PORTFOLIO PERFORMANCE REVIEW

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM



Quarter Ending June 30, 2020



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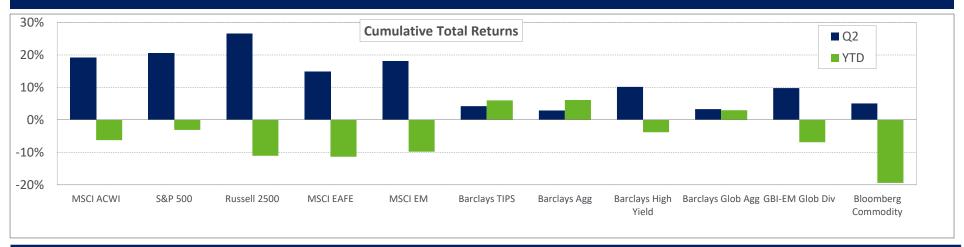
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EXECUTIVE SUMMARY

PERFORMANCE OVERVIEW

Q2 Market Summary – Risk Assets Rallied Significantly



	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	\$17,688,591,959	10.13%	53	-4.39%	58	1.24%	48	5.49%	30	5.98%	30	8.71%	19	6.73%	16	7.94%	Oct-94
Policy Index		13.76%	8	-2.71%	16	4.01%	8	6.51%	11	6.64%	11	9.01%	11	6.78%	14	8.00%	Oct-94
InvMetrics Public DB \$1-50B Gross Median		10.23%		-4.15%		1.20%		4.93%		5.46%		7.77%		6.11%		7.58%	Oct-94

Note: Performance is gross of fees

Risk assets rallied significantly as global fiscal and monetary stimulus buoys markets

• The U.S. Equity composite underperformed due to manager selection and the Non-U.S. Equity composite outperformed due to manager selection.

Credit spreads declined since March reflecting the Fed's involvement in credit markets and debt issuance set monthly records

• The Core Fixed Income composite outperformed due to manager performance.

Gold rallied significantly during the quarter as real rates continued to decline. The increase reflects broad economic uncertainty about growth and inflation, despite unprecedented levels of monetary and fiscal stimulus.



MARKET OUTLOOK

NEPC, LLC —

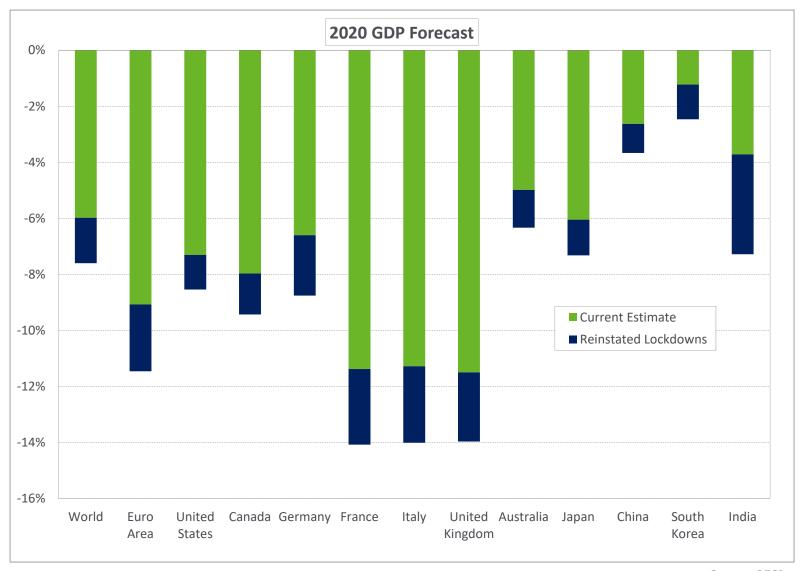
THE ECONOMIC BACKDROP IS CHALLENGED

Metric	12/31/19	03/31/20	06/30/20	Trend
S&P 500 CY 2020 Earnings Estimate	\$177.81	\$160.40	\$126.89	
US Real GDP (QoQ%)	2.1%	-5.0%	-33.4%*	myshhan
US CY 2020 Real GDP Growth Consensus	1.8%	-0.7%	-5.2%	
US Unemployment Rate	3.5%	4.4%	11.1%	~~
Continued Claims for Unemployment	1.7M	3.5M	19.1M	
Federal Reserve Balance Sheet as % of Nominal GDP	19.2%	24.4%	32.9%	

Source: US Bureau of Labor Statistics, Federal Reserve, FactSet, NEPC *The 06/30/20 real GDP figure represents the consensus estimate from FactSet



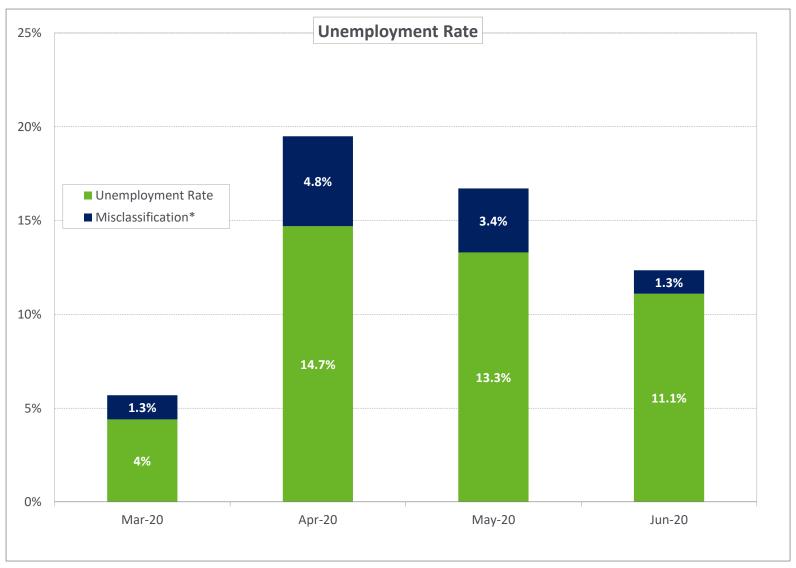
COVID WEIGHS ON GROWTH FORECASTS





Source: OECD The additional decline in economic growth from reinstated lockdowns represents a renewed outbreak of infections that forces economies to re-implement restrictions.

UNEMPLOYMENT MAY BE WORSE THAN REPORTED

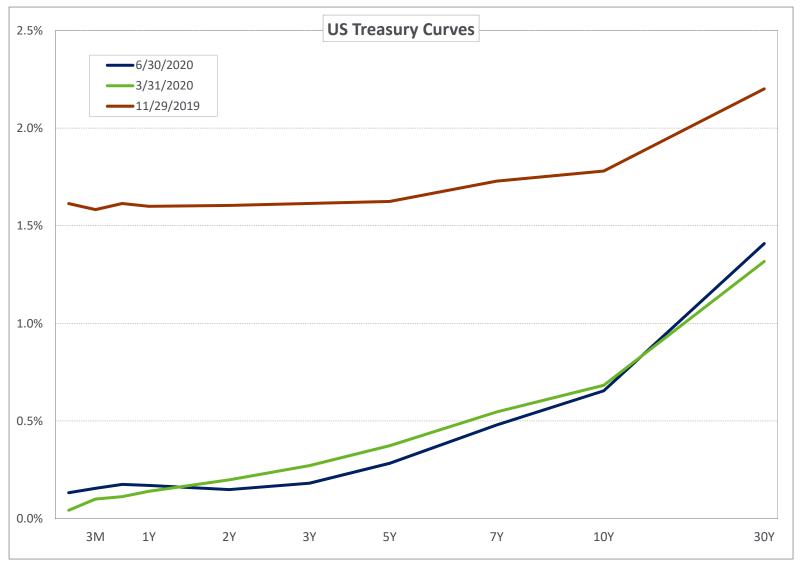




Misclassification* represents an estimate of "unemployed on temporary leave" mislabeled as "employed but absent from work"



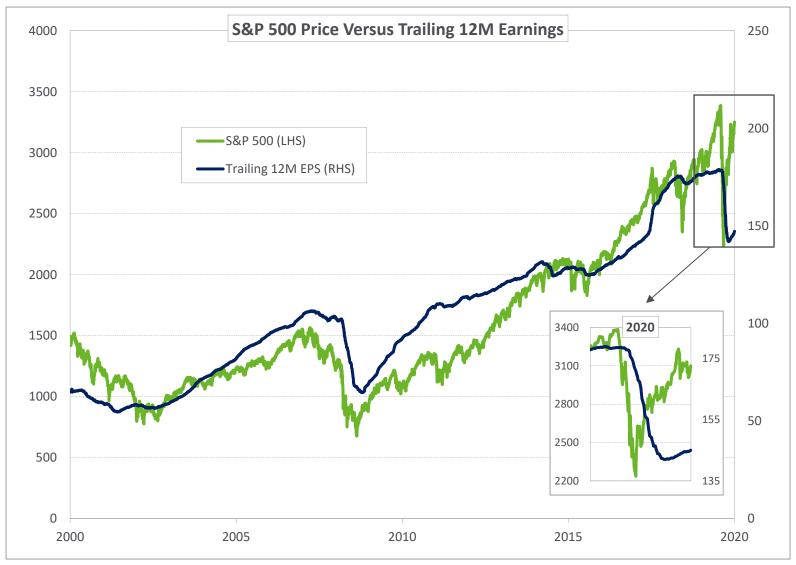
INTEREST RATES REFLECT ECONOMIC CONCERNS

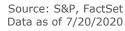






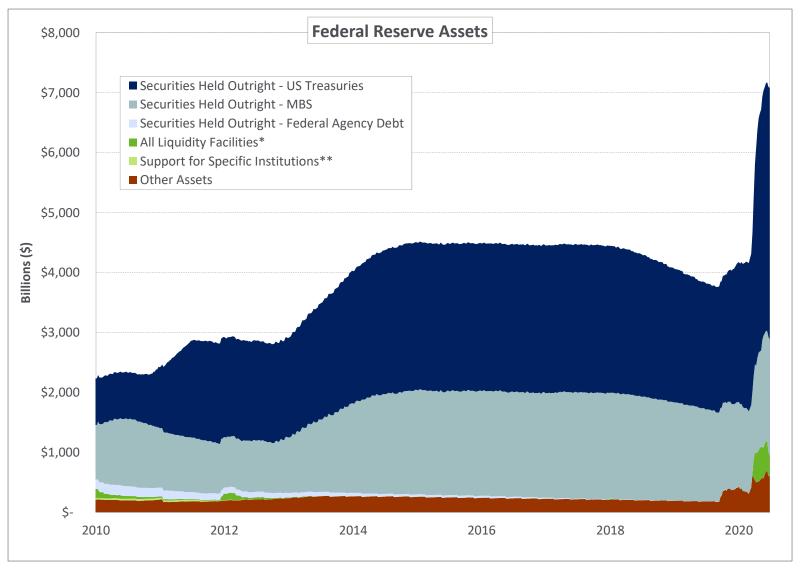
EQUITY PRICES DETACHED FROM FUNDAMENTALS







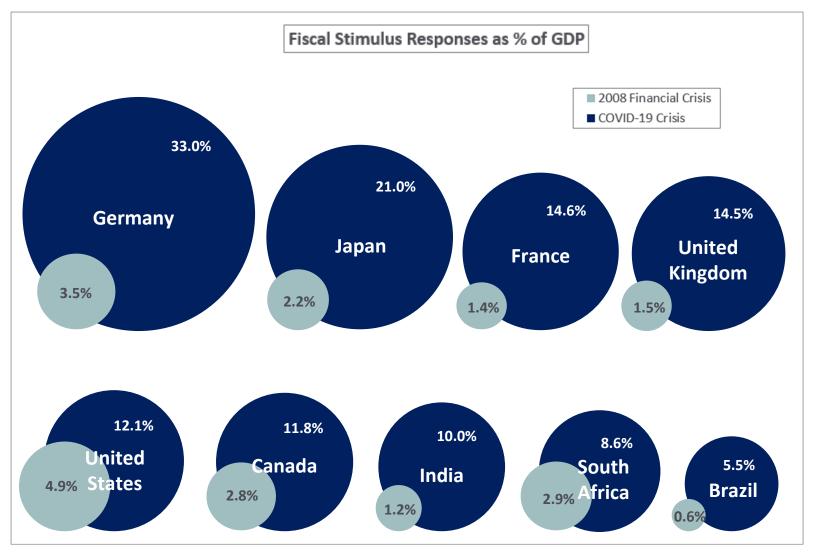
FED BALANCE SHEET GROWTH





Sources: Federal Reserve, FactSet, NEPC; *All Liquidity Facilities includes term auction credit, primary credit, secondary credit, seasonal credit, Primary Dealer Credit Facility, Asset-Backed Commercial Paper, Money Market Mutual Fund Liquidity Facility, and central bank liquidity swaps; **Support for Specific Institutions includes credit extended to AIG and Maiden Lane LLCs

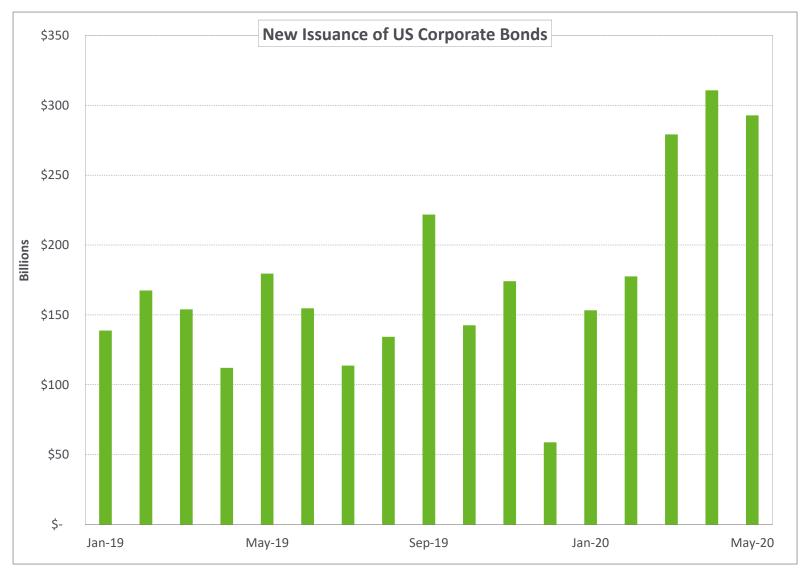
THE GLOBAL FISCAL STIMULUS PICTURE





Source: IMF, McKinsey – <u>The 10 Trillion Dollar Rescue: How Governments Can Deliver Impact</u>
COVID-19 Crisis includes 2019 GDP for calculations; 2008 Financial Crisis incorporates data
published by the IMF in March 2009 and includes discretionary measures announced for 2008-2010
China announced 4.5% Fiscal Stimulus in May, less than countries in chart

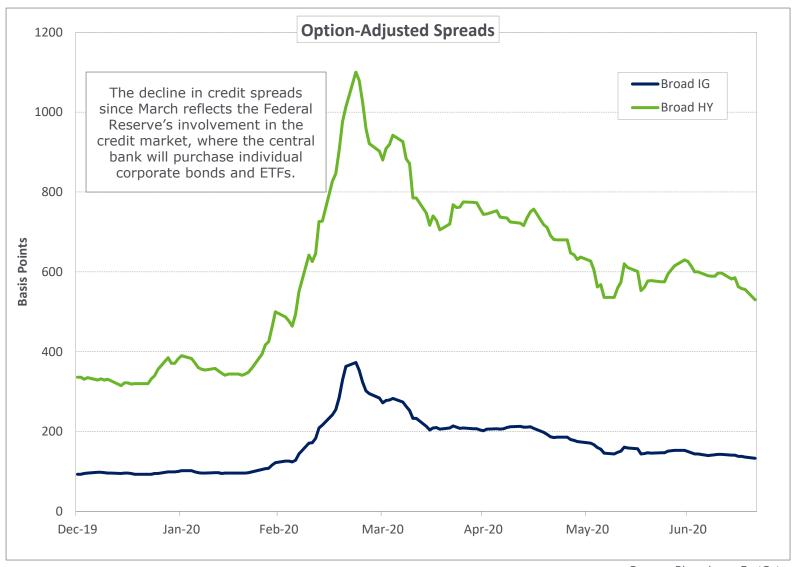
DEBT ISSUANCE SETTING MONTHLY RECORDS







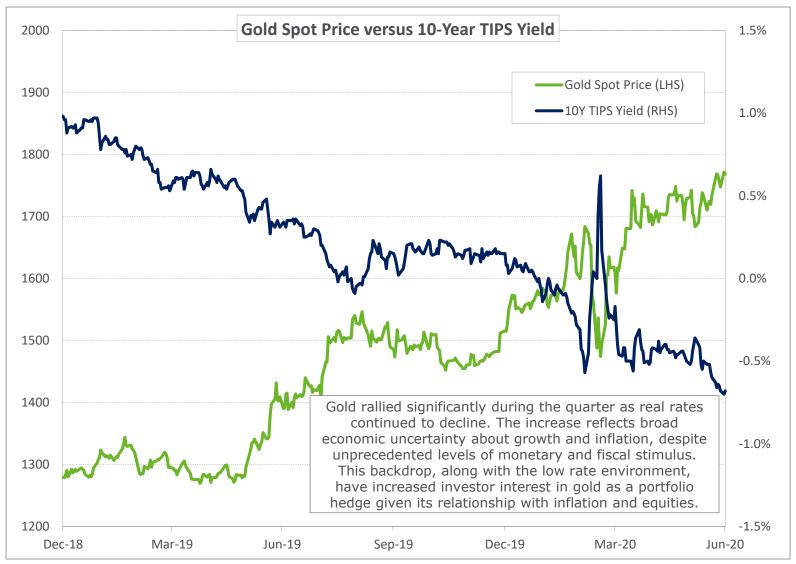
CREDIT SPREADS HAVE FALLEN SINCE MARCH





Source: Bloomberg, FactSet Data as of 7/20/2020

GOLD RALLIED AS REAL INTEREST RATES FELL



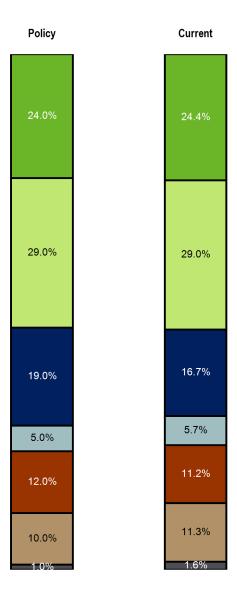




ASSET CLASS POLICY OVERVIEW

NEPC, LLC —

TOTAL FUND ASSET ALLOCATION VS. POLICY



Asset Allocation vs. Target												
	Current	Policy	Current D	ifference*	Policy Range	Within Range						
U.S. Equity	\$4,316,837,197	24.00%	24.40%	0.40%	19.00% - 29.00%	Yes						
Non-US Equity Core	\$5,126,848,577	29.00%	28.98%	-0.02%	24.00% - 34.00%	Yes						
Fixed Income	\$2,960,116,708	19.00%	16.73%	-2.27%	15.00% - 22.00%	Yes						
Credit Opportunities	\$1,008,113,988	5.00%	5.70%	0.70%	0.00% - 10.00%	Yes						
Private Equity	\$1,989,618,128	12.00%	11.25%	-0.75%		Yes						
Real Assets	\$2,004,127,555	10.00%	11.33%	1.33%	7.00% - 13.00%	Yes						
Cash	\$282,929,807	1.00%	1.60%	0.60%	0.00% - 2.00%	Yes						
Total	\$17,688,591,959	100.00%	100.00%									

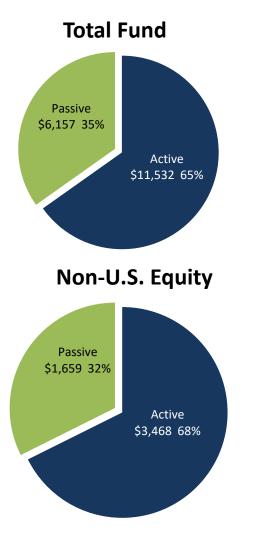
^{*}Difference between Policy and Current Allocation

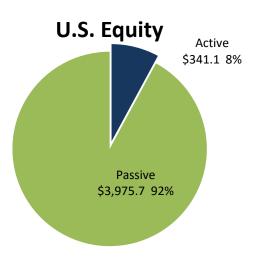
Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.

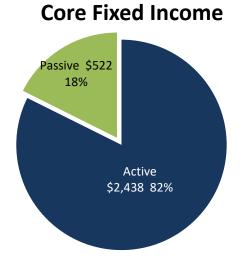


ACTIVE VS. PASSIVE MANAGER BREAKDOWN

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







- LACERS allocated 65% to active managers and 35% 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)

	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	\$17,688,591,959	10.13%	53	-4.39%	58	1.24%	48	5.49%	30	5.98%	30	8.71%	19	6.73%	16	7.94%	Oct-94
Policy Index		13.76%	8	-2.71%	16	4.01%	8	6.51%	11	6.64%	11	9.01%	11	6.78%	14	8.00%	Oct-94
InvMetrics Public DB \$1-50B Gross Median		10.23%		-4.15%		1.20%		4.93%		5.46%		7.77%		6.11%		7.58%	Oct-94

Over the past five years, the Fund returned 5.98% underperforming the policy index by 0.66% and ranked in the 30^{th} percentile in the Public Funds \$1 Billion- \$50 Billion universe. The Fund's volatility was 8.49% and ranked in the 62^{nd} percentile over this period. The Fund's risk-adjusted performance, as measured by the Sharpe Ratio, ranks in the 38^{th} percentile in its peer group.

Over the past three years, the Fund returned 5.49% underperforming the policy index by 1.02% and ranked in the 30^{th} percentile in its peer group. The Fund's volatility ranks in the 55^{th} percentile and the three-year Sharpe Ratio of 0.40 ranks in the 39^{th} percentile.

In the one-year ended June 30, 2020, assets decreased from \$17.693 billion twelve months ago to \$17.688 billion. The Fund returned 1.24%, underperforming the policy index by 2.77% and ranked in the $48^{\rm th}$ percentile in its peer group.

All asset classes were within policy range as of June 30, 2020.

The InvMetrics Public Funds \$1 Billion- \$50 Billion Universe contains 79 observations for the period ending June 30, 2020.



5 Years Ending June 30, 2020													
	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank					
LACERS Master Trust	5.98%	30	8.49%	62	0.57	38	0.62	32					
Policy Index	6.64%	11	9.89%	90	0.56	39	0.63	31					
InvMetrics Public DB \$1-50B Gross Median	5.46%		8.26%		0.51		0.53						

3 Years Ending June 30, 2020												
	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank				
LACERS Master Trust	5.49%	30	9.52%	55	0.40	39	0.42	33				
Policy Index	6.51%	11	11.12%	90	0.44	29	0.48	21				
InvMetrics Public DB \$1-50B Gross Median	4.93%		9.29%		0.36		0.37					



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	17,688,591,959	100.00	10.13	-4.39	1.24	5.49	5.98	8.71	7.94	Oct-94
Policy Index			13.76	<u>-2.71</u>	<u>4.01</u>	<u>6.51</u>	6.64	<u>9.01</u>	8.00	Oct-94
Over/Under			-3.63	-1.68	-2.77	-1.02	-0.66	-0.30	-0.06	
U.S. Equity	4,316,837,197	24.40	21.56	-4.81	4.73	9.36	9.56	13.46	10.26	Oct-94
U.S. Equity Blend			22.03	<u>-3.48</u>	<u>6.53</u>	10.04	<u>10.03</u>	<u>13.72</u>	9.30	Oct-94
Over/Under			-0.47	-1.33	-1.80	-0.68	-0.47	-0.26	0.96	
Non-U.S. Equity	5,126,848,577	28.98	18.60	-10.20	-3.57	2.08	3.44	6.23	4.87	Nov-94
MSCI ACWI ex USA			<u>16.12</u>	<u>-11.00</u>	<u>-4.80</u>	<u>1.13</u>	<u>2.26</u>	<u>4.97</u>	<u>4.65</u>	Nov-94
Over/Under			2.48	0.80	1.23	0.95	1.18	1.26	0.22	
Core Fixed Income	2,960,116,708	16.73	4.08	6.74	9.38	5.64	4.69		4.11	Jul-12
Core Fixed Income Blend			<u>2.90</u>	<u>6.13</u>	<u>8.74</u>	<u>5.32</u>	<u>4.30</u>		<u>3.49</u>	Jul-12
Over/Under			1.18	0.61	0.64	0.32	0.39		0.62	
Credit Opportunities	1,008,113,988	5.70	12.03	-4.95	-1.12	3.19	4.45		4.81	Jun-13
Credit Opportunities Blend			<u>10.89</u>	<u>-3.43</u>	<u>0.20</u>	<u>3.44</u>	<u>4.99</u>		<u>5.18</u>	Jun-13
Over/Under			1.14	-1.52	-1.32	-0.25	-0.54		-0.37	
Real Assets	2,004,127,555	11.33	2.71	-1.81	0.82	4.16	5.02	7.66	6.11	Nov-94
CPI + 5% (Unadjusted)			<u>1.10</u>	<u>2.80</u>	<u>5.68</u>	<u>6.80</u>	<u>6.63</u>	<u>6.77</u>	<u>7.25</u>	Nov-94
Over/Under			1.61	-4.61	-4.86	-2.64	-1.61	0.89	-1.14	
Public Real Assets	1,196,757,429	6.77	6.13	-1.27	1.68	3.34	2.73		1.77	Jun-14
Public Real Assets Blend			<u>10.10</u>	<u>-4.02</u>	<u>-2.35</u>	<u>1.25</u>	<u>0.65</u>		<u>-0.77</u>	Jun-14
Over/Under			-3.97	2.75	4.03	2.09	2.08		2.54	
Private Real Estate	788,237,602	4.46	-2.16	-2.74	-0.46	4.91	7.03	9.04	6.64	Oct-94
Real Estate Blend			<u>-1.35</u>	<u>-0.20</u>	<u>3.04</u>	<u>6.51</u>	<u>8.16</u>	<u>10.84</u>	<u>9.59</u>	Oct-94
Over/Under			-0.81	-2.54	-3.50	-1.60	-1.13	-1.80	-2.95	
Private Equity	1,989,618,128	11.25	- 9.57	-6.43	-4.18	7.36	7.97	10.97	9.89	Nov-95
Private Equity Blend			<u>22.87</u>	<u>-2.02</u>	<u>9.71</u>	<u>13.32</u>	<u>13.31</u>	<u>17.32</u>	<u>12.89</u>	Nov-95
Over/Under			-32.44	-4.41	-13.89	-5.96	-5.34	-6.35	-3.00	
Cash	282,929,807	1.60								



TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value	% of	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(\$)	Portfolio	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
LACERS Master Trust	17,688,591,959	100.00	10.09	-4.47	1.07	5.30	5.79	8.52		Oct-94
Policy Index			<u>13.76</u>	<u>-2.71</u>	<u>4.01</u>	<u>6.51</u>	<u>6.64</u>	<u>9.01</u>		Oct-94
Over/Under			-3.67	-1.76	-2.94	-1.21	-0.85	-0.49		
U.S. Equity	4,316,837,197	24.40	21.55	-4.83	4.68	9.30	9.49	13.31		Oct-94
U.S. Equity Blend			<u>22.03</u>	<u>-3.48</u>	<u>6.53</u>	<u>10.04</u>	<u>10.03</u>	<u>13.72</u>		Oct-94
Over/Under			-0.48	-1.35	-1.85	-0.74	-0.54	-0.41		
Non-U.S. Equity	5,126,848,577	28.98	18.51	-10.36	-3.91	1.71	3.07	5.87		Nov-94
MSCI ACWI ex USA			<u>16.12</u>	<u>-11.00</u>	<u>-4.80</u>	<u>1.13</u>	<u>2.26</u>	<u>4.97</u>		Nov-94
Over/Under			2.39	0.64	0.89	0.58	0.81	0.90		
Core Fixed Income	2,960,116,708	16.73	4.06	6.68	9.27	5.54	4.58		4.00	Jul-12
Core Fixed Income Blend			<u>2.90</u>	<u>6.13</u>	<u>8.74</u>	<u>5.32</u>	<u>4.30</u>		<u>3.49</u>	Jul-12
Over/Under			1.16	0.55	0.53	0.22	0.28		0.51	
Credit Opportunities	1,008,113,988	5.70	11.95	-5.09	-1.41	2.86	4.10		4.47	Jun-13
Credit Opportunities Blend			<u>10.89</u>	<u>-3.43</u>	<u>0.20</u>	<u>3.44</u>	<u>4.99</u>		<u>5.18</u>	Jun-13
Over/Under			1.06	-1.66	-1.61	-0.58	-0.89		-0.71	
Real Assets	2,004,127,555	11.33	2.67	-1.89	0.67	4.00	4.85	7.51		Nov-94
CPI + 5% (Unadjusted)			<u>1.10</u>	<u>2.80</u>	<u>5.68</u>	<u>6.80</u>	<u>6.63</u>	<u>6.77</u>		Nov-94
Over/Under			1.57	-4.69	-5.01	-2.80	-1.78	0.74		
Public Real Assets	1,196,757,429	6.77	6.08	-1.38	1.47	3.11	2.49		1.56	Jun-14
Public Real Assets Blend			<u>10.10</u>	<u>-4.02</u>	<u>-2.35</u>	<u>1.25</u>	<u>0.65</u>		<u>-0.77</u>	Jun-14
Over/Under			-4.02	2.64	3.82	1.86	1.84		2.33	
Private Real Estate	788,237,602	4.46	-2.18	-2.78	-0.55	4.83	6.94	8.94		Oct-94
Real Estate Blend			<u>-1.35</u>	<u>-0.20</u>	<u>3.04</u>	<u>6.51</u>	<u>8.16</u>	<u>10.84</u>		Oct-94
Over/Under			-0.83	-2.58	-3.59	-1.68	-1.22	-1.90		
Private Equity	1,989,618,128	11.25	-9.57	-6.43	-4.18	7.36	7.98	10.98		Nov-95
Private Equity Blend			<u>22.87</u>	<u>-2.02</u>	<u>9.71</u>	<u>13.32</u>	<u>13.31</u>	<u>17.32</u>		Nov-95
Over/Under			-32.44	-4.41	-13.89	-5.96	-5.33	-6.34		
Cash	282,929,807	1.60								



TOTAL FUND RISK STATISTICS (NET)

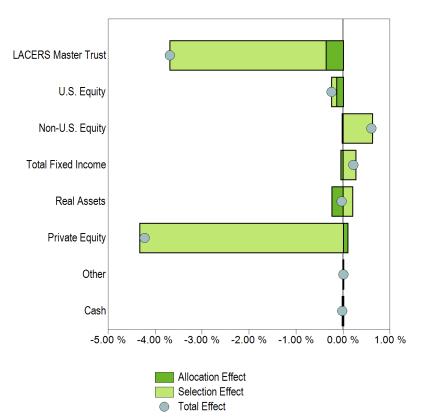
				3	Years Er	nding June 30,	2020						
	% of Total MV (%)	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Annualized Alpha Jensen (%)	Rank	Information Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
LACERS Master Trust	100.00%	5.30%	38	9.53%	55	-0.49%	64	-0.63		0.40	39	1.92%	68
Total Equity	53.39%	5.11%	48	16.81%	65	-0.45%	48	-0.57		0.23	53	0.76%	9
U.S. Equity	24.40%	9.30%	33	17.88%	47	-0.83%	41	-1.11		0.48	33	0.67%	10
Non-U.S. Equity	28.98%	1.71%	42	16.56%	62	0.59%	31	0.44	27	0.00	42	1.31%	14
Developed ex-U.S.	21.90%	1.93%	48	16.31%	74	1.17%	45	0.53	39	0.02	48	2.10%	28
Emerging Markets	7.08%	0.81%	39	18.64%	51	-1.09%	43	-0.83		-0.06	39	1.31%	10
Core Fixed Income	16.73%	5.54%	12	3.25%	10	0.29%	17	0.36	7	2.67	16	0.60%	12
Credit Opportunities	5.70%	2.86%		10.25%		-0.80%		-0.36		0.09		1.63%	
Real Assets	11.33%	4.00%		3.44%		2.00%		-0.78		0.70		3.56%	
Public Real Assets	6.77%	3.11%		5.78%		1.70%		0.48		0.26		3.89%	
Private Real Estate	4.46%	4.83%	66	2.59%	56	3.66%	7	-0.40		1.30	66	4.21%	93
Private Equity	11.25%	7.36%	74	6.77%	33	7.66%	25	-0.28		0.90	78	21.53%	98

				5	Years Er	iding June 30,	2020						
	% 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%	5.79%	34	8.50%	62	-0.05%	56	-0.50		0.60	34	1.68%	67
Total Equity	53.39%	5.99%	50	14.86%	62	-0.13%	37	-0.17		0.37	64	0.69%	10
U.S. Equity	24.40%	9.49%	32	15.51%	42	-0.62%	29	-0.81		0.60	29	0.68%	8
Non-U.S. Equity	28.98%	3.07%	33	15.13%	63	0.79%	33	0.64	9	0.16	34	1.26%	8
Developed ex-U.S.	21.90%	3.04%	45	14.89%	65	0.97%	45	0.52	34	0.16	45	1.89%	23
Emerging Markets	7.08%	2.25%	37	18.09%	87	-0.63%	48	-0.53		0.09	37	1.16%	1
Core Fixed Income	16.73%	4.58%	23	3.05%	11	0.36%	30	0.47	8	1.90	2	0.59%	17
Credit Opportunities	5.70%	4.10%		8.71%		-1.23%		-0.62		0.29		1.45%	
Real Assets	11.33%	4.85%		3.08%		0.58%		-0.58		1.35		3.06%	
Public Real Assets	6.77%	2.49%		5.27%		1.67%		0.55		0.32		3.37%	
Private Real Estate	4.46%	6.94%	64	2.44%	34	6.74%	7	-0.26		2.37	76	4.68%	95
Private Equity	11.25%	7.98%	72	5.68%	18	8.55%	23	-0.29		1.32	79	18.28%	98



TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects 3 Months Ending June 30, 2020



	Attribution Summary 3 Months Ending June 30, 2020														
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects								
U.S. Equity	24.00%	21.55%	22.03%	-0.48%	-0.11%	-0.13%	-0.24%								
Non-U.S. Equity	29.00%	18.51%	16.12%	2.39%	0.63%	-0.02%	0.61%								
Total Fixed Income	24.00%	5.66%	4.53%	1.13%	0.27%	0.00%	0.27%								
Real Assets	10.00%	2.67%	1.10%	1.57%	0.21%	-0.25%	-0.04%								
Private Equity	12.00%	-9.57%	22.88%	-32.45%	-4.38%	0.12%	-4.26%								
Other	0.00%				0.01%	0.00%	0.01%								
Cash	1.00%	0.13%	0.03%	0.10%	0.00%	-0.02%	-0.02%								
Total	100.00%	10.10%	13.76%	-3.67%	-3.38%	-0.29%	-3.67%								

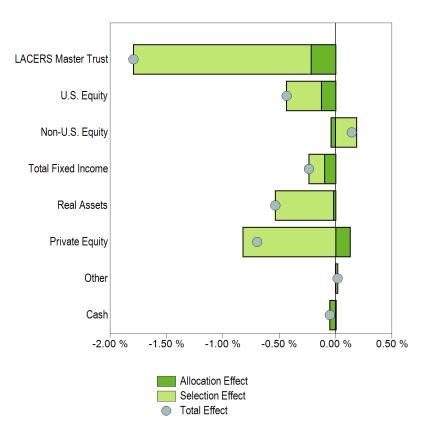
Wtd. = Weighted

Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.



TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects YTD Ending June 30, 2020



Attribution Summary YTD Ending June 30, 2020										
	Allocation Effect	Total Effects								
U.S. Equity	24.00%	-4.83%	-3.48%	-1.35%	-0.31%	-0.11%	-0.42%			
Non-U.S. Equity	29.00%	-10.36%	-11.00%	0.64%	0.19%	-0.04%	0.14%			
Total Fixed Income	24.00%	3.73%	4.23%	-0.50%	-0.14%	-0.06%	-0.19%			
Real Assets	10.00%	-1.89%	2.80%	-4.68%	-0.51%	-0.03%	-0.54%			
Private Equity	12.00%	-6.43%	-2.02%	-4.40%	-0.86%	0.14%	-0.72%			
Other	0.00%				0.02%	0.00%	0.02%			
Cash	1.00%	0.50%	0.40%	0.10%	0.00%	-0.05%	-0.05%			
Total	100.00%	-4.47%	-2.71%	-1.76%	-1.61%	-0.15%	-1.76%			

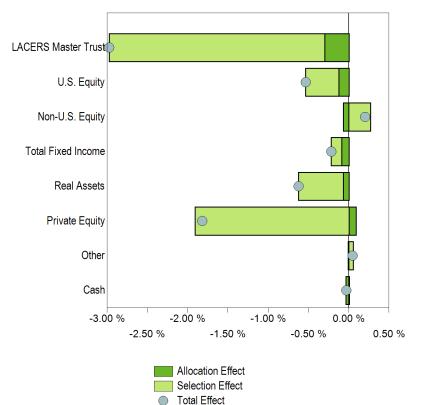
Wtd. = Weighted

Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.



TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects 1 Year Ending June 30, 2020



Attribution Summary 1 Year Ending June 30, 2020										
	Policy V Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects			
U.S. Equity	24.00%	4.68%	6.53%	-1.85%	-0.41%	-0.11%	-0.52%			
Non-U.S. Equity	29.00%	-3.91%	-4.80%	0.89%	0.27%	-0.06%	0.21%			
Total Fixed Income	24.00%	6.64%	7.08%	-0.44%	-0.13%	-0.04%	-0.17%			
Real Assets	10.00%	0.67%	5.68%	-5.01%	-0.55%	-0.07%	-0.63%			
Private Equity	12.00%	-4.18%	9.71%	-13.89%	-1.95%	0.11%	-1.84%			
Other	0.00%				0.05%	-0.01%	0.05%			
Cash	1.00%	1.56%	1.30%	0.26%	0.00%	-0.03%	-0.03%			
Total	100.00%	1.08%	4.01%	-2.93%	-2.71%	-0.22%	-2.93%			

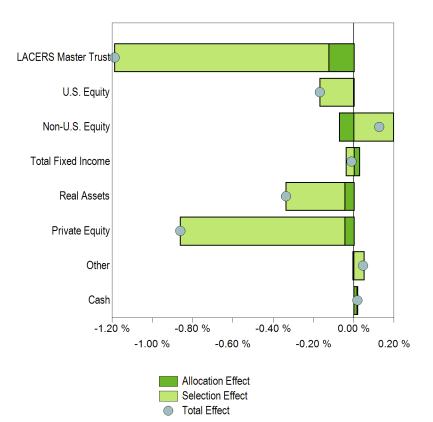
Wtd. = Weighted

Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.



TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects 3 Years Ending June 30, 2020



Attribution Summary 3 Years Ending June 30, 2020										
	Policy V Weight	Vtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects			
U.S. Equity	24.00%	9.30%	10.04%	-0.75%	-0.17%	0.00%	-0.17%			
Non-U.S. Equity	29.00%	1.71%	1.13%	0.57%	0.20%	-0.07%	0.13%			
Total Fixed Income	24.00%	4.90%	5.00%	-0.10%	-0.04%	0.04%	0.00%			
Real Assets	10.00%	4.00%	6.80%	-2.80%	-0.29%	-0.05%	-0.34%			
Private Equity	12.00%	7.36%	13.32%	-5.96%	-0.82%	-0.04%	-0.87%			
Other	0.00%				0.05%	0.00%	0.05%			
Cash	1.00%	1.85%	1.66%	0.19%	0.00%	0.02%	0.02%			
Total	100.00%	5.33%	6.51%	-1.18%	-1.07%	-0.11%	-1.18%			

Wtd. = Weighted

Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.



PRIVATE MARKETS PERFORMANCE AS OF MARCH 31, 2020

Private Equity	10 Year IRR	Since Inception IRR	Since Inception Multiple
Aggregate Portfolio	11.1%	10.5%	1.48x
Core Portfolio	11.7%	11.0%	1.50x
Specialized Portfolio	3.9%	1.8%	1.12x
Russell 3000 + 300 bps	13.1%	13.3%	N/A

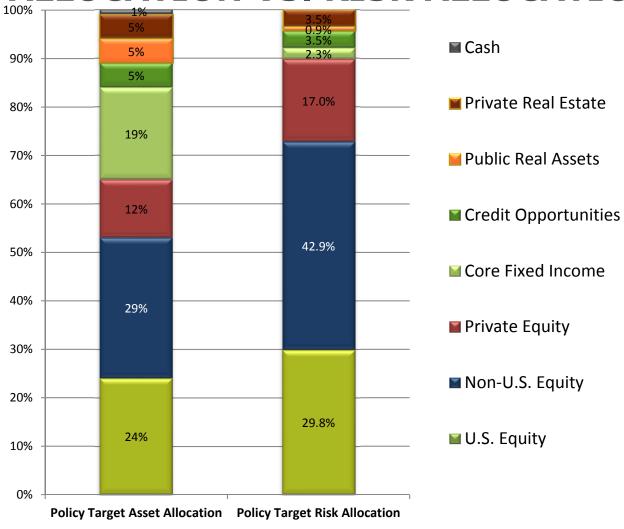
Real Estate	10 Year Return (Net)	Since Inception Return (Net)
Total Portfolio (TWR) ¹	9.28%	5.92%
NFI-ODCE + 80 basis points (TWR)	10.42%	7.07%

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.



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 Pubic 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 10, 2018. Implementation of the new asset allocation is currently in progress.



PUBLIC MARKETS RISK BUDGET COMPARISON AS OF JUNE 30, 2020

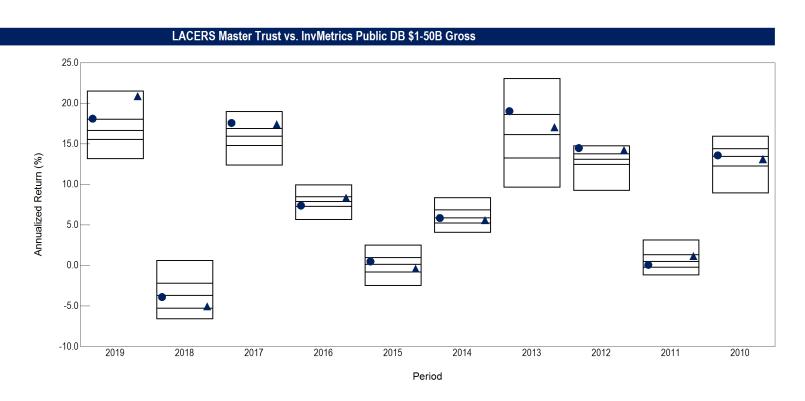
Public Markets Asset Class	Target Risk Budget	Actual 3 Yr Tracking Error
U.S. Equity	0.50%	0.67%
Non-U.S. Equity	1.20%	1.31%
Core Fixed Income	1.00%	0.61%
Credit Opportunities	1.50%	1.63%
Public Real Assets*	3.00%	3.89%

- Current 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 Public Real Assets composite is not at its target strategy allocation.
- Note: A new Target Risk Budget was approved by the Board on August 14, 2018, and is not reflected in the table above. Implementation of the new asset allocation is in progress.

^{*} 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.



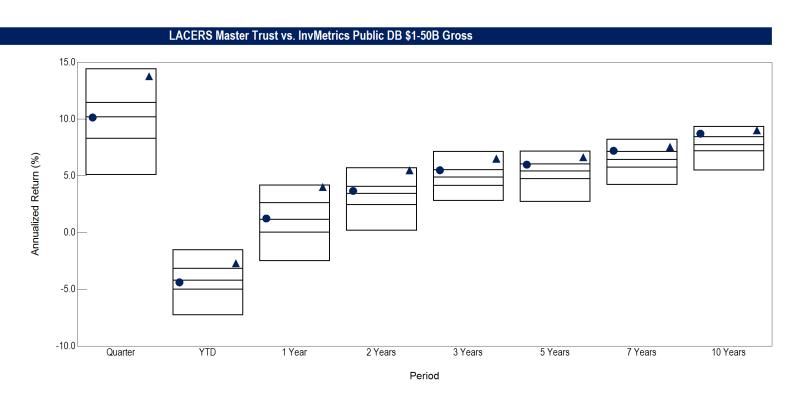
TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE



	Return (Ra	ınk)									
5th Percentile	21.49	0.60	19.00	9.95	2.50	8.38	23.05	14.75	3.13	15.93	
25th Percentile	18.08	-2.13	16.94	8.51	1.00	6.90	18.67	13.81	1.37	14.45	
Median	16.68	-3.64	15.99	7.91	0.20	5.93	16.17	13.15	0.53	13.49	
75th Percentile	15.61	-5.22	14.83	7.34	-0.77	5.28	13.30	12.50	-0.16	12.30	
95th Percentile	13.20	-6.53	12.43	5.71	-2.43	4.12	9.70	9.31	-1.14	8.98	
# of Portfolios	77	78	78	78	77	77	76	75	74	71	
LACERS Master Trust	18.10	(25) -3.89	(60) 17.57	(15) 7.38	(72) 0.49	(35) 5.85	(53) 19.03	(23) 14.47	(10) 0.08	(68) 13.58	(49)
Policy Index	20.88	(9) -5.04	(71) 17.41	(16) 8.35	(35) -0.39	(68) 5.58	(61) 17.06	(35) 14.23	(18) 1.17	(32) 13.11	(55)



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

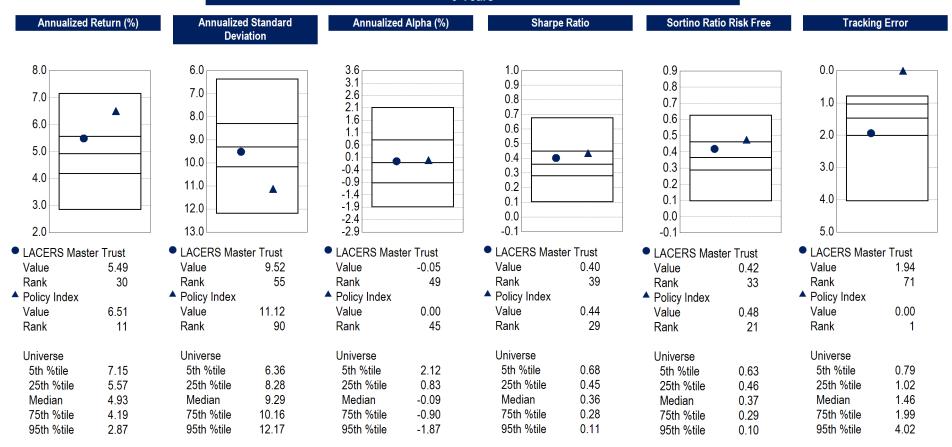


	Return (Rank)								
5th Percentile	14.42	-1.51	4.19	5.70	7.15	7.18	8.22	9.34	
25th Percentile	11.49	-3.12	2.66	4.09	5.57	6.09	7.18	8.46	
Median	10.23	-4.15	1.20	3.48	4.93	5.46	6.48	7.77	
75th Percentile	8.34	-4.97	0.06	2.48	4.19	4.77	5.80	7.24	
95th Percentile	5.15	-7.21	-2.44	0.24	2.87	2.77	4.27	5.54	
# of Portfolios	79	79	79	79	79	78	74	71	
 LACERS Master Trust 	10.13 (53) -4.39	(58) 1.24	(48) 3.66	(39) 5.49	(30) 5.98	(30) 7.20	(24) 8.71	(19)
▲ Policy Index	13.76	(8) -2.71	(16) 4.01	(8) 5.48	(6) 6.51	(11) 6.64	(11) 7.55	(14) 9.01	(11)



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

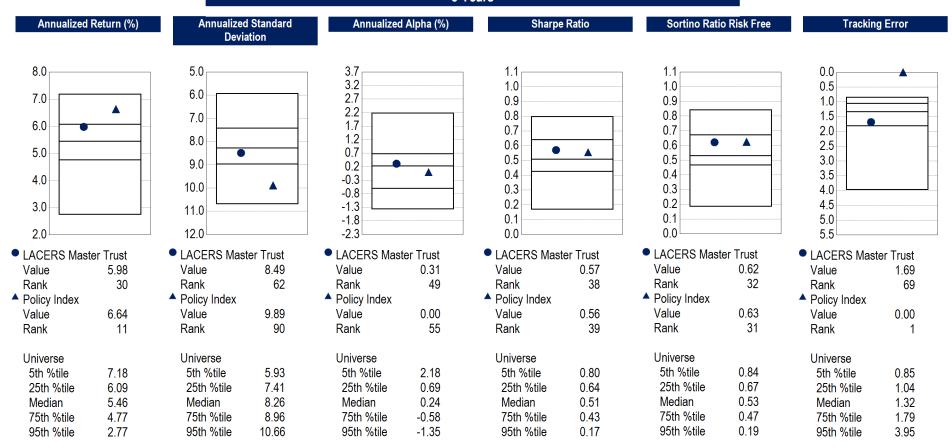
LACERS Master Trust vs. InvMetrics Public DB \$1-50B Gross 3 Years





TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

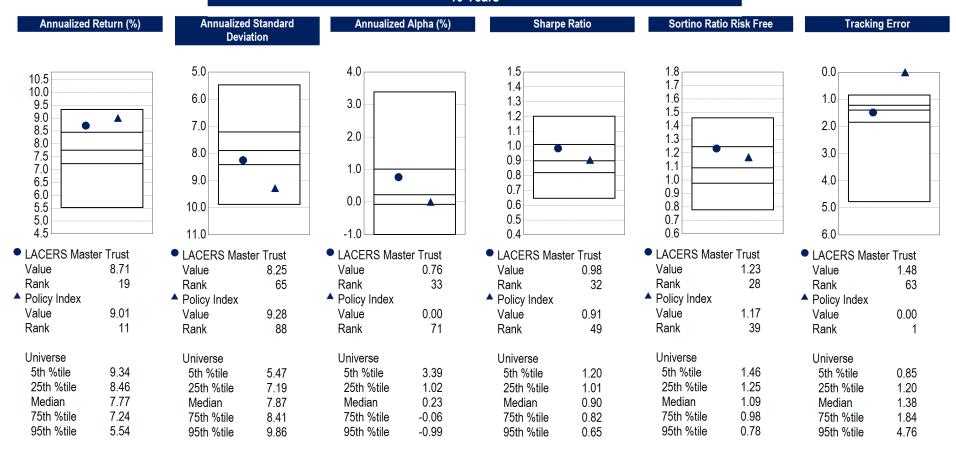
LACERS Master Trust vs. InvMetrics Public DB \$1-50B Gross 5 Years





TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

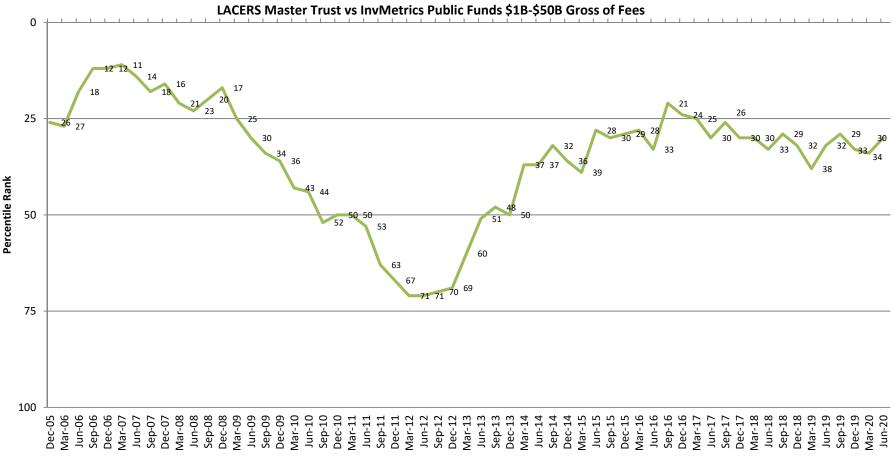
LACERS Master Trust vs. InvMetrics Public DB \$1-50B Gross 10 Years





HISTORICAL RISK ADJUSTED RETURN UNIVERSE COMPARISON

5 Yr Sharpe Ratio Percentile Rank

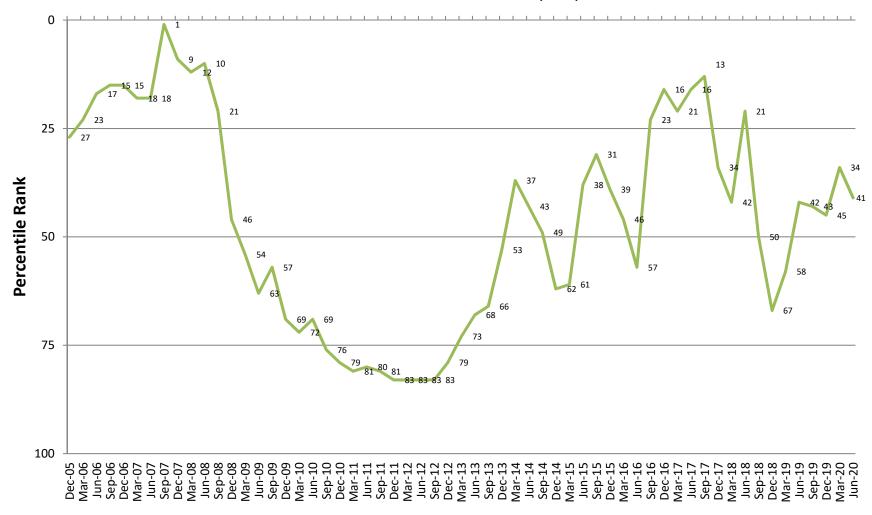


- Total Plan ranks in the 30th percentile versus other large public plans on a Sharpe Ratio basis.
 - Use of passive investment strategies within U.S. Equity has contributed to the overall Sharpe Ratio rank (higher than median).
 - Overweight to non-U.S. Equity on a relative basis contributed to Sharpe Ratio Rank
 - Core Fixed Income contributed positively to Sharpe Ratio rank.



HISTORICAL RISK ADJUSTED RETURN UNIVERSE COMPARISON

5 Yr Sharpe Ratio Percentile Rank
LACERS Master Trust vs InvestorForce Public Funds \$5B-\$50B Gross of Fees





U.S. EQUITY

NEPC, LLC —

U.S. EQUITY (GROSS)

Sequity Sequ		Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
U.S. Equity Blend Over/Under 22.03 3.48 6.53 10.04 10.03 13.72 9.30 Oct-94 Over/Under 0.47 1.33 -1.80 -0.68 -0.47 -0.26 0.96 Rhumbline Advisors Russell 2000¹ 242,868,968 5.63 25.29 -12.99 -6.64 2.01 4.29 -4.10 Apr-15 Russell 2000 -0.07 -0.03 -0.01 -0.01 -0.02 -0.01 -0.07 -0.07 -0.07 Rhumbline Advisors Russell 2000 Growth¹ 144,313,315 3.34 30.47 -3.11 3.42 7.85 6.83 -0.07 -0.07 Russell 2000 Growth 144,313,315 3.34 30.47 -3.11 -0.05 -0.06 -0.01 -0.05 -0.06 -0.01 -0.05 -0.06 -0.01 -0.05 -0.06 -0.01 -0.05 -0.06 -0.01 -0.05 -0.06 -0.01 -0.05 -0.06 -0.01 -0.05 -0.06 -0.01 -0.06 -0.06 -0.01	U.S. Fauity			` ′	` ′		` ′_			` '	
Numbline Advisors Russell 2000 Growth 144,813,315 18,90	· · ·	1,010,001,101	100100	-	-		-	-		-	Oct-94
Russell 2000 14.00 14.313,315 3.34 3.04 3.11 3.42 3.00	• •										
Over/Under 144,313,315 3.34 30.47 3.11 3.42 7.85 6.83 7.78 Jan-15 Russell 2000 Growth 144,313,315 3.34 30.47 3.11 3.42 7.85 6.83 7.78 Jan-15 Russell 2000 Growth 30.58 3.06 3.48 7.86 6.86 7.84 Jan-15 Over/Under 30.58 3.06 3.48 7.86 6.86 7.84 Jan-15 30.58 3.00 3.48 7.86 6.86 7.84 Jan-15 30.58 3.00 3.48 7.86 3.00 3.48	Rhumbline Advisors Russell 2000 ¹	242,868,968	5.63	25.29	-12.99	-6.64	2.03	4.28		4.09	Apr-15
Rhumbline Advisors Russell 2000 Growth 1 144,313,315 3.34 30.47 -3.11 3.42 7.85 6.83 7.78 Jan-15 Russell 2000 Growth Over/Under 30.58 3.06 3.48 7.86 6.86 7.84 Jan-15 Cover/Under -0.11 -0.05 -0.06 -0.01 -0.03 -0.06 -0.06 Rhumbline Advisors Russell 2000 Value 173,898,148 4.03 18.78 -23.50 -17.60 -4.37	Russell 2000			<u>25.42</u>	<u>-12.98</u>	<u>-6.63</u>	<u>2.01</u>	<u>4.29</u>		<u>4.16</u>	Apr-15
Russell 2000 Growth Over/Under 30.58 (-0.11) -3.06 (-0.11) -3.06 (-0.01) -3.06 (-0.01) -7.00 (-0.00) -7.84 (-0.00)	Over/Under			-0.13	-0.01	-0.01	0.02	-0.01		-0.07	
Cover/Under	Rhumbline Advisors Russell 2000 Growth ¹	144,313,315	3.34	30.47	-3.11	3.42	7.85	6.83		7.78	Jan-15
Rhumbline Advisors Russell 2000 Value¹ 173,898,148 4.03 18.78 -23.40 -17.60 -4.37 4.92 Mar-16 Russell 2000 Value 18.91 -23.50 -17.48 -4.35 -4.35 4.98 Mar-16 Over/Under -0.13 0.10 -0.12 -0.02 -0.06 -0.06 EAM Investors 140,666,717 3.26 33.30 -0.63 4.29 15.00 12.42 Sep-15 Russell 2000 Growth 30.58 -3.06 3.48 7.86 7.86 10.44 Sep-15 Over/Under 2.72 2.43 0.81 7.14 12.27 12.83 Aug-14 Russell MidCap 2.461 -9.13 -2.24 5.79 6.76 7.38 Aug-14 Over/Under -0.01 4.19 6.66 7.62 5.51 5.45 Rhumbline Advisors S&P 500 3,414,612,003 79.10 20.49 -3.24 7.10 10.59 10.60 13.93 9.67 Feb-93 S&P 5	Russell 2000 Growth			<u>30.58</u>	<u>-3.06</u>	<u>3.48</u>	<u>7.86</u>	<u>6.86</u>		<u>7.84</u>	Jan-15
Russell 2000 Value 18.91 -23.50 -17.48 -4.35 4.98 Mar-16 Over/Under -0.13 0.10 -0.12 -0.02 -0.06 -0.06 EAM Investors 140,666,717 3.26 33.30 -0.63 4.29 15.00 12.42 Sep-15 Russell 2000 Growth 200,470,060 4.64 24.60 -3.06 3.48 7.86 10.44 Sep-15 Over/Under 2.72 2.43 0.81 7.14 1.98 1.98 Principal Global Investors 200,470,060 4.64 24.60 -4.94 4.42 13.41 12.27 12.83 Aug-14 Russell MidCap 24.61 -9.13 -2.24 5.79 6.76 7.38 Aug-14 Over/Under -0.01 4.19 6.66 7.62 5.51 5.45 Rhumbline Advisors S&P 500 3,414,612,003 79.10 20.49 -3.24 7.10 10.59 10.60 13.93 9.67 Feb-93 S&P 500	Over/Under			-0.11	-0.05	-0.06	-0.01	-0.03		-0.06	
Over/Under -0.13 0.10 -0.12 -0.02 -0.06 EAM Investors 140,666,717 3.26 33.30 -0.63 4.29 15.00 12.42 Sep-15 Russell 2000 Growth Over/Under 2.72 2.43 0.81 7.14 1.98 1.044 Sep-15 Principal Global Investors 2.72 2.43 0.81 7.14 1.98 1.98 Principal Global Investors 2.72 2.43 0.81 7.14 1.98 1.98 Russell MidCap 24.61 -9.13 -2.24 5.79 6.76 7.38 Aug-14 Over/Under -0.01 4.19 6.66 7.62 5.51 5.45 Rhumbline Advisors S&P 500 3,414,612,003 79.10 20.49 -3.24 7.10 10.59 10.60 13.93 9.67 Feb-93 S&P 500 20.54 -3.08 7.50 10.73 10.73 13.99 9.53 Feb-93 Over/Under -0.05 -0.16 -0.40	Rhumbline Advisors Russell 2000 Value ¹	173,898,148	4.03	18.78	-23.40	-17.60	-4.37			4.92	Mar-16
EAM Investors 140,666,717 3.26 33.30 -0.63 4.29 15.00 12.42 Sep-15 Russell 2000 Growth Over/Under 30.58 Over/Under -3.06 Over/Under 3.48 Over/Under 7.86 Over/Under 10.44 Over/Under Sep-15 Over/Under Principal Global Investors 200,470,060 Over/Under 4.64 Over/Under 24.61 Over/Under -9.13 Over/Under -2.24 Over/Under 5.79 Over/Under 6.76 Over/Under 7.38 Over/Under Aug-14 Over/Under Rhumbline Advisors S&P 500 Over/Under 3,414,612,003 Over/Under 79.10 Over/Under 20.54 Over/Under -3.08 Over/Under 7.50 Over/Under 10.73 Over/Under 13.99 Over/Under 9.53 Over/Under 7.60 Over/Under	Russell 2000 Value			<u>18.91</u>	<u>-23.50</u>	<u>-17.48</u>	<u>-4.35</u>			<u>4.98</u>	Mar-16
Russell 2000 Growth Over/Under 30.58 Over/Under -3.06 2.72 3.48 2.43 7.86 7.14 10.44 1.98 Sep-15 2.75 Principal Global Investors 200,470,060 4.64 24.60 -4.94 4.42 13.41 12.27 12.83 Aug-14 Aug-14 Aug-14 Russell MidCap Over/Under 24.61 -9.13 -2.24 5.79 6.76 5.51 5.55 5.55 5.45 5.55 Rhumbline Advisors S&P 500 S&P 500 Over/Under 3,414,612,003 79.10 20.49 -3.24 7.10 10.59 10.60 13.93 9.67 Feb-93 20.54 -3.08 7.50 10.73 10.73 13.99 9.53 Feb-93 20.54 -3.08 7.50 10.73 10.73 10.73 13.99 9.53 Feb-93 20.54 -3.08 7.50 10.73 10.7	Over/Under			-0.13	0.10	-0.12	-0.02			-0.06	
Over/Under 2.72 2.43 0.81 7.14 1.98 Principal Global Investors 200,470,060 4.64 24.60 -4.94 4.42 13.41 12.27 12.83 Aug-14 Russell MidCap Over/Under 24.61 -9.13 -2.24 5.79 6.76 7.38 Aug-14 Rhumbline Advisors S&P 500 3,414,612,003 79.10 20.49 -3.24 7.10 10.59 10.60 13.93 9.67 Feb-93 S&P 500 Over/Under 20.54 -3.08 7.50 10.73 10.73 13.99 9.53 Feb-93 Over/Under -0.05 -0.16 -0.40 -0.14 -0.13 -0.06 0.14	EAM Investors	140,666,717	3.26	33.30	-0.63	4.29	15.00			12.42	Sep-15
Principal Global Investors 200,470,060 4.64 24.60 -4.94 4.42 13.41 12.27 12.83 Aug-14 Russell MidCap 24.61 -9.13 -2.24 5.79 6.76 7.38 Aug-14 Over/Under -0.01 4.19 6.66 7.62 5.51 5.45 Rhumbline Advisors S&P 500 3,414,612,003 79.10 20.49 -3.24 7.10 10.59 10.60 13.93 9.67 Feb-93 S&P 500 20.54 -3.08 7.50 10.73 10.73 13.99 9.53 Feb-93 Over/Under -0.05 -0.16 -0.40 -0.14 -0.13 -0.06 0.14	Russell 2000 Growth			<u>30.58</u>	<u>-3.06</u>	<u>3.48</u>	<u>7.86</u>			<u>10.44</u>	Sep-15
Russell MidCap 24.61 b.01 -9.13 b.00 -2.24 b.79 b.79 b.79 b.79 b.79 b.79 b.79 b.79	Over/Under			2.72	2.43	0.81	7.14			1.98	
Over/Under -0.01 4.19 6.66 7.62 5.51 5.45 Rhumbline Advisors S&P 500 3,414,612,003 79.10 20.49 -3.24 7.10 10.59 10.60 13.93 9.67 Feb-93 S&P 500 20.54 -3.08 7.50 10.73 10.73 13.99 9.53 Feb-93 Over/Under -0.05 -0.16 -0.40 -0.14 -0.13 -0.06 0.14	Principal Global Investors	200,470,060	4.64	24.60	-4.94	4.42	13.41	12.27		12.83	Aug-14
Rhumbline Advisors S&P 500 3,414,612,003 79.10 20.49 -3.24 7.10 10.59 10.60 13.93 9.67 Feb-93 S&P 500 20.54 -3.08 7.50 10.73 10.73 13.99 9.53 Feb-93 Over/Under -0.05 -0.16 -0.40 -0.14 -0.13 -0.06 0.14	Russell MidCap			<u>24.61</u>	<u>-9.13</u>	<u>-2.24</u>	<u>5.79</u>	<u>6.76</u>		<u>7.38</u>	Aug-14
S&P 500 20.54 -3.08 7.50 10.73 13.99 9.53 Feb-93 Over/Under -0.05 -0.16 -0.40 -0.14 -0.13 -0.06 0.14	Over/Under			-0.01	4.19	6.66	7.62	5.51		5.45	
Over/Under -0.05 -0.16 -0.40 -0.14 -0.13 -0.06 0.14	Rhumbline Advisors S&P 500	3,414,612,003	79.10		-3.24	7.10	10.59	10.60	13.93		Feb-93
	S&P 500										Feb-93
	Over/Under			-0.05	-0.16	-0.40	-0.14	-0.13	-0.06	0.14	
Escrow Account 7,986 0.00	Escrow Account	7,986	0.00								

⁻ 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





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

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	4,316,837,197	100.00	21.55	66	-4.83	46	4.68	35	9.30	33	9.49	32	13.31	36		Oct-94
U.S. Equity Blend			<u>22.03</u>	49	<u>-3.48</u>	12	<u>6.53</u>	14	<u>10.04</u>	14	<u>10.03</u>	13	<u>13.72</u>	9		Oct-94
Over/Under			-0.48		-1.35		-1.85		-0.74		-0.54		-0.41			
InvMetrics Public DB > \$1 Billion US Equity Net Median			21.84		-4.85		4.03		8.72		8.96		13.05			Oct-94
Rhumbline Advisors Russell 2000 ¹	242,868,968	5.63	25.28	49	-12.99	46	-6.65	44	2.03	44	4.28	47			4.08	Apr-15
Russell 2000			<u>25.42</u>	48	<u>-12.98</u>	46	<u>-6.63</u>	44	<u>2.01</u>	44	<u>4.29</u>	46			<u>4.16</u>	Apr-15
Over/Under			-0.14		-0.01		-0.02		0.02		-0.01				-0.08	
eV US Small Cap Equity Net Median			25.04		-14.90		-9.83		0.93		3.68				3.65	Apr-15
Rhumbline Advisors Russell 2000 Growth ¹	144,313,315	3.34	30.47	69	-3.11	71	3.41	59	7.84	72	6.82	80			7.77	Jan-15
Russell 2000 Growth			<u>30.58</u>	68	<u>-3.06</u>	71	<u>3.48</u>	59	<u>7.86</u>	72	<u>6.86</u>	79			<u>7.84</u>	Jan-15
Over/Under			-0.11		-0.05		-0.07		-0.02		-0.04				-0.07	
eV US Small Cap Growth Equity Net Median			33.69		2.78		8.32		12.48		9.89				10.39	Jan-15
Rhumbline Advisors Russell 2000 Value ¹	173,898,148	4.03	18.78	71	-23.40	64	-17.60	62	-4.37	55					4.92	Mar-16
Russell 2000 Value			<u>18.91</u>	70	<u>-23.50</u>	65	<u>-17.48</u>	60	<u>-4.35</u>	55					<u>4.98</u>	Mar-16
Over/Under			-0.13		0.10		-0.12		-0.02						-0.06	
eV US Small Cap Value Equity Net Median			20.59		-21.80		-16.17		-4.17						4.01	Mar-16
EAM Investors	140,666,717	3.26	33.11	19	-0.96	21	3.60	20	14.20	14					11.63	Sep-15
Russell 2000 Growth			<u>30.58</u>	27	<u>-3.06</u>	24	<u>3.48</u>	20	<u>7.86</u>	25					<u>10.44</u>	Sep-15
Over/Under			2.53		2.10		0.12		6.34						1.19	
eV US Small Cap Equity Net Median			25.04		-14.90		-9.83		0.93						6.09	Sep-15

⁻ 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





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

U.S. EQUITY (NET)

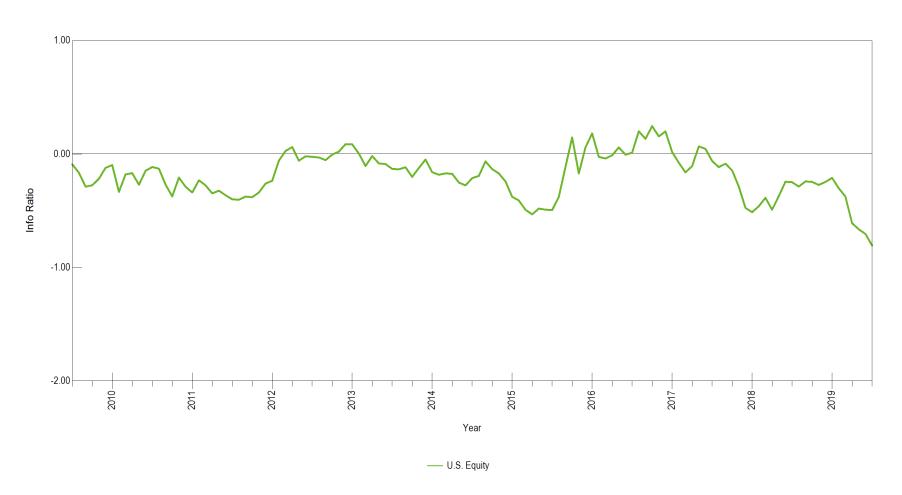
	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Principal Global Investors ¹	200,470,060	4.64	24.50	43	-5.10	42	4.06	38	13.00	26	11.84	17			12.42	Aug-14
Russell MidCap			<u>24.61</u>	43	<u>-9.13</u>	50	<u>-2.24</u>	50	<u>5.79</u>	50	<u>6.76</u>	48			<u>7.38</u>	Aug-14
Over/Under			-0.11		4.03		6.30		7.21		5.08				5.04	
eV US Mid Cap Equity Net Median			23.24		-9.26		-2.25		5.77		6.29				7.13	Aug-14
Rhumbline Advisors S&P 500	3,414,612,003	79.10	20.49	46	-3.24	40	7.09	38	10.58	36	10.60	31	13.92	31		Feb-93
S&P 500			<u>20.54</u>	45	<u>-3.08</u>	40	<u>7.50</u>	37	<u>10.73</u>	36	<u>10.73</u>	30	<u>13.99</u>	30		Feb-93
Over/Under			-0.05		-0.16		-0.41		-0.15		-0.13		-0.07			
eV US Large Cap Equity Net Median			19.83		-5.69		3.52		8.14		8.41		12.52			Feb-93
Escrow Account	7,986	0.00														



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





*Returns are net of fees.



MANAGER REPORT CARD

U.S. Equity Managers	Inception Date	Mandate	Quart	rent er (Net)	1)	e Year Net)	(ee Years Net)	1)	Years let)	Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index (Universe	Index	Universe	Index	Universe	Index	Universe	Index	` '	
Principal Global Investors	Jul-14	Mid Cap	×	\checkmark	✓	✓	✓	✓	✓	✓	✓	616.9	Performance compliant with LACERS' Manager Monitoring Policy
EAM Investors	Sep-15	Small Cap Growth	✓	✓	✓	✓	✓	✓	N/A	N/A	✓	913.9	Performance compliant with LACERS' Manager Monitoring Policy
Rhumbline (Passive)	Feb-93	S&P 500	×	\checkmark	×	✓	×	\checkmark	×	\checkmark	√ √	178.2	Performance compliant with LACERS' Manager Monitoring Policy
Rhumbline (Passive)	Jun-15	R2000	×	\checkmark	×	✓	✓	\checkmark	×	\checkmark	×	14.6	Performance compliant with LACERS' Manager Monitoring Policy
Rhumbline (Passive)	Jun-15	R2000 Growth	×	×	×	×	×	x	×	x	×	7.7	Performance compliant with LACERS' Manager Monitoring Policy
Rhumbline (Passive)	Feb-16	R2000 Value	×	æ	×	æ	×	æ	N/A	N/A	×	5.8	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, 2019.
- * Where net of fees performance is not available gross of fee returns are evaluated.

	Legend
✓	Outperformed
×	Underperformed
=	Equal to
√ √	Gross Return



NON-U.S. EQUITY

NEPC, LLC —

NON-U.S. EQUITY (GROSS)

	Market Value	% of	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(\$)	Portfolio	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
Non-U.S. Equity	5,126,848,577	100.00	18.60	-10.20	-3.57	2.08	3.44	6.23	4.87	Nov-94
MSCI ACWI ex USA			<u>16.12</u>	<u>-11.00</u>	<u>-4.80</u>	<u>1.13</u>	<u>2.26</u>	<u>4.97</u>	<u>4.65</u>	Nov-94
Over/Under			2.48	0.80	1.23	0.95	1.18	1.26	0.22	
Developed ex-U.S.	3,874,185,664	75.57	18.64	-10.03	-3.11	2.25	3.37		6.80	Jun-12
MSCI EAFE			<u>14.88</u>	<u>-11.34</u>	<u>-5.13</u>	<u>0.81</u>	<u>2.05</u>		<u>5.67</u>	Jun-12
Over/Under			3.76	1.31	2.02	1.44	1.32		1.13	
AQR Capital	252,601,868	4.93	17.54	-14.97	-4.60	-1.00	2.98		2.77	Feb-14
MSCI EAFE Small Cap			<u>19.88</u>	<u>-13.11</u>	<u>-3.52</u>	<u>0.53</u>	<u>3.81</u>		<u>3.12</u>	Feb-14
Over/Under			-2.34	-1.86	-1.08	-1.53	-0.83		-0.35	
Barrow Hanley	465,658,690	9.08	19.05	-19.21	-10.65	-2.81	-0.25		0.34	Nov-13
MSCI EAFE Value			<u>12.43</u>	<u>-19.27</u>	<u>-14.48</u>	<u>-4.43</u>	<u>-1.59</u>		<u>-1.24</u>	Nov-13
Over/Under			6.62	0.06	3.83	1.62	1.34		1.58	
Lazard Asset Management ¹	572,441,778	11.17	17.04	-9.80	-5.38	3.55	2.49		3.36	Nov-13
MSCI EAFE			<u>14.88</u>	<u>-11.34</u>	<u>-5.13</u>	<u>0.81</u>	<u>2.05</u>		<u>1.84</u>	Nov-13
Over/Under			2.16	1.54	-0.25	2.74	0.44		1.52	
MFS Institutional Advisors	642,092,330	12.52	16.24	-4.69	2.84	7.63	7.90		6.52	Oct-13
MSCI World ex USA Growth NR USD			<u>17.89</u>	<u>-3.11</u>	<u>4.25</u>	<u>5.93</u>	<u>5.29</u>		<u>4.69</u>	Oct-13
Over/Under			-1.65	-1.58	-1.41	1.70	2.61		1.83	
Oberweis Asset Mgmt ¹	282,303,978	5.51	47.51	12.00	16.86	8.86	9.08		8.76	Jan-14
MSCI EAFE Small Cap			<u>19.88</u>	<u>-13.11</u>	<u>-3.52</u>	<u>0.53</u>	<u>3.81</u>		<u>3.95</u>	Jan-14
Over/Under			27.63	25.11	20.38	8.33	5.27		4.81	
SSgA World ex US IMI	1,659,087,020	32.36	16.29	-11.39	-4.69	1.27	2.65	6.09	5.30	Aug-93
MSCI World ex USA IMI NR USD ²			<u>16.21</u>	<u>-11.68</u>	<u>-5.11</u>	<u>0.80</u>	<u>2.22</u>	<u>5.67</u>	5.02	Aug-93
Over/Under			0.08	0.29	0.42	0.47	0.43	0.42	0.28	



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

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	1,252,662,912	24.43	18.49	-10.75	-5.00	1.33	2.80		2.94	Jun-12
MSCI Emerging Markets			<u>18.08</u>	<u>-9.78</u>	<u>-3.39</u>	<u>1.90</u>	<u>2.86</u>		<u>3.18</u>	Jun-12
Over/Under			0.41	-0.97	-1.61	-0.57	-0.06		-0.24	
Axiom Emerging Markets	464,205,513	9.05	22.97	-2.90	6.94	5.94	5.81		5.27	May-14
MSCI Emerging Markets			<u>18.08</u>	<u>-9.78</u>	<u>-3.39</u>	<u>1.90</u>	<u>2.86</u>		<u>2.44</u>	May-14
Over/Under			4.89	6.88	10.33	4.04	2.95		2.83	
MSCI Emerging Markets Growth NR USD			22.08	-1.52	9.67	6.19	6.35		5.68	May-14
DFA Emerging Markets ¹	371,110,622	7.24	16.43	-18.53	-15.95	-3.25	0.34		-2.01	Aug-14
MSCI Emerging Markets Value NR USD			<u>13.83</u>	<u>-18.05</u>	<u>-15.74</u>	<u>-2.64</u>	<u>-0.80</u>		<u>-2.47</u>	Aug-14
Over/Under			2.60	-0.48	-0.21	-0.61	1.14		0.46	
QMA Emerging Markets ¹	417,346,777	8.14	15.62	-11.19	-5.79	0.98	2.11		2.46	May-14
MSCI Emerging Markets			<u>18.08</u>	<u>-9.78</u>	<u>-3.39</u>	<u>1.90</u>	<u>2.86</u>		<u>2.44</u>	May-14
Over/Under			-2.46	-1.41	-2.40	-0.92	-0.75		0.02	

 $^{1 \ \}text{Portfolio} \ \text{has a mid-month inception date.} \ \text{Since inception return is calculated from the first full month of performance.} \\ \text{eA} = \text{eVestment}$



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	5,126,848,577	100.00	18.51	35	-10.36	50	-3.91	60	1.71	42	3.07	33	5.87	35		Nov-94
MSCI ACWI ex USA			<u>16.12</u>	84	-11.00	69	<u>-4.80</u>	71	<u>1.13</u>	63	<u>2.26</u>	73	<u>4.97</u>	92		Nov-94
Over/Under			2.39		0.64		0.89		0.58		0.81		0.90			
Developed ex-U.S.	3,874,185,664	75.57	18.55	27	-10.17	53	-3.41	53	1.93	48	3.04	45			6.51	Jun-12
MSCI EAFE			<u>14.88</u>	91	-11.34	70	<u>-5.13</u>	79	<u>0.81</u>	69	<u>2.05</u>	74			<u>5.67</u>	Jun-12
Over/Under			3.67		1.17		1.72		1.12		0.99				0.84	
InvMetrics Public DB > \$1 Billion Dev Mkt ex-US Eq Net Median			16.86		-9.91		-3.23		1.70		2.92				6.57	Jun-12
AQR Capital 1	252,601,868	4.93	17.37	81	-15.25	61	-5.28	50	-1.74	66	2.20	68			2.07	Feb-14
MSCI EAFE Small Cap			<u>19.88</u>	55	<u>-13.11</u>	44	<u>-3.52</u>	45	<u>0.53</u>	44	<u>3.81</u>	45			<u>3.12</u>	Feb-14
Over/Under			-2.51		-2.14		-1.76		-2.27		-1.61				-1.05	
eV EAFE Small Cap Equity Net Median			20.64		-13.89		-5.28		-0.31		3.25				2.83	Feb-14
Barrow Hanley ¹	465,658,690	9.08	18.92	13	-19.39	75	-11.08	58	-3.29	58	-0.76	68			-0.15	Nov-13
MSCI EAFE Value			<u>12.43</u>	82	<u>-19.27</u>	75	<u>-14.48</u>	80	<u>-4.43</u>	77	<u>-1.59</u>	86			<u>-1.24</u>	Nov-13
Over/Under			6.49		-0.12		3.40		1.14		0.83				1.09	
eV EAFE Value Equity Net Median			15.22		-17.18		-10.36		-2.75		-0.19				0.07	Nov-13
Lazard Asset Management ¹	572,441,778	11.17	16.90	46	-10.03	37	-5.87	58	3.02	25	1.95	54			2.83	Nov-13
MSCI EAFE			<u>14.88</u>	73	<u>-11.34</u>	50	<u>-5.13</u>	53	<u>0.81</u>	47	<u>2.05</u>	53			<u>1.84</u>	Nov-13
Over/Under			2.02		1.31		-0.74		2.21		-0.10				0.99	
eV All EAFE Equity Net Median			16.61		-11.62		-4.99		0.67		2.19				2.35	Nov-13
MFS Institutional Advisors	642,092,330	12.52	16.13	99	-4.88	75	2.41	71	7.15	40	7.39	2			6.02	Oct-13
MSCI World ex USA Growth NR USD			<u>17.89</u>	95	<u>-3.11</u>	68	<u>4.25</u>	65	<u>5.93</u>	60	<u>5.29</u>	55			<u>4.69</u>	Oct-13
Over/Under			-1.76		-1.77		-1.84		1.22		2.10				1.33	
eV EAFE All Cap Growth Net Median			20.70		-1.68		5.82		6.18		6.25				5.35	Oct-13



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

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	282,303,978	5.51	47.27	1	11.55	1	15.99	1	7.96	2	8.18	9			7.86	Jan-14
MSCI EAFE Small Cap Over/Under eV EAFE Small Cap Equity Net			<u>19.88</u> 27.39	55	<u>-13.11</u> 24.66	44	<u>-3.52</u> 19.51	45	<u>0.53</u> 7.43	44	<u>3.81</u> 4.37	45			<u>3.95</u> 3.91	Jan-14
Median			20.64		-13.89		-5.28		-0.31		3.25				3.72	Jan-14
SSgA World ex US IMI	1,659,087,020	32.36	16.28	57	-11.40	54	-4.71	55	1.25	44	2.63	47	6.06	72	5.30	Aug-93
MSCI World ex USA IMI NR USD ² Over/Under			<u>16.21</u> 0.07	59	<u>-11.68</u> 0.28	56	<u>-5.11</u> 0.40	58	<u>0.80</u> 0.45	51	<u>2.22</u> 0.41	52	<u>5.67</u> 0.39	80	5. <i>0</i> 2 0.28	Aug-93
eV EAFE Core Equity Net Median	4 050 000 040	24.42	16.72		-11.12	40	-4.13		0.80	20	2.38	27	6.80		6.72	Aug-93
Emerging Markets	1,252,662,912	24.43	18.35	77 81	-10.97	43 29	-5.49	53 23	0.81	39 19	2.25	37 23			2.33	Jun-12
MSCI Emerging Markets Over/Under			<u>18.08</u> 0.27	01	<u>-9.78</u> -1.19	29	<u>-3.39</u> -2.10	23	<u>1.90</u> -1.09	19	<u>2.86</u> -0.61	23			<u>3.18</u> -0.85	Jun-12
InvMetrics Public DB > \$1 Billion Emg Mkt Eq Net Median			20.09		-11.36		-5.43		-0.40		1.51				2.10	Jun-12
Axiom Emerging Markets	464,205,513	9.05	22.80	36	-3.20	15	6.26	13	5.23	16	5.07	24			4.58	May-14
MSCI Emerging Markets Over/Under			<u>18.08</u> 4.72	68	<u>-9.78</u> 6.58	48	<u>-3.39</u> 9.65	48	<u>1.90</u> 3.33	41	<u>2.86</u> 2.21	49			<u>2.44</u> 2.14	May-14
MSCI Emerging Markets Growth NR USD			22.08	39	-1.52	12	9.67	10	6.19	12	6.35	11			5.68	May-14
eV Emg Mkts Equity Net Median			20.30		-10.07		-3.74		1.16		2.74				2.33	May-14
DFA Emerging Markets ¹	371,110,622	7.24	16.30	83	-18.74	91	-16.39	96	-3.74	91	-0.17	85			-2.49	Aug-14
MSCI Emerging Markets Value NR USD			<u>13.83</u>	93	<u>-18.05</u>	91	<u>-15.74</u>	94	<u>-2.64</u>	84	<u>-0.80</u>	93			<u>-2.47</u>	Aug-14
Over/Under			2.47		-0.69		-0.65		-1.10		0.63				-0.02	
eV Emg Mkts Equity Net Median			20.30		-10.07		-3.74		1.16		2.74				1.26	Aug-14
QMA Emerging Markets ¹	417,346,777	8.14	15.52	87	-11.35	60	-6.14	63	0.59	57	1.69	65			2.03	May-14
MSCI Emerging Markets Over/Under			<u>18.08</u> -2.56	68	<u>-9.78</u> -1.57	48	-3.39 -2.75	48	<u>1.90</u> -1.31	41	2.86 -1.17	49			2.44 -0.41	May-14
eV Emg Mkts Equity Net Median			20.30		-10.07		-3.74		1.16		2.74				2.33	May-14

eA = eVestment



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.

NON-U.S. EQUITY COUNTRY ALLOCATION

	Versus MSCI ACWI ex USA - Quarter Ending June 30, 2020 Manager	Index
	Ending Allocation (USD)	Ending Allocation (USD)
Europe		
Austria	0.1%	0.1%
Belgium	0.3%	0.6%
Croatia**	0.0%	0.0%
Czech Republic*	0.0%	0.0%
Denmark	1.3%	1.5%
Estonia**	0.0%	0.0%
Finland	1.0%	0.7%
France	10.3%	7.1%
Germany	6.9%	6.0%
Greece*	0.0%	0.0%
Hungary*	0.1%	0.1%
Ireland	0.8%	0.4%
Italy	1.7%	1.5%
Lithuania**	0.0%	0.0%
Luxembourg	0.0%	0.0%
Netherlands	2.0%	2.8%
Norway	0.3%	0.3%
Poland*	0.0%	0.2%
Portugal	0.0%	0.1%
Romania**	0.0%	0.0%
Russia*	0.7%	0.9%
Serbia**	0.0%	0.0%
Slovenia**	0.0%	0.0%
Spain	0.4%	1.6%
Sweden	2.9%	2.0%
Switzerland	6.2%	6.7%
United Kingdom	9.7%	9.1%
Total-Europe	44.7%	41.7%

	Versus MSCI ACWI ex USA - Quarter Ending June 30, 2020	
	Manager	Index
	Ending Allocation (USD)	Ending Allocation (USD)
Americas		
Brazil*	1.2%	1.5%
Canada	3.4%	6.5%
Colombia*	0.5%	0.1%
Mexico*	0.7%	0.5%
Peru*	0.1%	0.1%
United States	5.2%	0.0%
Total-Americas	11.0%	8.8%
AsiaPacific		
Australia	2.3%	4.4%
China*	6.8%	11.7%
Hong Kong	6.7%	2.2%
India*	1.7%	2.3%
Indonesia*	0.3%	0.4%
Japan	14.0%	16.5%
Korea*	3.1%	3.3%
Philippines*	0.2%	0.2%
Singapore	1.4%	0.7%
Taiwan*	4.2%	3.5%
Total-AsiaPacific	40.7%	46.7%
Other		
Egypt*	0.0%	0.0%
Israel	0.6%	0.4%
Other Countries	0.4%	0.0%
South Africa*	1.1%	1.1%
Turkey*	0.0%	0.1%
Total-Other	2.2%	2.8%
Totals		
Developed	77.4%	71.4%
Emerging*	20.7%	28.6%
Other	0.4%	
Cash	1.4%	

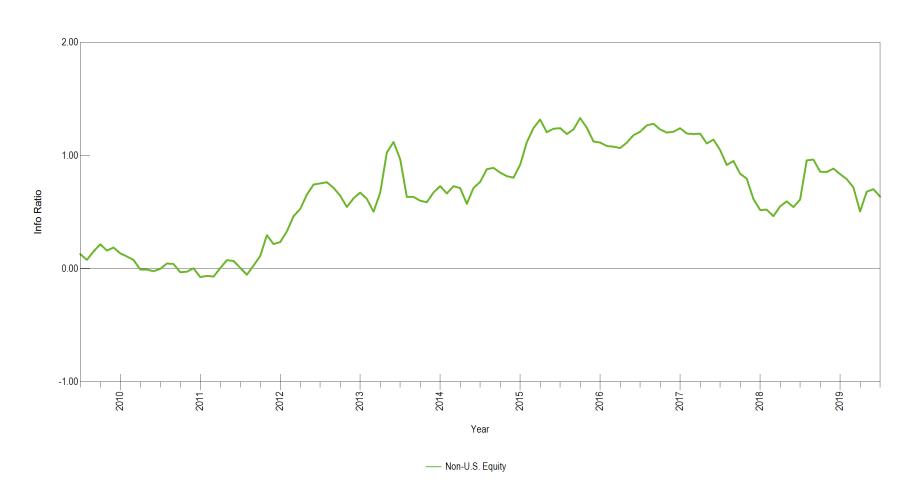


^{* =} Emerging Market

^{** =} Frontier Market

NON-U.S. EQUITY ROLLING 5 YEAR INFORMATION





*Returns are net of fees



MANAGER REPORT CARD

Non-U.S. Equity Managers	Inception Date	Mandate	Quart	rrent er (Net)	(N	Year et)	(1)	e Years let)	(N	let)	Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index 1	Jniverse	Index	Universe	Index	Universe	Index		
Axiom International	Mar-14	Emerging Markets	✓	✓	✓	✓	✓	✓	✓	\checkmark	✓	2,905.3	On watch on August 2020 due to benchmark change
Q.M.A.	Apr-14	Emerging Markets	30	æ	x	×	3E	×	x	×	*	1,632.8	On Watch since July 2019 due to performance; Watch extended in July 2020
DFA Emerging Markets	Jul-14	Emerging Markets	✓	x	sc	×	se	×	✓	æ	3c	2,208.6	Performance compliant with LACERS' Manager Monitoring Policy
AQR	Feb-14	Non-U.S. Developed	×	×	æ	=	×	×	sc	×	3c	2,522.4	On Watch since May 2019 due to performance; Watch extended in May 2020
Oberweis Asset Mgt.	Jan-14	Non-U.S. Developed	✓	✓	✓	✓	✓	✓	✓	✓	✓	1,434.9	On Watch since February 2020 due to performance
Barrow, Hanley, Mewhinney & Strauss	Nov-13	Non-U.S. Developed	✓	✓	✓	×	✓	×	✓	×	✓	2,574.2	On Watch since August 2020 due to organizational change
Lazard Asset Mgt.	Nov-13	Non-U.S. Developed	✓	✓	sc	x	✓	✓	se	æ	✓	3,003.5	On Watch since February 2020 due to performance
MFS Institutional Advisors	Oct-13	Non-U.S. Developed	x	æ	sc	x	✓	✓	✓	✓	✓	2,662.1	Performance compliant with LACERS' Manager Monitoring Policy
SsgA (Passive)	Aug-93	Non-U.S. Developed	✓	×	✓	æ	✓	✓	✓	✓	44	391.2	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, 2019.
- * Where net of fees performance is not available gross of fee returns are evaluated.

	Legend
✓	Outperformed
3C	Underperformed
=	Equal to
√ √	Gross Return



CORE FIXED INCOME

NEPC, LLC —

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	2,960,116,708	100.00	4.08	6.74	9.38	5.64	4.69		4.11	Jul-12
Core Fixed Income Blend			<u>2.90</u>	<u>6.13</u>	<u>8.74</u>	<u>5.32</u>	<u>4.30</u>		<u>3.49</u>	Jul-12
Over/Under			1.18	0.61	0.64	0.32	0.39		0.62	
Baird Advisors	358,790,227	12.12	3.91	5.46	7.53	4.83	4.00	4.04	4.58	Mar-05
BBgBarc US Govt/Credit Int TR			<u>2.81</u>	<u>5.28</u>	<u>7.12</u>	<u>4.43</u>	<u>3.46</u>	<u>3.12</u>	<u>3.94</u>	Mar-05
Over/Under			1.10	0.18	0.41	0.40	0.54	0.92	0.64	
LM Capital ¹	347,129,578	11.73	4.48	5.82	8.50	5.12	4.39	4.22	4.88	Mar-05
LM Custom Benchmark			<u>2.90</u>	<u>6.13</u>	<u>8.74</u>	<u>5.32</u>	<u>4.30</u>	<u>3.85</u>	<u>4.41</u>	Mar-05
Over/Under			1.58	-0.31	-0.24	-0.20	0.09	0.37	0.47	
Loomis Sayles	874,808,194	29.55	4.39	7.84	10.61	6.36	5.45	5.14	9.12	Jul-80
Loomis Custom Benchmark			<u>2.90</u>	<u>6.13</u>	<u>8.74</u>	<u>5.32</u>	<u>4.30</u>	<u>4.00</u>	<u>7.64</u>	Jul-80
Over/Under			1.49	1.71	1.87	1.04	1.15	1.14	1.48	
Neuberger Berman	857,115,114	28.96	4.71	6.97	9.63	5.68	4.64	4.80	5.95	Sep-01
Core Fixed Income Blend			<u>2.90</u>	<u>6.13</u>	<u>8.74</u>	<u>5.32</u>	<u>4.30</u>	<u>4.00</u>	<u>4.85</u>	Sep-01
Over/Under			1.81	0.84	0.89	0.36	0.34	0.80	1.10	
SSgA U.S. Aggregate Bond ¹	522,273,595	17.64	2.98	6.14	8.76	5.33	4.32		4.01	Jul-14
BBgBarc US Aggregate TR			<u>2.90</u>	<u>6.13</u>	<u>8.74</u>	<u>5.32</u>	<u>4.30</u>		<u>3.99</u>	Jul-14
Over/Under			0.08	0.01	0.02	0.01	0.02		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



CORE FIXED INCOME (NET)

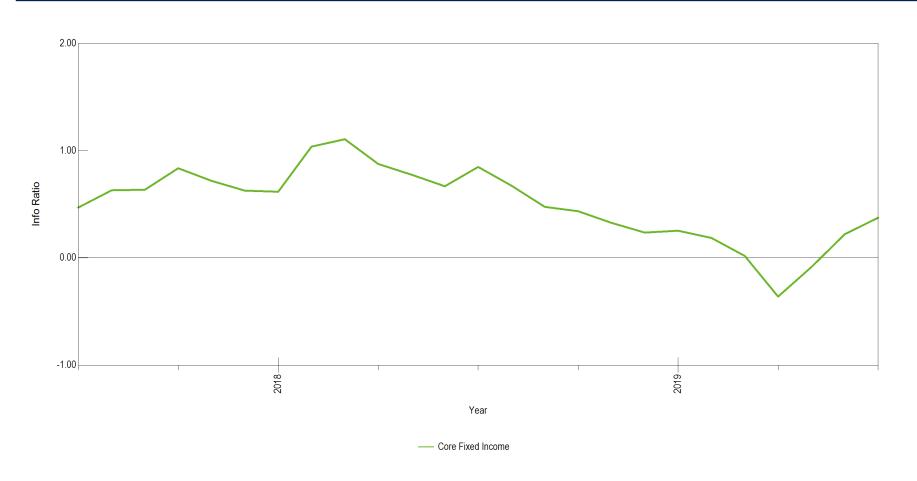
	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Core Fixed Income	2,960,116,708	100.00	4.06	72	6.68	12	9.27	12	5.54	12	4.58	23			4.00	Jul-12
Core Fixed Income Blend			<u>2.90</u>	94	<u>6.13</u>	25	<u>8.74</u>	22	<u>5.32</u>	33	<u>4.30</u>	39			<u>3.49</u>	Jul-12
Over/Under			1.16		0.55		0.53		0.22		0.28				0.51	
InvMetrics Public DB > \$1 Billion US Fixed Income Net Median			4.83		4.70		7.21		4.93		4.26				3.63	Jul-12
Baird Advisors	358,790,227	12.12	3.88	42	5.40	21	7.41	18	4.71	13	3.88	15	3.91	15	4.45	Mar-05
BBgBarc US Govt/Credit Int TR			<u>2.81</u>	85	<u>5.28</u>	31	<u>7.12</u>	28	<u>4.43</u>	36	<u>3.46</u>	47	<u>3.12</u>	58	<u>3.94</u>	Mar-05
Over/Under			1.07		0.12		0.29		0.28		0.42		0.79		0.51	
eV US Interm Duration Fixed Inc Net Median			3.68		4.91		6.80		4.30		3.46		3.20		4.08	Mar-05
LM Capital ¹	347,129,578	11.73	4.45	49	5.77	58	8.40	59	5.02	75	4.29	61	4.09	48	4.74	Mar-05
LM Custom Benchmark			<u>2.90</u>	93	<u>6.13</u>	47	<u>8.74</u>	45	<u>5.32</u>	50	<u>4.30</u>	60	<u>3.85</u>	67	<u>4.41</u>	Mar-05
Over/Under			1.55		-0.36		-0.34		-0.30		-0.01		0.24		0.33	
eV US Core Fixed Inc Net Median			4.42		6.07		8.61		5.30		4.38		4.07		4.68	Mar-05
Loomis Sayles	874,808,194	29.55	4.36	52	7.78	4	10.47	5	6.22	3	5.31	4	5.01	5		Jul-80
Loomis Custom Benchmark			<u>2.90</u>	93	<u>6.13</u>	47	<u>8.74</u>	45	<u>5.32</u>	50	<u>4.30</u>	60	<u>4.00</u>	58		Jul-80
Over/Under			1.46		1.65		1.73		0.90		1.01		1.01			
eV US Core Fixed Inc Net Median	057 445 444	20.00	4.42	40	6.07	10	8.61	10	5.30	20	4.38	20	4.07	15	F 70	Jul-80
Neuberger Berman	857,115,114	28.96	4.68	40	6.90	19	9.49	19	5.53	30	4.49	36	4.63	15	5.79	Sep-01
Core Fixed Income Blend Over/Under			<u>2.90</u> 1.78	93	<u>6.13</u> 0.77	47	<u>8.74</u> 0.75	45	<u>5.32</u> 0.21	50	<u>4.30</u> 0.19	60	<u>4.00</u> 0.63	58	<u>4.85</u> 0.94	Sep-01
eV US Core Fixed Inc Net Median			4.42		6.07		8.61		5.30		4.38		4.07		0.94 4.81	Sep-01
SSgA U.S. Aggregate Bond ¹	522,273,595	17.64	2.97	93	6.11	48	8.71	45	5.30	51	4.36	62	4.07		3.97	<i>J</i> ul-14
BBgBarc US Aggregate TR	322,213,333	17.04	2.90	93	6.13	47	8.74	45	5.32	50	4.30	60			3.99	Jul-14
Over/Under			0.07	30	-0.02	71	-0.03	70	-0.02	30	-0.02	00			-0.02	our 14
eV US Core Fixed Inc Net Median			4.42		6.07		8.61		5.30		4.38				4.04	Jul-14

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



CORE FIXED INCOME 3 YEAR INFORMATION RATIO





*Returns are net of fees



MANAGER REPORT CARD

Core Fixed Income Managers	Inception Date	Mandate		: Quarter let) Universe	(1	e Year Net) Universe	1)	e Years Net) Universe	1)	Years Net) Universe	Since Inception (Net) Index	Annual Mgt Fee Paid \$ (000)	Comments
Neuberger Berman	Sep-01	Core	✓	✓	✓	✓	✓	✓	✓	✓	✓	1,031.6	On Watch since May 2019 due to performance; Watch extended in April 2020
Loomis Sayles	Jul-80	Core	✓	×	✓	✓	✓	✓	✓	✓	11	952.5	Performance compliant with LACERS' Manager Monitoring Policy
Baird Advisors	Mar-05	Intermediate	✓	✓	✓	✓	✓	✓	✓	✓	✓	317.7	Performance compliant with LACERS' Manager Monitoring Policy
LM Capital Group	Mar-05	Core	✓	✓	x	×	x	x	×	x	✓	314.7	On Watch since May 2019 due to performance; Watch extended in April 2020
SSgA (Passive)	Jul-14	Core	✓	×	æ	✓	æ	×	×	×	×	394.4	Performance compliant with LACERS' Manager Monitoring Policy

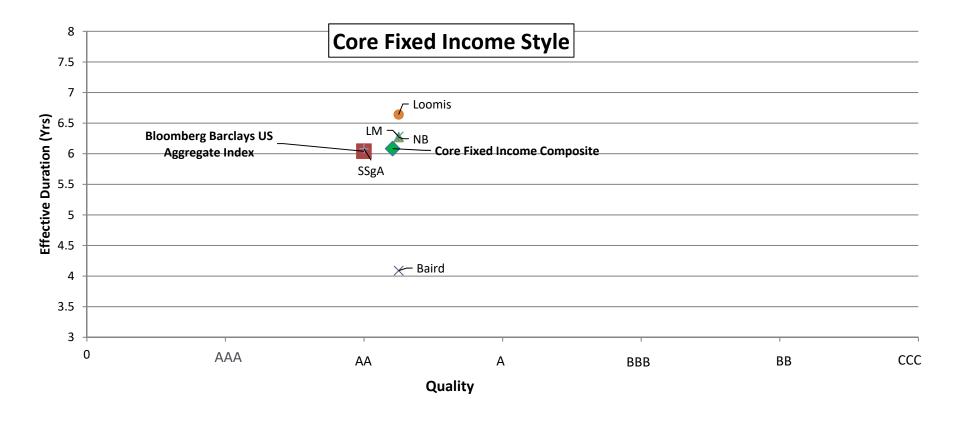
Note: Managers are placed on Watch List for concerns with organization, process and performance. Managers are normally on the Watch List for 12 months though may be longer if manager issues remain but not severe enough to warrant termination recommendation.

- Annual Management Fee Paid as of fiscal year ending June 30, 2019.
- * Where net of fees performance is not available gross of fee returns are evaluated.

	Legend
✓	Outperformed
×	Underperformed
=	Equal to
√ √	Gross Return



CORE FIXED INCOME STYLE ANALYSIS



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



CREDIT OPPORTUNITIES

NEPC, LLC —

CREDIT OPPORTUNITIES (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Credit Opportunities	1,008,113,988	100.00	12.03	-4.95	-1.12	3.19	4.45		4.81	Jun-13
Credit Opportunities Blend			<u>10.89</u>	<u>-3.43</u>	<u>0.20</u>	<u>3.44</u>	<u>4.99</u>		<u>5.18</u>	Jun-13
Over/Under			1.14	-1.52	-1.32	-0.25	-0.54		-0.37	
AEGON USA	354,941,038	35.21	10.15	-6.86	-2.53	2.56	4.38		4.92	Jun-13
BBgBarc US High Yield 2% Issuer Cap TR			<u>10.14</u>	<u>-3.83</u>	<u>0.00</u>	<u>3.32</u>	<u>4.79</u>		<u>4.99</u>	Jun-13
Over/Under			0.01	-3.03	-2.53	-0.76	-0.41		-0.07	
Prudential Emerging Markets	418,656,281	41.53	15.04	-3.69	0.68	4.36	5.87		5.12	May-14
JP Morgan EMBI Global Diversified			<u>12.26</u>	<u>-2.76</u>	<u>0.49</u>	<u>3.60</u>	<u>5.30</u>		<u>4.48</u>	May-14
Over/Under			2.78	-0.93	0.19	0.76	0.57		0.64	
Bain Capital Senior Loan Fund, LP*	209,503,384	20.78	9.76	-3.80	-1.95	2.18	2.85		2.85	Jun-15
Credit Suisse Leveraged Loans			<u>9.71</u>	<u>-4.76</u>	<u>-2.27</u>	<u>2.13</u>	<u>2.94</u>		<u>2.94</u>	Jun-15
Over/Under			0.05	0.96	0.32	0.05	-0.09		-0.09	
SLC Mgmt Talf	25,000,000	2.48								

eA = eVestment Alliance

BBgBarc = Bloomberg Barclays

*Net of fee return since vehicle is commingled.



⁻ 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

CREDIT OPPORTUNITIES (NET)

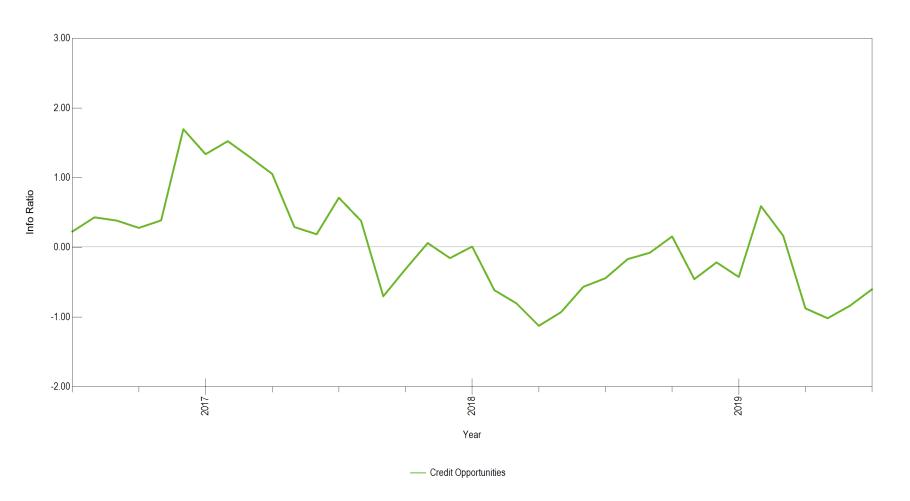
	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%) Rank	Inception (%)	Inception Date
Credit Opportunities	1,008,113,988	100.00	11.95		-5.09		-1.41		2.86		4.10			4.47	Jun-13
Credit Opportunities Blend			<u>10.89</u>		<u>-3.43</u>		<u>0.20</u>		<u>3.44</u>		<u>4.99</u>			<u>5.18</u>	Jun-13
Over/Under			1.06		-1.66		-1.61		-0.58		-0.89			-0.71	
AEGON USA	354,941,038	35.21	10.06	30	-7.04	88	-2.89	83	2.18	74	4.00	50		4.55	Jun-13
BBgBarc US High Yield 2% Issuer Cap TR			<u>10.14</u>	28	<u>-3.83</u>	46	<u>0.00</u>	38	<u>3.32</u>	26	<u>4.79</u>	14		<u>4.99</u>	Jun-13
Over/Under			-0.08		-3.21		-2.89		-1.14		-0.79			-0.44	
eV US High Yield Fixed Inc Net Median			9.16		-4.00		-0.59		2.78		3.97			4.41	Jun-13
Prudential Emerging Markets	418,656,281	41.53	14.94	27	-3.88	56	0.29	38	3.95	18	5.46	11		4.73	May-14
JP Morgan EMBI Global Diversified			<u>12.26</u>	66	<u>-2.76</u>	33	<u>0.49</u>	34	<u>3.60</u>	31	<u>5.30</u>	18		<u>4.48</u>	May-14
Over/Under			2.68		-1.12		-0.20		0.35		0.16			0.25	
eV Emg Mkts Fixed Inc - Hard Currency Net Median			12.93		-3.63		-0.50		2.68		4.84			3.70	May-14
Bain Capital Senior Loan Fund, LP	209,503,384	20.78	9.76	16	-3.80	16	-1.95	41	2.18	27	2.85	21		2.85	Jun-15
Credit Suisse Leveraged Loans			<u>9.71</u>	16	<u>-4.76</u>	46	<u>-2.27</u>	44	<u>2.13</u>	28	<u>2.94</u>	20		<u>2.94</u>	Jun-15
Over/Under			0.05		0.96		0.32		0.05		-0.09			-0.09	
eV US Float-Rate Bank Loan Fixed Inc Net Median			7.96		-4.94		-2.44		1.71		2.53			2.53	Jun-15
SLC Mgmt Talf	25,000,000	2.48													



⁻ 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





*Returns are net of fees



MANAGER REPORT CARD

Credit Opportunities Managers	Inception Date	Mandate	Qui (N	rrent arter let) _{Universe}	(N	let)	(N	e Years let) Universe	۱)	Years let) ^{Universe}	Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
AEGON USA	Jun-13	High Yield Bonds	×	✓	×	×	×	×	×	=	×	1,428.4	On Watch since October 2017 due to organizational reasons
Prudential	May-14	Emerging Market Debt	✓	✓	3C	✓	✓	✓	✓	✓	✓	1,432.7	On Watch since May 2020 due to performance
Bain	Jun-15	Bank Loans	✓	✓	✓	✓	✓	✓	x	✓	3c	754.3	On Watch since July 2020 due to performance
SLC	Jun-20	TALF	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

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, 2019.
- * Where net of fees performance is not available gross of fee returns are evaluated.

	Legend
✓	Outperformed
×	Underperformed
=	Equal to
√ ✓	Gross Return



REAL ASSETS

NEPC, LLC —

REAL ASSETS (GROSS)

	Market Value	% of	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(\$)	Portfolio	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
Real Assets	2,004,127,555	100.00	2.71	-1.81	0.82	4.16	5.02	7.66	6.11	Nov-94
CPI + 5% (Unadjusted)			<u>1.10</u>	<u>2.80</u>	<u>5.68</u>	<u>6.80</u>	<u>6.63</u>	<u>6.77</u>	<u>7.25</u>	Nov-94
Over/Under			1.61	-4.61	-4.86	-2.64	-1.61	0.89	-1.14	
Public Real Assets	1,196,757,429	59.71	6.13	-1.27	1.68	3.34	2.73		1.77	Jun-14
Public Real Assets Blend			<u>10.10</u>	<u>-4.02</u>	<u>-2.35</u>	<u>1.25</u>	<u>0.65</u>		<u>-0.77</u>	Jun-14
Over/Under			-3.97	2.75	4.03	2.09	2.08		2.54	
TIPS	805,688,661	40.20	4.65	6.42	8.13	5.26	3.91		2.92	Jul-14
BBgBarc US TIPS TR			<u>4.24</u>	<u>6.01</u>	<u>8.28</u>	<u>5.05</u>	<u>3.75</u>		<u>2.85</u>	Jul-14
Over/Under_			0.41	0.41	-0.15	0.21	0.16		0.07	
DFA US TIPS 1	805,688,661	40.20	4.65	6.42	8.13	5.26	4.01		3.05	Aug-14
BBgBarc US TIPS TR			<u>4.24</u>	<u>6.01</u>	<u>8.28</u>	<u>5.05</u>	<u>3.75</u>		<u>2.85</u>	Aug-14
Over/Under			0.41	0.41	-0.15	0.21	0.26		0.20	
REITS	211,361,002	10.55	13.32	-9.32	-2.01	5.96	8.33		6.45	Mar-15
FTSE NAREIT All Equity REIT			<u>13.25</u>	<u>-13.30</u>	<u>-6.47</u>	<u>3.39</u>	<u>6.48</u>		<u>4.26</u>	Mar-15
Over/Under			0.07	3.98	4.46	2.57	1.85		2.19	
CenterSquare US Real Estate ¹	211,361,002	10.55	13.32	-9.32	-2.01	5.96	8.33		7.19	May-15
FTSE NAREIT All Equity REIT			<u>13.25</u>	<u>-13.30</u>	<u>-6.47</u>	<u>3.39</u>	<u>6.48</u>		<u>5.36</u>	May-15
Over/Under			0.07	3.98	4.46	2.57	1.85		1.83	
Commodities	179,707,766	8.97	4.96	-19.01	-17.12	-5.42	-7.16		-7.16	Jun-15
Bloomberg Commodity Index TR USD			<u>5.08</u>	<u>-19.40</u>	<u>-17.38</u>	<u>-6.14</u>	<u>-7.69</u>		<u>-7.69</u>	Jun-15
Over/Under			-0.12	0.39	0.26	0.72	0.53		0.53	
CoreCommodity Mgmt ¹	179,707,766	8.97	4.96	-19.01	-17.12	-5.42	-7.16		-7.16	Jul-15
Bloomberg Commodity Index TR USD			<u>5.08</u>	<u>-19.40</u>	<u>-17.38</u>	<u>-6.14</u>	<u>-7.69</u>		<u>-7.69</u>	Jul-15
Over/Under			-0.12	0.39	0.26	0.72	0.53		0.53	
Private Real Estate	788,237,602	39.33	-2.16	-2.74	-0.46	4.91	7.03	9.04	6.64	Oct-94
Real Estate Blend			<u>-1.35</u>	<u>-0.20</u>	<u>3.04</u>	<u>6.51</u>	<u>8.16</u>	<u>10.84</u>	<u>9.59</u>	Oct-94
Over/Under			-0.81	-2.54	-3.50	-1.60	-1.13	-1.80	-2.95	
Timber	19,132,524	0.95	4.95	4.95	4.38	2.97	3.04	5.57	9.16	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



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 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	2,004,127,555	100.00	2.67		-1.89		0.67		4.00		4.85		7.51			Nov-94
CPI + 5% (Unadjusted)			<u>1.10</u>		<u>2.80</u>		<u>5.68</u>		<u>6.80</u>		<u>6.63</u>		<u>6.77</u>			Nov-94
Over/Under			1.57		-4.69		-5.01		-2.80		-1.78		0.74			
Public Real Assets	1,196,757,429	59.71	6.08		-1.38		1.47		3.11		2.49				1.56	Jun-14
Public Real Assets Blend			<u>10.10</u>		<u>-4.02</u>		<u>-2.35</u>		<u>1.25</u>		<u>0.65</u>				<u>-0.77</u>	Jun-14
Over/Under			-4.02		2.64		3.82		1.86		1.84				2.33	
TIPS	805,688,661	40.20	4.64		6.39		8.07		5.21		3.85				2.87	Jul-14
BBgBarc US TIPS TR			<u>4.24</u>		<u>6.01</u>		<u>8.28</u>		<u>5.05</u>		<u>3.75</u>				<u>2.85</u>	Jul-14
Over/Under			0.40		0.38		-0.21		0.16		0.10				0.02	
DFA US TIPS 1	805,688,661	40.20	4.64	52	6.39	11	8.07	35	5.21	13	3.95	15			2.99	Aug-14
BBgBarc US TIPS TR			<u>4.24</u>	64	<u>6.01</u>	32	<u>8.28</u>	28	<u>5.05</u>	38	<u>3.75</u>	24			<u>2.85</u>	Aug-14
Over/Under			0.40		0.38		-0.21		0.16		0.20				0.14	
eV US TIPS / Inflation Fixed Inc Net Median			4.69		5.08		7.48		4.92		3.61				2.58	Aug-14
REITS	211,361,002	10.55	13.20		-9.51		-2.38		5.51		7.86				6.01	Mar-15
FTSE NAREIT All Equity REIT			<u>13.25</u>		-13.30		<u>-6.47</u>		<u>3.39</u>		<u>6.48</u>				<u>4.26</u>	Mar-15
Over/Under			-0.05		3.79		4.09		2.12		1.38				1.75	
CenterSquare US Real Estate 1	211,361,002	10.55	13.20	35	-9.51	19	-2.38	22	5.51	12	7.86	14			6.74	May-15
FTSE NAREIT All Equity REIT			<u>13.25</u>	34	<u>-13.30</u>	36	<u>-6.47</u>	44	<u>3.39</u>	38	<u>6.48</u>	36			<u>5.36</u>	May-15
Over/Under			-0.05		3.79		4.09		2.12		1.38				1.38	
eV US REIT Net Median			12.03		-13.89		-7.08		2.12		5.20				4.19	May-15
Commodities	179,707,766	8.97	4.80		-19.27		-17.60		-6.07		-7.81				-7.81	Jun-15
Bloomberg Commodity Index TR USD			<u>5.08</u>		<u>-19.40</u>		<u>-17.38</u>		<u>-6.14</u>		<u>-7.69</u>				<u>-7.69</u>	Jun-15
Over/Under			-0.28		0.13		-0.22		0.07		-0.12				-0.12	
CoreCommodity Mgmt 1	179,707,766	8.97	4.80		-19.27		-17.60		-6.07		-7.81				-7.81	Jul-15
Bloomberg Commodity Index TR USD			<u>5.08</u>		<u>-19.40</u>		<u>-17.38</u>		<u>-6.14</u>		<u>-7.69</u>				<u>-7.69</u>	Jul-15
Over/Under			-0.28		0.13		-0.22		0.07		-0.12				-0.12	

⁻ 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



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

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	788,237,602	39.33	-2.18	89	-2.78	89	-0.55	91	4.83	66	6.94	64	8.94	73		Oct-94
Real Estate Blend			<u>-1.35</u>	38	<u>-0.20</u>	20	<u>3.04</u>	20	<u>6.51</u>	9	<u>8.16</u>	11	<u>10.84</u>	10		Oct-94
Over/Under			-0.83		-2.58		-3.59		-1.68		-1.22		-1.90			
InvMetrics Public DB Real Estate Priv Net Median			-1.42		-0.93		1.75		5.46		7.18		9.62			Oct-94
Timber	19,132,524	0.95	4.95		4.95		4.38		2.97		3.04		5.51			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	(rrent Quarter (Net)		(Net)		Three Years (Net) Index Universe		ears (Net) Universe	` ′	Annual Mgt Fee Paid \$ (000)	Comments			
DFA	Jul-14	U.S. TIPS	✓	<u>*</u>	*	✓	✓	✓	✓	✓	✓	333.9	Performance compliant with LACERS' Manager			
CenterSquare	Apr-15	REITS	×	✓	✓	✓	✓	✓	✓	✓	✓	592.3	Monitoring Policy Performance compliant with LACERS' Manager			
CoreCommodity Mgt.	Jul-15	Commodities	×	N/A	×	N/A	✓	N/A	×	N/A	×	983.9	Monitoring Policy On Watch since September 2020 due to 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, 2019.
- * Where net of fees performance is not available gross of fee returns are evaluated.

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



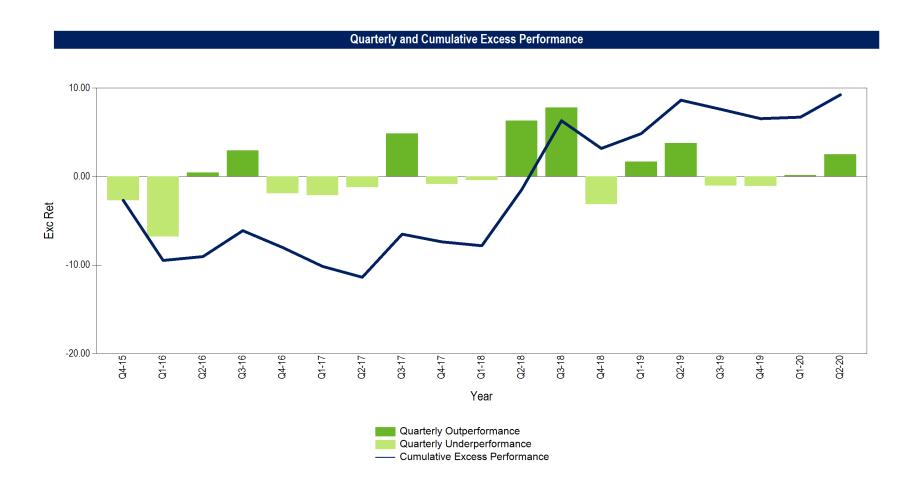
APPENDIX

NEPC, LLC —

U.S. EQUITY MANAGER PERFORMANCE

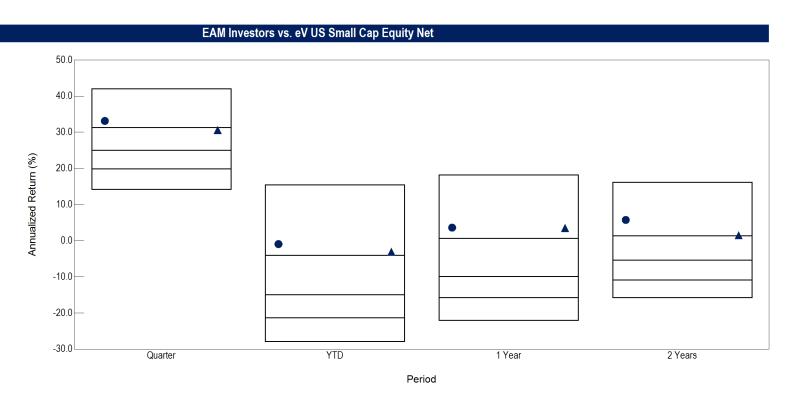
NEPC, LLC -

EAM INVESTORS





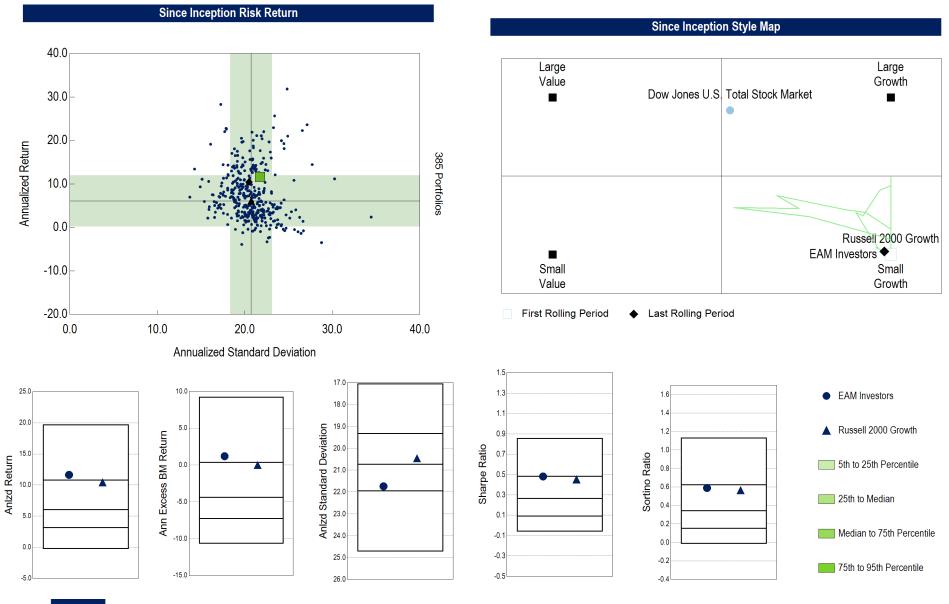
EAM INVESTORS



		Return (Rank)							
	5th Percentile	41.98		15.39		18.20		16.08	
	25th Percentile	31.40		-4.00		0.71		1.41	
	Median	25.04		-14.90		-9.83		-5.35	
	75th Percentile	19.93		-21.24		-15.70		-10.79	
	95th Percentile	14.27		-27.78		-22.00		-15.65	
	# of Portfolios	416		415		415		412	
	EAM Investors	33.11	(19)	-0.96	(21)	3.60	(20)	5.72	(17)
•	Russell 2000 Growth	30.58	(27)	-3.06	(24)	3.48	(20)	1.47	(25)

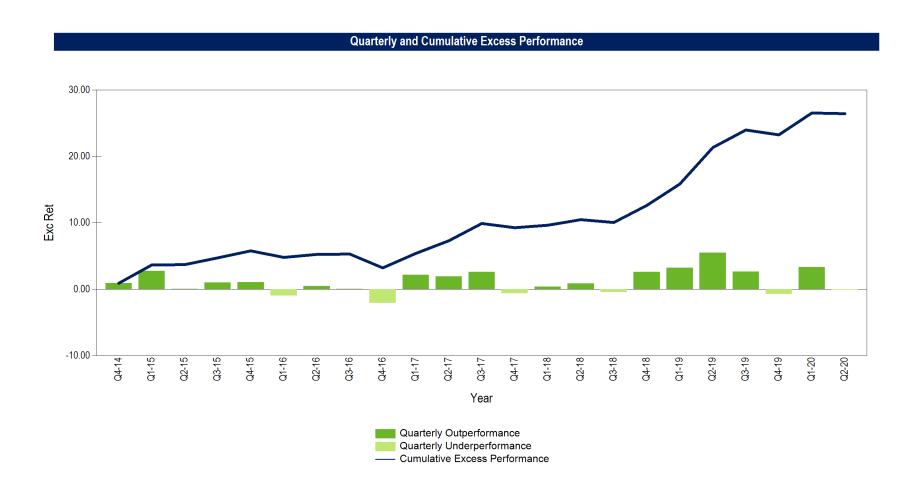


EAM INVESTORS



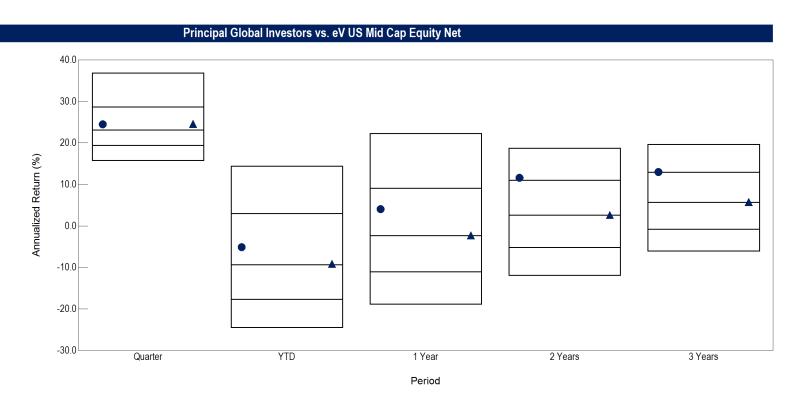


PRINCIPAL GLOBAL INVESTORS





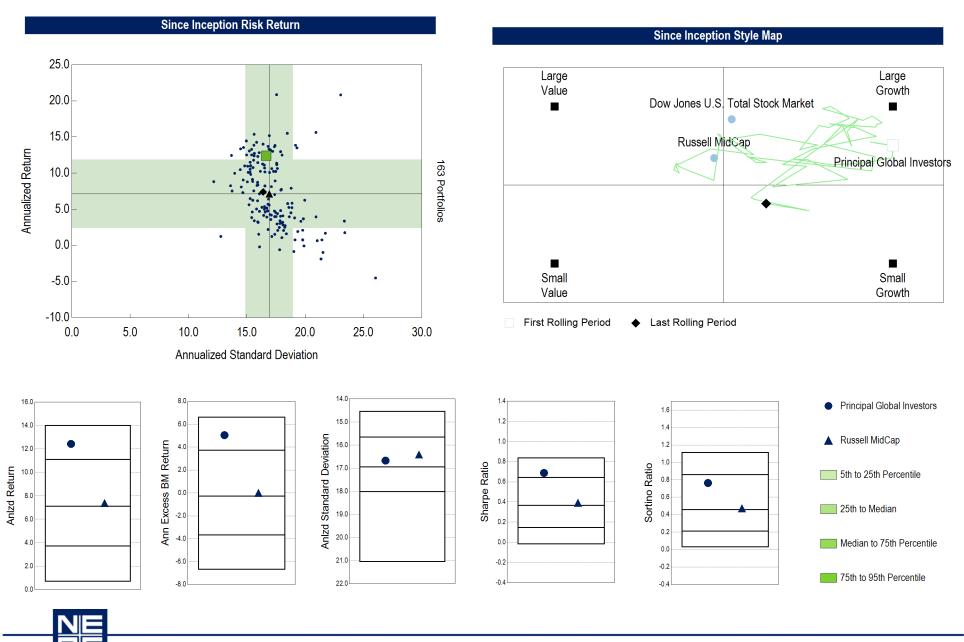
PRINCIPAL GLOBAL INVESTORS



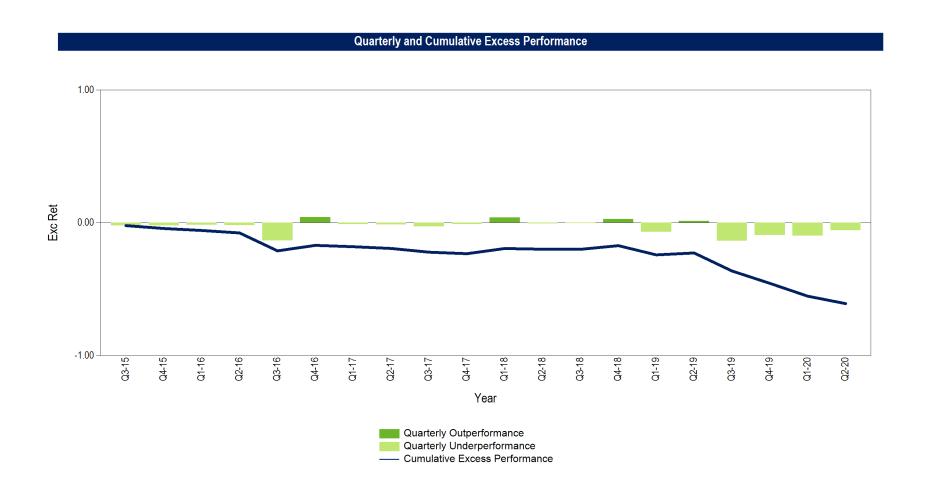
	Return (Rank)								
5th Percentile	36.89	14.4	2	22.25		18.75		19.64	
25th Percentile	28.73	3.0	9	9.17		11.09		13.02	
Median	23.24	-9.2	3	-2.25		2.66		5.77	
75th Percentile	19.48	-17.6	2	-10.93		-5.12		-0.68	
95th Percentile	15.86	-24.3	3	-18.75		-11.84		-5.99	
# of Portfolios	177	17	7	177		177		175	
Principal Global Investors	24.50	(43) -5.1	(42)	4.06	(38)	11.61	(23)	13.00	(26)
▲ Russell MidCap	24.61	(43) -9.1	3 (50)	-2.24	(50)	2.67	(50)	5.79	(50)



PRINCIPAL GLOBAL INVESTORS



RHUMBLINE ADVISORS S&P 500





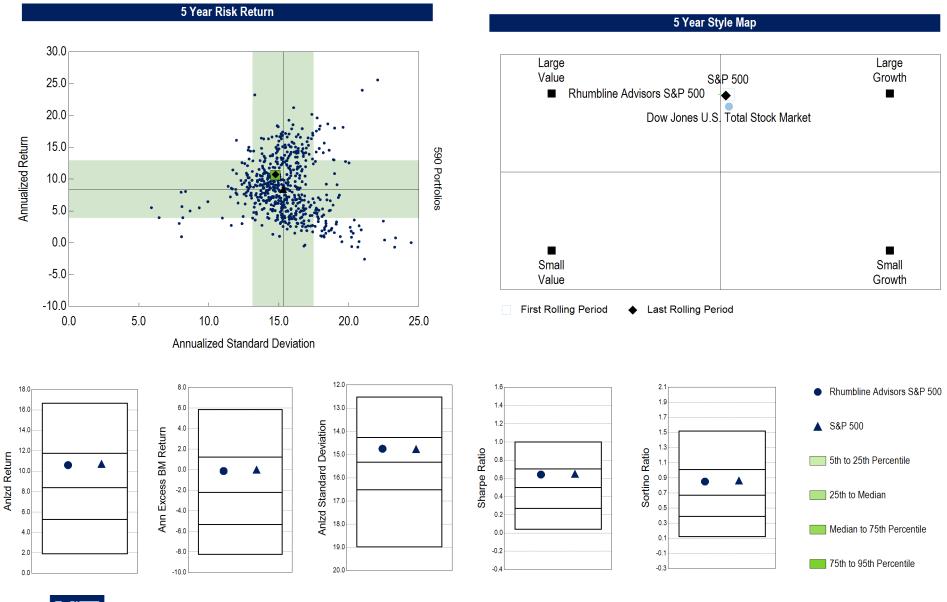
RHUMBLINE ADVISORS S&P 500

Rhumbline Advisors S&P 500 vs. eV US Large Cap Equity Net 35.0 30.0 25.0 20.0 15.0 Annualized Return (%) 10.0 5.0 0.0 -5.0 -10.0 -15.0 -20.0 -25.0 YTD Quarter 1 Year 2 Years 3 Years 5 Years 7 Years 10 Years Period

		Return (Rank	:)														
	5th Percentile	32.02		16.39		27.49		19.72		21.77		16.64		17.35		17.26	
2	25th Percentile	24.45		2.72		13.45		12.25		14.02		11.78		13.37		14.71	
- 1	Median	19.83		-5.69		3.52		6.25		8.14		8.41		10.39		12.52	
7	75th Percentile	15.92		-13.07		-5.56		0.34		3.47		5.32		7.66		10.55	
(95th Percentile	12.24		-19.64		-12.27		-5.40		-1.09		1.96		4.96		8.62	
#	of Portfolios	653		652		646		641		631		590		550		464	
	Rhumbline Advisors S&P 500	20.49	(46)	-3.24	(40)	7.09	(38)	8.73	(38)	10.58	(36)	10.60	(31)	12.03	(31)	13.92	(31)
•	S&P 500	20.54	(45)	-3.08	(40)	7.50	(37)	8.95	(37)	10.73	(36)	10.73	(30)	12.13	(30)	13.99	(30)

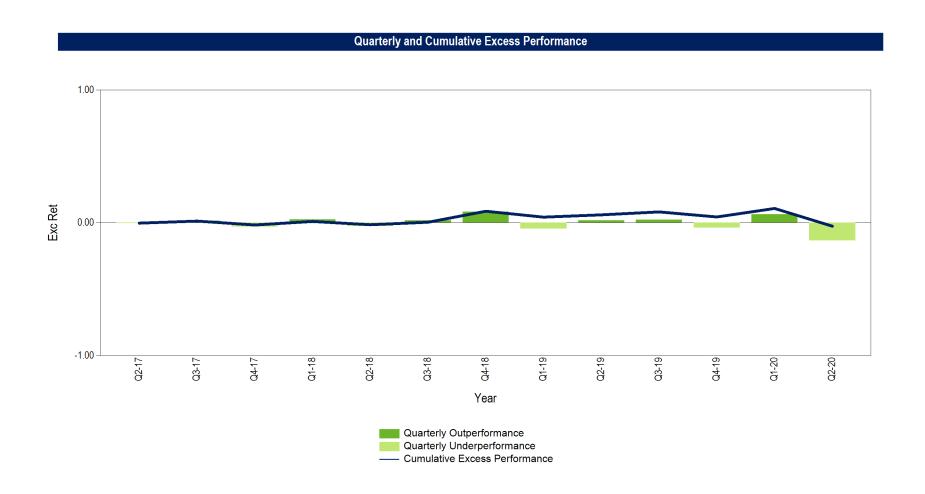


RHUMBLINE ADVISORS S&P 500





RHUMBLINE ADVISORS RUSSELL 2000





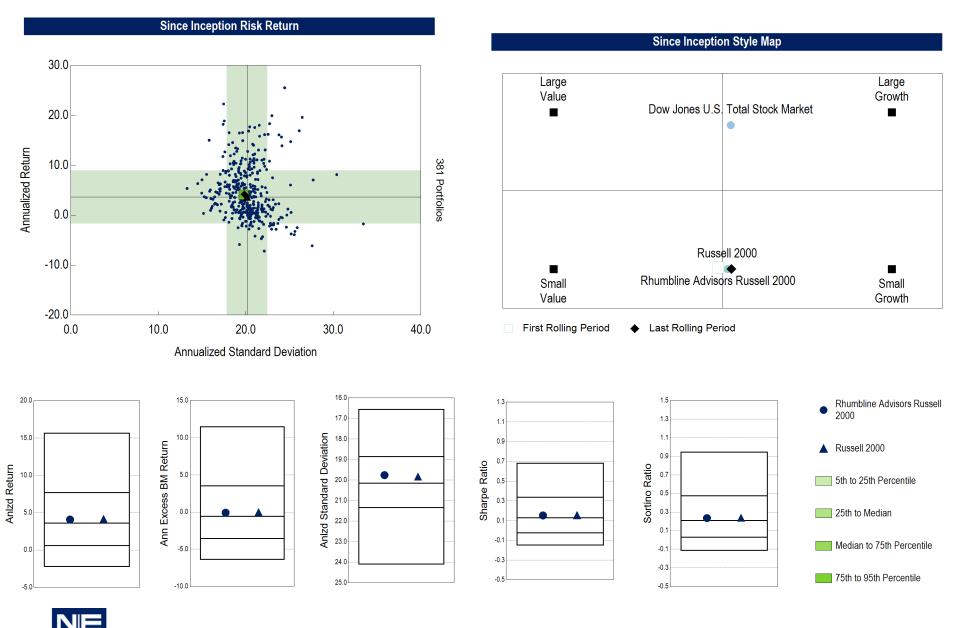
RHUMBLINE ADVISORS RUSSELL 2000

Rhumbline Advisors Russell 2000 vs. eV US Small Cap Equity Net 40.0 30.0 Annualized Return (%) 20.0 10.0 0.0 -10.0 -20.0 -30.0 YTD 1 Year 2 Years 3 Years Quarter Period

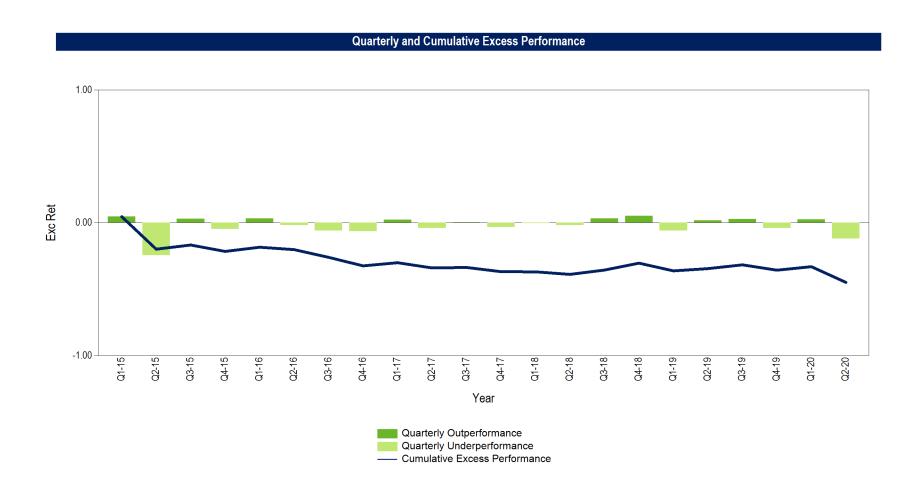
		Return (Rank)									
	5th Percentile	41.98		15.39		18.20		16.08		21.85	
	25th Percentile	31.40		-4.00		0.71		1.41		7.61	
	Median	25.04		-14.90		-9.83		-5.35		0.93	
	75th Percentile	19.93		-21.24		-15.70		-10.79		-3.43	
	95th Percentile	14.27		-27.78		-22.00		-15.65		-7.67	
;	f of Portfolios	416		415		415		412		408	
•	Rhumbline Advisors Russell 2000	25.28	(49)	-12.99	(46)	-6.65	(44)	-4.95	(47)	2.03	(44)
•	Russell 2000	25.42	(48)	-12.98	(46)	-6.63	(44)	-4.98	(47)	2.01	(44)



RHUMBLINE ADVISORS RUSSELL 2000



RHUMBLINE ADVISORS RUSSELL 2000 GROWTH





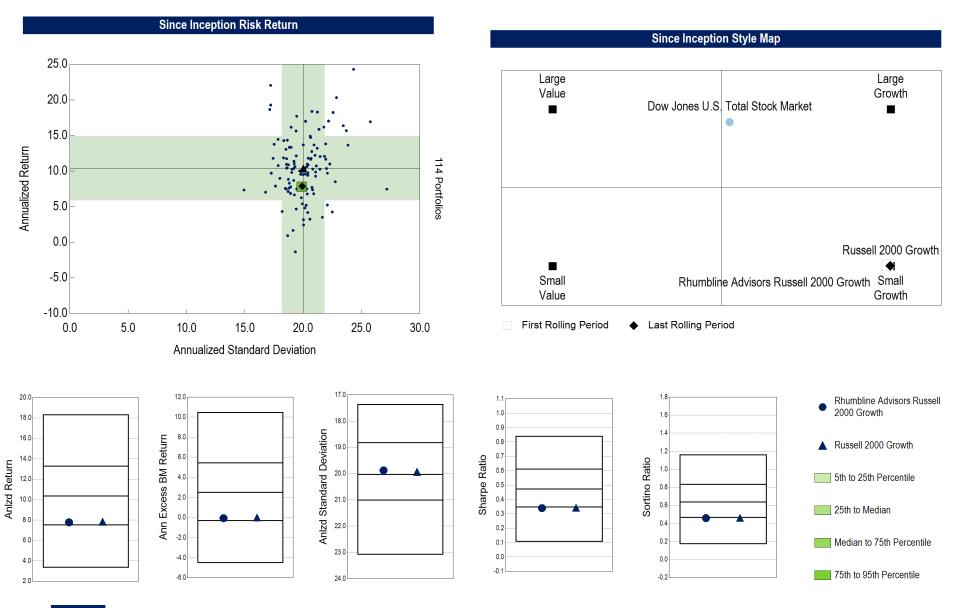
RHUMBLINE ADVISORS RUSSELL 2000 GROWTH

Rhumbline Advisors Russell 2000 Growth vs. eV US Small Cap Growth Equity Net 50.0 40.0 30.0 Annualized Return (%) 20.0 10.0 0.0 -10.0 -20.0 YTD Quarter 1 Year 2 Years 3 Years Period

		Return (Rank)							
5	th Percentile	49.47	24.0	3	28.16		22.13	26.48	
2	5th Percentile	39.52	10.9	4	15.02		13.46	18.07	
I	ledian e e e e e e e e e e e e e e e e e e e	33.69	2.7	8	8.32		7.06	12.48	
7	5th Percentile	29.40	-4.5	3	0.34		0.78	7.27	
6	5th Percentile	24.84	-11.7	5	-8.31		-6.44	0.34	
#	of Portfolios	125	12	5	125		125	125	
•	Rhumbline Advisors Russell 2000 Growth	30.47	(69) -3.	1 (71)	3.41	(59)	1.48	(71) 7.84	(72)
A	Russell 2000 Growth	30.58	(68) -3.0	6 (71)	3.48	(59)	1.47	(71) 7.86	(72)

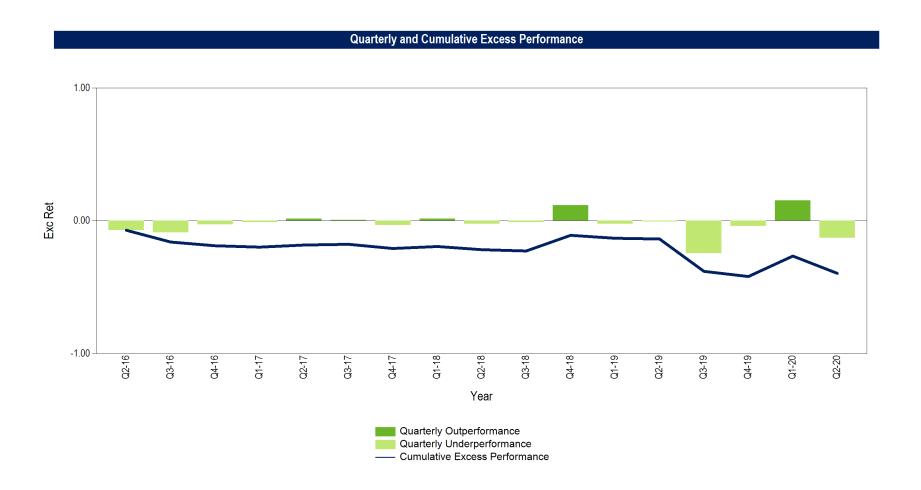


RHUMBLINE ADVISORS RUSSELL 2000 GROWTH



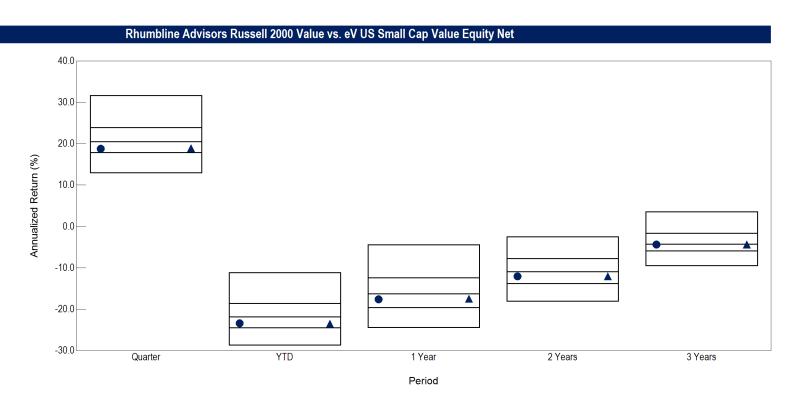


RHUMBLINE ADVISORS RUSSELL 2000 VALUE





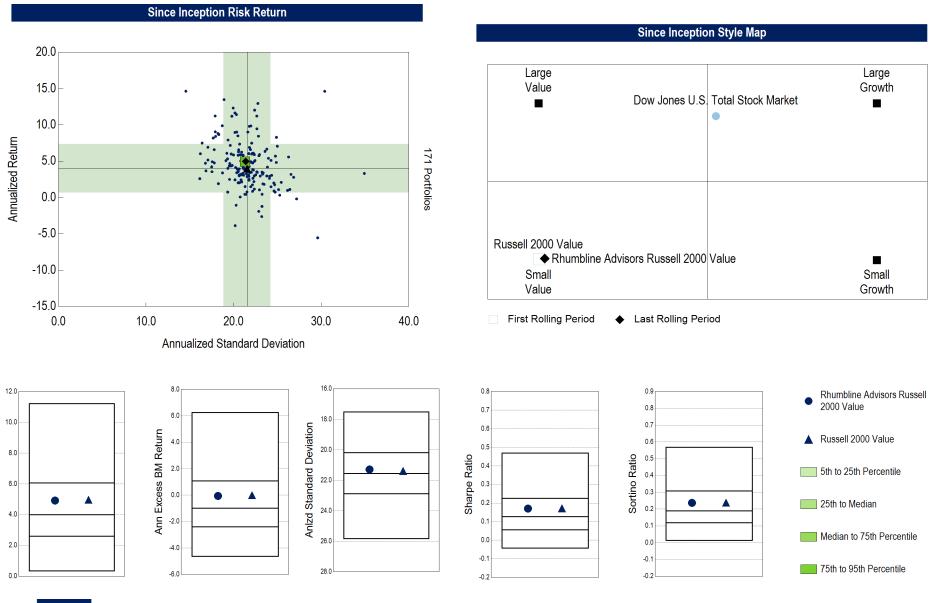
RHUMBLINE ADVISORS RUSSELL 2000 VALUE



		Return (Rank)									
5	ith Percentile	31.62		-11.19		-4.47		-2.49		3.52	
2	25th Percentile	24.00		-18.54		-12.36		-7.68		-1.60	
N	Median	20.59		-21.80		-16.17		-10.86		-4.17	
7	'5th Percentile	17.96		-24.41		-19.54		-13.71		-5.86	
9	95th Percentile	13.08		-28.56		-24.30		-18.01		-9.36	
#	of Portfolios	180		179		179		177		175	
	Rhumbline Advisors Russell 2000 Value	18.78	(71)	-23.40	(64)	-17.60	(62)	-12.05	(63)	-4.37	(55)
A	Russell 2000 Value	18.91	(70)	-23.50	(65)	-17.48	(60)	-12.04	(63)	-4.35	(55)



RHUMBLINE ADVISORS RUSSELL 2000 VALUE



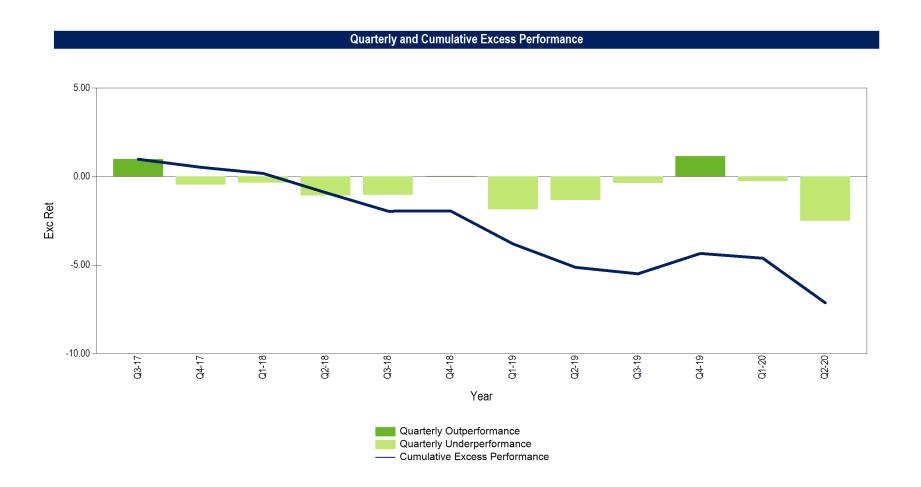


Anlzd Return

NON-U.S. EQUITY MANAGER PERFORMANCE

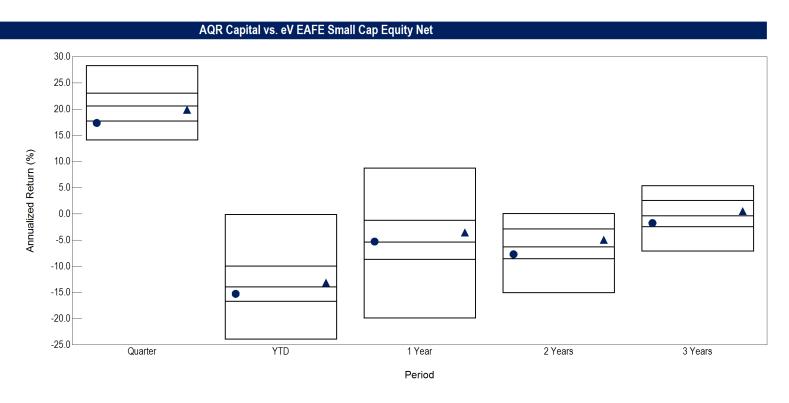
NEPC, LLC -

AQR CAPITAL





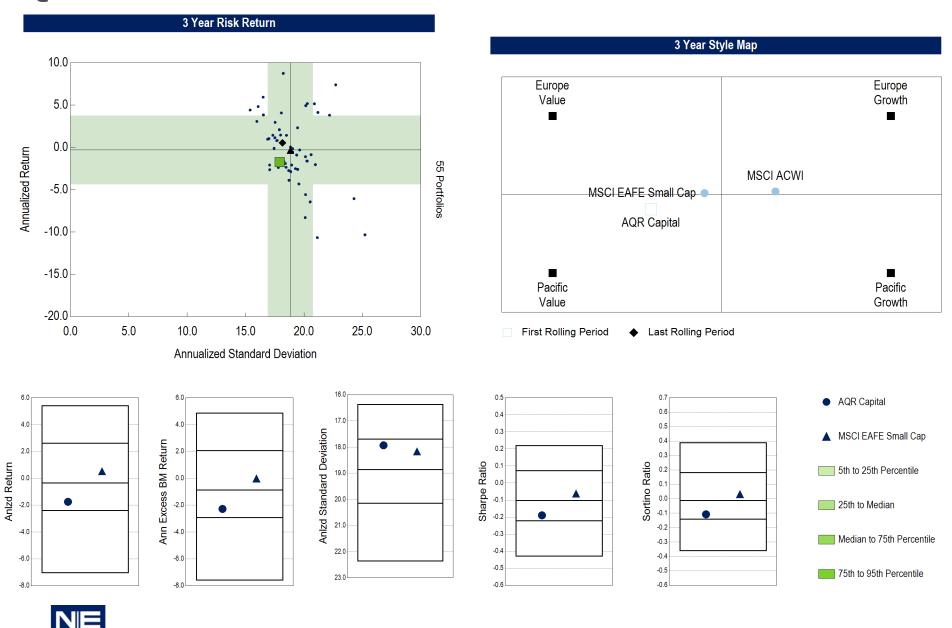
AQR CAPITAL



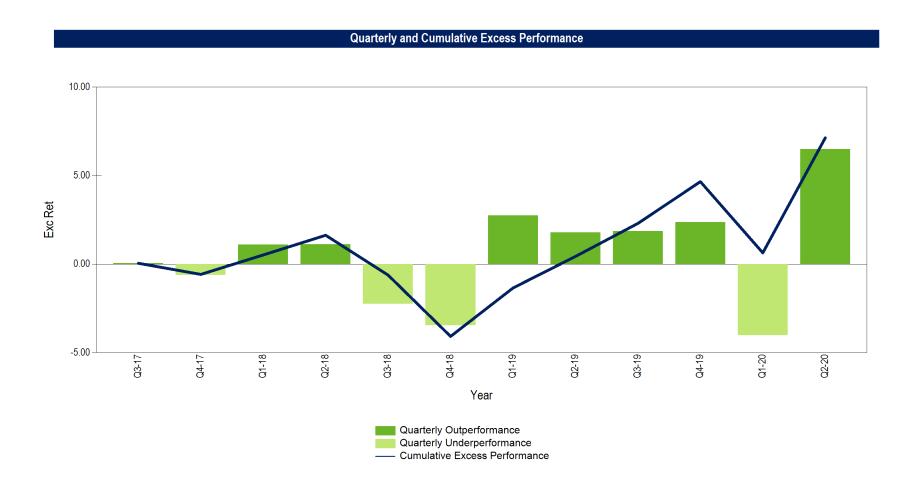
	Return (Rank)									
5th Percentile	28.33		-0.12		8.73		0.07		5.41	
25th Percentile	23.12		-9.91		-1.14		-2.78		2.63	
Median	20.64		-13.89		-5.28		-6.24		-0.31	
75th Percentile	17.79		-16.59		-8.64		-8.49		-2.37	
95th Percentile	14.21		-23.82		-19.80		-14.94		-7.01	
# of Portfolios	60		59		59		57		55	
AQR Capital	17.37	(81)	-15.25	(61)	-5.28	(50)	-7.70	(68)	-1.74	(66)
▲ MSCI EAFE Small Cap	19.88	(55)	-13.11	(44)	-3.52	(45)	-4.94	(40)	0.53	(44)



AQR CAPITAL

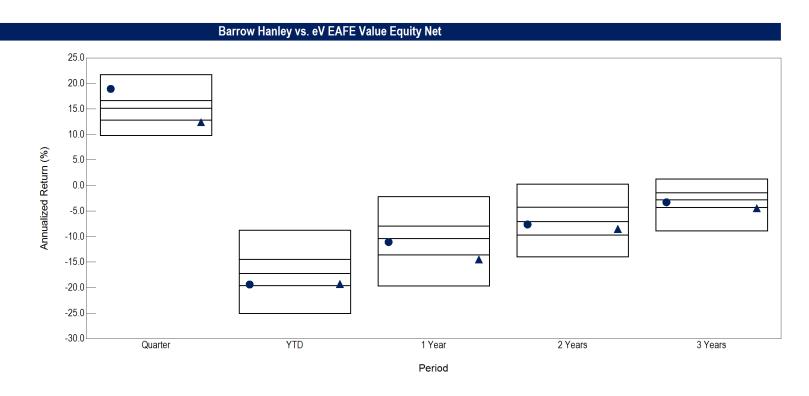


BARROW HANLEY





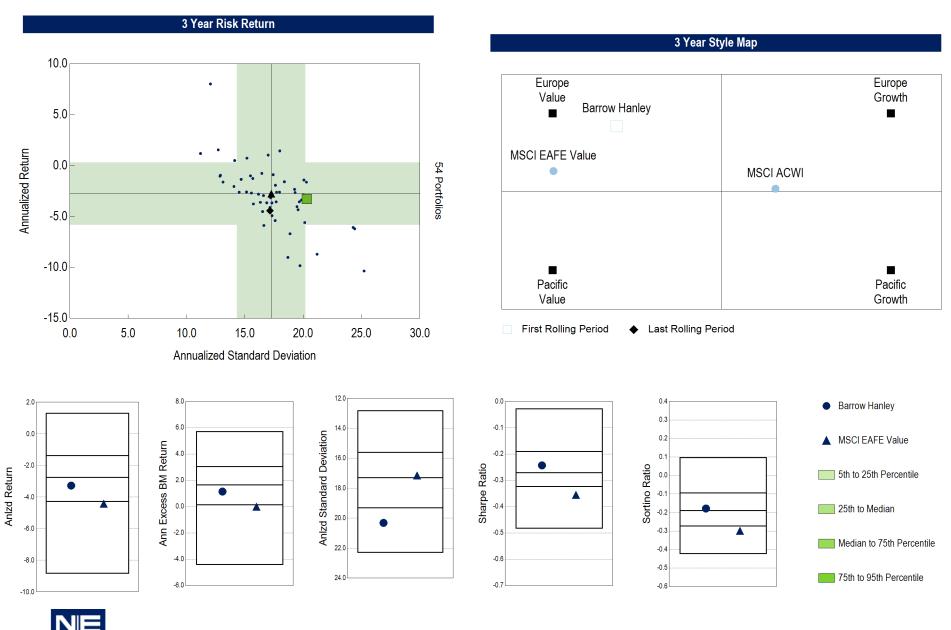
BARROW HANLEY



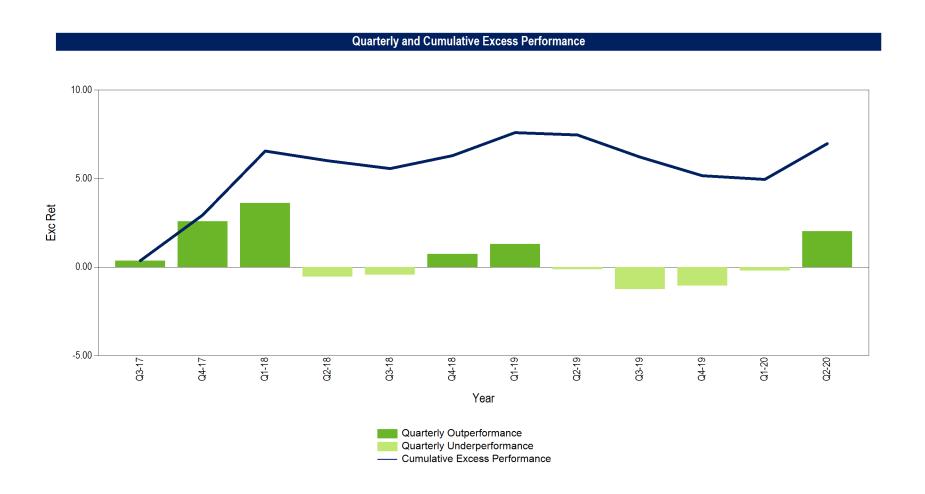
	Return (Rank)					
5th Percentile	21.74	-8.77	-2.16	0.28	1.28	
25th Percentile	16.68	-14.40	-7.86	-4.19	-1.36	
Median	15.22	-17.18	-10.36	-7.00	-2.75	
75th Percentile	12.85	-19.58	-13.56	-9.65	-4.28	
95th Percentile	9.86	-25.03	-19.59	-13.92	-8.81	
# of Portfolios	59	59	59	57	54	
 Barrow Hanle 	18.92	(13) -19.39	(75) -11.08	(58) -7.63	(62) -3.29	(58)
MSCI EAFE V	lue 12.43	(82) -19.27	(75) -14.48	(80) -8.50	(69) -4.43	(77)



BARROW HANLEY

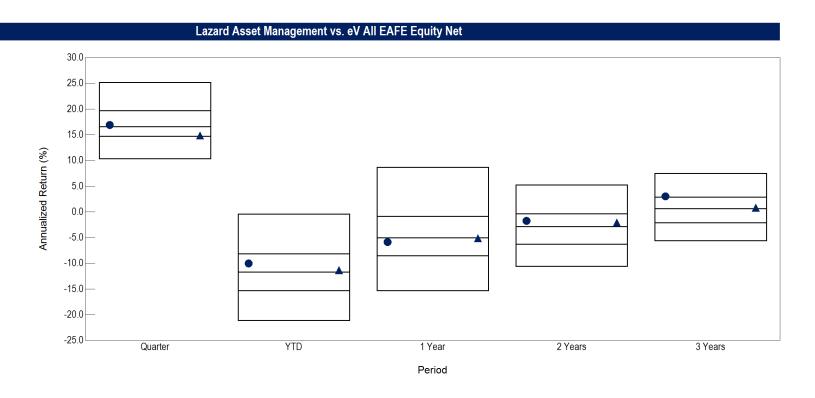


LAZARD ASSET MANAGEMENT





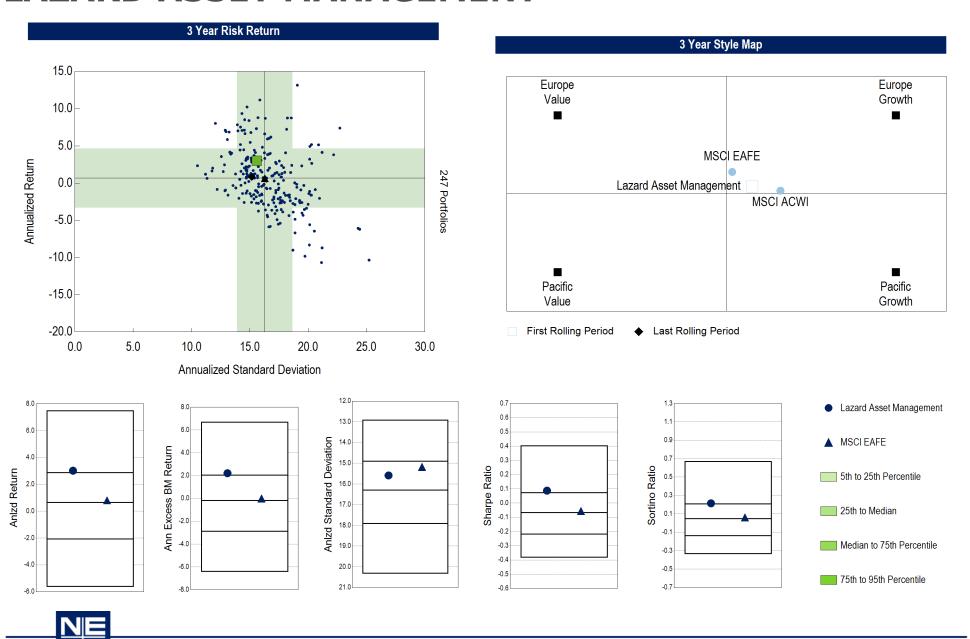
LAZARD ASSET MANAGEMENT



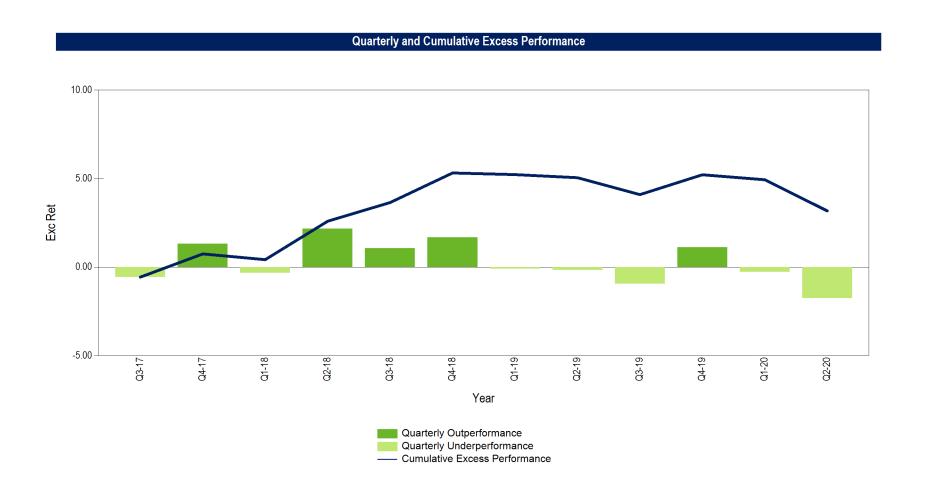
		Return (Rank)									
5	th Percentile	25.15		-0.44		8.65		5.24		7.49	
2	5th Percentile	19.74		-8.08		-0.82		-0.30		2.89	
N	l ledian	16.61		-11.62		-4.99		-2.79		0.67	
7	5th Percentile	14.75		-15.26		-8.45		-6.24		-2.05	
9	5th Percentile	10.38		-21.08		-15.29		-10.56		-5.57	
#	of Portfolios	260		259		259		254		247	
•	Lazard Asset Management	16.90	(46)	-10.03	(37)	-5.87	(58)	-1.75	(37)	3.02	(25)
A	MSCI EAFE	14.88	(73)	-11.34	(50)	-5.13	(53)	-2.08	(41)	0.81	(47)



LAZARD ASSET MANAGEMENT

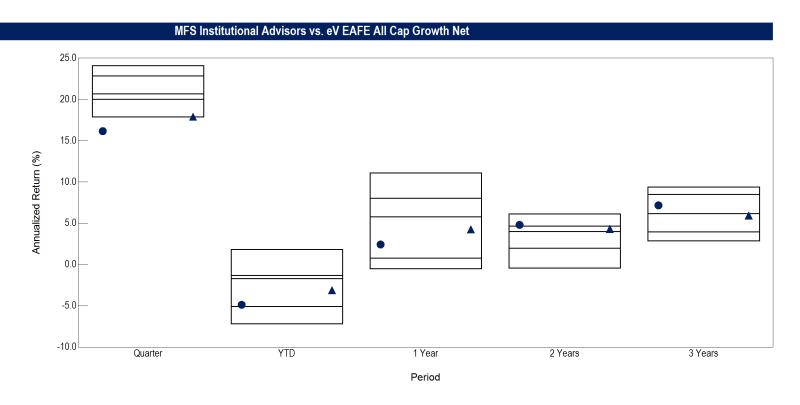


MFS INSTITUTIONAL ADVISORS





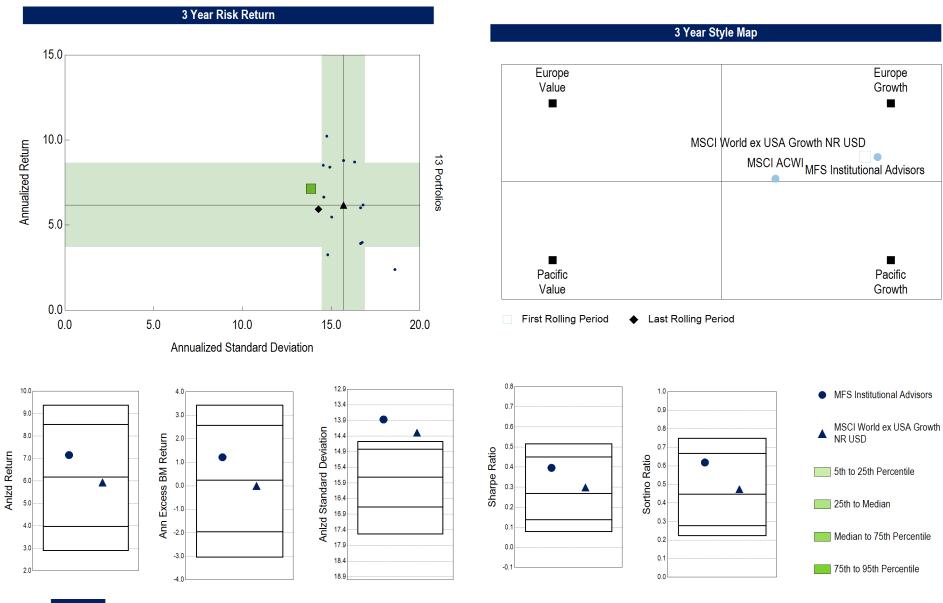
MFS INSTITUTIONAL ADVISORS



		Return (Rank)									
	th Percentile	24.05		1.83		11.07		6.11		9.37	
2	5th Percentile	22.87	-	1.31		8.05		4.67		8.52	
- 1	ledian	20.70	ų.	1.68		5.82		4.01		6.18	
7	5th Percentile	20.02		5.07		0.79		1.98		3.98	
9	5th Percentile	17.89	-	7.13		-0.50		-0.39		2.91	
#	of Portfolios	13		13		13		13		13	
	MFS Institutional Advisors	16.13	(99)	4.88	(75)	2.41	(71)	4.79	(17)	7.15	(40)
A	MSCI World ex USA Growth NR USD	17.89	(95)	3.11	(68)	4.25	(65)	4.31	(43)	5.93	(60)

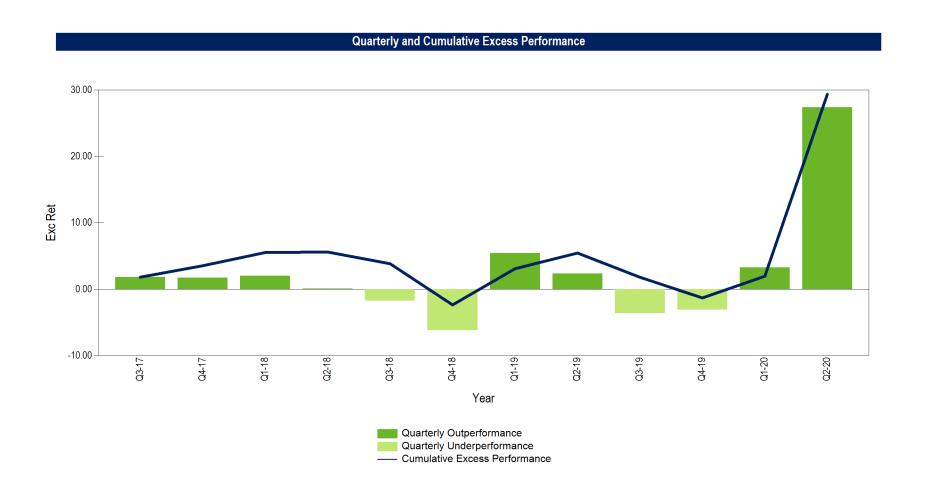


MFS INSTITUTIONAL ADVISORS



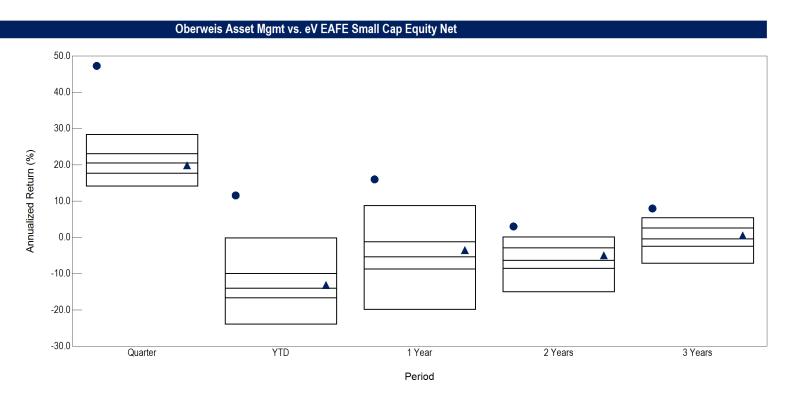


OBERWEIS ASSET MGMT





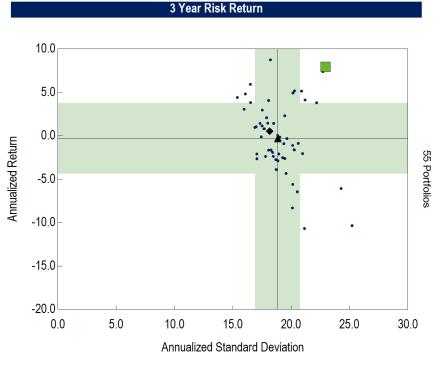
OBERWEIS ASSET MGMT

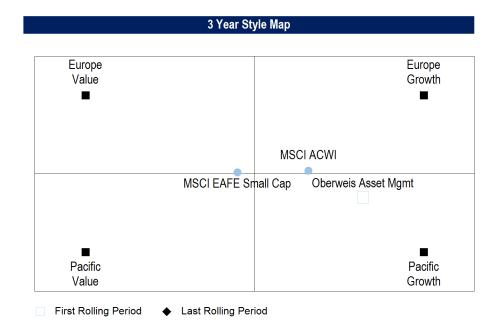


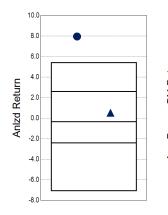
		Return (Rank)									
5	th Percentile	28.33		-0.12		8.73		0.07		5.41	
2	5th Percentile	23.12		-9.91		-1.14		-2.78		2.63	
1	Median	20.64		-13.89		-5.28		-6.24		-0.31	
7	5th Percentile	17.79		-16.59		-8.64		-8.49		-2.37	
9	5th Percentile	14.21		-23.82		-19.80		-14.94		-7.01	
#	of Portfolios	60		59		59		57		55	
•	Oberweis Asset Mgmt	47.27	(1)	11.55	(1)	15.99	(1)	3.00	(2)	7.96	(2)
A	MSCI EAFE Small Cap	19.88	(55)	-13.11	(44)	-3.52	(45)	-4.94	(40)	0.53	(44)

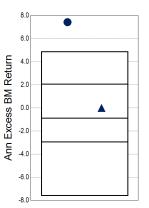


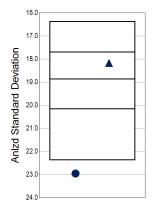
OBERWEIS ASSET MGMT

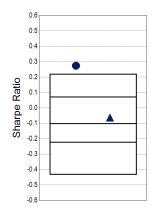


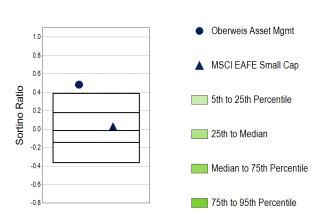






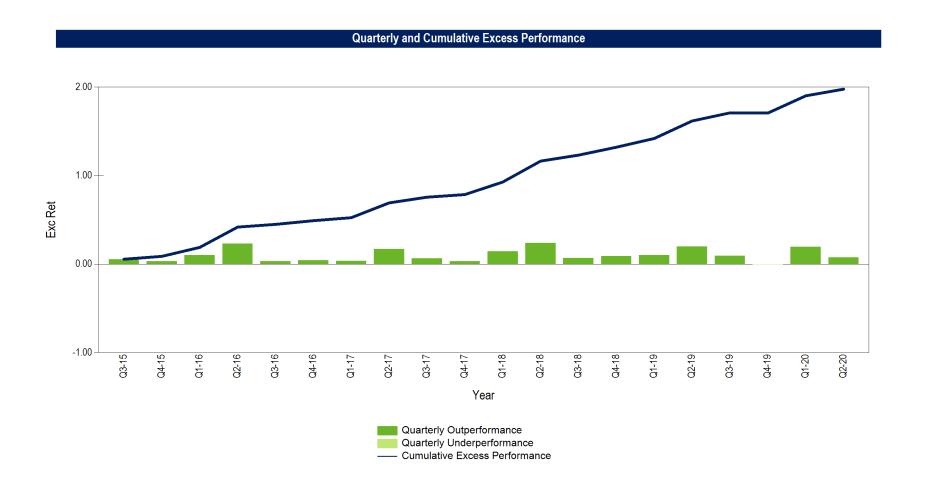








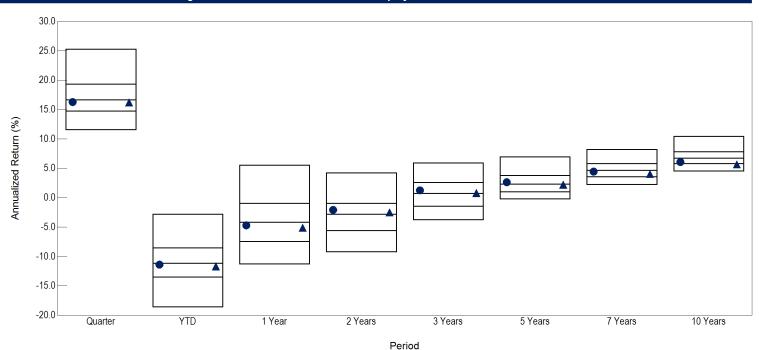
SSGA WORLD EX US IMI





SSGA WORLD EX US IMI

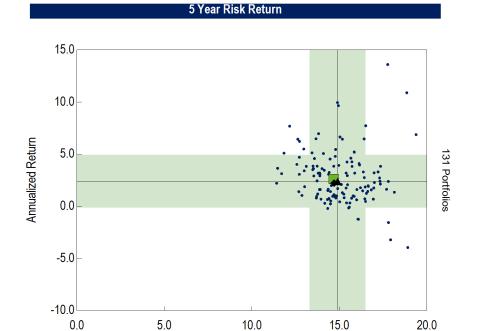
SSgA World ex US IMI vs. eV EAFE Core Equity Net



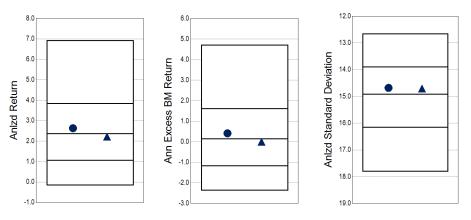
		Return (Rank	:)														
	5th Percentile	25.25		-2.81		5.52		4.22		5.92		6.92		8.19		10.43	
	25th Percentile	19.36		-8.51		-0.93		-0.93		2.66		3.85		5.86		7.86	
	Median	16.72		-11.12		-4.13		-2.77		0.80		2.38		4.69		6.80	
	75th Percentile	14.78		-13.48		-7.38		-5.54		-1.41		1.08		3.62		5.86	
	95th Percentile	11.62		-18.54		-11.21		-9.13		-3.69		-0.12		2.31		4.61	
	# of Portfolios	151		150		150		148		145		131		110		88	
	SSgA World ex US IMI	16.28	(57)	-11.40	(54)	-4.71	(55)	-2.09	(40)	1.25	(44)	2.63	(47)	4.44	(54)	6.06	(72)
•	MSCI World ex USA IMI NR USD	16.21	(59)	-11.68	(56)	-5.11	(58)	-2.51	(46)	0.80	(51)	2.22	(52)	4.03	(67)	5.67	(80)



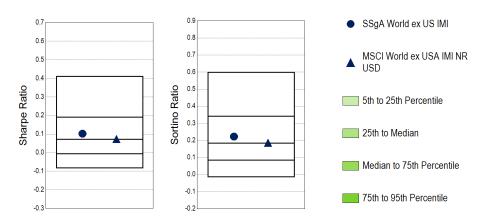
SSGA WORLD EX US IMI





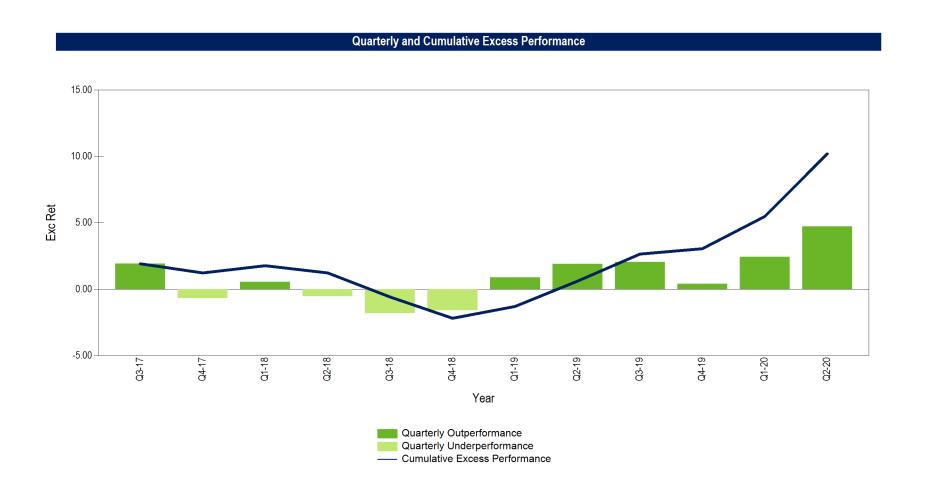


Annualized Standard Deviation



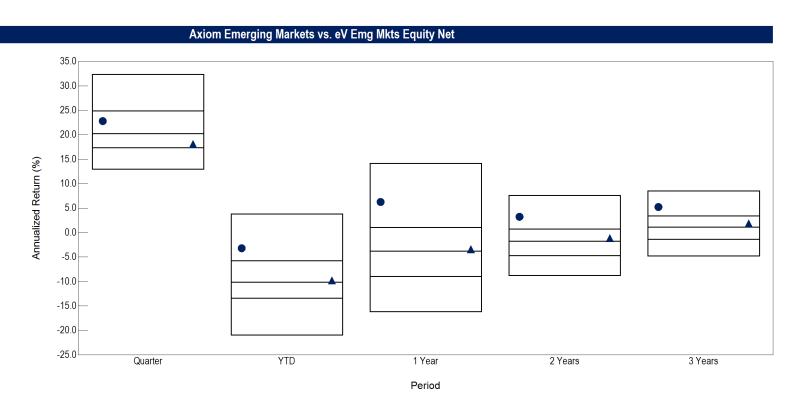


AXIOM EMERGING MARKETS





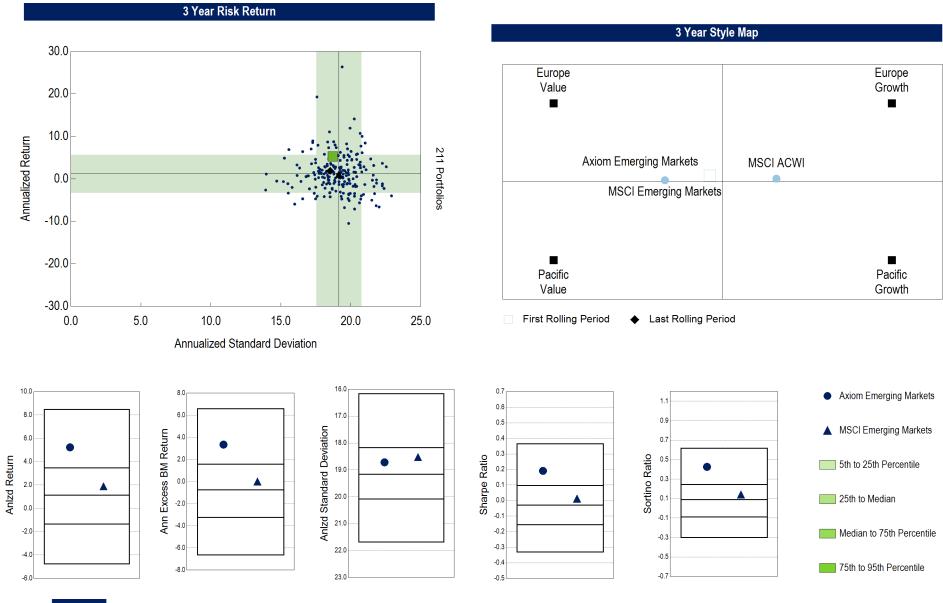
AXIOM EMERGING MARKETS



		Return (Rank)									
5t	h Percentile	32.35		3.83		14.13		7.56		8.48	
25	oth Percentile	24.93		-5.68		1.12		0.80		3.49	
M	edian	20.30		-10.07		-3.74		-1.70		1.16	
75	5th Percentile	17.40		-13.37		-8.92		-4.67		-1.32	
95	5th Percentile	13.01		-20.89		-16.09		-8.72		-4.73	
#	of Portfolios	235		235		235		222		211	
•	Axiom Emerging Markets	22.80	(36)	-3.20	(15)	6.26	(13)	3.23	(17)	5.23	(16)
•	MSCI Emerging Markets	18.08	(68)	-9.78	(48)	-3.39	(48)	-1.12	(44)	1.90	(41)

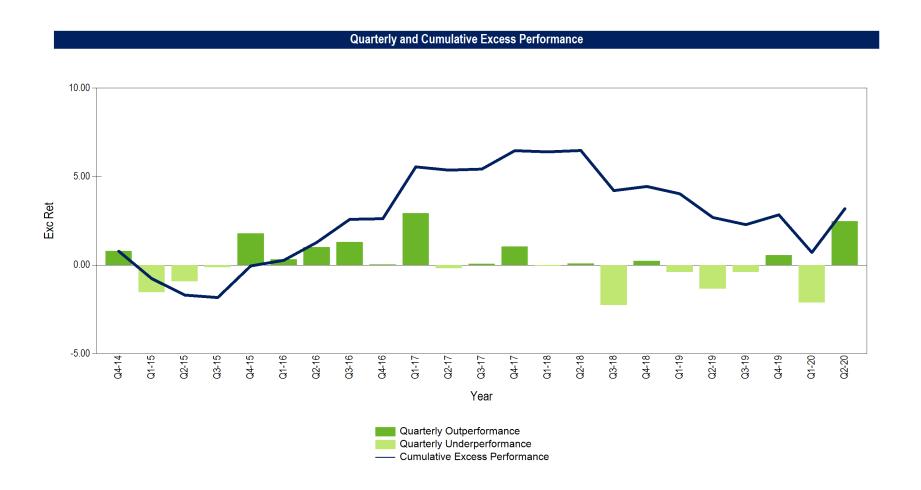


AXIOM EMERGING MARKETS



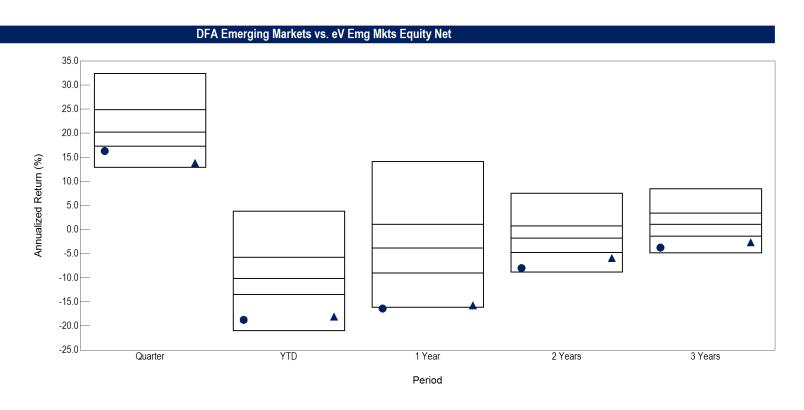


DFA EMERGING MARKETS





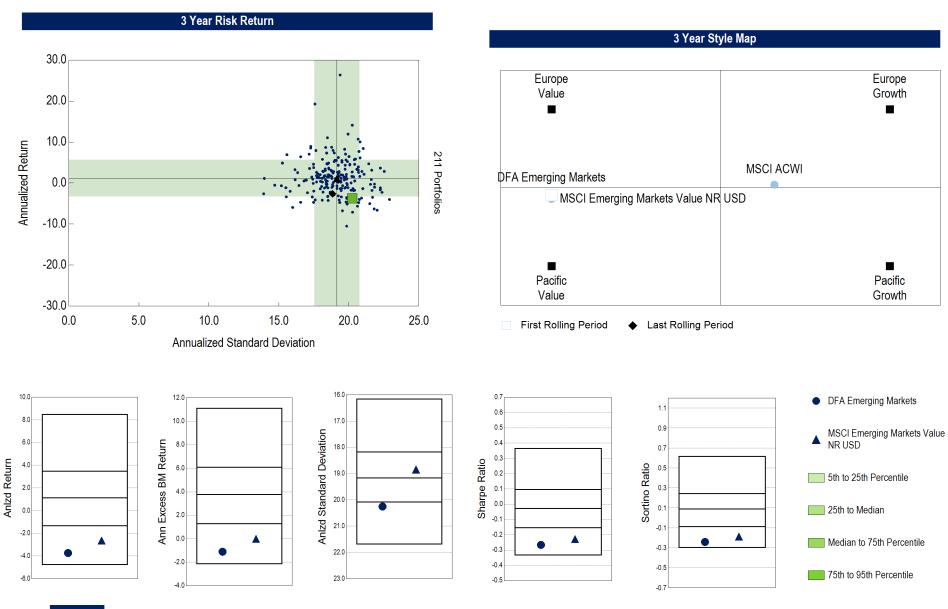
DFA EMERGING MARKETS



		Return (Rank)									
51	h Percentile	32.35		3.83		14.13		7.56		8.48	
2	oth Percentile	24.93		5.68		1.12		0.80		3.49	
M	edian	20.30	-1	0.07		-3.74		-1.70		1.16	
7	oth Percentile	17.40	-1	3.37		-8.92		-4.67		-1.32	
9	ith Percentile	13.01	-2	0.89		-16.09		-8.72		-4.73	
#	of Portfolios	235		235		235		222		211	
	DFA Emerging Markets	16.30	(83) -1	8.74	(91)	-16.39	(96)	-8.00	(92)	-3.74	(91)
	MSCI Emerging Markets Value NR USD	13.83	(93) -1	8.05	(91)	-15.74	(94)	-5.92	(83)	-2.64	(84)

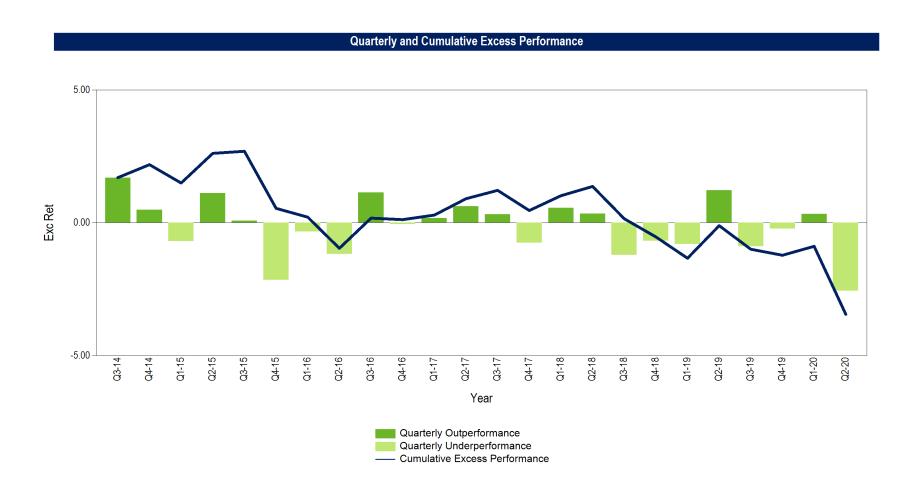


DFA EMERGING MARKETS



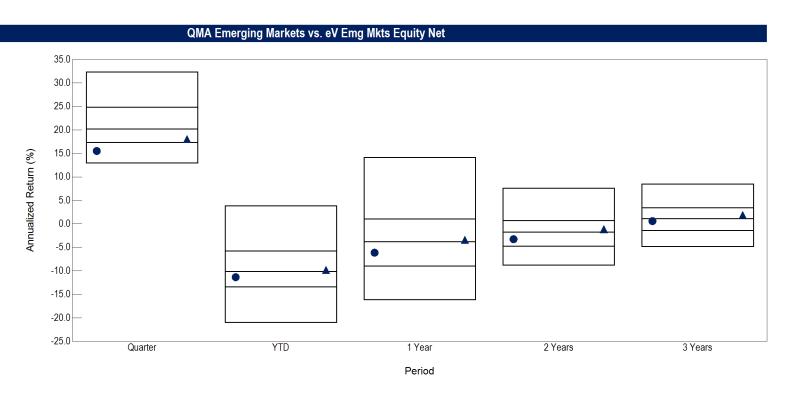


QMA EMERGING MARKETS





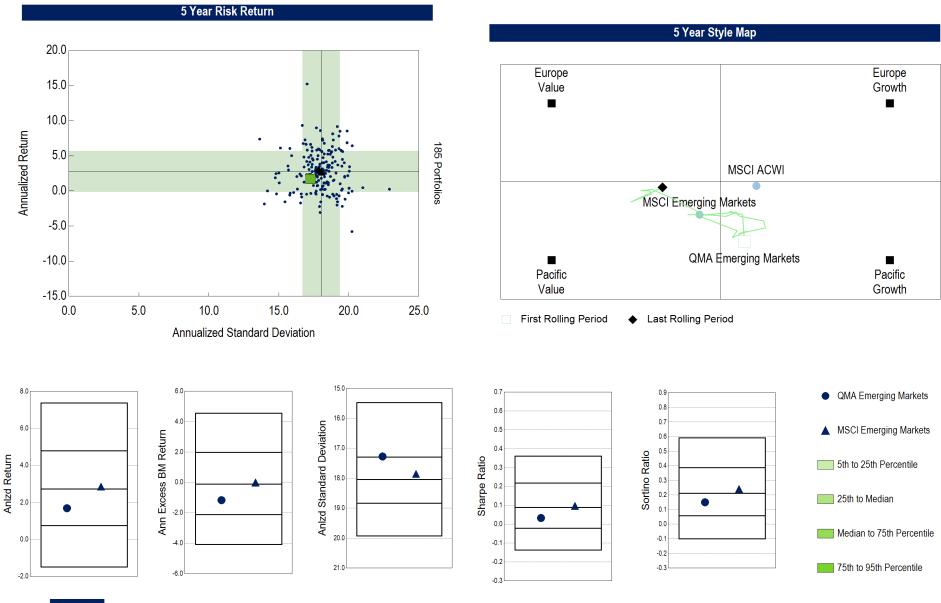
QMA EMERGING MARKETS



	Return (Rank)							
5th Percentile	32.35	3.83		14.13	7.56		8.48	
25th Percentile	24.93	-5.68		1.12	0.80		3.49	
Median	20.30	-10.07		-3.74	-1.70		1.16	
75th Percentile	17.40	-13.37		-8.92	-4.67		-1.32	
95th Percentile	13.01	-20.89		-16.09	-8.72		-4.73	
# of Portfolios	235	235		235	222		211	
QMA Emerging Markets	15.52	(87) -11.35	(60)	-6.14	(63) -3.26	(63)	0.59	(57)
▲ MSCI Emerging Markets	18.08	(68) -9.78	(48)		(48) -1.12	(44)	1.90	(41)



QMA EMERGING MARKETS

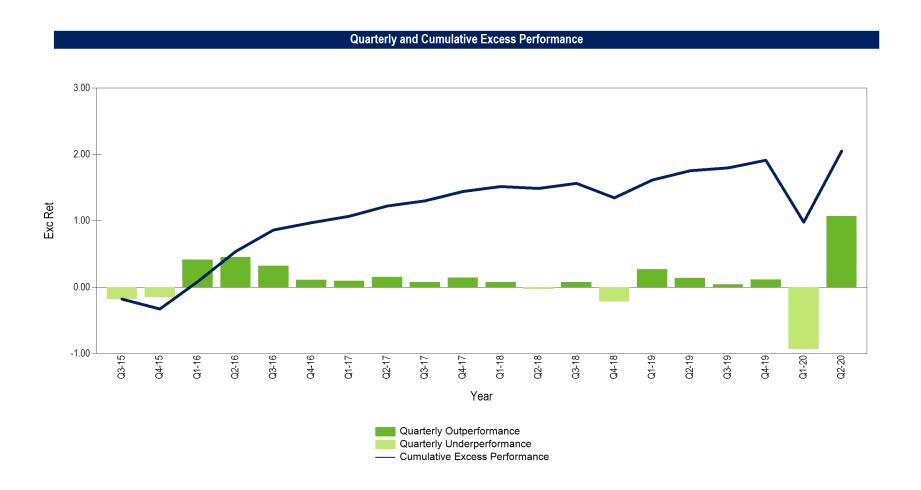




CORE FIXED INCOME MANAGER PERFORMANCE

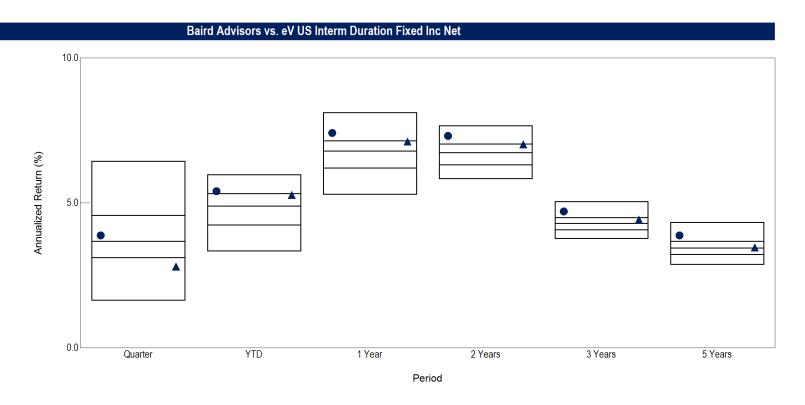
NEPC, LLC -

BAIRD ADVISORS





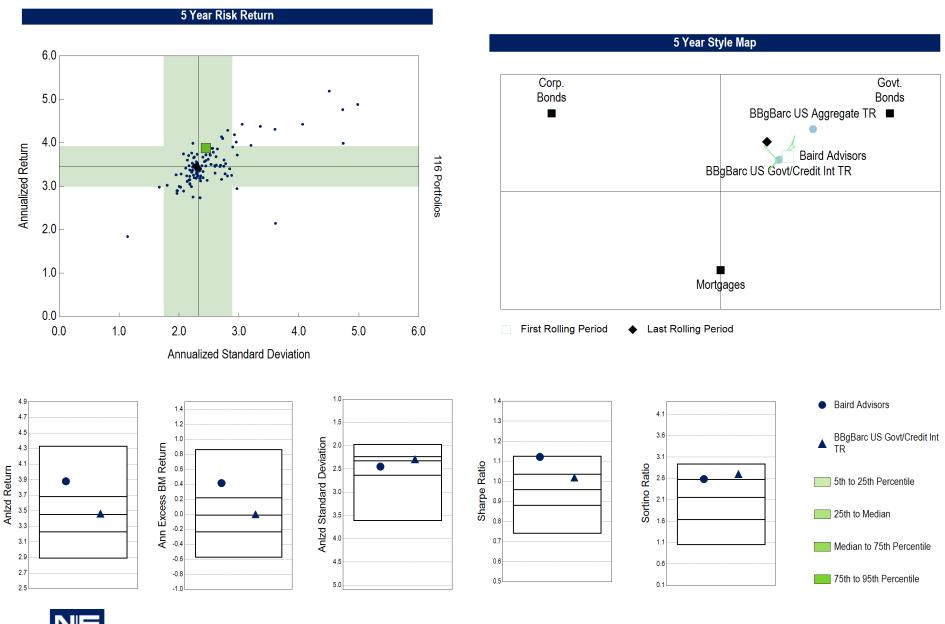
BAIRD ADVISORS



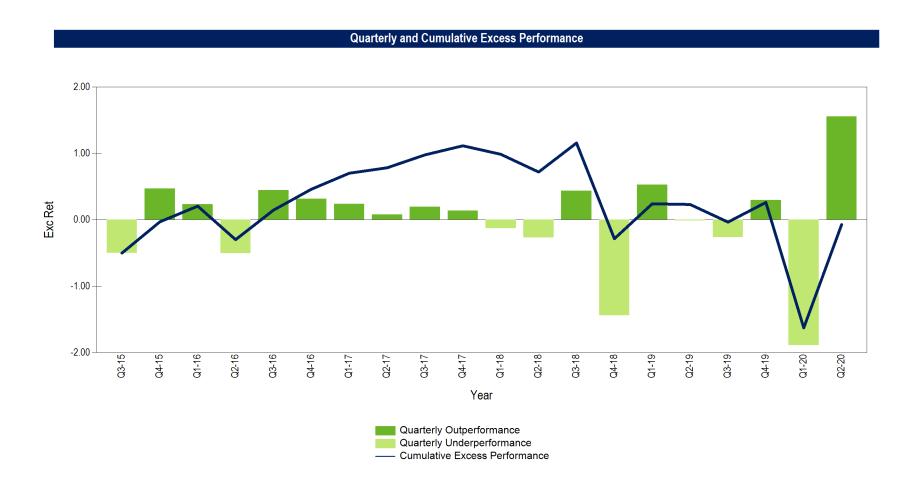
	Return (Rank)										
5th Percentile	6.43		5.97		8.11		7.66	5.04		4.33	
25th Percentile	4.58		5.33		7.15		7.04	4.50		3.69	
Median	3.68		4.91		6.80		6.74	4.30		3.46	
75th Percentile	3.12		4.25		6.21		6.33	4.08		3.24	
95th Percentile	1.66		3.36		5.31		5.85	3.79		2.89	
# of Portfolios	121		121		121		119	117		116	
Baird Advisors	3.88	(42)	5.40	(21)	7.41	(18)	7.31 (11	4.71	(13)	3.88	(15)
▲ BBgBarc US Govt/Credit Int TR	2.81	(85)	5.28	(31)	7.12	(28)	7.02 (26	4.43	(36)	3.46	(47)



BAIRD ADVISORS

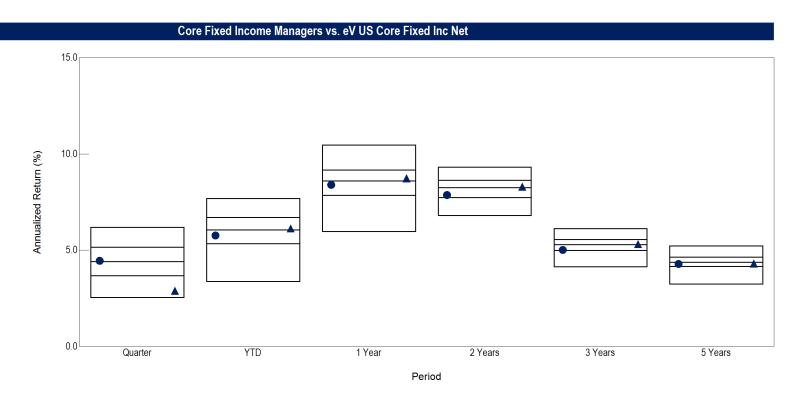


LM CAPITAL





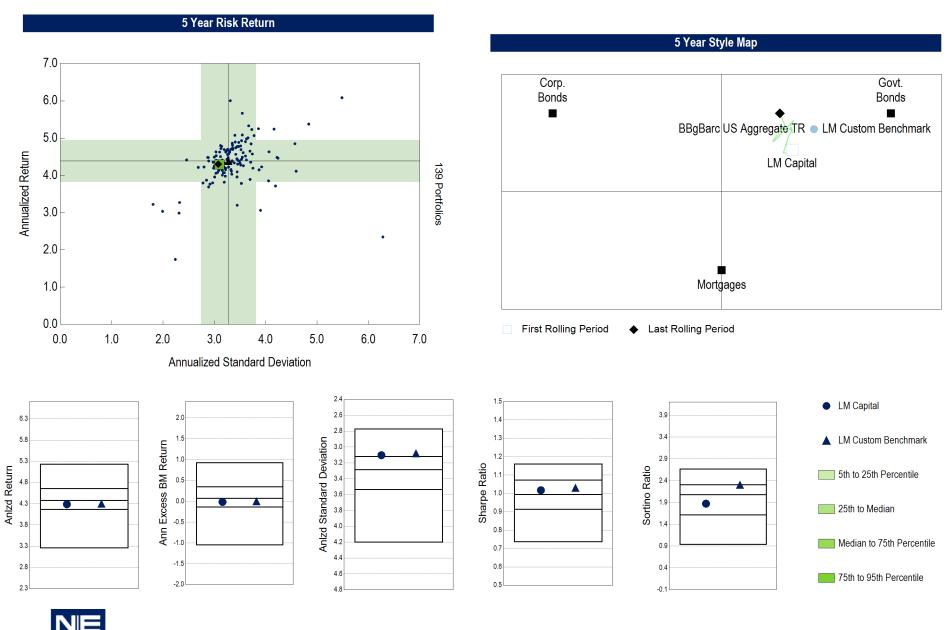
LM CAPITAL



		Return (Rank)											
	5th Percentile	6.19		7.68		10.46		9.32		6.12		5.23	
	25th Percentile	5.18		6.73		9.19		8.65		5.58		4.66	
	Median	4.42		6.07		8.61		8.27		5.30		4.38	
	75th Percentile	3.69		5.35		7.86		7.75		5.01		4.17	
	95th Percentile	2.57		3.39		5.98		6.82		4.16		3.27	
	# of Portfolios	147		147		146		144		143		139	
	LM Capital	4.45	(49)	5.77	(58)	8.40	(59)	7.87	(72)	5.02	(75)	4.29	(61)
•	LM Custom Benchmark	2.90	(93)	6.13	(47)	8.74	(45)	8.30	(49)	5.32	(50)	4.30	(60)

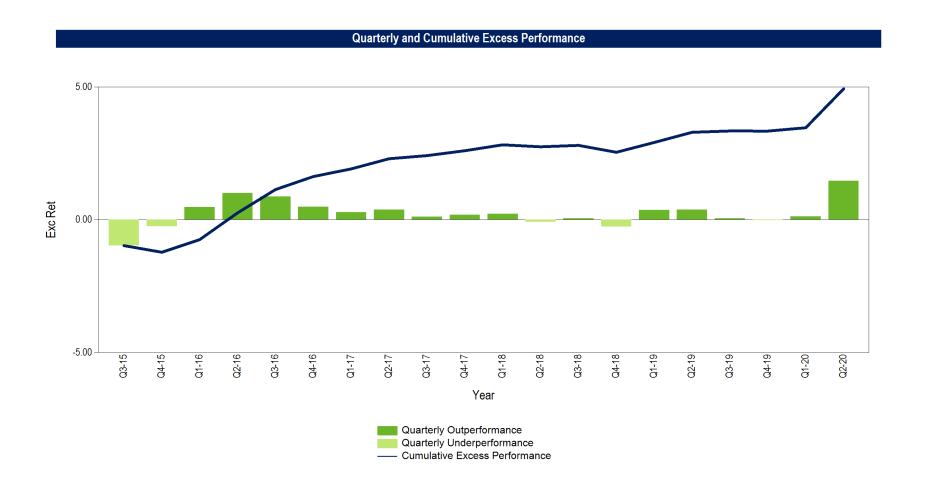


LM CAPITAL



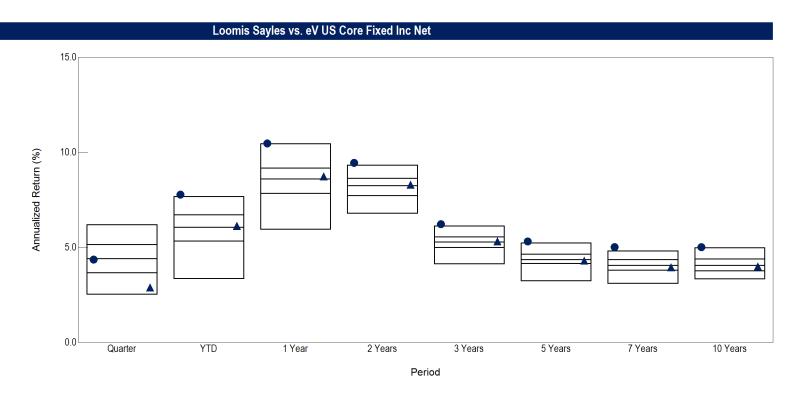


LOOMIS SAYLES





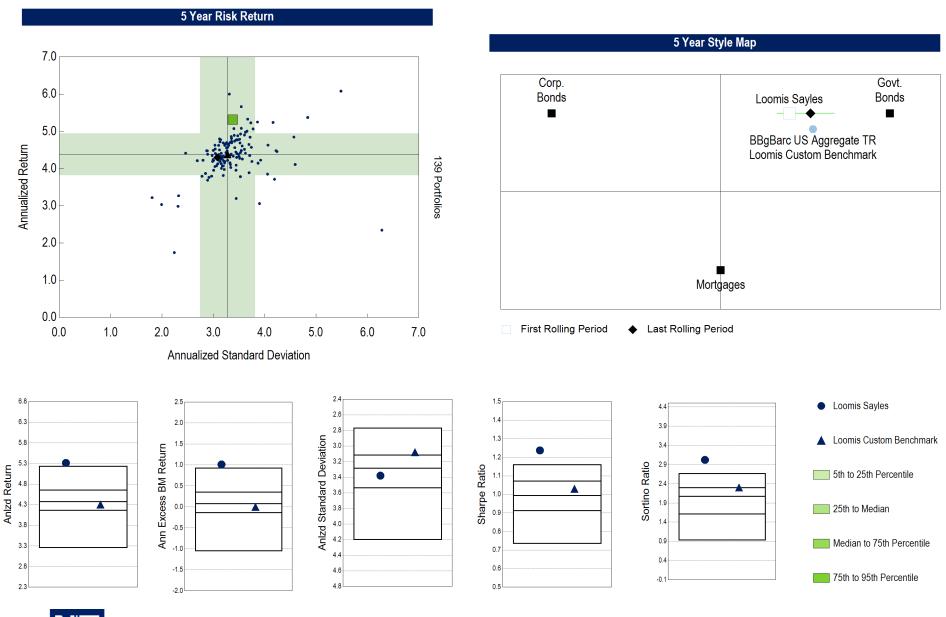
LOOMIS SAYLES



	Return (Rank)								
5th Percentile	6.19	7.68	10.46	9.32	6.12	5.23	4.81	4.98	
25th Percentile	5.18	6.73	9.19	8.65	5.58	4.66	4.38	4.41	
Median	4.42	6.07	8.61	8.27	5.30	4.38	4.07	4.07	
75th Percentile	3.69	5.35	7.86	7.75	5.01	4.17	3.81	3.79	
95th Percentile	2.57	3.39	5.98	6.82	4.16	3.27	3.13	3.37	
# of Portfolios	147	147	146	144	143	139	137	127	
Loomis Sayles	4.36 (52) 7.78	(4) 10.47	(5) 9.45	(4) 6.22	(3) 5.31	(4) 5.02	(3) 5.01	(5)
Loomis Custom Benchmark	2.90 (93) 6.13	(47) 8.74	(45) 8.30	(49) 5.32	(50) 4.30	(60) 3.96	(60) 4.00	(58)

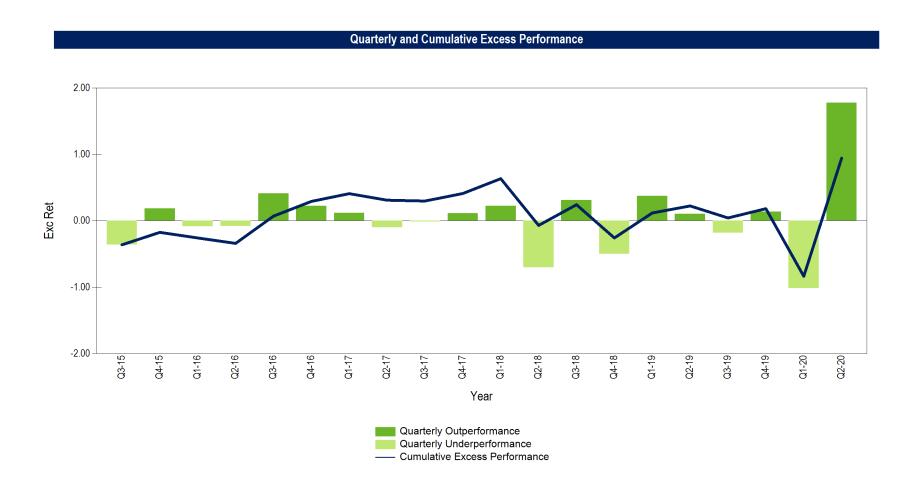


LOOMIS SAYLES



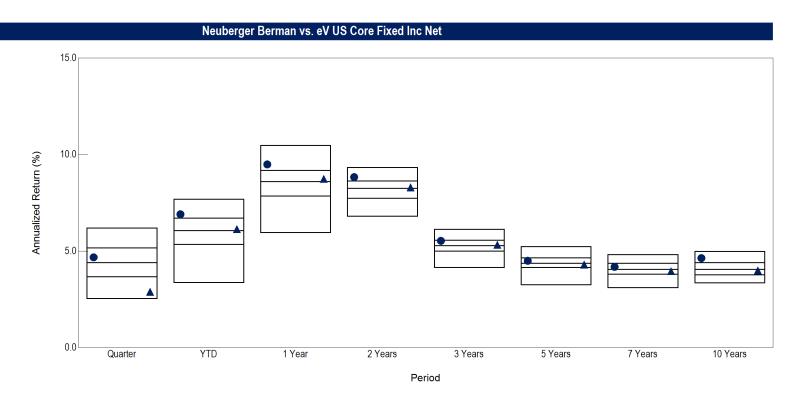


NEUBERGER BERMAN





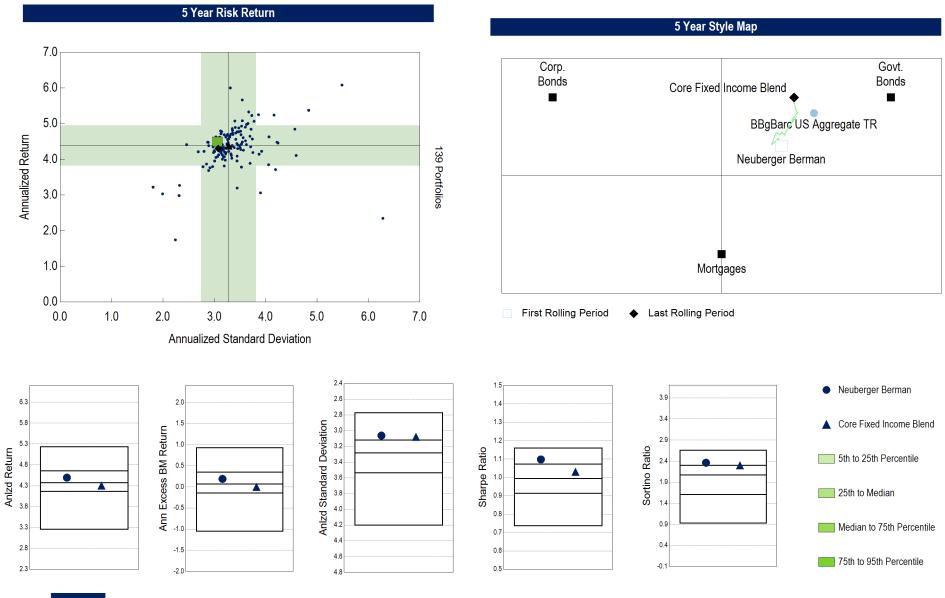
NEUBERGER BERMAN



		Return (Rank)														
5	th Percentile	6.19		7.68		10.46		9.32		6.12		5.23		4.81		4.98	
2	5th Percentile	5.18		6.73		9.19		8.65		5.58		4.66		4.38		4.41	
N	ledian	4.42		6.07		8.61		8.27		5.30		4.38		4.07		4.07	
7	5th Percentile	3.69		5.35		7.86		7.75		5.01		4.17		3.81		3.79	
9	5th Percentile	2.57		3.39		5.98		6.82		4.16		3.27		3.13		3.37	
#	of Portfolios	147		147		146		144		143		139		137		127	
•	Neuberger Berman	4.68	(40)	6.90	(19)	9.49	(19)	8.83	(19)	5.53	(30)	4.49	(36)	4.18	(41)	4.63	(15)
A	Core Fixed Income Blend	2.90	(93)	6.13	(47)	8.74	(45)	8.30	(49)	5.32	(50)	4.30	(60)	3.96	(60)	4.00	(58)

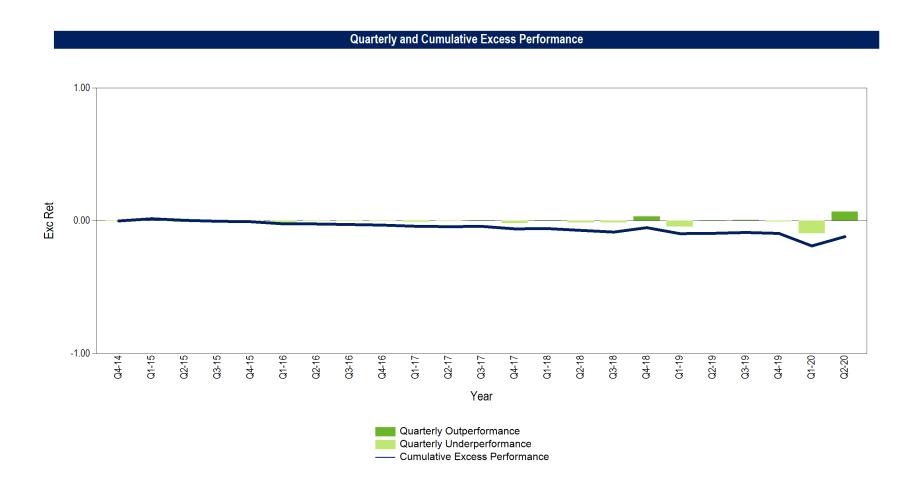


NEUBERGER BERMAN



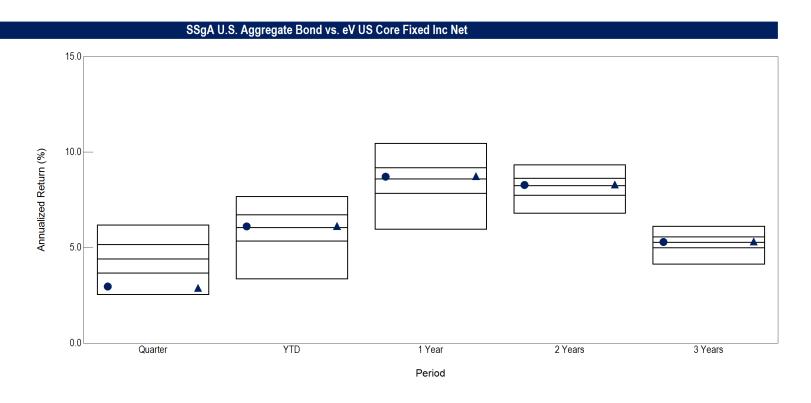


SSGA U.S. AGGREGATE BOND





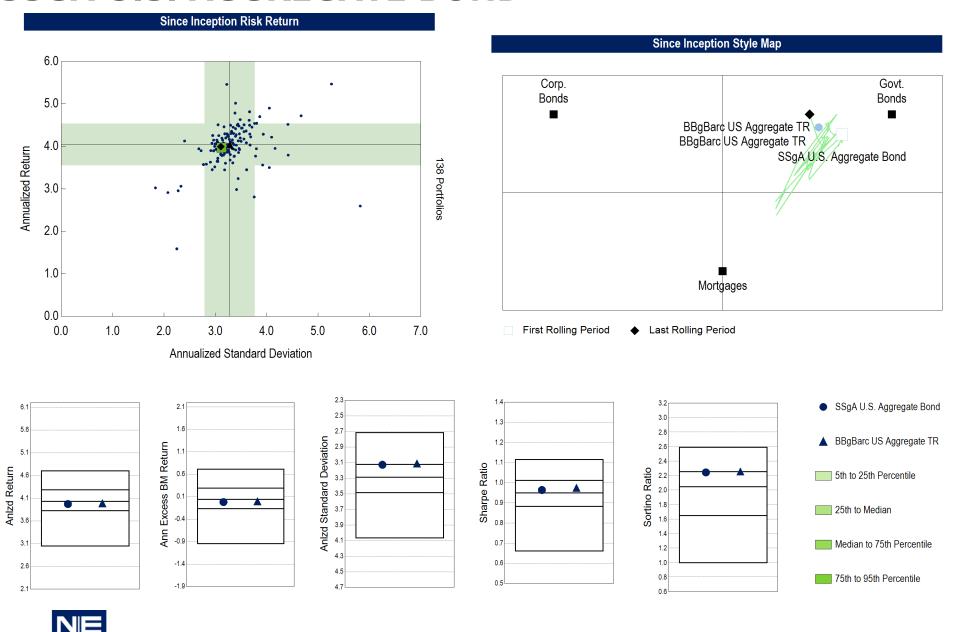
SSGA U.S. AGGREGATE BOND



		Return (Rank)									
5th	Percentile	6.19		7.68		10.46		9.32		6.12	
25t	h Percentile	5.18		6.73		9.19		8.65		5.58	
Me	dian	4.42		6.07		8.61		8.27		5.30	
75t	h Percentile	3.69		5.35		7.86		7.75		5.01	
95t	h Percentile	2.57		3.39		5.98		6.82		4.16	
# o	f Portfolios	147		147		146		144		143	
• 5	SSgA U.S. Aggregate Bond	2.97	(93)	6.11	(48)	8.71	(45)	8.28	(50)	5.30	(51)
	BBgBarc US Aggregate TR	2.90	(93)	6.13	(47)	8.74	(45)	8.30	(49)	5.32	(50)



SSGA U.S. AGGREGATE BOND



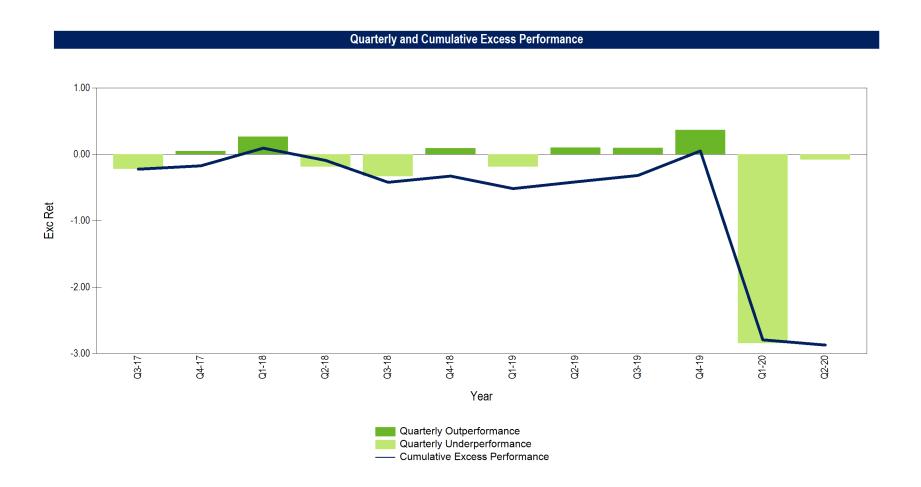
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CREDIT OPPORTUNITIES MANAGER PERFORMANCE

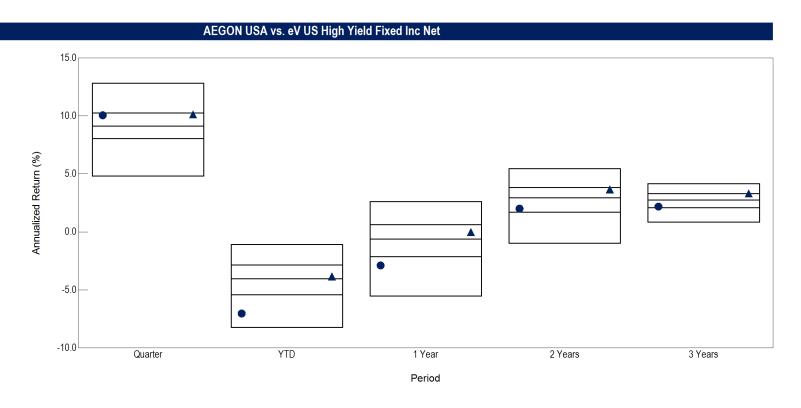
NEPC, LLC -

AEGON USA





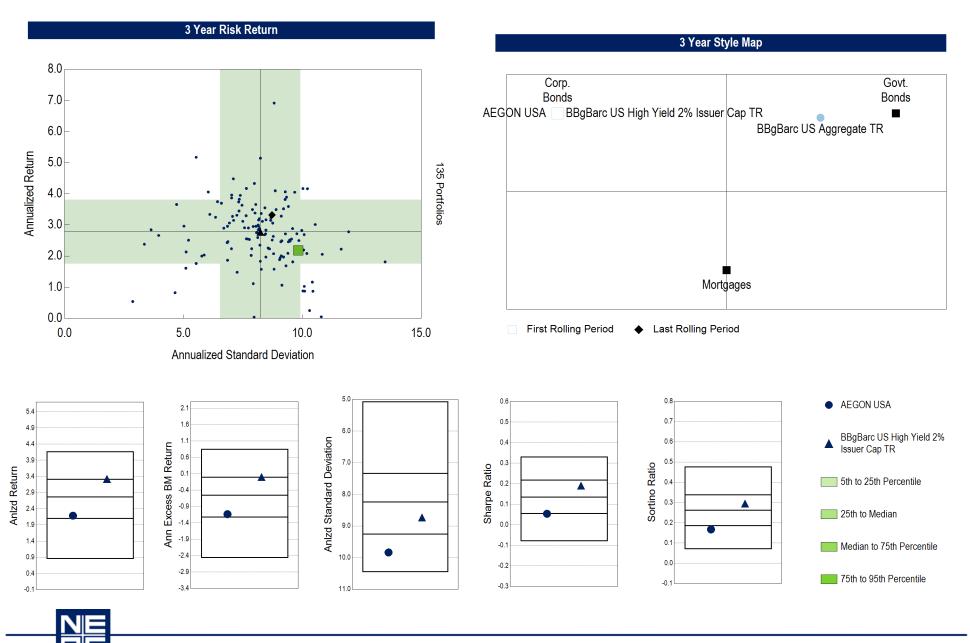
AEGON USA



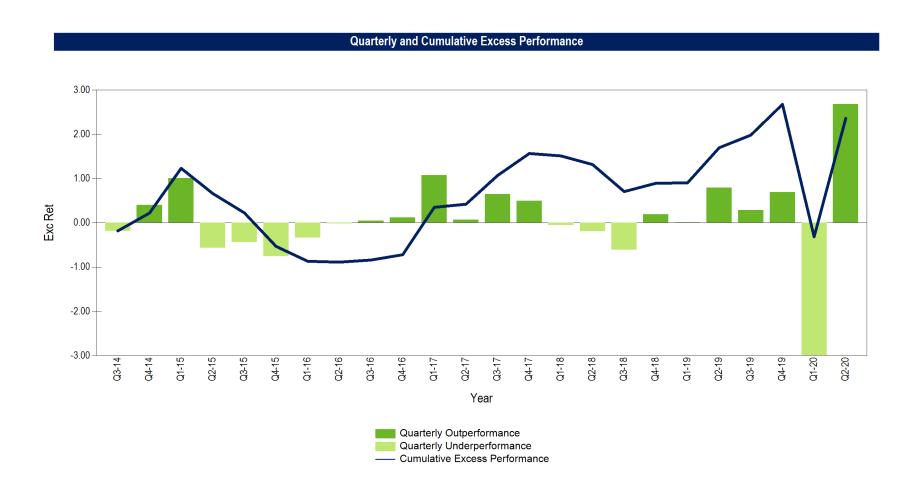
		Return (Rank)									
	5th Percentile	12.83		-1.09		2.60		5.47		4.16	
	25th Percentile	10.27		-2.82		0.66		3.86		3.32	
	Median	9.16		-4.00		-0.59		2.97		2.78	
	75th Percentile	8.06		-5.40		-2.11		1.73		2.11	
	95th Percentile	4.84		-8.20		-5.52		-0.95		0.87	
	# of Portfolios	143		143		141		139		135	
•	AEGON USA	10.06	(30)	-7.04	(88)	-2.89	(83)	2.01	(70)	2.18	(74)
•	BBgBarc US High Yield 2% Issuer Cap TR	10.14	(28)	-3.83	(46)	0.00	(38)	3.67	(32)	3.32	(26)



AEGON USA

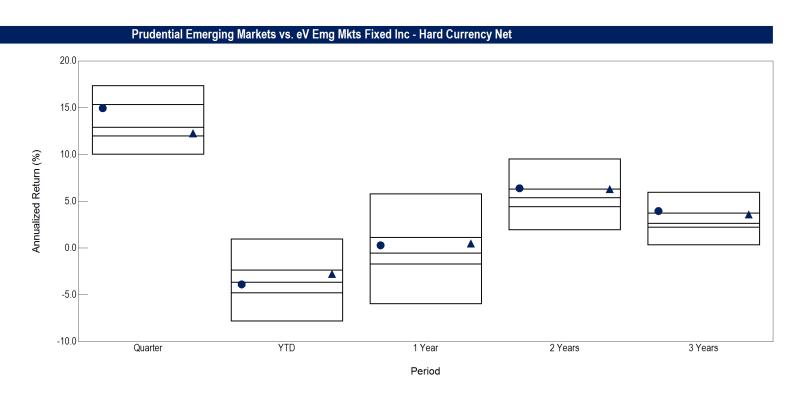


PRUDENTIAL EMERGING MARKETS





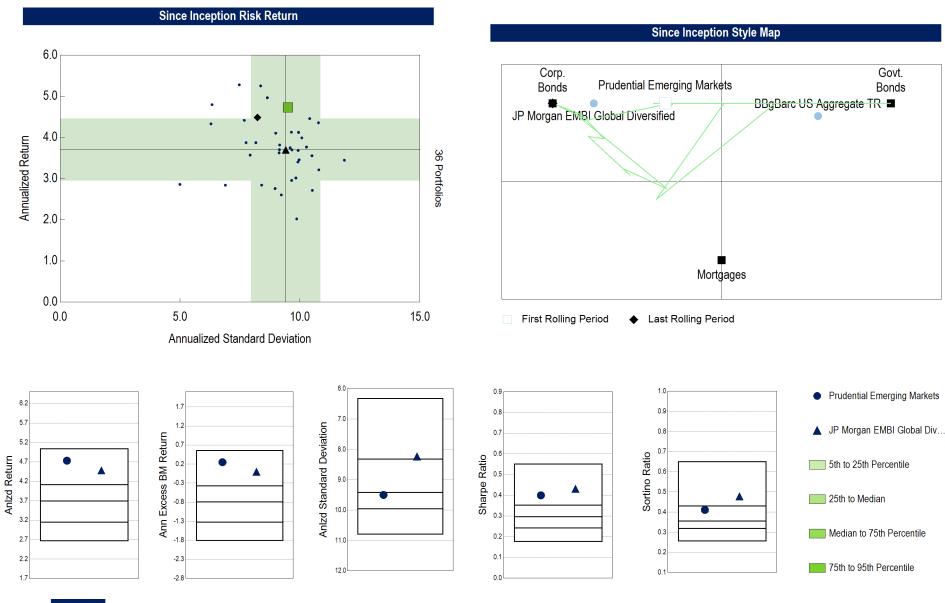
PRUDENTIAL EMERGING MARKETS



		Return (Rank)						
5	th Percentile	17.37	0.95		5.80	9.51	5.	96
2	5th Percentile	15.37	-2.31		1.16	6.32	3.	77
N	edian	12.93	-3.63		-0.50	5.40	2	68
7	5th Percentile	12.02	-4.75		-1.67	4.46	2	26
9	5th Percentile	10.08	-7.74		-5.90	1.99	0.	40
#	of Portfolios	47	46		46	41		40
•	Prudential Emerging Markets	14.94	(27) -3.88	(56)	0.29	(38) 6.39	(23) 3.	95 (18)
A	JP Morgan EMBI Global Diversified	12.26	(66) -2.76	(33)	0.49	(34) 6.30	(26) 3	60 (31)

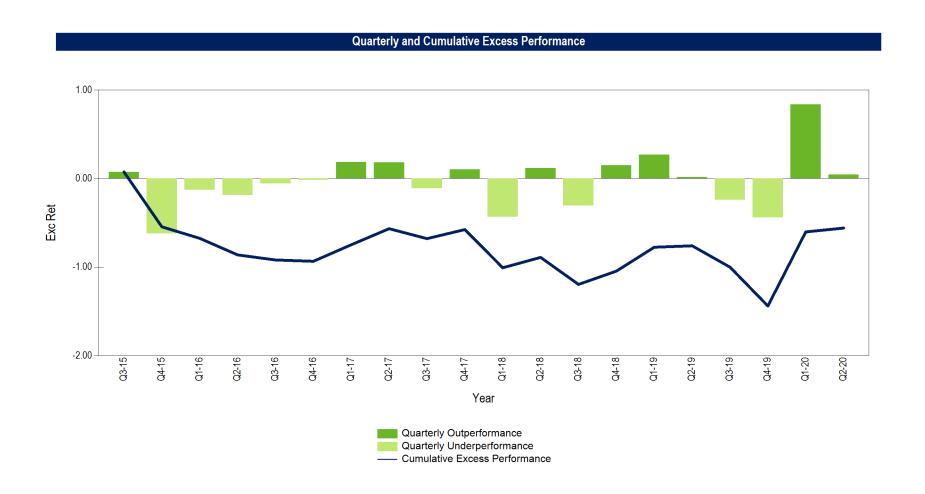


PRUDENTIAL EMERGING MARKETS



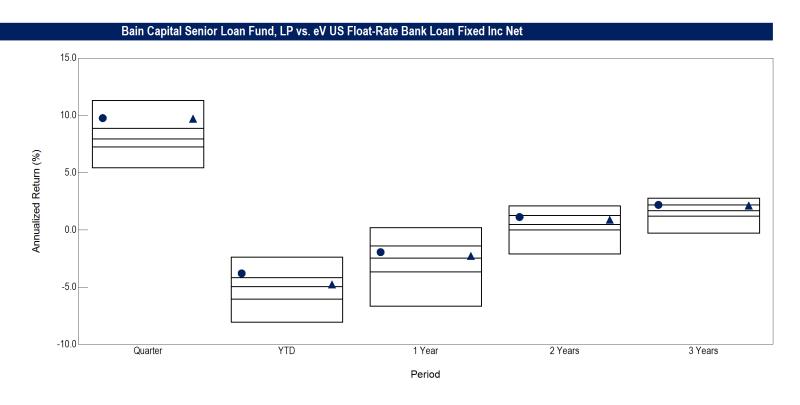


BAIN CAPITAL SENIOR LOAN FUND, LP





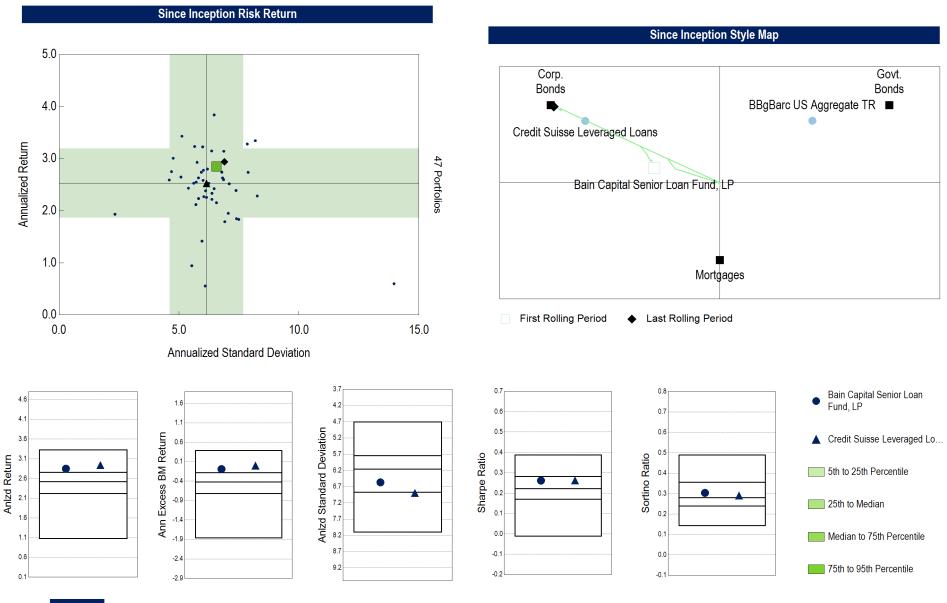
BAIN CAPITAL SENIOR LOAN FUND, LP



		Return (Rank)									
Ų	5th Percentile	11.30		-2.38		0.19		2.11		2.77	
	25th Percentile	8.90		-4.15		-1.39		1.29		2.21	
- 1	Median	7.96		-4.94		-2.44		0.50		1.71	
-	75th Percentile	7.28		-6.02		-3.63		0.01		1.23	
(95th Percentile	5.45		-8.03		-6.64		-2.07		-0.26	
;	f of Portfolios	52		52		52		52		50	
	Bain Capital Senior Loan Fund, LP	9.76	(16)	-3.80	(16)	-1.95	(41)	1.12	(29)	2.18	(27)
A	Credit Suisse Leveraged Loans	9.71	(16)	-4.76	(46)	-2.27	(44)	0.89	(37)	2.13	(28)



BAIN CAPITAL SENIOR LOAN FUND, LP

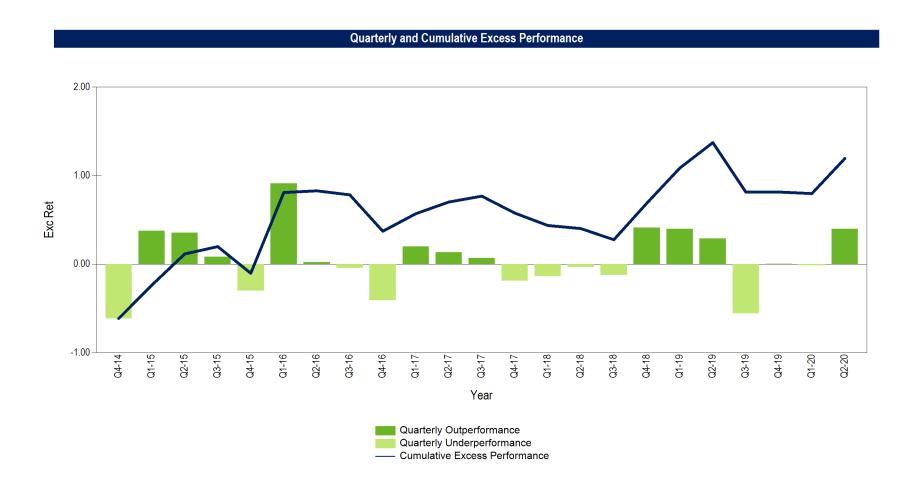




REAL ASSETS MANAGER PERFORMANCE

NEPC, LLC —

DFA US TIPS





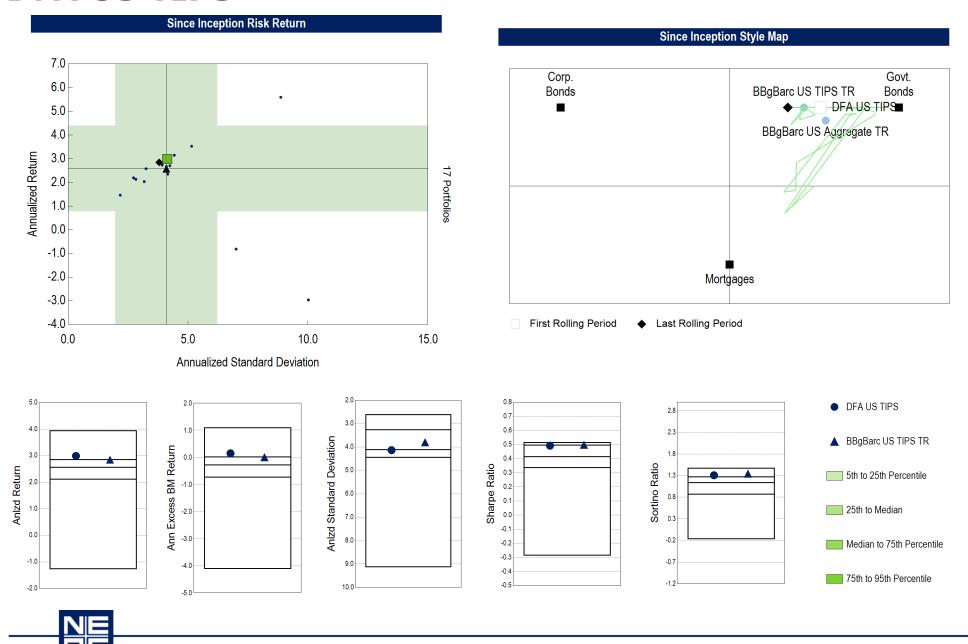
DFA US TIPS

DFA US TIPS vs. eV US TIPS / Inflation Fixed Inc Net 15.0 5.0 Quarter YTD 1 Year 2 Years 3 Years Period

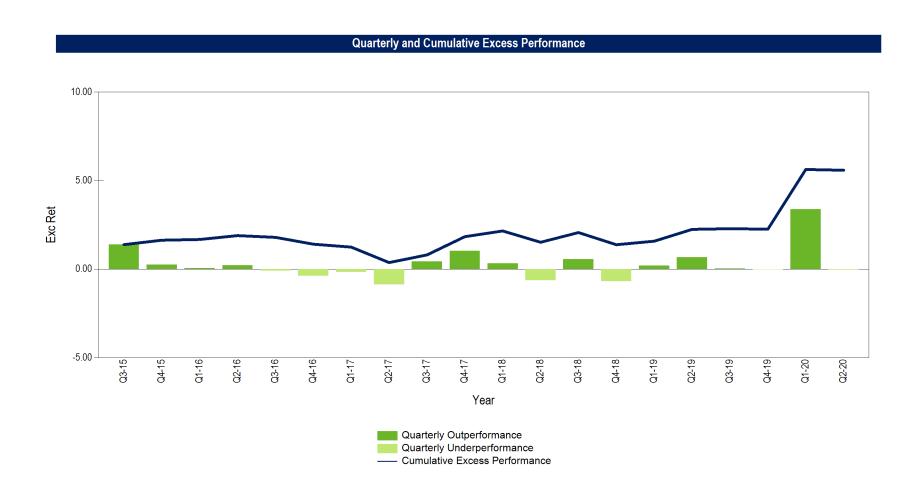
		Return (Rank)									
	5th Percentile	10.70		10.46		13.88		9.56		7.08	
	25th Percentile	6.42		6.06		8.29		6.51		5.07	
	Median	4.69		5.08		7.48		6.16		4.92	
	75th Percentile	3.94		3.89		5.66		5.04		3.85	
	95th Percentile	3.58		-6.03		-4.25		-2.13		-0.06	
;	# of Portfolios	19		19		18		18		18	
•	DFA US TIPS	4.64	(52)	6.39	(11)	8.07	(35)	6.95	(11)	5.21	(13)
•	BBgBarc US TIPS TR	4.24	(64)	6.01	(32)	8.28	(28)	6.54	(21)	5.05	(38)



DFA US TIPS

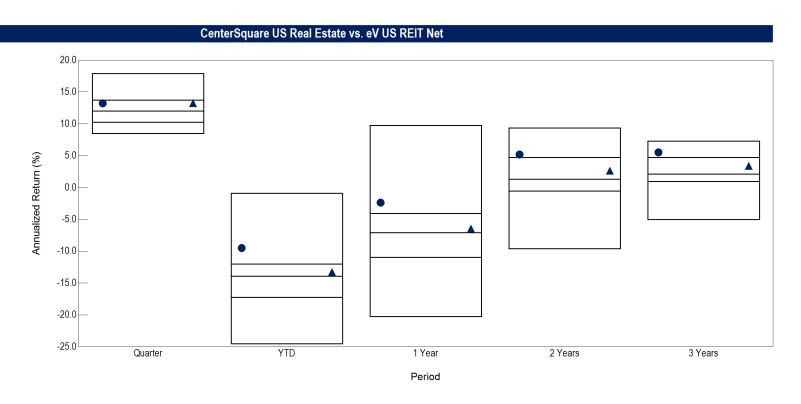


CENTERSQUARE US REAL ESTATE





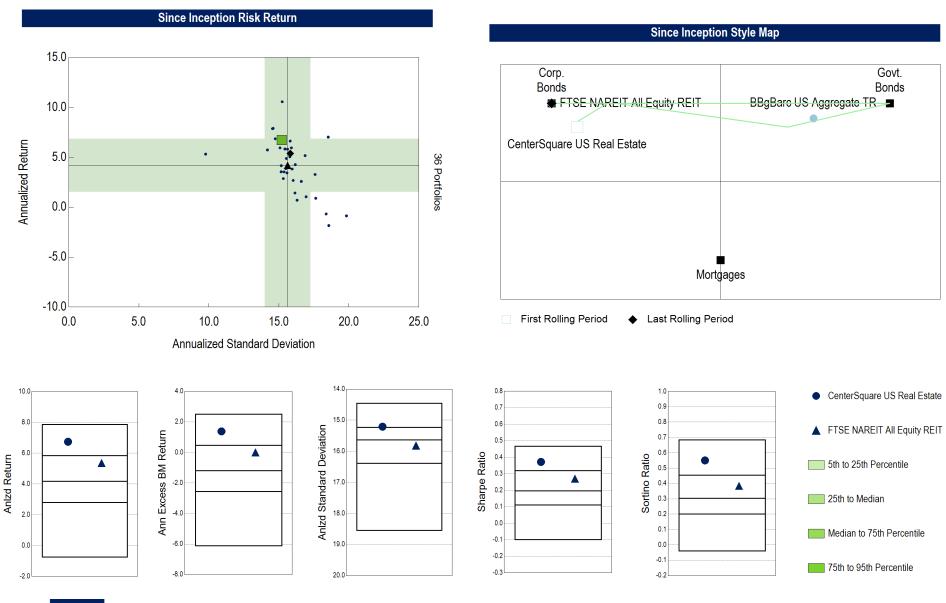
CENTERSQUARE US REAL ESTATE



	Return (Rank)							
5th Percentile	17.89	-0.91		9.74	9.32		7.28	
25th Percentile	13.76	-11.96		-4.05	4.74		4.75	
Median	12.03	-13.89		-7.08	1.35		2.12	
75th Percentile	10.30	-17.23		-10.92	-0.52		0.96	
95th Percentile	8.54	-24.47		-20.25	-9.57		-4.99	
# of Portfolios	39	39		39	38		37	
CenterSquare US Real Estate	13.20	(35) -9.51	(19)	-2.38	(22) 5.18	(19)	5.51	(12)
▲ FTSE NAREIT All Equity REIT	13.25	(34) -13.30	(36)	-6.47	(44) 2.62	(40)	3.39	(38)

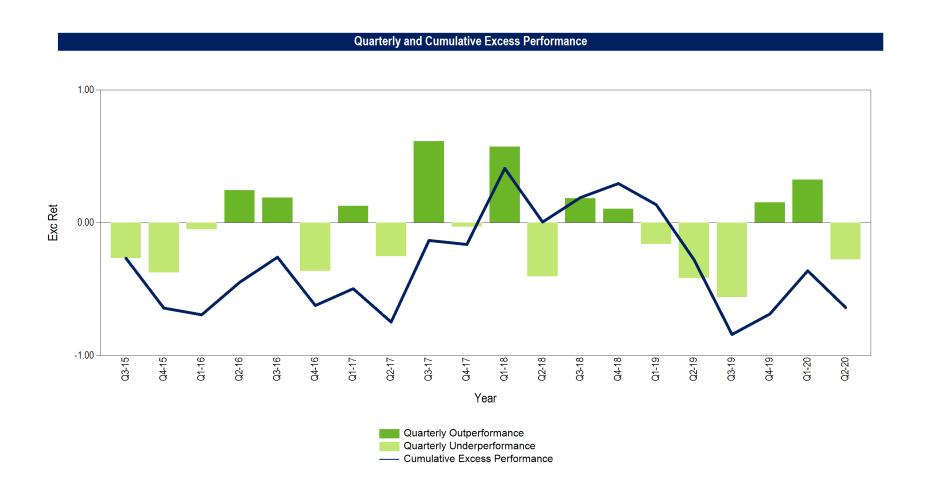


CENTERSQUARE US REAL ESTATE





CORE COMMODITY MGMT





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 udpated target asset allocation adopted on April 10, 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 a 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 Maturity - 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: 'InvestorForce, 'Interaction Effect Performance Attribution, 'NEPC, LLC, 'Investopedia, 'Hedgeco.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 Instrument³ - 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 onehalf 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 Deviation - 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.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
- This report is provided as a management aid for the client's internal use only. Information contained in this report does not constitute a recommendation by NEPC.
- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

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.

