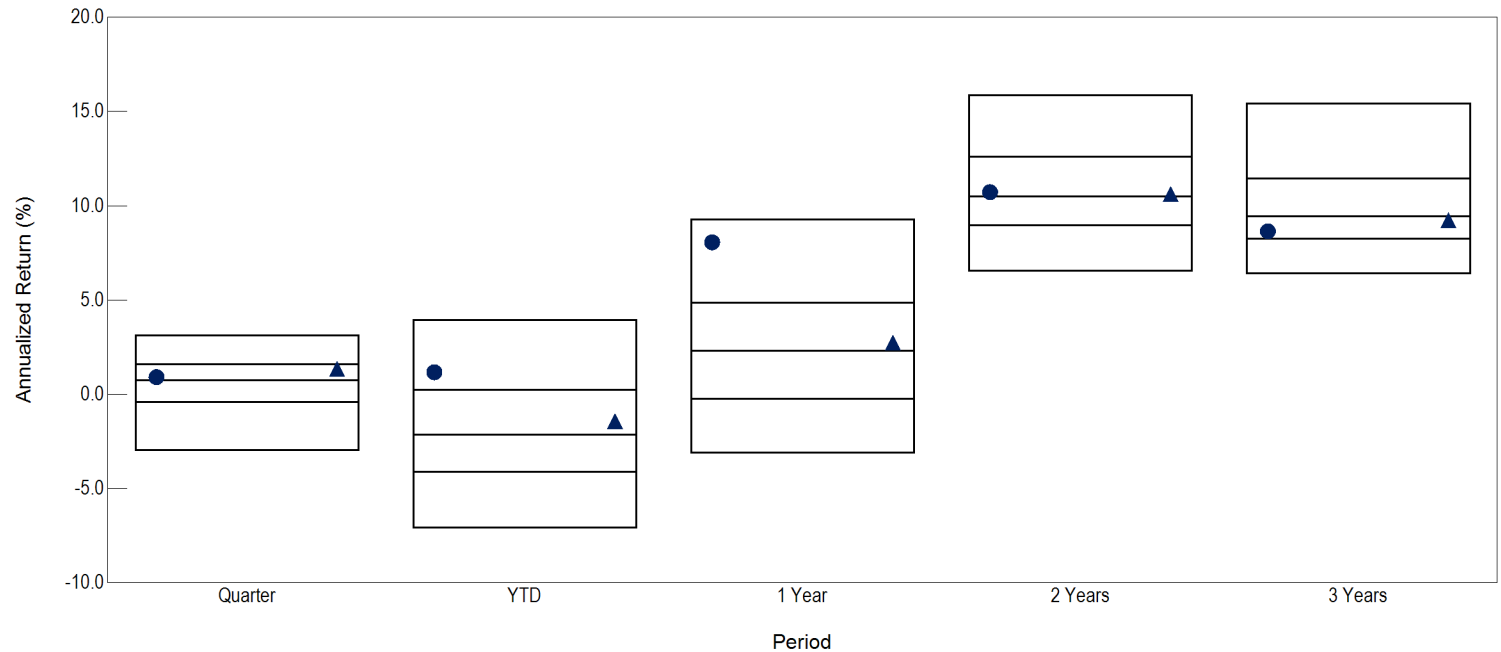
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

LAZARD ASSET MANAGEMENT

Lazard Asset Management vs. eV All EAFE Equity Net

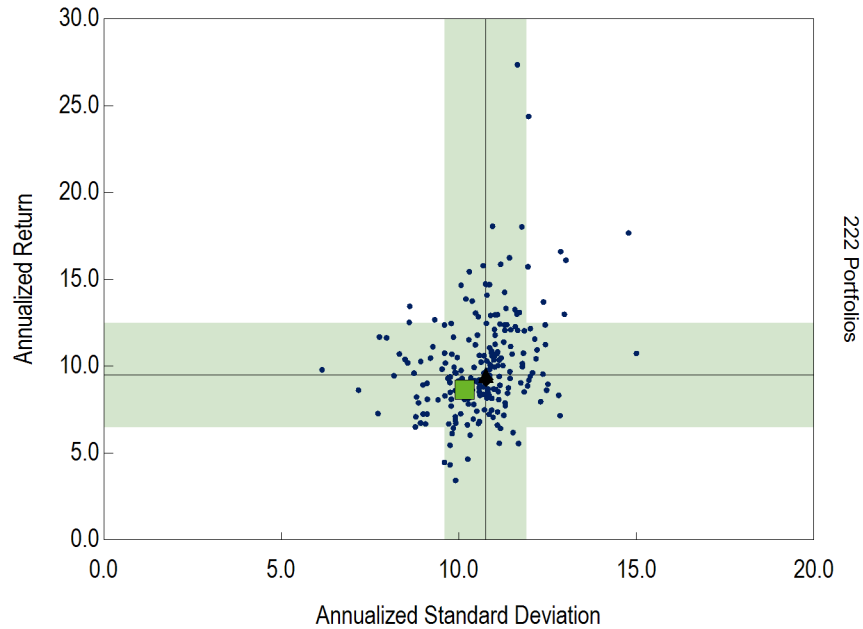


	Return (Rank)									
5th Percentile	3.13		3.95		9.27		15.87		15.41	
25th Percentile	1.64		0.29		4.90		12.65		11.49	
Median	0.77		-2.11		2.36		10.54		9.49	
75th Percentile	-0.38		-4.06		-0.21		9.01		8.28	
95th Percentile	-2.91		-7.05		-3.04		6.59		6.44	
# of Portfolios	234		234		234		232		222	
● Lazard Asset Management	0.91	(46)	1.17	(19)	8.06	(10)	10.72	(48)	8.65	(67)
▲ MSCI EAFE	1.35	(34)	-1.43	(43)	2.74	(46)	10.62	(49)	9.23	(55)

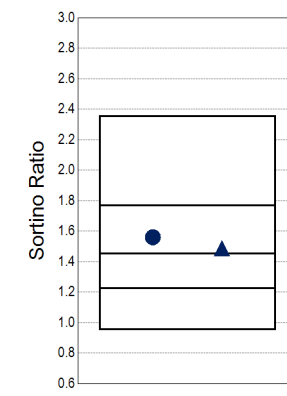
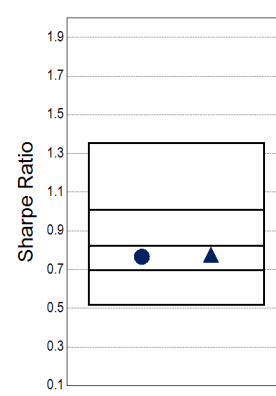
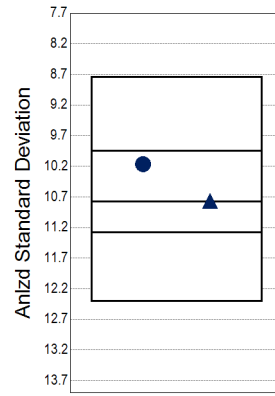
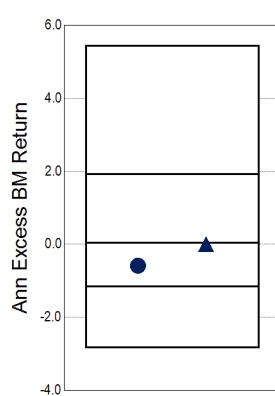
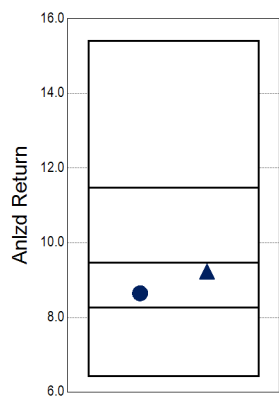
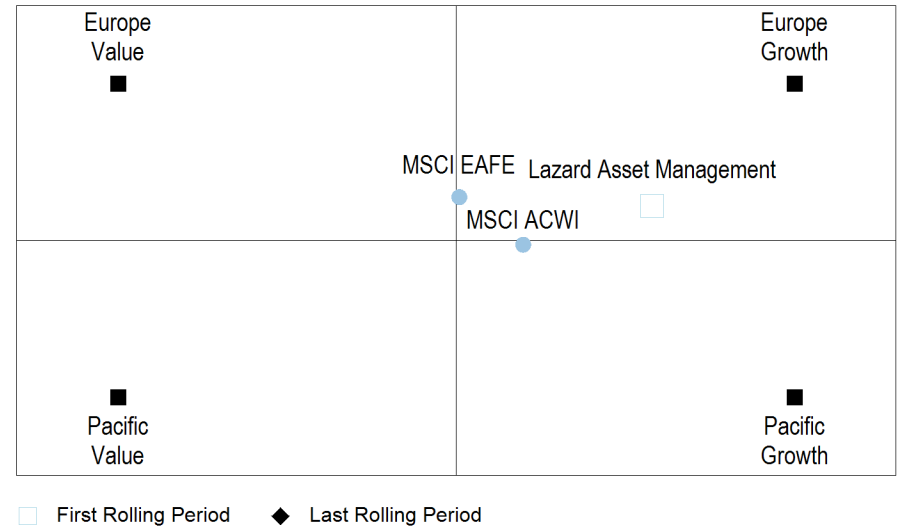


LAZARD ASSET MANAGEMENT

3 Year Risk Return



3 Year Style Map

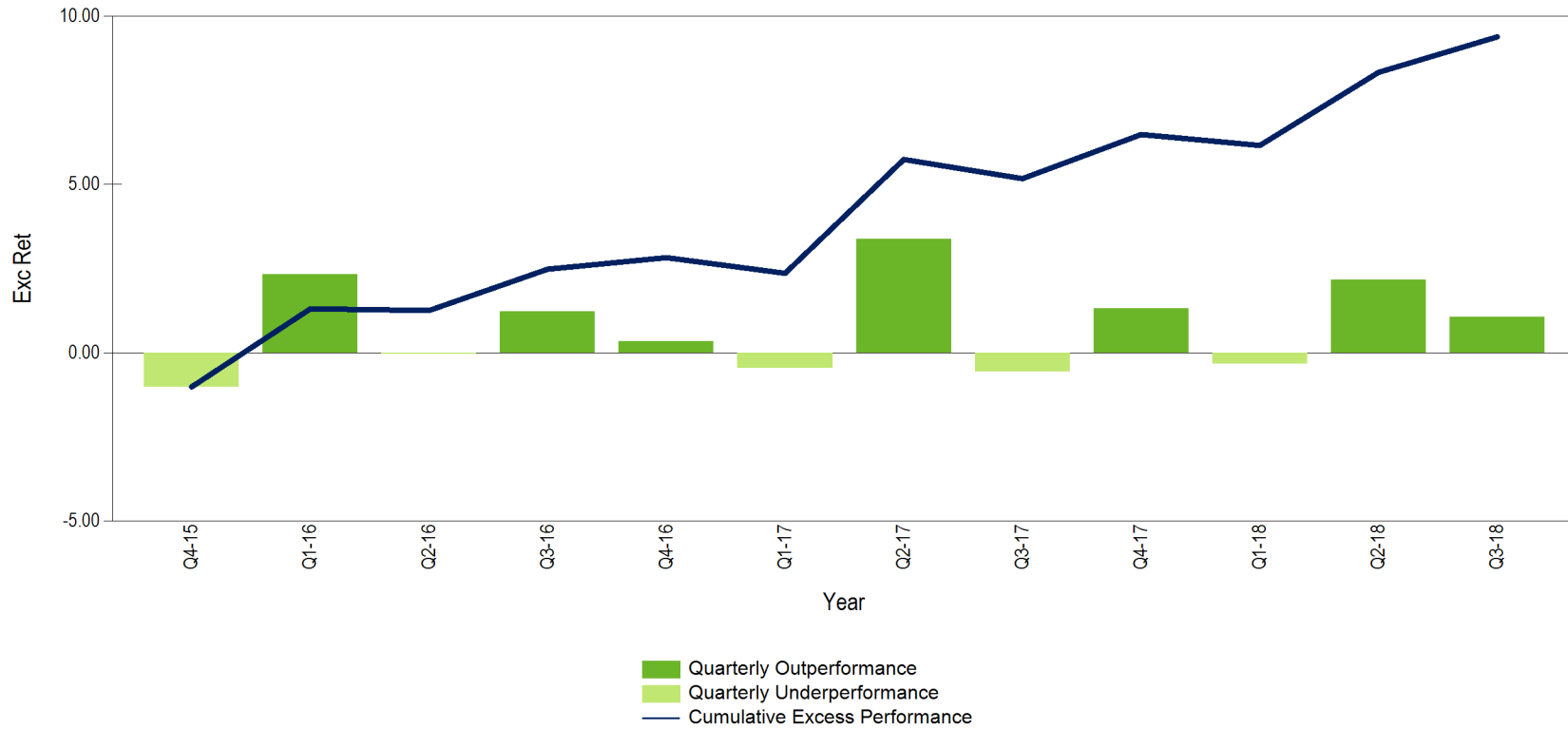


- Lazard Asset Management
- ▲ MSCI EAFE
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



MFS INSTITUTIONAL ADVISORS

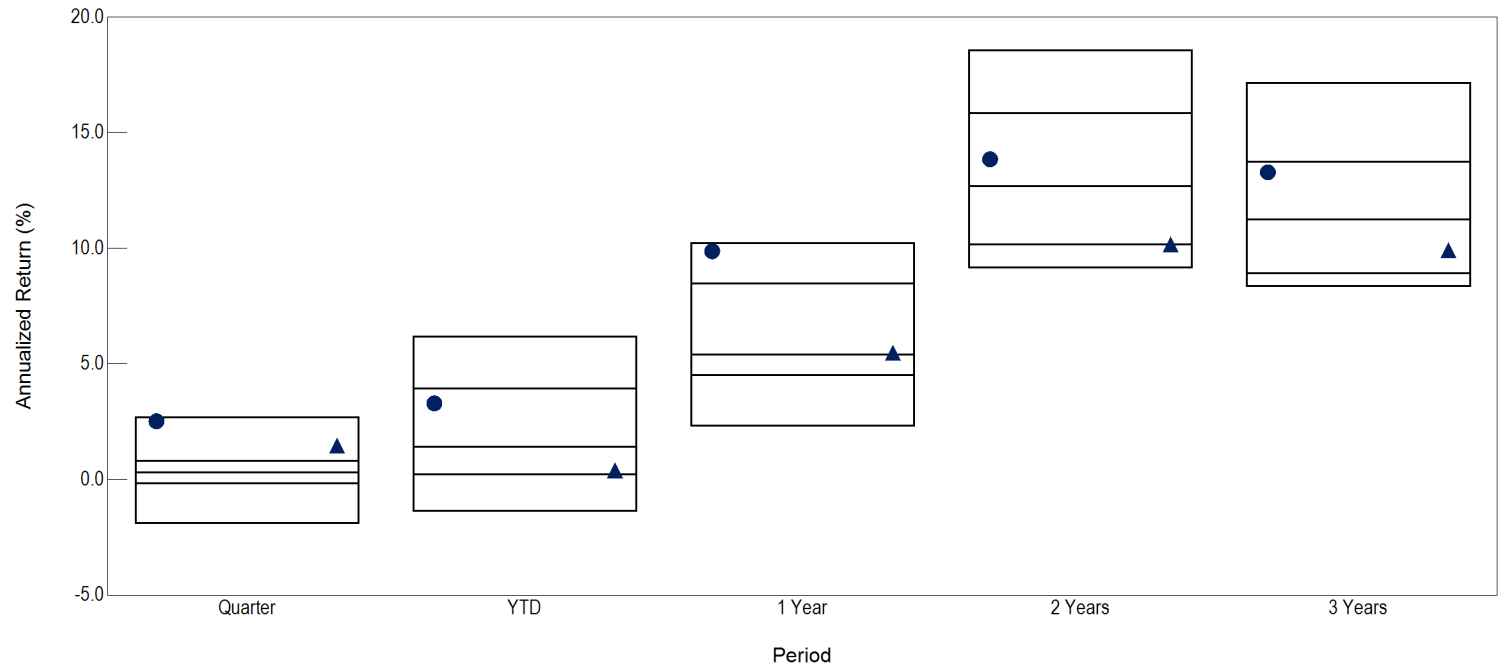
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

MFS INSTITUTIONAL ADVISORS

MFS Institutional Advisors vs. eV EAFE All Cap Growth Net

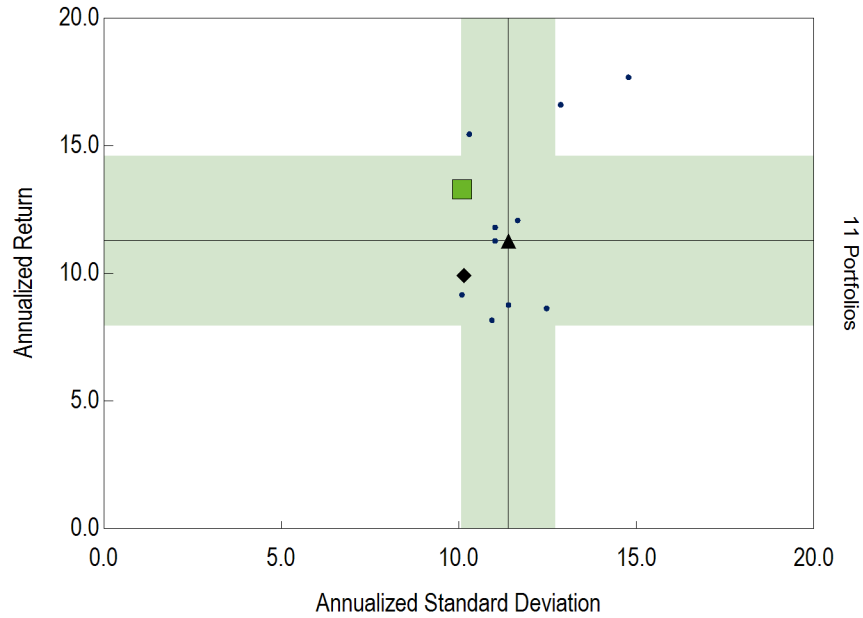


	Return (Rank)									
5th Percentile	2.69		6.17		10.22		18.56		17.14	
25th Percentile	0.84		3.95		8.51		15.87		13.75	
Median	0.35		1.45		5.41		12.70		11.26	
75th Percentile	-0.15		0.25		4.55		10.19		8.95	
95th Percentile	-1.85		-1.34		2.36		9.19		8.39	
# of Portfolios	12		12		12		12		11	
● MFS Institutional Advisors	2.51	(10)	3.29	(36)	9.86	(8)	13.84	(44)	13.28	(27)
▲ MSCI World ex USA Growth NR USD	1.46	(15)	0.39	(74)	5.47	(49)	10.15	(77)	9.91	(67)

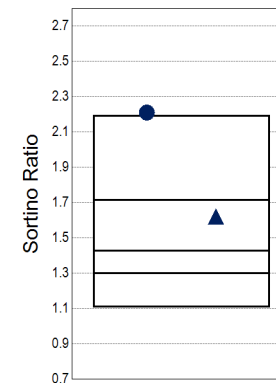
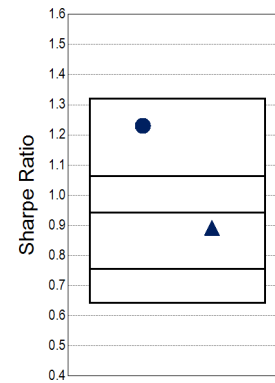
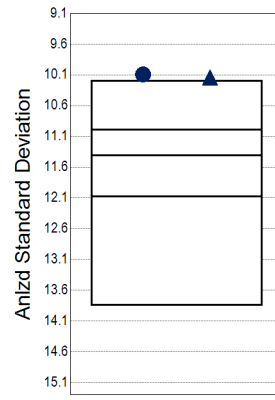
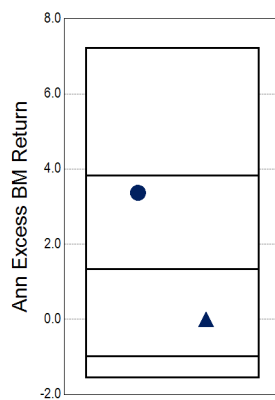
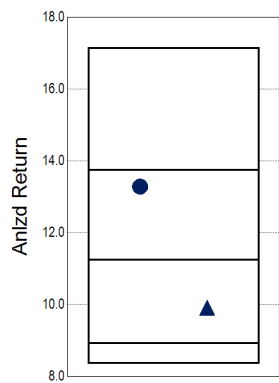
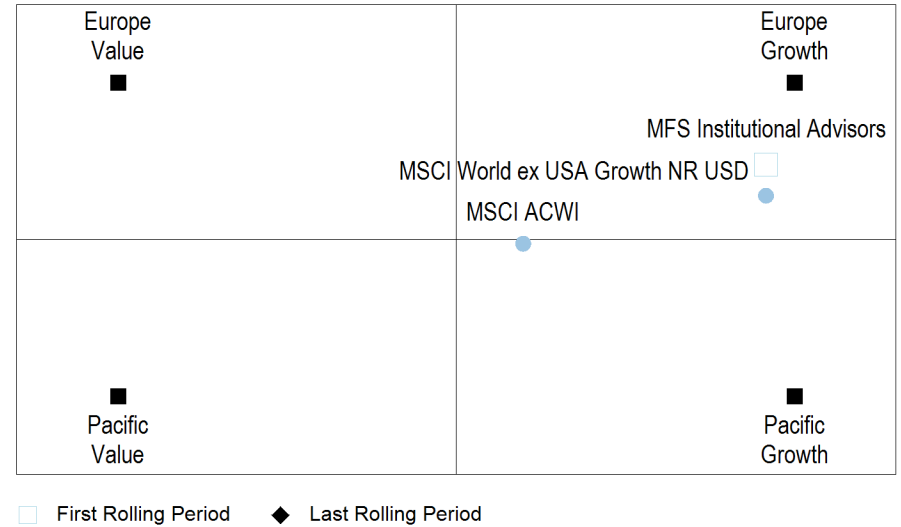


MFS INSTITUTIONAL ADVISORS

3 Year Risk Return



3 Year Style Map



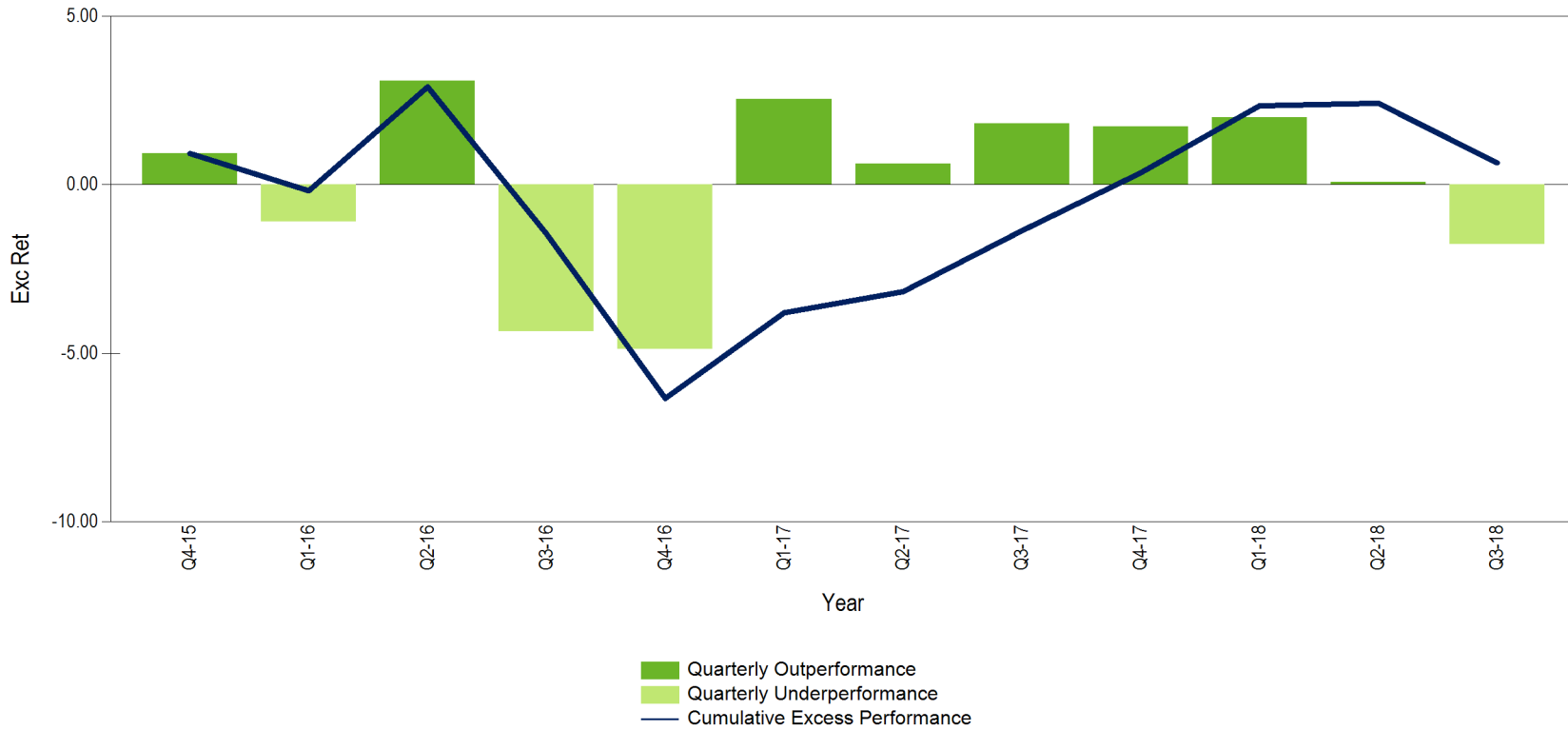
- MFS Institutional Advisors
- ▲ MSCI World ex USA Growth NR USD
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

OBERWEIS ASSET MGMT

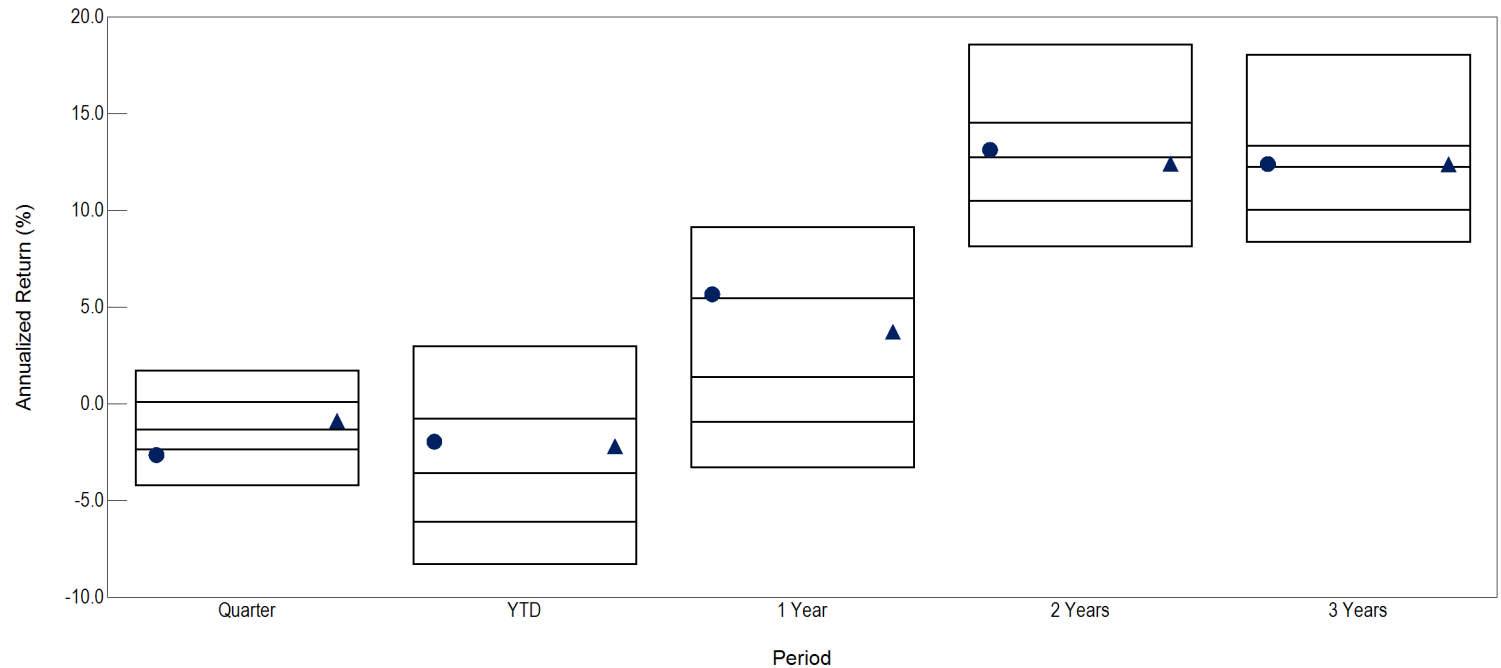
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

OBERWEIS ASSET MGMT

Oberweis Asset Mgmt vs. eV EAFE Small Cap Equity Net



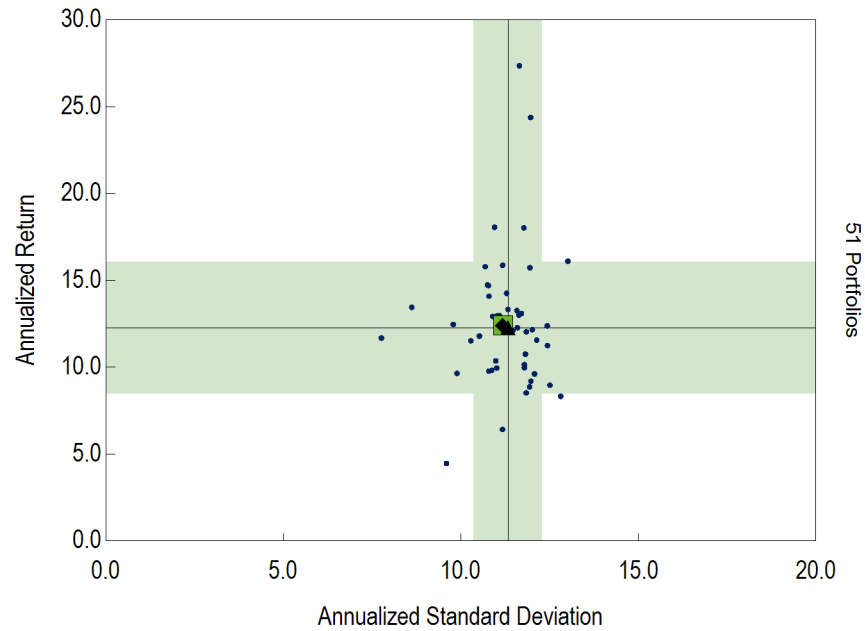
	Return (Rank)									
5th Percentile	1.72		2.98		9.14		18.59		18.05	
25th Percentile	0.13		-0.73		5.51		14.56		13.39	
Median	-1.30		-3.56		1.41		12.77		12.28	
75th Percentile	-2.32		-6.07		-0.88		10.54		10.06	
95th Percentile	-4.17		-8.24		-3.25		8.19		8.43	
# of Portfolios	54		54		54		54		51	
● Oberweis Asset Mgmt	-2.65	(78)	-1.95	(30)	5.67	(24)	13.13	(43)	12.40	(42)
▲ MSCI EAFE Small Cap	-0.88	(48)	-2.19	(33)	3.73	(39)	12.42	(59)	12.39	(45)



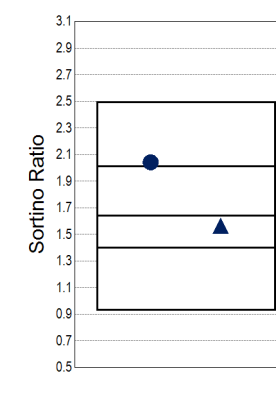
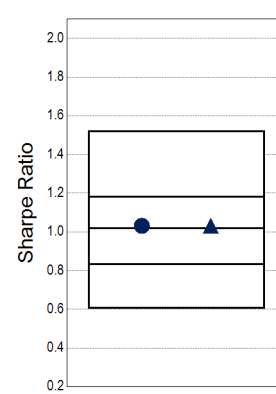
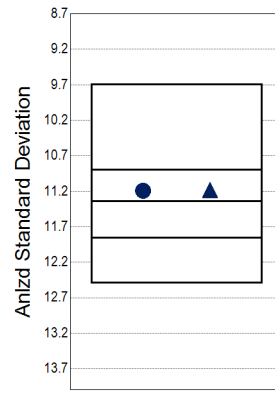
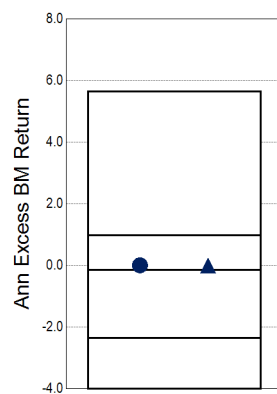
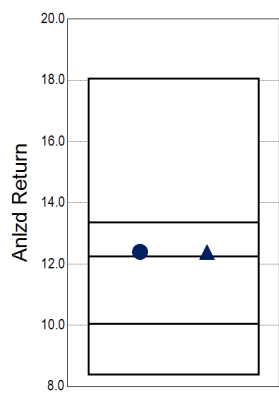
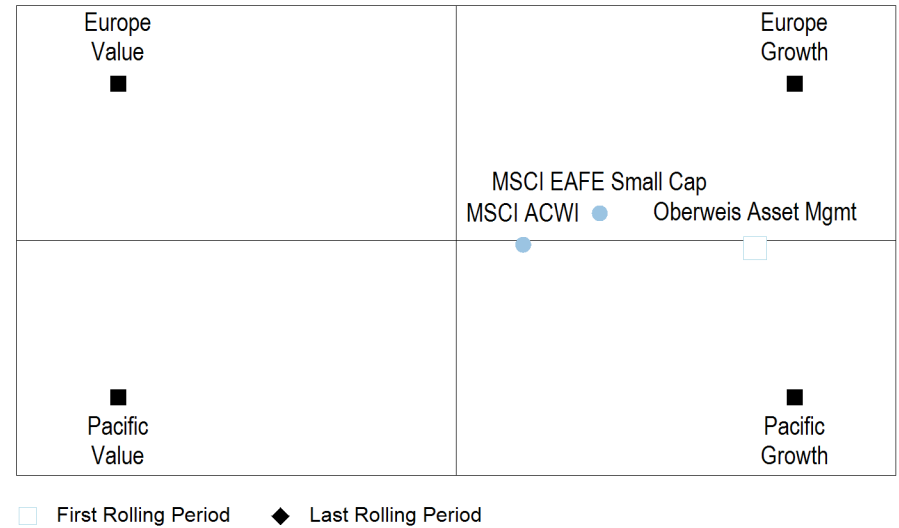
Los Angeles City Employees' Retirement System

OBERWEIS ASSET MGMT

3 Year Risk Return



3 Year Style Map



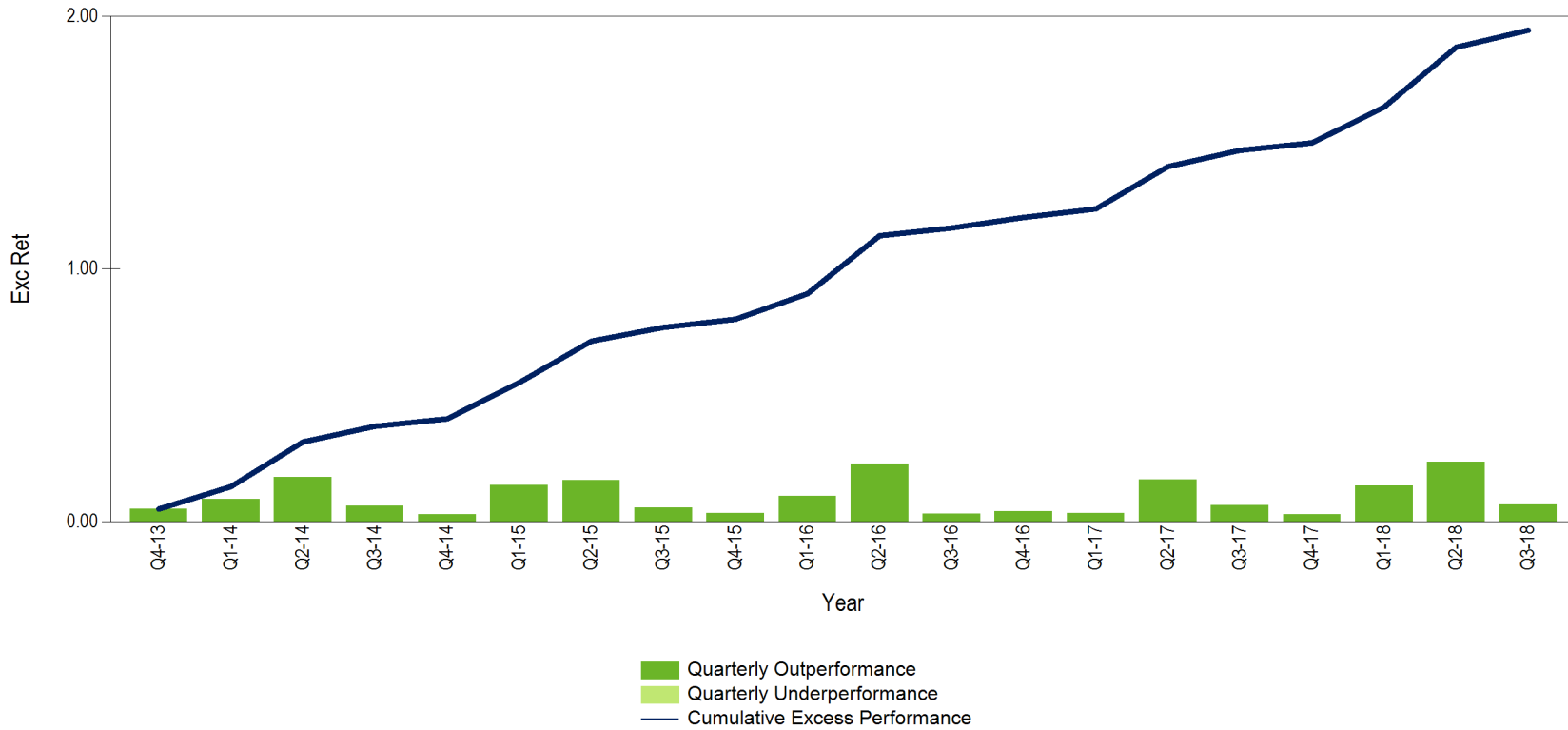
- Oberweis Asset Mgmt
- ▲ MSCI EAFE Small Cap
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

SSGA WORLD EX US IMI

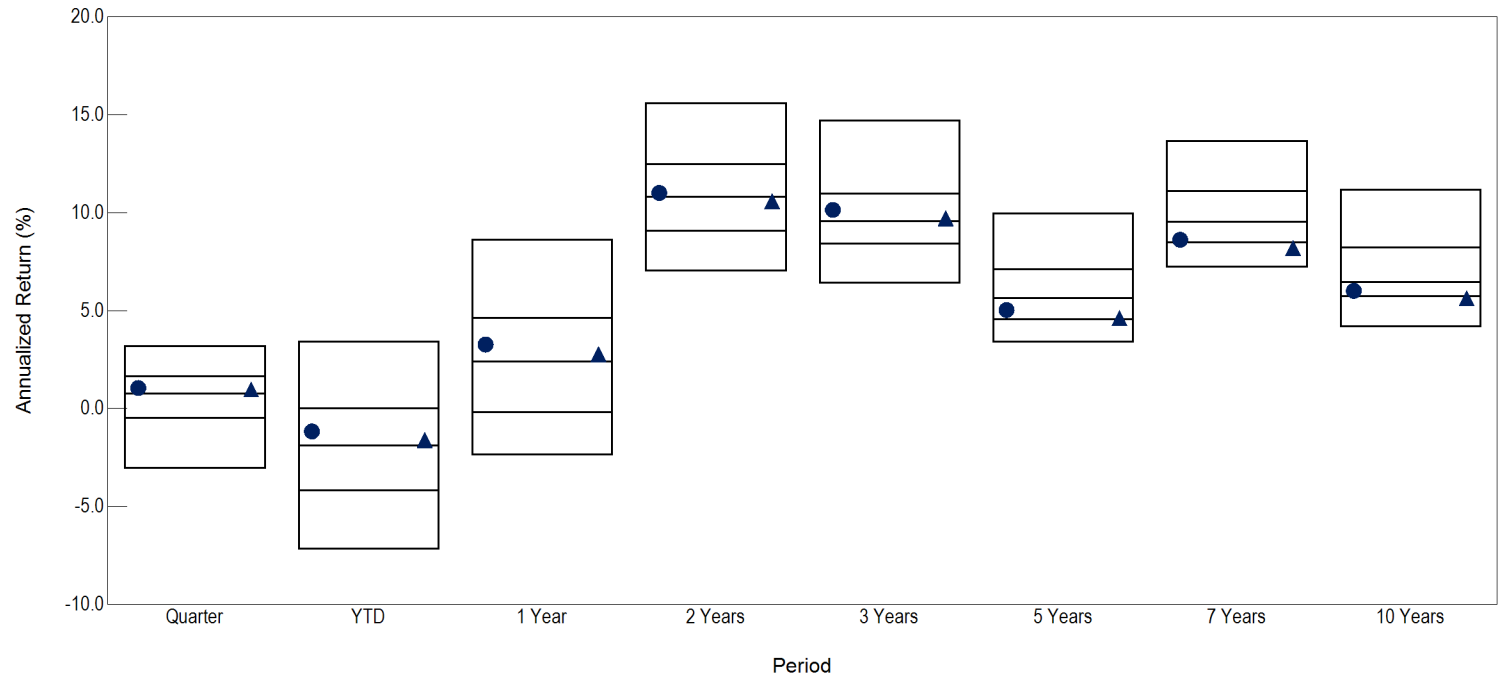
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

SSGA WORLD EX US IMI

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



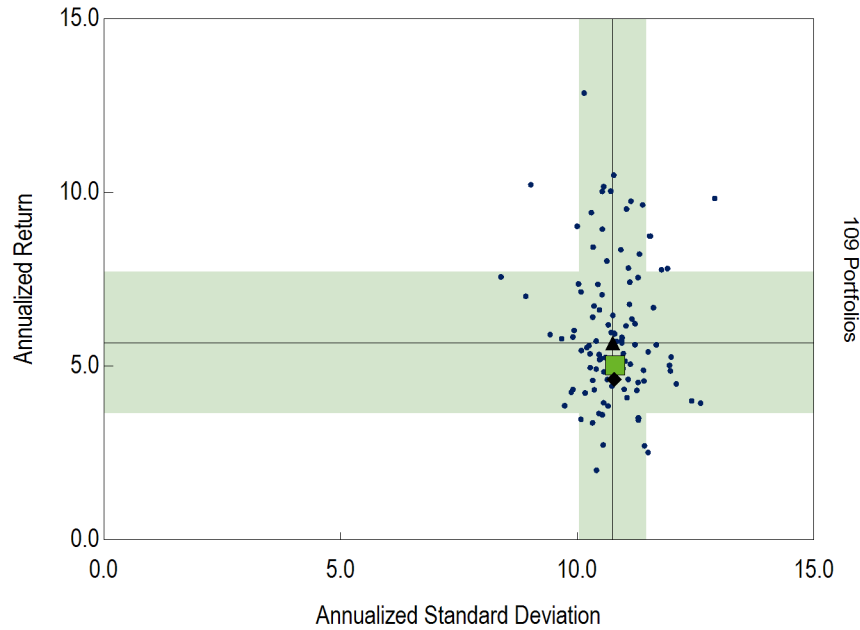
	Return (Rank)															
5th Percentile	3.18	3.41	8.63	15.59	14.70	9.95	13.67	11.17								
25th Percentile	1.68	0.03	4.65	12.52	11.01	7.14	11.15	8.27								
Median	0.78	-1.85	2.44	10.83	9.61	5.67	9.56	6.50								
75th Percentile	-0.44	-4.13	-0.16	9.11	8.44	4.59	8.52	5.78								
95th Percentile	-2.99	-7.12	-2.32	7.09	6.47	3.46	7.29	4.24								
# of Portfolios	138	138	138	137	131	109	95	80								
● SSGA World ex US IMI	1.05	(43)	-1.17	(40)	3.27	(41)	11.01	(48)	10.14	(41)	5.03	(66)	8.62	(74)	6.01	(68)
▲ MSCI World ex USA IMI NR USD	0.98	(45)	-1.62	(46)	2.78	(46)	10.58	(52)	9.72	(49)	4.62	(74)	8.20	(81)	5.64	(78)



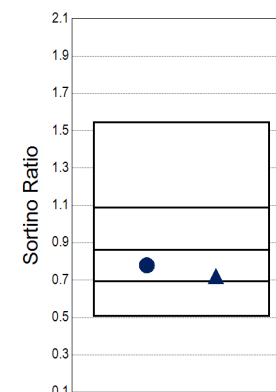
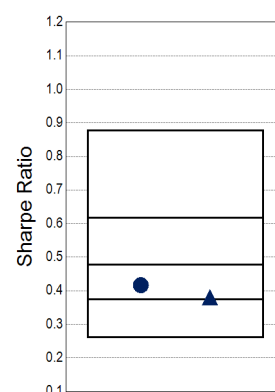
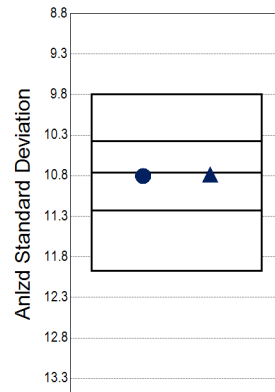
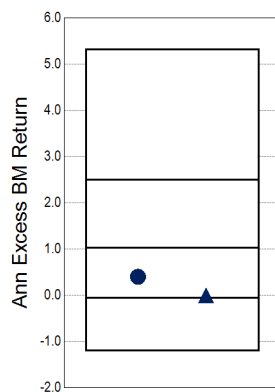
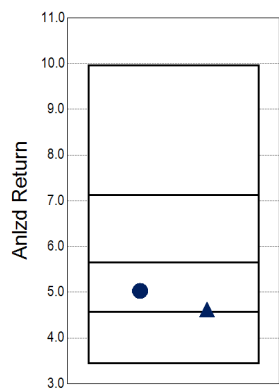
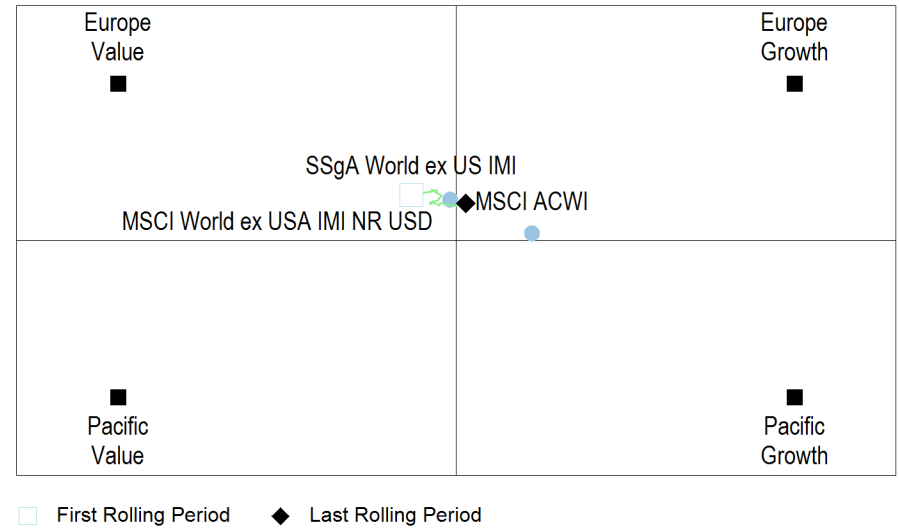
Los Angeles City Employees' Retirement System

SSGA WORLD EX US IMI

5 Year Risk Return



5 Year Style Map

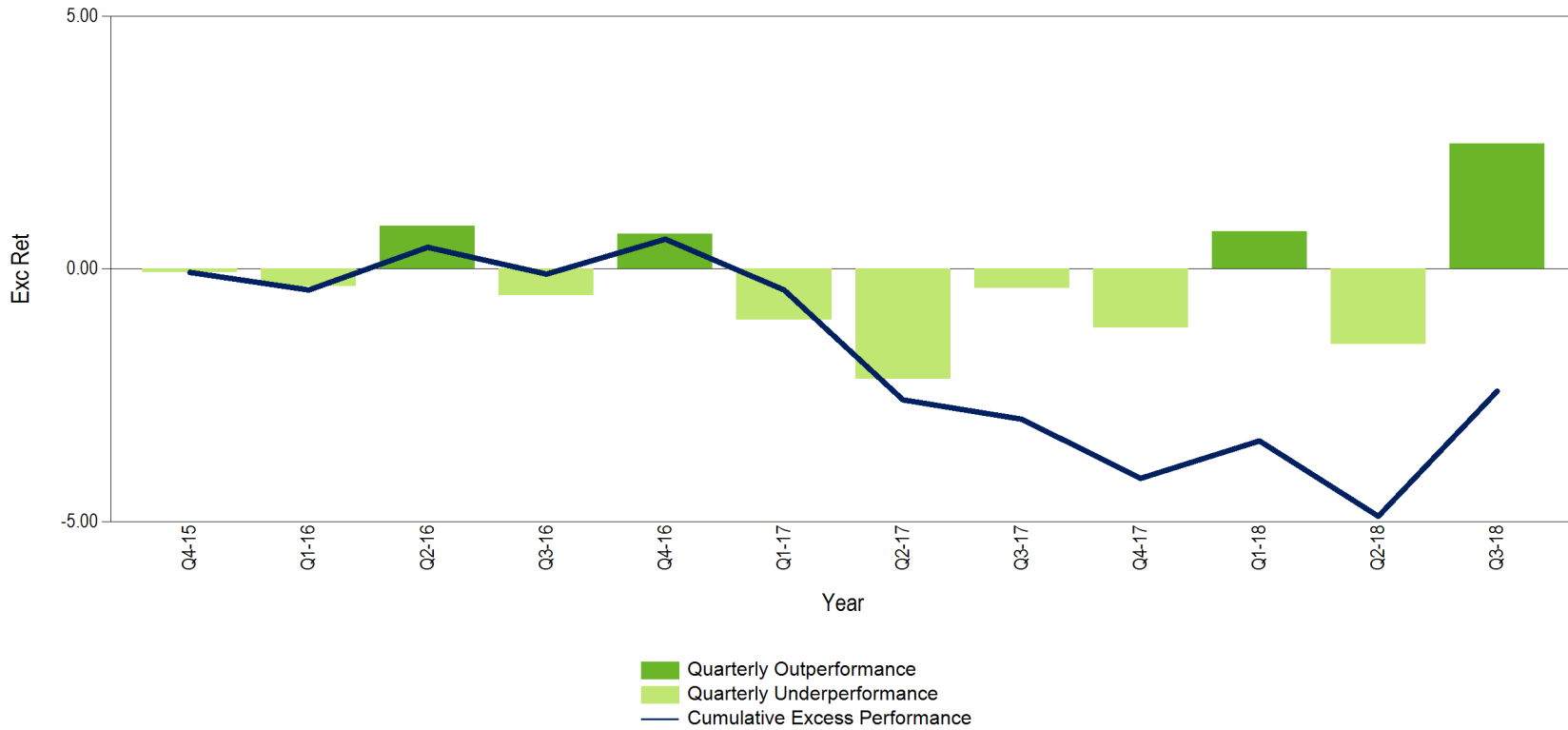


- SSGA World ex US IMI
- ▲ MSCI World ex USA IMI NR USD
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



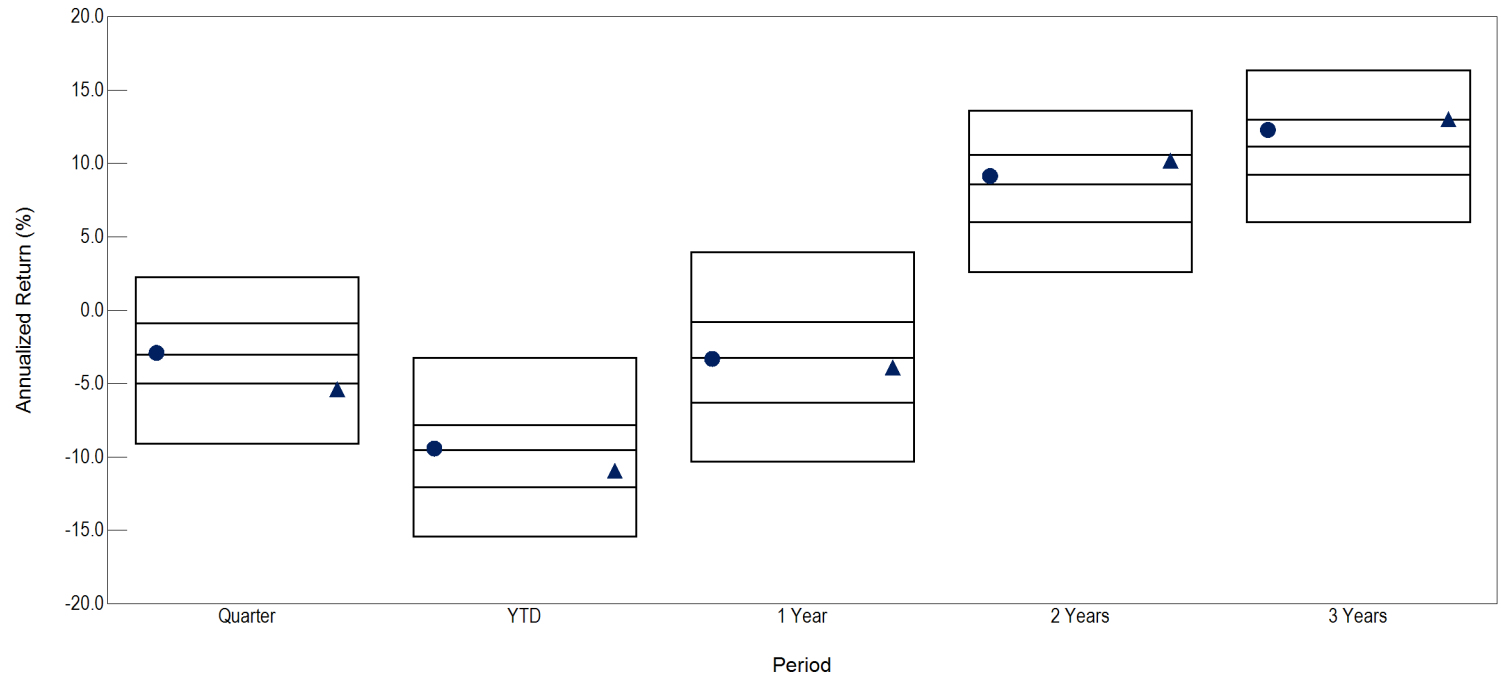
AXIOM EMERGING MARKETS

Quarterly and Cumulative Excess Performance



AXIOM EMERGING MARKETS

Axiom Emerging Markets vs. eV Emg Mkts Equity Net

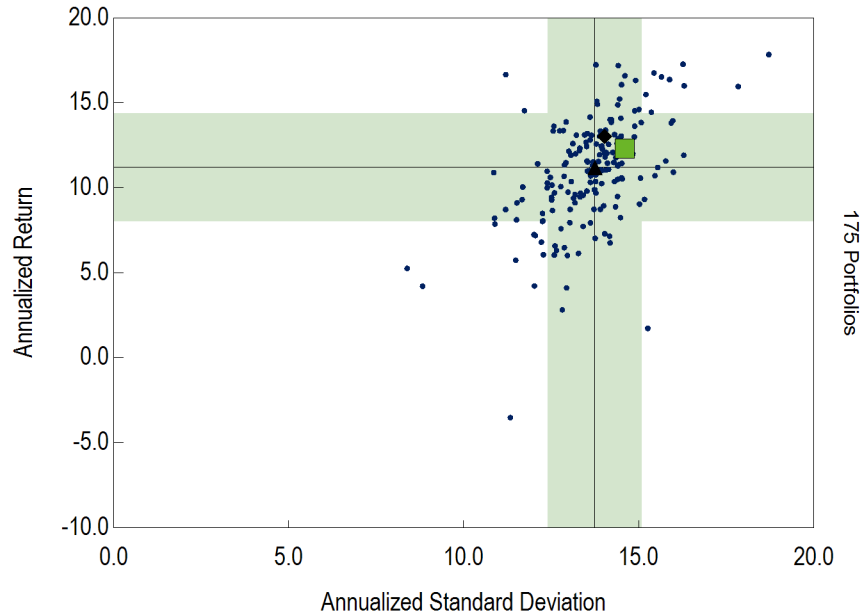


	Return (Rank)									
5th Percentile	2.25		-3.26		3.93		13.62		16.33	
25th Percentile	-0.85		-7.80		-0.78		10.64		13.04	
Median	-3.00		-9.50		-3.20		8.62		11.19	
75th Percentile	-4.95		-12.02		-6.25		6.03		9.29	
95th Percentile	-9.05		-15.39		-10.29		2.63		6.03	
# of Portfolios	193		190		189		184		175	
● Axiom Emerging Markets	-2.91	(50)	-9.42	(49)	-3.31	(51)	9.15	(45)	12.29	(34)
▲ MSCI Emerging Markets Growth NR USD	-5.38	(83)	-10.94	(68)	-3.89	(56)	10.19	(32)	13.03	(26)

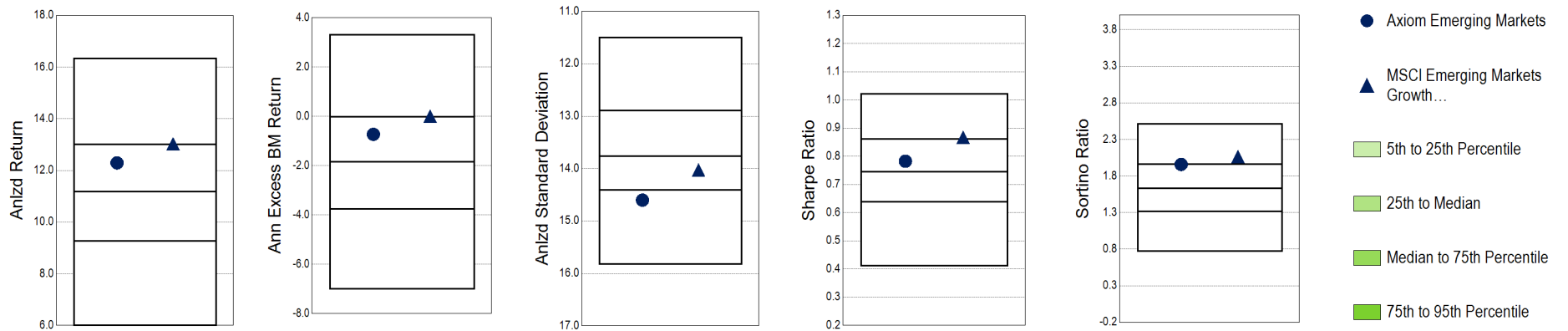
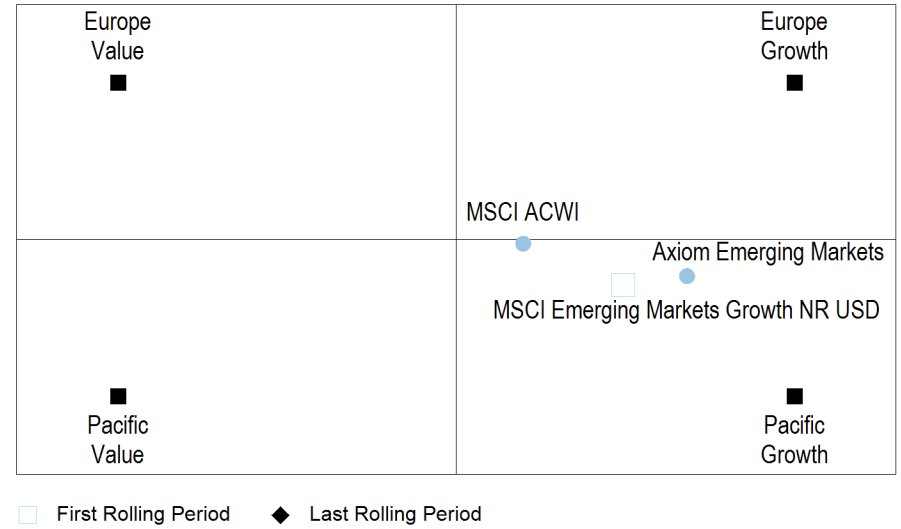


AXIOM EMERGING MARKETS

3 Year Risk Return



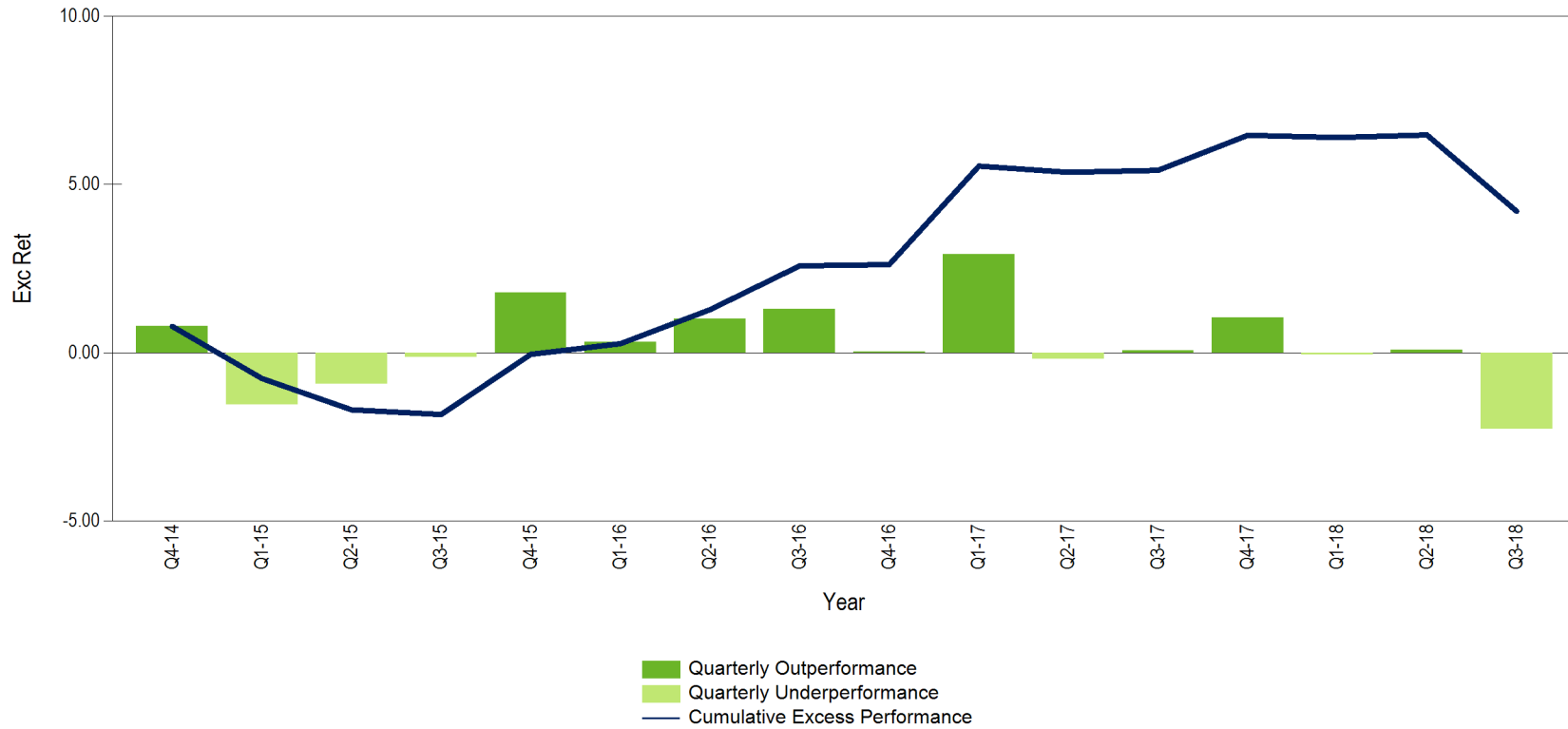
3 Year Style Map



Los Angeles City Employees' Retirement System

DFA EMERGING MARKETS

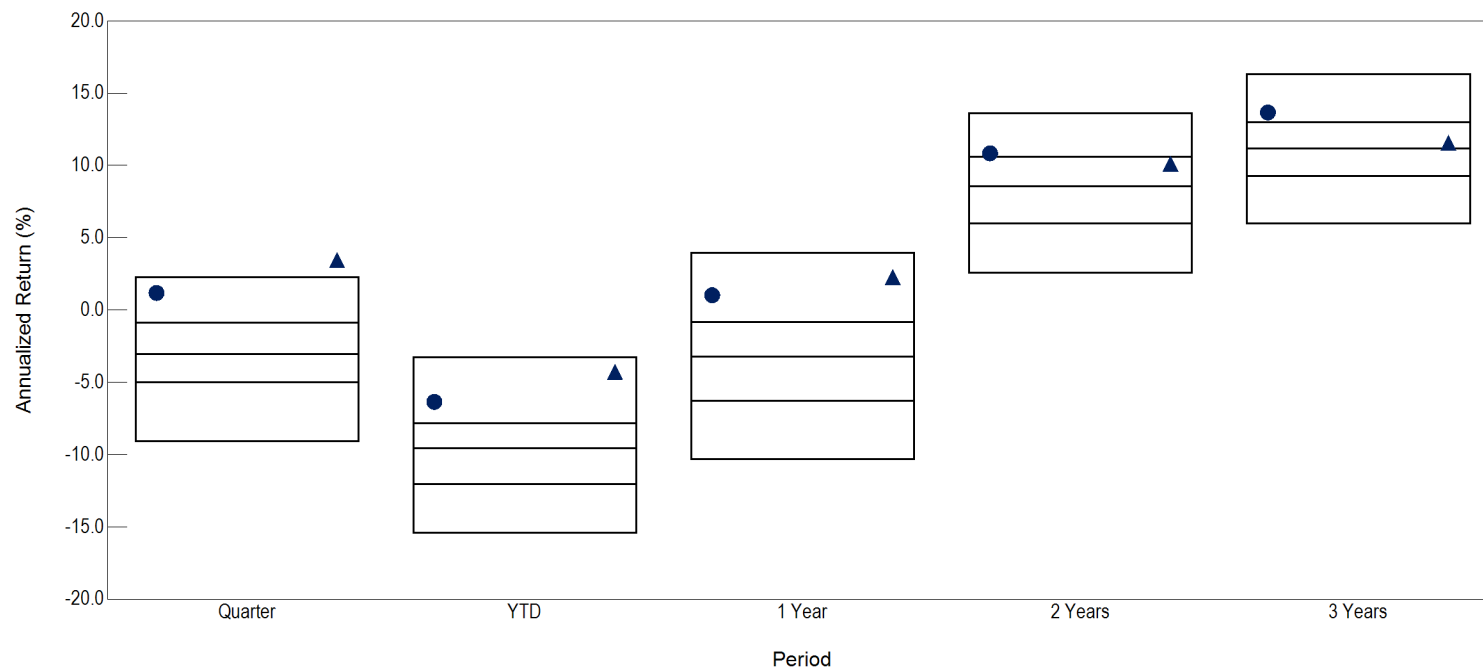
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

DFA EMERGING MARKETS

DFA Emerging Markets vs. eV Emg Mkts Equity Net



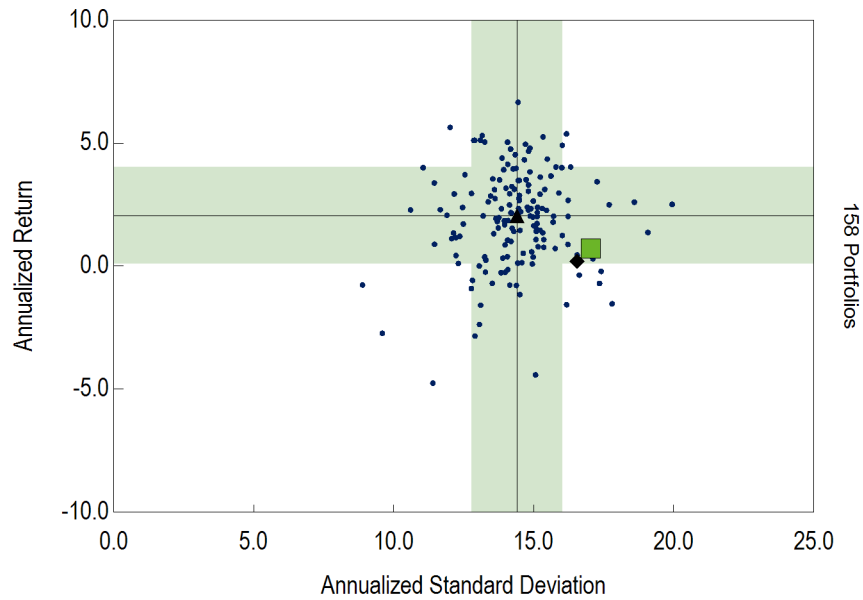
	Return (Rank)									
5th Percentile	2.25	-3.26	3.93	13.62	16.33					
25th Percentile	-0.85	-7.80	-0.78	10.64	13.04					
Median	-3.00	-9.50	-3.20	8.62	11.19					
75th Percentile	-4.95	-12.02	-6.25	6.03	9.29					
95th Percentile	-9.05	-15.39	-10.29	2.63	6.03					
# of Portfolios	193	190	189	184	175					
● DFA Emerging Markets	1.17	(11)	-6.36	(17)	1.02	(11)	10.83	(21)	13.66	(18)
▲ MSCI Emerging Markets Value NR USD	3.44	(2)	-4.28	(8)	2.27	(8)	10.11	(32)	11.55	(43)



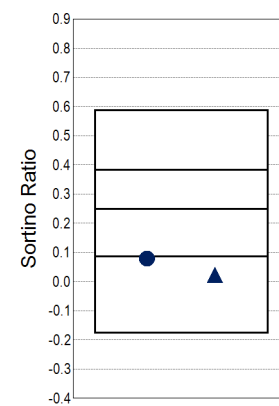
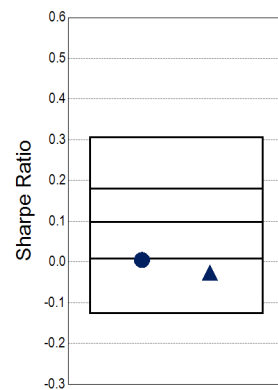
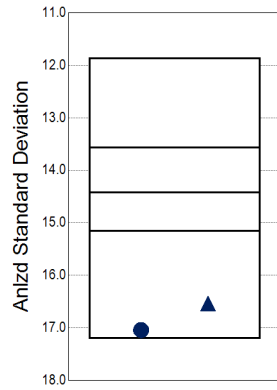
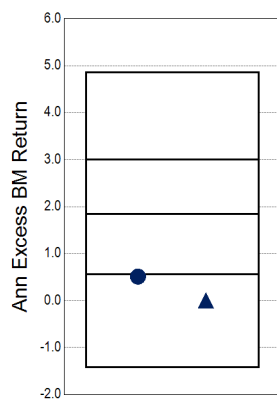
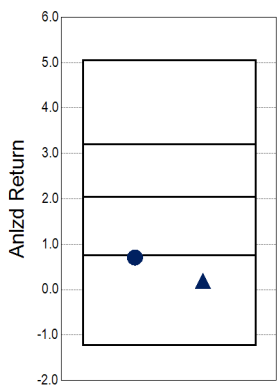
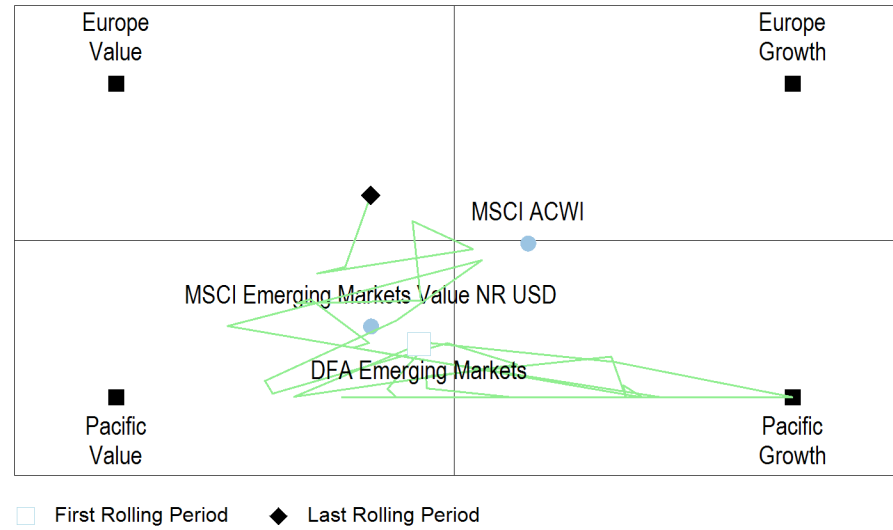
Los Angeles City Employees' Retirement System

DFA EMERGING MARKETS

Since Inception Risk Return



Since Inception Style Map



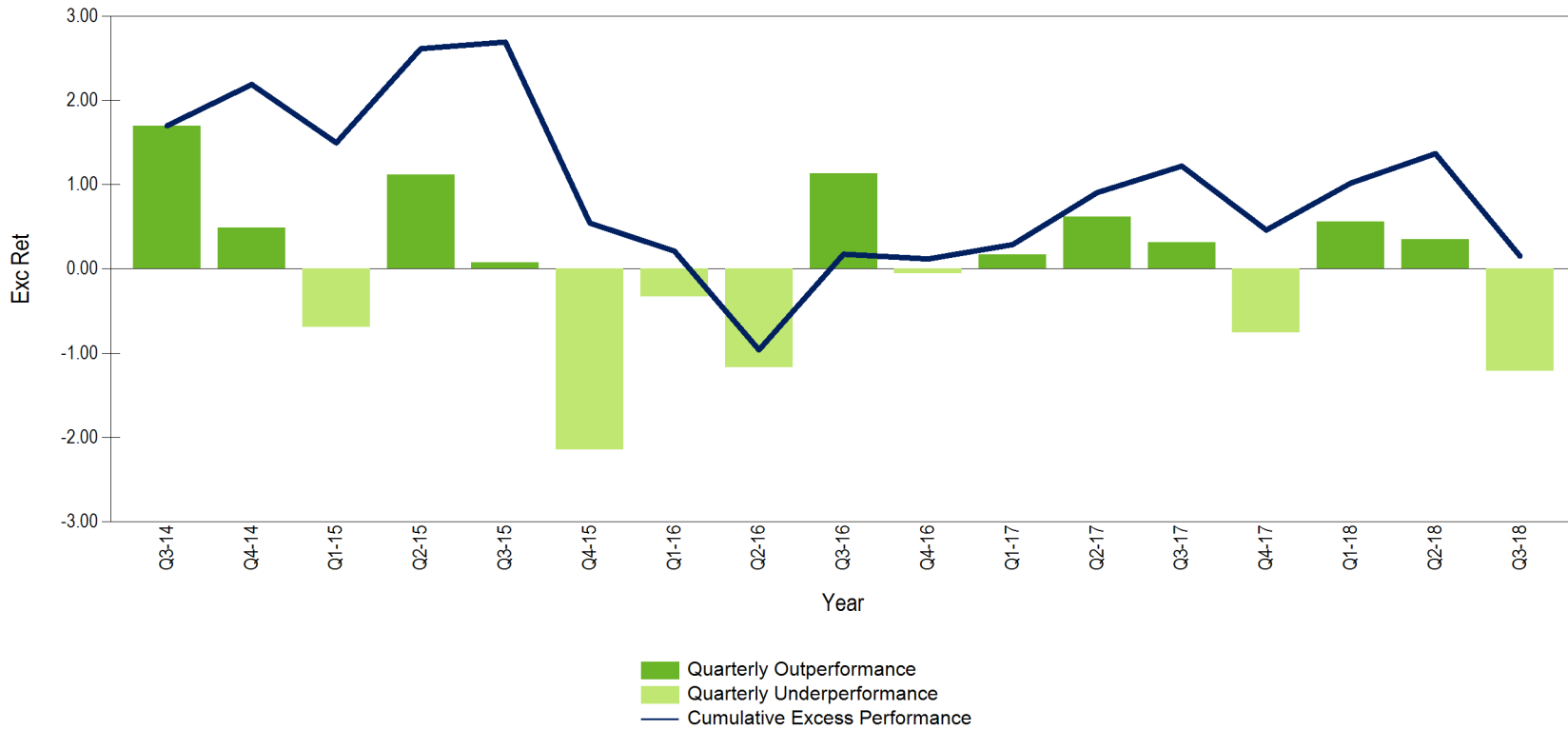
- DFA Emerging Markets
- ▲ MSCI Emerging Markets Value NR USD
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

QMA EMERGING MARKETS

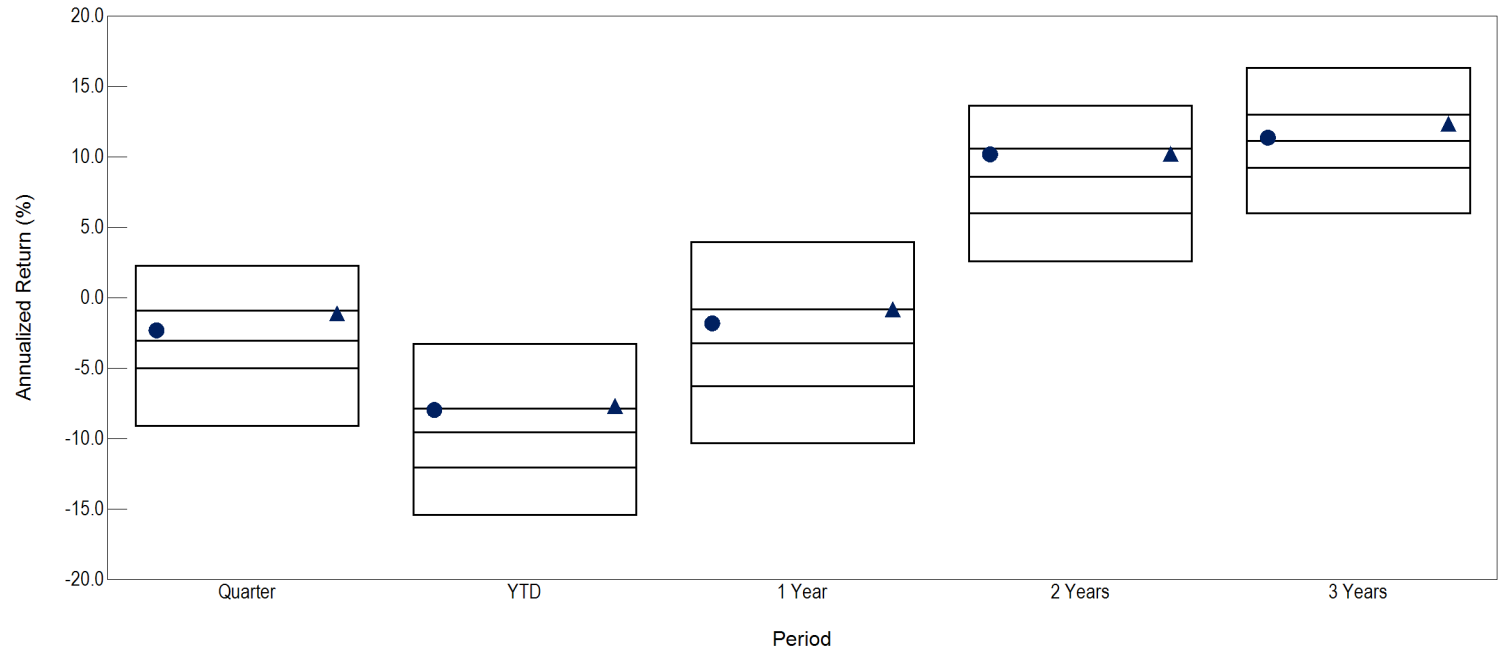
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

QMA EMERGING MARKETS

QMA Emerging Markets vs. eV Emg Mkts Equity Net



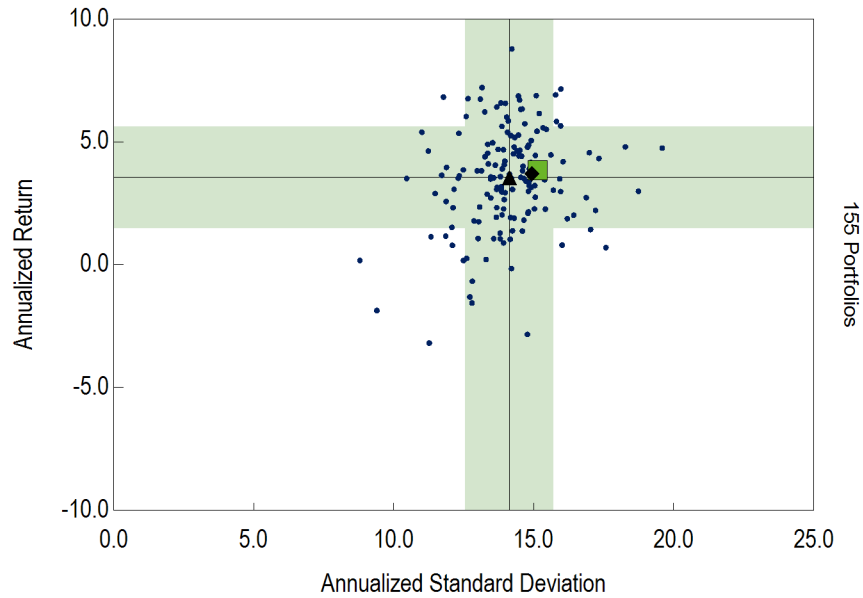
	Return (Rank)									
5th Percentile	2.25		-3.26		3.93		13.62		16.33	
25th Percentile	-0.85		-7.80		-0.78		10.64		13.04	
Median	-3.00		-9.50		-3.20		8.62		11.19	
75th Percentile	-4.95		-12.02		-6.25		6.03		9.29	
95th Percentile	-9.05		-15.39		-10.29		2.63		6.03	
# of Portfolios	193		190		189		184		175	
● QMA Emerging Markets	-2.31	(42)	-7.96	(31)	-1.82	(32)	10.18	(32)	11.37	(48)
▲ MSCI Emerging Markets	-1.09	(29)	-7.68	(24)	-0.81	(26)	10.21	(32)	12.36	(33)



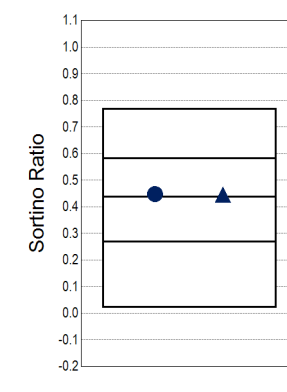
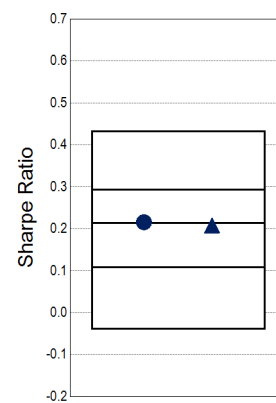
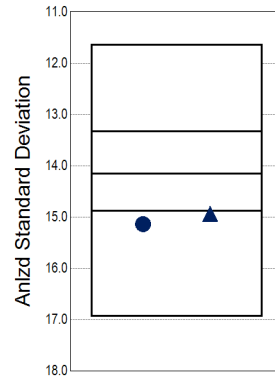
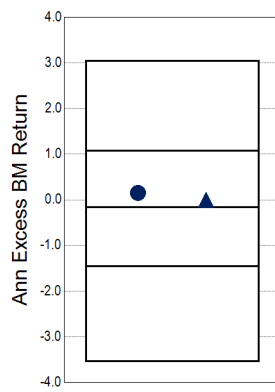
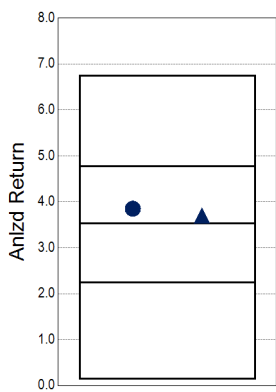
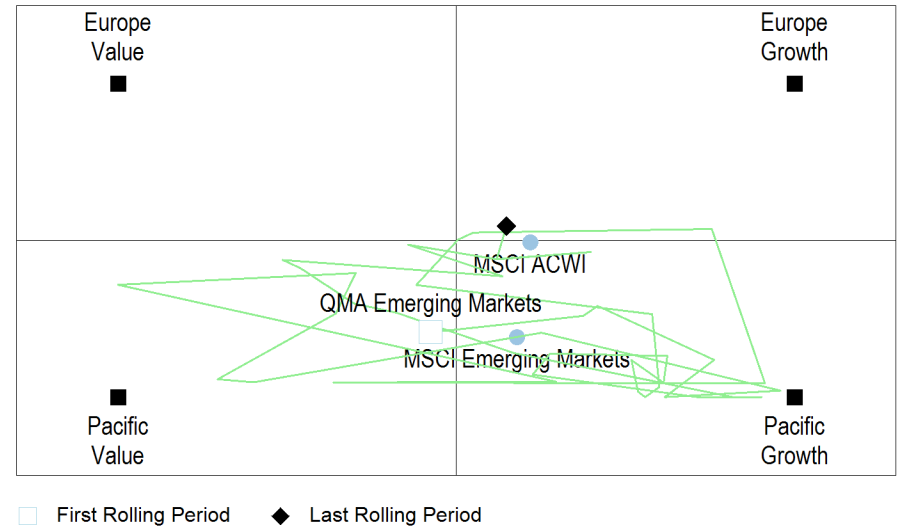
Los Angeles City Employees' Retirement System

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



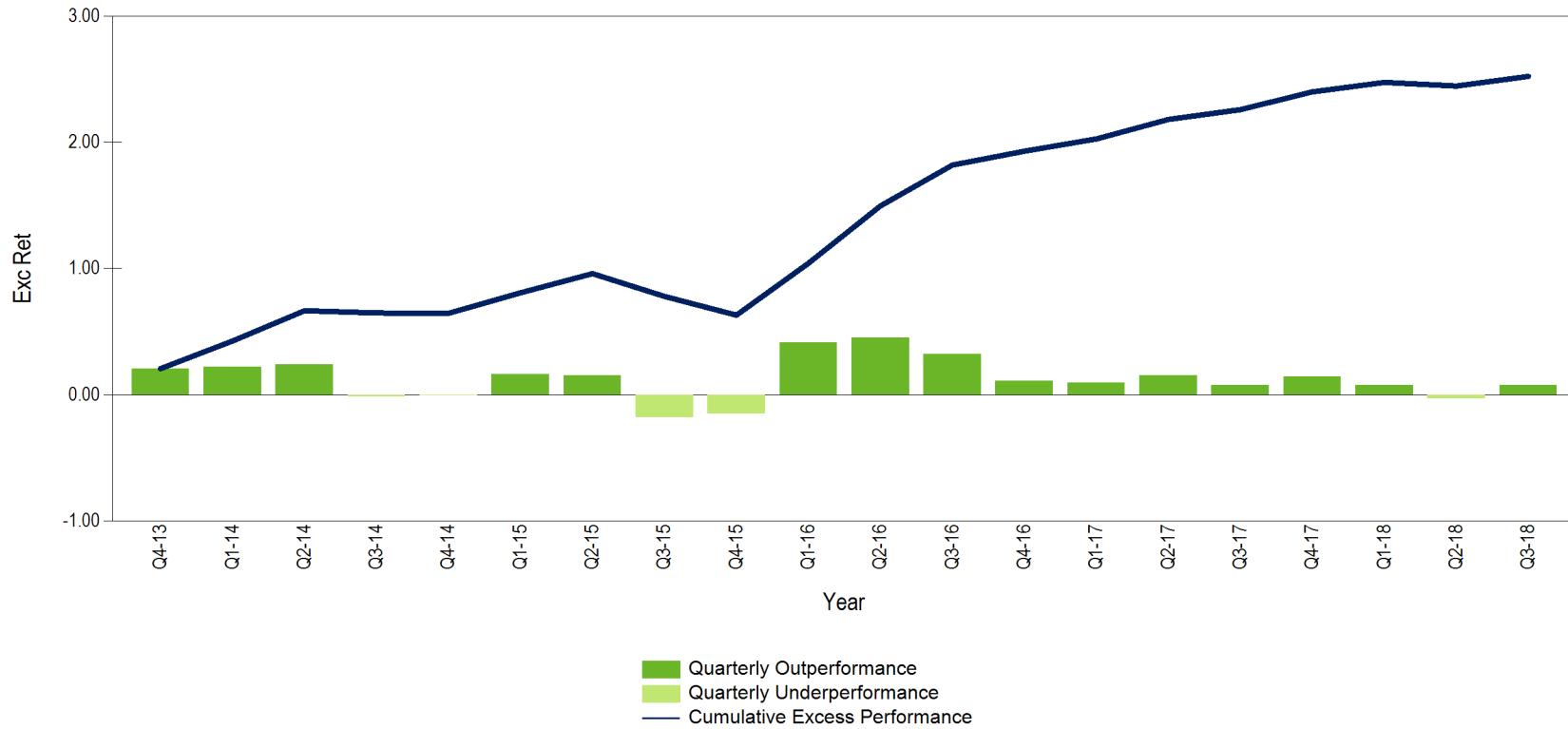
CORE FIXED INCOME MANAGER PERFORMANCE

NEPC, LLC

Los Angeles City Employees' Retirement System

BAIRD ADVISORS

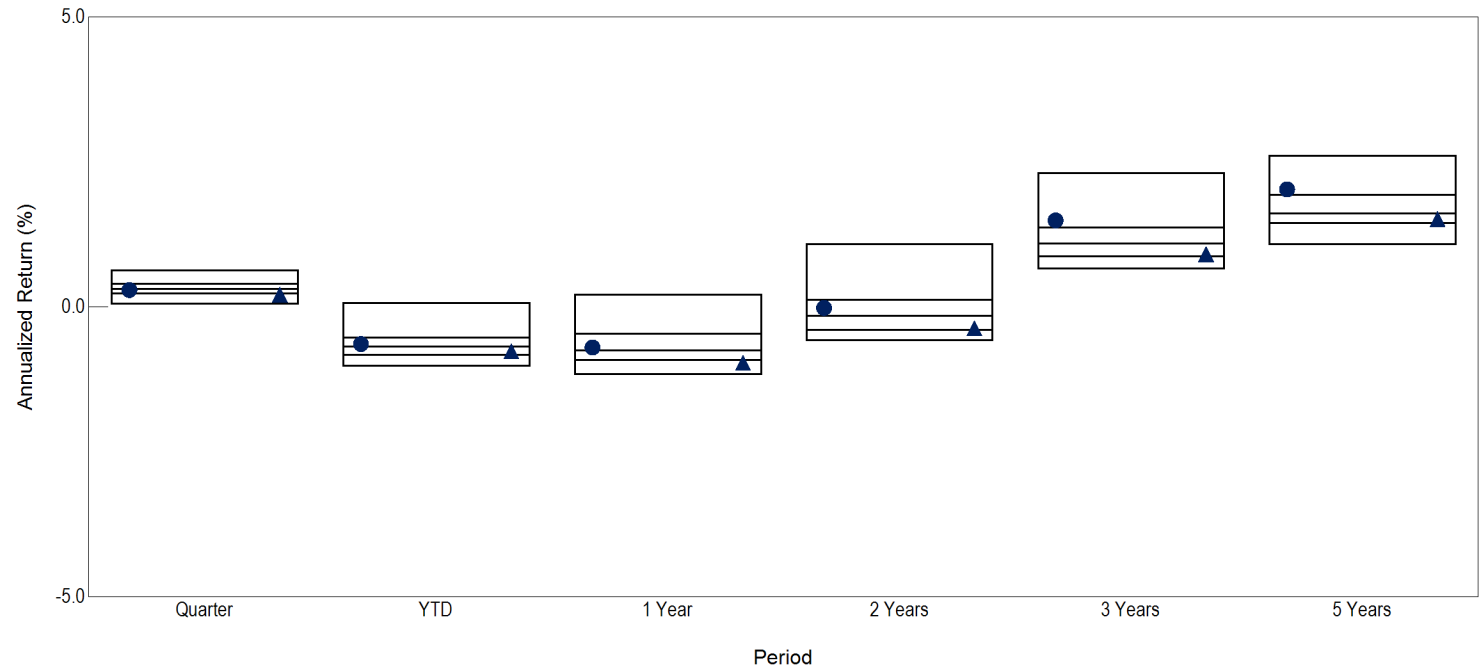
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

BAIRD ADVISORS

Baird Advisors vs. eV US Interm Duration Fixed Inc Net



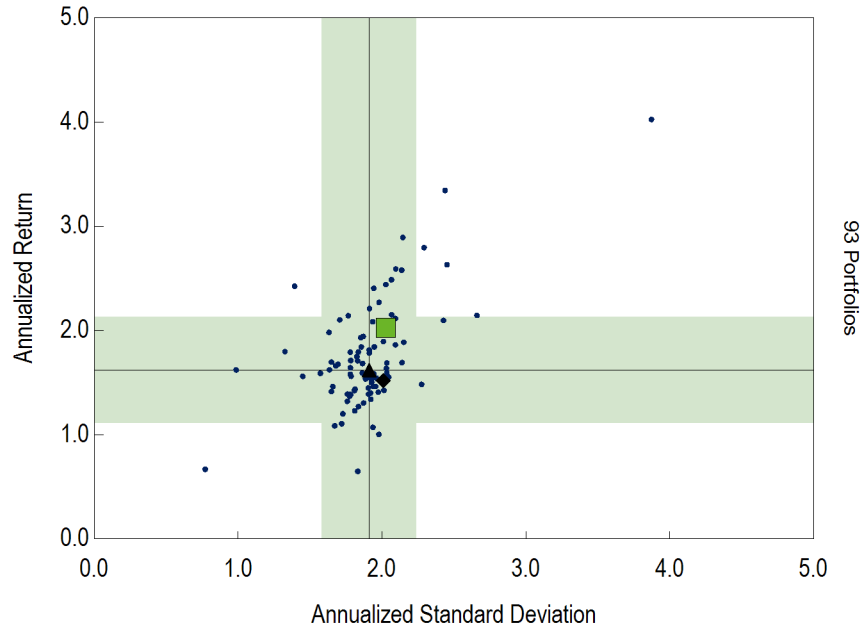
	Return (Rank)											
5th Percentile	0.63		0.07		0.21		1.08		2.31		2.61	
25th Percentile	0.41		-0.52		-0.45		0.13		1.38		1.94	
Median	0.32		-0.67		-0.74		-0.14		1.10		1.62	
75th Percentile	0.24		-0.82		-0.91		-0.39		0.88		1.46	
95th Percentile	0.07		-1.01		-1.15		-0.57		0.68		1.10	
# of Portfolios	97		97		97		96		96		93	
● Baird Advisors	0.29	(57)	-0.64	(47)	-0.70	(48)	-0.02	(34)	1.49	(22)	2.03	(23)
▲ BBgBarc US Govt/Credit Int TR	0.21	(78)	-0.76	(62)	-0.96	(84)	-0.37	(72)	0.91	(72)	1.52	(71)



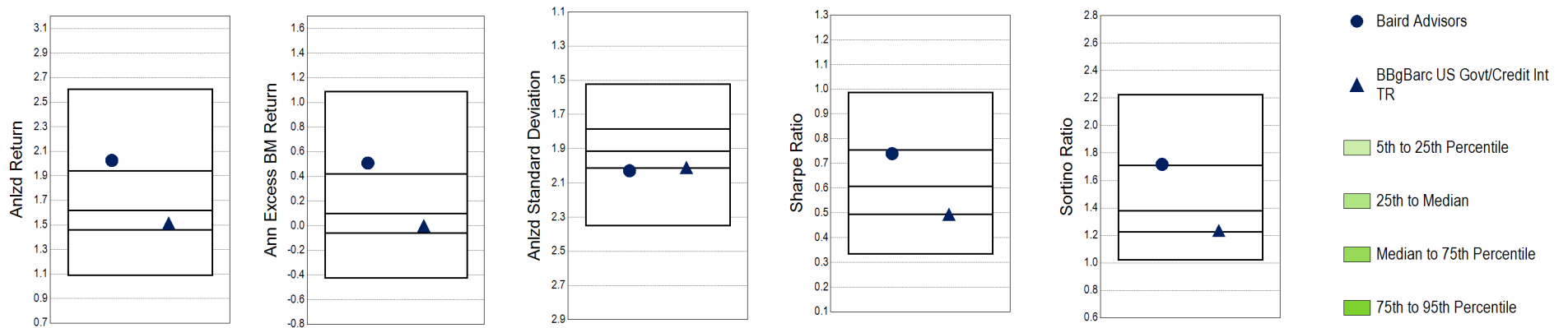
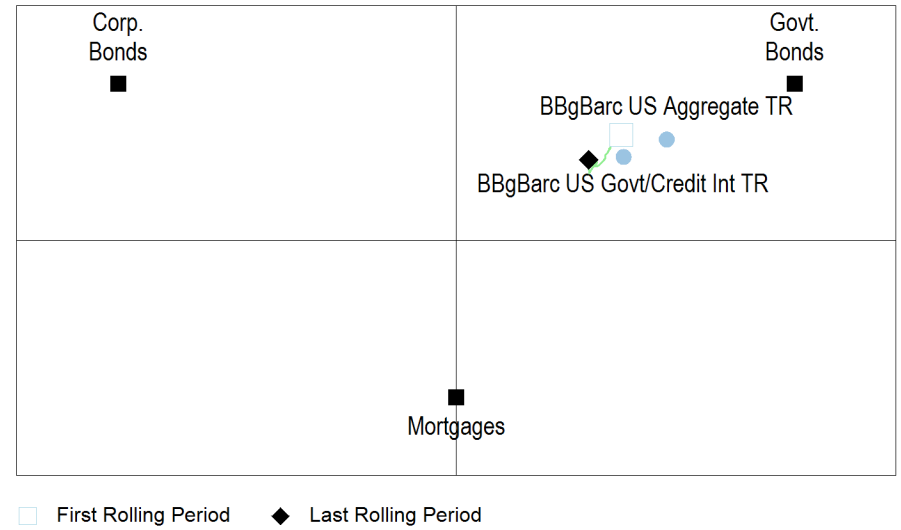
Los Angeles City Employees' Retirement System

BAIRD ADVISORS

5 Year Risk Return



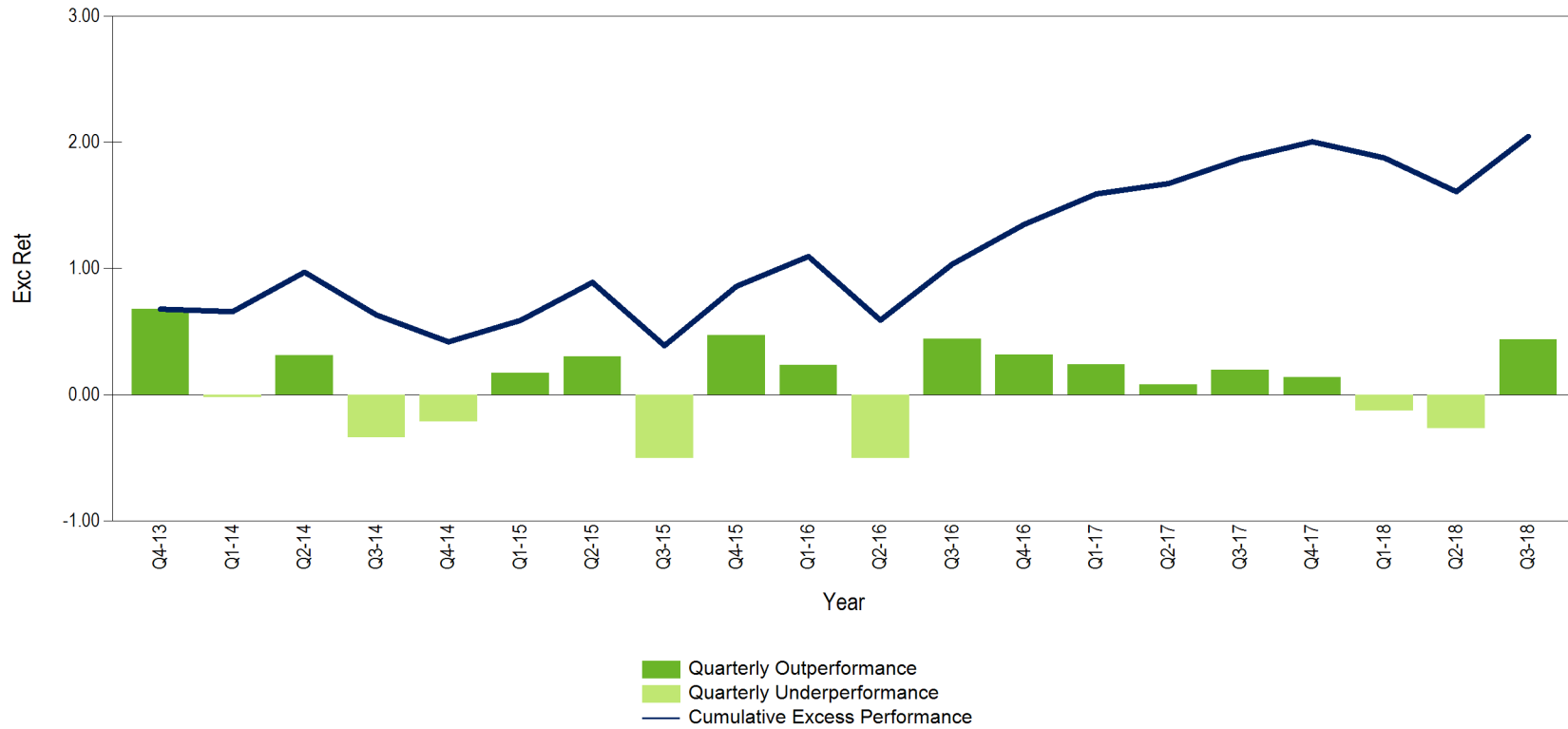
5 Year Style Map



Los Angeles City Employees' Retirement System

LM CAPITAL

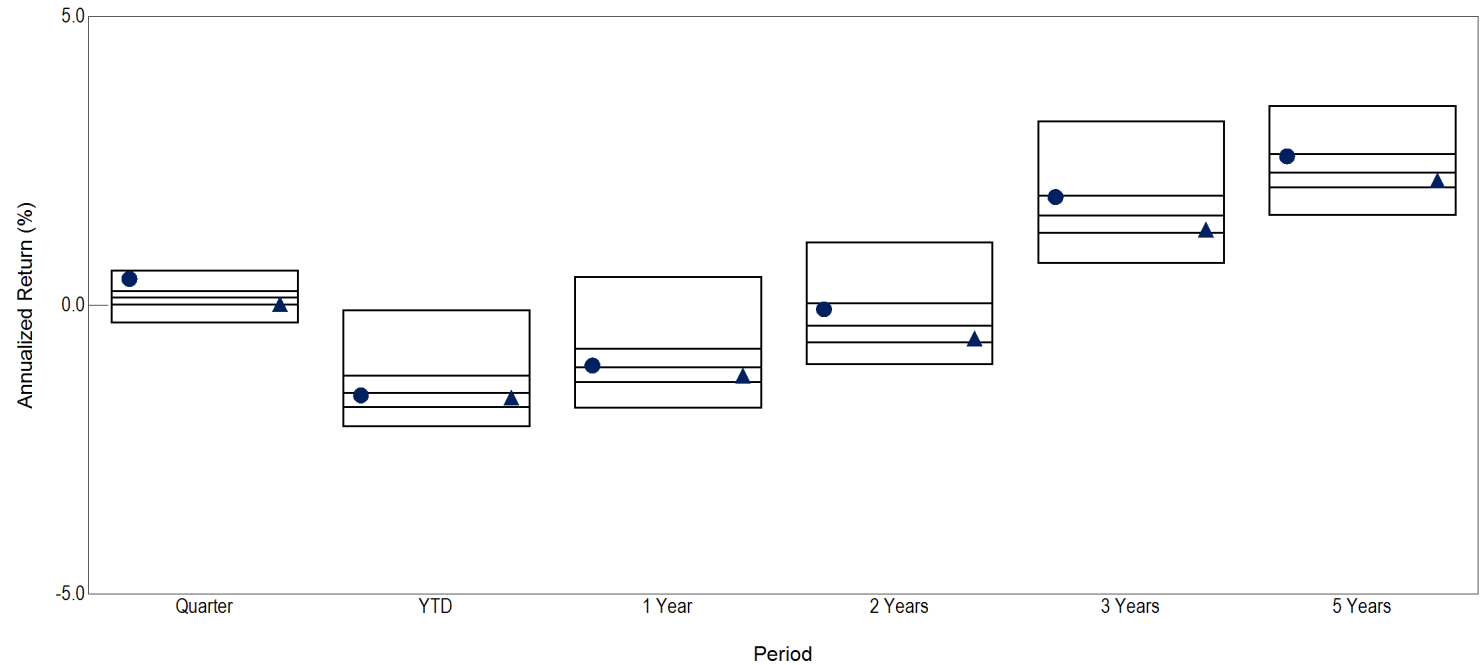
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

LM CAPITAL

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



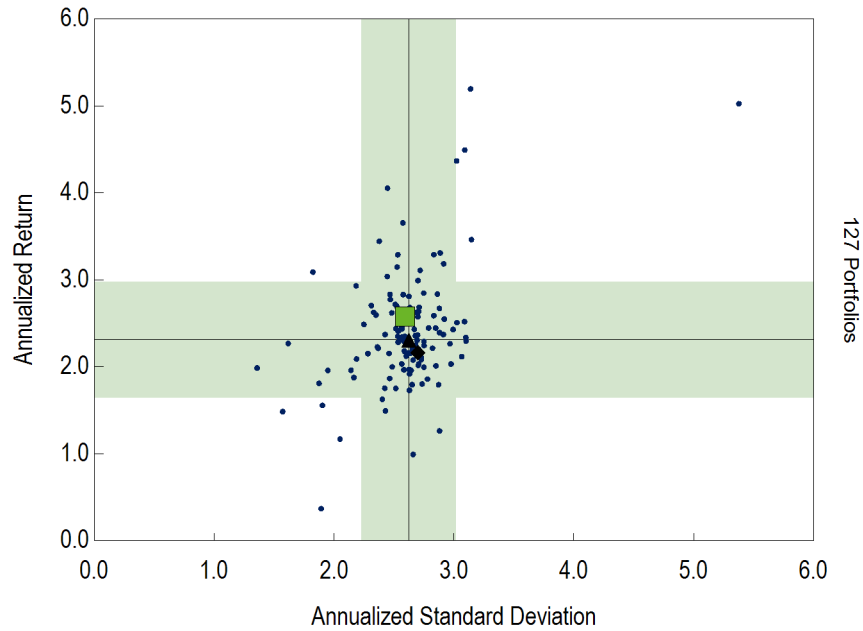
	Return (Rank)											
5th Percentile	0.60		-0.08		0.49		1.09		3.19		3.46	
25th Percentile	0.26		-1.21		-0.74		0.05		1.91		2.63	
Median	0.14		-1.51		-1.06		-0.34		1.57		2.31	
75th Percentile	0.03		-1.75		-1.32		-0.63		1.27		2.06	
95th Percentile	-0.29		-2.08		-1.76		-1.01		0.74		1.58	
# of Portfolios	134		133		133		131		129		127	
● LM Capital	0.46	(11)	-1.56	(58)	-1.04	(48)	-0.07	(28)	1.87	(27)	2.58	(30)
▲ Core Fixed Income Blend	0.02	(77)	-1.60	(64)	-1.22	(66)	-0.57	(72)	1.31	(70)	2.16	(67)



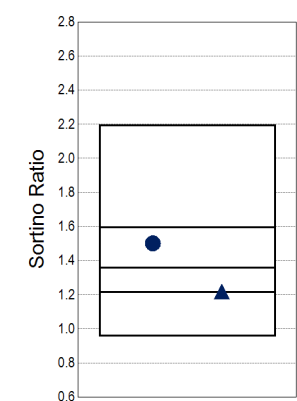
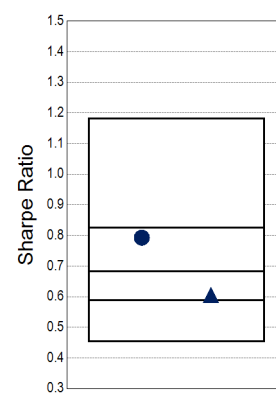
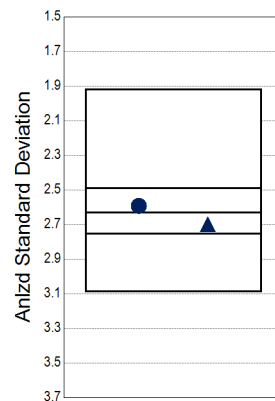
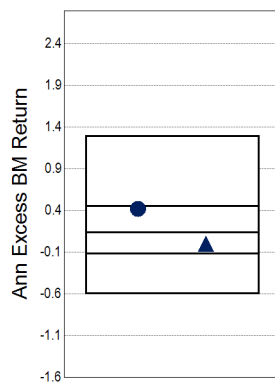
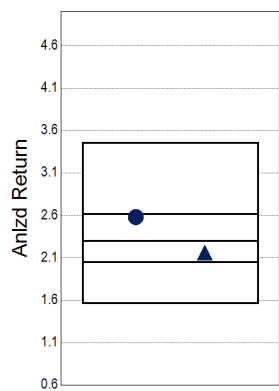
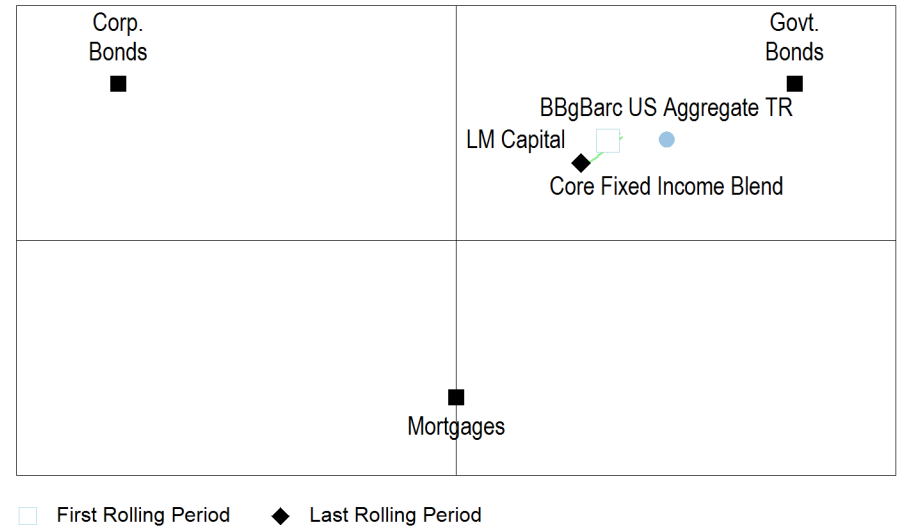
Los Angeles City Employees' Retirement System

LM CAPITAL

5 Year Risk Return



5 Year Style Map



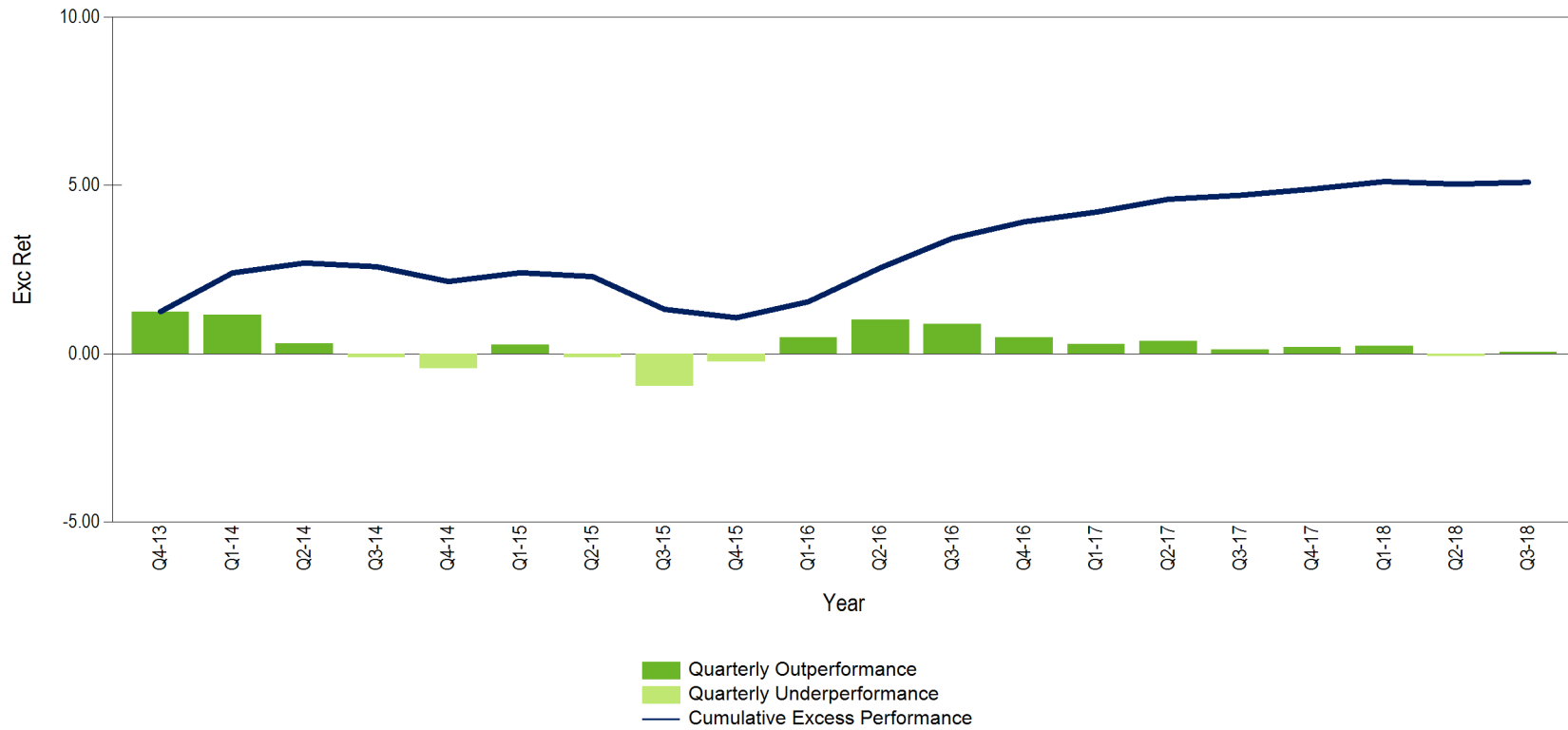
- LM Capital
- ▲ Core Fixed Income Blend
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

LOOMIS SAYLES

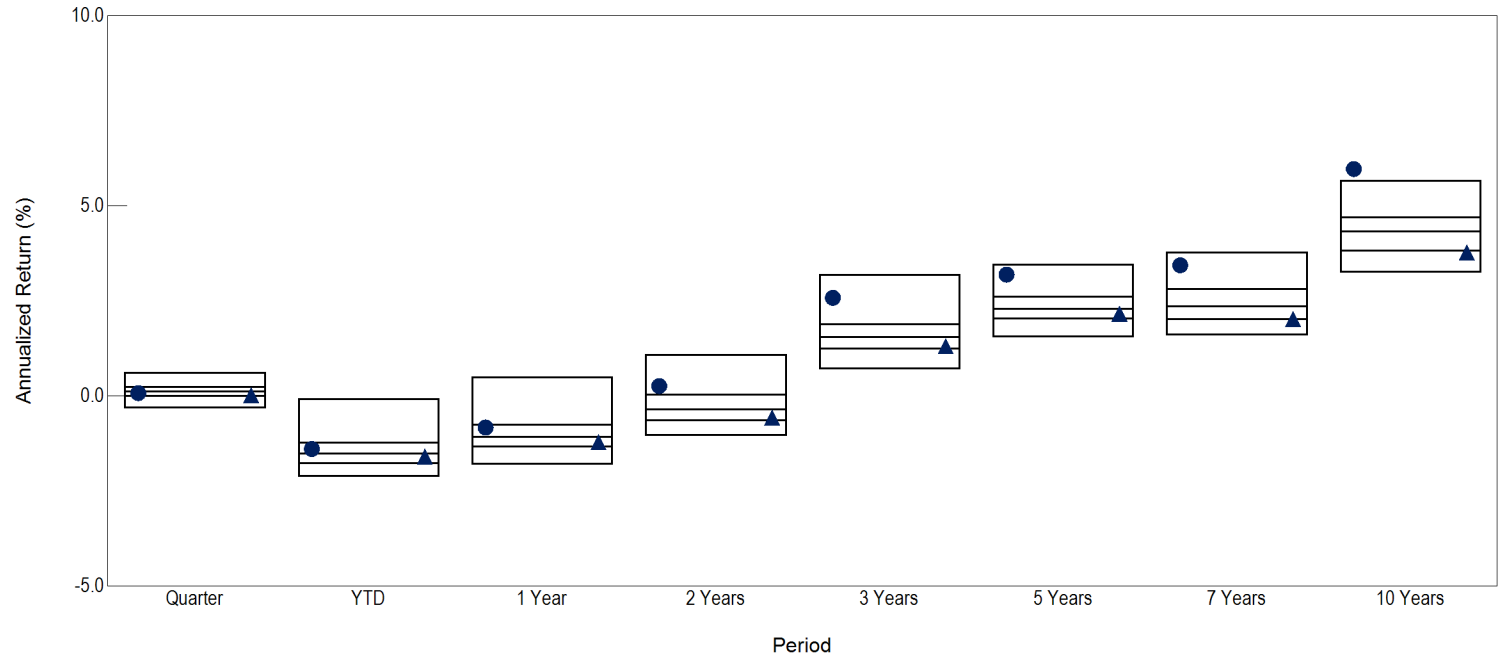
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

LOOMIS SAYLES

Loomis Sayles vs. eV US Core Fixed Inc Net



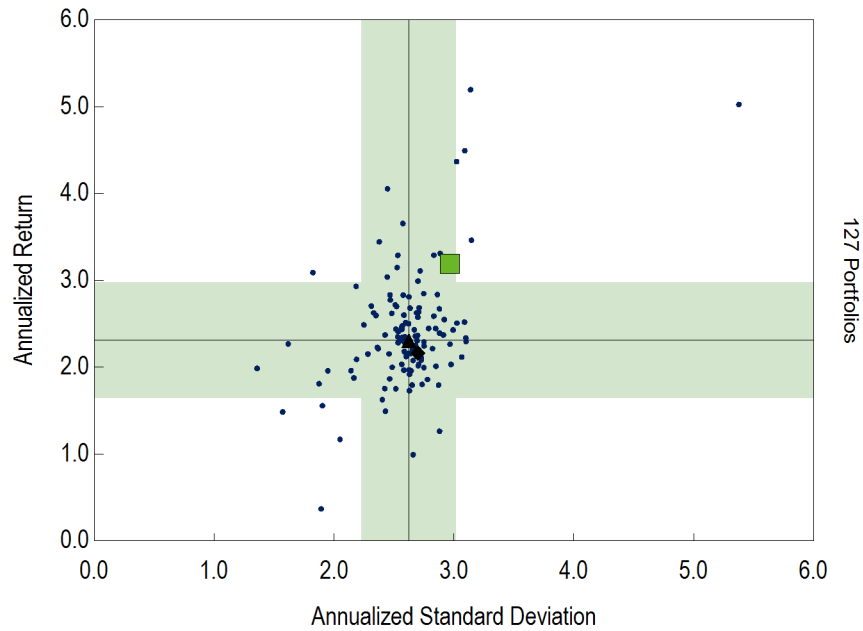
	Return (Rank)															
5th Percentile	0.60	-0.08	0.49	1.09	3.19	3.46	3.77	5.67								
25th Percentile	0.26	-1.21	-0.74	0.05	1.91	2.63	2.82	4.71								
Median	0.14	-1.51	-1.06	-0.34	1.57	2.31	2.37	4.34								
75th Percentile	0.03	-1.75	-1.32	-0.63	1.27	2.06	2.04	3.84								
95th Percentile	-0.29	-2.08	-1.76	-1.01	0.74	1.58	1.63	3.29								
# of Portfolios	134	133	133	131	129	127	120	110								
● Loomis Sayles	0.07	(70)	-1.40	(40)	-0.83	(30)	0.26	(19)	2.58	(9)	3.19	(9)	3.44	(10)	5.97	(4)
▲ BC US Agg LACERS custom	0.02	(77)	-1.60	(64)	-1.22	(66)	-0.57	(72)	1.31	(70)	2.16	(67)	2.02	(77)	3.77	(80)



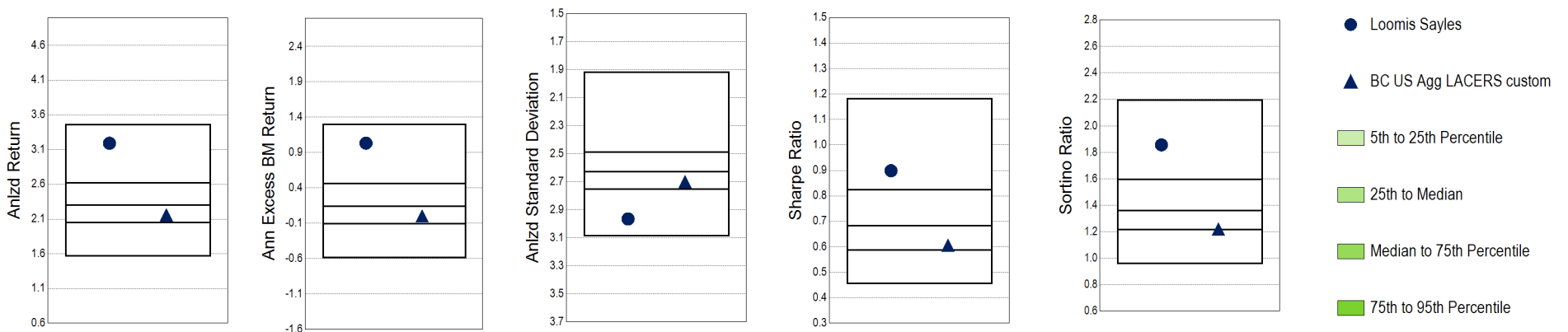
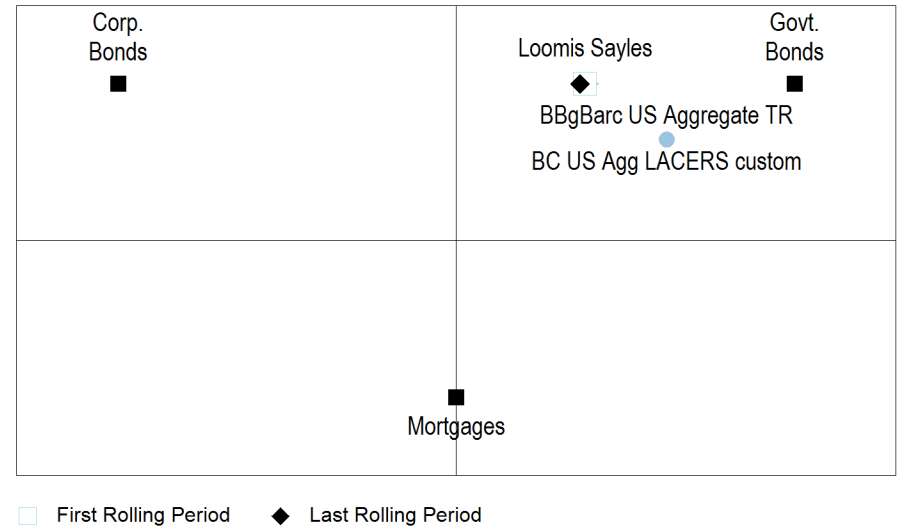
Los Angeles City Employees' Retirement System

LOOMIS SAYLES

5 Year Risk Return



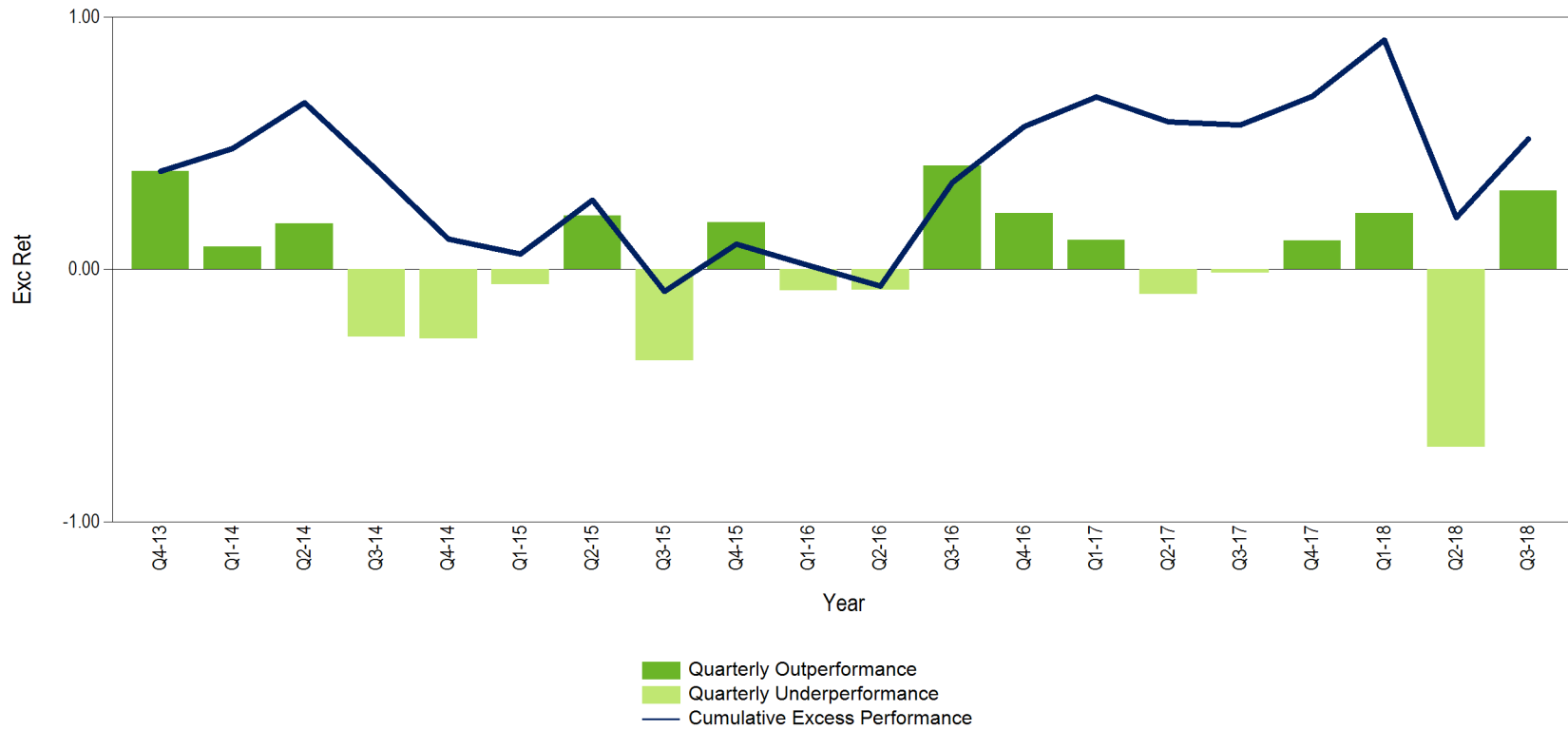
5 Year Style Map



Los Angeles City Employees' Retirement System

NEUBERGER BERMAN

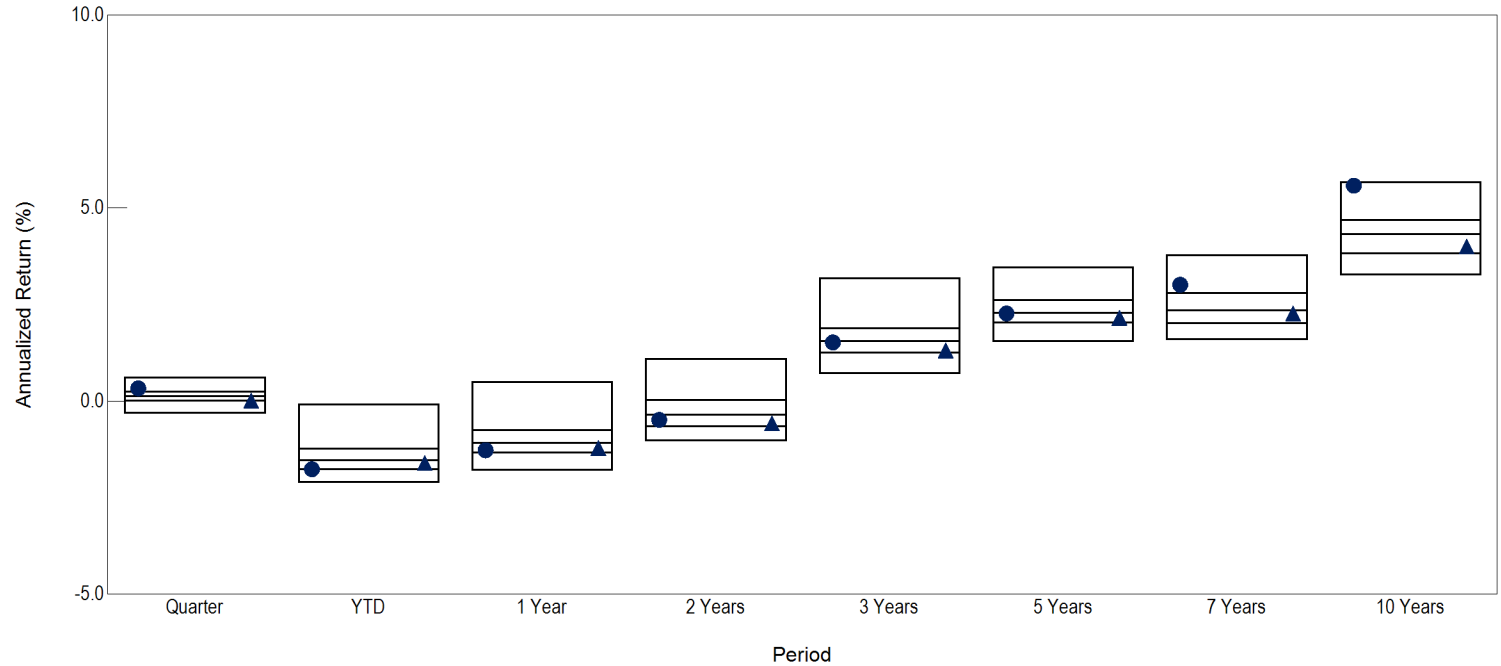
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

NEUBERGER BERMAN

Neuberger Berman vs. eV US Core Fixed Inc Net



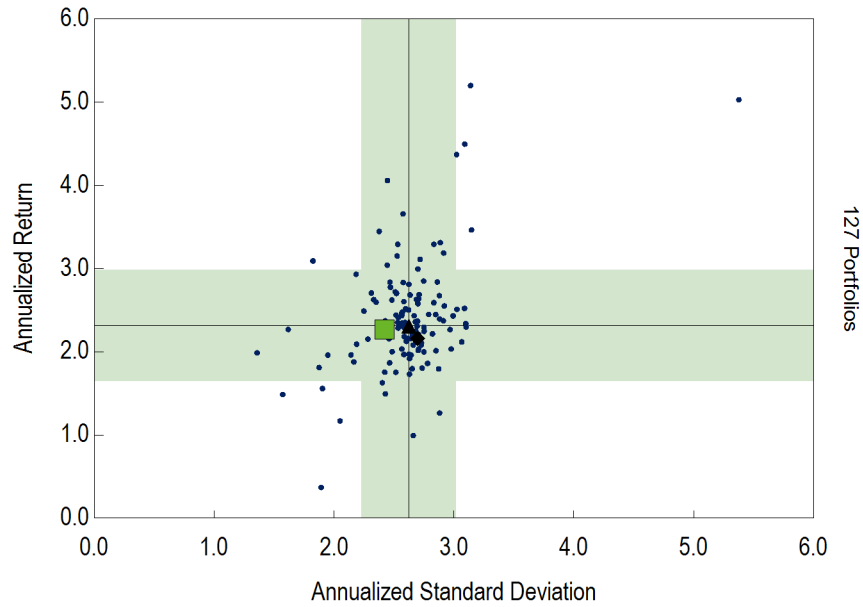
	Return (Rank)															
5th Percentile	0.60	-0.08	0.49	1.09	3.19	3.46	3.77	5.67								
25th Percentile	0.26	-1.21	-0.74	0.05	1.91	2.63	2.82	4.71								
Median	0.14	-1.51	-1.06	-0.34	1.57	2.31	2.37	4.34								
75th Percentile	0.03	-1.75	-1.32	-0.63	1.27	2.06	2.04	3.84								
95th Percentile	-0.29	-2.08	-1.76	-1.01	0.74	1.58	1.63	3.29								
# of Portfolios	134	133	133	131	129	127	120	110								
● Neuberger Berman	0.33	(17)	-1.77	(78)	-1.27	(72)	-0.49	(63)	1.52	(54)	2.27	(57)	3.01	(19)	5.58	(6)
▲ Core Fixed Income Blend	0.02	(77)	-1.60	(64)	-1.22	(66)	-0.57	(72)	1.31	(70)	2.16	(67)	2.28	(59)	4.01	(69)



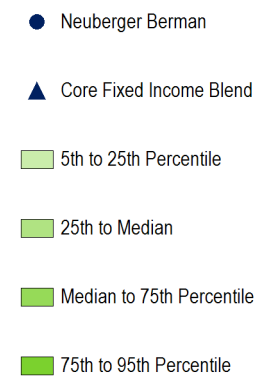
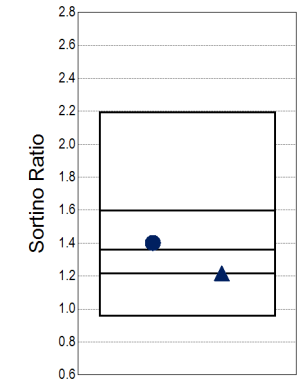
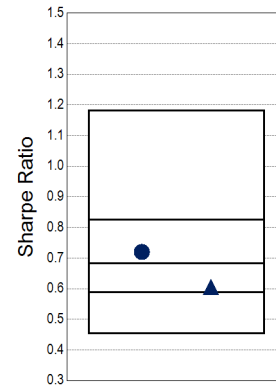
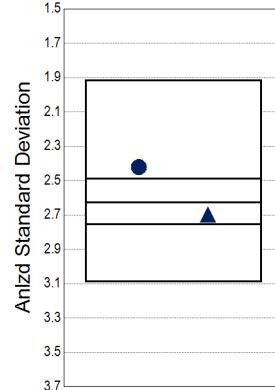
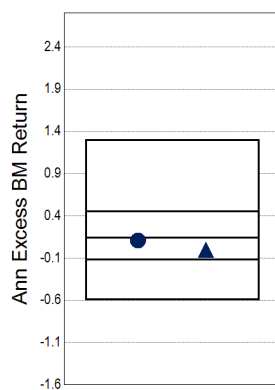
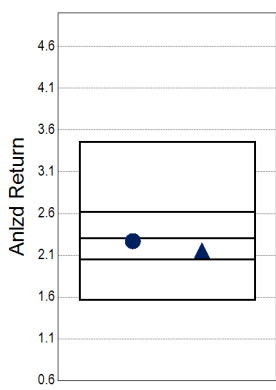
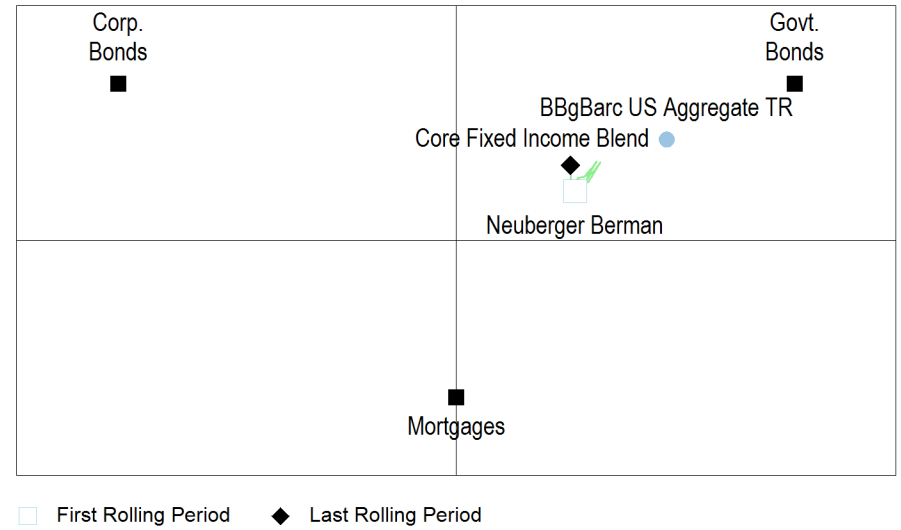
Los Angeles City Employees' Retirement System

NEUBERGER BERMAN

5 Year Risk Return



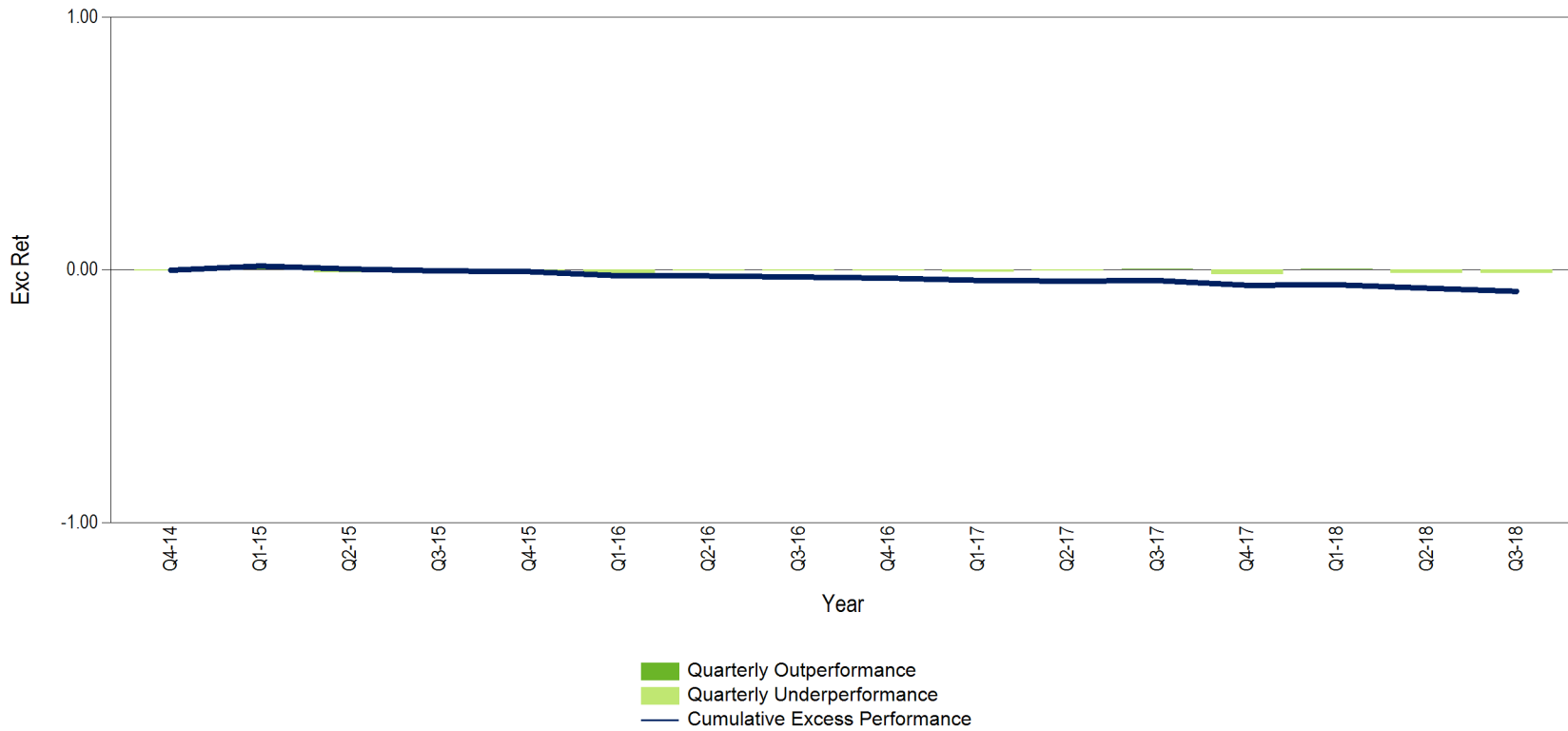
5 Year Style Map



Los Angeles City Employees' Retirement System

SSGA U.S. AGGREGATE BOND

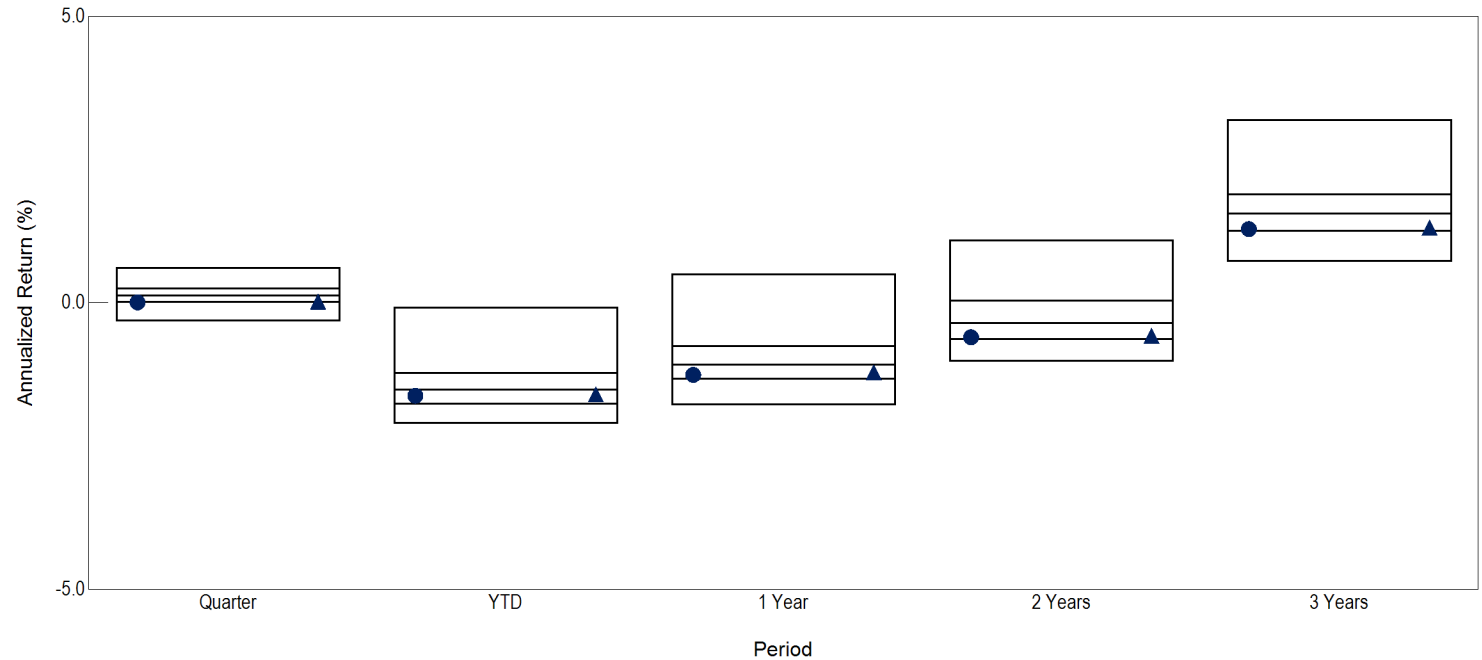
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

SSGA U.S. AGGREGATE BOND

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



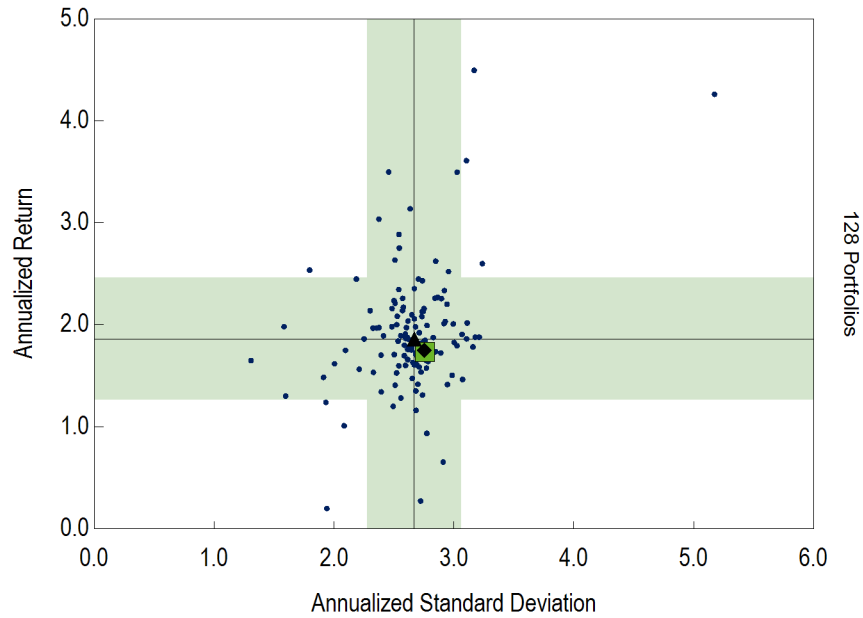
	Return (Rank)									
5th Percentile	0.60		-0.08		0.49		1.09		3.19	
25th Percentile	0.26		-1.21		-0.74		0.05		1.91	
Median	0.14		-1.51		-1.06		-0.34		1.57	
75th Percentile	0.03		-1.75		-1.32		-0.63		1.27	
95th Percentile	-0.29		-2.08		-1.76		-1.01		0.74	
# of Portfolios	134		133		133		131		129	
● SSGA U.S. Aggregate Bond	0.01	(79)	-1.62	(65)	-1.26	(72)	-0.60	(73)	1.29	(74)
▲ BBgBarc US Aggregate TR	0.02	(77)	-1.60	(64)	-1.22	(66)	-0.57	(72)	1.31	(70)



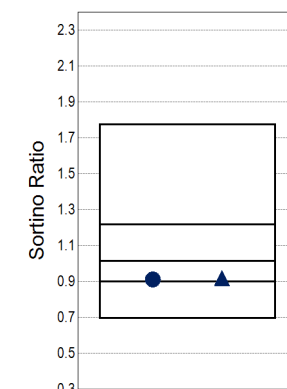
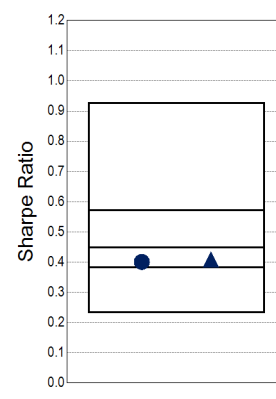
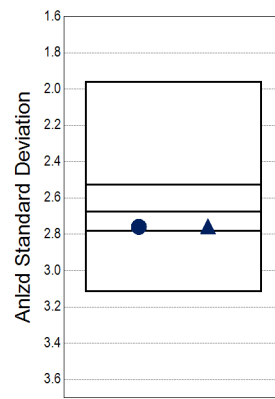
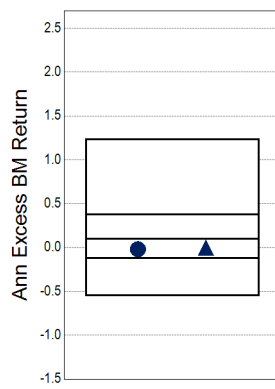
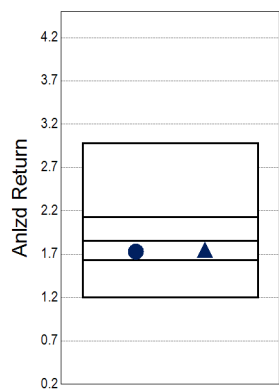
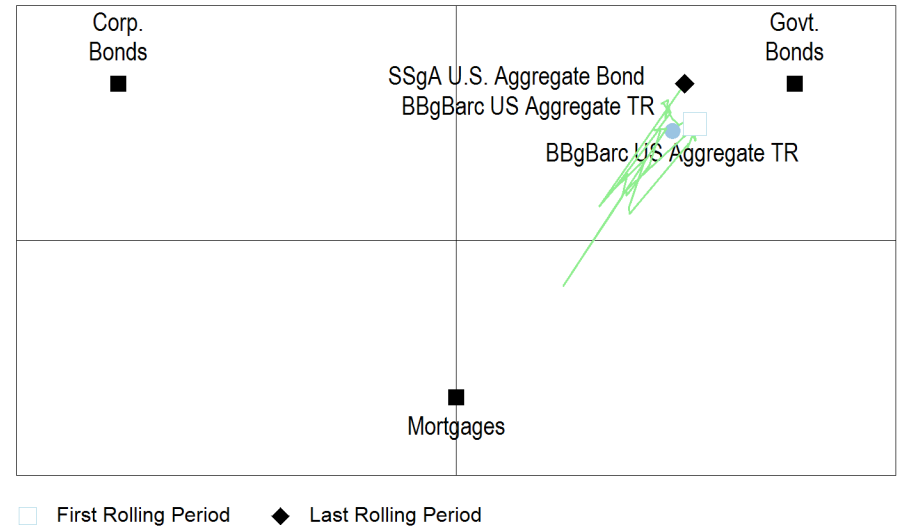
Los Angeles City Employees' Retirement System

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



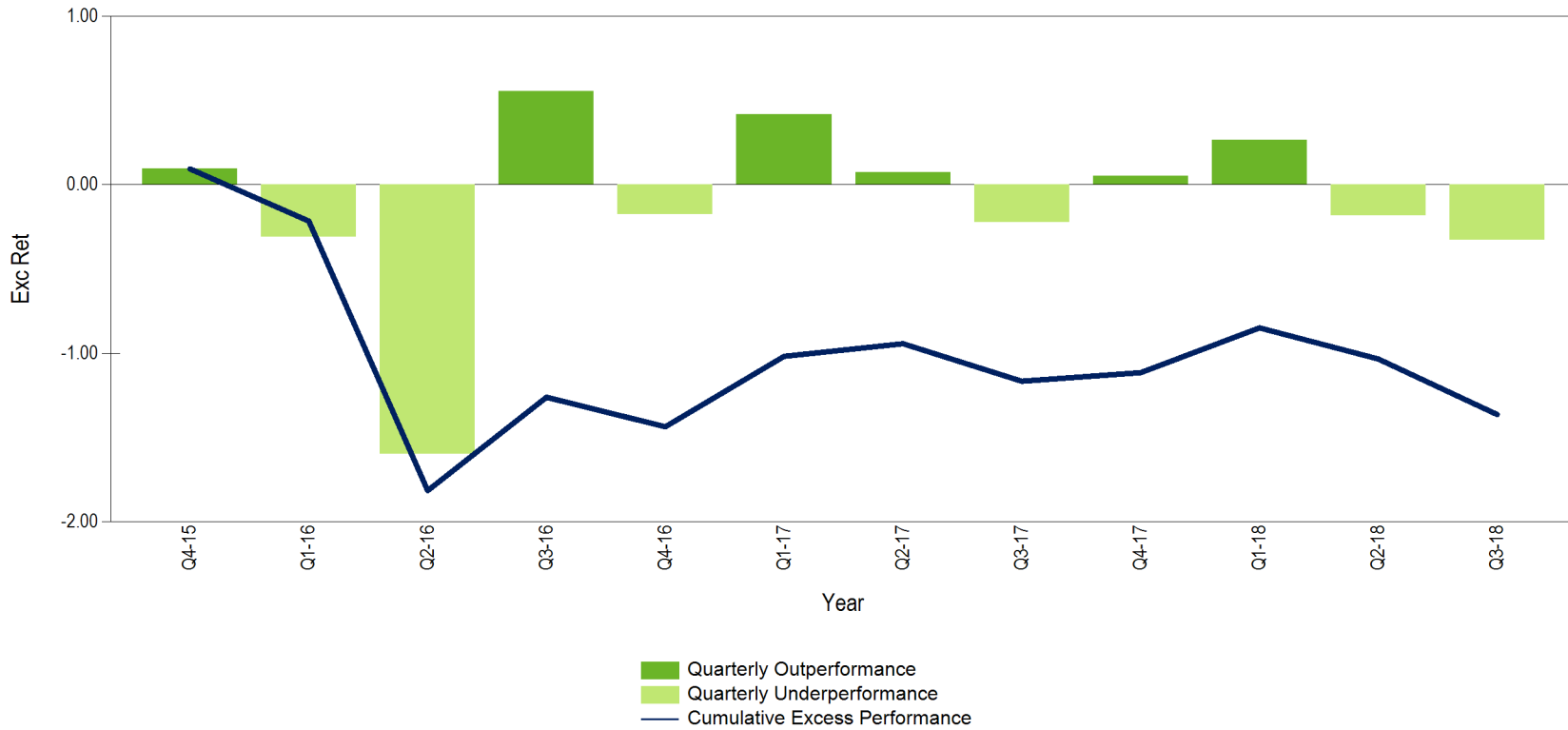
CREDIT OPPORTUNITIES MANAGER PERFORMANCE

NEPC, LLC

Los Angeles City Employees' Retirement System

AEGON USA

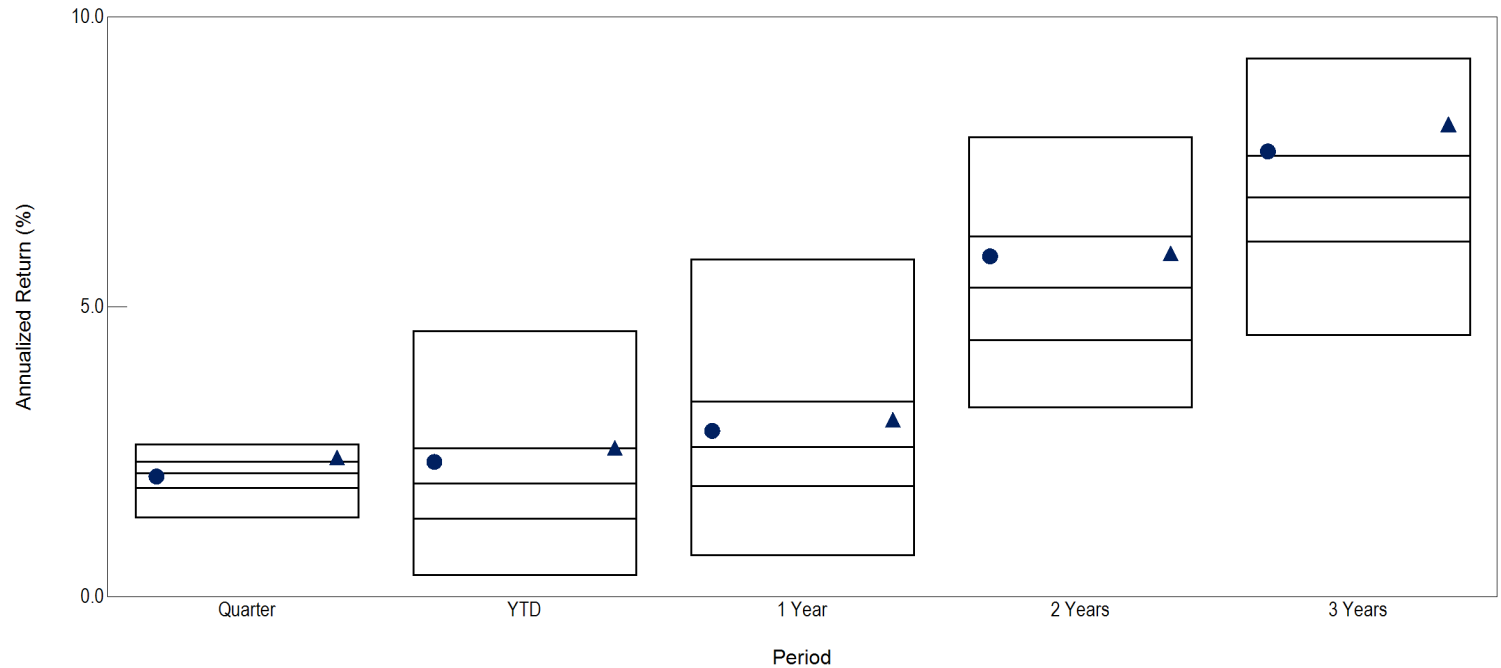
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

AEGON USA

AEGON USA vs. eV US High Yield Fixed Inc Net



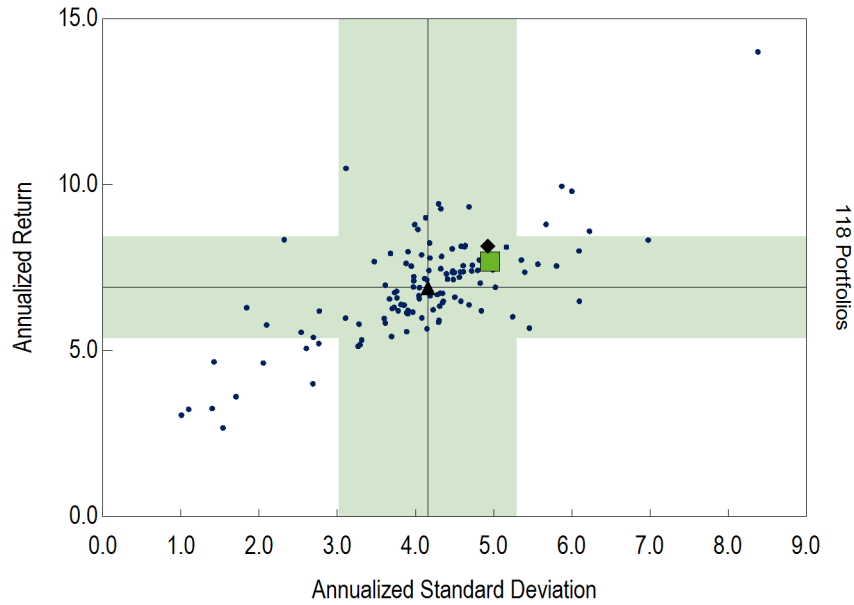
	Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)	
5th Percentile	2.63		4.58		5.82		7.92		9.28	
25th Percentile	2.35		2.57		3.38		6.23		7.62	
Median	2.14		1.97		2.60		5.34		6.90	
75th Percentile	1.88		1.35		1.92		4.44		6.14	
95th Percentile	1.38		0.39		0.73		3.28		4.53	
# of Portfolios	126		125		125		121		118	
● AEGON USA	2.07	(57)	2.33	(34)	2.86	(40)	5.87	(31)	7.68	(24)
▲ BBgBarc US High Yield 2% Issuer Cap TR	2.40	(22)	2.57	(26)	3.05	(33)	5.92	(31)	8.15	(14)



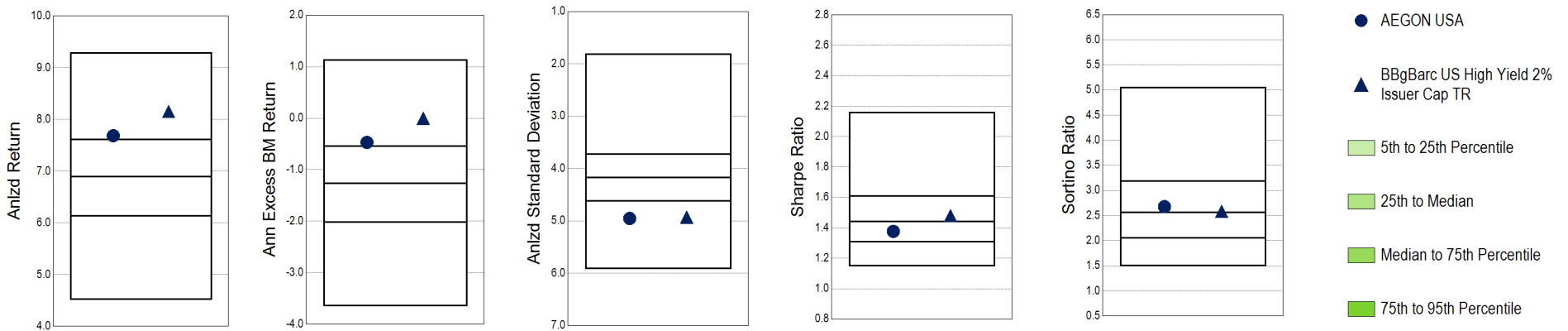
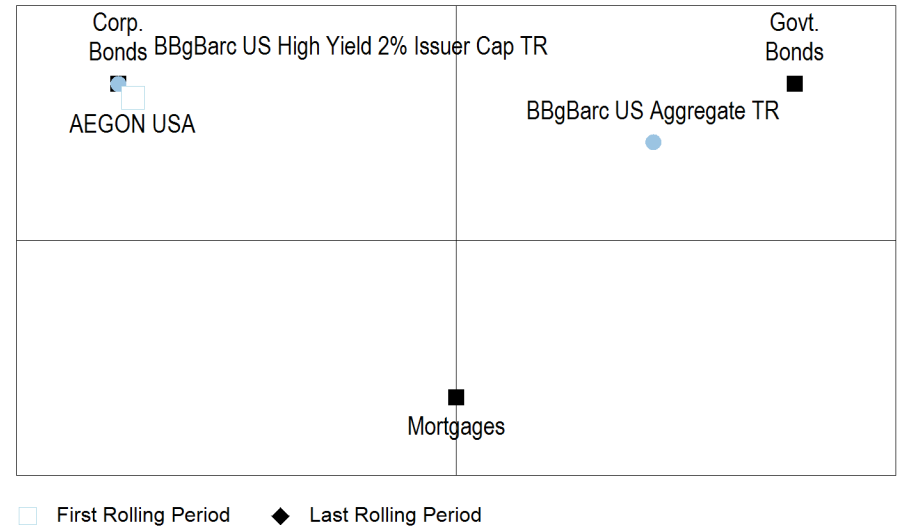
Los Angeles City Employees' Retirement System

AEGON USA

3 Year Risk Return

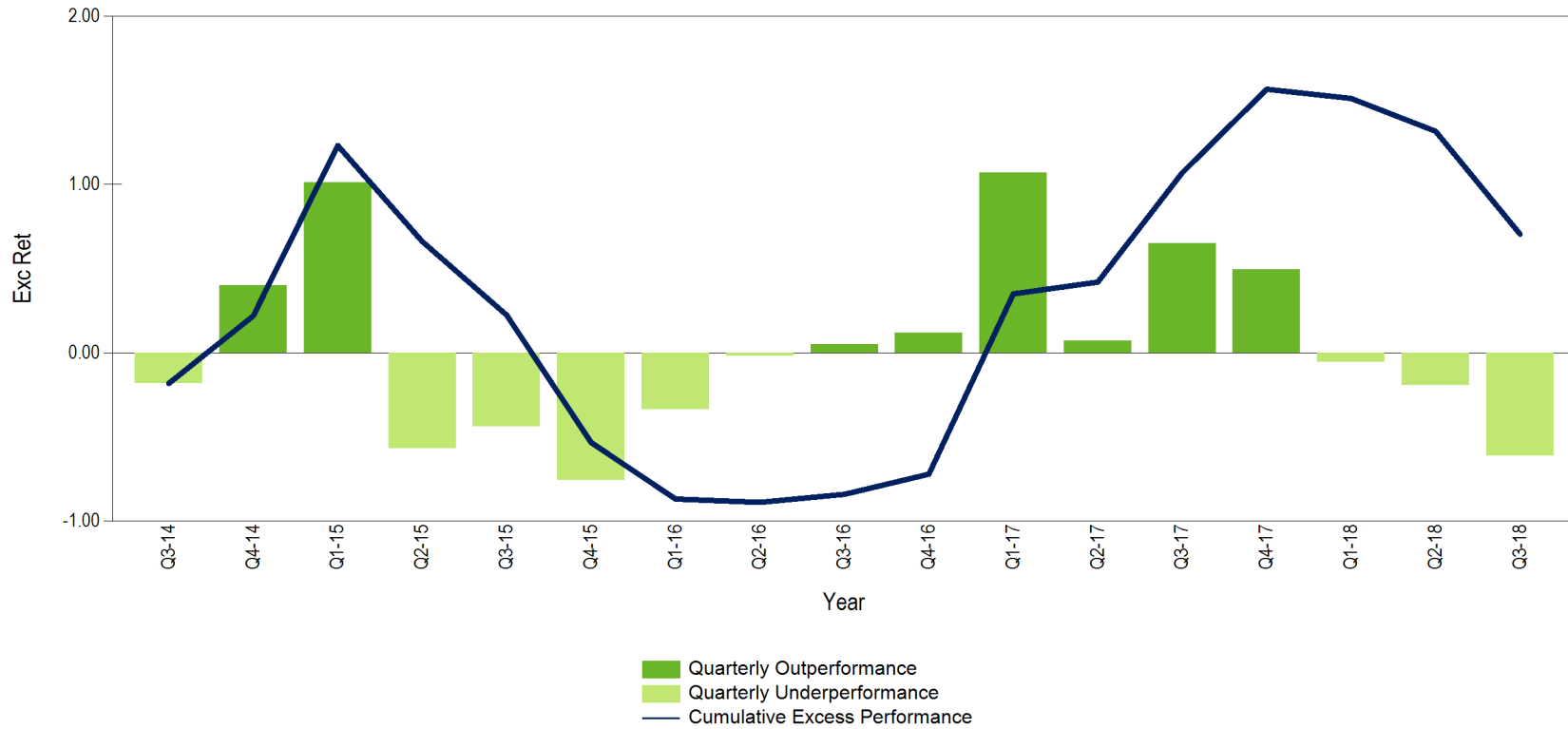


3 Year Style Map



PRUDENTIAL EMERGING MARKETS

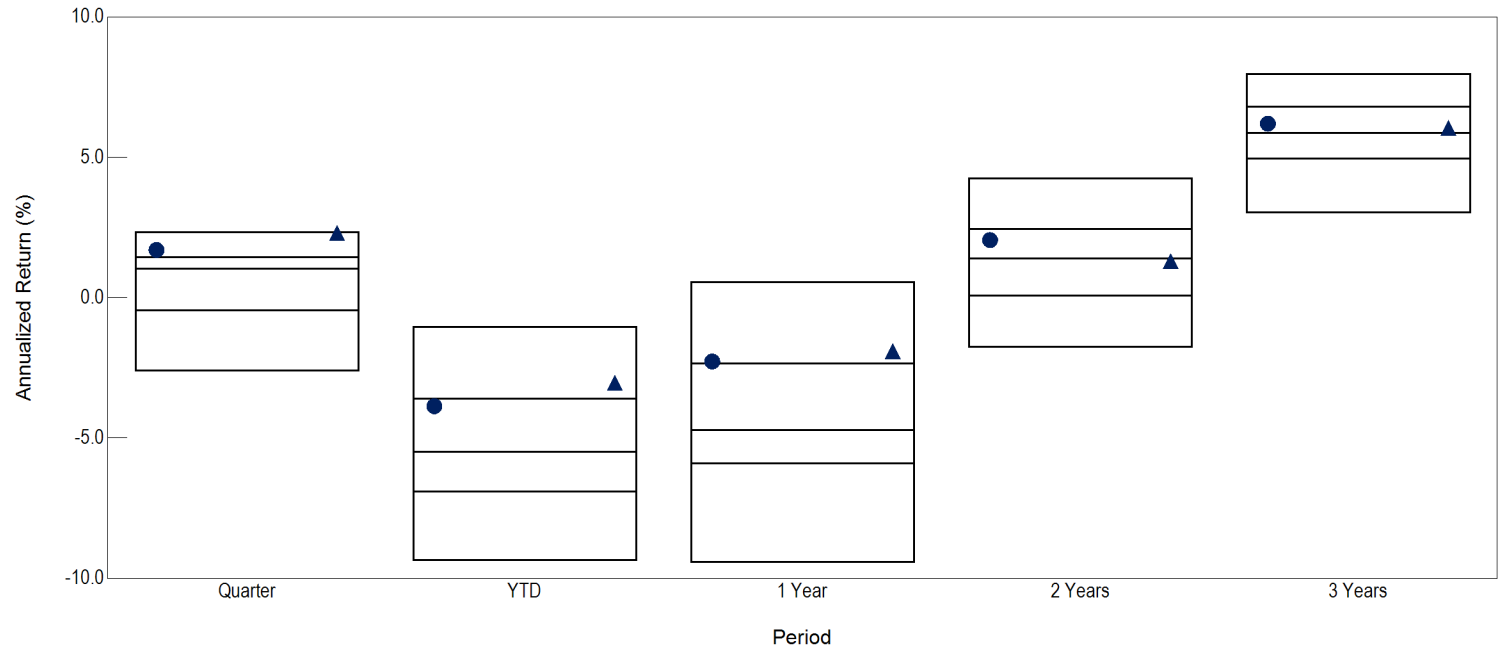
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

PRUDENTIAL EMERGING MARKETS

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

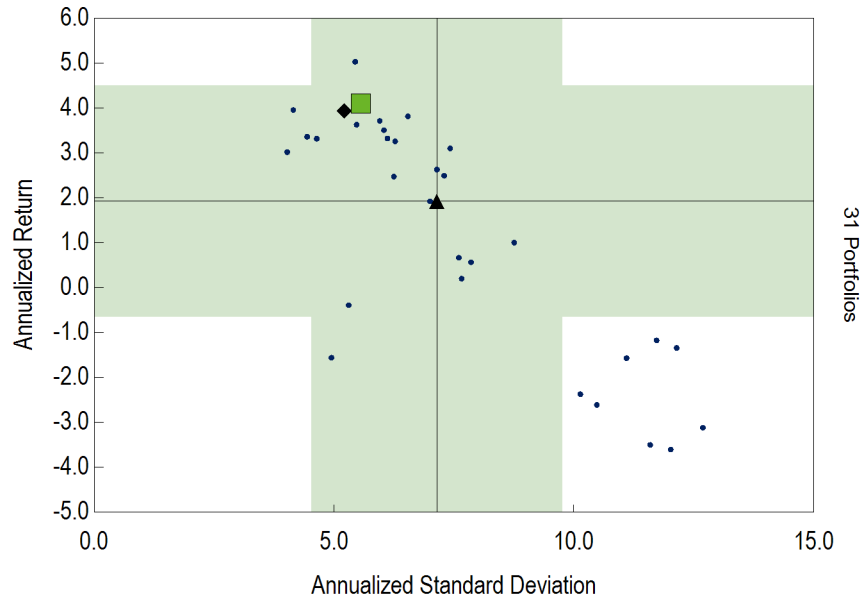


	Return (Rank)									
5th Percentile	2.32		-1.05		0.56		4.24		7.95	
25th Percentile	1.46		-3.58		-2.32		2.46		6.83	
Median	1.05		-5.47		-4.71		1.41		5.89	
75th Percentile	-0.43		-6.88		-5.89		0.09		4.98	
95th Percentile	-2.57		-9.33		-9.40		-1.72		3.05	
# of Portfolios	41		41		41		41		39	
● Prudential Emerging Markets	1.69	(23)	-3.87	(30)	-2.28	(25)	2.05	(37)	6.19	(44)
▲ JP Morgan EMBI Global Diversified	2.30	(6)	-3.04	(22)	-1.92	(22)	1.29	(52)	6.04	(49)

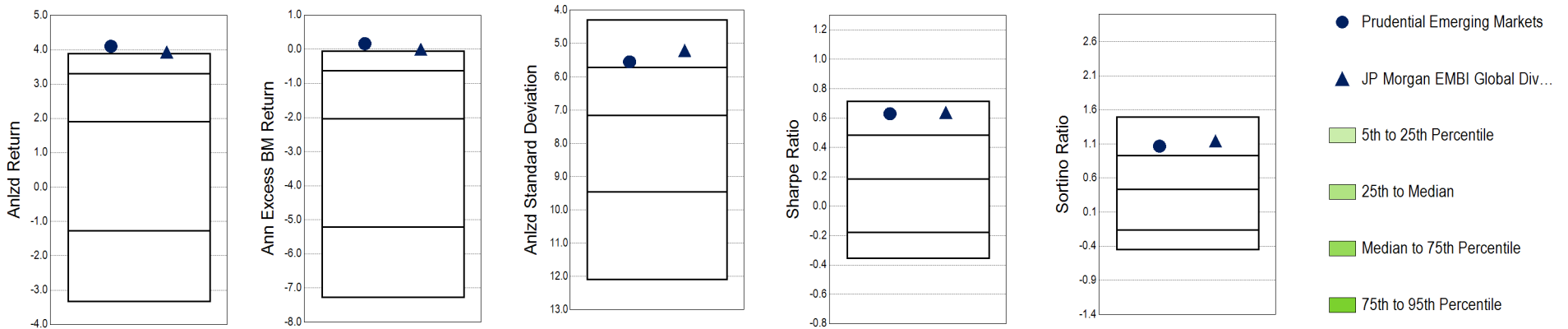
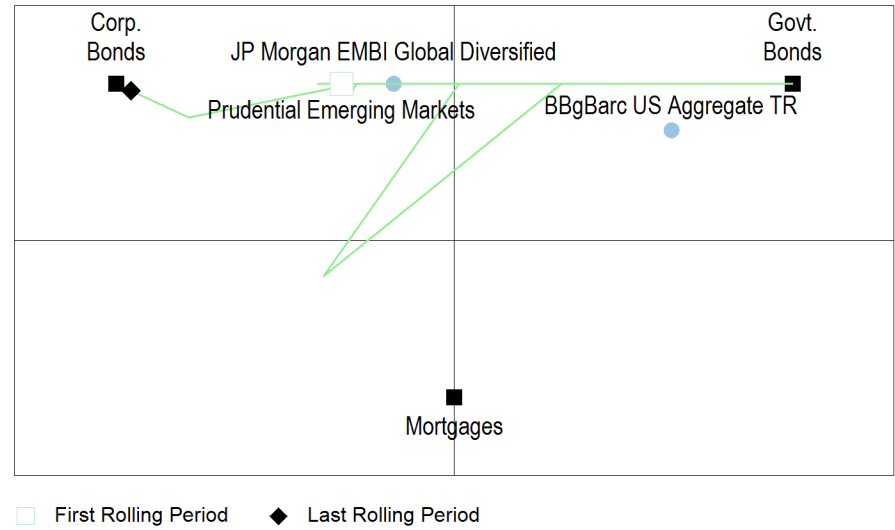


PRUDENTIAL EMERGING MARKETS

Since Inception Risk Return

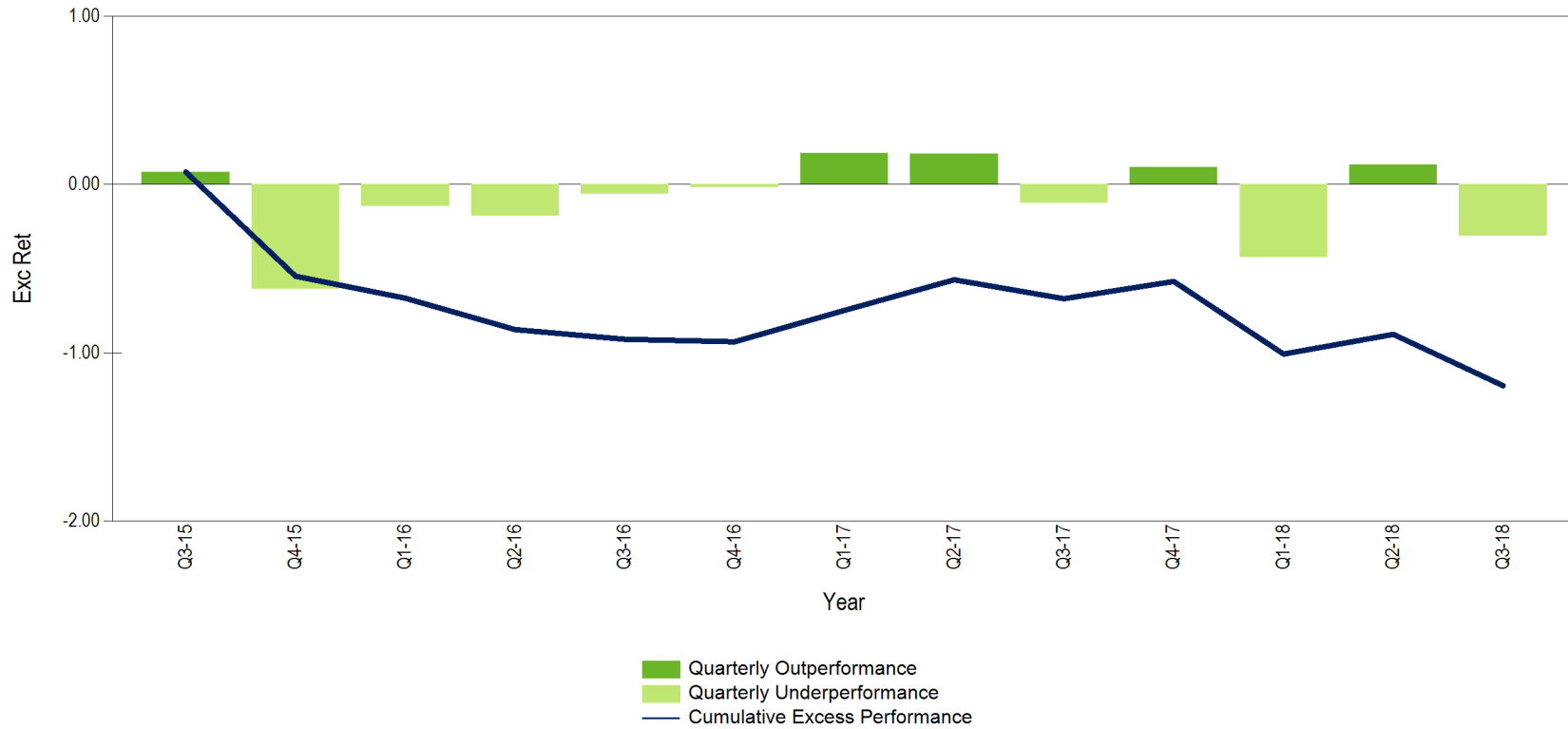


Since Inception Style Map



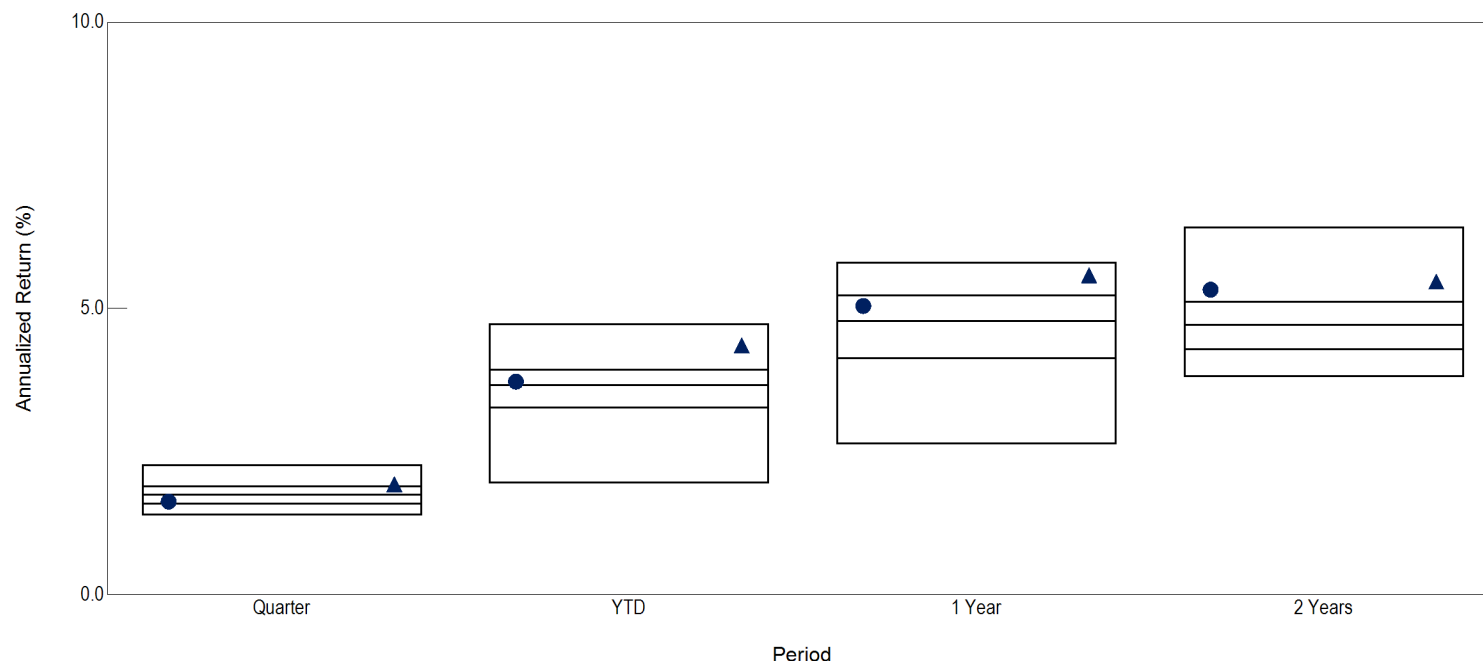
BAIN CAPITAL SENIOR LOAN FUND, LP

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

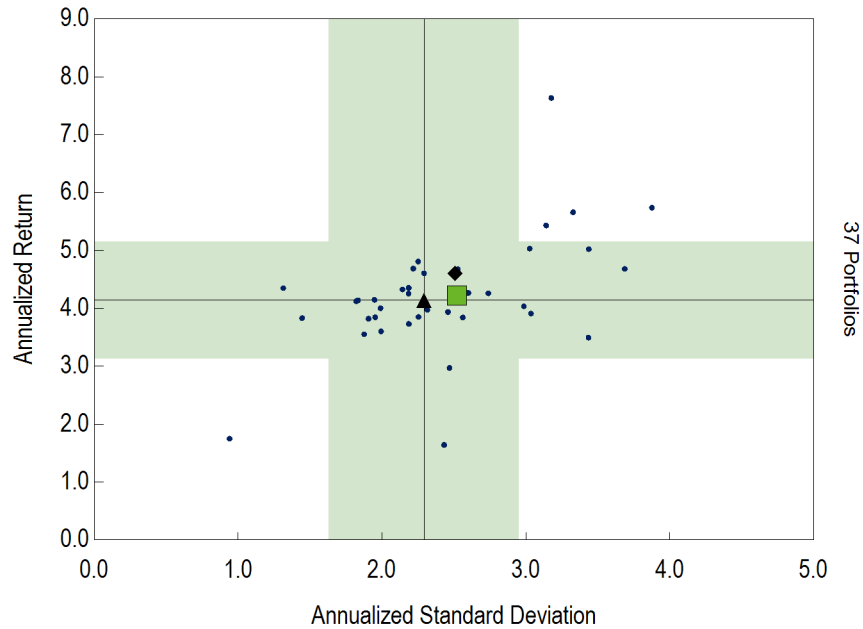


	Return (Rank)							
5th Percentile	2.27		4.73		5.80		6.41	
25th Percentile	1.91		3.94		5.24		5.13	
Median	1.76		3.68		4.79		4.73	
75th Percentile	1.60		3.28		4.14		4.29	
95th Percentile	1.42		1.97		2.66		3.83	
# of Portfolios	39		39		39		38	
● Bain Capital Senior Loan Fund, LP	1.63	(73)	3.72	(40)	5.04	(36)	5.33	(19)
▲ Credit Suisse Leveraged Loans	1.93	(24)	4.36	(10)	5.58	(15)	5.47	(16)

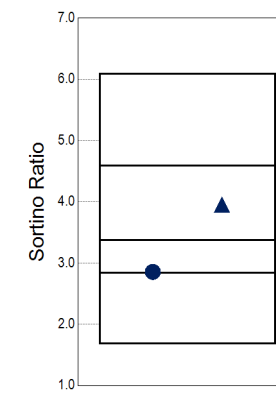
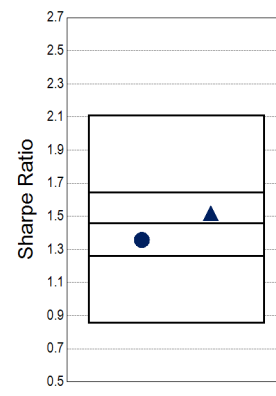
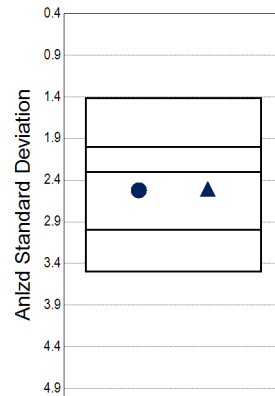
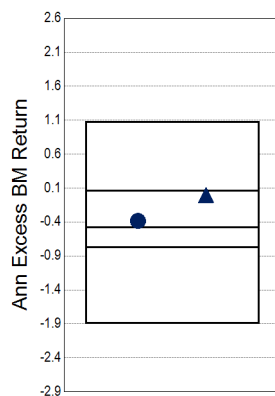
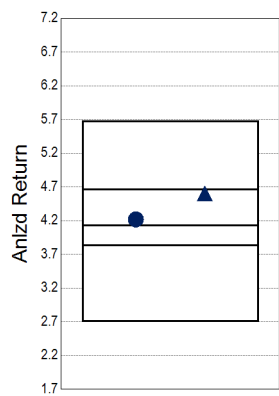
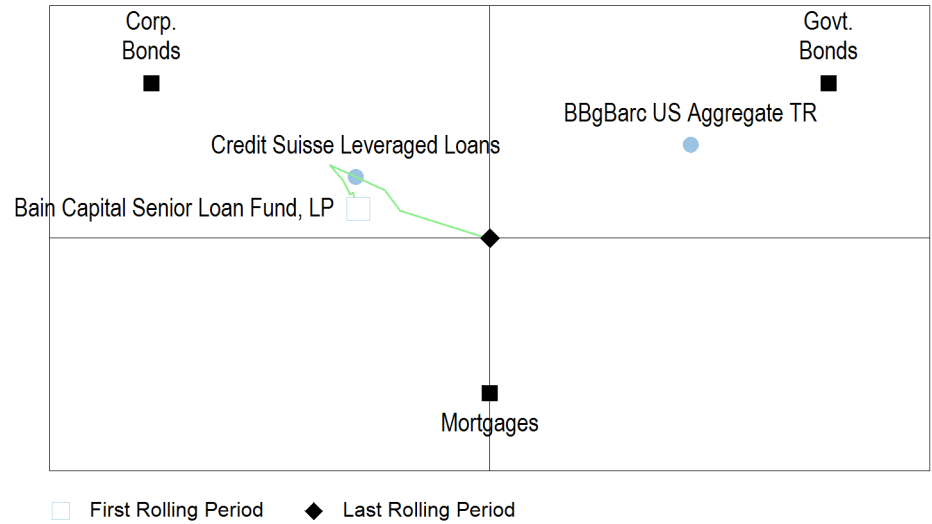


BAIN CAPITAL SENIOR LOAN FUND, LP

Since Inception Risk Return



Since Inception Style Map



- Bain Capital Senior Loan Fund, LP
- ▲ Credit Suisse Leveraged Lo...
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



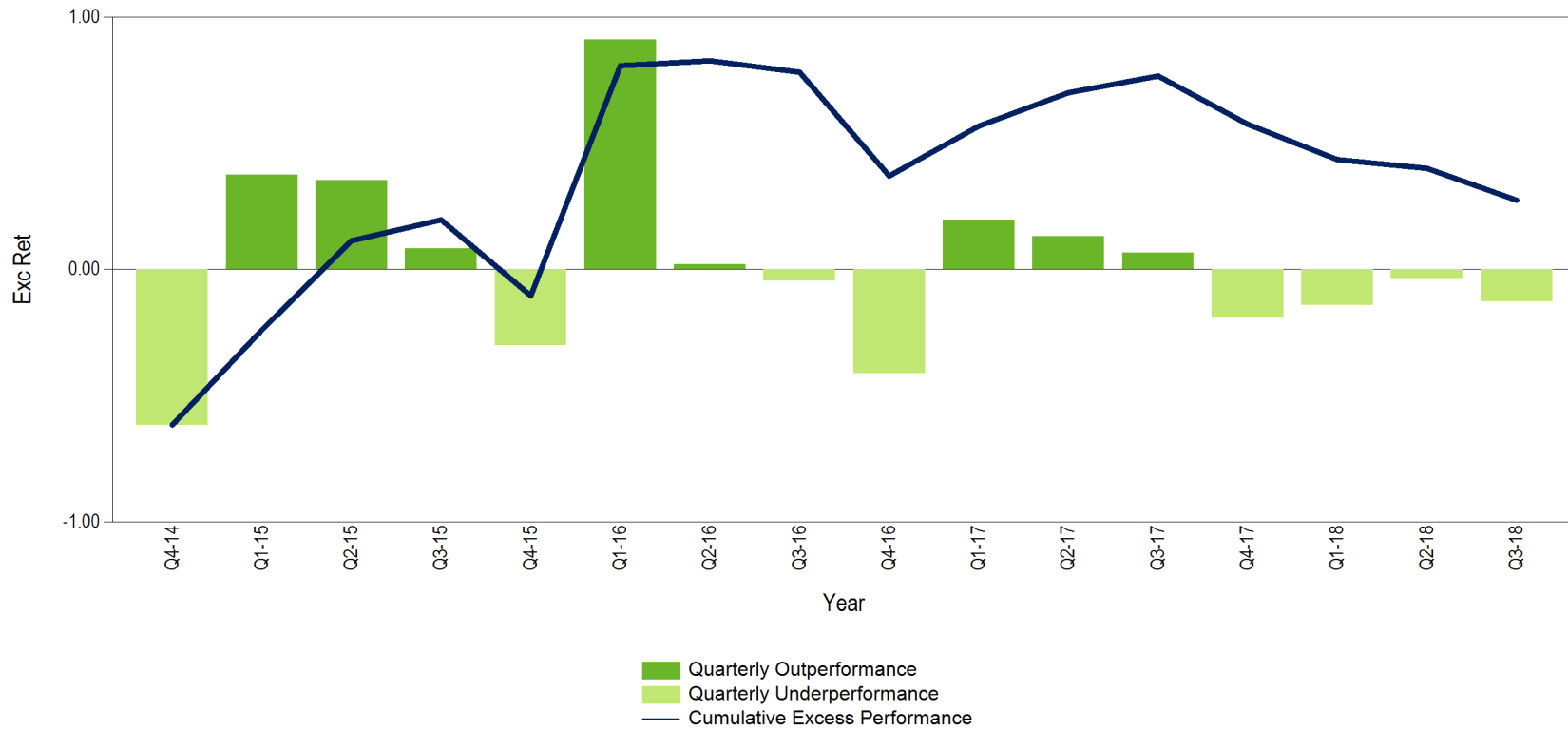
REAL ASSETS MANAGER PERFORMANCE

NEPC, LLC

Los Angeles City Employees' Retirement System

DFA US TIPS

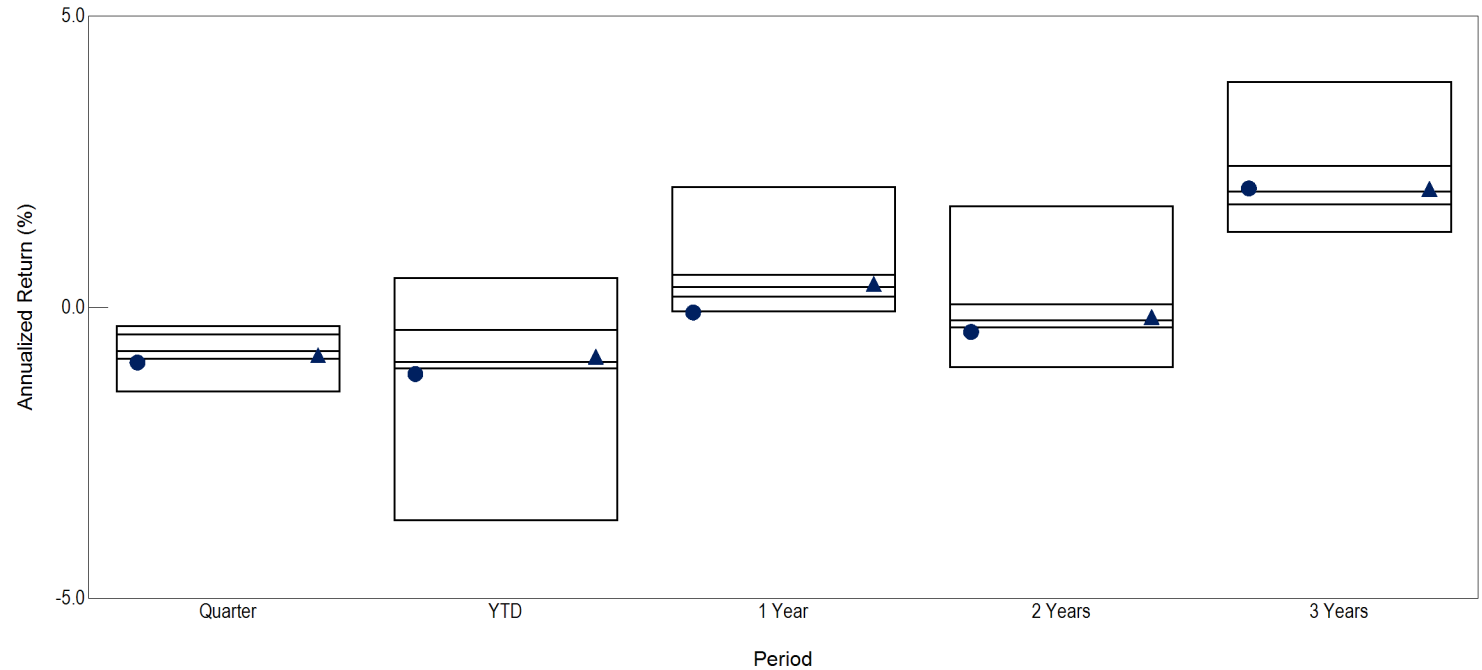
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

DFA US TIPS

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



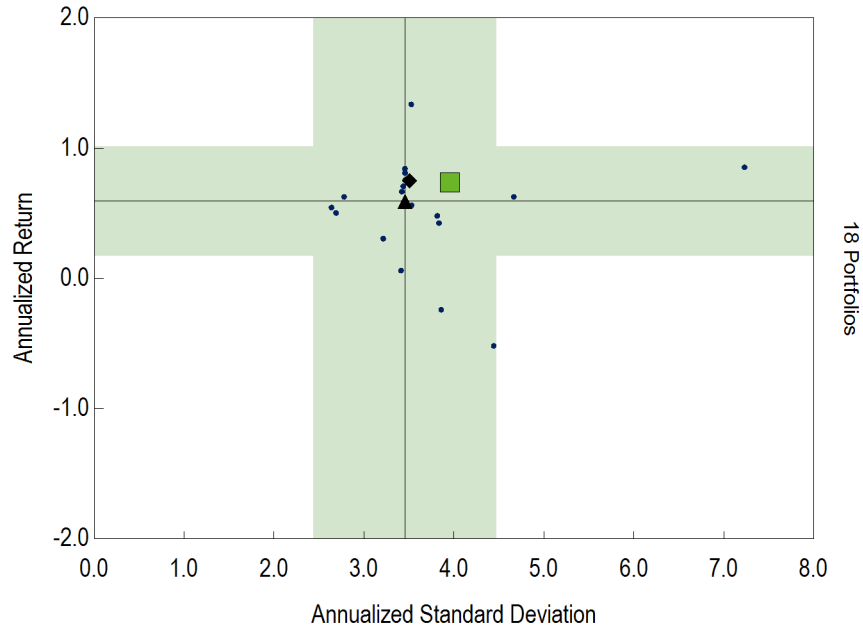
	Return (Rank)									
5th Percentile	-0.32		0.50		2.07		1.73		3.87	
25th Percentile	-0.46		-0.37		0.57		0.07		2.44	
Median	-0.74		-0.92		0.36		-0.21		2.00	
75th Percentile	-0.87		-1.04		0.19		-0.34		1.78	
95th Percentile	-1.43		-3.64		-0.06		-1.01		1.31	
# of Portfolios	21		20		20		20		20	
● DFA US TIPS	-0.95	(91)	-1.14	(82)	-0.09	(96)	-0.42	(86)	2.04	(46)
▲ BBgBarc US TIPS TR	-0.82	(63)	-0.84	(45)	0.41	(40)	-0.16	(41)	2.04	(47)



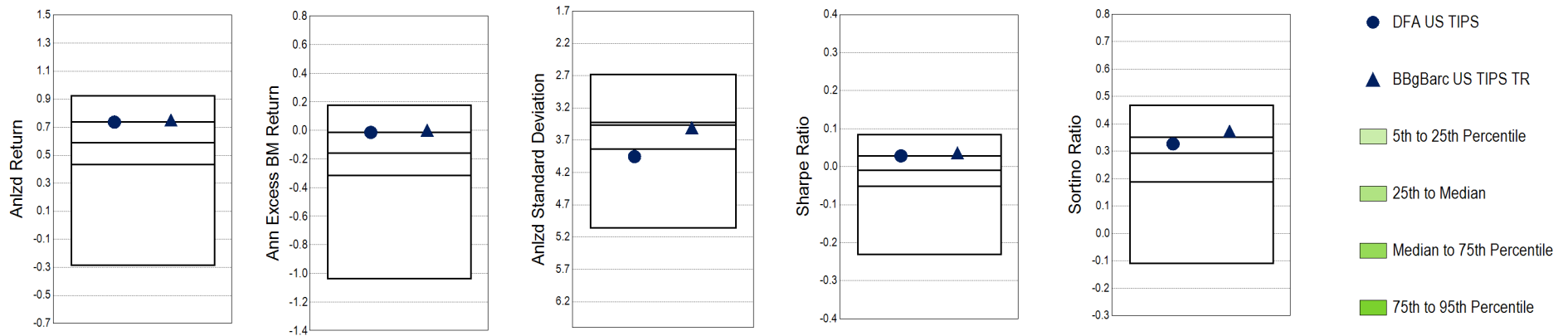
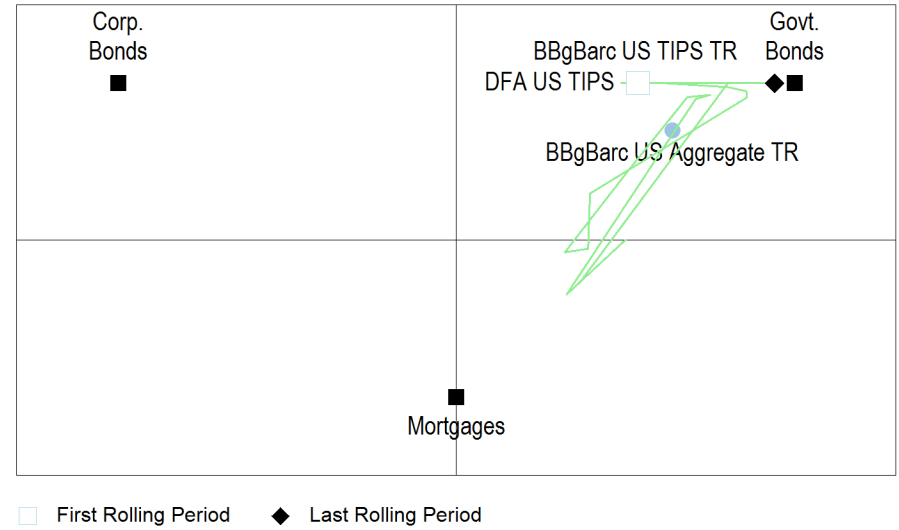
Los Angeles City Employees' Retirement System

DFA US TIPS

Since Inception Risk Return

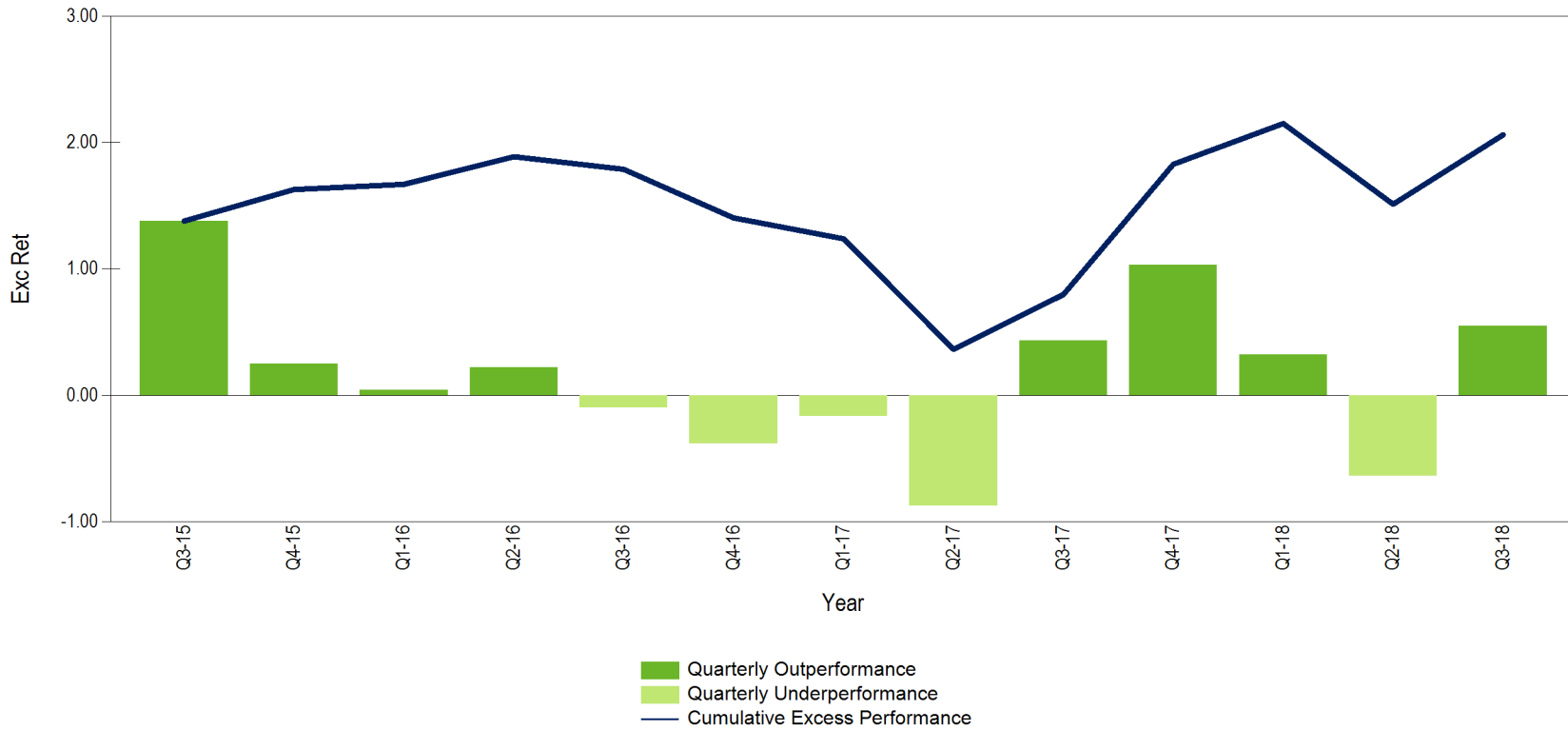


Since Inception Style Map



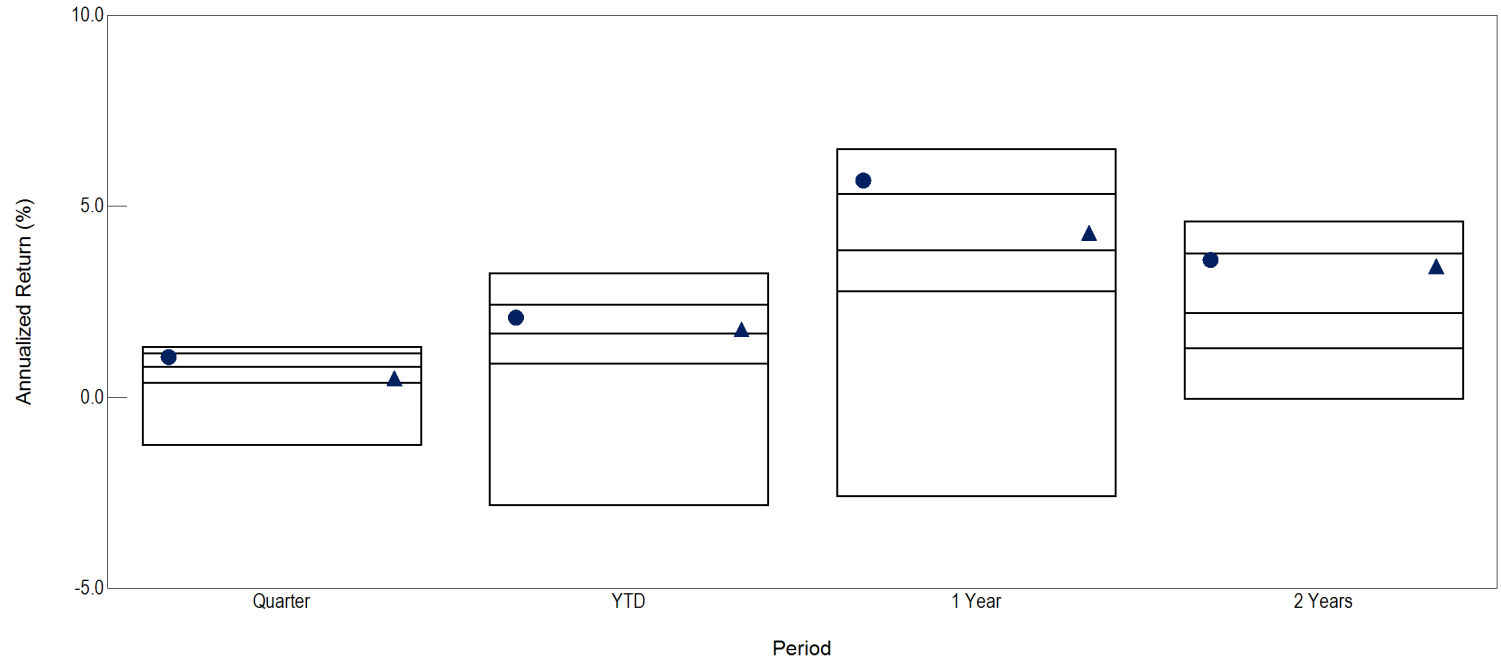
CENTERSQUARE US REAL ESTATE

Quarterly and Cumulative Excess Performance



CENTERSQUARE US REAL ESTATE

CenterSquare US Real Estate vs. eV US REIT Net

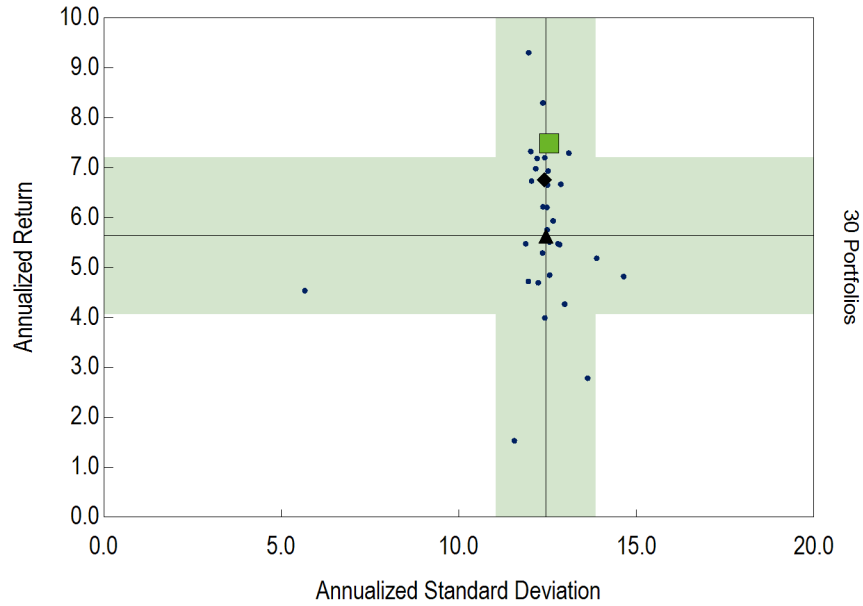


	Return (Rank)			
	Quarter	YTD	1 Year	2 Years
5th Percentile	1.32	3.24	6.50	4.60
25th Percentile	1.16	2.43	5.34	3.78
Median	0.82	1.68	3.87	2.23
75th Percentile	0.40	0.90	2.79	1.30
95th Percentile	-1.23	-2.80	-2.57	-0.02
# of Portfolios	31	31	31	30
● CenterSquare US Real Estate	1.05 (38)	2.08 (35)	5.67 (18)	3.59 (27)
▲ FTSE NAREIT All Equity REIT	0.50 (68)	1.78 (46)	4.31 (45)	3.43 (29)

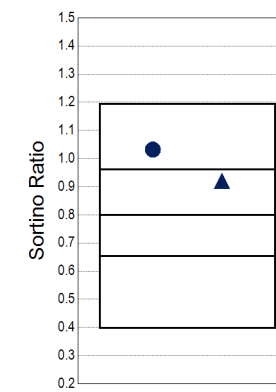
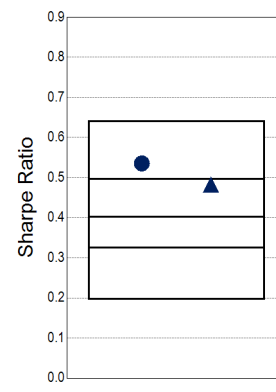
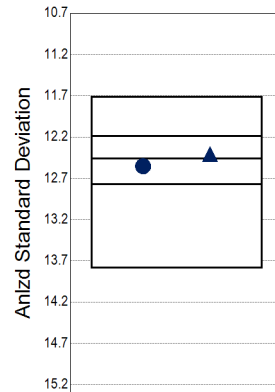
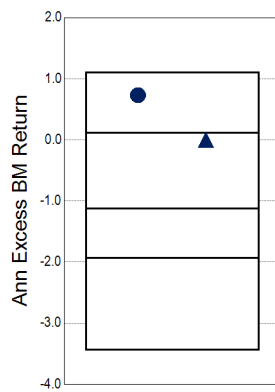
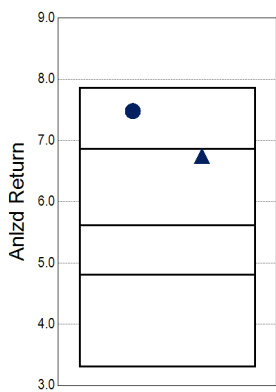
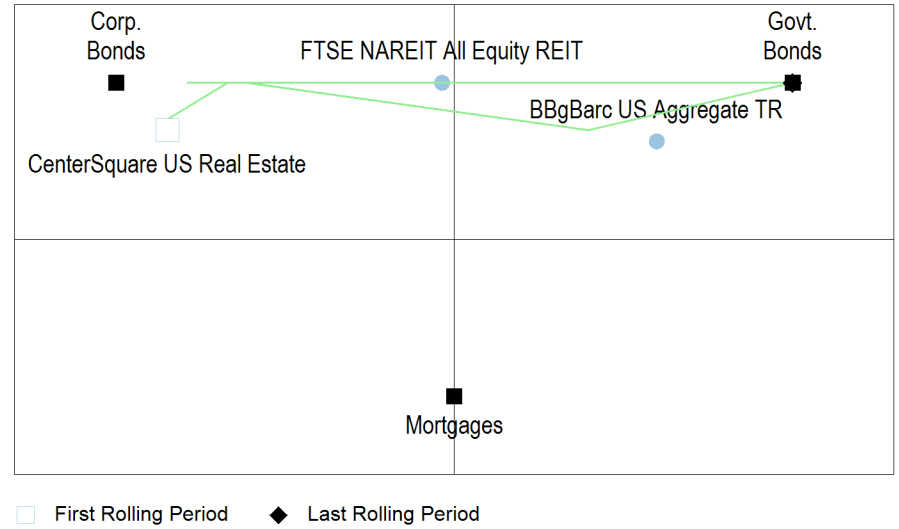


CENTERSQUARE US REAL ESTATE

Since Inception Risk Return



Since Inception Style Map



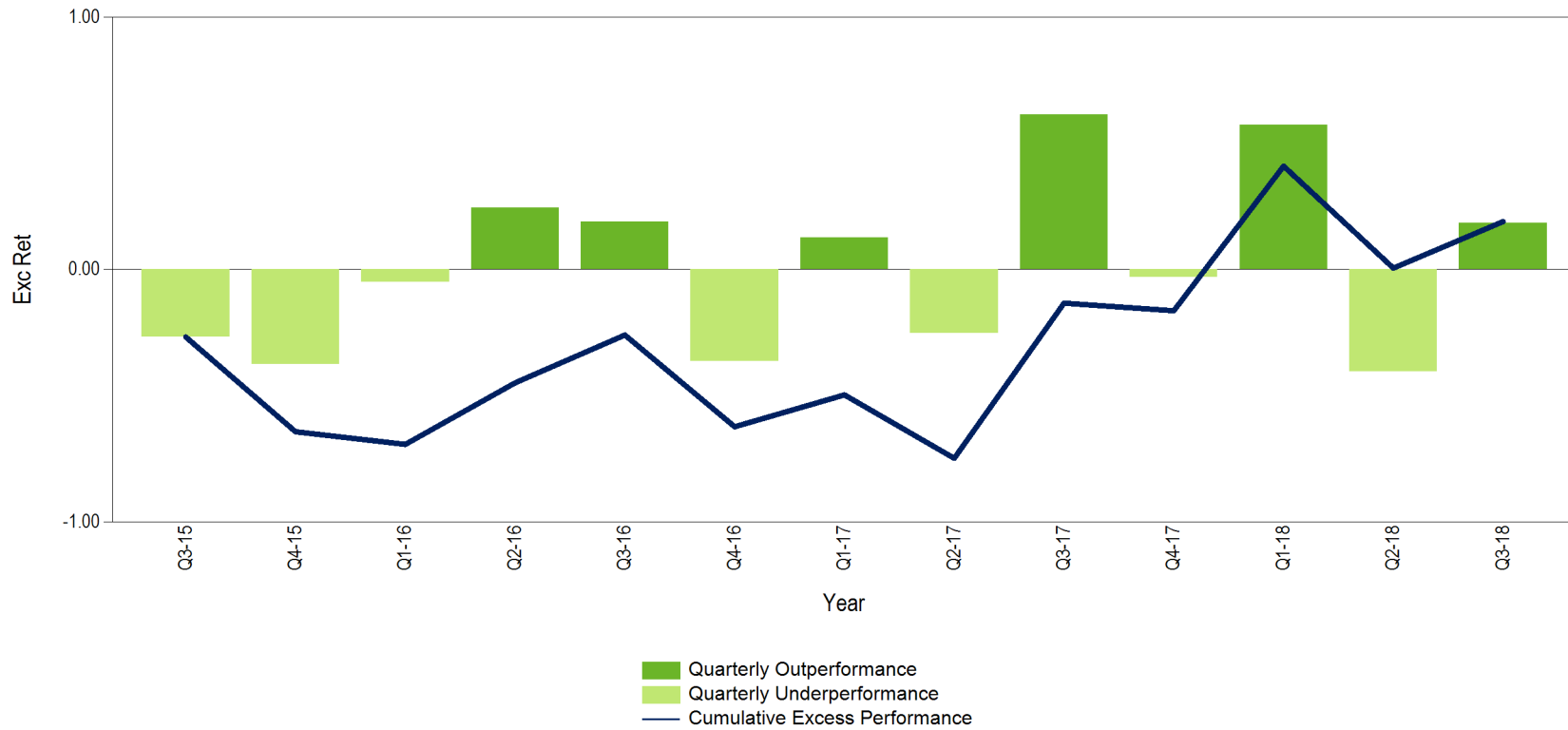
- CenterSquare US Real Estate
- ▲ FTSE NAREIT All Equity REIT
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

CORE COMMODITY MGMT

Quarterly and Cumulative Excess Performance



DEFINITIONS

NEPC, LLC

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: Policy index definitions do not reflect the updated target asset allocation adopted on April 24, 2018.

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



GLOSSARY OF INVESTMENT TERMINOLOGY

Of Portfolios/Observations¹ - The total number of data points that make up a specified universe

Allocation Index³ - 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 Effect² - 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)³ - 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)³ - 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.

Attribution³ - 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 Maturity⁴ - 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 Average¹ - 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) Attribution¹ - 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) Attribution¹ - 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)⁴ - 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.

Correlation¹ - 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: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



GLOSSARY OF INVESTMENT TERMINOLOGY

Coupon⁴ – 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 Effect¹ – Is the effect that changes in currency exchange rates over time affect excess performance.

Derivative Instrument² – 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 Deviation¹ – 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.

Duration³ – 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 Ratio¹ – 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 Bond³ – 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 Hurdle⁵ – 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 Mark⁴ – 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 Rate⁴ – 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 Effects² – 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.

Median³ – 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 Duration³ – The percentage change in the price of a fixed income security that results from a change in yield.

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

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

Net Investment Change¹ – Is the change in an investment after accounting for all Net Cash Flows.

Performance Fee⁴ – 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: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



GLOSSARY OF INVESTMENT TERMINOLOGY

Policy Index³ - 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)⁴ - 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)³ - The weighted equity P/E is based on current price and trailing 12 months earnings per share (EPS).

Price to Sales (P/S)⁴ - 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)⁴ - 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) Effect² - 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 rate⁵ - is a hurdle rate that once beaten allows a fund manager to charge a performance fee based on the entire annualized return.

Tiered Fee¹ - 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 Effects² - 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 Return¹ - 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.

Universe³ - The list of all assets eligible for inclusion in a portfolio.

Upside Deviation¹ - Standard Deviation of Positive Returns

Weighted Avg. Market Cap.⁴ - 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 (%)³ - The current yield of a security is the current indicated annual dividend rate divided by current price.

Yield to Maturity³ - The discount rate that equates the present value of cash flows, both principal and interest, to market price.

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



DISCLOSURES

NEPC, LLC

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.
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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.

