



# PORTFOLIO PERFORMANCE REVIEW

LOS ANGELES CITY EMPLOYEES'  
RETIREMENT SYSTEM

QUARTER ENDING DECEMBER 31, 2022



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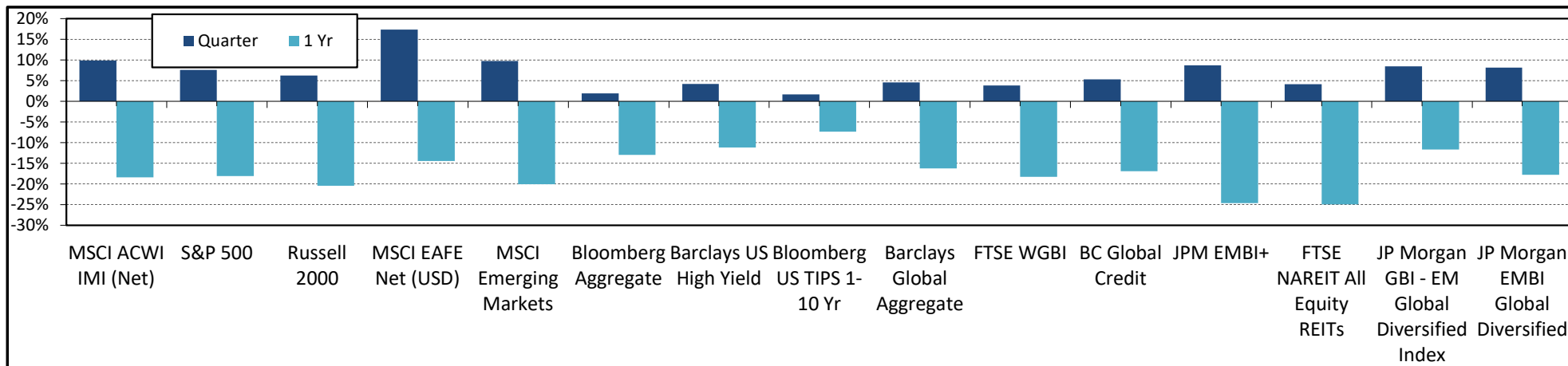
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# EXECUTIVE SUMMARY



# PERFORMANCE OVERVIEW

## Market Summary – Markets Rebound in Q4



	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	15 Yrs (%)	Inception (%)	Inception Date
<b>LACERS Master Trust</b>	<b>20,811,474,516</b>	<b>5.9 (26)</b>	<b>-11.8 (71)</b>	<b>4.9 (77)</b>	<b>5.6 (83)</b>	<b>7.7 (58)</b>	<b>5.9 (65)</b>	<b>7.9 (61)</b>	<b>Nov-94</b>
<i>Policy Index</i>		5.3 (46)	-13.6 (87)	3.6 (98)	4.9 (86)	7.1 (85)	5.6 (75)	7.8 (82)	
<i>InvMetrics Public DB \$5-50B Gross Median</i>		5.2	-10.2	5.6	6.1	7.8	5.9	8.0	

Note: Performance is gross of fees

**Global Equities rebounded strongly in Q4 though were overshadowed by the broader losses of 2022 as persistent and elevated inflation, slowing economic growth, and a hawkish stance from central banks underscored concerns around an economic slowdown.**

U.S. Equity and Private Equity outperformed contributing positively to excess return. Non-U.S. Equity underperformed contributing negatively to excess return.

**The Federal Reserve increased the Fed Funds rate by 75 basis points in October and 50 basis points in December—its sixth and seventh rate hike in 2022—bringing the benchmark rate to 4.25% to 4.5%, the highest level in 15 years.**

Core Fixed Income equaled its benchmark and Credit Opportunities underperformed its benchmark.

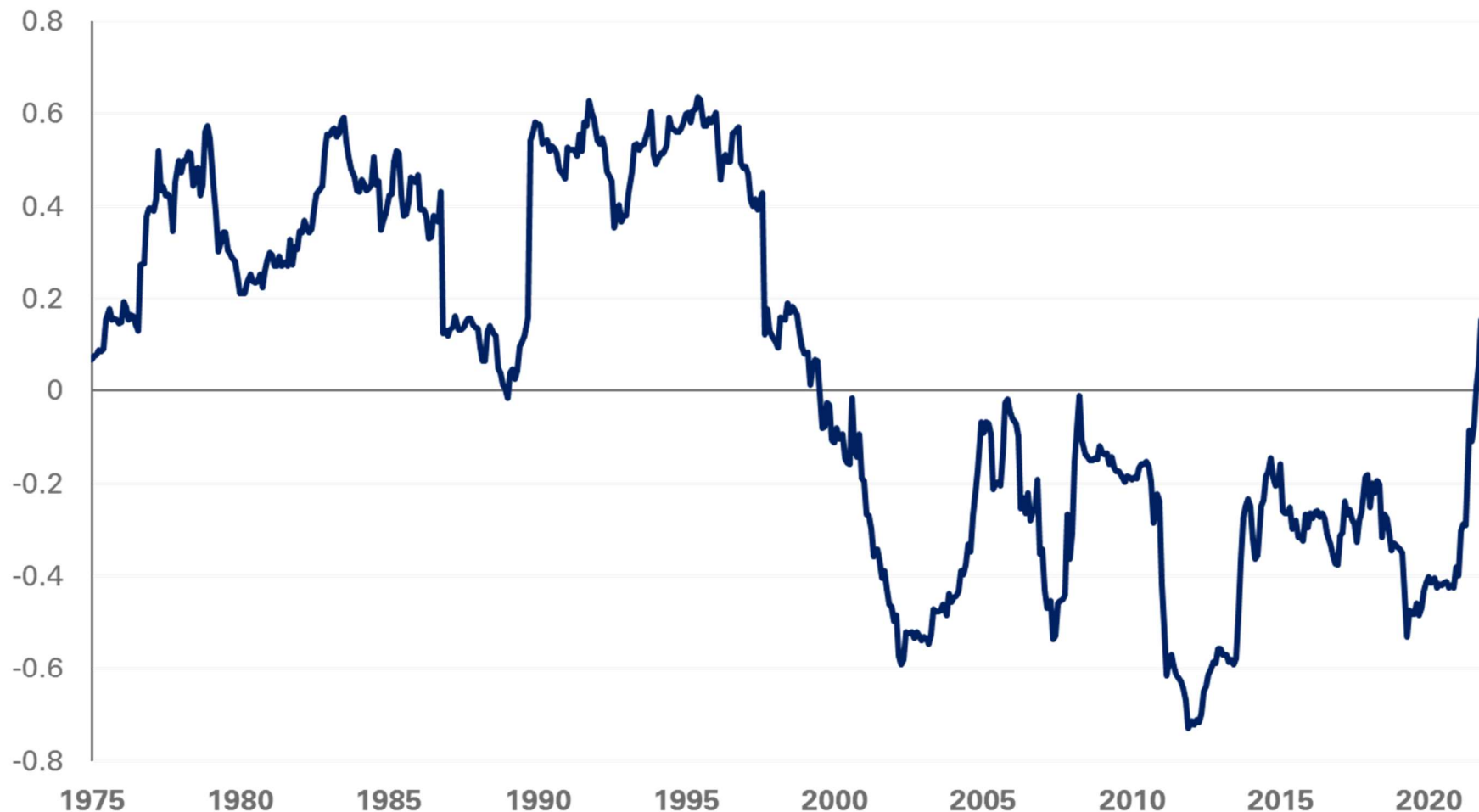


# MARKET ENVIRONMENT



# ASSET CLASS CORRELATIONS SHIFTED

## ROLLING CORRELATION BETWEEN THE S&P 500 AND TREASURIES

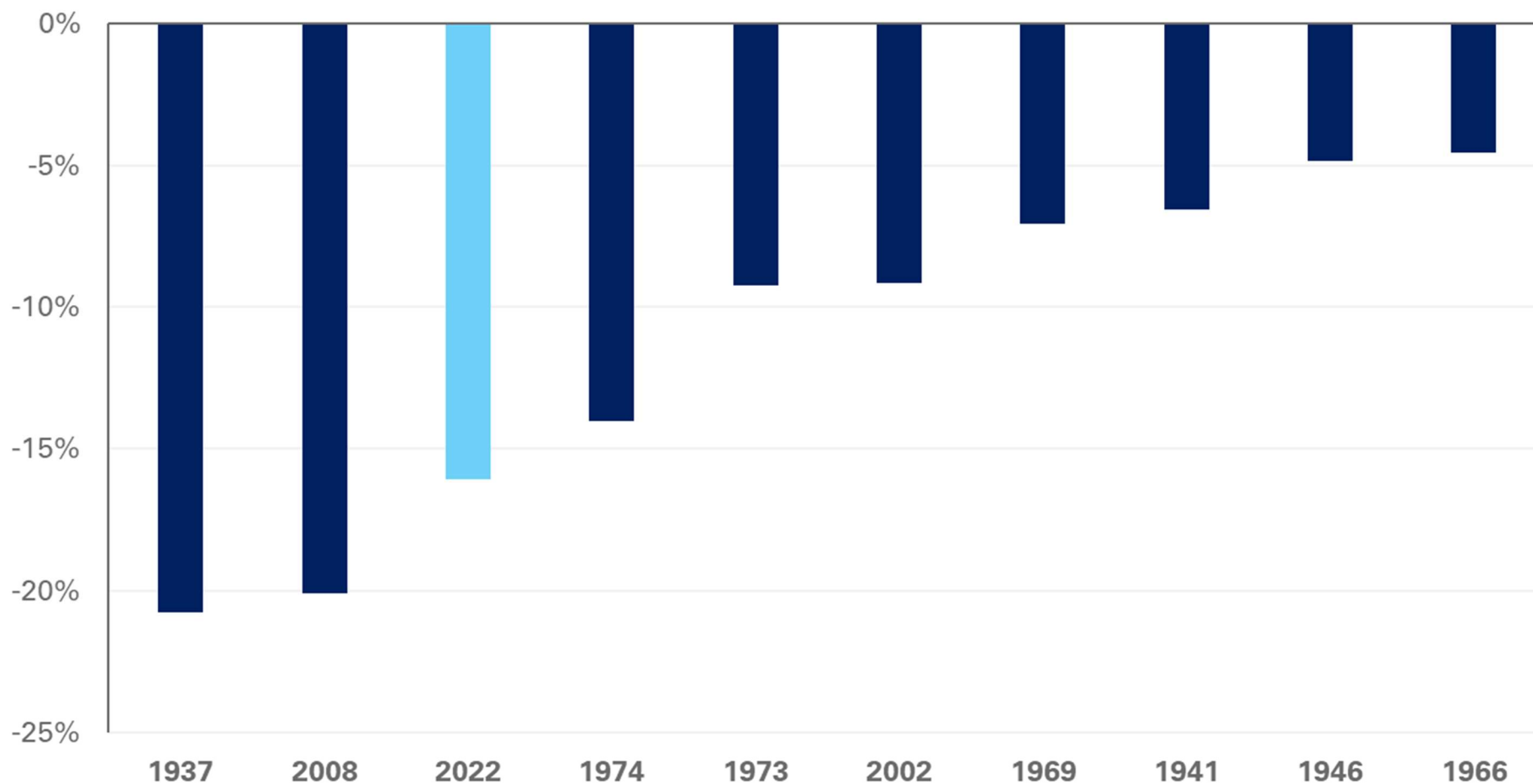


Correlations are calculated based on a rolling 3-year time horizon  
Source: S&P, Bloomberg, FactSet



# MOST ASSET CLASS RETURNS WERE CHALLENGED

## WORST ANNUAL RETURNS: 60/40 PORTFOLIO



60/40 Portfolio represents 60% S&P 500 and 40% U.S. Aggregate Bonds (post 1975) and 40% Treasury (prior to 1974)

Data calculated from 12/31/1936

Sources: S&P, Bloomberg, FactSet



# THE S&P 500 INDEX REMAINS IN A BEAR MARKET

## LENGTH AND DEPTH OF S&P 500 BEAR MARKETS

Start	End	Length of Bear Market (Months)	Length of Recovery* (Months)	S&P 500 Decline
01/03/2022	?	12*	?	-18%
02/19/2020	03/23/2020	1	5	-34%
10/09/2007	03/09/2009	17	59	-57%
03/24/2000	10/09/2002	31	80	-49%
08/25/1987	12/04/1987	3	20	-34%
11/28/1980	08/12/1982	21	3	-27%
01/11/1973	10/03/1974	21	69	-48%

Notes: 2022 bear market is ongoing; represents historical bear markets since 1970. \*Length of Recovery represents time to recoup losses from the start of the bear market.

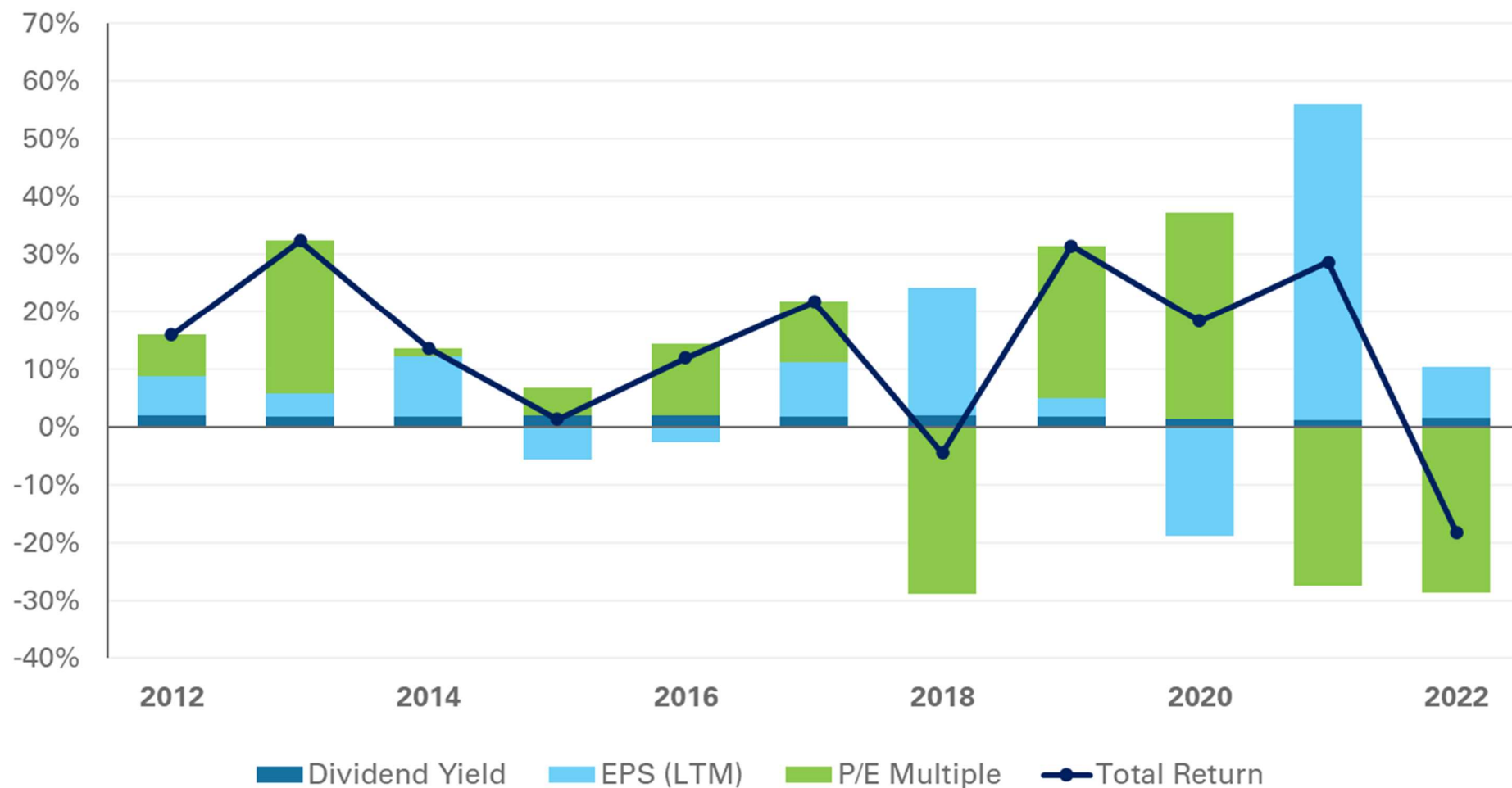
Sources: S&P, FactSet, NEPC





# P/E RATIO CONTRACTION LED TO LOWER RETURNS

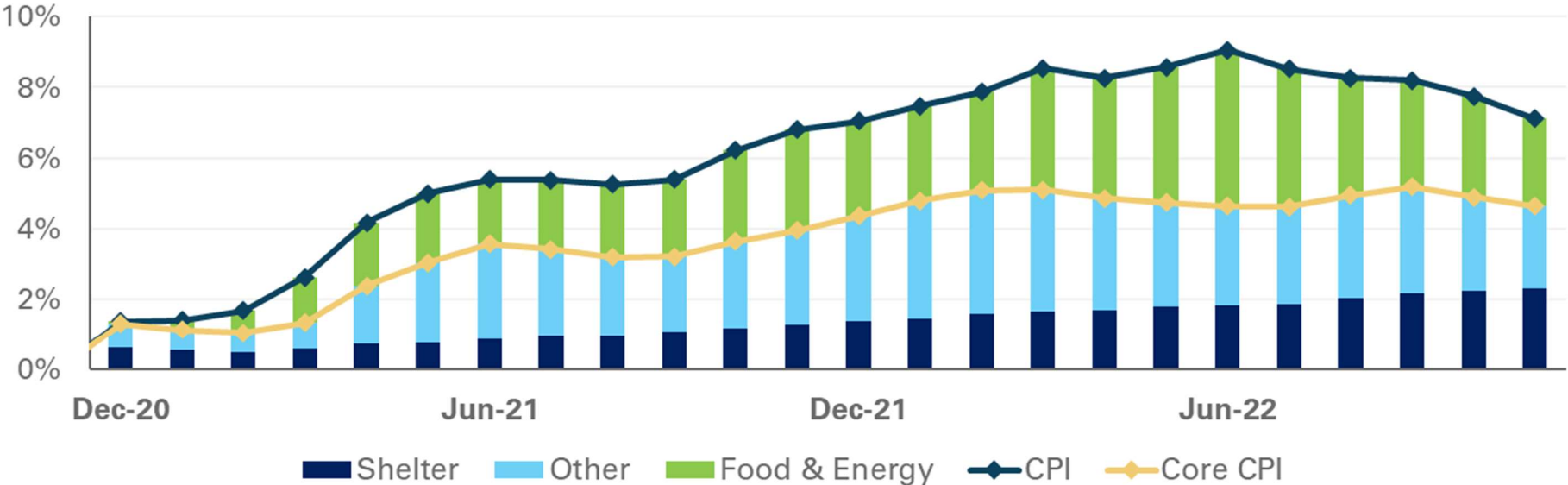
## S&P 500 ATTRIBUTION TO TOTAL RETURNS



Source: S&P, FactSet

# U.S. HEADLINE AND CORE CPI REMAIN ELEVATED

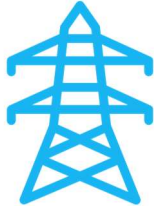
## ANNUAL U.S. CPI-U CHANGES



### Annual Change in U.S. CPI-U Subcategories



**+11.2%**  
Food



**+33.5%**  
Utilities



**+14.7%**  
Transportation Services



**+19.7%**  
Motor Fuel



**+7.4%**  
Used Cars and Trucks



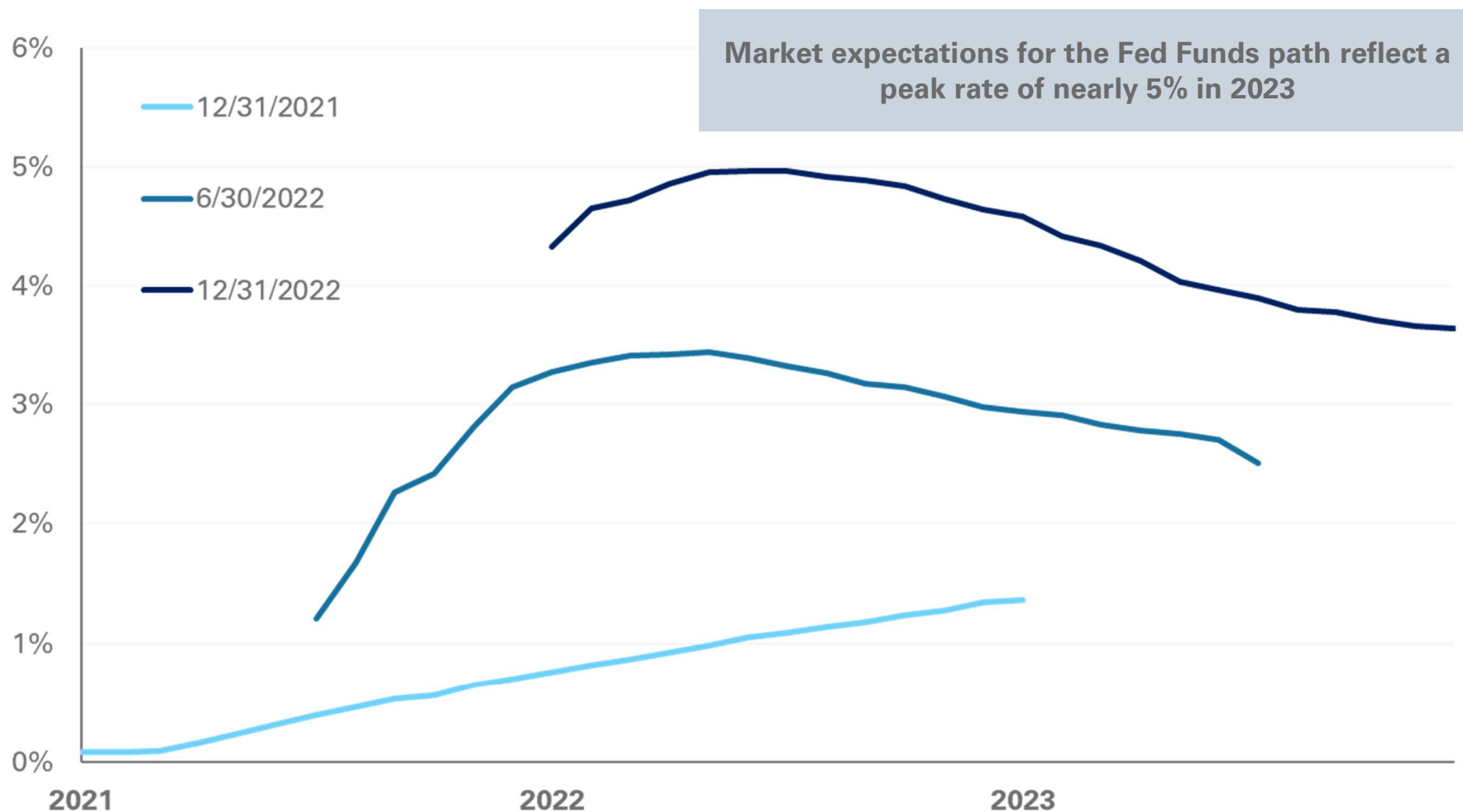
**+6.6%**  
Shelter

Sources: Bureau of Labor Statistics, FactSet



# RATE EXPECTATIONS INCREASED DRAMATICALLY

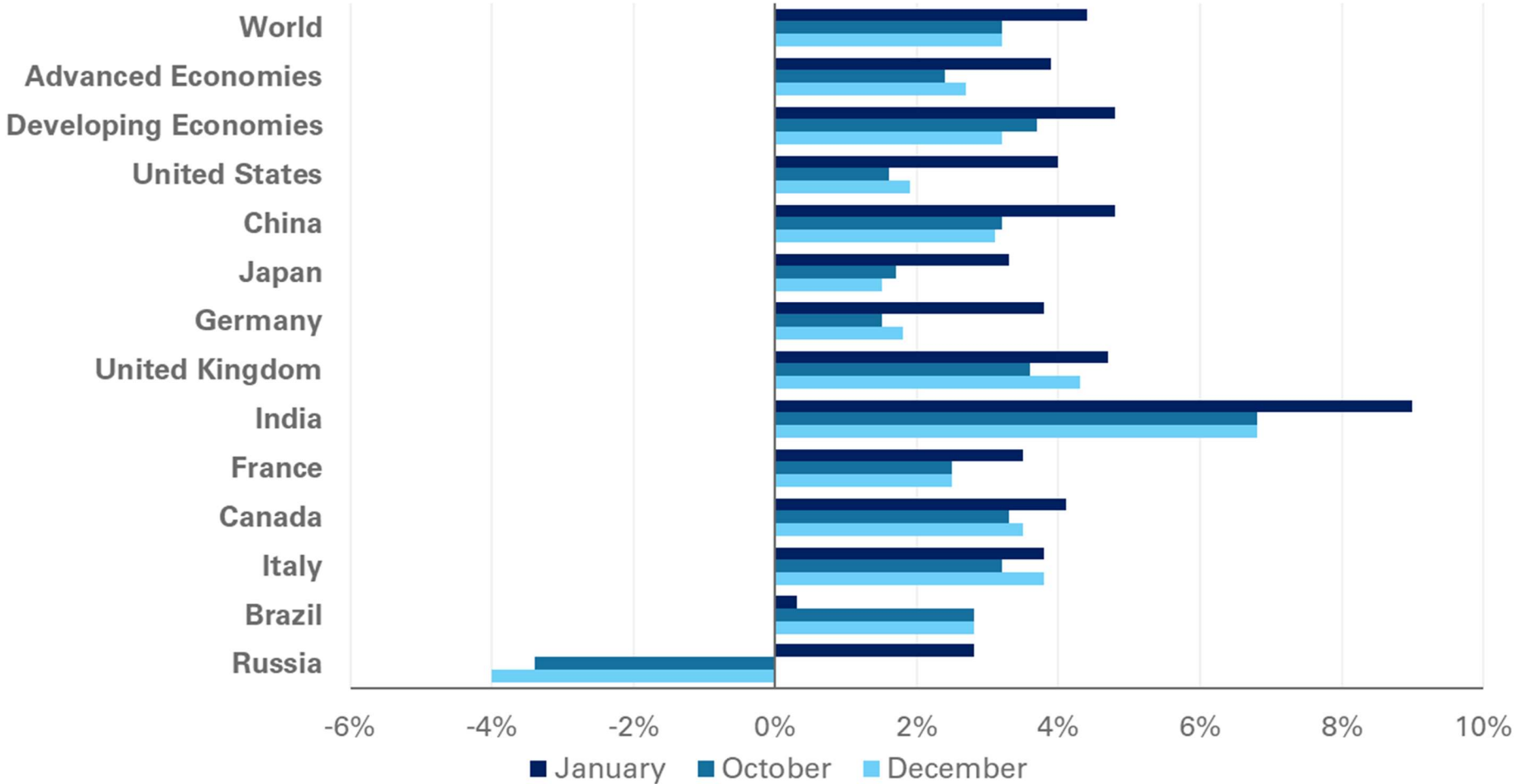
## FED FUNDS EXPECTATIONS



Source: FactSet

# GLOBAL GROWTH EXPECTATIONS WEAKENED

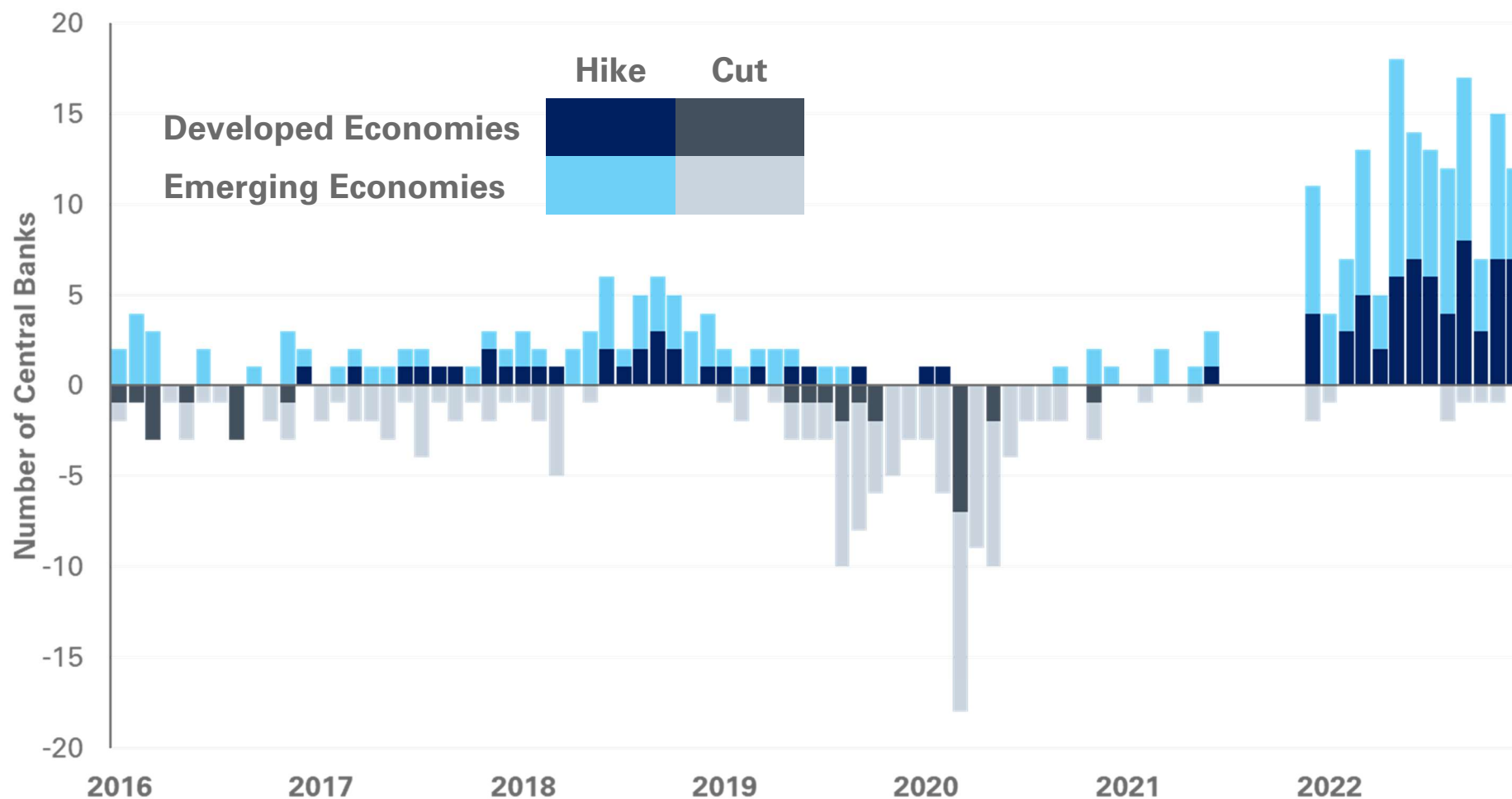
## 2022 REAL GDP PROJECTIONS



Source: IMF World Economic Outlook (January and October 2022), December estimates reflect FactSet Economics consensus

# THE MONETARY POLICY BACKDROP IS TIGHTER

## INTEREST RATE CHANGES BY GLOBAL CENTRAL BANKS



Notes: Developed Economies include Australia, Canada, countries governed by the European Central Bank, Japan, New Zealand, Norway, Sweden, Switzerland, United Kingdom, and the United States. Emerging Economies include Argentina, Brazil, Chile, China, Egypt, Ghana, India, Malaysia, Mexico, Pakistan, Peru, Philippines, South Africa, Thailand, and Turkey.

Source: FactSet



# 2023 KEY INVESTMENT THEMES

## NEPC MARKET OUTLOOK



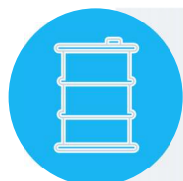
### Stagflation Trends

Stagflation trends challenge the investment landscape and are the driving force for market dynamics



### Recession Outlook

Changes in unemployment, wages, and service sector inflation will inform the likelihood and potential severity of a U.S. recession



### European Energy Transition

Europe is on the clock to secure new sources of natural gas supply or face severe energy shortages



### China Reopening

China's reopening will have global implications for growth, trade, and inflation and may drive a consumer resurgence in China



### U.S. Dollar Trajectory

U.S. Dollar strength reveals risks in the global financial system and is a tightening of financial conditions

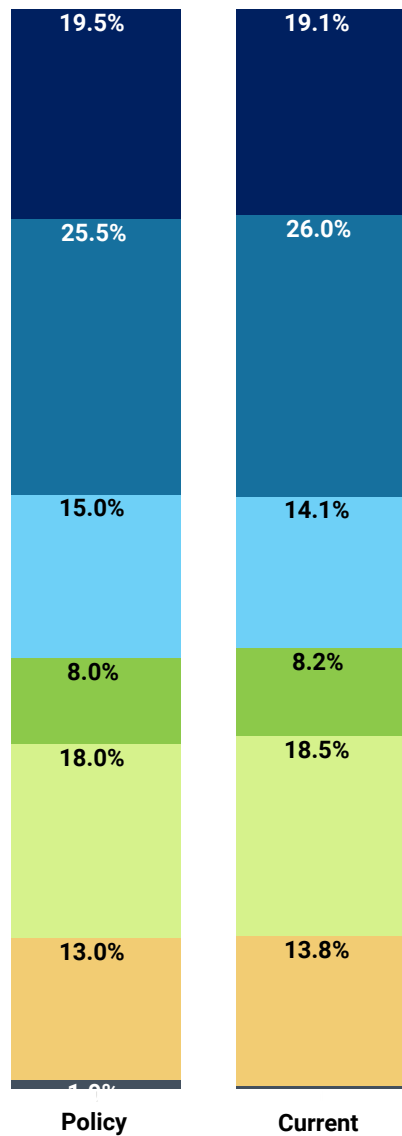
# ASSET CLASS POLICY OVERVIEW



Los Angeles City Employees' Retirement System-LACERS Master Trust

# ASSET ALLOCATION VS. POLICY

## Asset Allocation vs. Target



	Current (\$)	Policy (%)	Current (%)	Differences* (%)	Policy Range (%)	Within Range
■ U.S. Equity	3,966,678,171	19.5	19.1	-0.4	14.0 - 25.0	Yes
■ Non-US Equity	5,406,192,808	25.5	26.0	0.5	19.5 - 31.5	Yes
■ Core Fixed Income	2,925,487,778	15.0	14.1	-0.9	11.8 - 18.3	Yes
■ Credit Opportunities	1,715,740,086	8.0	8.2	0.2	5.5 - 13.5	Yes
■ Private Equity	3,844,751,149	18.0	18.5	0.5	N/A	Yes
■ Real Assets	2,868,575,280	13.0	13.8	0.8	5.5 - 15.5	Yes
■ Cash	84,049,243	1.0	0.4	-0.6	0.0 - 2.0	Yes
<b>Total</b>	<b>20,811,474,516</b>	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>		

Note: Policy target asset allocation reflects interim asset allocation policy targets adopted on July 12, 2022.

\*Difference between Policy and Current Allocation

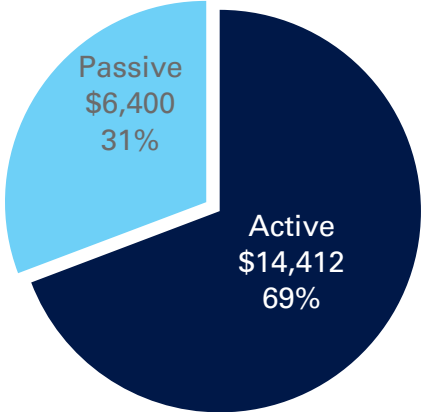




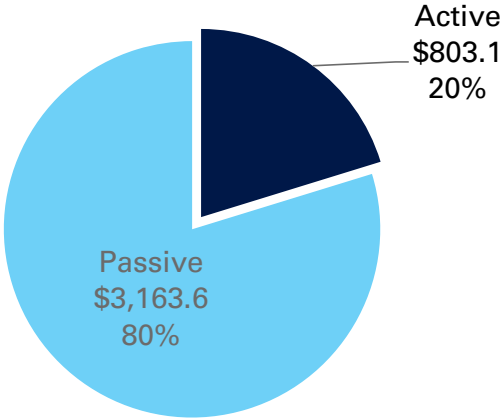
# ACTIVE AND PASSIVE MANAGER BREAKDOWN

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

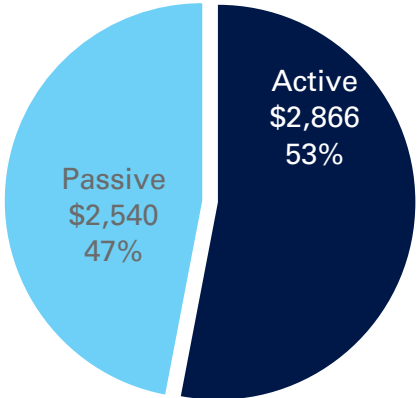
### Total Fund



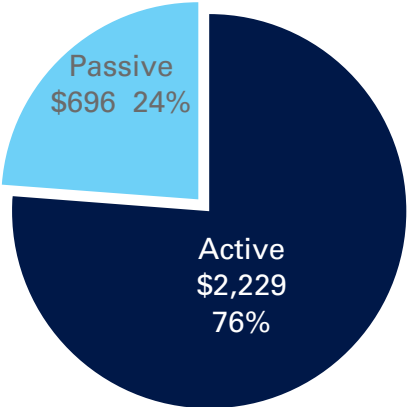
### U.S. Equity



### Non-U.S. Equity



### Core Fixed Income



- LACERS allocated 69% to active managers and 31% to passive managers.
- Credit Opportunities, Private Equity, and Real Assets programs are active and therefore are not shown.



# PERFORMANCE OVERVIEW



# TOTAL FUND PERFORMANCE SUMMARY

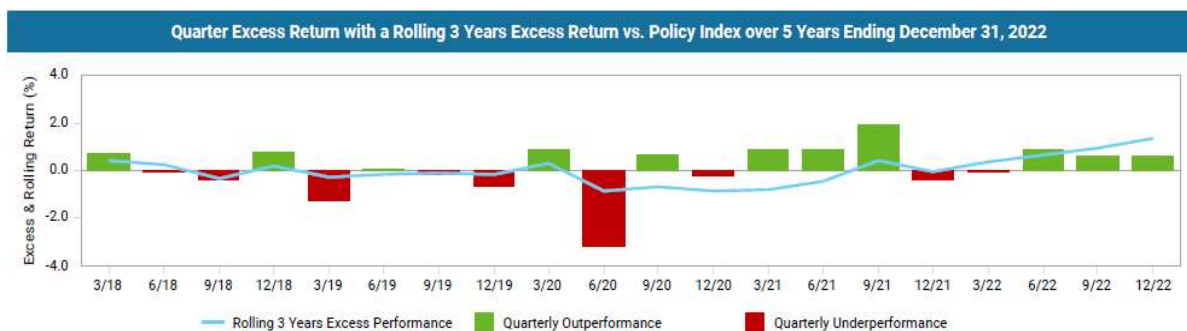
## GROSS OF FEES

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	15 Yrs (%)	Inception (%)	Inception Date
<b>LACERS Master Trust</b>	<b>20,811,474,516</b>	<b>5.9 (26)</b>	<b>-11.8 (71)</b>	<b>4.9 (77)</b>	<b>5.6 (83)</b>	<b>7.7 (58)</b>	<b>5.9 (65)</b>	<b>7.9 (61)</b>	<b>Nov-94</b>
<i>Policy Index</i>		5.3 (46)	-13.6 (87)	3.6 (98)	4.9 (86)	7.1 (85)	5.6 (75)	7.8 (82)	
<i>InvMetrics Public DB \$5-50B Gross Median</i>		5.2	-10.2	5.6	6.1	7.8	5.9	8.0	

Over the past five years the Fund return of 5.6% outperformed the policy index by 0.7% and ranked in the 83<sup>rd</sup> percentile within the Public Funds \$5 Billion- \$50 Billion universe. The Fund’s volatility of 10.6% ranked in the 58<sup>th</sup> percentile over this period. The Fund’s risk-adjusted performance, as measured by the Sharpe Ratio ranked in the 76<sup>th</sup> percentile and the Sortino Ratio ranked in the 76<sup>th</sup> percentile. Both measures outperformed the benchmark indicating that active management benefited the Plan.

Over the past three years the Fund return of 4.9% outperformed the policy index by 1.3% and ranked in the 77<sup>th</sup> percentile in its peer group. The Fund’s volatility ranked in the 53<sup>rd</sup> percentile and the Sharpe Ratio ranked in the 77<sup>th</sup> percentile. The Sortino Ratio of 0.6 ranked in the 77<sup>th</sup> percentile.

In the one-year ended December 31, 2022, the Fund returned -11.8% and underperformed the policy index by 1.8%. The Fund’s return ranked in the 71<sup>st</sup> percentile in its peer group.



5 Years Ending September 30, 2022									
	Return	Rank	Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio	Rank	
LACERS Master Trust	5.6	83	10.6	58	0.4	76	0.6	76	
Policy Index	4.9	86	11.6	90	0.4	96	0.5	96	
InvMetrics Public DB \$5-50B Gross Median	6.1		9.9		0.5		0.7		

3 Years Ending September 30, 2022									
	Return	Rank	Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio	Rank	
LACERS Master Trust	4.9	77	12.5	53	0.4	77	0.6	77	
Policy Index	3.6	98	13.3	87	0.3	98	0.4	98	
InvMetrics Public DB \$5-50B Gross Median	5.6		11.4		0.5		0.7		



Los Angeles City Employees' Retirement System-LACERS Master Trust

# EXECUTIVE SUMMARY

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	15 Yrs (%)	Inception (%)	Inception Date
<b>LACERS Master Trust</b>	<b>20,811,474,516</b>	<b>5.9 (28)</b>	<b>-11.8 (58)</b>	<b>4.9 (30)</b>	<b>5.6 (38)</b>	<b>7.7 (18)</b>	<b>5.9 (27)</b>	<b>7.9 (24)</b>	<b>Nov-94</b>
<i>Policy Index</i>		5.3 (46)	-13.6 (79)	3.6 (76)	4.9 (50)	7.1 (45)	5.6 (45)	7.8 (29)	
<i>InvMetrics Public DB \$1-50B Gross Median</i>		5.2	-11.2	4.4	4.9	6.9	5.6	7.5	

3 Years Ending December 31, 2022				
	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
<b>LACERS Master Trust</b>	<b>4.9</b>	<b>12.2</b>	<b>0.4</b>	<b>0.6</b>
<i>Policy Index</i>	3.6	13.3	0.3	0.4
<i>InvMetrics Public DB \$1-50B Gross Median</i>	4.4	12.5	0.4	0.5

5 Years Ending December 31, 2022				
	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
<b>LACERS Master Trust</b>	<b>5.6</b>	<b>10.6</b>	<b>0.4</b>	<b>0.6</b>
<i>Policy Index</i>	4.9	11.6	0.4	0.5
<i>InvMetrics Public DB \$1-50B Gross Median</i>	4.9	10.7	0.4	0.6

## Los Angeles City Employees' Retirement System-LACERS Master Trust

**COMPOSITE PERFORMANCE DETAIL GROSS**

	Allocation		Performance (%)							
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
<b>LACERS Master Trust</b>	<b>20,811,474,516</b>	<b>100.00</b>	<b>5.89</b>	<b>-11.76</b>	<b>4.91</b>	<b>5.56</b>	<b>7.68</b>	<b>7.92</b>	<b>7.93</b>	<b>Nov-94</b>
Policy Index			<u>5.33</u>	<u>-13.58</u>	<u>3.59</u>	<u>4.94</u>	<u>7.12</u>	<u>7.55</u>	<u>7.76</u>	
Over/Under			0.56	1.82	1.32	0.62	0.56	0.37	0.17	
<b>U.S. Equity</b>	<b>3,966,678,171</b>	<b>19.06</b>	<b>7.63</b>	<b>-18.22</b>	<b>7.15</b>	<b>8.74</b>	<b>12.18</b>	<b>10.07</b>	<b>10.31</b>	<b>Nov-94</b>
U.S. Equity Blend			<u>7.18</u>	<u>-19.21</u>	<u>7.07</u>	<u>8.79</u>	<u>12.13</u>	<u>9.88</u>	<u>9.37</u>	
Over/Under			0.45	0.99	0.08	-0.05	0.05	0.19	0.94	
<b>Non-U.S. Equity</b>	<b>5,406,192,808</b>	<b>25.98</b>	<b>13.72</b>	<b>-17.56</b>	<b>1.56</b>	<b>1.97</b>	<b>5.30</b>	<b>7.57</b>	<b>5.00</b>	<b>Nov-94</b>
MSCI AC World ex USA (Net)			<u>14.28</u>	<u>-16.00</u>	<u>0.07</u>	<u>0.88</u>	<u>3.80</u>	<u>6.73</u>	<u>4.67</u>	
Over/Under			-0.56	-1.56	1.49	1.09	1.50	0.84	0.33	
<b>Core Fixed Income</b>	<b>2,925,487,778</b>	<b>14.06</b>	<b>1.89</b>	<b>-12.69</b>	<b>-1.94</b>	<b>0.55</b>	<b>1.57</b>	<b>-</b>	<b>1.91</b>	<b>Jul-12</b>
Core Fixed Income Blend			<u>1.87</u>	<u>-13.01</u>	<u>-2.71</u>	<u>0.02</u>	<u>1.07</u>	<u>-</u>	<u>1.27</u>	
Over/Under			0.02	0.32	0.77	0.53	0.50	-	0.64	
<b>Credit Opportunities</b>	<b>1,715,740,086</b>	<b>8.24</b>	<b>5.18</b>	<b>-10.09</b>	<b>-1.75</b>	<b>1.16</b>	<b>-</b>	<b>-</b>	<b>3.50</b>	<b>Jul-13</b>
Credit Opportunities Blend			<u>5.53</u>	<u>-11.26</u>	<u>-1.55</u>	<u>1.22</u>	<u>-</u>	<u>-</u>	<u>3.67</u>	
Over/Under			-0.35	1.17	-0.20	-0.06	-	-	-0.17	
<b>Real Assets</b>	<b>2,868,575,280</b>	<b>13.78</b>	<b>1.58</b>	<b>-3.77</b>	<b>4.29</b>	<b>4.77</b>	<b>6.64</b>	<b>4.60</b>	<b>6.10</b>	<b>Dec-94</b>
Real Assets Policy Benchmark			<u>-0.38</u>	<u>-8.76</u>	<u>4.88</u>	<u>5.80</u>	<u>6.15</u>	<u>6.19</u>	<u>7.59</u>	
Over/Under			1.96	4.99	-0.59	-1.03	0.49	-1.59	-1.49	
<b>Public Real Assets</b>	<b>1,503,931,651</b>	<b>7.23</b>	<b>2.77</b>	<b>-15.65</b>	<b>1.64</b>	<b>2.50</b>	<b>-</b>	<b>-</b>	<b>1.98</b>	<b>Jul-14</b>
Public Real Assets Blend			<u>2.92</u>	<u>-16.82</u>	<u>1.87</u>	<u>2.17</u>	<u>-</u>	<u>-</u>	<u>0.60</u>	
Over/Under			-0.15	1.17	-0.23	0.33	-	-	1.38	
<b>Private Real Estate</b>	<b>1,345,351,036</b>	<b>6.46</b>	<b>0.26</b>	<b>17.03</b>	<b>8.47</b>	<b>7.98</b>	<b>9.40</b>	<b>5.95</b>	<b>7.06</b>	<b>Nov-94</b>
Real Estate Blend			<u>-4.77</u>	<u>8.32</u>	<u>10.80</u>	<u>9.54</u>	<u>10.69</u>	<u>9.60</u>	<u>9.91</u>	
Over/Under			5.03	8.71	-2.33	-1.56	-1.29	-3.65	-2.85	
<b>Private Equity</b>	<b>3,844,751,149</b>	<b>18.47</b>	<b>0.48</b>	<b>1.27</b>	<b>21.30</b>	<b>17.53</b>	<b>14.59</b>	<b>13.79</b>	<b>11.57</b>	<b>Dec-95</b>
Private Equity Blend			<u>-2.09</u>	<u>-5.40</u>	<u>15.06</u>	<u>14.93</u>	<u>16.95</u>	<u>14.41</u>	<u>13.48</u>	
Over/Under			2.57	6.67	6.24	2.60	-2.36	-0.62	-1.91	
<b>Cash</b>	<b>84,049,243</b>	<b>0.40</b>								

Refer to appendix for blended benchmark definitions.



## Los Angeles City Employees' Retirement System-LACERS Master Trust

**COMPOSITE PERFORMANCE DETAIL NET**

	Allocation		Performance (%)							
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
<b>LACERS Master Trust</b>	<b>20,811,474,516</b>	<b>100.00</b>	<b>5.85</b>	<b>-11.90</b>	<b>4.75</b>	<b>5.39</b>	<b>7.50</b>	<b>7.72</b>	<b>6.61</b>	<b>Jul-01</b>
Policy Index			<u>5.33</u>	<u>-13.58</u>	<u>3.59</u>	<u>4.94</u>	<u>7.12</u>	<u>7.55</u>	<u>6.47</u>	
Over/Under			0.52	1.68	1.16	0.45	0.38	0.17	0.14	
<b>U.S. Equity</b>	<b>3,966,678,171</b>	<b>19.06</b>	<b>7.61</b>	<b>-18.29</b>	<b>7.07</b>	<b>8.66</b>	<b>12.07</b>	<b>9.90</b>	<b>8.22</b>	<b>Sep-01</b>
U.S. Equity Blend			<u>7.18</u>	<u>-19.21</u>	<u>7.07</u>	<u>8.79</u>	<u>12.13</u>	<u>9.88</u>	<u>8.10</u>	
Over/Under			0.43	0.92	0.00	-0.13	-0.06	0.02	0.12	
<b>Non-U.S. Equity</b>	<b>5,406,192,808</b>	<b>25.98</b>	<b>13.64</b>	<b>-17.83</b>	<b>1.23</b>	<b>1.62</b>	<b>4.95</b>	<b>7.20</b>	<b>5.59</b>	<b>Jun-01</b>
MSCI AC World ex USA (Net)			<u>14.28</u>	<u>-16.00</u>	<u>0.07</u>	<u>0.88</u>	<u>3.80</u>	<u>6.73</u>	<u>4.87</u>	
Over/Under			-0.64	-1.83	1.16	0.74	1.15	0.47	0.72	
<b>Core Fixed Income</b>	<b>2,925,487,778</b>	<b>14.06</b>	<b>1.87</b>	<b>-12.78</b>	<b>-2.03</b>	<b>0.45</b>	<b>1.46</b>	<b>-</b>	<b>1.80</b>	<b>Jul-12</b>
Core Fixed Income Blend			<u>1.87</u>	<u>-13.01</u>	<u>-2.71</u>	<u>0.02</u>	<u>1.07</u>	<u>-</u>	<u>1.27</u>	
Over/Under			0.00	0.23	0.68	0.43	0.39	-	0.53	
<b>Credit Opportunities</b>	<b>1,715,740,086</b>	<b>8.24</b>	<b>5.10</b>	<b>-10.39</b>	<b>-2.04</b>	<b>0.85</b>	<b>-</b>	<b>-</b>	<b>3.17</b>	<b>Jul-13</b>
Credit Opportunities Blend			<u>5.53</u>	<u>-11.26</u>	<u>-1.55</u>	<u>1.22</u>	<u>-</u>	<u>-</u>	<u>3.67</u>	
Over/Under			-0.43	0.87	-0.49	-0.37	-	-	-0.50	
<b>Real Assets</b>	<b>2,868,575,280</b>	<b>13.78</b>	<b>1.55</b>	<b>-3.88</b>	<b>4.15</b>	<b>4.63</b>	<b>6.49</b>	<b>4.44</b>	<b>4.97</b>	<b>Jun-01</b>
Real Assets Policy Benchmark			<u>-0.38</u>	<u>-8.76</u>	<u>4.88</u>	<u>5.80</u>	<u>6.15</u>	<u>6.19</u>	<u>6.14</u>	
Over/Under			1.93	4.88	-0.73	-1.17	0.34	-1.75	-1.17	
<b>Public Real Assets</b>	<b>1,503,931,651</b>	<b>7.23</b>	<b>2.74</b>	<b>-15.77</b>	<b>1.47</b>	<b>2.31</b>	<b>-</b>	<b>-</b>	<b>1.79</b>	<b>Jul-14</b>
Public Real Assets Blend			<u>2.92</u>	<u>-16.82</u>	<u>1.87</u>	<u>2.17</u>	<u>-</u>	<u>-</u>	<u>0.60</u>	
Over/Under			-0.18	1.05	-0.40	0.14	-	-	1.19	
<b>Private Real Estate</b>	<b>1,345,351,036</b>	<b>6.46</b>	<b>0.24</b>	<b>16.95</b>	<b>8.39</b>	<b>7.89</b>	<b>9.30</b>	<b>5.81</b>	<b>6.26</b>	<b>Jul-01</b>
Real Estate Blend			<u>-4.77</u>	<u>8.32</u>	<u>10.80</u>	<u>9.54</u>	<u>10.69</u>	<u>9.60</u>	<u>9.34</u>	
Over/Under			5.01	8.63	-2.41	-1.65	-1.39	-3.79	-3.08	
<b>Private Equity</b>	<b>3,844,751,149</b>	<b>18.47</b>	<b>0.48</b>	<b>1.29</b>	<b>21.31</b>	<b>17.54</b>	<b>14.60</b>	<b>13.72</b>	<b>11.69</b>	<b>Sep-01</b>
Private Equity Blend			<u>-2.09</u>	<u>-5.40</u>	<u>15.06</u>	<u>14.93</u>	<u>16.95</u>	<u>14.41</u>	<u>12.55</u>	
Over/Under			2.57	6.69	6.25	2.61	-2.35	-0.69	-0.86	
<b>Cash</b>	<b>84,049,243</b>	<b>0.40</b>								

Refer to appendix for blended benchmark definitions.



Los Angeles City Employees' Retirement System-LACERS Master Trust

# RISK STATISTICS

3 Years Ending December 31, 2022							
	Return	Standard Deviation	Alpha	Information Ratio	Sortino Ratio	Tracking Error	
<b>LACERS Master Trust</b>	<b>4.91 (46)</b>	<b>12.19 (39)</b>	<b>1.56 (46)</b>	<b>0.52 (33)</b>	<b>0.57 (44)</b>	<b>2.20 (26)</b>	
InvMetrics Public DB \$1-50B Gross Median	4.72	12.71	1.44	0.41	0.54	2.93	

5 Years Ending December 31, 2022							
	Return	Standard Deviation	Alpha	Information Ratio	Sortino Ratio	Tracking Error	
<b>LACERS Master Trust</b>	<b>5.56 (53)</b>	<b>10.59 (41)</b>	<b>1.03 (48)</b>	<b>0.25 (46)</b>	<b>0.64 (44)</b>	<b>1.89 (23)</b>	
InvMetrics Public DB \$1-50B Gross Median	5.64	10.84	0.98	0.19	0.63	2.45	

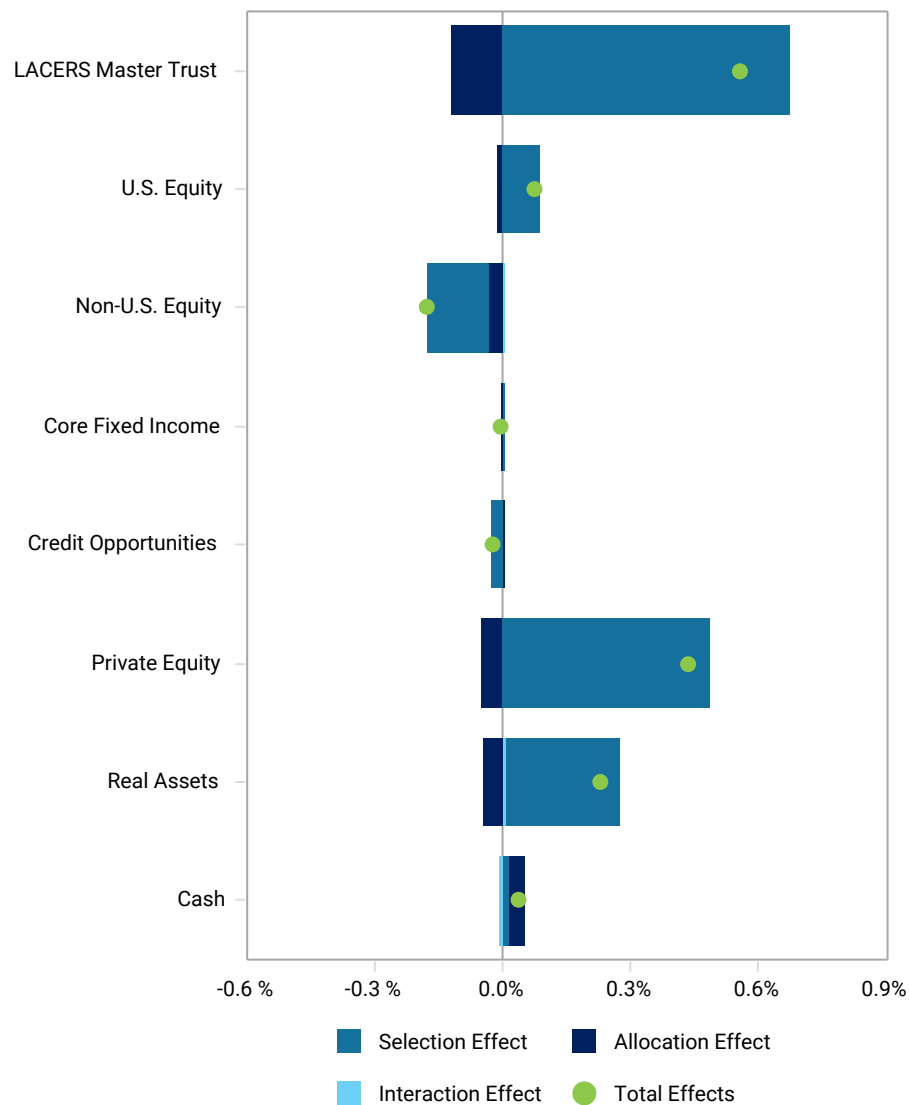
3 Years Ending December 31, 2022							
	Return	Standard Deviation	Alpha	Information Ratio	Sortino Ratio	Tracking Error	
<b>LACERS Master Trust</b>	<b>4.91 (77)</b>	<b>12.19 (53)</b>	<b>1.56 (77)</b>	<b>0.52 (54)</b>	<b>0.57 (77)</b>	<b>2.20 (29)</b>	
InvMetrics Public DB \$5-50B Gross Median	5.61	11.40	2.44	0.53	0.68	3.07	

5 Years Ending December 31, 2022							
	Return	Standard Deviation	Alpha	Information Ratio	Sortino Ratio	Tracking Error	
<b>LACERS Master Trust</b>	<b>5.56 (83)</b>	<b>10.59 (58)</b>	<b>1.03 (80)</b>	<b>0.25 (73)</b>	<b>0.64 (76)</b>	<b>1.89 (24)</b>	
InvMetrics Public DB \$5-50B Gross Median	6.11	9.91	1.76	0.38	0.74	2.72	

Los Angeles City Employees' Retirement System-LACERS Master Trust

# ATTRIBUTION ANALYSIS

## Attribution Effects 1 Quarter Ending December 31, 2022



## Attribution Summary 1 Quarter Ending December 31, 2022

	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Interaction Effects (%)	Total Effects (%)
U.S. Equity	7.6	7.2	0.5	0.1	0.0	0.0	0.1
Non-U.S. Equity	13.7	14.3	-0.6	-0.1	0.0	0.0	-0.2
Core Fixed Income	1.9	1.9	0.0	0.0	0.0	0.0	0.0
Credit Opportunities	5.2	5.5	-0.3	0.0	0.0	0.0	0.0
Private Equity	0.5	-2.1	2.6	0.5	-0.1	0.0	0.4
Real Assets	1.6	-0.4	2.0	0.3	0.0	0.0	0.2
Cash	2.4	0.8	1.6	0.0	0.0	0.0	0.0
<b>LACERS Master Trust</b>	<b>5.9</b>	<b>5.3</b>	<b>0.6</b>	<b>0.7</b>	<b>-0.1</b>	<b>0.0</b>	<b>0.6</b>

\*Total Actual and Index returns are weighted average calculations.

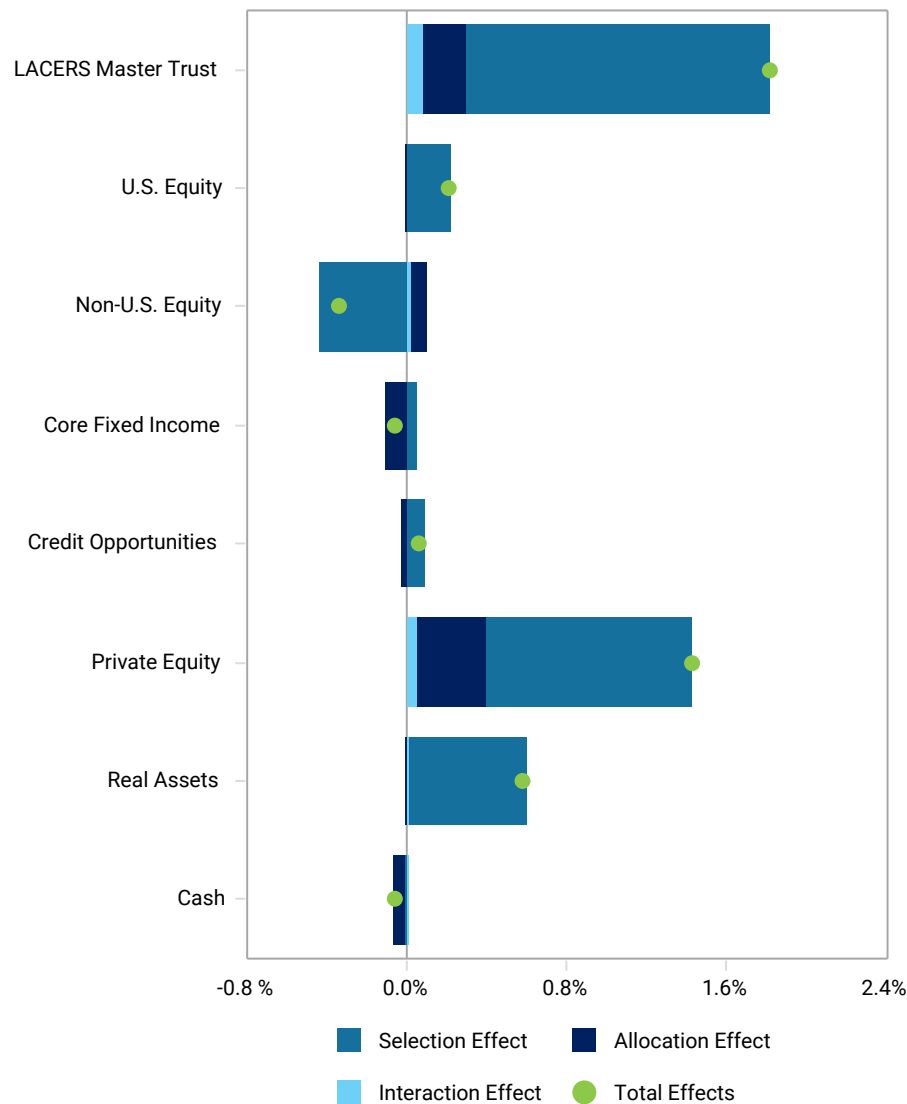




Los Angeles City Employees' Retirement System-LACERS Master Trust

# ATTRIBUTION ANALYSIS

Attribution Effects  
1 Year Ending December 31, 2022



Attribution Summary  
1 Year Ending December 31, 2022

	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Interaction Effects (%)	Total Effects (%)
U.S. Equity	-18.2	-19.2	1.0	0.2	0.0	0.0	0.2
Non-U.S. Equity	-17.6	-16.0	-1.6	-0.4	0.1	0.0	-0.3
Core Fixed Income	-12.7	-13.0	0.3	0.0	-0.1	0.0	-0.1
Credit Opportunities	-10.1	-11.3	1.2	0.1	0.0	0.0	0.1
Private Equity	1.3	-5.4	6.7	1.1	0.3	0.1	1.4
Real Assets	-3.8	-8.8	5.0	0.6	0.0	0.0	0.6
Cash	0.2	1.5	-1.2	0.0	-0.1	0.0	-0.1
<b>LACERS Master Trust</b>	<b>-11.8</b>	<b>-13.6</b>	<b>1.8</b>	<b>1.6</b>	<b>0.2</b>	<b>0.1</b>	<b>1.8</b>

Wtd. = Weighted

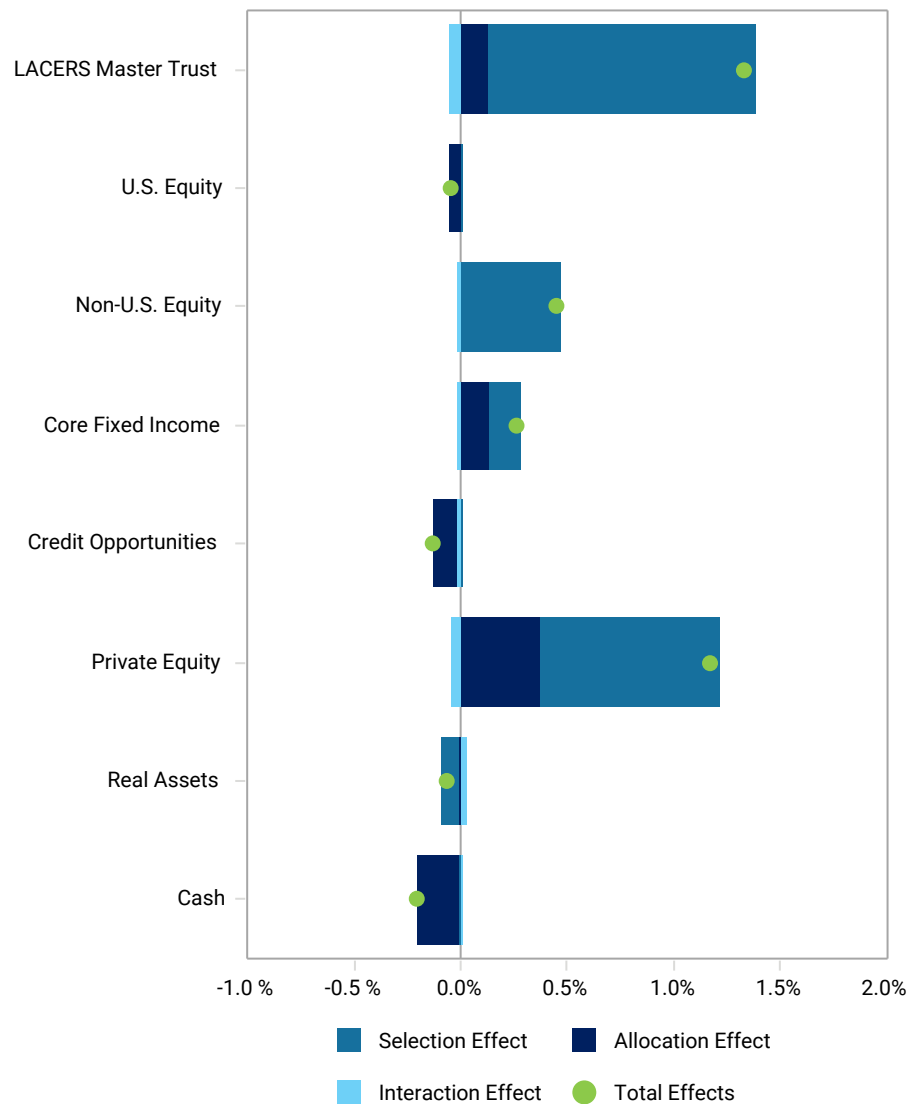
- In addition to returns on unallocated cash, the Cash composite returns include the impact of securities lending income, foreign tax reclaims, and other miscellaneous transactions.
- Policy target asset allocation reflects interim asset allocation policy targets adopted on July 12, 2022.

\*Total Actual and Index returns are weighted average calculations.

Los Angeles City Employees' Retirement System-LACERS Master Trust

# ATTRIBUTION ANALYSIS

**Attribution Effects**  
3 Years Ending December 31, 2022



**Attribution Summary**  
3 Years Ending December 31, 2022

	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Interaction Effects (%)	Total Effects (%)
U.S. Equity	7.2	7.1	0.1	0.0	-0.1	0.0	0.0
Non-U.S. Equity	1.6	0.1	1.5	0.4	0.0	0.0	0.4
Core Fixed Income	-1.9	-2.7	0.8	0.1	0.1	0.0	0.3
Credit Opportunities	-1.7	-1.5	-0.2	0.0	-0.1	0.0	-0.1
Private Equity	21.3	15.1	6.2	0.8	0.4	0.0	1.2
Real Assets	4.3	4.9	-0.6	-0.1	0.0	0.0	-0.1
Cash	0.2	0.7	-0.5	0.0	-0.2	0.0	-0.2
<b>LACERS Master Trust</b>	<b>4.9</b>	<b>3.6</b>	<b>1.3</b>	<b>1.3</b>	<b>0.1</b>	<b>-0.1</b>	<b>1.3</b>

Wtd. = Weighted

- In addition to returns on unallocated cash, the Cash composite returns include the impact of securities lending income, foreign tax reclaims, and other miscellaneous transactions.
- Policy target asset allocation reflects interim asset allocation policy targets adopted on July 12, 2022.

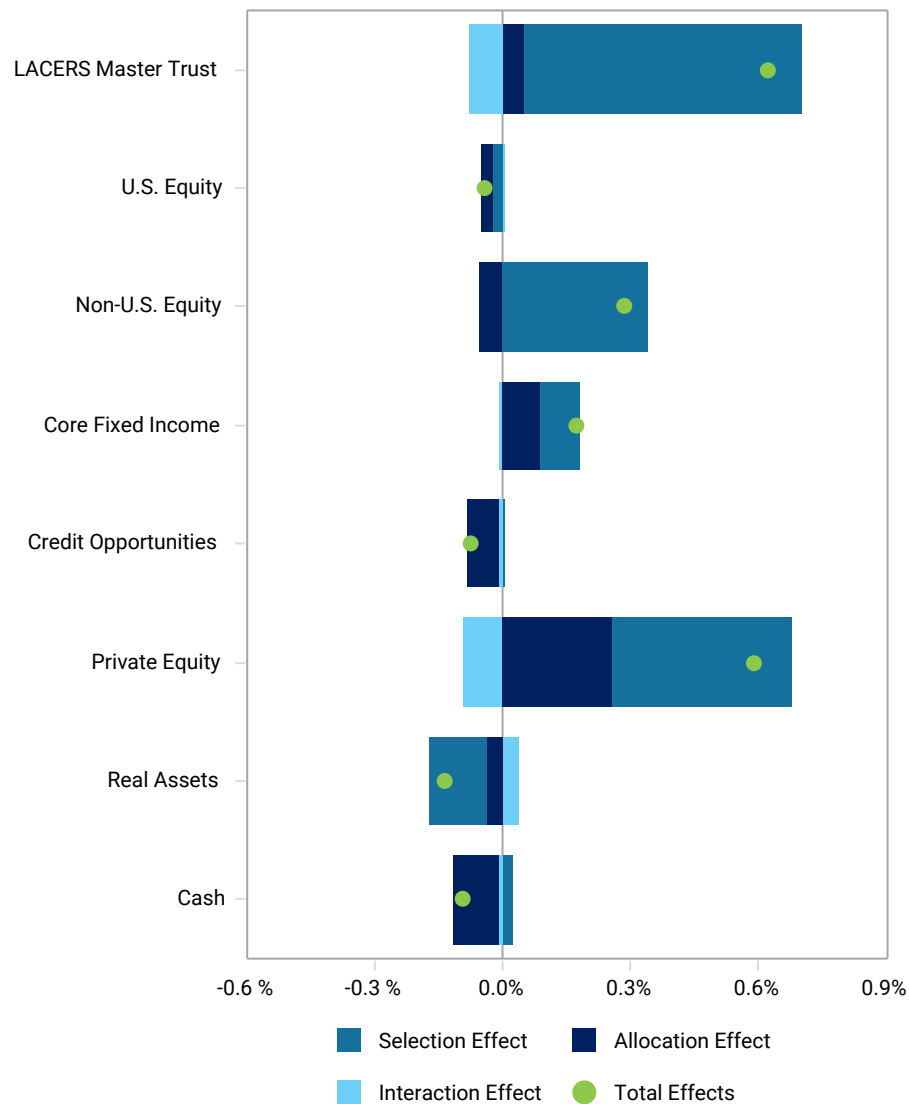
\*Total Actual and Index returns are weighted average calculations.



Los Angeles City Employees' Retirement System-LACERS Master Trust

# ATTRIBUTION ANALYSIS

Attribution Effects  
5 Years Ending December 31, 2022



Attribution Summary  
5 Years Ending December 31, 2022

	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Interaction Effects (%)	Total Effects (%)
U.S. Equity	8.7	8.8	-0.1	0.0	0.0	0.0	0.0
Non-U.S. Equity	2.0	0.9	1.1	0.3	-0.1	0.0	0.3
Core Fixed Income	0.5	0.0	0.5	0.1	0.1	0.0	0.2
Credit Opportunities	1.2	1.2	-0.1	0.0	-0.1	0.0	-0.1
Private Equity	17.5	14.9	2.6	0.3	0.3	-0.1	0.6
Real Assets	4.8	5.8	-1.0	-0.1	0.0	0.0	-0.1
Cash	3.5	1.3	2.2	0.0	-0.1	0.0	-0.1
<b>LACERS Master Trust</b>	<b>5.6</b>	<b>4.9</b>	<b>0.6</b>	<b>0.6</b>	<b>0.1</b>	<b>-0.1</b>	<b>0.6</b>

Wtd. = Weighted

- In addition to returns on unallocated cash, the Cash composite returns include the impact of securities lending income, foreign tax reclaims, and other miscellaneous transactions.
- Policy target asset allocation reflects interim asset allocation policy targets adopted on July 12, 2022.

\*Total Actual and Index returns are weighted average calculations.



# PRIVATE MARKETS PERFORMANCE

AS OF SEPTEMBER 30, 2022

Private Equity	10 Year IRR	Since Inception IRR	Since Inception Multiple
Aggregate Portfolio	14.72%	12.37%	1.66x
Core Portfolio	15.42%	12.86%	1.68x
Specialized Portfolio	1.96%	2.06%	1.14x
PE Blended Benchmark	16.42%	13.29%	N/A

Source: Aksia

Real Estate	10 Year Return (Net)	Since Inception Return (Net)
Total Portfolio (TWR) <sup>1</sup>	9.53%	6.37%
NFI-ODCE + 80 basis points (TWR)	10.71%	7.54%

Source: The Townsend Group

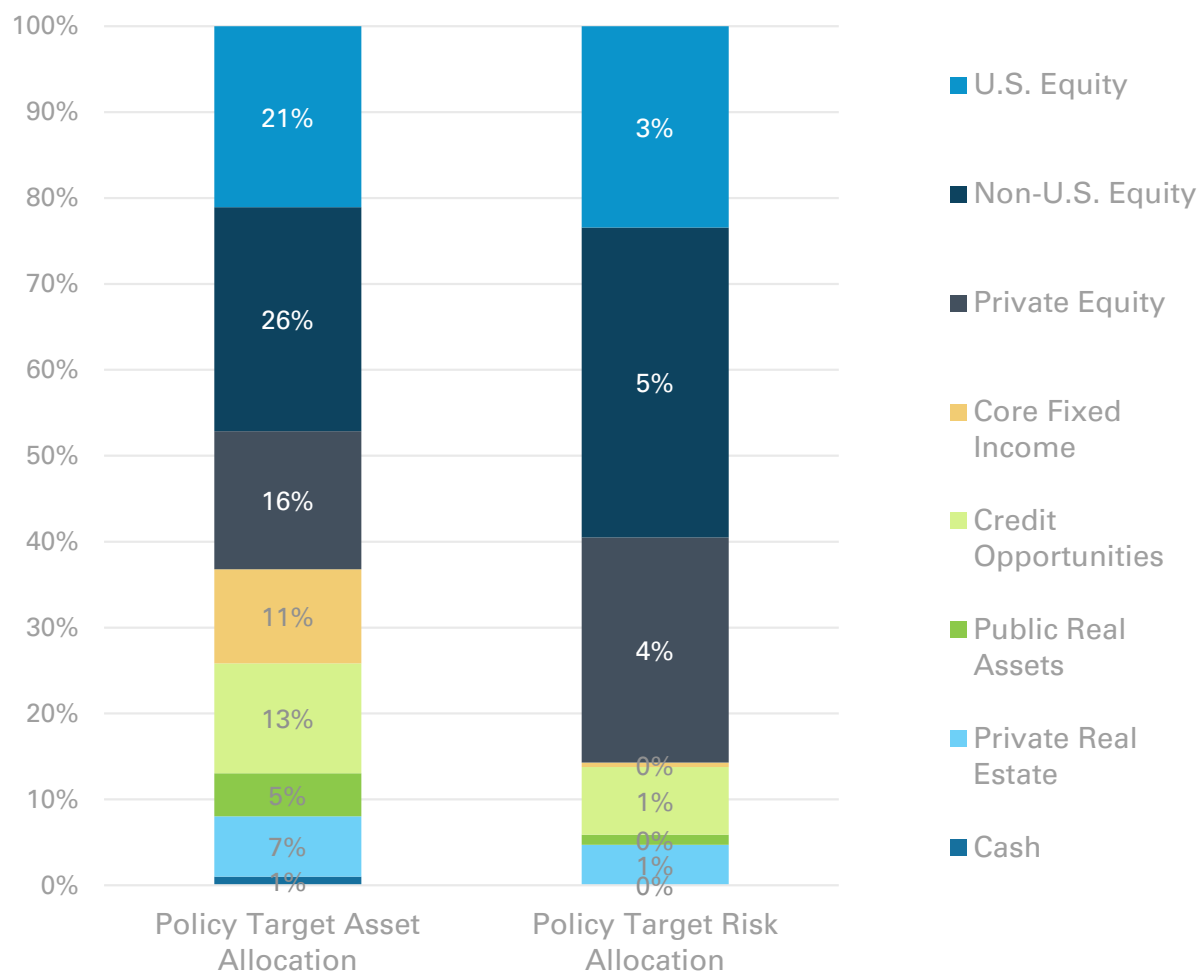
Note: The Total Value to Paid-In Ratio (TVPI) is a multiple that relates the current value of the private equity portfolio plus all distributions received to date with the total amount of capital contributed.

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 63%; accounts for 86% of the policy target portfolio risk.
  - Core Fixed Income and Credit Opportunities policy allocation is 24%, accounting for 8% of the policy target portfolio risk.
  - Real Assets (Private Real Estate and Public Real Assets) policy allocation is 12%, accounting for 5% of policy target portfolio risk.
- \* Adopted May 11, 2021

# PUBLIC MARKETS RISK BUDGET COMPARISON

AS OF DECEMBER 31, 2022

Public Markets Asset Class	Target Risk Budget	Actual 3 Yr Tracking Error
U.S. Equity	1.25%	1.01%
Non-U.S. Equity	1.75%	1.98%
Core Fixed Income	1.75%	0.57%
Credit Opportunities	3.50%	1.99%
Public Real Assets*	1.25%	4.84%

- 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.
- Public Equity asset classes are within an appropriate range of their respective risk budgets.
- Both Core Fixed Income and Credit Opportunities have exhibited lower than expected active risk.
- The Public Real Assets benchmark includes prior historical composition.
- Note: The target Risk Budget was approved by the Board on June 22, 2021, and is reflected in the table above. Implementation of the new asset allocation is in progress.

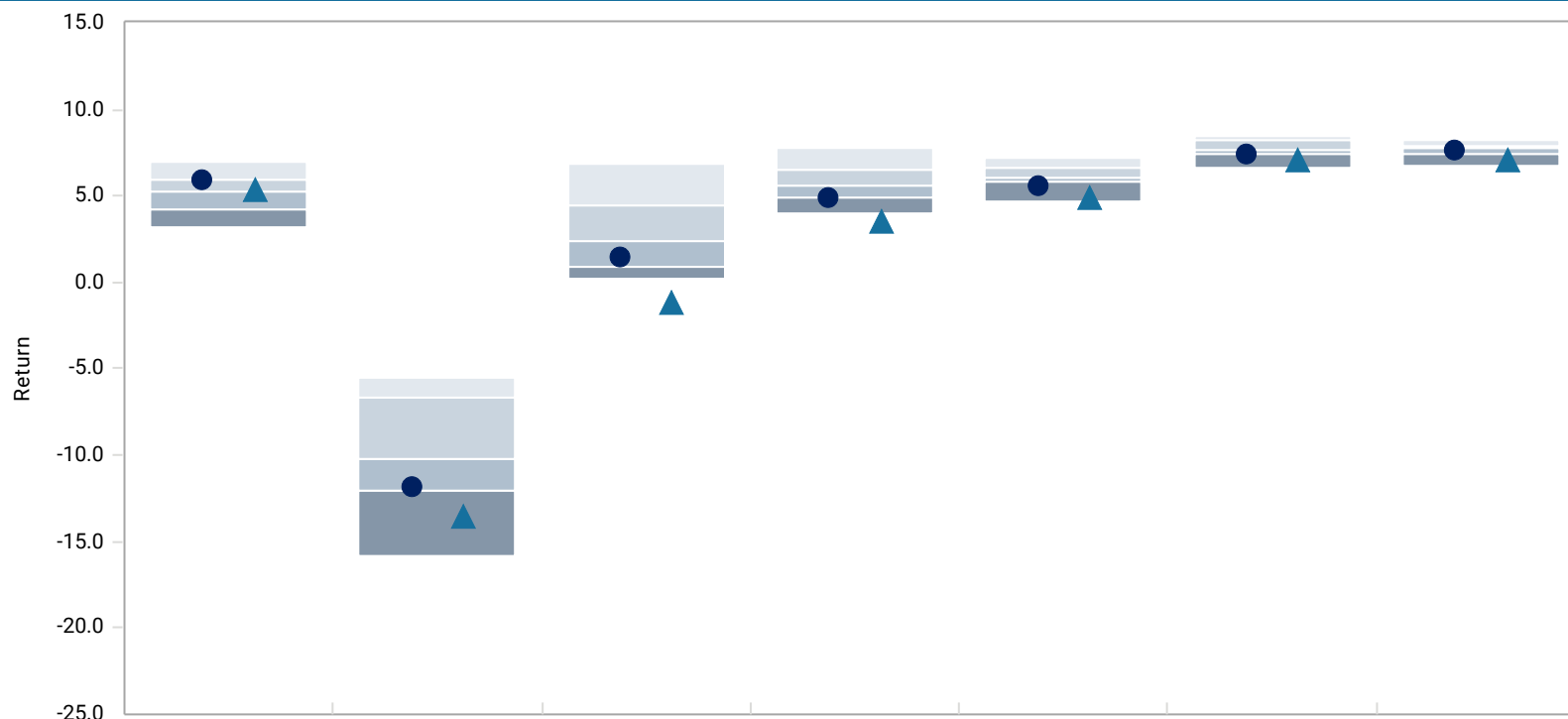
\* The benchmark for the Public Real Assets composite is a custom policy benchmark that is comprised of the target weights of the public real asset components: 62.5% Bloomberg Barclays US TIPS and 37.5% FTSE NAREIT All Equity REIT Index. Historical composition can be found in the investment policy statement.



Los Angeles City Employees' Retirement System-LACERS Master Trust

# RETURN SUMMARY VS. PEER UNIVERSE

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

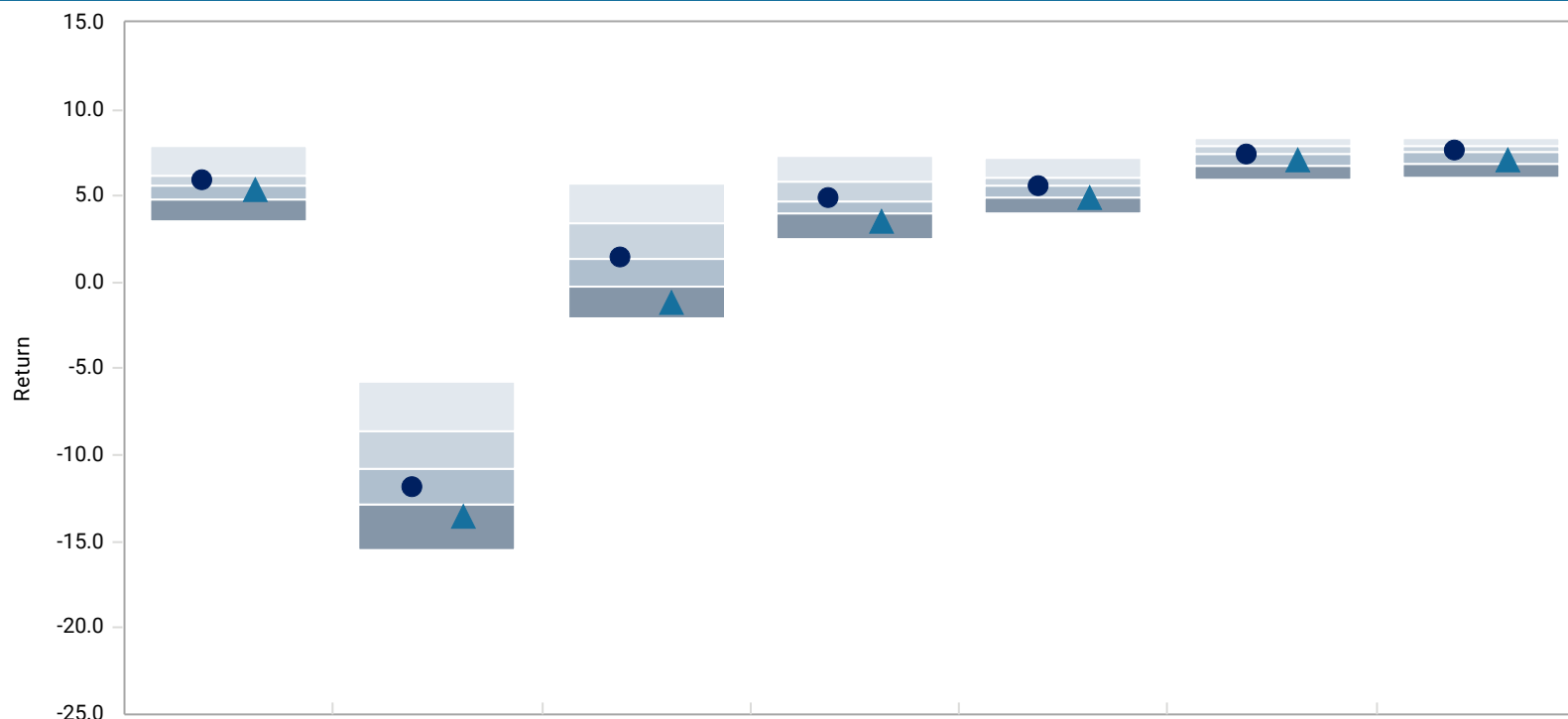


	3 Mo (%)	1 Year (%)	2 Years (%)	3 Years (%)	5 Years (%)	7 Years (%)	10 Years (%)
● LACERS Master Trust	5.9 (26)	-11.8 (71)	1.5 (67)	4.9 (77)	5.6 (83)	7.5 (76)	7.7 (58)
▲ Policy Index	5.3 (46)	-13.6 (87)	-1.1 (98)	3.6 (98)	4.9 (86)	7.1 (84)	7.1 (85)
5th Percentile	7.0	-5.6	6.8	7.8	7.2	8.4	8.2
1st Quartile	5.9	-6.7	4.4	6.5	6.6	8.3	7.9
Median	5.2	-10.2	2.4	5.6	6.1	7.7	7.8
3rd Quartile	4.2	-12.1	0.9	5.0	5.8	7.5	7.4
95th Percentile	3.2	-15.8	0.2	3.9	4.7	6.6	6.8
Population	32	32	31	31	30	30	27

Los Angeles City Employees' Retirement System-LACERS Master Trust

# RETURN SUMMARY VS. PEER UNIVERSE

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



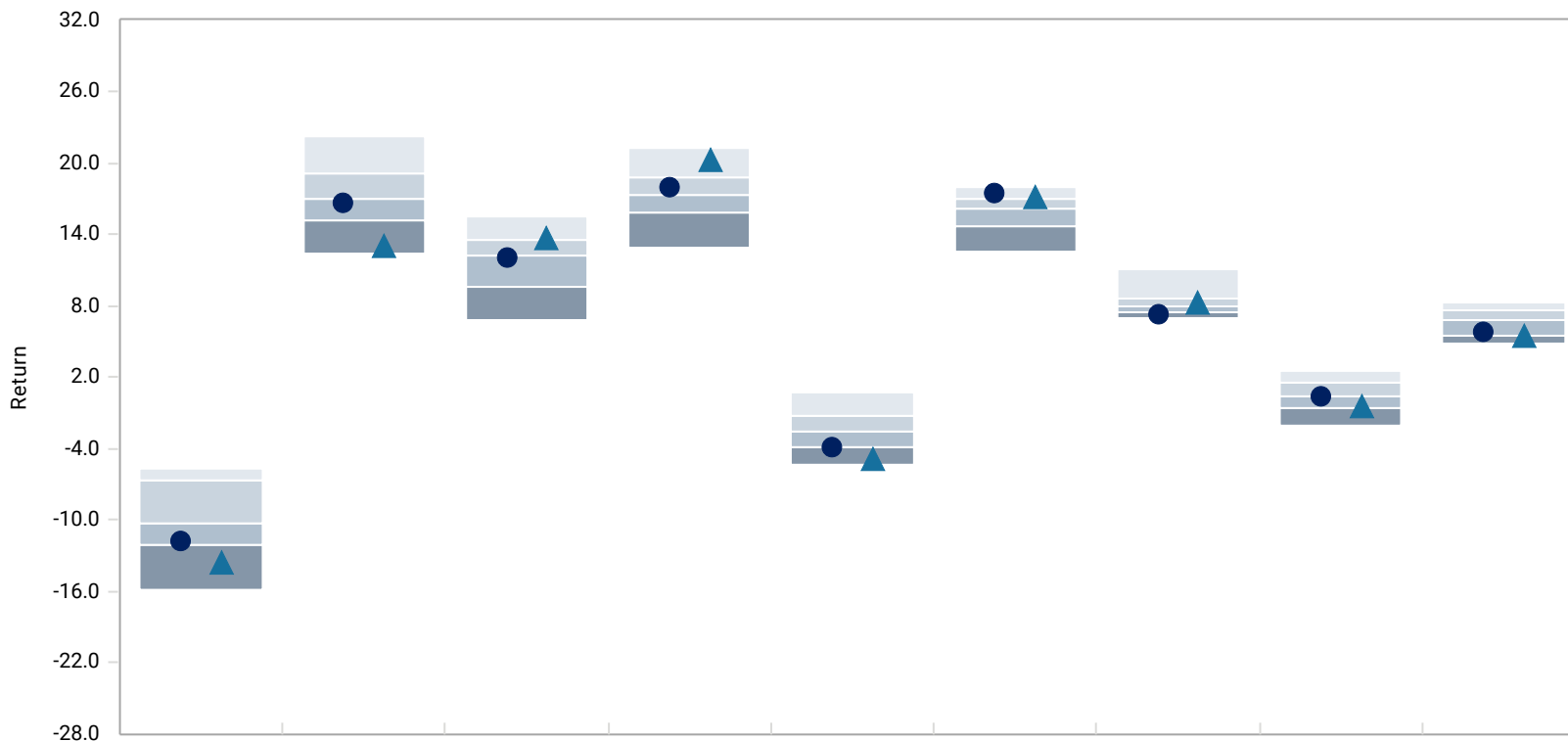
	3 Mo (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
● LACERS Master Trust	5.9 (38)	-11.8 (59)	1.5 (48)	4.9 (46)	5.6 (53)	7.5 (51)	7.7 (43)
▲ Policy Index	5.3 (56)	-13.6 (81)	-1.1 (89)	3.6 (84)	4.9 (73)	7.1 (62)	7.1 (69)
5th Percentile	7.9	-5.7	5.7	7.3	7.2	8.4	8.3
1st Quartile	6.2	-8.6	3.4	5.8	6.1	7.9	7.9
Median	5.6	-10.8	1.4	4.7	5.6	7.5	7.5
3rd Quartile	4.8	-12.8	-0.2	4.0	4.9	6.8	6.9
95th Percentile	3.5	-15.5	-2.1	2.5	4.0	6.0	6.0
Population	75	75	74	74	73	73	70



Los Angeles City Employees' Retirement System-LACERS Master Trust

# RETURN SUMMARY VS. PEER UNIVERSE

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

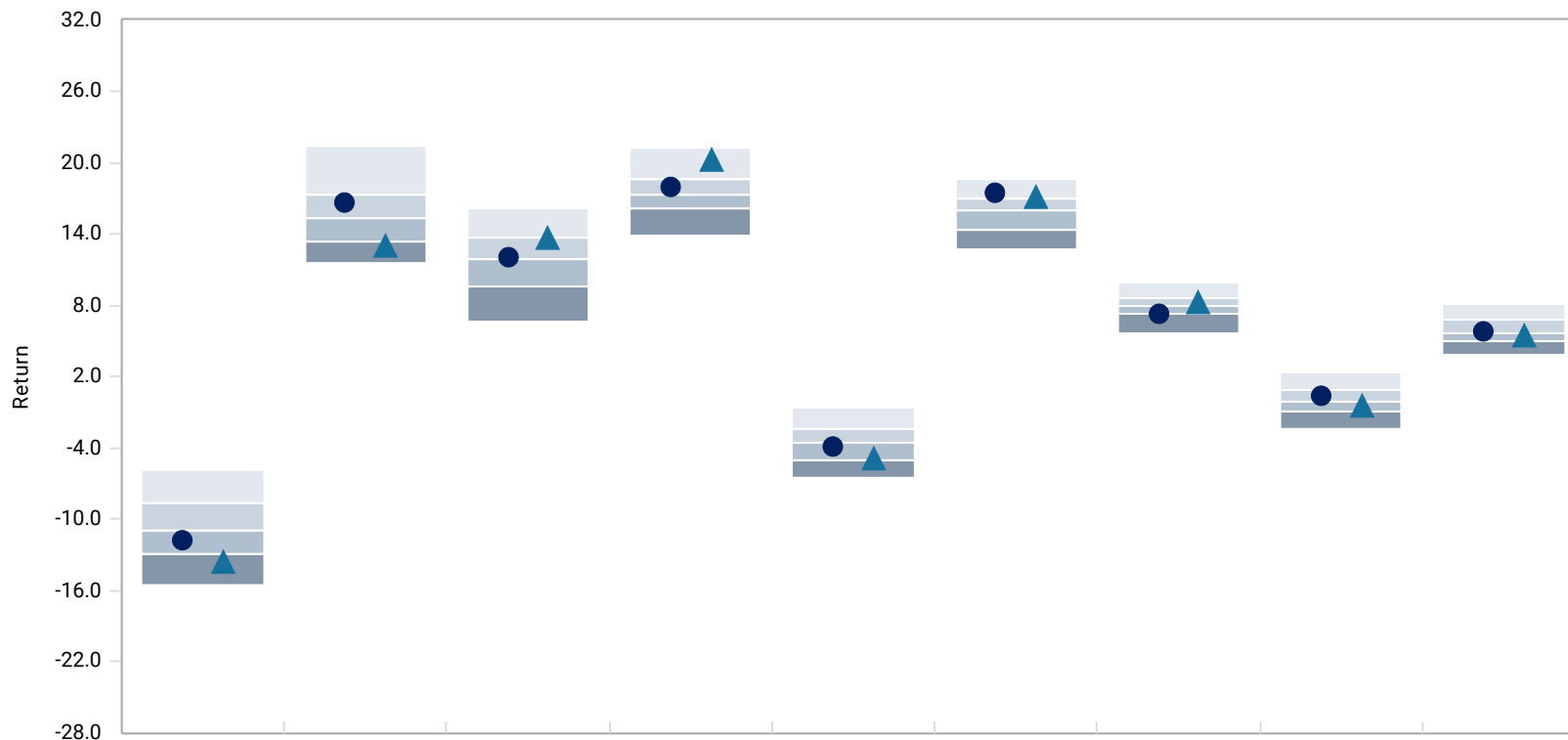


	2022	2021	2020	2019	2018	2017	2016	2015	2014
● LACERS Master Trust	-11.8 (71)	16.8 (57)	12.1 (53)	18.1 (32)	-3.9 (75)	17.6 (10)	7.4 (86)	0.5 (53)	5.9 (69)
▲ Policy Index	-13.6 (87)	13.1 (89)	13.7 (22)	20.3 (10)	-4.9 (90)	17.2 (21)	8.3 (34)	-0.4 (75)	5.6 (73)
5th Percentile	-5.6	22.4	15.5	21.4	0.8	18.0	11.1	2.6	8.4
1st Quartile	-6.7	19.1	13.5	18.9	-1.3	17.1	8.6	1.6	7.6
Median	-10.2	17.1	12.2	17.3	-2.6	16.2	8.0	0.5	6.8
3rd Quartile	-12.1	15.3	9.6	15.9	-3.9	14.7	7.6	-0.6	5.5
95th Percentile	-15.8	12.4	6.8	13.0	-5.3	12.6	7.0	-2.0	4.9
Population	32	45	54	42	37	44	43	42	42

Los Angeles City Employees' Retirement System-LACERS Master Trust

# RETURN SUMMARY VS. PEER UNIVERSE

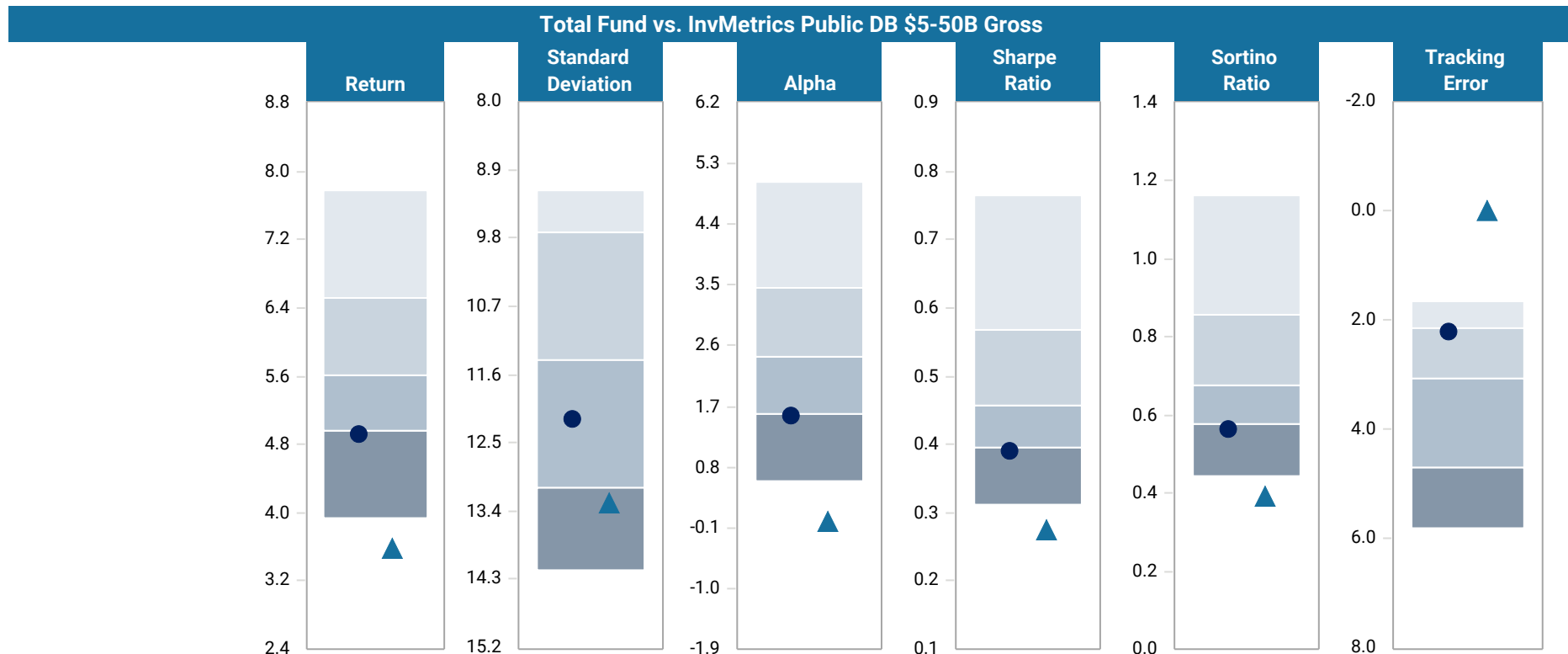
LACERS Master Trust vs. InvMetrics Public DB \$1-50B Gross



	2022	2021	2020	2019	2018	2017	2016	2015	2014
● LACERS Master Trust	-11.8 (59)	16.8 (38)	12.1 (50)	18.1 (31)	-3.9 (57)	17.6 (15)	7.4 (75)	0.5 (34)	5.9 (49)
▲ Policy Index	-13.6 (81)	13.1 (82)	13.7 (26)	20.3 (10)	-4.9 (74)	17.2 (21)	8.3 (35)	-0.4 (57)	5.6 (53)
5th Percentile	-5.7	21.4	16.2	21.4	-0.5	18.7	10.0	2.4	8.2
1st Quartile	-8.6	17.4	13.8	18.6	-2.4	17.0	8.6	1.0	6.9
Median	-10.8	15.3	11.9	17.3	-3.5	16.1	8.0	-0.1	5.7
3rd Quartile	-12.8	13.5	9.6	16.2	-5.0	14.4	7.4	-0.9	5.0
95th Percentile	-15.5	11.5	6.8	13.9	-6.5	12.8	5.7	-2.4	3.8
Population	75	132	152	121	107	115	123	118	117

Los Angeles City Employees' Retirement System-LACERS Master Trust

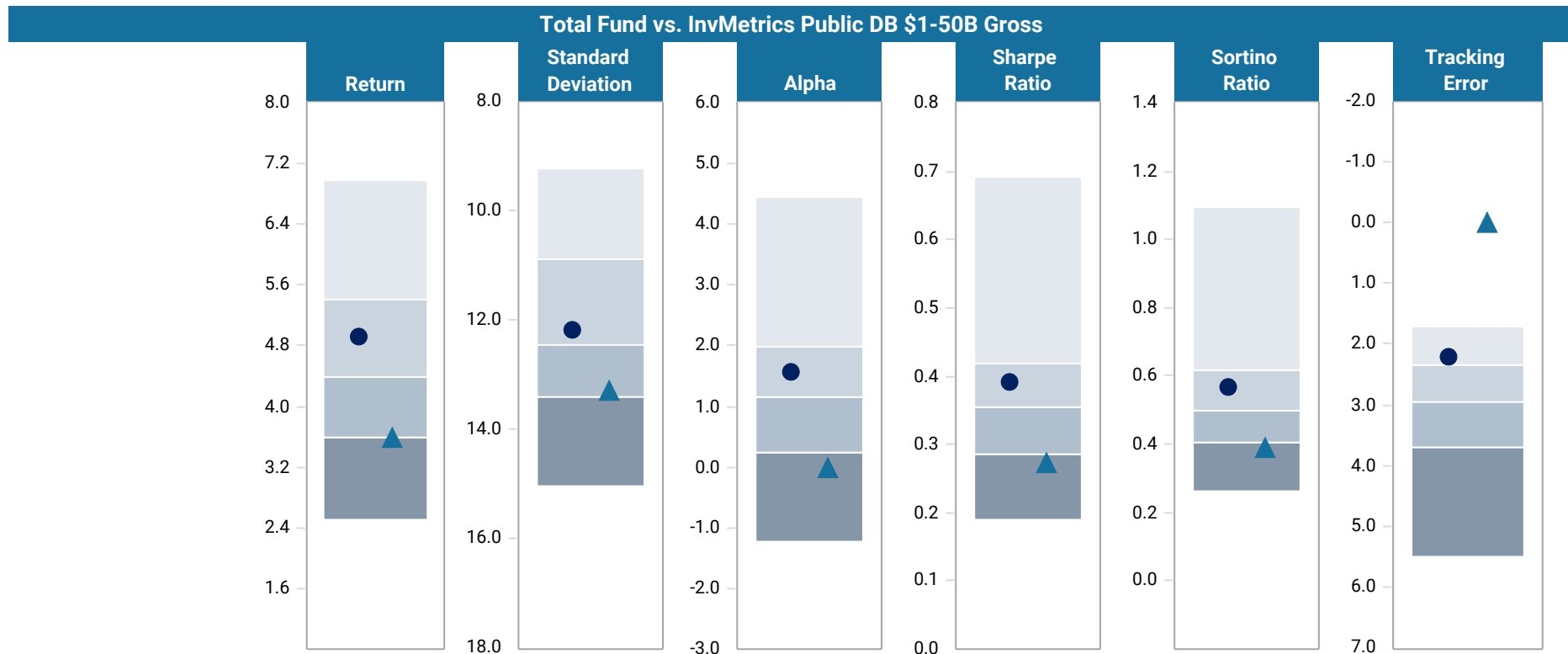
# RISK STATISTICS VS. PEER UNIVERSE



	3 Yrs (%)	3 Yrs (%)	3 Yrs (%)	3 Yrs (%)	3 Yrs (%)	3 Yrs (%)
● LACERS Master Trust	4.9 (77)	12.2 (53)	1.6 (77)	0.4 (77)	0.6 (77)	2.2 (29)
▲ Policy Index	3.6 (98)	13.3 (87)	0.0 (98)	0.3 (98)	0.4 (98)	0.0 (1)
5th Percentile	7.8	9.2	5.0	0.8	1.2	1.7
1st Quartile	6.5	9.7	3.5	0.6	0.9	2.2
Median	5.6	11.4	2.4	0.5	0.7	3.1
3rd Quartile	5.0	13.1	1.6	0.4	0.6	4.7
95th Percentile	3.9	14.2	0.6	0.3	0.4	5.8
Population	31	31	31	31	31	31

Los Angeles City Employees' Retirement System-LACERS Master Trust

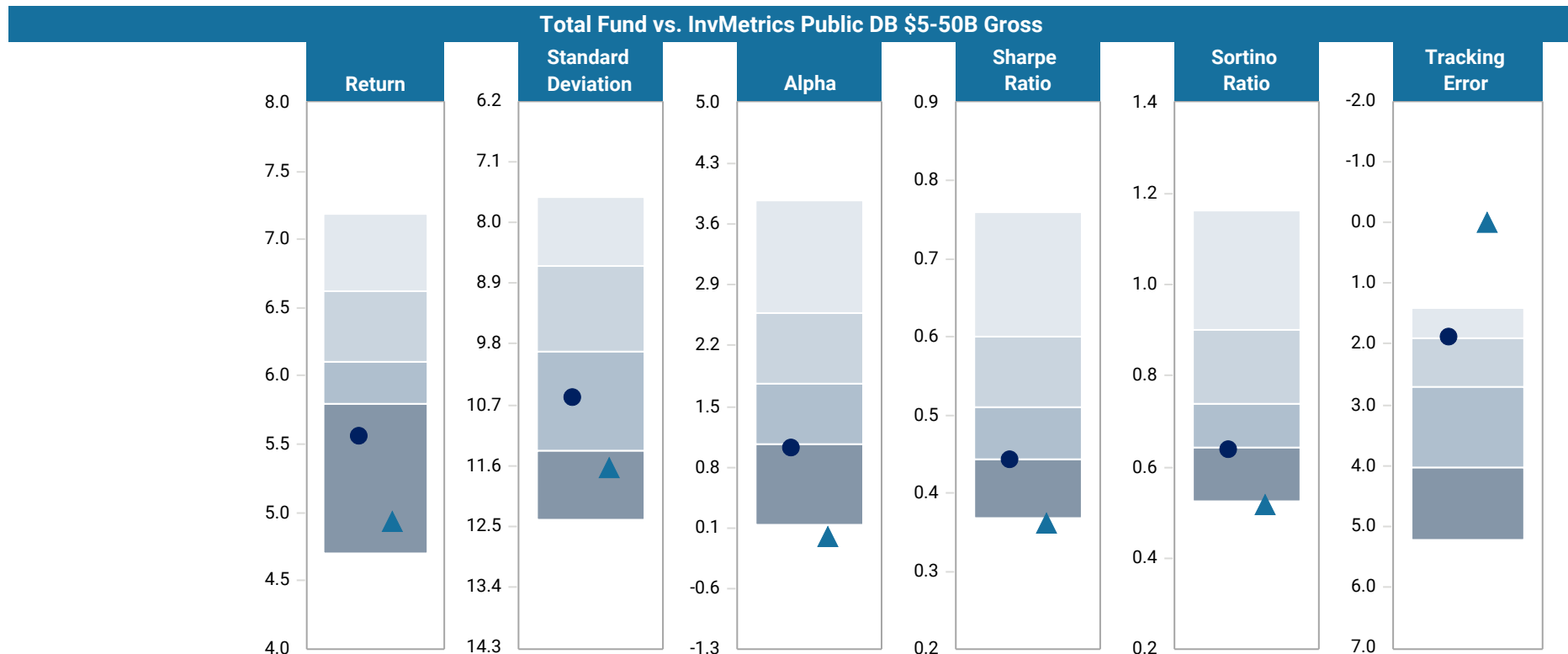
# RISK STATISTICS VS. PEER UNIVERSE



	3 Yrs (%)	3 Yrs (%)	3 Yrs (%)	3 Yrs (%)	3 Yrs (%)	3 Yrs (%)
● LACERS Master Trust	4.9 (30)	12.2 (44)	1.6 (36)	0.4 (37)	0.6 (36)	2.2 (19)
▲ Policy Index	3.6 (76)	13.3 (74)	0.0 (78)	0.3 (78)	0.4 (77)	0.0 (1)
5th Percentile	7.0	9.2	4.5	0.7	1.1	1.7
1st Quartile	5.4	10.9	2.0	0.4	0.6	2.3
Median	4.4	12.5	1.2	0.4	0.5	2.9
3rd Quartile	3.6	13.4	0.3	0.3	0.4	3.7
95th Percentile	2.5	15.0	-1.2	0.2	0.3	5.5
Population	62	62	62	62	62	62

Los Angeles City Employees' Retirement System-LACERS Master Trust

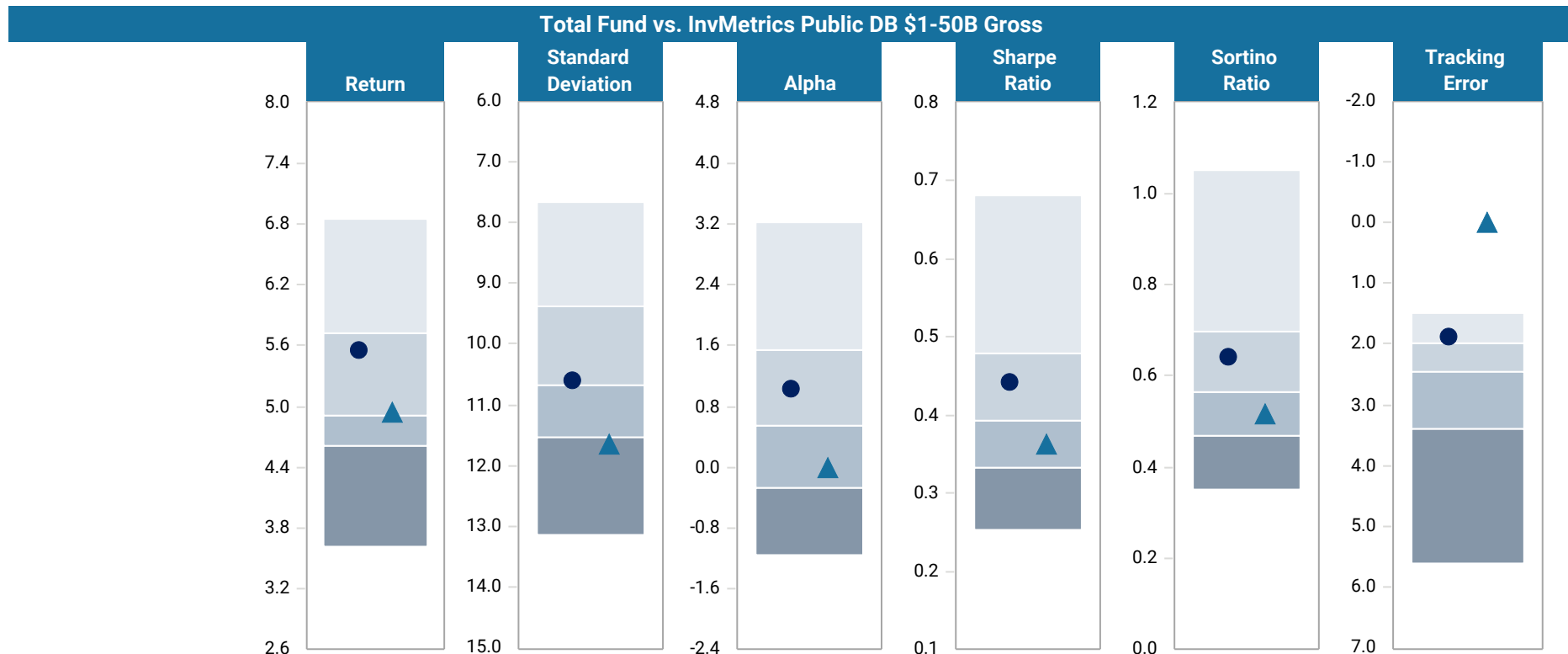
# RISK STATISTICS VS. PEER UNIVERSE



	5 Yrs (%)	5 Yrs (%)	5 Yrs (%)	5 Yrs (%)	5 Yrs (%)	5 Yrs (%)
● LACERS Master Trust	5.6 (83)	10.6 (58)	1.0 (80)	0.4 (76)	0.6 (76)	1.9 (24)
▲ Policy Index	4.9 (86)	11.6 (90)	0.0 (97)	0.4 (96)	0.5 (96)	0.0 (1)
5th Percentile	7.2	7.6	3.9	0.8	1.2	1.4
1st Quartile	6.6	8.6	2.6	0.6	0.9	1.9
Median	6.1	9.9	1.8	0.5	0.7	2.7
3rd Quartile	5.8	11.4	1.1	0.4	0.6	4.0
95th Percentile	4.7	12.4	0.1	0.4	0.5	5.2
Population	30	30	30	30	30	30

Los Angeles City Employees' Retirement System-LACERS Master Trust

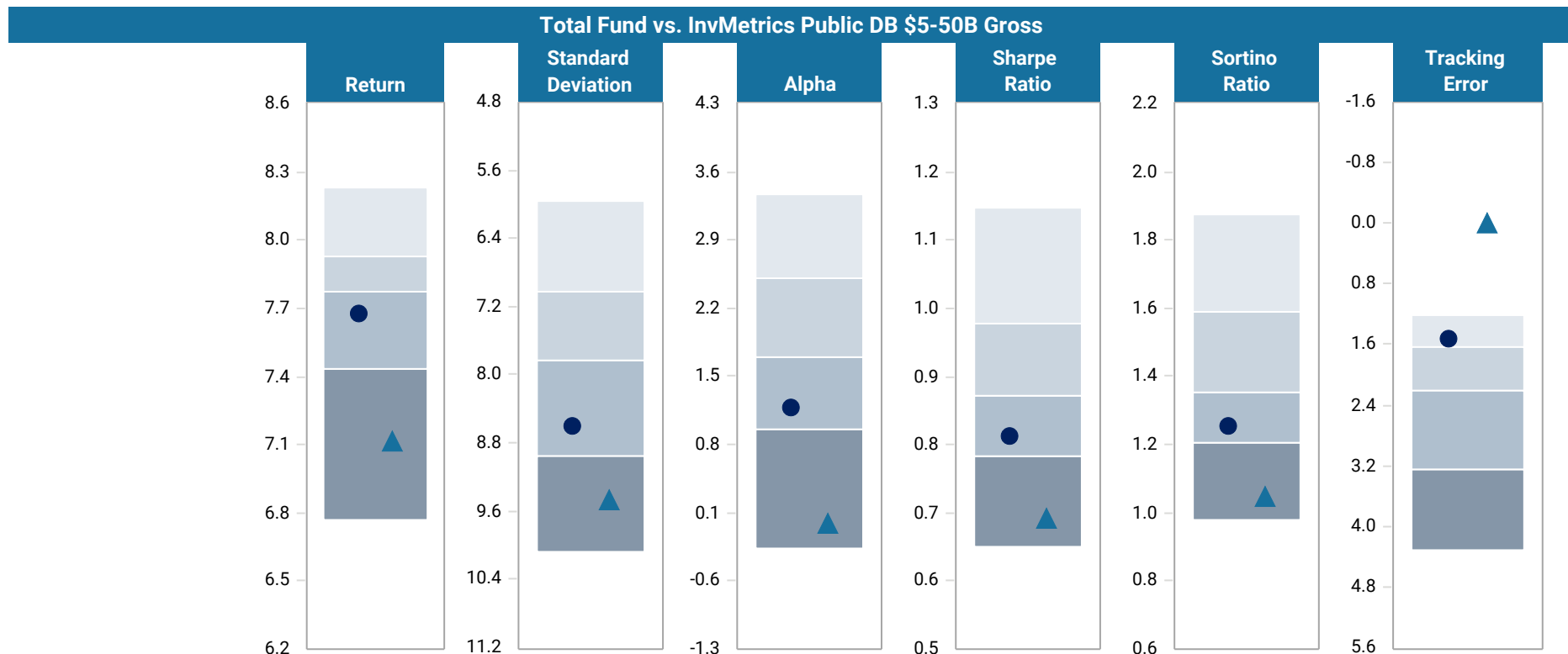
# RISK STATISTICS VS. PEER UNIVERSE



	5 Yrs (%)	5 Yrs (%)	5 Yrs (%)	5 Yrs (%)	5 Yrs (%)	5 Yrs (%)
● LACERS Master Trust	5.6 (38)	10.6 (44)	1.0 (32)	0.4 (31)	0.6 (31)	1.9 (20)
▲ Policy Index	4.9 (50)	11.6 (79)	0.0 (70)	0.4 (63)	0.5 (63)	0.0 (1)
5th Percentile	6.9	7.7	3.2	0.7	1.1	1.5
1st Quartile	5.7	9.4	1.5	0.5	0.7	2.0
Median	4.9	10.7	0.6	0.4	0.6	2.5
3rd Quartile	4.6	11.5	-0.3	0.3	0.5	3.4
95th Percentile	3.6	13.1	-1.2	0.3	0.4	5.6
Population	61	61	61	61	61	61

Los Angeles City Employees' Retirement System-LACERS Master Trust

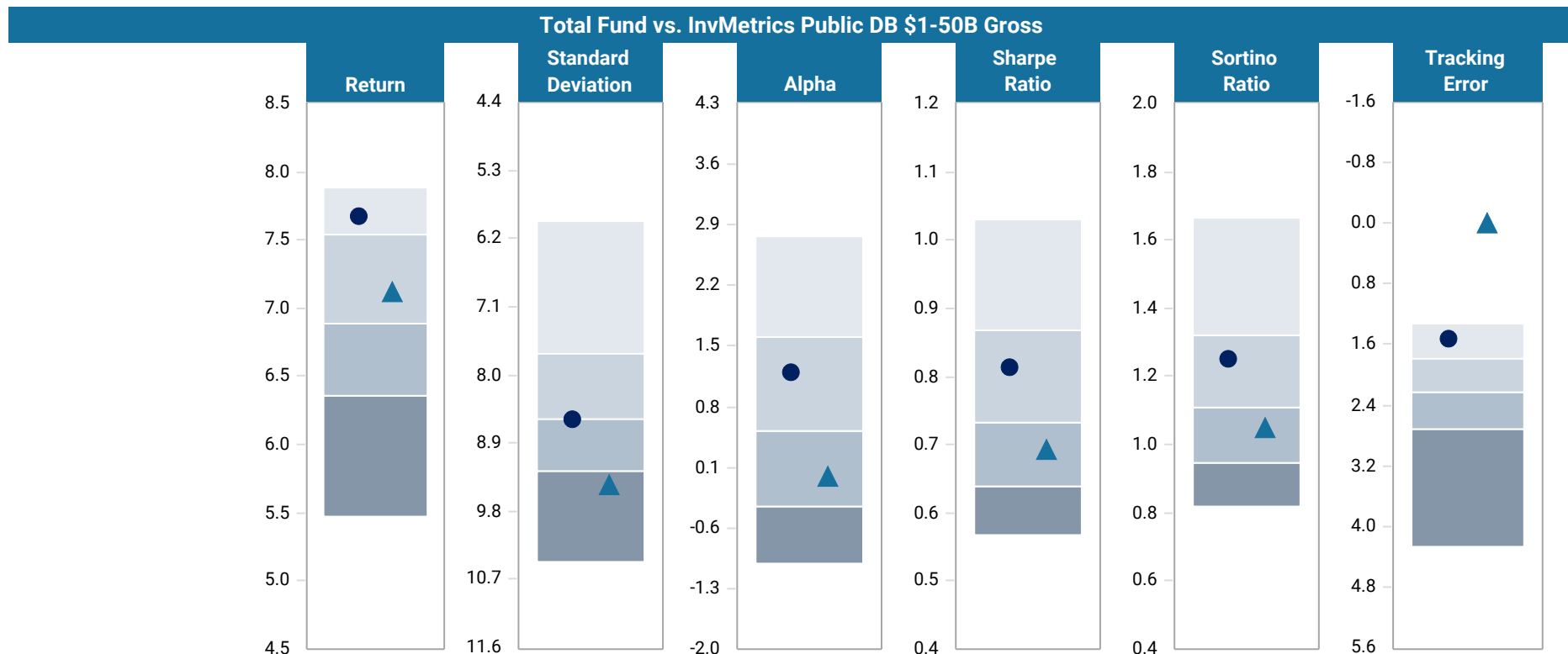
# RISK STATISTICS VS. PEER UNIVERSE



	10 Yrs (%)	10 Yrs (%)	10 Yrs (%)	10 Yrs (%)	10 Yrs (%)	10 Yrs (%)
● LACERS Master Trust	7.7 (58)	8.6 (61)	1.2 (66)	0.8 (66)	1.3 (62)	1.5 (15)
▲ Policy Index	7.1 (85)	9.5 (90)	0.0 (92)	0.7 (92)	1.0 (88)	0.0 (1)
5th Percentile	8.2	6.0	3.4	1.1	1.9	1.2
1st Quartile	7.9	7.0	2.5	1.0	1.6	1.6
Median	7.8	7.8	1.7	0.9	1.4	2.2
3rd Quartile	7.4	9.0	1.0	0.8	1.2	3.3
95th Percentile	6.8	10.1	-0.3	0.7	1.0	4.3
Population	27	27	27	27	27	27

Los Angeles City Employees' Retirement System-LACERS Master Trust

# RISK STATISTICS VS. PEER UNIVERSE



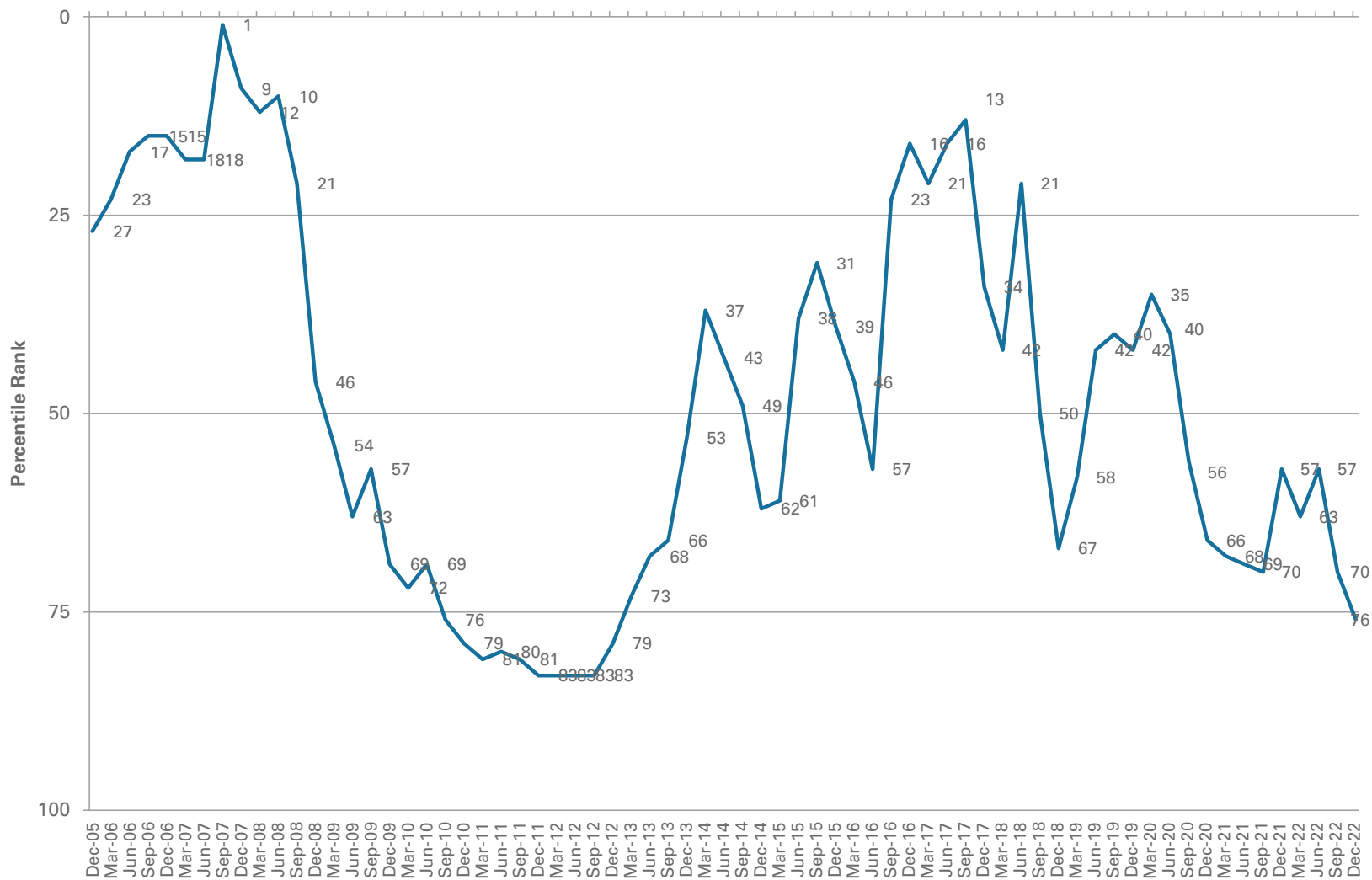
	10 Yrs (%)	10 Yrs (%)	10 Yrs (%)	10 Yrs (%)	10 Yrs (%)	10 Yrs (%)
● LACERS Master Trust	7.7 (18)	8.6 (49)	1.2 (32)	0.8 (32)	1.3 (30)	1.5 (15)
▲ Policy Index	7.1 (45)	9.5 (80)	0.0 (68)	0.7 (61)	1.0 (60)	0.0 (1)
5th Percentile	7.9	6.0	2.8	1.0	1.7	1.3
1st Quartile	7.5	7.7	1.6	0.9	1.3	1.8
Median	6.9	8.6	0.5	0.7	1.1	2.2
3rd Quartile	6.4	9.3	-0.4	0.6	0.9	2.7
95th Percentile	5.5	10.5	-1.0	0.6	0.8	4.3
Population	59	59	59	59	59	59



# HISTORICAL RISK ADJUSTED RETURN

## UNIVERSE COMPARISON (\$5-\$50 B GROSS OF FEES)

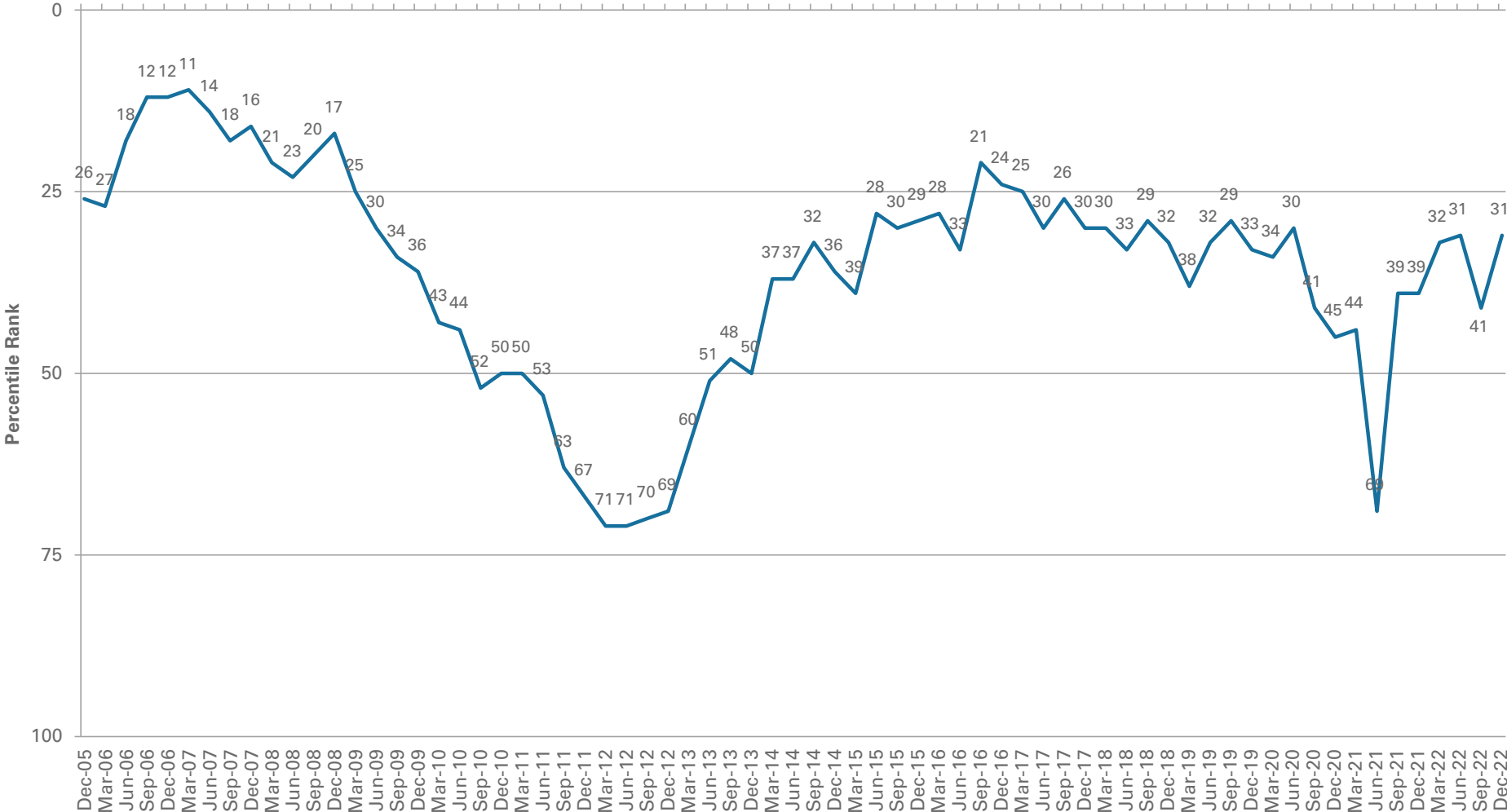
5 Yr Sharpe Ratio Percentile Rank  
LACERS Master Trust vs InvMetrics Public Funds \$5B-\$50B Gross of Fees



# HISTORICAL RISK ADJUSTED RETURN

## UNIVERSE COMPARISON (\$1-\$50 B GROSS OF FEES)

5 Yr Sharpe Ratio Percentile Rank  
LACERS Master Trust vs InvMetrics Public Funds \$1B-\$50B Gross of Fees



# U.S. EQUITY MANAGER PERFORMANCE



## Los Angeles City Employees' Retirement System-LACERS Master Trust

**U.S EQUITY (GROSS)**

	Allocation		Performance (%)						
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>U.S. Equity</b>	<b>3,966,678,171</b>	<b>100.00</b>	<b>7.63</b>	<b>-18.22</b>	<b>7.15</b>	<b>8.74</b>	<b>12.18</b>	<b>8.40</b>	<b>Sep-01</b>
U.S. Equity Blend			7.18	-19.21	7.07	8.79	12.13	8.10	
Over/Under			0.45	0.99	0.08	-0.05	0.05	0.30	
RhumbLine Advisers Russell 2000	264,563,339	6.67	6.27	-20.28	3.19	4.20		5.89	Apr-15
Russell 2000 Index			6.23	-20.44	3.10	4.13	9.01	5.91	
Over/Under			0.04	0.16	0.09	0.07		-0.02	
Rhumblin Advisers Russell 2000 Value	111,305,556	2.81	8.72	-14.17				4.88	Jan-21
Russell 2000 Value Index			8.42	-14.48	4.70	4.13	8.48	4.73	
Over/Under			0.30	0.31				0.15	
EAM Investors	83,105,866	2.10	3.16	-30.60	1.70	6.84		8.82	Oct-15
Russell 2000 Growth Index			4.13	-26.36	0.65	3.51	9.20	7.47	
Over/Under			-0.97	-4.24	1.05	3.33		1.35	
Principal Global Investors	274,810,710	6.93	8.19	-22.05	5.65	10.07		11.68	Aug-14
Russell Midcap Index			9.18	-17.32	5.88	7.10	10.96	8.52	
Over/Under			-0.99	-4.73	-0.23	2.97		3.16	
RhumbLine Advisers S&P 500	2,787,701,483	70.28	7.51	-17.89	7.69	9.40	12.52	6.36	Sep-00
S&P 500 Index			7.56	-18.11	7.66	9.42	12.56	6.27	
Over/Under			-0.05	0.22	0.03	-0.02	-0.04	0.09	
Copeland Capital Management	225,547,542	5.69	10.22	-12.67				13.92	Oct-20
Russell 2000 Index			6.23	-20.44	3.10	4.13	9.01	8.45	
Over/Under			3.99	7.77				5.47	
Granahan Investment Management	113,041,366	2.85	6.37	-30.89				-2.14	Oct-20
Russell 2000 Growth Index			4.13	-26.36	0.65	3.51	9.20	-0.83	
Over/Under			2.24	-4.53				-1.31	
Segall, Bryant & Hamill	106,586,283	2.69	11.62	-14.17				12.21	Oct-20
Russell 2000 Value Index			8.42	-14.48	4.70	4.13	8.48	18.42	
Over/Under			3.20	0.31				-6.21	

Note: All portfolios in U.S. Equity have mid-month inception dates. Since inception return is calculated from the first full month of performance.  
eA = eVestment

Refer to appendix for blended benchmark definitions.



## Los Angeles City Employees' Retirement System-LACERS Master Trust

**U.S. EQUITY (NET)**

	Allocation		Performance (%)							Inception Date
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)		
<b>U.S. Equity</b>	<b>3,966,678,171</b>	<b>100.00</b>	<b>7.61</b>	<b>-18.29</b>	<b>7.07</b>	<b>8.66</b>	<b>12.07</b>	<b>8.22</b>	<b>Sep-01</b>	
U.S. Equity Blend			7.18	-19.21	7.07	8.79	12.13	8.10		
Over/Under			0.43	0.92	0.00	-0.13	-0.06	0.12		
All Public Plans > \$1B-US Equity Segment Median										
RhumbLine Advisers Russell 2000	264,563,339	6.67	6.27 (71)	-20.29 (63)	3.19 (80)	4.20 (76)		5.89 (74)	Apr-15	
Russell 2000 Index			6.23 (72)	-20.44 (64)	3.10 (80)	4.13 (77)	9.01 (71)	5.91 (74)		
Over/Under			0.04	0.15	0.09	0.07		-0.02		
eV US Small Cap Equity Median			8.64	-16.89	5.75	5.77	10.00	7.05		
Rhumbline Advisers Russell 2000 Value	111,305,556	2.81	8.72 (80)	-14.17 (72)				4.88 (70)	Jan-21	
Russell 2000 Value Index			8.42 (84)	-14.48 (75)	4.70 (74)	4.13 (80)	8.48 (83)	4.73 (70)		
Over/Under			0.30	0.31				0.15		
eV US Small-Mid Cap Value Equity Median			10.83	-9.84	6.31	5.72	9.58	7.17		
EAM Investors	83,105,866	2.10	2.98 (66)	-31.11 (73)	0.99 (88)	6.10 (68)		8.06 (85)	Oct-15	
Russell 2000 Growth Index			4.13 (54)	-26.36 (38)	0.65 (91)	3.51 (88)	9.20 (91)	7.47 (87)		
Over/Under			-1.15	-4.75	0.34	2.59		0.59		
eV US Small Cap Growth Equity Median			4.40	-28.17	4.25	7.69	10.97	10.25		
Principal Global Investors	274,810,710	6.93	8.11 (58)	-22.34 (62)	5.29 (58)	9.68 (12)		11.28 (5)	Aug-14	
Russell Midcap Index			9.18 (47)	-17.32 (53)	5.88 (50)	7.10 (51)	10.96 (42)	8.52 (46)		
Over/Under			-1.07	-5.02	-0.59	2.58		2.76		
eV US Mid Cap Equity Median			8.81	-16.09	5.80	7.12	10.69	8.33		
RhumbLine Advisers S&P 500	2,787,701,483	70.28	7.51 (66)	-17.90 (61)	7.68 (37)	9.39 (30)	12.52 (26)	N/A	Sep-00	
S&P 500 Index			7.56 (65)	-18.11 (62)	7.66 (37)	9.42 (30)	12.56 (24)			
Over/Under			-0.05	0.21	0.02	-0.03	-0.04			
eV US Large Cap Equity Median			9.66	-15.01	6.90	8.36	11.49			

Note: All portfolios in U.S. Equity have mid-month inception dates. Since inception return is calculated from the first full month of performance.  
eA = eVestment

Refer to appendix for blended benchmark definitions.

Los Angeles City Employees' Retirement System-LACERS Master Trust

# U.S. EQUITY (NET)

	Allocation		Performance (%)							Inception Date
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)		
Copeland Capital Management	225,547,542	5.69	10.11 (34)	-13.06 (31)					13.51 (47)	Oct-20
<i>Russell 2000 Index</i>			6.23 (72)	-20.44 (64)	3.10 (80)	4.13 (77)	9.01 (71)	8.45 (68)		
Over/Under			3.88	7.38				5.06		
<i>eV US Small Cap Equity Median</i>			8.64	-16.89	5.75	5.77	10.00	12.70		
Granahan Investment Management	113,041,366	2.85	6.21 (23)	-31.38 (74)					-2.77 (72)	Oct-20
<i>Russell 2000 Growth Index</i>			4.13 (54)	-26.36 (38)	0.65 (91)	3.51 (88)	9.20 (91)	-0.83 (60)		
Over/Under			2.08	-5.02				-1.94		
<i>eV US Small Cap Growth Equity Median</i>			4.40	-28.17	4.25	7.69	10.97	0.57		
Segall, Bryant & Hamill	106,586,283	2.69	11.48 (43)	-14.67 (75)					11.59 (91)	Oct-20
<i>Russell 2000 Value Index</i>			8.42 (80)	-14.48 (73)	4.70 (72)	4.13 (66)	8.48 (67)	18.42 (54)		
Over/Under			3.06	-0.19				-6.83		
<i>eV US Small Cap Value Equity Median</i>			10.77	-11.69	6.18	4.70	9.26	19.42		

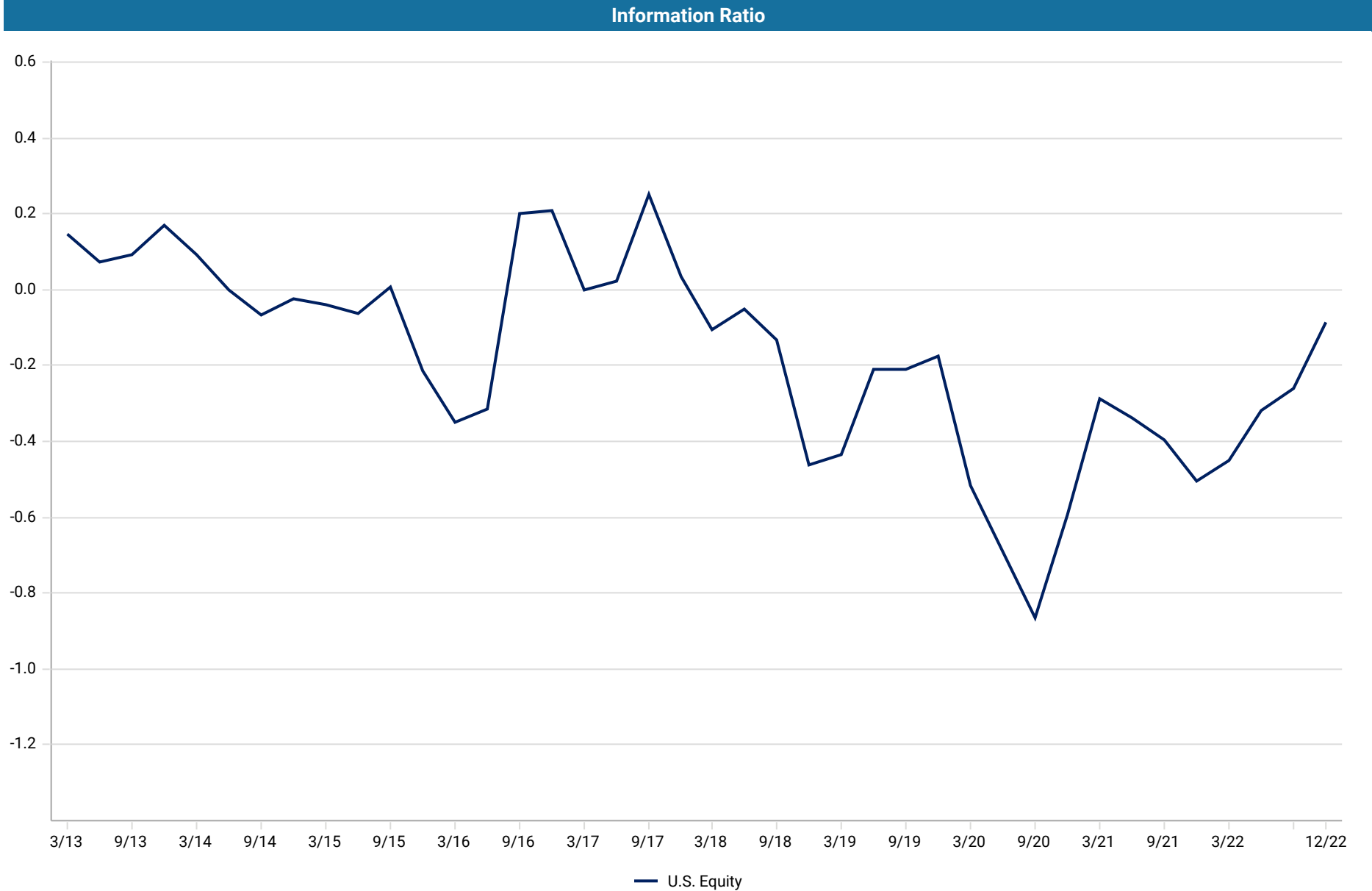
Note: All portfolios in U.S. Equity have mid-month inception dates. Since inception return is calculated from the first full month of performance.  
eA = eVestment

Refer to appendix for blended benchmark definitions.



Los Angeles City Employees' Retirement System-LACERS Master Trust

# U.S. EQUITY ROLLING 5 YEAR INFORMATION RATIO



# INVESTMENT MANAGER REPORT CARD

## U.S. EQUITY

U.S. Equity Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
Principal Global Investors	Jul-14	Mid Cap	x	x	x	x	x	x	✓	✓	✓	1133.1	Performance compliant with LACERS' Manager Monitoring Policy
EAM Investors	Sep-15	Small Cap Growth	x	x	x	x	✓	x	✓	x	✓	760.6	Performance compliant with LACERS' Manager Monitoring Policy
Copeland	Oct-20	Small Cap Core	✓	✓	✓	✓	N/A	N/A	N/A	N/A	✓	1108.7	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy
Granahan	Oct-20	Small Cap Growth	✓	✓	x	x	N/A	N/A	N/A	N/A	x	622.1	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy
Segall Bryant & Hamill	Oct-20	Small Cap Value	✓	✓	x	x	N/A	N/A	N/A	N/A	x	565.8	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy. Placed on watch status for organizational change as of 2/9/21; removed from watch status as of 5/6/2022.
RhumbLine (Passive)	Dec-20	R2000 Value	✓	x	✓	x	N/A	N/A	N/A	N/A	✓	8.426	Performance compliant with LACERS' Manager Monitoring Policy
RhumbLine (Passive)	Feb-93	S&P 500	x	x	✓	x	✓	✓	x	✓	✓✓	212.4	Performance compliant with LACERS' Manager Monitoring Policy
RhumbLine (Passive)	Jun-15	R2000	✓	x	✓	x	✓	x	✓	x	x	18.2	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, 2022.
- \* Where net of fees performance is not available gross of fee returns are evaluated.

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





# NON-U.S. EQUITY MANAGER PERFORMANCE



## Los Angeles City Employees' Retirement System-LACERS Master Trust

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

	Allocation		Performance (%)						
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Non-U.S. Equity</b>	<b>5,406,192,808</b>	<b>100.00</b>	<b>13.72</b>	<b>-17.56</b>	<b>1.56</b>	<b>1.97</b>	<b>5.30</b>	<b>5.00</b>	<b>Nov-94</b>
<i>MSCI AC World ex USA (Net)</i>			<u>14.28</u>	<u>-16.00</u>	<u>0.07</u>	<u>0.88</u>	<u>3.80</u>	<u>4.67</u>	
Over/Under			-0.56	-1.56	1.49	1.09	1.50	0.33	
<b>Developed ex-U.S.</b>	<b>3,856,153,621</b>	<b>71.33</b>	<b>15.76</b>	<b>-15.26</b>	<b>2.16</b>	<b>2.57</b>	<b>5.76</b>	<b>6.86</b>	<b>Jul-12</b>
<i>MSCI EAFE (Net)</i>			<u>17.34</u>	<u>-14.45</u>	<u>0.87</u>	<u>1.54</u>	<u>4.67</u>	<u>5.75</u>	
Over/Under			-1.58	-0.81	1.29	1.03	1.09	1.11	
Barrow Hanley	509,465,295	9.42	18.88	-0.49	6.12	4.51	-	4.66	Dec-13
<i>MSCI EAFE Value Index (Net)</i>			<u>19.64</u>	<u>-5.58</u>	<u>0.65</u>	<u>0.17</u>	-	<u>1.68</u>	
Over/Under			-0.76	5.09	5.47	4.34	-	2.98	
Lazard Asset Management	516,124,554	9.55	14.54	-16.08	0.45	1.96	-	3.75	Dec-13
<i>MSCI EAFE (Net)</i>			<u>17.34</u>	<u>-14.45</u>	<u>0.87</u>	<u>1.54</u>	-	<u>2.97</u>	
Over/Under			-2.80	-1.63	-0.42	0.42	-	0.78	
MFS Institutional Advisors	535,357,153	9.90	13.96	-14.14	2.98	5.09	-	6.27	Nov-13
<i>MSCI World ex USA Growth NR USD</i>			<u>14.27</u>	<u>-22.68</u>	<u>0.71</u>	<u>2.56</u>	-	<u>3.99</u>	
Over/Under			-0.31	8.54	2.27	2.53	-	2.28	
Oberweis Asset Mgmt	305,733,654	5.66	12.63	-36.79	3.17	1.36	-	5.99	Feb-14
<i>MSCI EAFE Small Cap (Net)</i>			<u>15.79</u>	<u>-21.39</u>	<u>-0.93</u>	<u>-0.05</u>	-	<u>4.13</u>	
Over/Under			-3.16	-15.40	4.10	1.41	-	1.86	
SSgA World ex US IMI	1,686,956,599	31.20	16.01	-14.80	1.73	2.19	5.25	4.42	Jul-98
<i>MSCI World ex U.S. IMI Index (Net)</i>			<u>16.04</u>	<u>-15.26</u>	<u>1.05</u>	<u>1.59</u>	<u>4.73</u>	<u>4.46</u>	
Over/Under			-0.03	0.46	0.68	0.60	0.52	-0.04	
State Street EAFE SC	302,516,366	5.60	15.72	-20.91	-	-	-	-6.68	Jan-21
<i>MSCI EAFE Small Cap (Net)</i>			<u>15.79</u>	<u>-21.39</u>	-	-	-	<u>-6.97</u>	
Over/Under			-0.07	0.48	-	-	-	0.29	

Note: The Barrow Hanley, Lazard, MFS, Oberweis, MSCI EAFE SC, Axiom Emerging Markets, DFA Emerging Markets, State Street Emerging Markets, Wasatch, portfolios have mid-month inception dates. Since inception return is calculated from the first full month of performance.

eA = eVestment

Refer to appendix for blended benchmark definitions.



## Los Angeles City Employees' Retirement System-LACERS Master Trust

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

	Allocation		Performance (%)						
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Emerging Markets</b>	<b>1,550,039,186</b>	<b>28.67</b>	<b>8.78</b>	<b>-23.57</b>	<b>-0.32</b>	<b>-0.05</b>	<b>2.06</b>	<b>3.25</b>	<b>Jul-12</b>
<i>MSCI Emerging Markets (Net)</i>			<u>9.70</u>	<u>-20.09</u>	<u>-2.69</u>	<u>-1.40</u>	<u>1.44</u>	<u>2.62</u>	
Over/Under			-0.92	-3.48	2.37	1.35	0.62	0.63	
Axiom Emerging Markets	271,432,364	5.02	6.35	-30.60	-3.76	-1.48	-	2.70	May-14
<i>MSCI Emerging Markets (Net)</i>			<u>9.70</u>	<u>-20.09</u>	<u>-2.69</u>	<u>-1.40</u>	-	<u>1.98</u>	
Over/Under			-3.35	-10.51	-1.07	-0.08	-	0.72	
<i>MSCI Emerging Markets Growth (Net)</i>			<u>9.64</u>	<u>-23.96</u>	<u>-2.93</u>	<u>-1.33</u>	-	<u>3.13</u>	
Over/Under			-3.29	-6.64	-0.83	-0.15	-	-0.43	
DFA Emerging Markets	465,961,257	8.62	11.22	-10.41	1.92	0.61	-	1.70	Aug-14
<i>MSCI Emerging Markets Value (Net)</i>			<u>9.77</u>	<u>-15.83</u>	<u>-2.62</u>	<u>-1.59</u>	-	<u>-0.34</u>	
Over/Under			1.45	5.42	4.54	2.20	-	2.04	
State Street Emerging Markets	550,822,451	10.19	10.27	-20.11	-	-	-	-11.77	Jan-21
<i>MSCI Emerging Markets (Net)</i>			<u>9.70</u>	<u>-20.09</u>	-	-	-	<u>-11.75</u>	
Over/Under			0.57	-0.02	-	-	-	-0.02	
Wasatch Global Investors	261,665,323	4.84	4.25	-38.35	-	-	-	-8.39	Jan-21
<i>MSCI Emerging Markets Small Cap (Net)</i>			<u>8.20</u>	<u>-18.02</u>	-	-	-	<u>-1.33</u>	
Over/Under			-3.95	-20.33	-	-	-	-7.06	
Sanctioned Asset	157,580	0.00	0.00	-	-	-	-	0.00	Jun-22

Note: The Barrow Hanley, Lazard, MFS, Oberweis, MSCI EAFE SC, Axiom Emerging Markets, DFA Emerging Markets, State Street Emerging Markets, Wasatch, portfolios have mid-month inception dates. Since inception return is calculated from the first full month of performance.

eA = eVestment

Refer to appendix for blended benchmark definitions.

## Los Angeles City Employees' Retirement System-LACERS Master Trust

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

	Allocation		Performance (%)						
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Non-U.S. Equity</b>	<b>5,406,192,808</b>	<b>100.00</b>	<b>13.64 (66)</b>	<b>-17.83 (46)</b>	<b>1.23 (42)</b>	<b>1.62 (45)</b>	<b>4.95 (51)</b>	<b>5.59 (53)</b>	<b>Jun-01</b>
MSCI AC World ex USA (Net)			14.28 (56)	-16.00 (36)	0.07 (64)	0.88 (64)	3.80 (82)	4.87 (77)	
Over/Under			-0.64	-1.83	1.16	0.74	1.15	0.72	
eV All ACWI ex-US Equity Median			14.51	-18.72	0.78	1.38	4.96	5.78	
<b>Developed ex-U.S.</b>	<b>3,856,153,621</b>	<b>71.33</b>	<b>15.70</b>	<b>-15.47</b>	<b>1.89</b>	<b>2.28</b>	<b>5.47</b>	<b>6.57</b>	<b>Jul-12</b>
MSCI EAFE (Net)			17.34	-14.45	0.87	1.54	4.67	5.75	
Over/Under			-1.64	-1.02	1.02	0.74	0.80	0.82	
Barrow Hanley	509,465,295	9.42	18.76 (42)	-0.93 (2)	5.65 (3)	4.02 (7)	-	4.16 (11)	Dec-13
MSCI EAFE Value Index (Net)			19.64 (31)	-5.58 (20)	0.65 (59)	0.17 (62)	-	1.68 (79)	
Over/Under			-0.88	4.65	5.00	3.85	-	2.48	
eV EAFE Value Equity Median			18.42	-9.19	1.50	0.98	-	2.58	
Lazard Asset Management	516,124,554	9.55	14.42 (81)	-16.48 (53)	-0.03 (65)	1.45 (48)	-	3.23 (56)	Dec-13
MSCI EAFE (Net)			17.34 (36)	-14.45 (41)	0.87 (53)	1.54 (46)	-	2.97 (66)	
Over/Under			-2.92	-2.03	-0.90	-0.09	-	0.26	
eV All EAFE Equity Median			16.47	-15.83	1.00	1.36	-	3.41	
MFS Institutional Advisors	535,357,153	9.90	13.86 (70)	-14.48 (1)	2.58 (1)	4.65 (1)	-	5.79 (1)	Nov-13
MSCI World ex USA Growth NR USD			14.27 (67)	-22.68 (41)	0.71 (48)	2.56 (25)	-	3.99 (25)	
Over/Under			-0.41	8.20	1.87	2.09	-	1.80	
eV EAFE All Cap Growth Median			14.58	-23.70	0.34	2.08	-	3.82	
Oberweis Asset Mgmt	305,733,654	5.66	12.44 (97)	-37.28 (97)	2.36 (22)	0.54 (43)	-	5.13 (18)	Feb-14
MSCI EAFE Small Cap (Net)			15.79 (62)	-21.39 (55)	-0.93 (58)	-0.05 (55)	-	4.13 (48)	
Over/Under			-3.35	-15.89	3.29	0.59	-	1.00	
eV EAFE Small Cap Equity Median			16.47	-21.17	-0.16	0.16	-	4.07	

Note: The Barrow Hanley, Lazard, MFS, Oberweis, MSCI EAFE SC, Axiom Emerging Markets, DFA Emerging Markets, State Street Emerging Markets, Wasatch, portfolios have mid-month inception dates. Since inception return is calculated from the first full month of performance.

eA = eVestment

Refer to appendix for blended benchmark definitions.



## Los Angeles City Employees' Retirement System-LACERS Master Trust

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

	Allocation		Performance (%)							Inception Date
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)		
SSgA World ex US IMI	1,686,956,599	31.20	16.00 (56)	-14.82 (33)	1.71 (34)	2.17 (27)	5.22 (48)	N/A	Jul-98	
<i>MSCI World ex U.S. IMI Index (Net)</i>			<u>16.04</u> (54)	<u>-15.26</u> (37)	<u>1.05</u> (47)	<u>1.59</u> (42)	<u>4.73</u> (67)			
Over/Under			-0.04	0.44	0.66	0.58	0.49			
<i>eV EAFE Core Equity Median</i>			16.31	-16.72	0.74	1.17	5.10			
State Street EAFE SC	302,516,366	5.60	15.71 (65)	-20.94 (49)	-	-	-	-6.71 (54)	Jan-21	
<i>MSCI EAFE Small Cap (Net)</i>			<u>15.79</u> (62)	<u>-21.39</u> (55)	-	-	-	<u>-6.97</u> (55)		
Over/Under			-0.08	0.45	-	-	-	0.26		
<i>eV EAFE Small Cap Equity Median</i>			16.47	-21.17	-	-	-	-6.16		
<b>Emerging Markets</b>	<b>1,550,039,186</b>	<b>28.67</b>	<b>8.66</b>	<b>-24.02</b>	<b>-0.82</b>	<b>-0.57</b>	<b>1.49</b>	<b>2.66</b>	<b>Jul-12</b>	
<i>MSCI Emerging Markets (Net)</i>			<u>9.70</u>	<u>-20.09</u>	<u>-2.69</u>	<u>-1.40</u>	<u>1.44</u>	<u>2.62</u>		
Over/Under			-1.04	-3.93	1.87	0.83	0.05	0.04		
Axiom Emerging Markets	271,432,364	5.02	6.20 (88)	-31.17 (95)	-4.44 (84)	-2.17 (78)	-	2.01 (63)	May-14	
<i>MSCI Emerging Markets (Net)</i>			<u>9.70</u> (61)	<u>-20.09</u> (52)	<u>-2.69</u> (64)	<u>-1.40</u> (62)	-	<u>1.98</u> (63)		
Over/Under			-3.50	-11.08	-1.75	-0.77	-	0.03		
<i>eV Emg Mkts Equity Median</i>			10.27	-19.96	-1.62	-0.74	-	2.38		
<i>MSCI Emerging Markets Growth (Net)</i>			<u>9.64</u> (62)	<u>-23.96</u> (74)	<u>-2.93</u> (66)	<u>-1.33</u> (61)	-	<u>3.13</u> (32)		
Over/Under			-3.44	-7.21	-1.51	-0.84	-	-1.12		
DFA Emerging Markets	465,961,257	8.62	11.10 (36)	-10.78 (11)	1.45 (24)	0.13 (34)	-	1.22 (65)	Aug-14	
<i>MSCI Emerging Markets Value (Net)</i>			<u>9.77</u> (59)	<u>-15.83</u> (27)	<u>-2.62</u> (63)	<u>-1.59</u> (66)	-	<u>-0.34</u> (94)		
Over/Under			1.33	5.05	4.07	1.72	-	1.56		
<i>eV Emg Mkts Equity Median</i>			10.27	-19.96	-1.62	-0.74	-	1.56		
State Street Emerging Markets	550,822,451	10.19	10.25 (51)	-20.14 (53)	-	-	-	-11.80 (58)	Jan-21	
<i>MSCI Emerging Markets (Net)</i>			<u>9.70</u> (61)	<u>-20.09</u> (52)	-	-	-	<u>-11.75</u> (57)		
Over/Under			0.55	-0.05	-	-	-	-0.05		
<i>eV Emg Mkts Equity Median</i>			10.27	-19.96	-	-	-	-10.14		

Note: The Barrow Hanley, Lazard, MFS, Oberweis, MSCI EAFE SC, Axiom Emerging Markets, DFA Emerging Markets, State Street Emerging Markets, Wasatch, portfolios have mid-month inception dates. Since inception return is calculated from the first full month of performance.

eA = eVestment

Refer to appendix for blended benchmark definitions.



Los Angeles City Employees' Retirement System-LACERS Master Trust

# NON-U.S. EQUITY (NET)

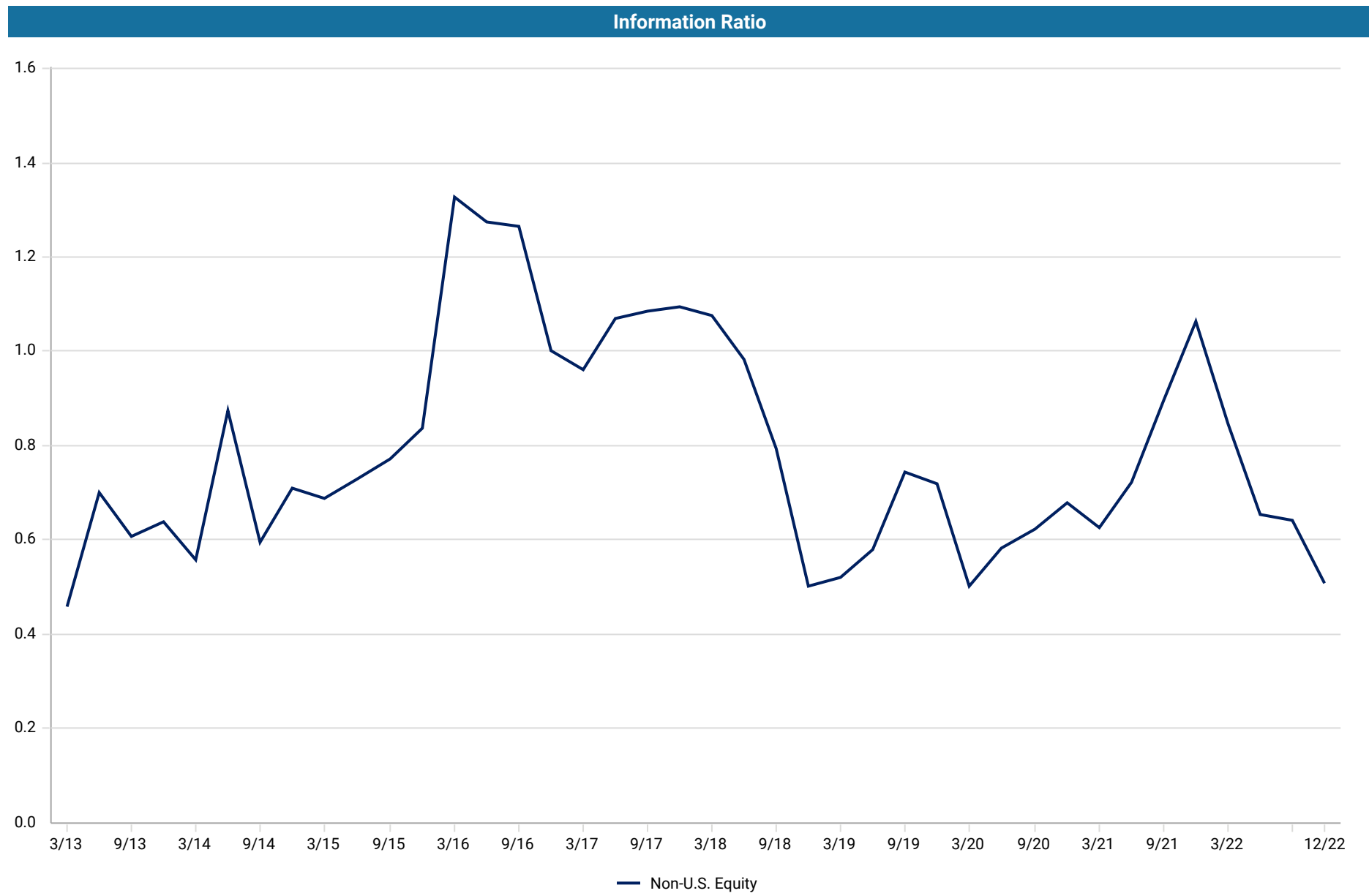
	Allocation		Performance (%)						
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Wasatch Global Investors	261,665,323	4.84	3.95 (93)	-39.22 (100)	-	-	-	-9.32 (90)	Jan-21
<i>MSCI Emerging Markets Small Cap (Net)</i>			<u>8.20 (77)</u>	<u>-18.02 (57)</u>	-	-	-	<u>-1.33 (51)</u>	
Over/Under			-4.25	-21.20	-	-	-	-7.99	
<i>eV Emg Mkts Small Cap Equity Median</i>			10.54	-16.82	-	-	-	-1.33	
Sanctioned Asset	157,580	0.00	0.00	-	-	-	-	0.00	Jun-22

Note: The Barrow Hanley, Lazard, MFS, Oberweis, MSCI EAFE SC, Axiom Emerging Markets, DFA Emerging Markets, State Street Emerging Markets, Wasatch, portfolios have mid-month inception dates. Since inception return is calculated from the first full month of performance.  
eA = eVestment

Refer to appendix for blended benchmark definitions.



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



# INVESTMENT MANAGER REPORT CARD

## NON-U.S. EQUITY

Non-U.S. Equity Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
SSgA (Passive)	Dec-20	Emerging Markets	✓	*	*	*	N/A	N/A	N/A	N/A	*	141.2	Performance compliant with LACERS' Manager Monitoring Policy
Axiom International	Mar-14	Emerging Markets	*	*	*	*	*	*	*	*	✓	2,182.0	Released from Watch as of 10/1/22
DFA Emerging Markets	Jul-14	Emerging Markets	✓	✓	✓	✓	✓	✓	✓	✓	✓	1,786.4	Performance compliant with LACERS' Manager Monitoring Policy
Wasatch	Dec-20	Emerging Markets Small Cap	*	*	*	*	N/A	N/A	N/A	N/A	*	2,300.0	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy
Oberweis Asset Mgt.	Jan-14	Non-U.S. Developed	*	*	*	*	✓	✓	✓	✓	✓	2,378.7	Performance compliant with LACERS' Manager Monitoring Policy
Barrow, Hanley, Mewhinney & Strauss	Nov-13	Non-U.S. Developed	*	✓	✓	✓	✓	✓	✓	✓	✓	2,345.7	On Watch in August 2020 due to organizational change, Watch status extended in August 2021 due to organizational change and AUM Strategy Concentration. Watch extended in August 2022 due to Pental acquisition.
Lazard Asset Mgt.	Nov-13	Non-U.S. Developed	*	*	*	*	*	*	*	✓	✓	2,719.0	Removed from Watch status as of September 2022.
MFS Institutional Advisors	Oct-13	Non-U.S. Developed	*	*	✓	✓	✓	✓	✓	✓	✓	2,309.0	Performance compliant with LACERS' Manager Monitoring Policy
SsgA (Passive)	Dec-20	Non-U.S. Developed Small Cap	*	*	✓	✓	N/A	N/A	N/A	N/A	✓	128.5	Performance compliant with LACERS' Manager Monitoring Policy
SsgA (Passive)	Aug-93	Non-U.S. Developed	*	*	✓	✓	✓	✓	✓	✓	✓✓	447.7	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, 2022.
- \* Where net of fees performance is not available gross of fee returns are evaluated.

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





# CORE FIXED INCOME MANAGER PERFORMANCE

## Los Angeles City Employees' Retirement System-LACERS Master Trust

**CORE FIXED INCOME (GROSS)**

	Allocation		Performance (%)						
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Core Fixed Income</b>	<b>2,925,487,778</b>	<b>100.00</b>	<b>1.89</b>	<b>-12.69</b>	<b>-1.94</b>	<b>0.55</b>	<b>1.57</b>	<b>1.91</b>	<b>Jul-12</b>
Core Fixed Income Blend			<u>1.87</u>	<u>-13.01</u>	<u>-2.71</u>	<u>0.02</u>	<u>1.07</u>	<u>1.27</u>	
Over/Under			0.02	0.32	0.77	0.53	0.50	0.64	
Loomis Sayles & Co. Core Fixed Income	570,810,615	19.51	1.82	-12.85	-1.48	0.98	2.06	8.19	Jul-80
Loomis Custom Benchmark			<u>1.87</u>	<u>-13.01</u>	<u>-2.71</u>	<u>0.02</u>	<u>1.07</u>	<u>6.76</u>	
Over/Under			-0.05	0.16	1.23	0.96	0.99	1.43	
SSgA U.S. Aggregate Bond	696,016,642	23.79	1.69	-13.15	-2.75	0.01	-	1.07	Aug-14
Blmbg. U.S. Aggregate Index			<u>1.87</u>	<u>-13.01</u>	<u>-2.71</u>	<u>0.02</u>	-	<u>1.07</u>	
Over/Under			-0.18	-0.14	-0.04	-0.01	-	0.00	
Baird Advisors Core Fixed Income	544,110,471	18.60	2.12	-13.19	-	-	-	-8.86	Jul-21
Blmbg. U.S. Aggregate Index			<u>1.87</u>	<u>-13.01</u>	-	-	-	<u>-8.83</u>	
Over/Under			0.25	-0.18	-	-	-	-0.03	
Garcia Hamilton & Associates	369,351,458	12.63	2.15	-11.18	-	-	-	-7.60	Jul-21
Blmbg. U.S. Aggregate Index			<u>1.87</u>	<u>-13.01</u>	-	-	-	<u>-8.83</u>	
Over/Under			0.28	1.83	-	-	-	1.23	
JP Morgan Investment Management	367,927,830	12.58	1.79	-12.07	-	-	-	-8.15	Jul-21
Blmbg. U.S. Aggregate Index			<u>1.87</u>	<u>-13.01</u>	-	-	-	<u>-8.83</u>	
Over/Under			-0.08	0.94	-	-	-	0.68	
Income Research & Management	377,264,147	12.90	1.83	-12.84	-	-	-	-8.72	Jul-21
Blmbg. U.S. Aggregate Index			<u>1.87</u>	<u>-13.01</u>	-	-	-	<u>-8.83</u>	
Over/Under			-0.04	0.17	-	-	-	0.11	

Note: All portfolios in Core Fixed Income have mid-month inception dates. Since inception return is calculated from the first full month of performance.

- Core Fixed Income Blend = 100% Bloomberg U.S. Aggregate Index

Refer to appendix for blended benchmark definitions.

## Los Angeles City Employees' Retirement System-LACERS Master Trust

**CORE FIXED INCOME (NET)**

	Allocation		Performance (%)							Inception Date
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)		
<b>Core Fixed Income</b>	<b>2,925,487,778</b>	<b>100.00</b>	<b>1.87</b>	<b>-12.78</b>	<b>-2.03</b>	<b>0.45</b>	<b>1.46</b>	<b>1.80</b>	<b>Jul-12</b>	
Core Fixed Income Blend			1.87	-13.01	-2.71	0.02	1.07	1.27		
Over/Under			0.00	0.23	0.68	0.43	0.39	0.53		
Loomis Sayles & Co. Core Fixed Income	570,810,615	19.51	1.79 (51)	-12.97 (43)	-1.61 (8)	0.85 (5)	1.93 (4)	8.12 (-)	Jul-80	
Loomis Custom Benchmark			1.87 (43)	-13.01 (45)	-2.71 (80)	0.02 (75)	1.07 (72)	6.76 (-)		
Over/Under			-0.08	0.04	1.10	0.83	0.86	1.36		
eV US Core Fixed Inc Median			1.79	-13.06	-2.38	0.24	1.26	-		
SSgA U.S. Aggregate Bond	696,016,642	23.79	1.68 (60)	-13.17 (58)	-2.78 (83)	-0.02 (78)	-	1.04 (77)	Aug-14	
Blmbg. U.S. Aggregate Index			1.87 (43)	-13.01 (45)	-2.71 (80)	0.02 (75)	-	1.07 (72)		
Over/Under			-0.19	-0.16	-0.07	-0.04	-	-0.03		
eV US Core Fixed Inc Median			1.79	-13.06	-2.38	0.24	-	1.26		
Baird Advisors Core Fixed Income	544,110,471	18.60	2.09 (22)	-13.29 (64)	-	-	-	-8.94 (54)	Jul-21	
Blmbg. U.S. Aggregate Index			1.87 (43)	-13.01 (45)	-	-	-	-8.83 (41)		
Over/Under			0.22	-0.28	-	-	-	-0.11		
eV US Core Fixed Inc Median			1.79	-13.06	-	-	-	-8.91		
Garcia Hamilton & Associates	369,351,458	12.63	2.12 (19)	-11.30 (10)	-	-	-	-7.70 (9)	Jul-21	
Blmbg. U.S. Aggregate Index			1.87 (43)	-13.01 (45)	-	-	-	-8.83 (41)		
Over/Under			0.25	1.71	-	-	-	1.13		
eV US Core Fixed Inc Median			1.79	-13.06	-	-	-	-8.91		
JP Morgan Investment Management	367,927,830	12.58	1.79 (51)	-12.16 (18)	-	-	-	-8.23 (16)	Jul-21	
Blmbg. U.S. Aggregate Index			1.87 (43)	-13.01 (45)	-	-	-	-8.83 (41)		
Over/Under			-0.08	0.85	-	-	-	0.60		
eV US Core Fixed Inc Median			1.79	-13.06	-	-	-	-8.91		
Income Research & Management	377,264,147	12.90	1.80 (50)	-12.95 (42)	-	-	-	-8.82 (38)	Jul-21	
Blmbg. U.S. Aggregate Index			1.87 (43)	-13.01 (45)	-	-	-	-8.83 (41)		
Over/Under			-0.07	0.06	-	-	-	0.01		
eV US Core Fixed Inc Median			1.79	-13.06	-	-	-	-8.91		

Note: All portfolios in Core Fixed Income have mid-month inception dates. Since inception return is calculated from the first full month of performance.

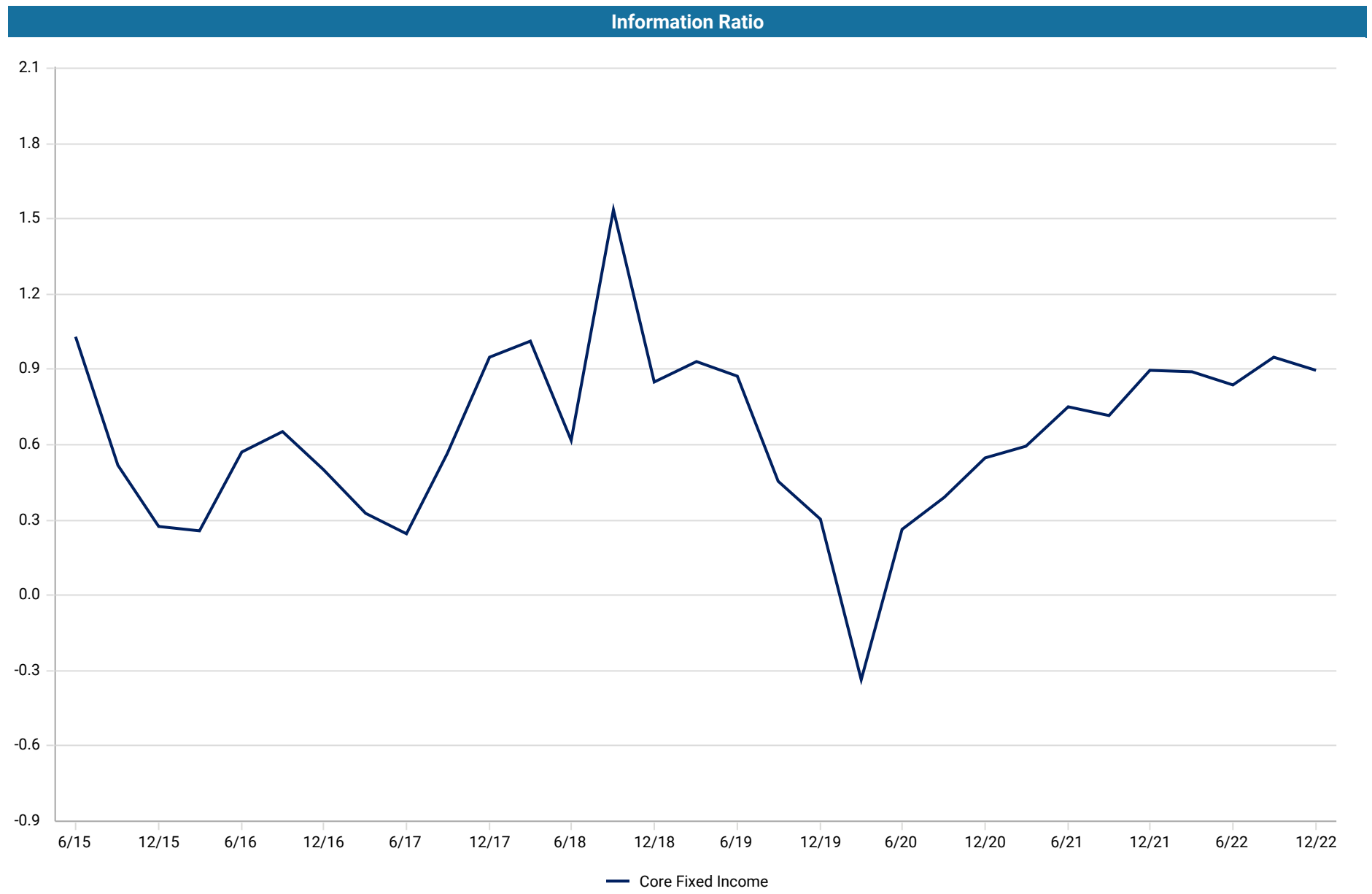
- Core Fixed Income Blend = 100% Bloomberg U.S. Aggregate Index

Refer to appendix for blended benchmark definitions.



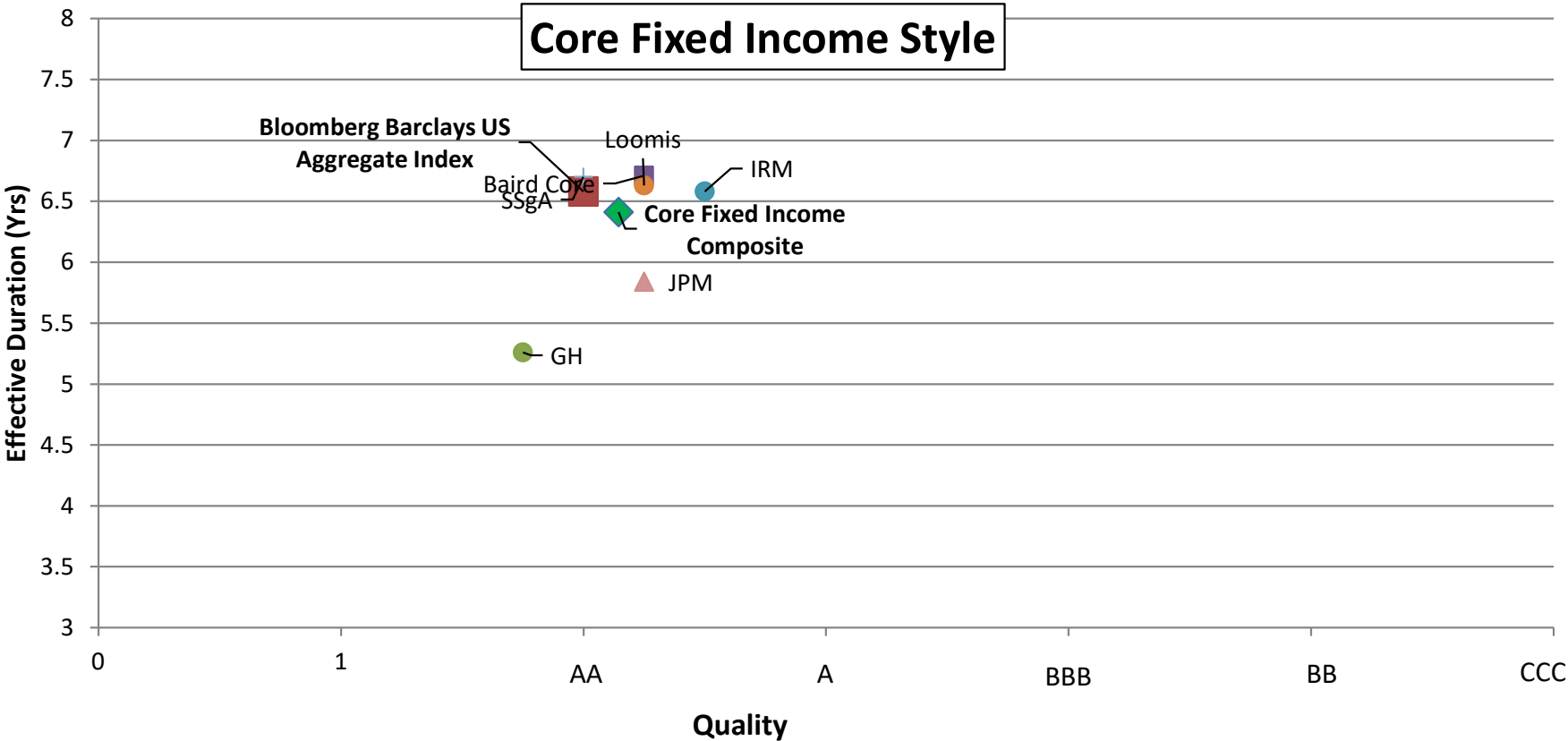
Los Angeles City Employees' Retirement System-LACERS Master Trust

# CORE FIXED INCOME 3 YEAR INFORMATION RATIO



# CORE FIXED INCOME

## STYLE ANALYSIS



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



# INVESTMENT MANAGER REPORT CARD

## CORE FIXED INCOME

Core Fixed Income Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
Loomis Sayles	Jul-80	Core	=	*	✓	✓	✓	✓	✓	✓	✓✓	887.5	Performance compliant with LACERS' Manager Monitoring Policy
Baird Advisors	Jul-21	Core	✓	✓	*	*	N/A	N/A	N/A	N/A	*	673.3	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy
Garcia Hamilton	Jul-21	Core	✓	✓	✓	✓	N/A	N/A	N/A	N/A	✓	514.0	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy
IR&M	Jul-21	Core	*	=	✓	✓	N/A	N/A	N/A	N/A	✓	544.4	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy
J.P. Morgan	Jul-21	Core	*	*	✓	✓	N/A	N/A	N/A	N/A	✓	518.0	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy
SSgA (Passive)	Aug-14	Core	*	*	*	*	*	*	*	*	*	272.3	Performance compliant with LACERS' Manager Monitoring Policy

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

- Annual Management Fee Paid as of fiscal year ending June 30, 2022.
- \* Where net of fees performance is not available gross of fee returns are evaluated.

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



# CREDIT OPPORTUNITIES MANAGER PERFORMANCE

December 31, 2022

# Los Angeles City Employees' Retirement System-LACERS Master Trust

## CREDIT OPPORTUNITIES (GROSS)

	Allocation		Performance (%)						Inception Date
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	
<b>Credit Opportunities</b>	<b>1,715,740,086</b>	<b>100.0</b>	<b>5.18</b>	<b>-10.09</b>	<b>-1.75</b>	<b>1.16</b>		<b>3.50</b>	<b>Jul-13</b>
<i>Credit Opportunities Blend</i>			5.53	-11.26	-1.55	1.22		3.67	
Over/Under			-0.35	1.17	-0.20	-0.06		-0.17	
PGIM Blended	431,077,485	25.1	8.15	-12.33				-8.57	Feb-21
<i>50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified</i>			8.29	-14.75	-5.66	-1.86	-0.18	-10.07	
Over/Under			-0.14	2.42				1.50	
Wellington	423,284,496	24.7	8.70	-13.00				-8.85	Feb-21
<i>50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified</i>			8.29	-14.75	-5.66	-1.86	-0.18	-10.07	
Over/Under			0.41	1.75				1.22	
Bain Capital Senior Loan Fund, LP	236,085,805	13.8	1.65	-3.71	2.73	3.30		3.53	Jul-15
<i>Credit Suisse Leveraged Loan Index</i>			2.33	-1.06	2.34	3.24	3.78	3.57	
Over/Under			-0.68	-2.65	0.39	0.06		-0.04	
Polen Capital	219,800,211	12.8	1.36	-9.79				-0.29	Nov-20
<i>50% BBgBarc US High Yield 2% Issuer Cap / 50% Credit Suisse Leveraged Loan Index</i>			3.25	-6.14				1.60	
Over/Under			-1.89	-3.65				-1.89	
Loomis Sayles & Co. High Yield	217,776,727	12.7	3.95	-10.90				-0.23	Nov-20
<i>Blmbg. U.S. High Yield - 2% Issuer Cap</i>			4.17	-11.18	0.03	2.30	4.03	-0.45	
Over/Under			-0.22	0.28				0.22	
Benefit Street Partners LLC	98,351,218	5.7	1.29	4.22				3.81	Dec-20
<i>Credit Suisse Leveraged Loan Qtr Lag</i>			1.19	-2.62	2.12	3.00	3.70	3.00	
Over/Under			0.10	6.84				0.81	
Crescent	9,193,178	0.5	-2.96	-9.83				-9.11	Dec-21
<i>Credit Suisse Leveraged Loan Qtr Lag</i>			1.19	-2.62	2.12	3.00	3.70	-1.84	
Over/Under			-4.15	-7.21				-7.27	
Monroe	79,684,627	4.6	1.06	2.27				2.09	Dec-21
<i>Credit Suisse Leveraged Loan Qtr Lag</i>			1.19	-2.62	2.12	3.00	3.70	-1.84	
Over/Under			-0.13	4.89				3.93	

Note: All portfolios within Credit Opportunities have mid-month inception dates. Since inception return is calculated from the first full month of performance.  
eA = eVestment

Refer to appendix for blended benchmark definitions.



# Los Angeles City Employees' Retirement System-LACERS Master Trust

## CREDIT OPPORTUNITIES (NET)

	Allocation		Performance (%)						
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Credit Opportunities</b>	<b>1,715,740,086</b>	<b>100.0</b>	<b>5.10</b>	<b>-10.39</b>	<b>-2.04</b>	<b>0.85</b>		<b>3.17</b>	<b>Jul-13</b>
<i>Credit Opportunities Blend</i>			5.53	-11.26	-1.55	1.22		3.67	
Over/Under			-0.43	0.87	-0.49	-0.37		-0.50	
PGIM Blended	431,077,485	25.1	8.06 (57)	-12.63 (47)				-8.83 (56)	Feb-21
<i>50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified</i>			8.29 (50)	-14.75 (65)	-5.66 (82)	-1.86 (69)	-0.18 (71)	-10.07 (77)	
Over/Under			-0.23	2.12				1.24	
<i>eV All Emg Mkts Fixed Inc Median</i>			8.28	-12.93	-4.12	-1.02	0.94	-8.53	
Wellington	423,284,496	24.7	8.57 (41)	-13.44 (56)				-9.22 (61)	Feb-21
<i>50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified</i>			8.29 (50)	-14.75 (65)	-5.66 (82)	-1.86 (69)	-0.18 (71)	-10.07 (77)	
Over/Under			0.28	1.31				0.85	
<i>eV All Emg Mkts Fixed Inc Median</i>			8.28	-12.93	-4.12	-1.02	0.94	-8.53	
Bain Capital Senior Loan Fund, LP	236,085,805	13.8	1.65 (90)	-3.71 (82)	2.73 (6)	3.30 (9)		3.53 (15)	Jul-15
<i>Credit Suisse Leveraged Loan Index</i>			2.33 (69)	-1.06 (33)	2.34 (16)	3.24 (9)	3.78 (16)	3.57 (14)	
Over/Under			-0.68	-2.65	0.39	0.06		-0.04	
<i>eV US Float-Rate Bank Loan Fixed Inc Median</i>			2.61	-1.63	1.78	2.61	3.21	3.12	
Polen Capital	219,800,211	12.8	1.23 (96)	-10.27 (54)				-0.74 (73)	Nov-20
<i>50% BBgBarc US High Yield 2% Issuer Cap / 50% Credit Suisse Leveraged Loan Index</i>			3.25 (78)	-6.14 (19)				1.60 (19)	
Over/Under			-2.02	-4.13				-2.34	
<i>eV US High Yield Fixed Inc Median</i>			3.92	-10.07	0.27	2.25	3.73	-0.01	
Loomis Sayles & Co. High Yield	217,776,727	12.7	3.86 (57)	-11.24 (77)				-0.55 (66)	Nov-20
<i>Blmbg. U.S. High Yield - 2% Issuer Cap</i>			4.17 (34)	-11.18 (76)	0.03 (58)	2.30 (47)	4.03 (31)	-0.45 (61)	
Over/Under			-0.31	-0.06				-0.10	
<i>eV US High Yield Fixed Inc Median</i>			3.92	-10.07	0.27	2.25	3.73	-0.01	
Benefit Street Partners LLC	98,351,218	5.7	1.29	4.22				3.81	Dec-20
<i>Credit Suisse Leveraged Loan Qtr Lag</i>			1.19	-2.62	2.12	3.00	3.70	3.00	
Over/Under			0.10	6.84				0.81	
Crescent	9,193,178	0.5	-2.96	-9.83				-9.11	Dec-21
<i>Credit Suisse Leveraged Loan Qtr Lag</i>			1.19	-2.62	2.12	3.00	3.70	-1.84	
Over/Under			-4.15	-7.21				-7.27	
Monroe	79,684,627	4.6	1.06	2.27				2.09	Dec-21
<i>Credit Suisse Leveraged Loan Qtr Lag</i>			1.19	-2.62	2.12	3.00	3.70	-1.84	
Over/Under			-0.13	4.89				3.93	

Note: All portfolios within Credit Opportunities have mid-month inception dates. Since inception return is calculated from the first full month of performance.  
eA = eVestment

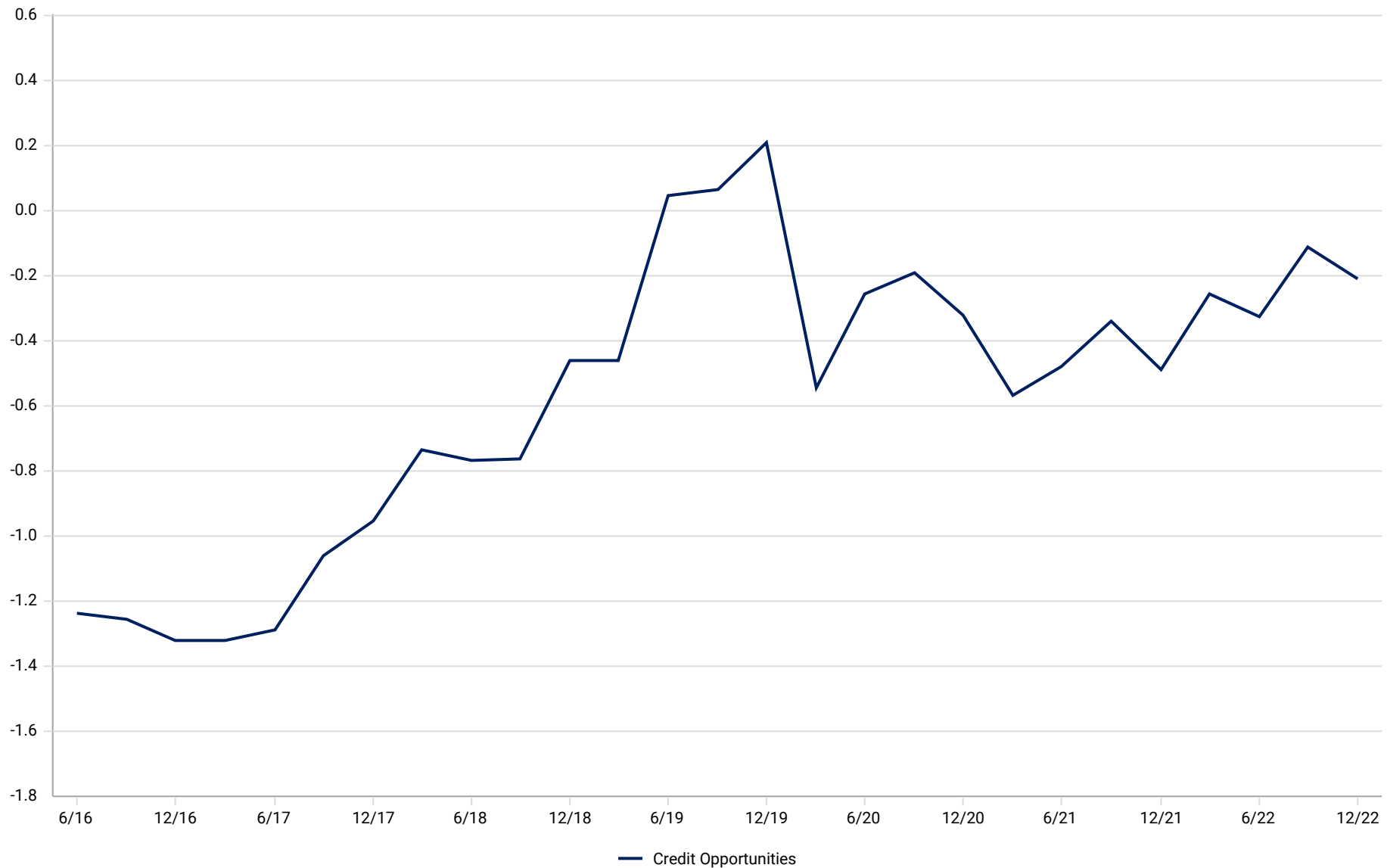
Refer to appendix for blended benchmark definitions.



Los Angeles City Employees' Retirement System-LACERS Master Trust

# CREDIT OPPORTUNITIES ROLLING 3 YEAR

## Information Ratio



# INVESTMENT MANAGER REPORT CARD

## CREDIT OPPORTUNITIES

Credit Opportunities Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
			PGIM	Feb-21	Emerging Market Debt Blended	x	x	✓	✓	N/A	N/A		
Wellington	Feb-21	Emerging Market Debt Blended	✓	✓	✓	x	N/A	N/A	N/A	N/A	✓	2,218.7	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy
Bain	Jun-15	Bank Loans	x	x	x	x	✓	✓	✓	✓	x	N/A	Performance compliant with LACERS' Manager Monitoring Policy
Benefit Street Partners	Dec-20	Private Credit	✓	N/A	✓	N/A	N/A	N/A	N/A	N/A	✓	N/A	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy
Crescent	Dec-21	Private Credit	x	N/A	x	N/A	N/A	N/A	N/A	N/A	x	N/A	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy
Monroe	Dec-21	Private Credit	x	N/A	✓	N/A	N/A	N/A	N/A	N/A	✓	N/A	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy
Loomis Sayles	Nov-20	High Yield	x	x	x	x	N/A	N/A	N/A	N/A	x	986.6	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy
Polen Capital	Nov-20	High Yield/Bank Loan	x	x	x	x	N/A	N/A	N/A	N/A	x	1,445.2	Newly hired manager pursuant to Section VIII.D of the Manager Monitoring Policy. On Watch since December 2021 due to organizational change.

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, 2022.
- \* Where net of fees performance is not available gross of fee returns are evaluated.

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



# REAL ASSETS MANAGER PERFORMANCE

## Los Angeles City Employees' Retirement System-LACERS Master Trust

**REAL ASSETS (GROSS)**

	Allocation		Performance (%)						
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Real Assets</b>	<b>2,868,575,280</b>	<b>100.00</b>	<b>1.58</b>	<b>-3.77</b>	<b>4.29</b>	<b>4.77</b>	<b>6.64</b>	<b>6.10</b>	<b>Dec-94</b>
<i>Real Assets Policy Benchmark</i>			<u>-0.38</u>	<u>-8.76</u>	<u>4.88</u>	<u>5.80</u>	<u>6.15</u>	<u>7.59</u>	
Over/Under			1.96	4.99	-0.59	-1.03	0.49	-1.49	
<b>Public Real Assets</b>	<b>1,503,931,651</b>	<b>52.43</b>	<b>2.77</b>	<b>-15.65</b>	<b>1.64</b>	<b>2.50</b>	-	<b>1.98</b>	<b>Jul-14</b>
<i>Public Real Assets Blend</i>			<u>2.92</u>	<u>-16.82</u>	<u>1.87</u>	<u>2.17</u>	-	<u>0.60</u>	
Over/Under			-0.15	1.17	-0.23	0.33	-	1.38	
<b>TIPS</b>	<b>1,030,285,786</b>	<b>35.92</b>	<b>2.28</b>	<b>-12.18</b>	<b>1.36</b>	<b>2.26</b>	-	<b>1.78</b>	<b>Aug-14</b>
<i>Blmbg. U.S. TIPS</i>			<u>2.04</u>	<u>-11.85</u>	<u>1.21</u>	<u>2.11</u>	-	<u>1.73</u>	
Over/Under			0.24	-0.33	0.15	0.15	-	0.05	
DFA US TIPS	1,030,285,786	35.92	2.28	-12.18	1.36	2.26	-	1.87	Aug-14
<i>Blmbg. U.S. TIPS</i>			<u>2.04</u>	<u>-11.85</u>	<u>1.21</u>	<u>2.11</u>	-	<u>1.73</u>	
Over/Under			0.24	-0.33	0.15	0.15	-	0.14	
<b>REITS</b>	<b>473,645,865</b>	<b>16.51</b>	<b>3.86</b>	<b>-23.21</b>	<b>3.02</b>	<b>6.37</b>	-	<b>6.87</b>	<b>Apr-15</b>
<i>FTSE NAREIT All Equity REITs</i>			<u>4.14</u>	<u>-24.95</u>	<u>0.20</u>	<u>4.43</u>	-	<u>4.91</u>	
Over/Under			-0.28	1.74	2.82	1.94	-	1.96	
CenterSquare US Real Estate	473,645,865	16.51	3.86	-23.21	3.02	6.37	-	7.38	May-15
<i>FTSE NAREIT All Equity REITs</i>			<u>4.14</u>	<u>-24.95</u>	<u>0.20</u>	<u>4.43</u>	-	<u>5.66</u>	
Over/Under			-0.28	1.74	2.82	1.94	-	1.72	
<b>Private Real Estate</b>	<b>1,345,351,036</b>	<b>46.90</b>	<b>0.26</b>	<b>17.03</b>	<b>8.47</b>	<b>7.98</b>	<b>9.40</b>	<b>7.06</b>	<b>Nov-94</b>
<i>Real Estate Blend</i>			<u>-4.77</u>	<u>8.32</u>	<u>10.80</u>	<u>9.54</u>	<u>10.69</u>	<u>9.91</u>	
Over/Under			5.03	8.71	-2.33	-1.56	-1.29	-2.85	
<b>Timber</b>	<b>19,292,593</b>	<b>0.67</b>	<b>0.21</b>	<b>9.05</b>	<b>4.88</b>	<b>3.77</b>	<b>5.63</b>	<b>8.58</b>	<b>Oct-99</b>

Note: The DFA U.S. TIPS and CenterSquare US Real Estate portfolios have mid-month inception dates. Since inception return is calculated from the first full month of performance.

Refer to appendix for blended benchmark definitions.

## Los Angeles City Employees' Retirement System-LACERS Master Trust

**REAL ASSETS (NET)**

	Allocation		Performance (%)							Inception Date
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)		
<b>Real Assets</b>	<b>2,868,575,280</b>	<b>100.00</b>	<b>1.55</b>	<b>-3.88</b>	<b>4.15</b>	<b>4.63</b>	<b>6.49</b>	<b>4.97</b>	<b>Jun-01</b>	
Real Assets Policy Benchmark			<u>-0.38</u>	<u>-8.76</u>	<u>4.88</u>	<u>5.80</u>	<u>6.15</u>	<u>6.14</u>		
Over/Under			1.93	4.88	-0.73	-1.17	0.34	-1.17		
<b>Public Real Assets</b>	<b>1,503,931,651</b>	<b>52.43</b>	<b>2.74</b>	<b>-15.77</b>	<b>1.47</b>	<b>2.31</b>	<b>-</b>	<b>1.79</b>	<b>Jul-14</b>	
Public Real Assets Blend			<u>2.92</u>	<u>-16.82</u>	<u>1.87</u>	<u>2.17</u>	<u>-</u>	<u>0.60</u>		
Over/Under			-0.18	1.05	-0.40	0.14	-	1.19		
<b>TIPS</b>	<b>1,030,285,786</b>	<b>35.92</b>	<b>2.27</b>	<b>-12.22</b>	<b>1.31</b>	<b>2.21</b>	<b>-</b>	<b>1.73</b>	<b>Aug-14</b>	
Blmbg. U.S. TIPS			<u>2.04</u>	<u>-11.85</u>	<u>1.21</u>	<u>2.11</u>	<u>-</u>	<u>1.73</u>		
Over/Under			0.23	-0.37	0.10	0.10	-	0.00		
DFA US TIPS	1,030,285,786	35.92	2.27 (26)	-12.22 (81)	1.31 (43)	2.21 (37)	-	1.82 (15)	Aug-14	
Blmbg. U.S. TIPS			<u>2.04</u> (42)	<u>-11.85</u> (66)	<u>1.21</u> (53)	<u>2.11</u> (52)	<u>-</u>	<u>1.73</u> (28)		
Over/Under			0.23	-0.37	0.10	0.10	-	0.09		
eV US TIPS / Inflation Fixed Inc Median			<u>2.00</u>	<u>-11.63</u>	<u>1.23</u>	<u>2.13</u>	<u>-</u>	<u>1.63</u>		
<b>REITS</b>	<b>473,645,865</b>	<b>16.51</b>	<b>3.76</b>	<b>-23.50</b>	<b>2.63</b>	<b>5.95</b>	<b>-</b>	<b>6.44</b>	<b>Apr-15</b>	
FTSE NAREIT All Equity REITs			<u>4.14</u>	<u>-24.95</u>	<u>0.20</u>	<u>4.43</u>	<u>-</u>	<u>4.91</u>		
Over/Under			-0.38	1.45	2.43	1.52	-	1.53		
CenterSquare US Real Estate	473,645,865	16.51	3.76 (68)	-23.50 (17)	2.63 (12)	5.95 (13)	-	6.95 (9)	May-15	
FTSE NAREIT All Equity REITs			<u>4.14</u> (46)	<u>-24.95</u> (40)	<u>0.20</u> (54)	<u>4.43</u> (45)	<u>-</u>	<u>5.66</u> (32)		
Over/Under			-0.38	1.45	2.43	1.52	-	1.29		
eV US REIT Median			<u>4.07</u>	<u>-25.60</u>	<u>0.46</u>	<u>4.27</u>	<u>-</u>	<u>4.88</u>		
<b>Private Real Estate</b>	<b>1,345,351,036</b>	<b>46.90</b>	<b>0.24</b>	<b>16.95</b>	<b>8.39</b>	<b>7.89</b>	<b>9.30</b>	<b>6.26</b>	<b>Jul-01</b>	
Real Estate Blend			<u>-4.77</u>	<u>8.32</u>	<u>10.80</u>	<u>9.54</u>	<u>10.69</u>	<u>9.34</u>		
Over/Under			5.01	8.63	-2.41	-1.65	-1.39	-3.08		
<b>Timber</b>	<b>19,292,593</b>	<b>0.67</b>	<b>0.21</b>	<b>9.05</b>	<b>4.88</b>	<b>3.77</b>	<b>5.62</b>	<b>7.63</b>	<b>Sep-01</b>	

Note: The DFA U.S. TIPS and CenterSquare US Real Estate portfolios have mid-month inception dates. Since inception return is calculated from the first full month of performance.

Refer to appendix for blended benchmark definitions.

# INVESTMENT MANAGER REPORT CARD

## REAL ASSETS

Real Assets Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
			DFA	Jul-14	U.S. TIPS	✓	✓	✗	✗	✓	✓		
CenterSquare	Apr-15	REITS	✗	✗	✓	✓	✓	✓	✓	✓	✓	1,828.2	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, 2022.
- \* Where net of fees performance is not available gross of fee returns are evaluated.

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





# APPENDIX







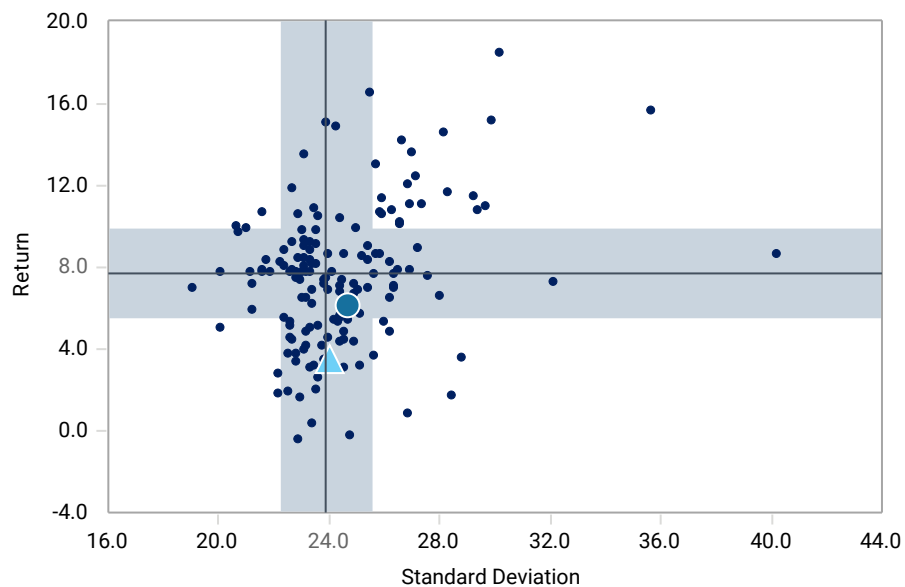
# U.S. EQUITY MANAGER PERFORMANCE



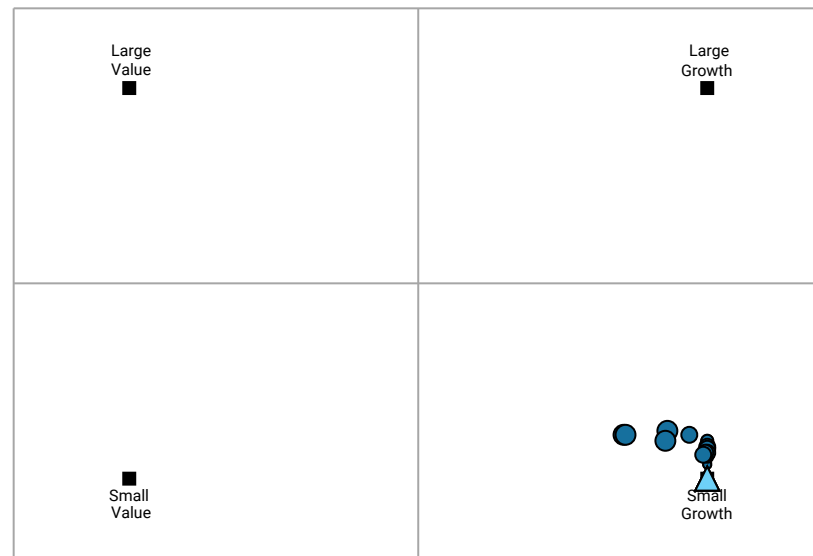
Los Angeles City Employees' Retirement System-LACERS Master Trust

# EAM INVESTORS

5 Years Return vs. Standard Deviation

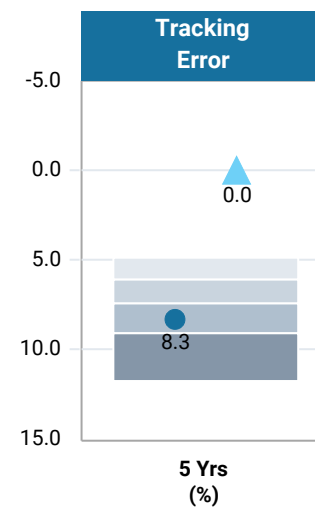
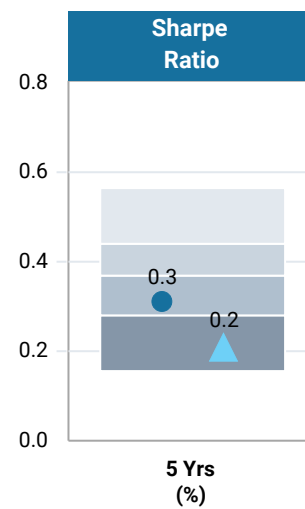
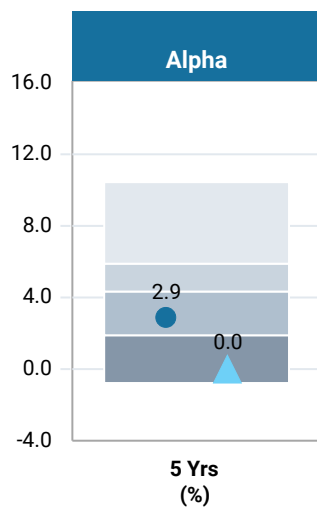
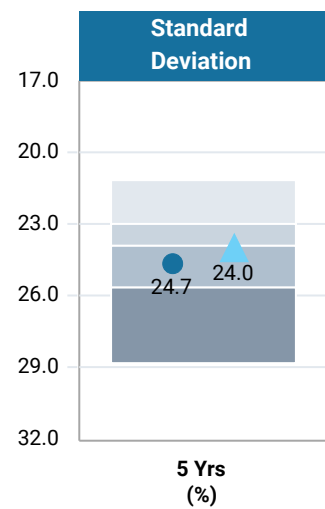
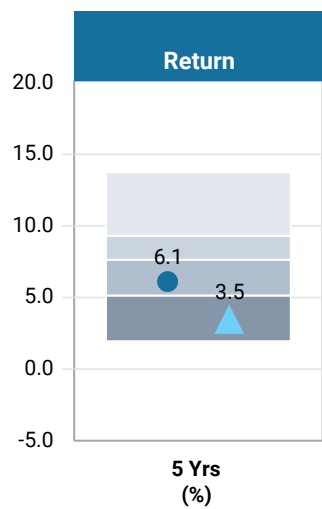


Rolling 3 Years Style Map



● EAM Investors      ▲ Russell 2000 Growth Index

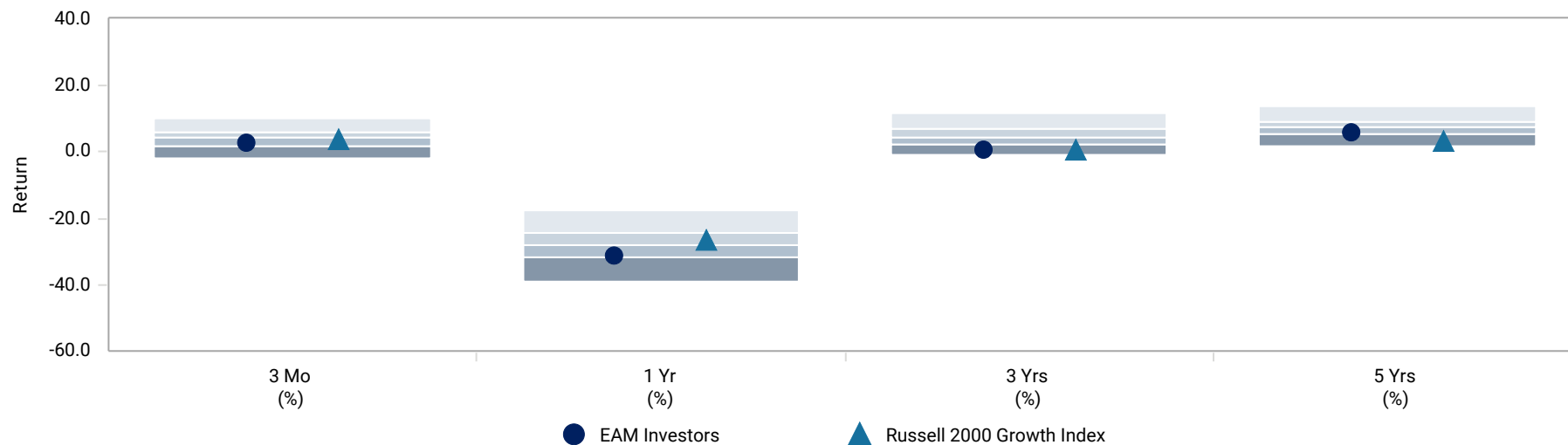
● EAM Investors      ▲ Russell 2000 Growth Index



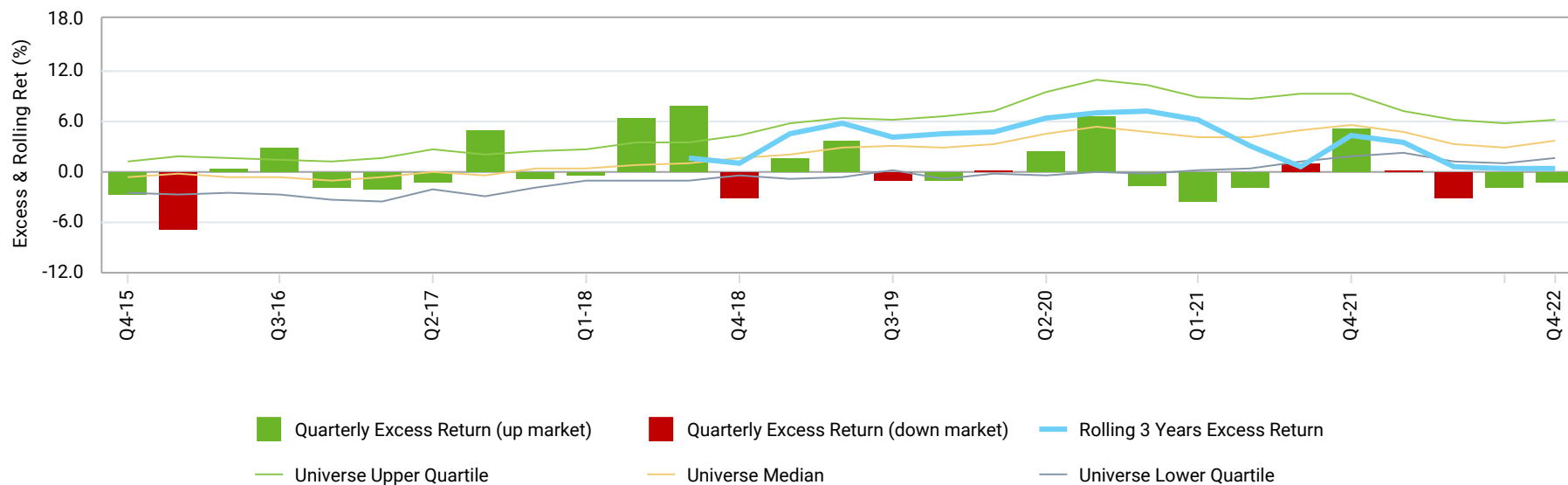
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# EAM INVESTORS

eV US Small Cap Growth Equity (net of fees)



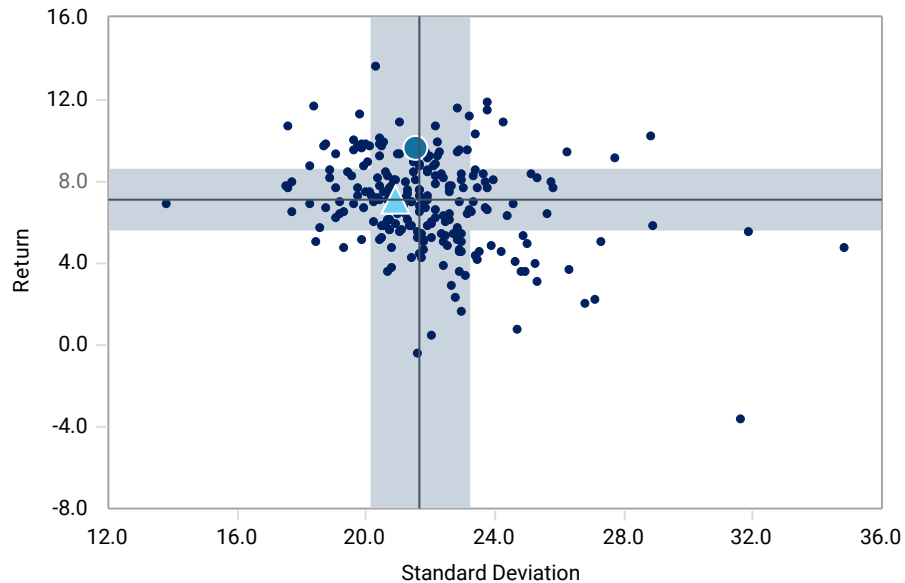
Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

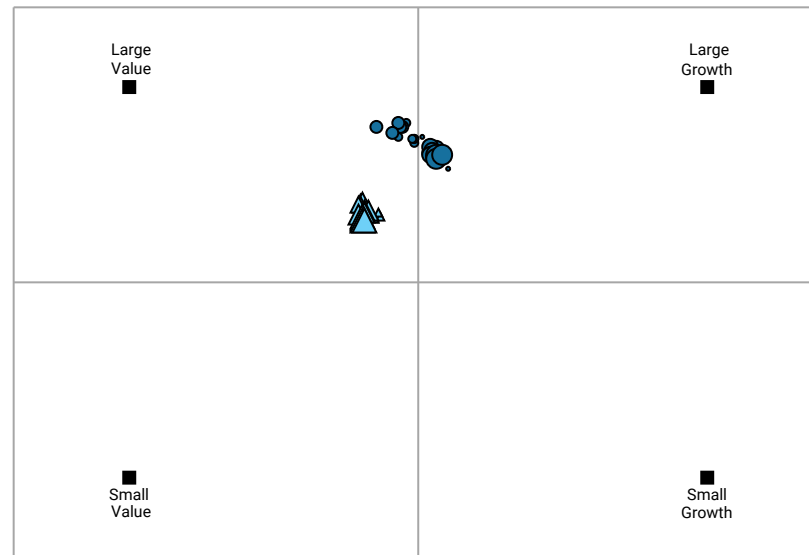
# PRINCIPAL GLOBAL INVESTORS

5 Years Return vs. Standard Deviation

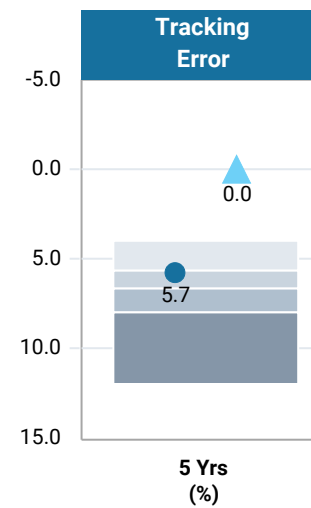
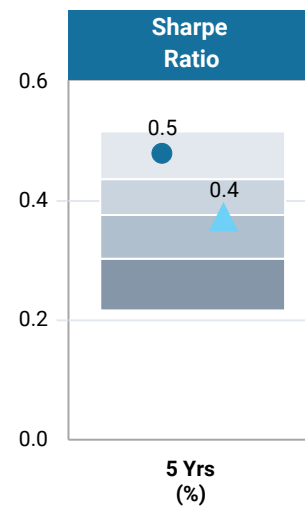
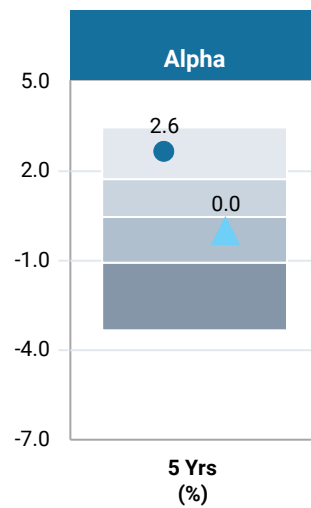
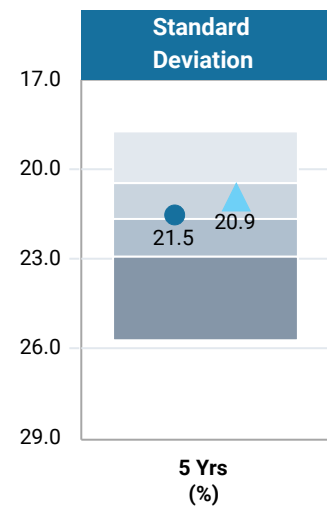
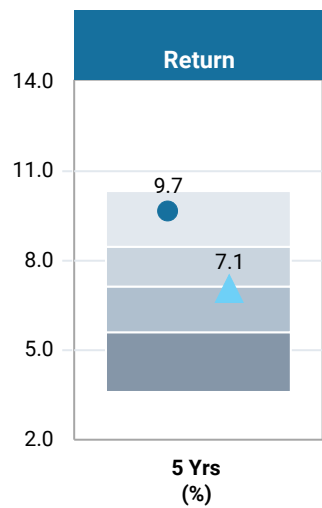


● Principal Global Investors ▲ Russell Midcap Index

Rolling 5 Years Style Map



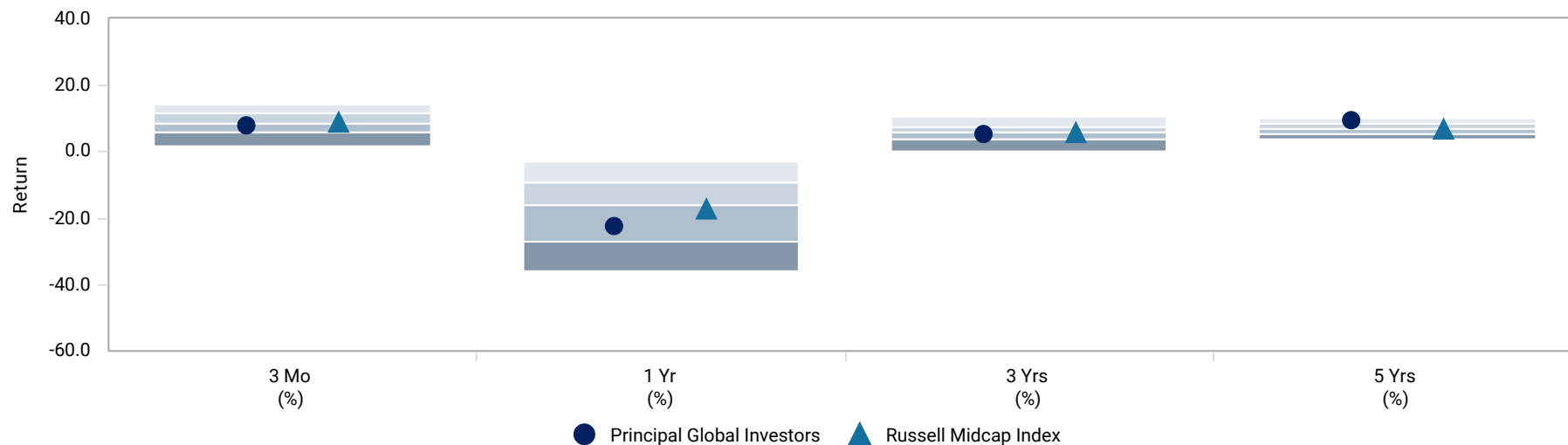
● Principal Global Investors ▲ Russell Midcap Index



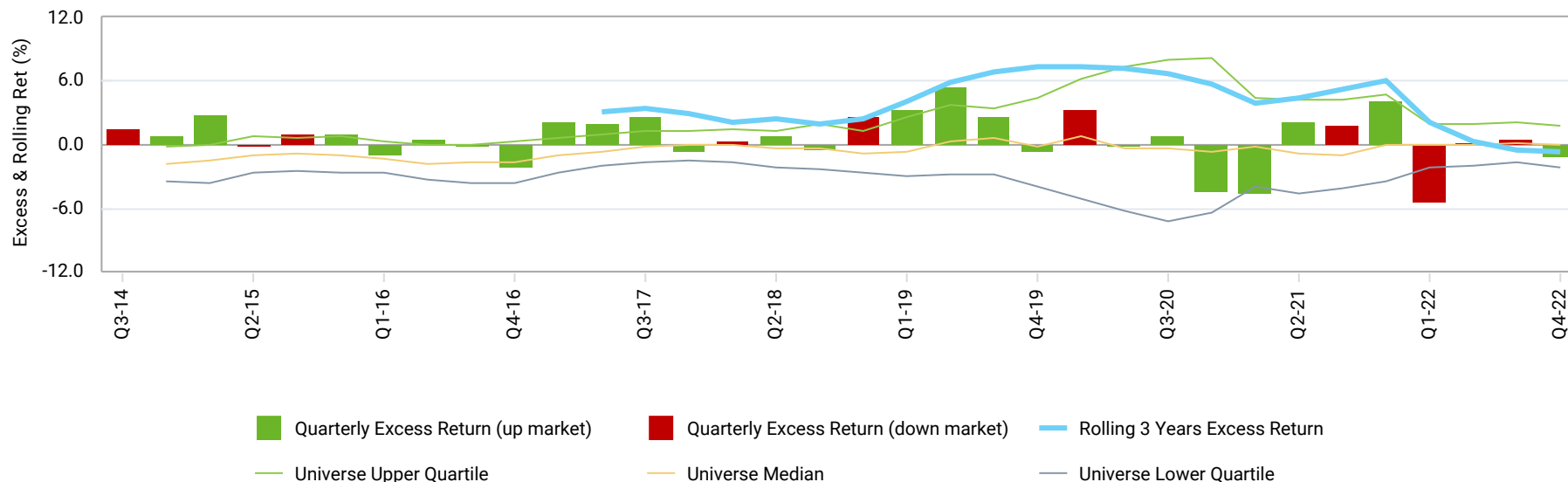
Los Angeles City Employees' Retirement System-LACERS Master Trust

# PRINCIPAL GLOBAL INVESTORS

## eV US Mid Cap Equity (net of fees)



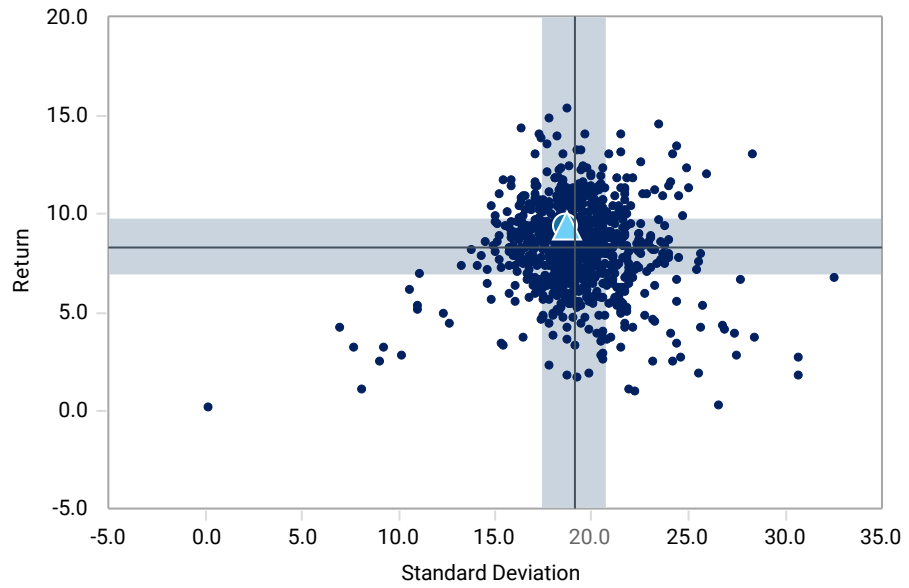
## Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022



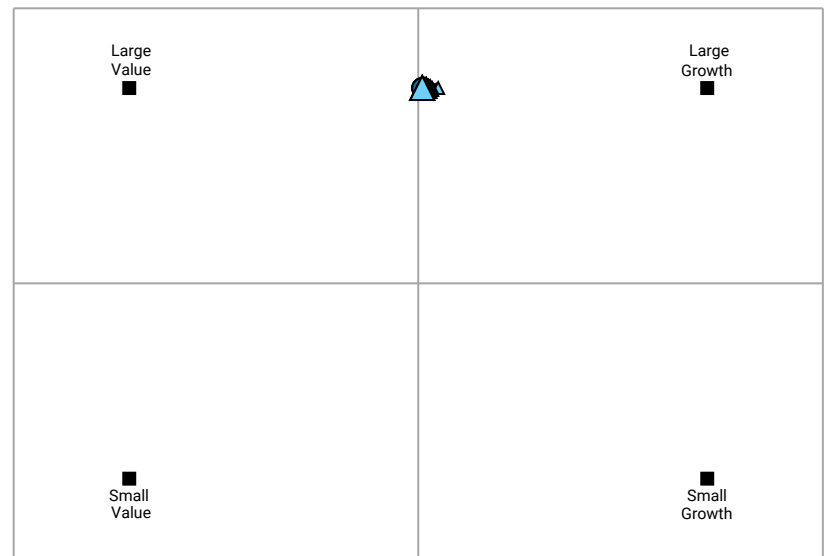
# Los Angeles City Employees' Retirement System-LACERS Master Trust

## RHUMBLINE ADVISORS S&P 500

5 Years Return vs. Standard Deviation

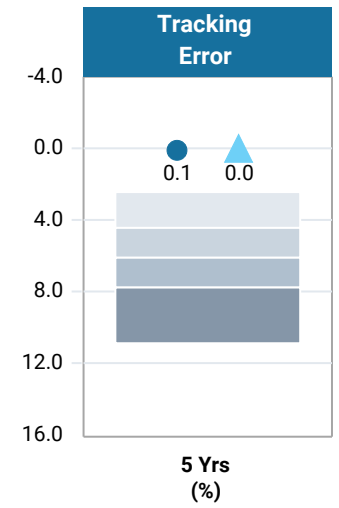
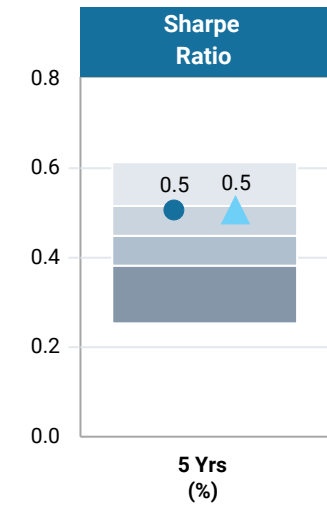
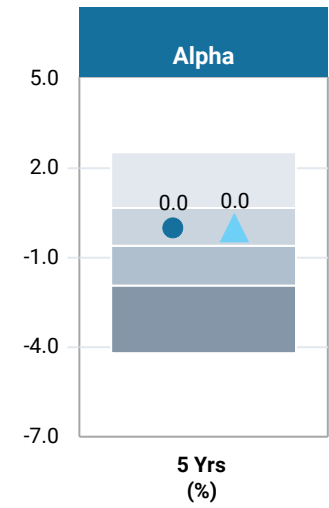
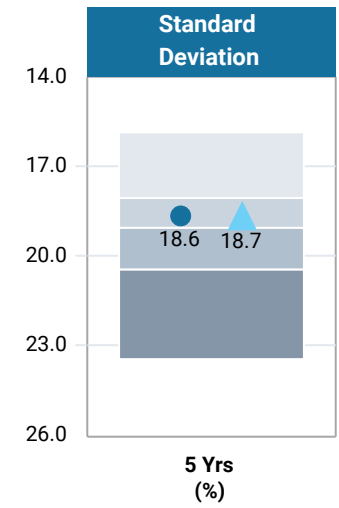
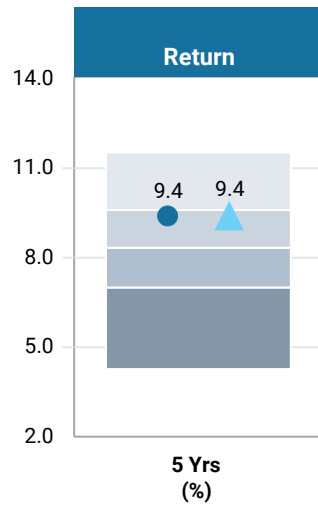


Rolling 5 Years Style Map



● RhumbLine Advisers S&P 500 ▲ S&P 500 Index

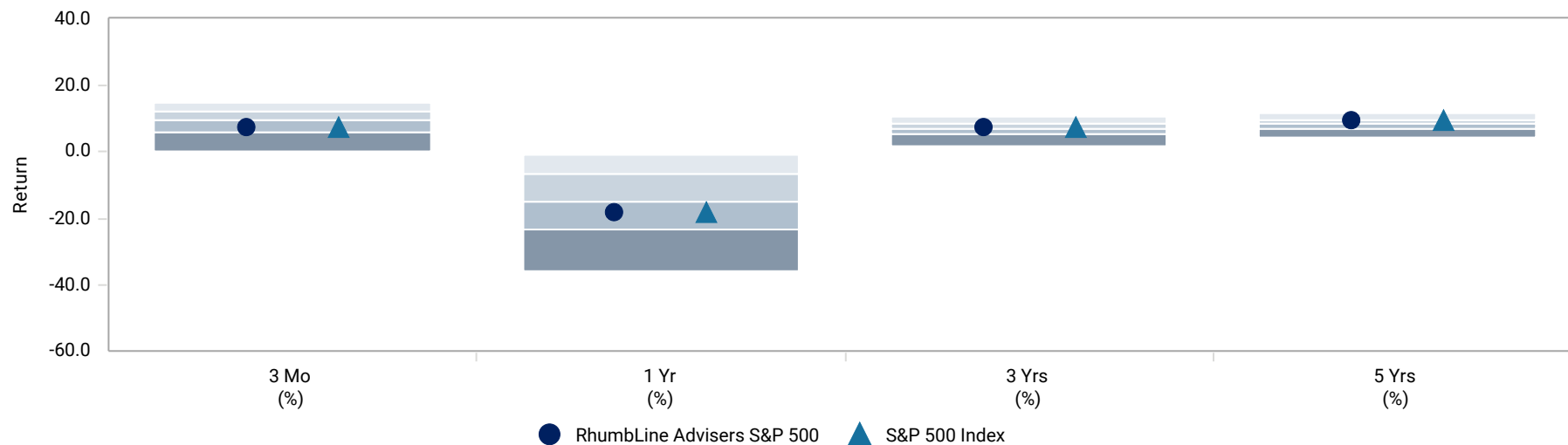
● RhumbLine Advisers S&P 500 ▲ S&P 500 Index



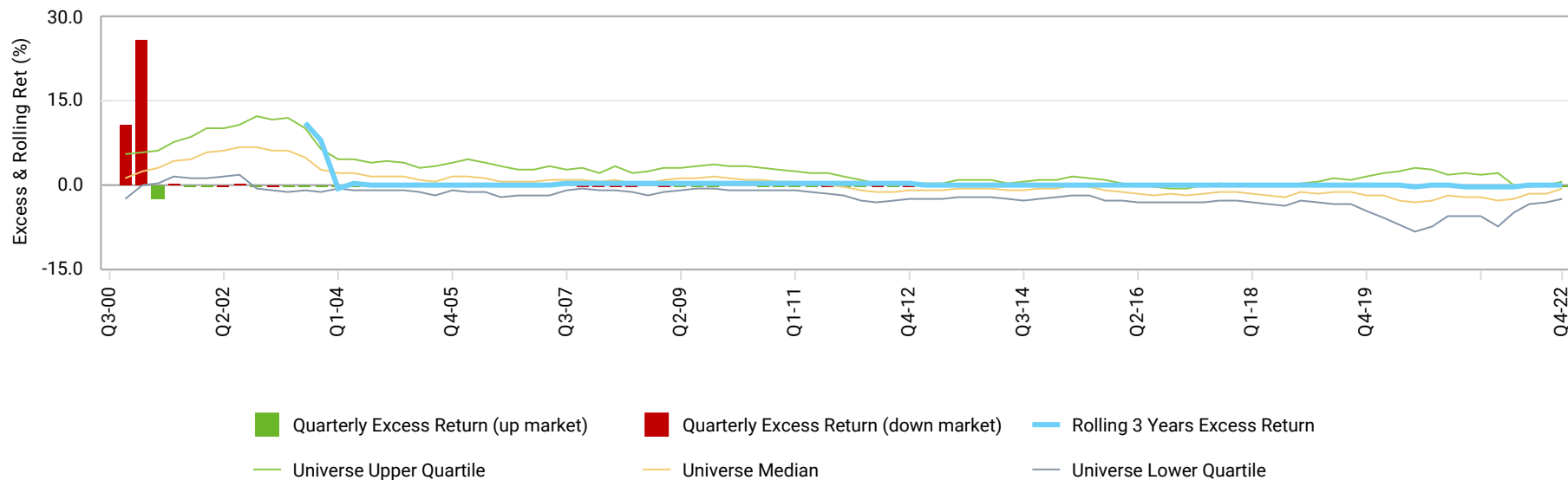
Los Angeles City Employees' Retirement System-LACERS Master Trust

# RHUMBLINE ADVISORS S&P 500

eV US Large Cap Equity (net of fees)



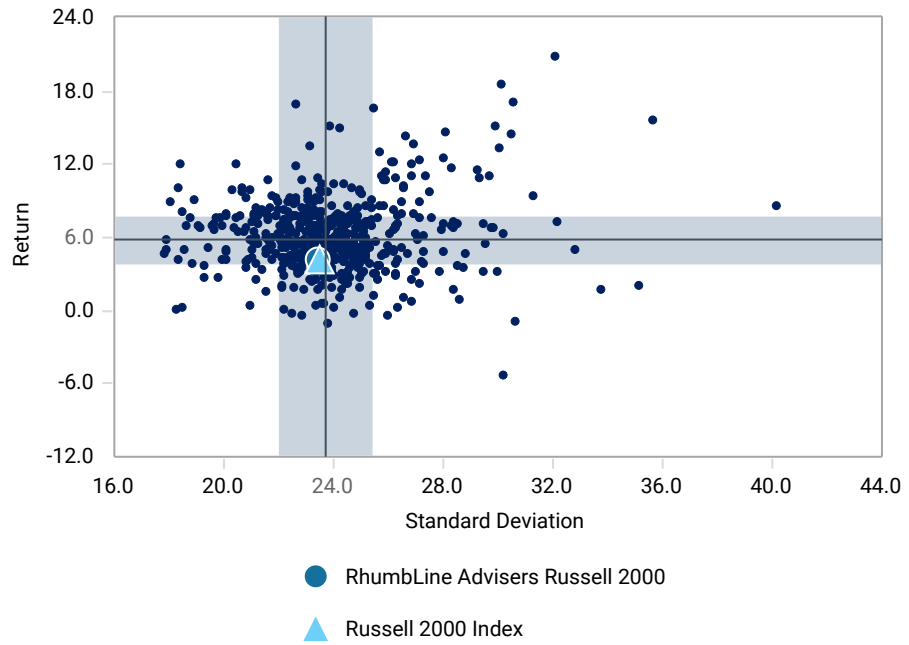
Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022



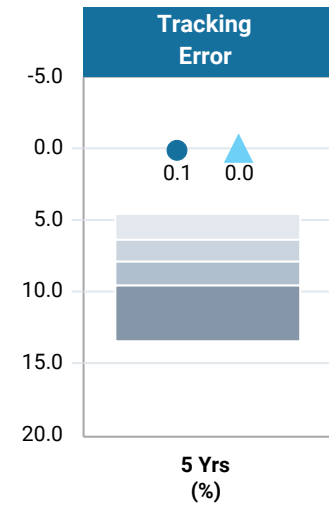
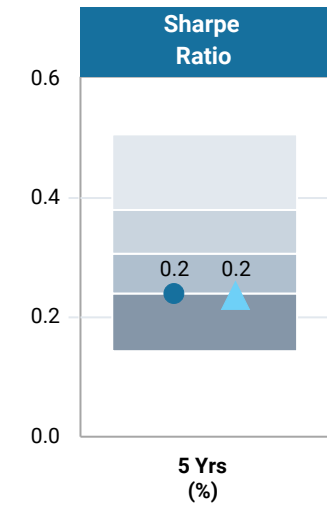
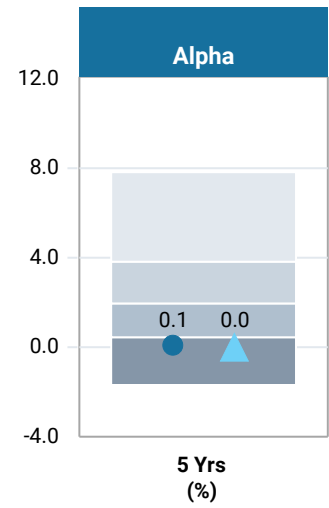
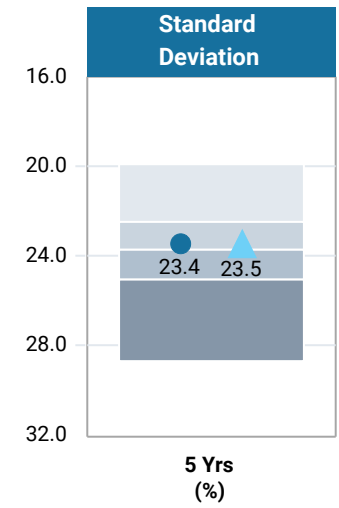
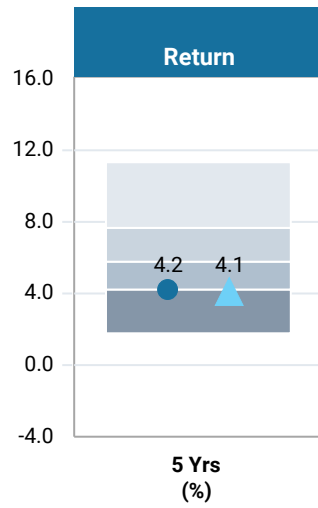
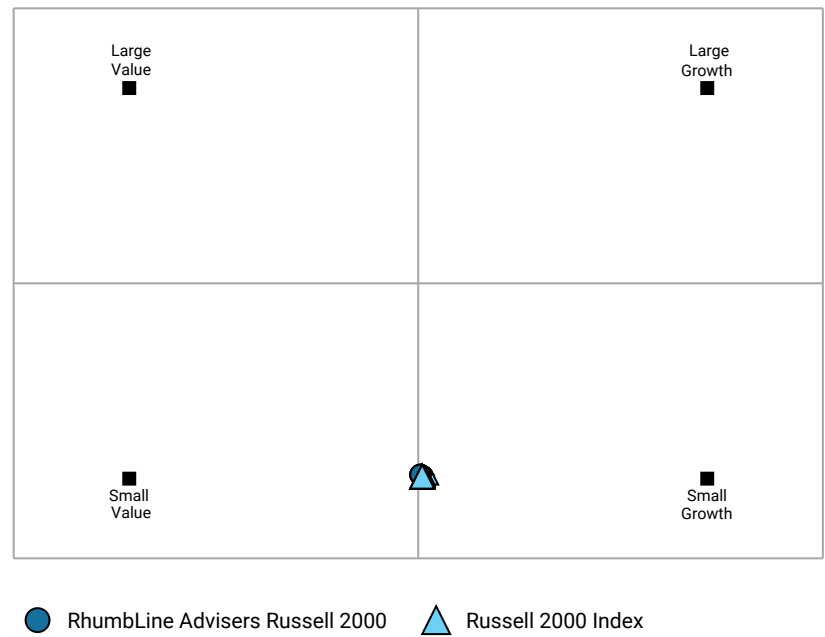
# Los Angeles City Employees' Retirement System-LACERS Master Trust

## RHUMBLINE ADVISORS RUSSELL 2000

5 Years Return vs. Standard Deviation



Rolling 3 Years Style Map

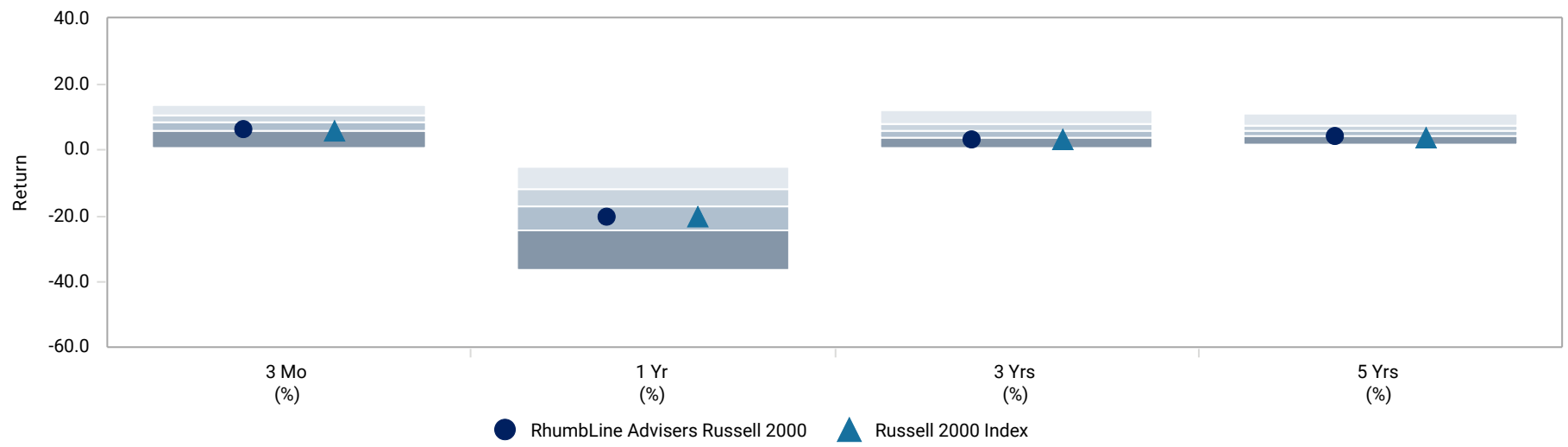




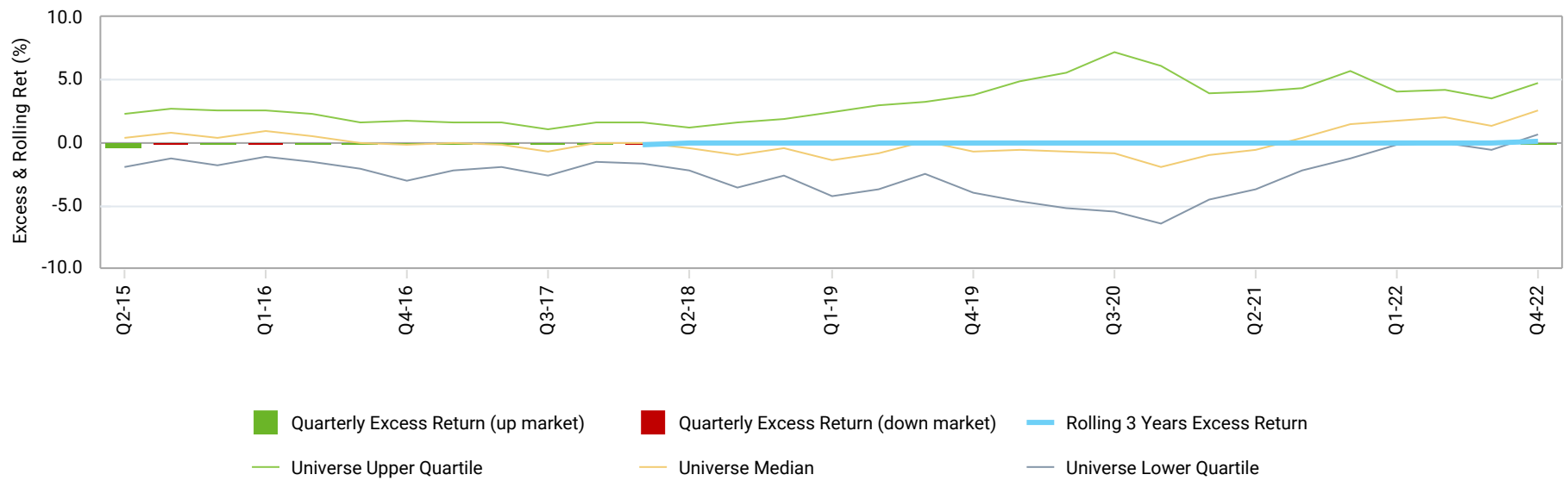
Los Angeles City Employees' Retirement System-LACERS Master Trust

# RHUMBLINE ADVISORS RUSSELL 2000

## eV US Small Cap Equity (net of fees)



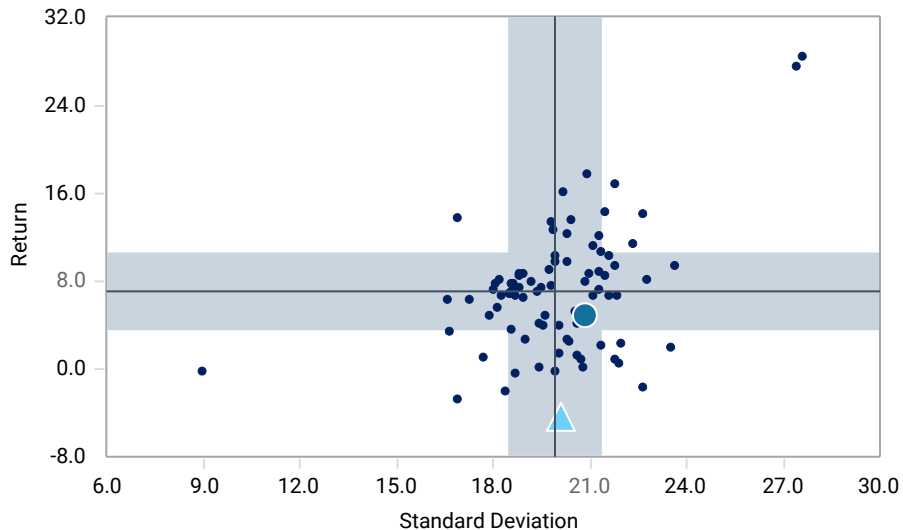
## Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

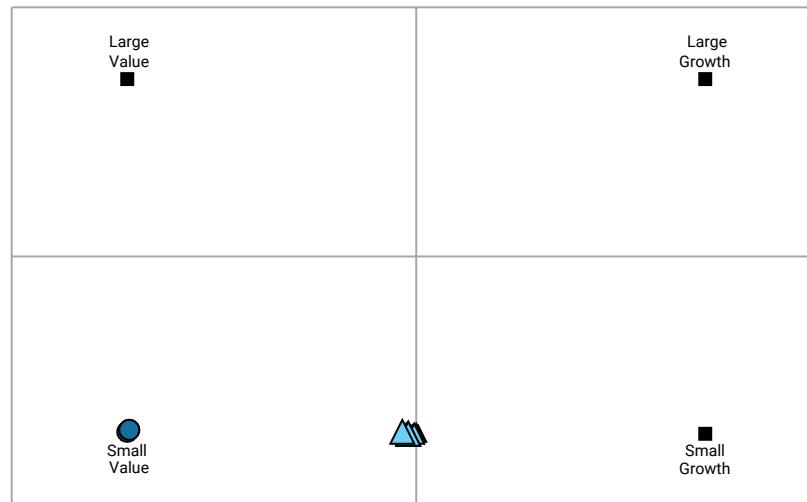
# RHUMBLINE ADVISORS RUSSELL 2000 VALUE

Since Inception Return vs. Standard Deviation

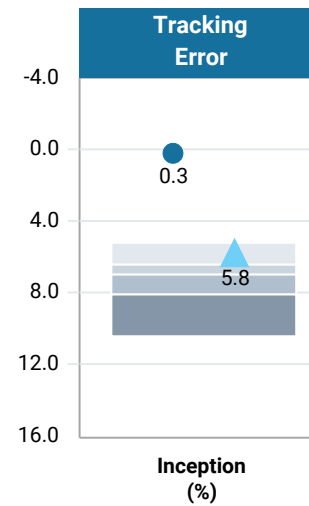
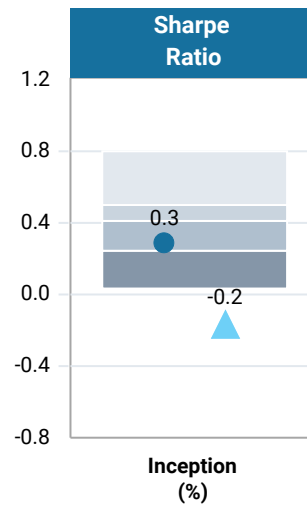
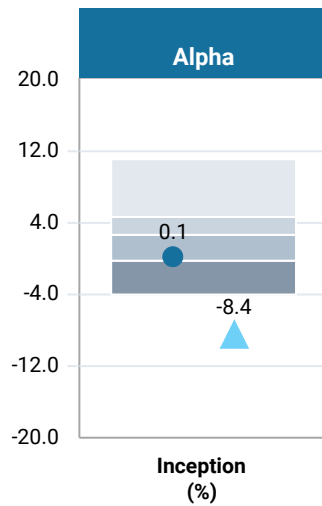
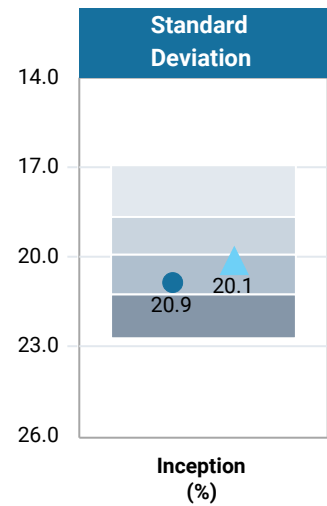
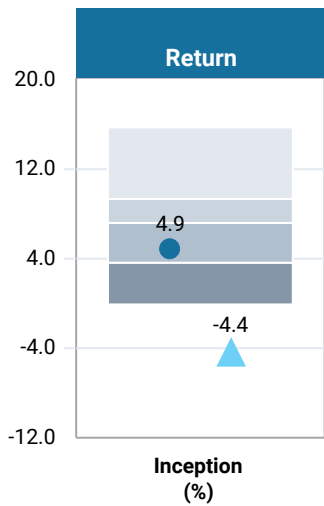


● Rhumbline Advisers Russell 2000 Value  
▲ Russell 2000 Index

Rolling 0.75 Year Style Map

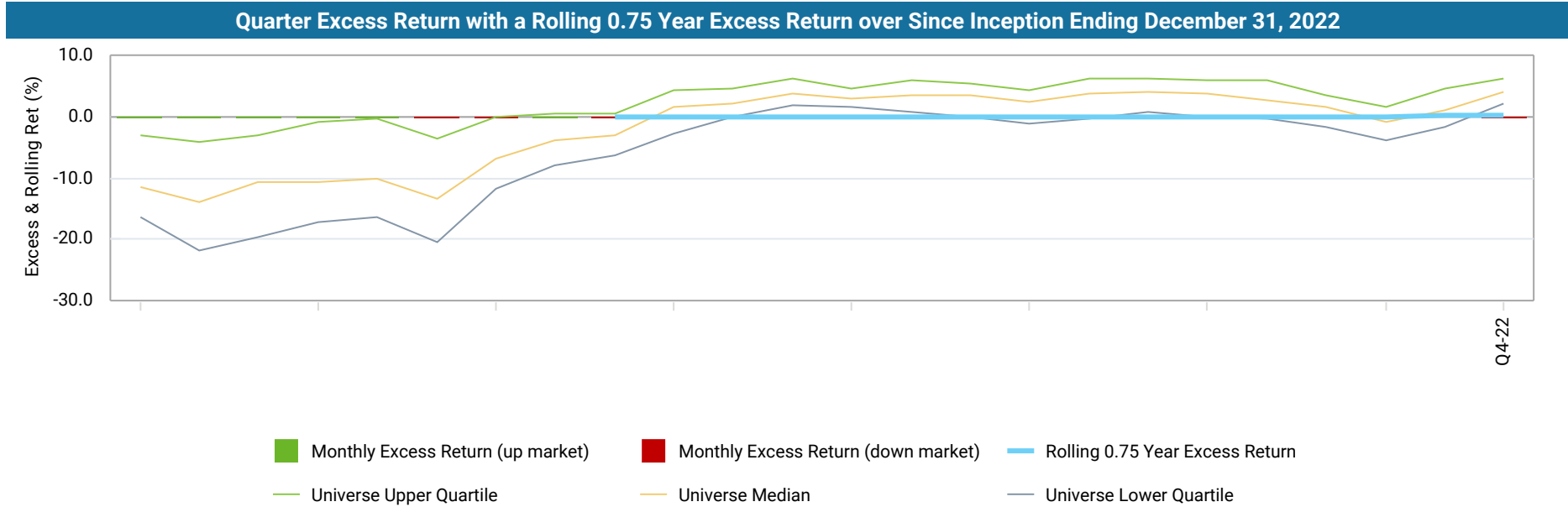
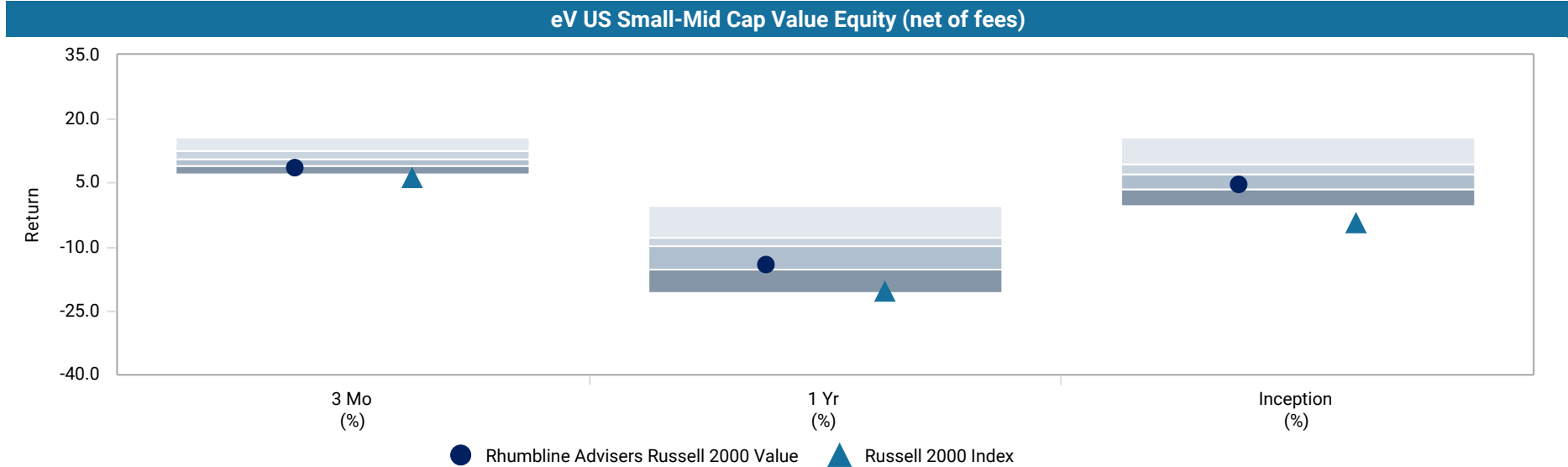


● Rhumbline Advisers Russell 2000 Value  
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Los Angeles City Employees' Retirement System-LACERS Master Trust

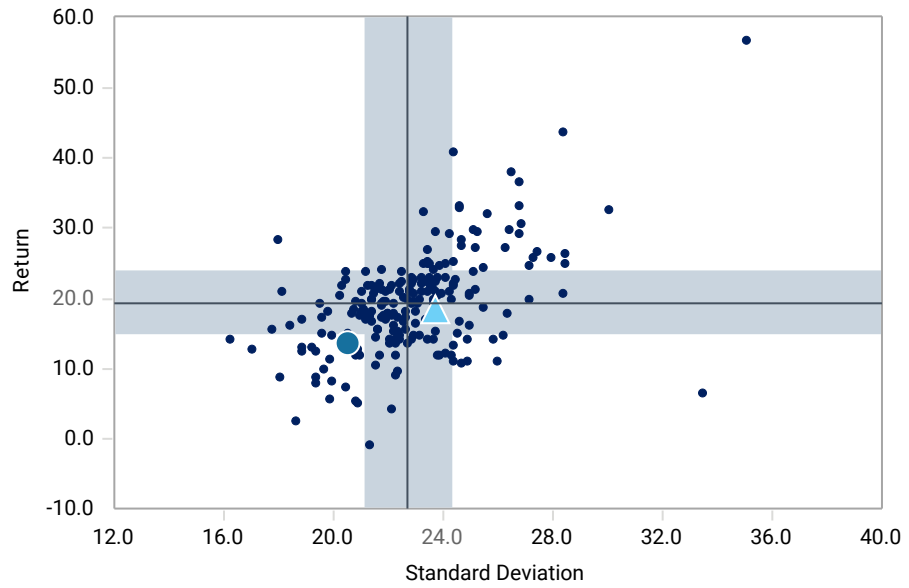
# RHUMBLINE ADVISORS RUSSELL 2000 VALUE



# Los Angeles City Employees' Retirement System-LACERS Master Trust

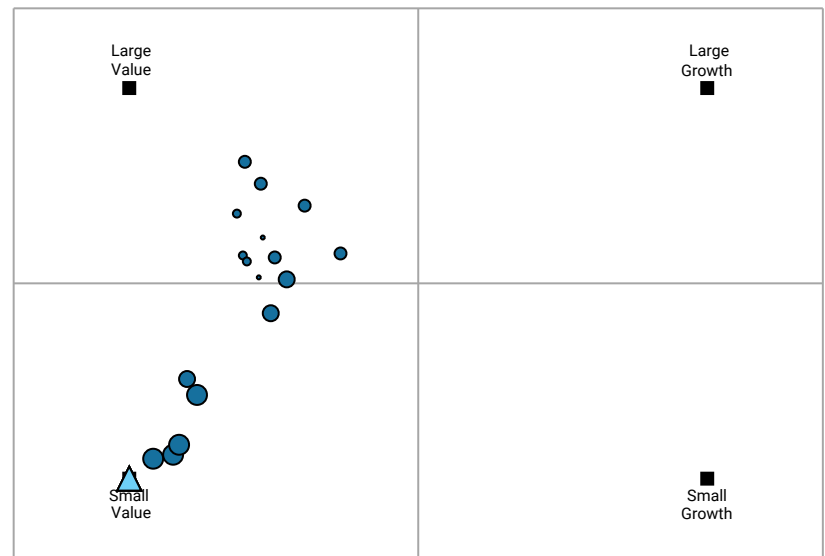
## COPELAND CAPITAL MANAGEMENT

Since Inception Return vs. Standard Deviation

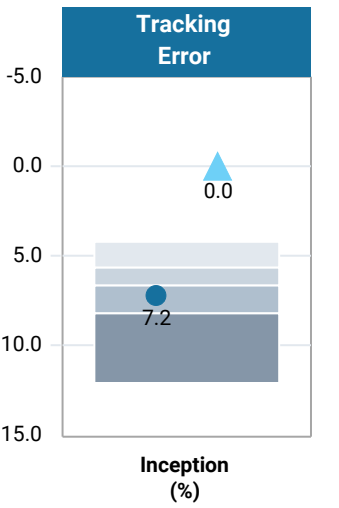
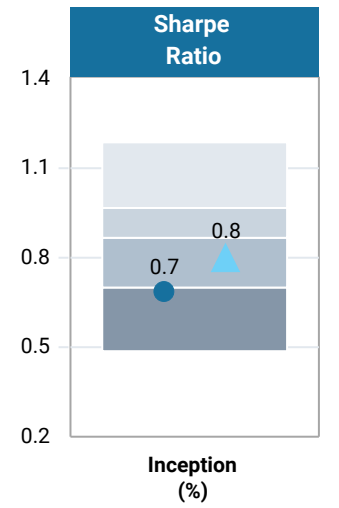
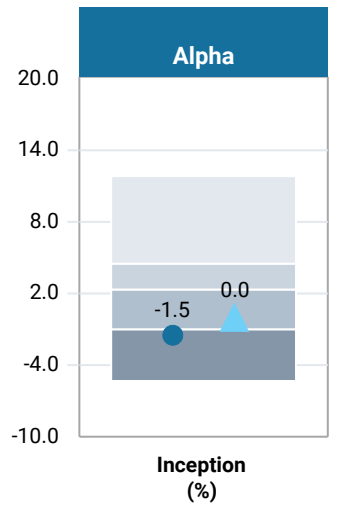
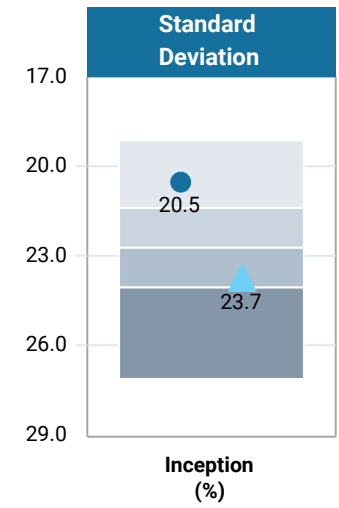
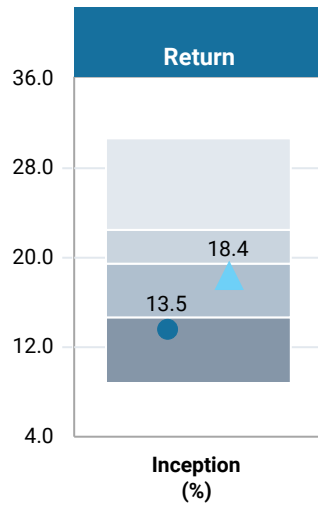


● Copeland Capital Management ▲ Russell 2000 Value Index

Rolling 0.75 Year Style Map



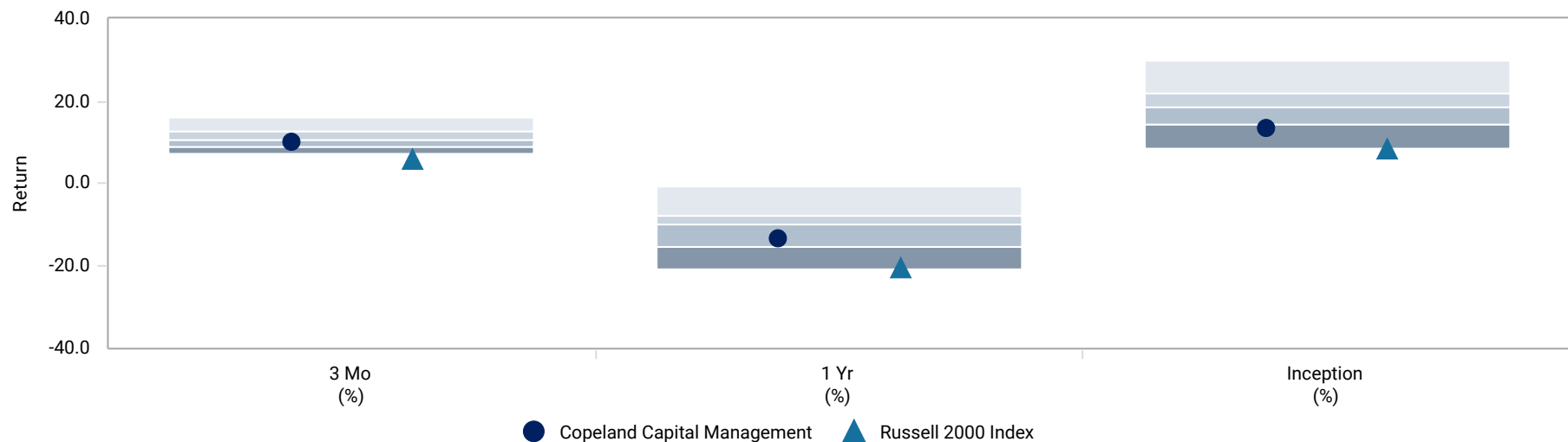
● Copeland Capital Management ▲ Russell 2000 Value Index



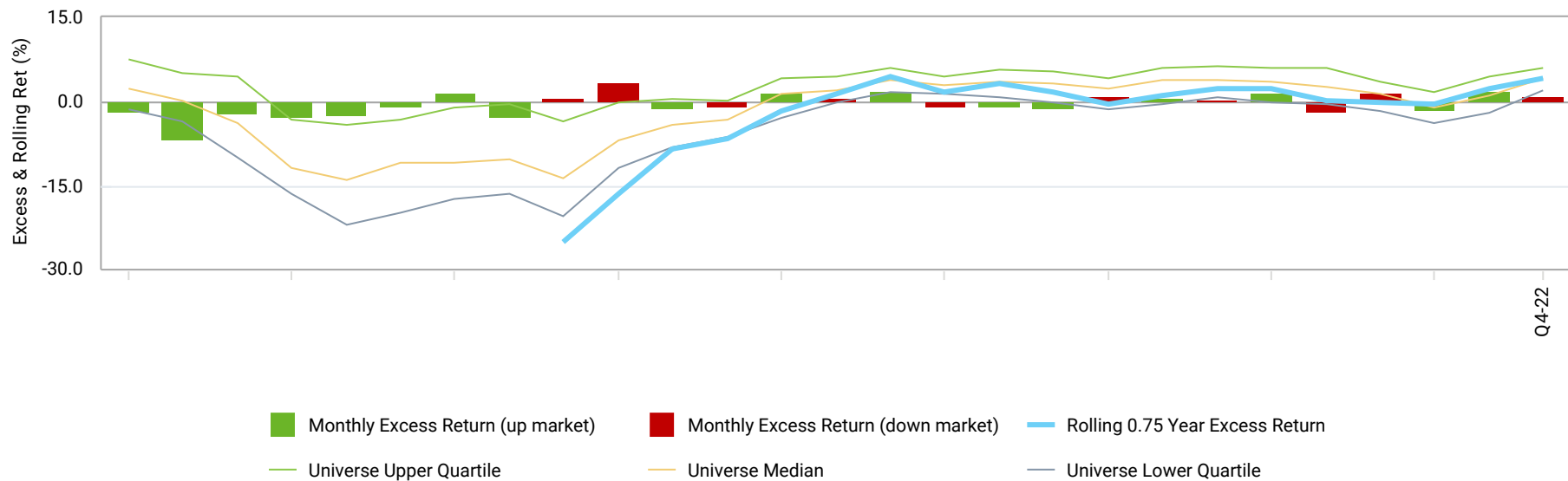
Los Angeles City Employees' Retirement System-LACERS Master Trust

# COPELAND CAPITAL MANAGEMENT

## eV US Small-Mid Cap Value Equity (net of fees)



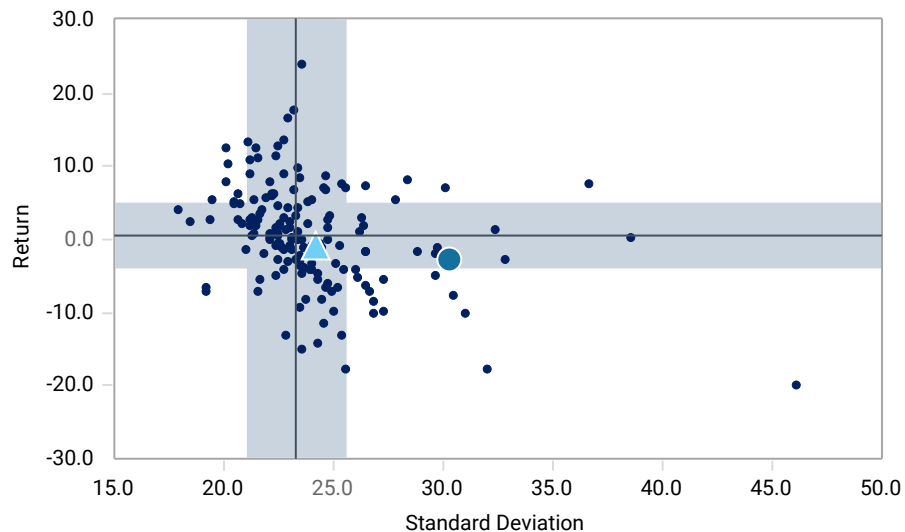
## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

# GRANAHAN INVESTMENT MANAGEMENT

Since Inception Return vs. Standard Deviation

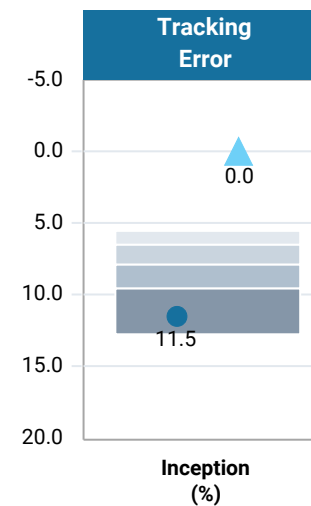
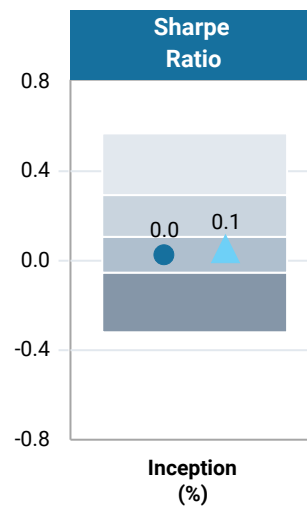
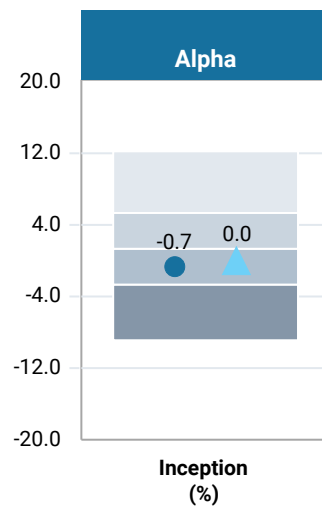
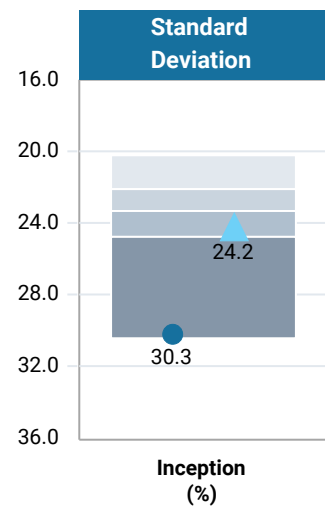
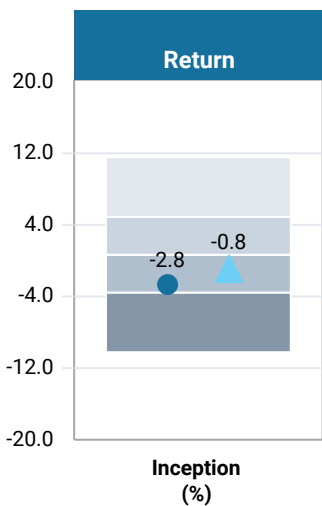


● Granahan Investment Management  
▲ Russell 2000 Growth Index

Rolling 0.75 Year Style Map



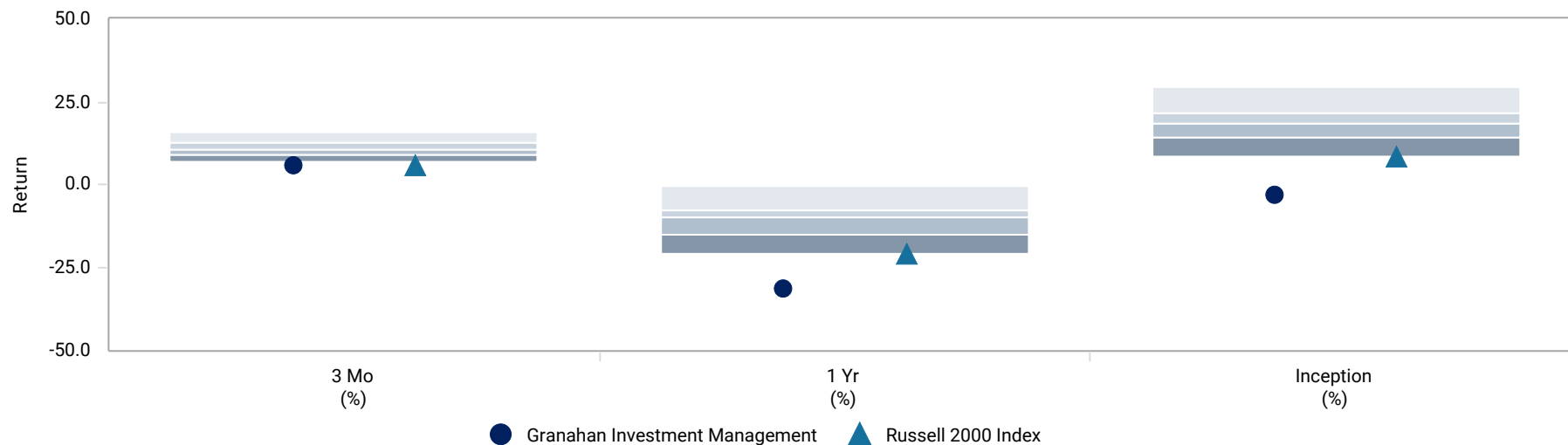
● Granahan Investment Management  
▲ Russell 2000 Growth Index



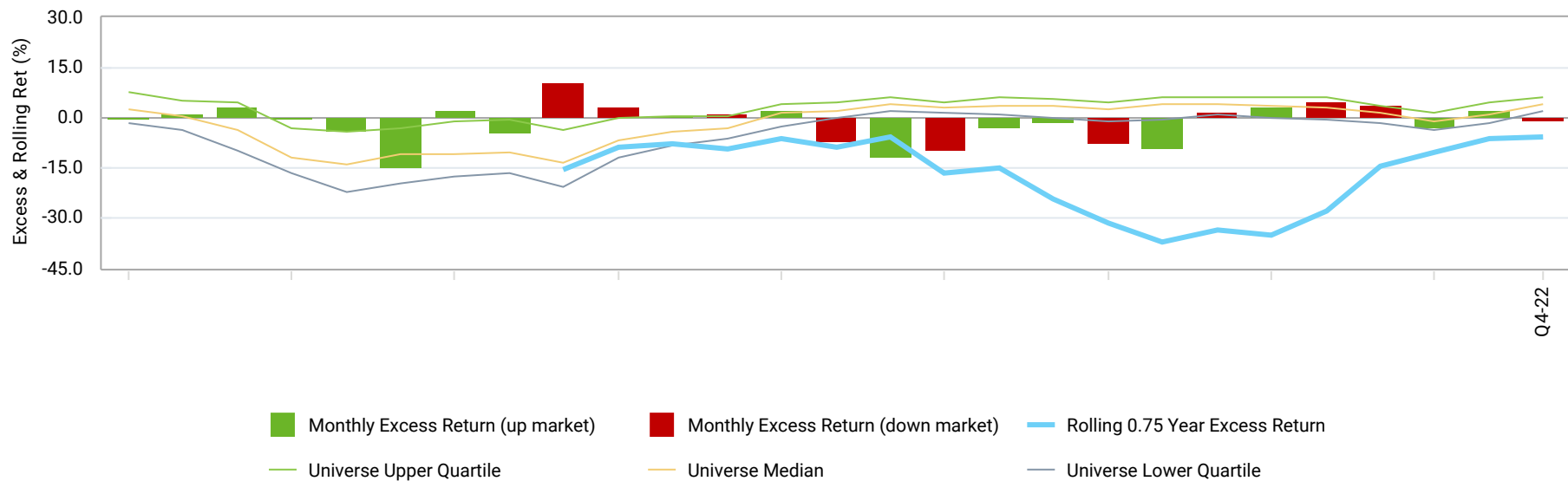
Los Angeles City Employees' Retirement System-LACERS Master Trust

# GRANAHAN INVESTMENT MANAGEMENT

## eV US Small-Mid Cap Value Equity (net of fees)



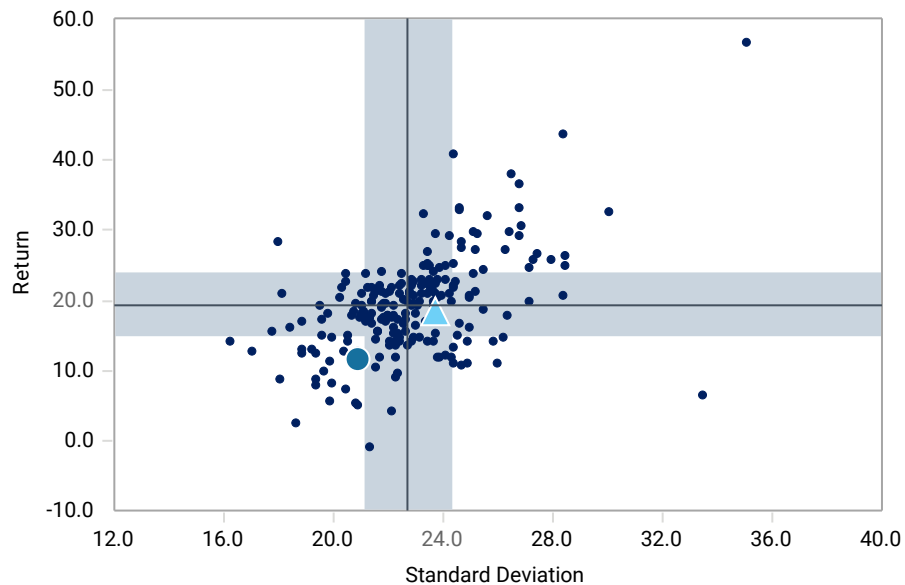
## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

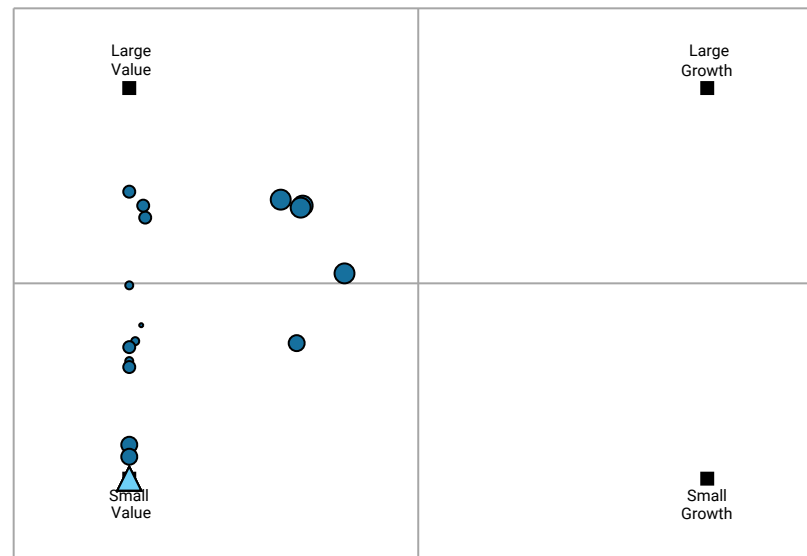
# SEGALL, BRYANT & HAMILL

Since Inception Return vs. Standard Deviation

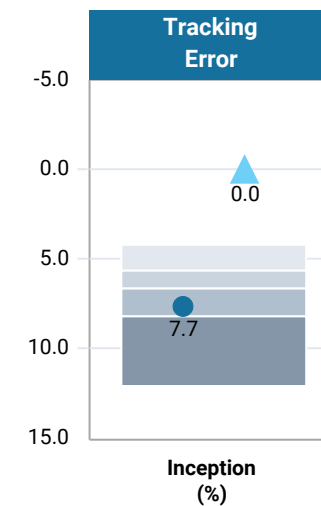
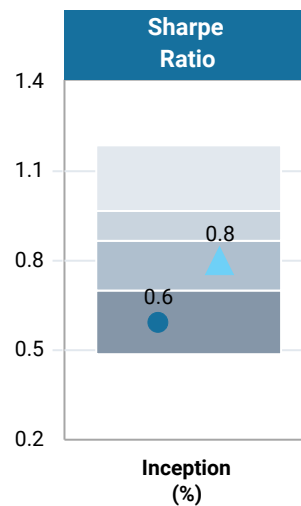
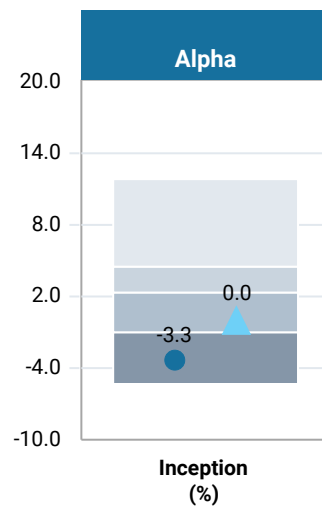
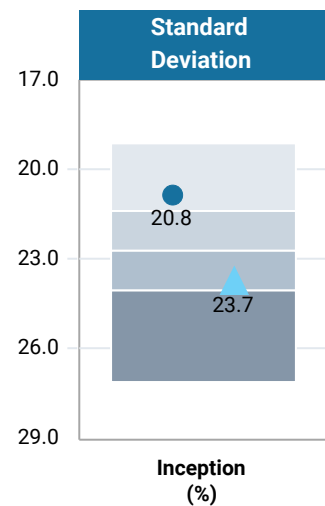
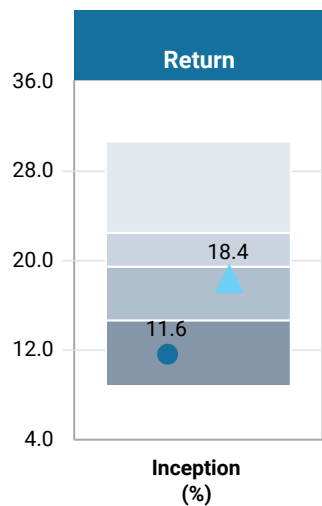


● Segall, Bryant & Hamill    ▲ Russell 2000 Value Index

Rolling 0.75 Year Style Map



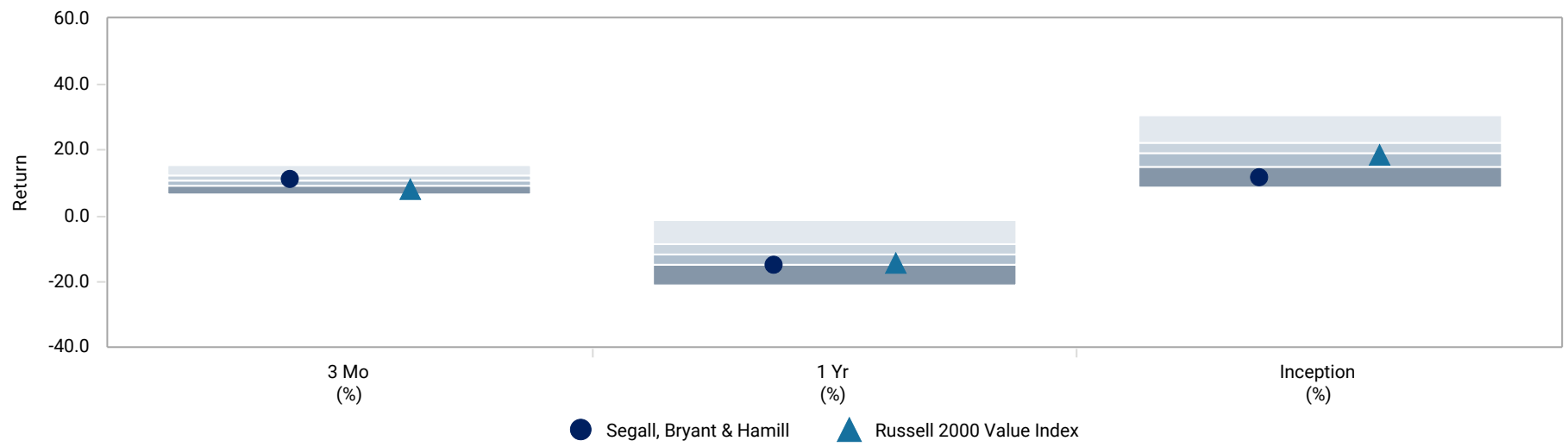
● Segall, Bryant & Hamill    ▲ Russell 2000 Value Index



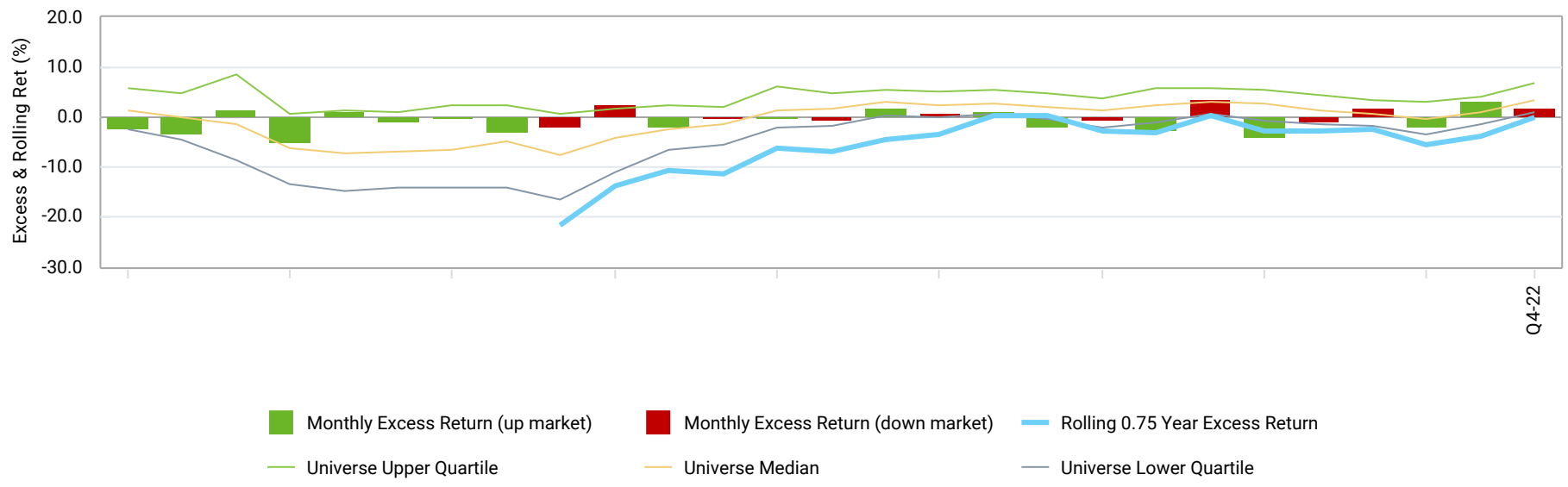


# SEGALL, BRYANT & HAMILL

## eV US Small Cap Value Equity (net of fees)



## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022

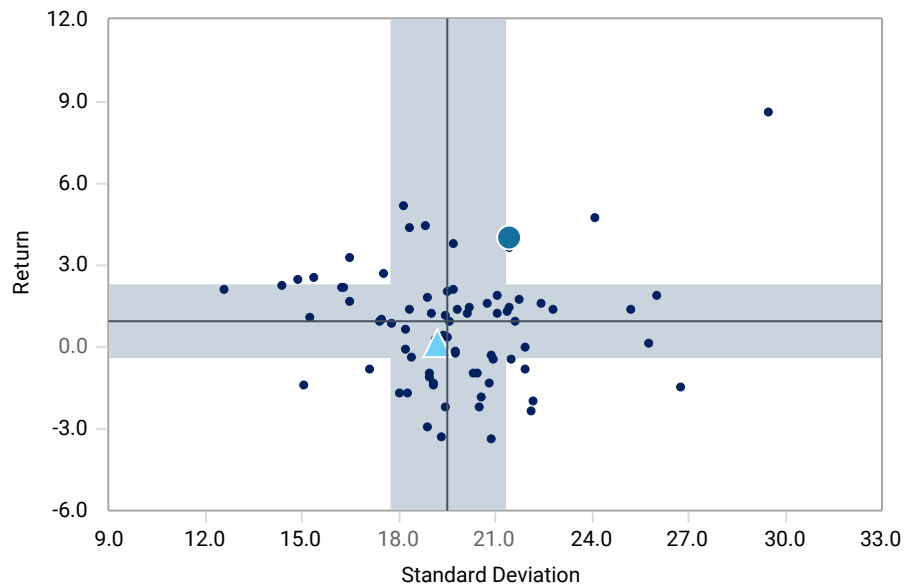


# NON-U.S. EQUITY MANAGER PERFORMANCE

Los Angeles City Employees' Retirement System-LACERS Master Trust

# BARROW HANLEY

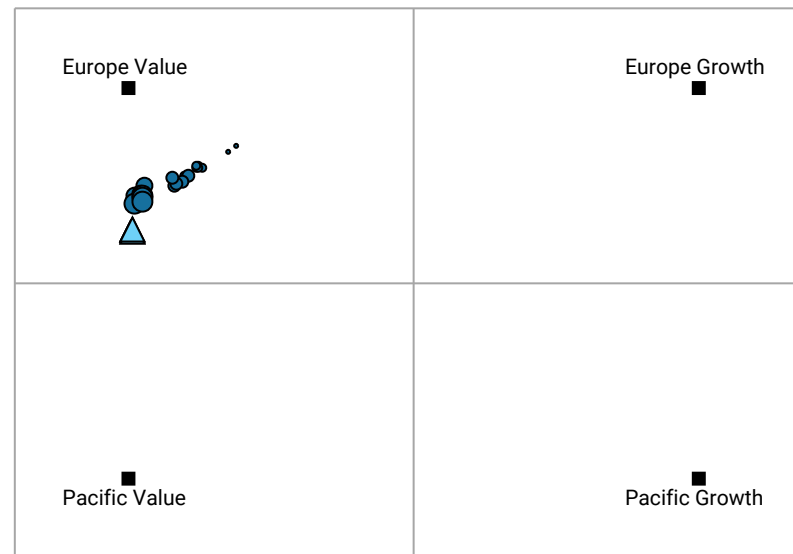
5 Years Return vs. Standard Deviation



● Barrow Hanley

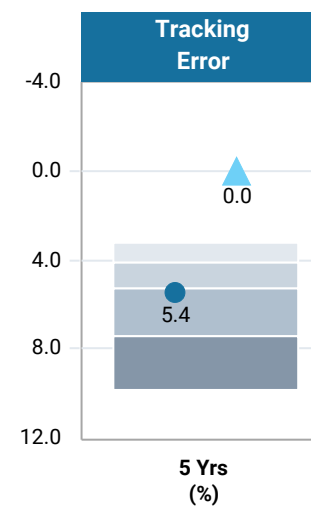
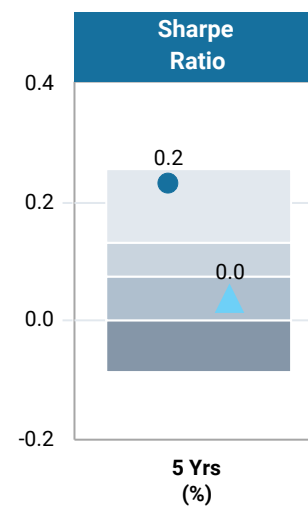
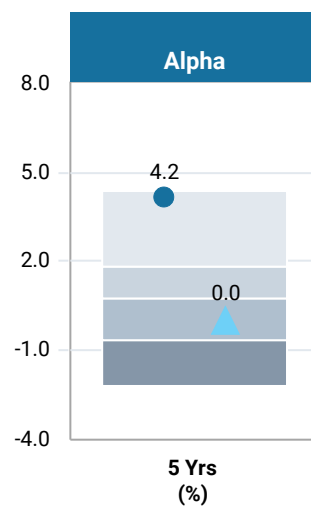
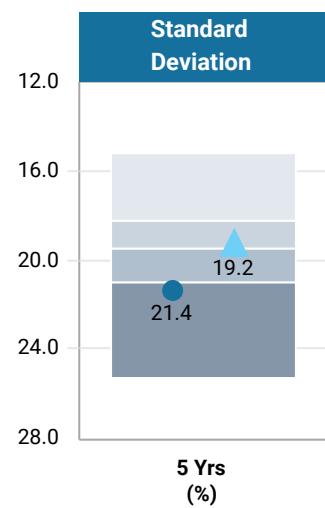
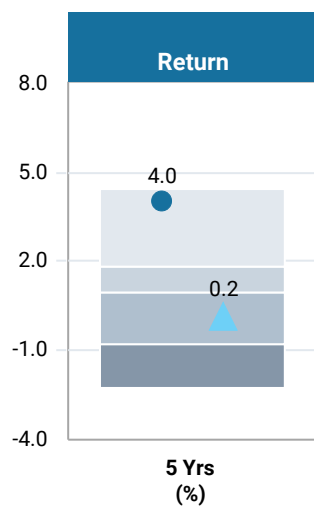
▲ MSCI EAFE Value Index (Net)

Rolling 5 Years Style Map



● Barrow Hanley

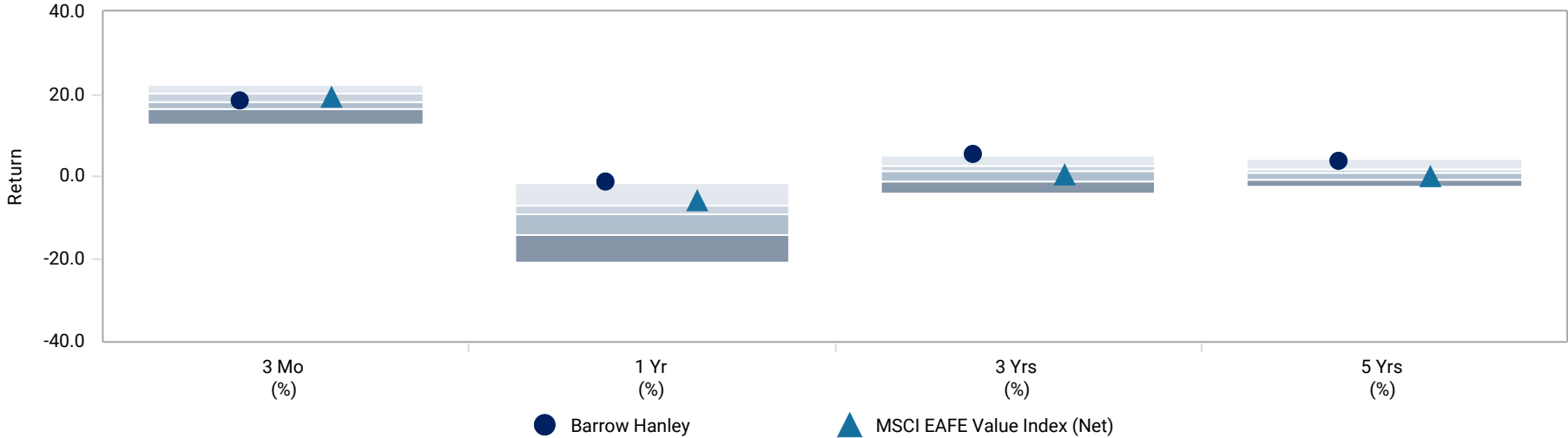
▲ MSCI EAFE Value Index (Net)



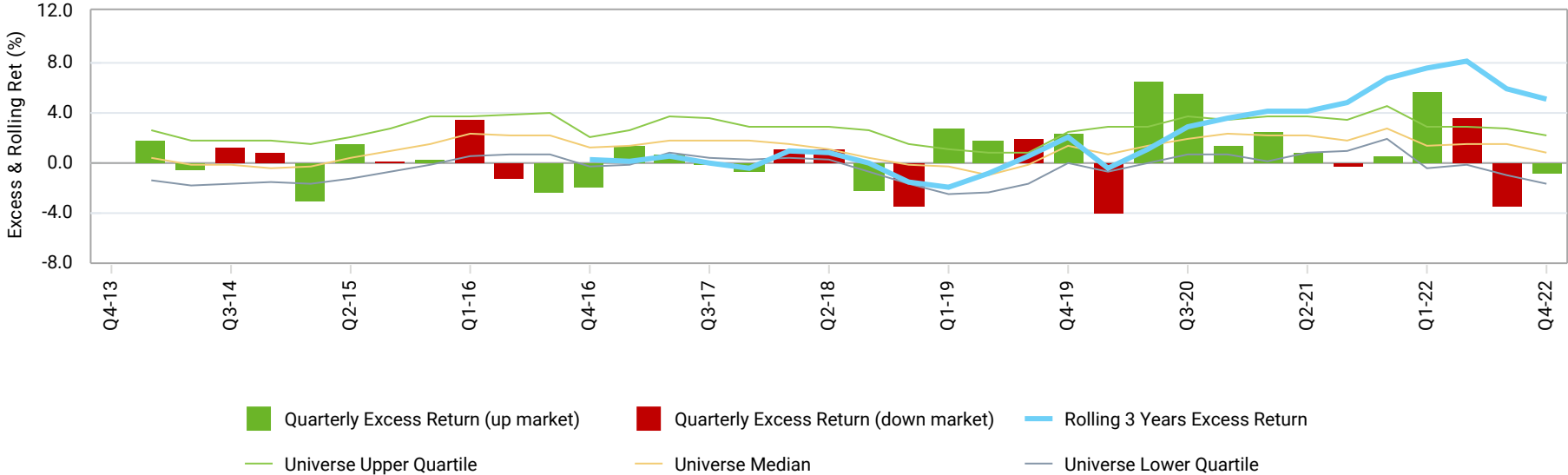
Los Angeles City Employees' Retirement System-LACERS Master Trust

# BARROW HANLEY

## eV EAFE Value Equity (net of fees)



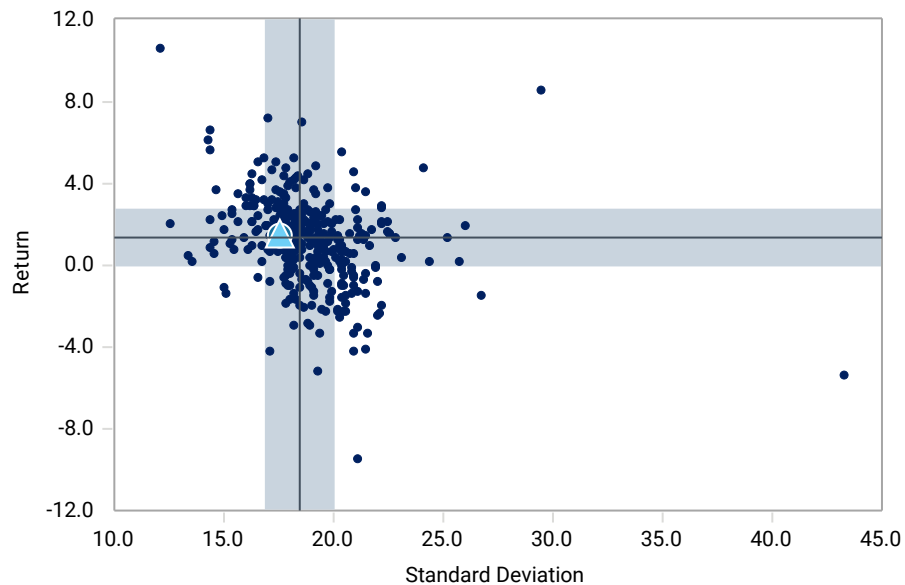
## Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

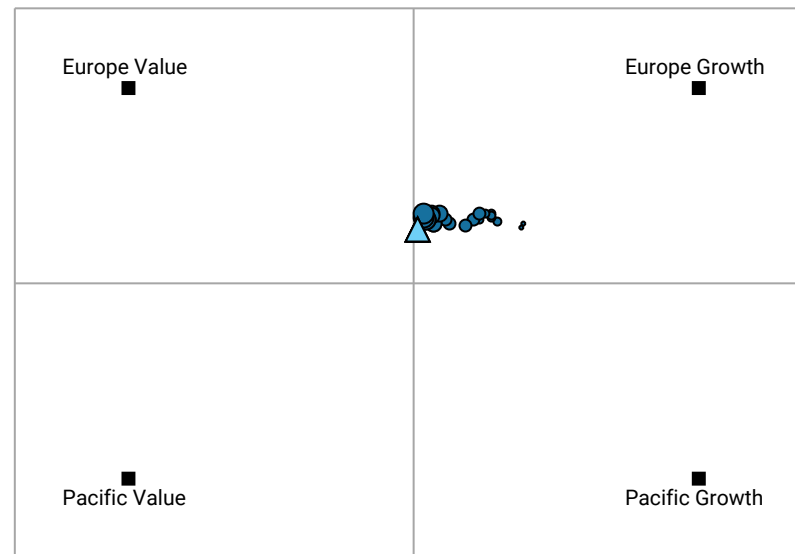
# LAZARD ASSET MANAGEMENT

5 Years Return vs. Standard Deviation

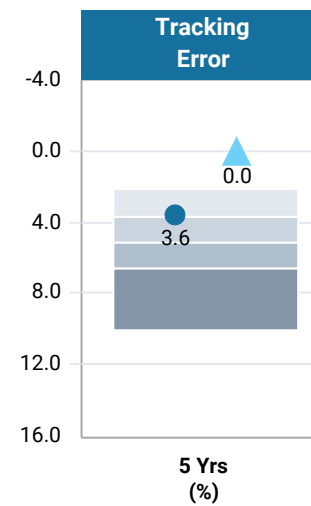
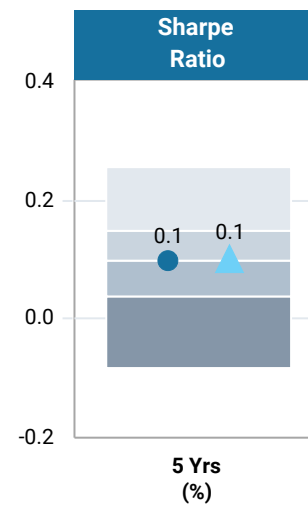
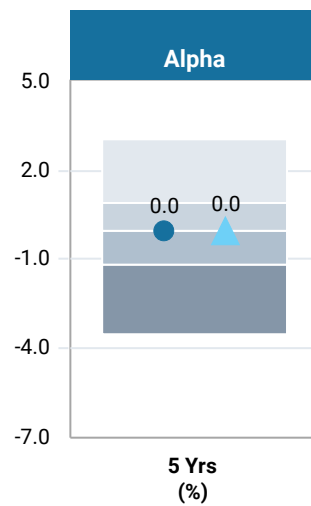
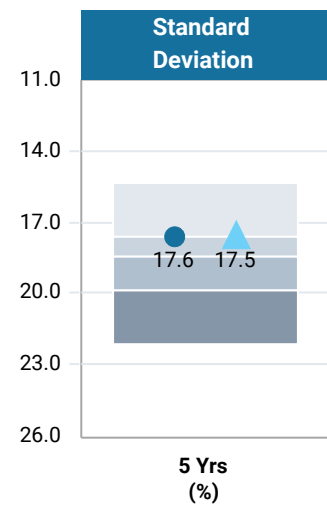
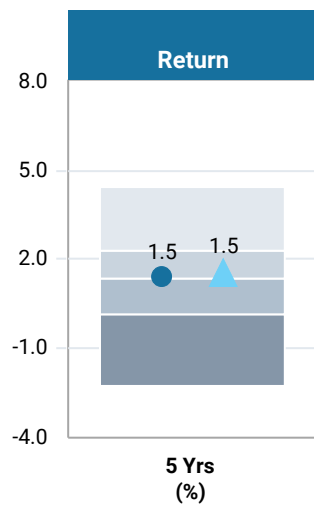


● Lazard Asset Management ▲ MSCI EAFE (Net)

Rolling 5 Years Style Map



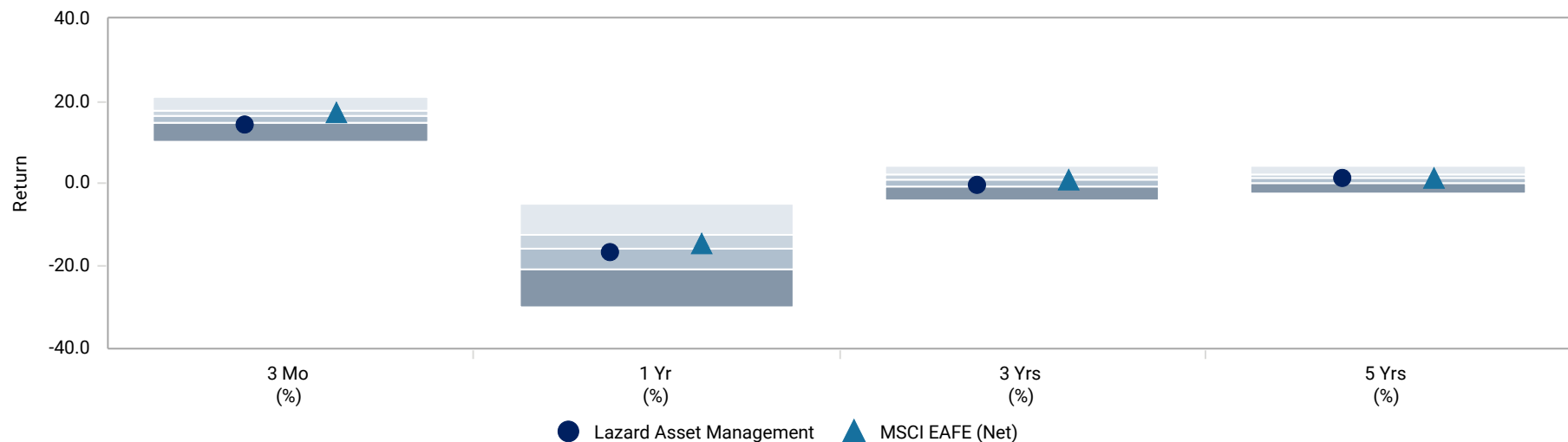
● Lazard Asset Management ▲ MSCI EAFE (Net)



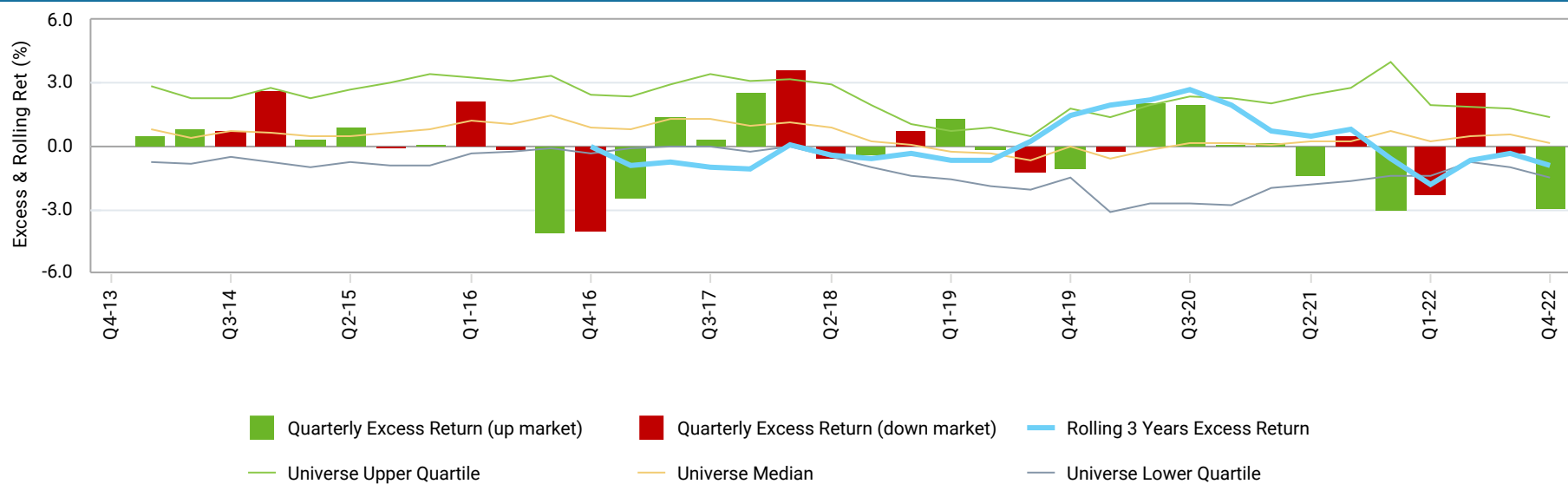
Los Angeles City Employees' Retirement System-LACERS Master Trust

# LAZARD ASSET MANAGEMENT

## eV All EAFE Equity (net of fees)



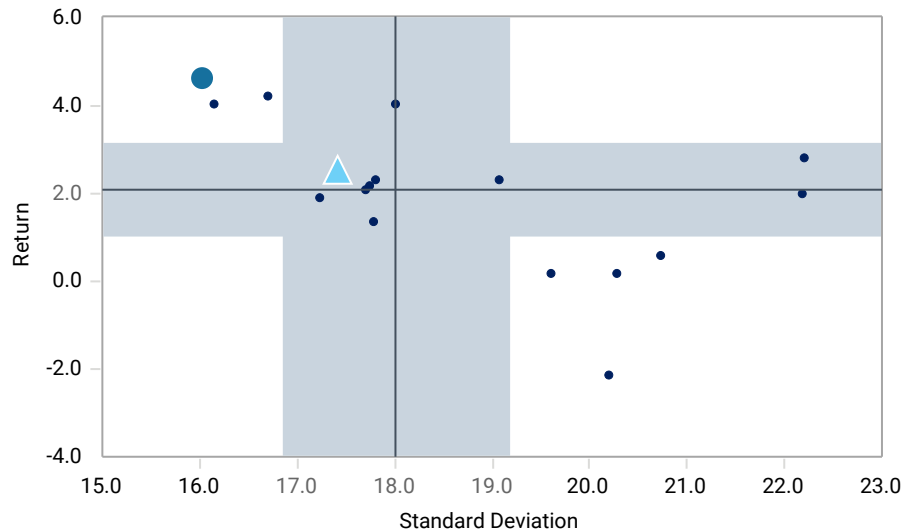
## Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

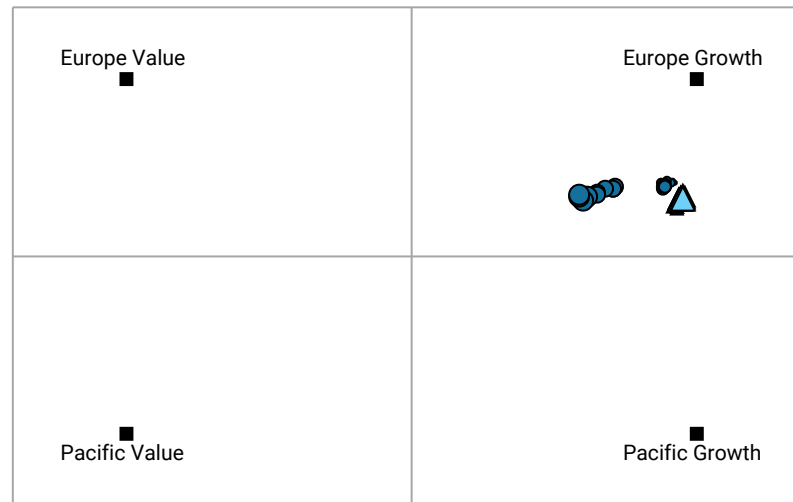
# MFS INSTITUTIONAL ADVISORS

5 Years Return vs. Standard Deviation

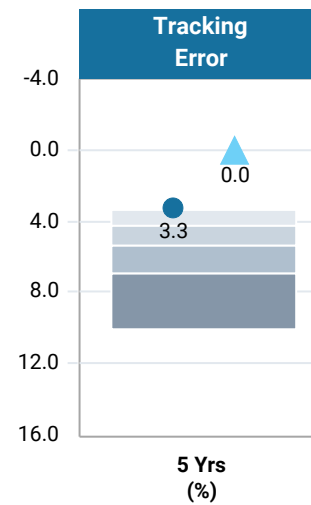
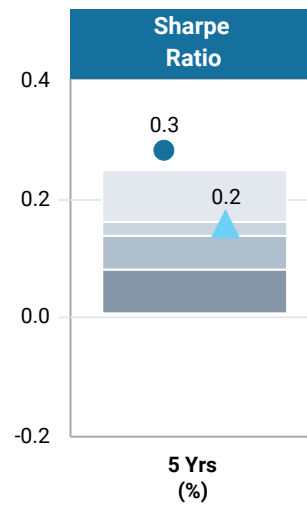
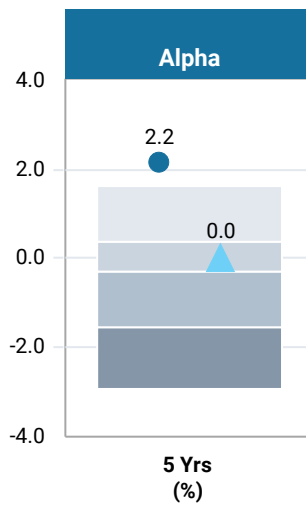
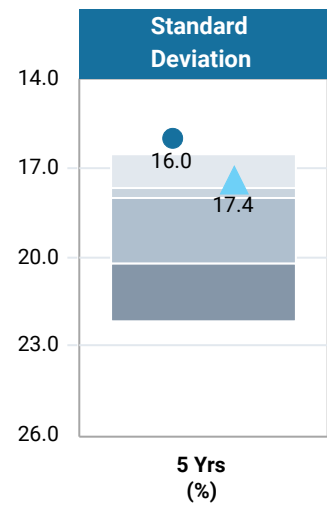
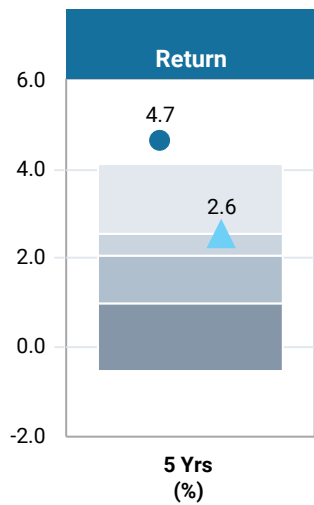


- MFS Institutional Advisors
- ▲ MSCI World ex USA Growth NR USD

Rolling 5 Years Style Map



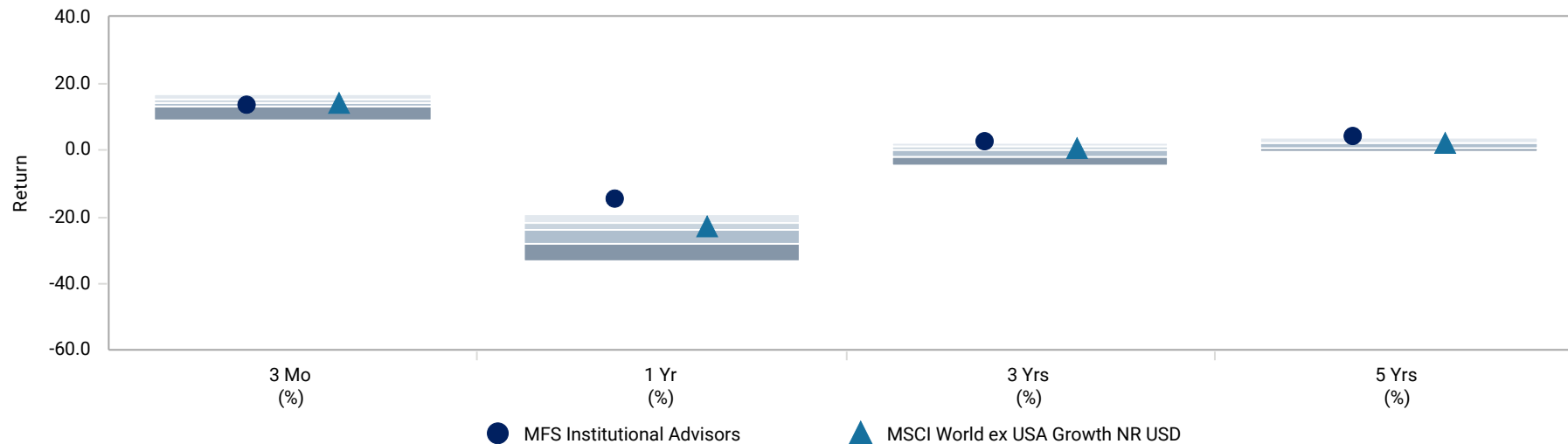
- MFS Institutional Advisors
- ▲ MSCI World ex USA Growth NR USD



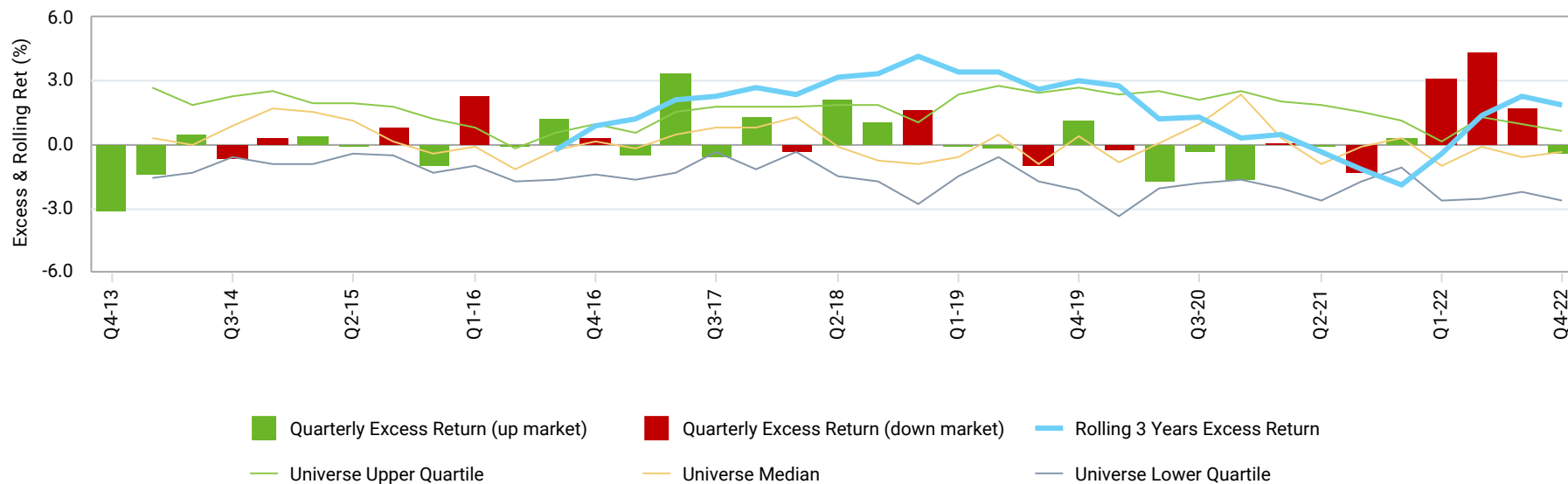
Los Angeles City Employees' Retirement System-LACERS Master Trust

# MFS INSTITUTIONAL ADVISORS

eV EAFE All Cap Growth (net of fees)



Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022

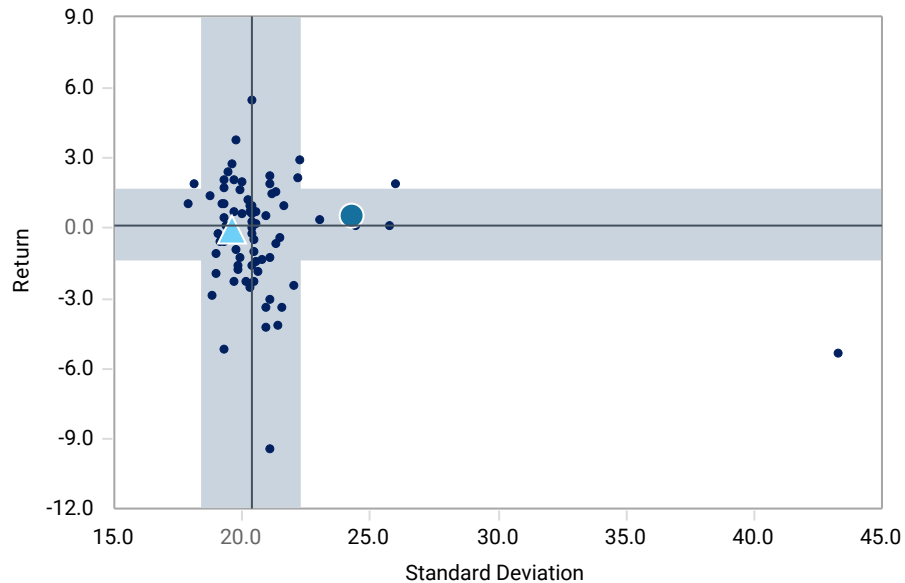




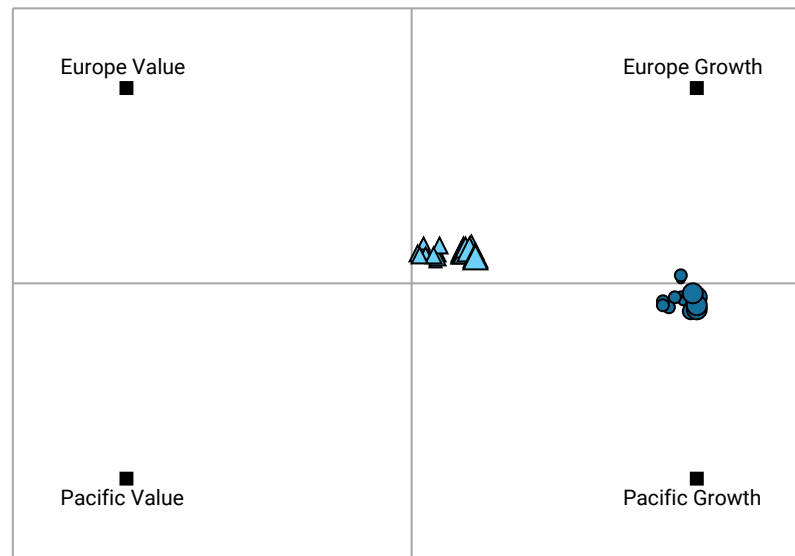
Los Angeles City Employees' Retirement System-LACERS Master Trust

# OBERWEIS ASSET MGMT

5 Years Return vs. Standard Deviation

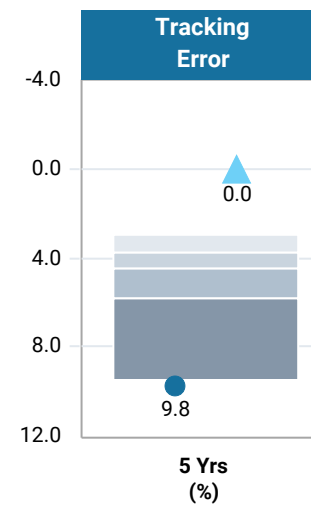
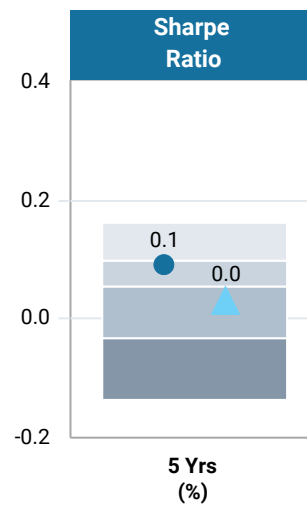
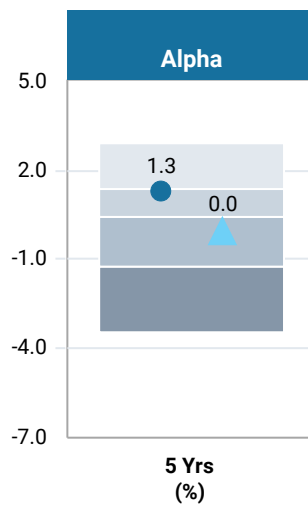
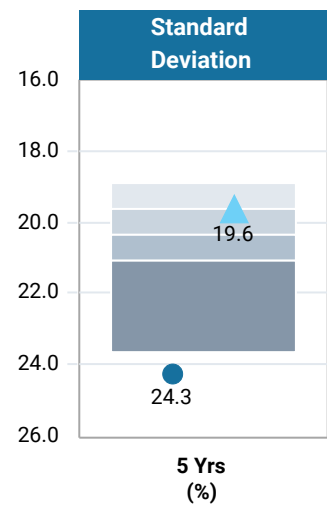
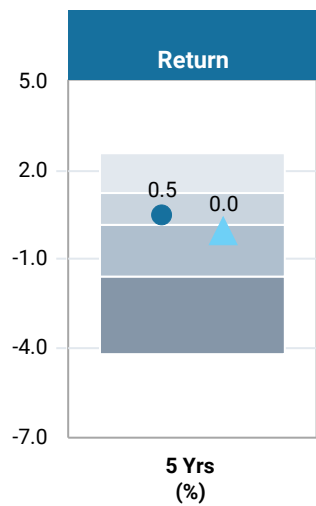


Rolling 5 Years Style Map



● Oberweis Asset Mgmt    ▲ MSCI EAFE Small Cap (Net)

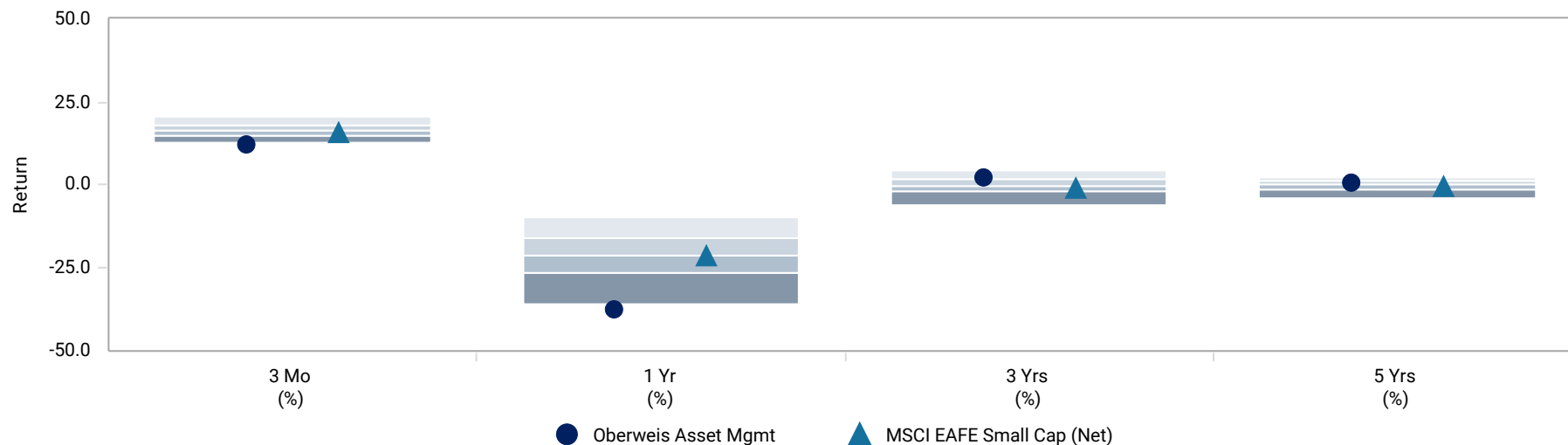
● Oberweis Asset Mgmt    ▲ MSCI EAFE Small Cap (Net)



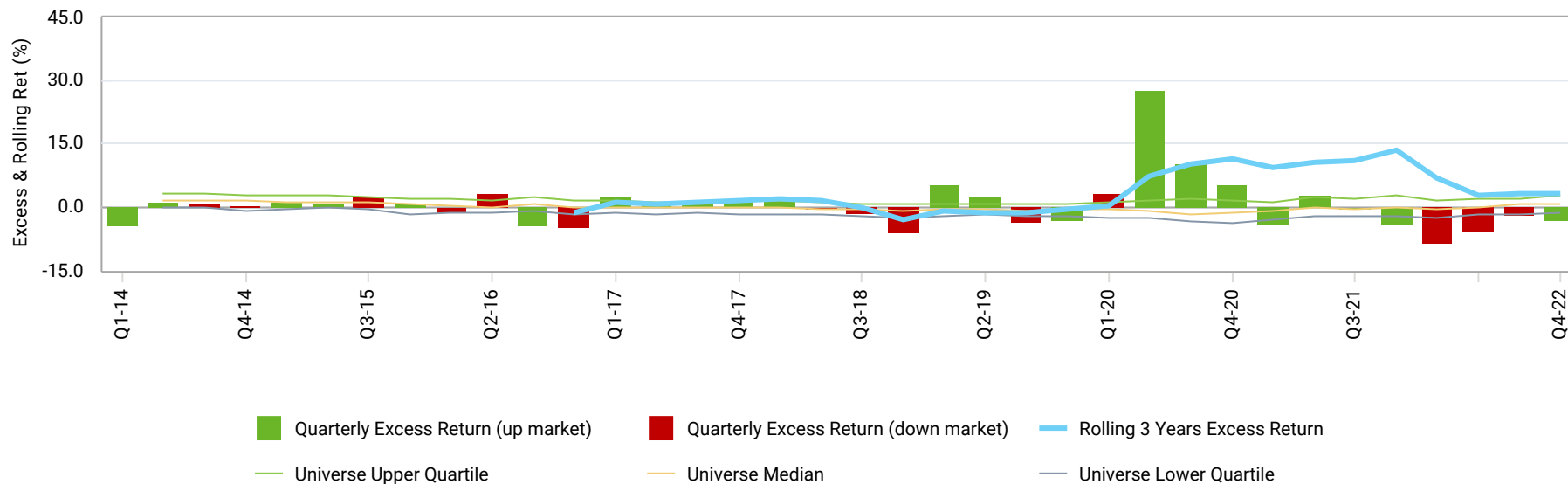
Los Angeles City Employees' Retirement System-LACERS Master Trust

# OBERWEIS ASSET MGMT

eV EAFE Small Cap Equity (net of fees)



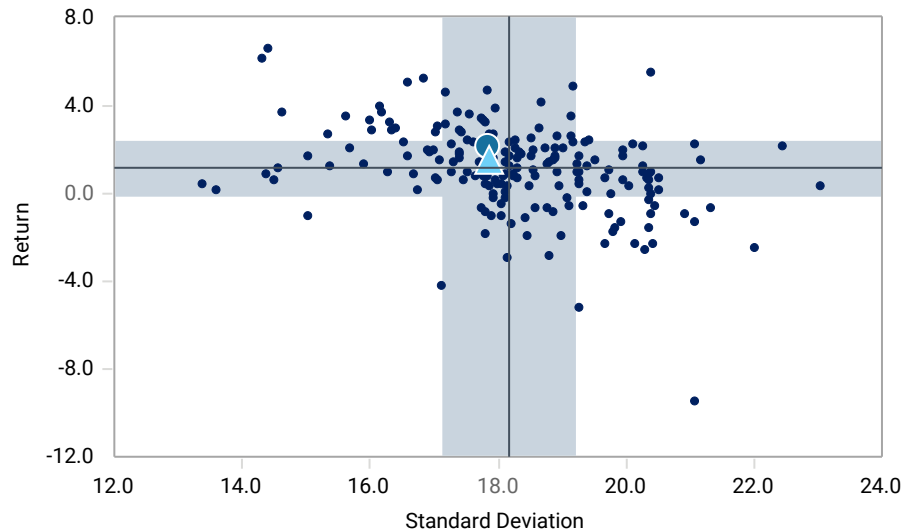
Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

# SSGA WORLD EX US IMI

5 Years Return vs. Standard Deviation

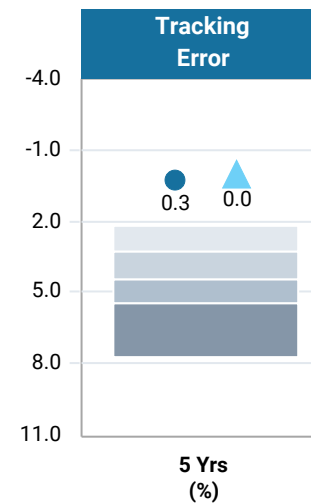
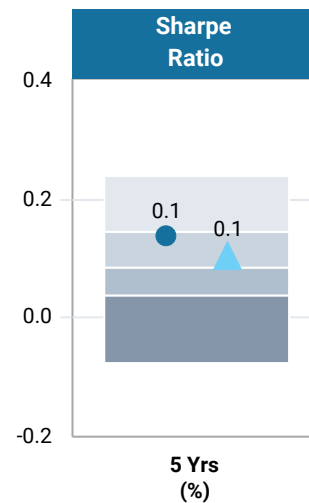
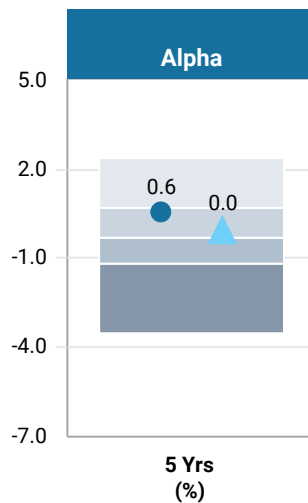
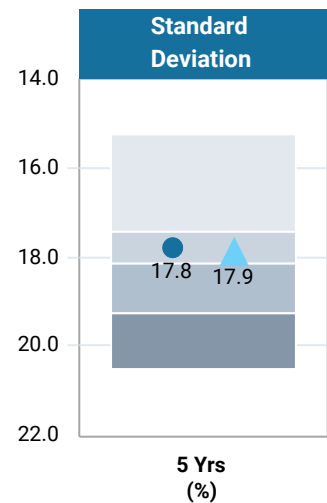
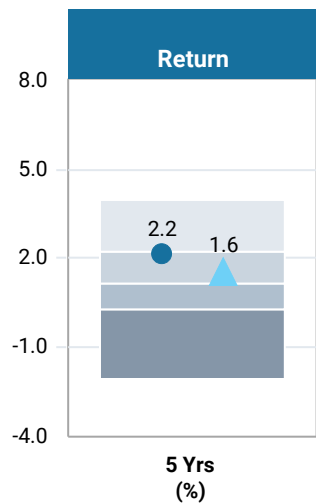


● SSGA World ex US IMI  
▲ MSCI World ex U.S. IMI Index (Net)

Rolling 5 Years Style Map



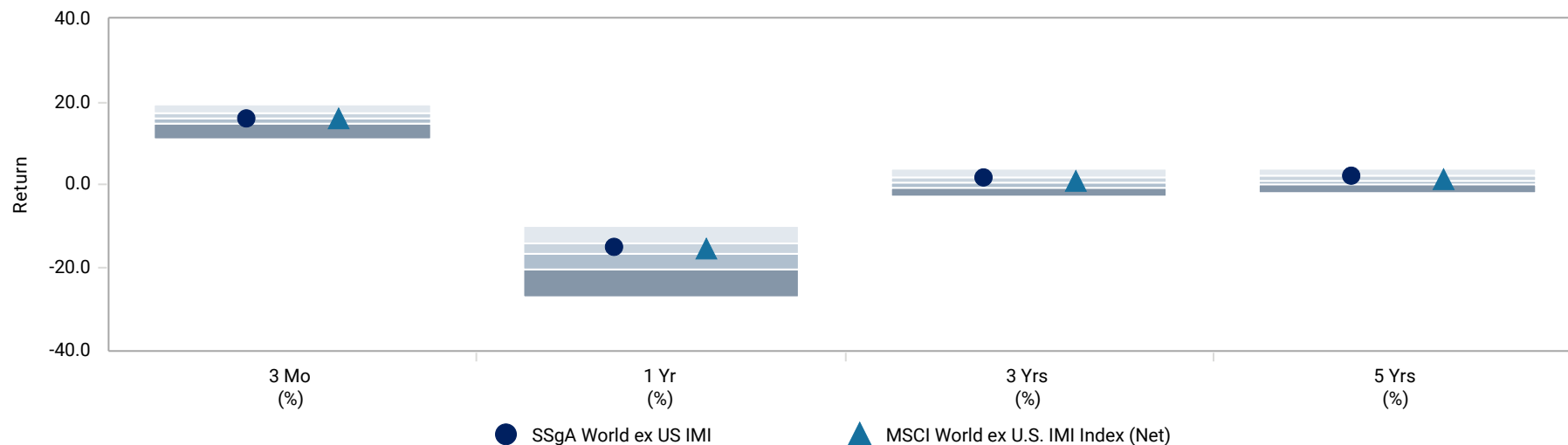
● SSGA World ex US IMI  
▲ MSCI World ex U.S. IMI Index (Net)



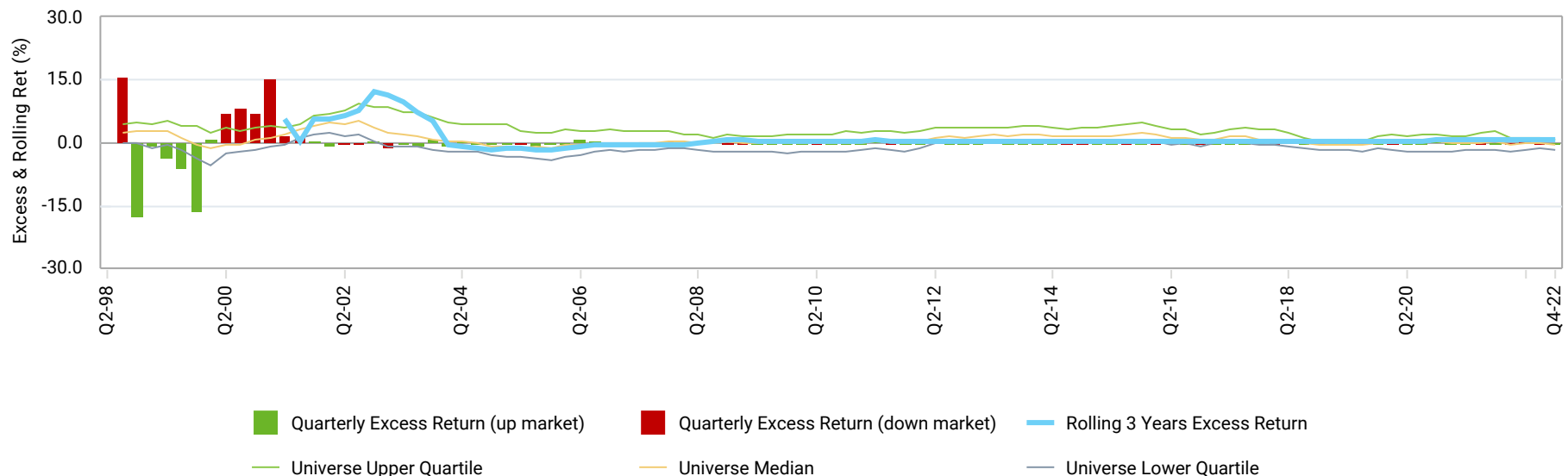
Los Angeles City Employees' Retirement System-LACERS Master Trust

# SSGA WORLD EX US IMI

## eV EAFE Core Equity (net of fees)



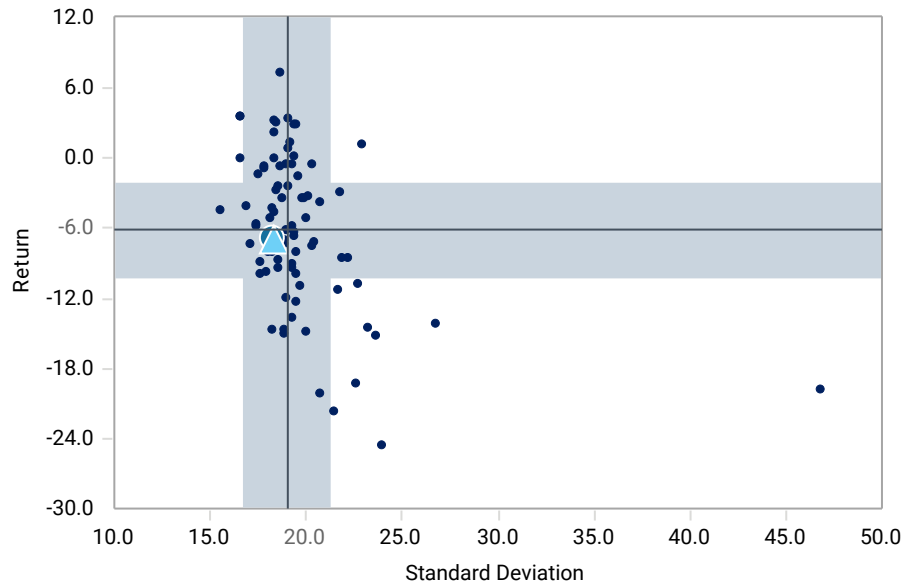
## Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022



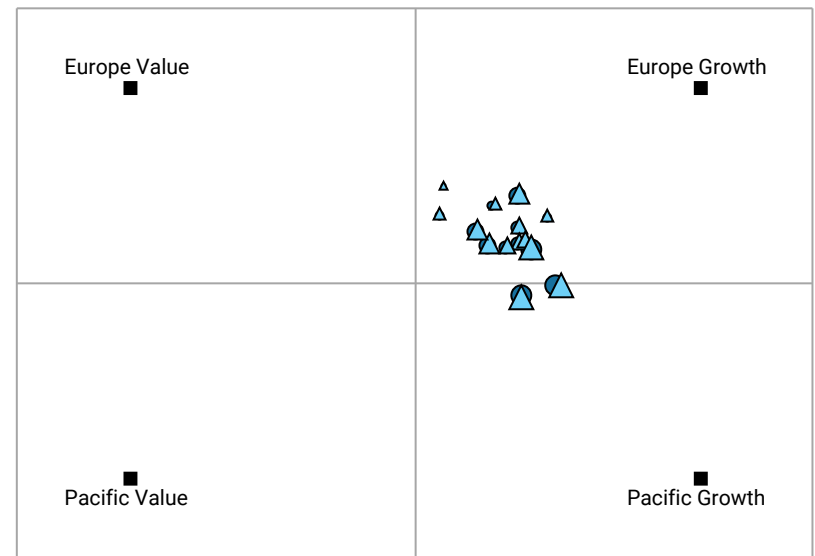
# Los Angeles City Employees' Retirement System-LACERS Master Trust

## SSGA EAFE SC

Since Inception Return vs. Standard Deviation

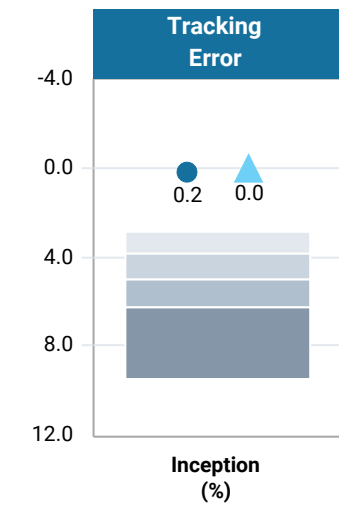
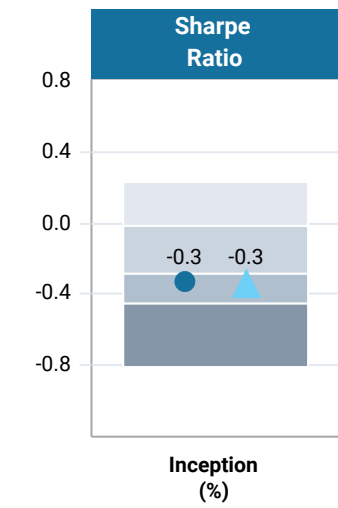
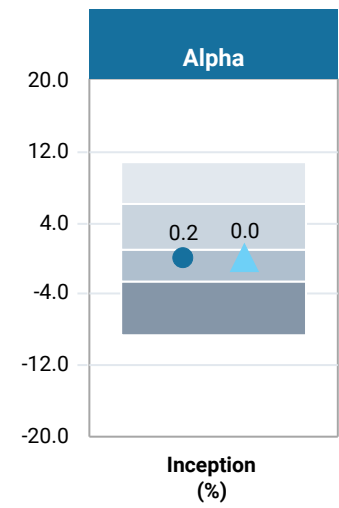
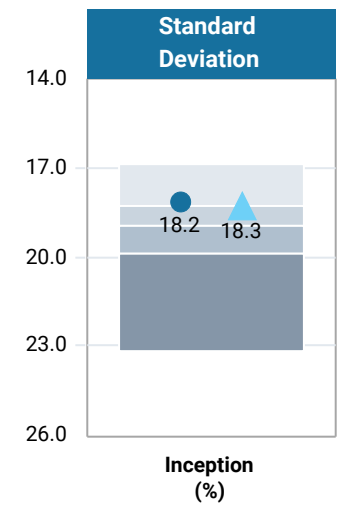
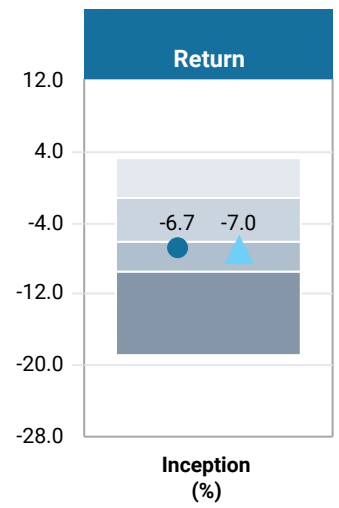


Rolling 0.75 Year Style Map



● State Street EAFE SC    ▲ MSCI EAFE Small Cap (Net)

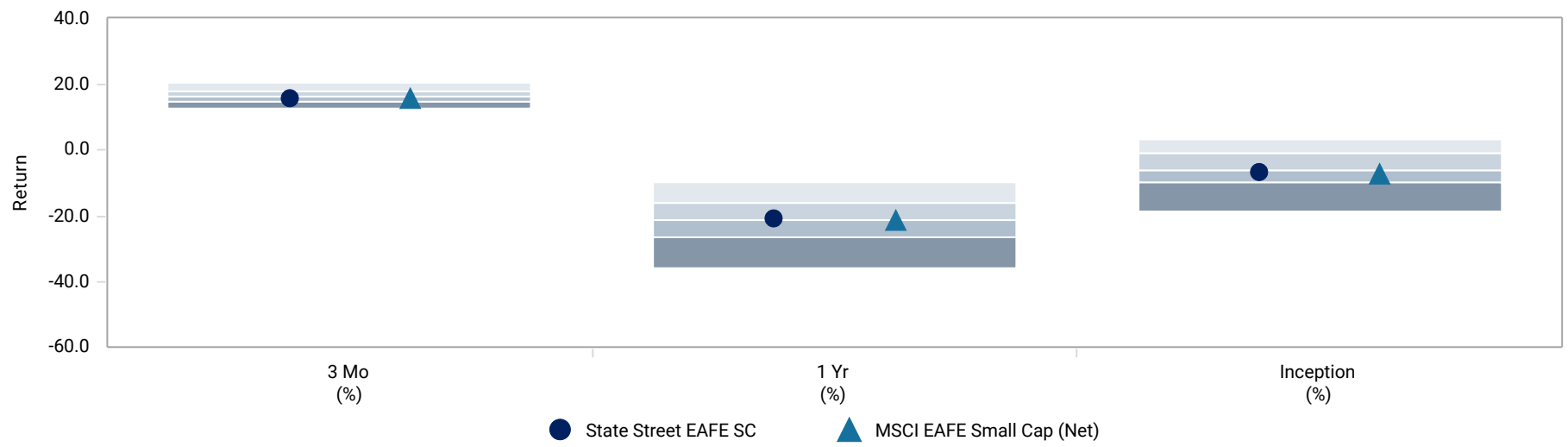
● State Street EAFE SC    ▲ MSCI EAFE Small Cap (Net)



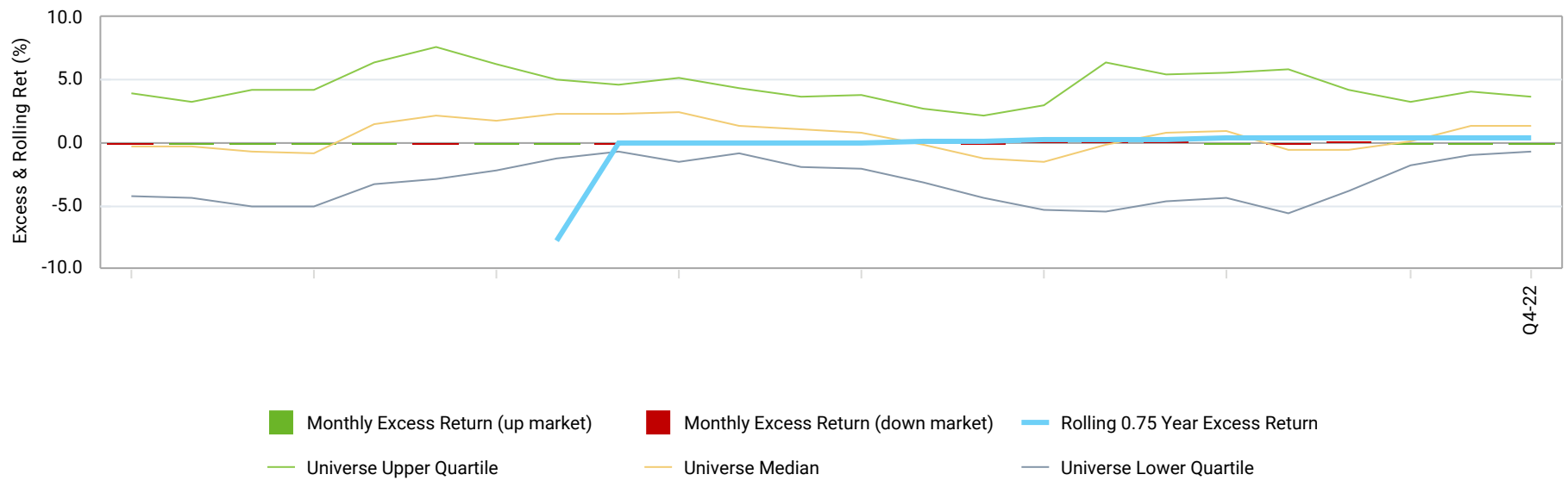
Los Angeles City Employees' Retirement System-LACERS Master Trust

# SSGA EAFE SC

## eV EAFE Small Cap Equity (net of fees)



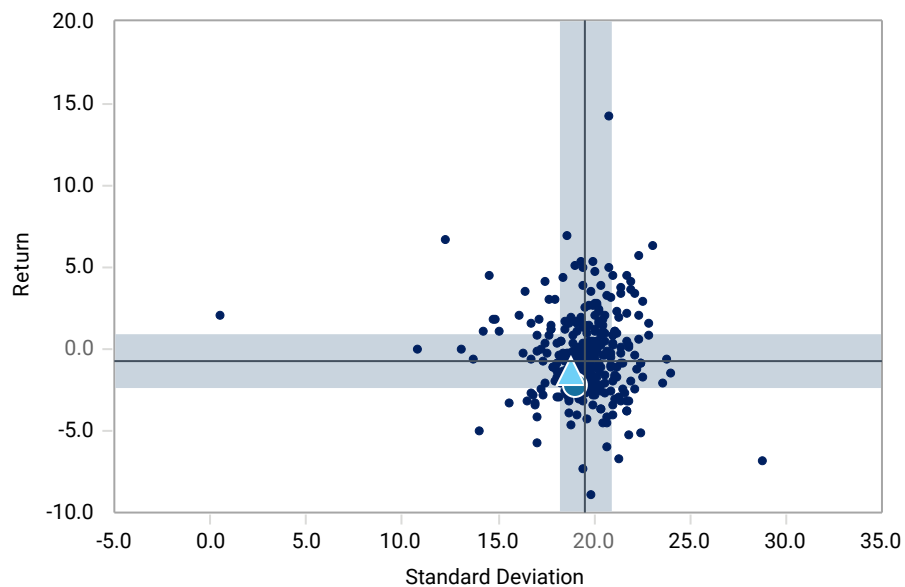
## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

# AXIOM EMERGING MARKETS

5 Years Return vs. Standard Deviation

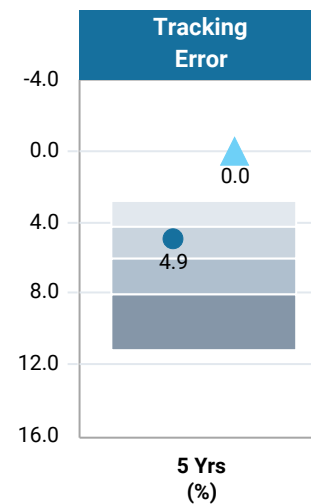
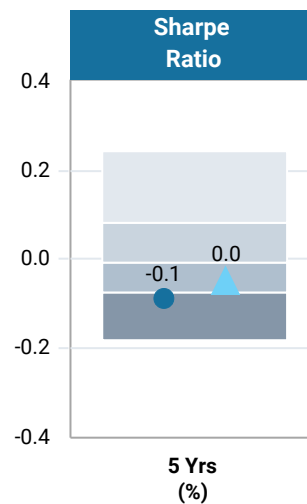
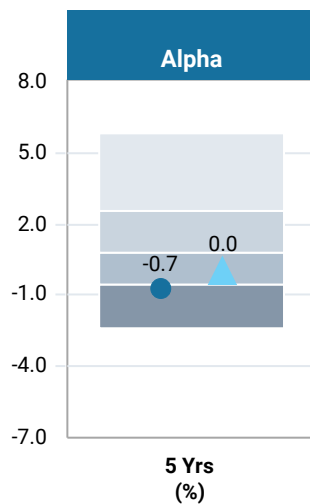
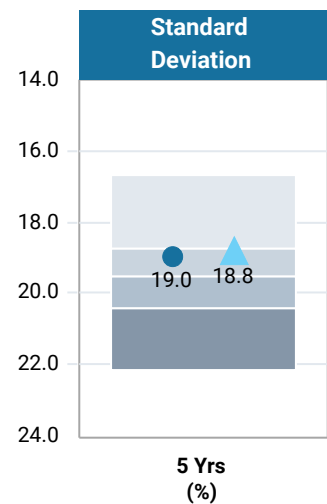
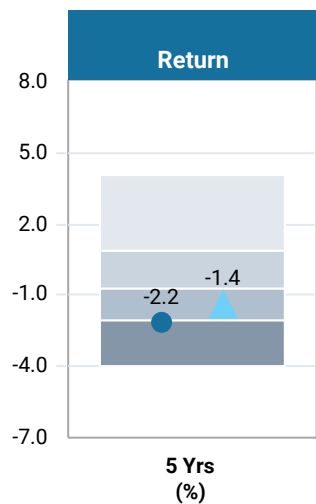


Rolling 5 Years Style Map



● Axiom Emerging Markets    ▲ MSCI Emerging Markets (Net)

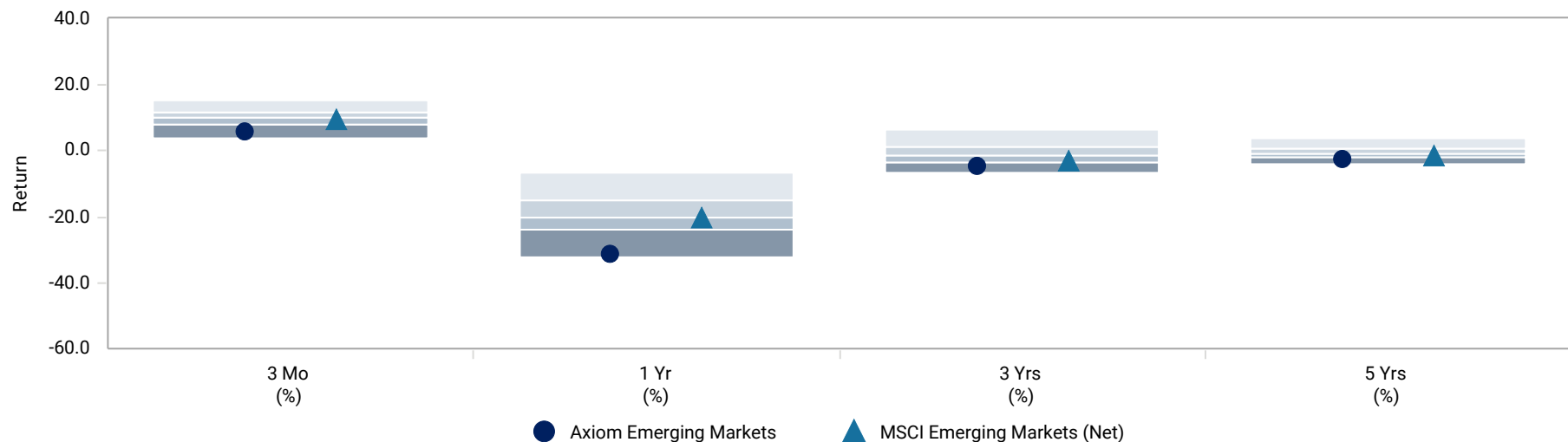
● Axiom Emerging Markets    ▲ MSCI Emerging Markets (Net)



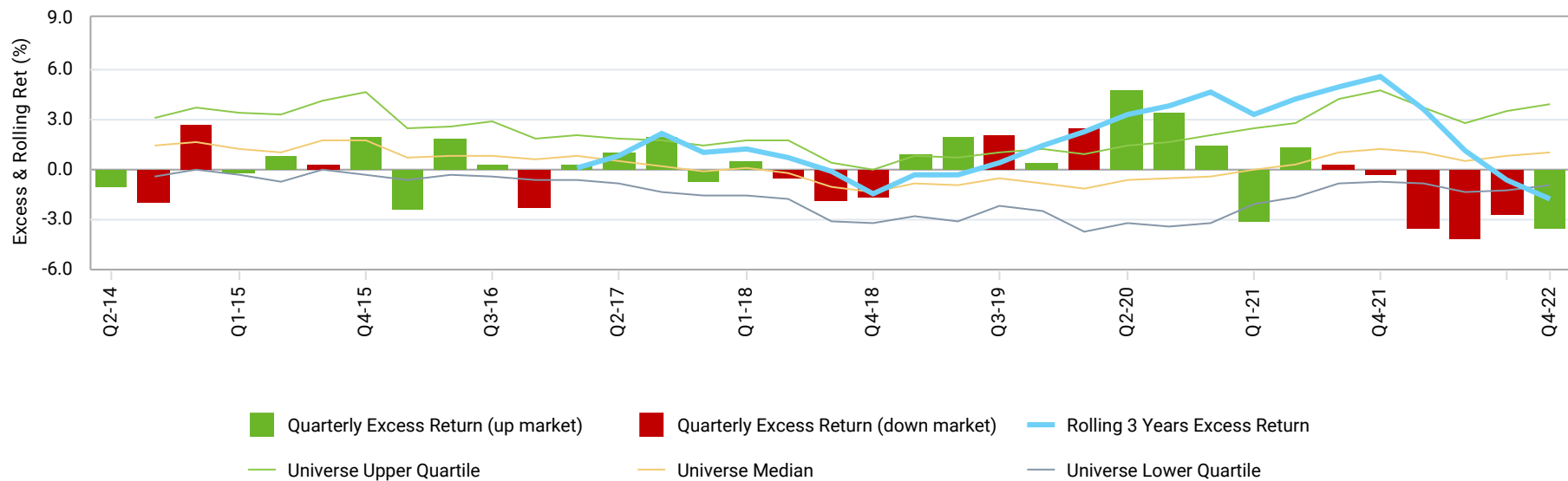
Los Angeles City Employees' Retirement System-LACERS Master Trust

# AXIOM EMERGING MARKETS

## eV Emg Mkts Equity (net of fees)



## Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022

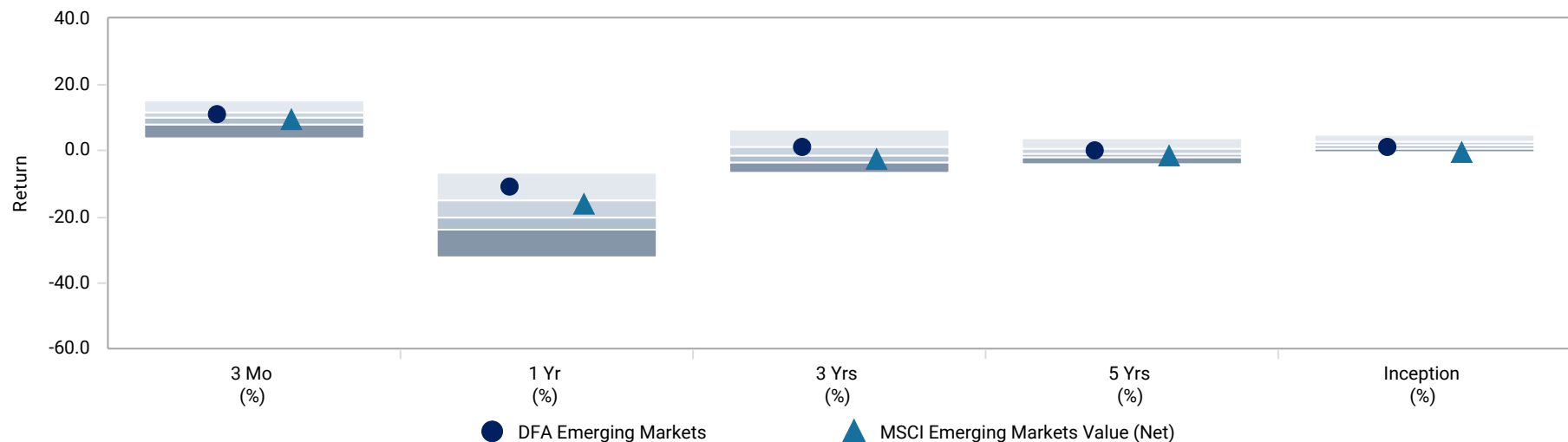




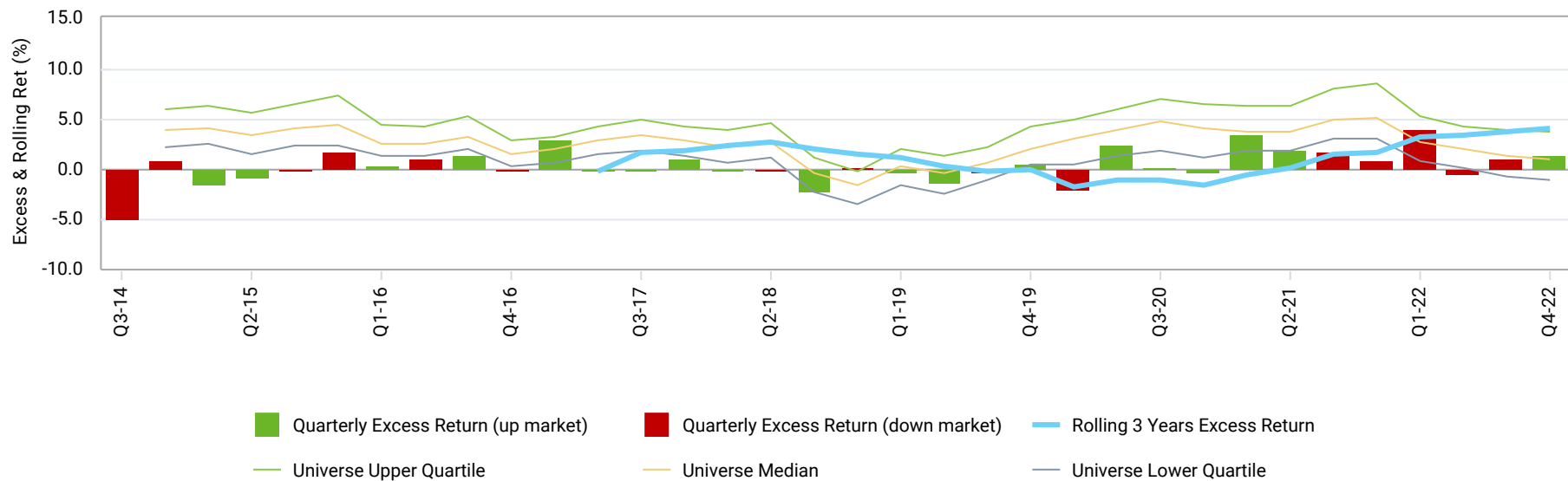
Los Angeles City Employees' Retirement System-LACERS Master Trust

# DFA EMERGING MARKETS

## eV Emg Mkts Equity (net of fees)



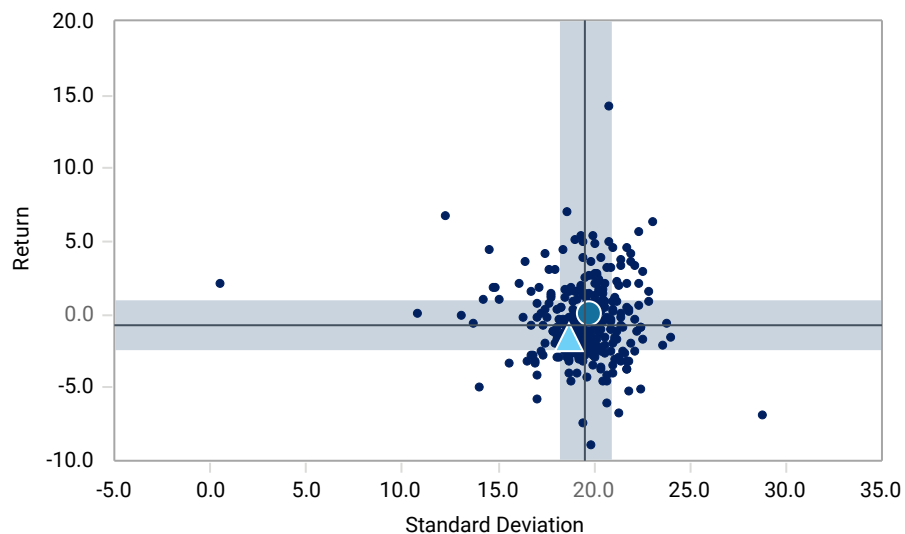
## Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

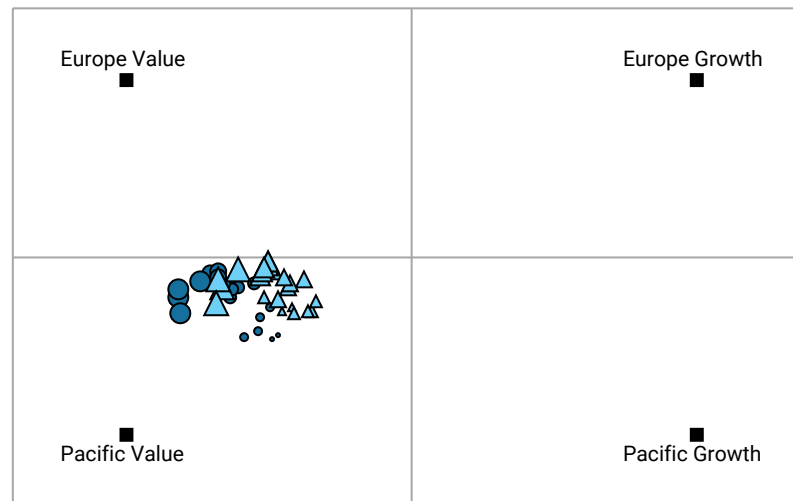
# DFA EMERGING MARKETS

5 Years Return vs. Standard Deviation

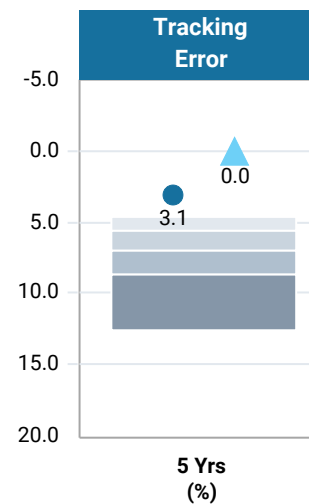
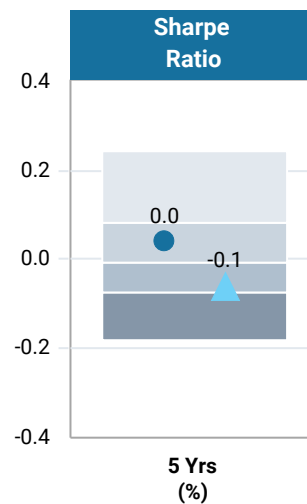
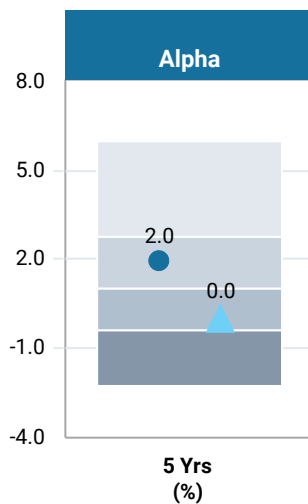
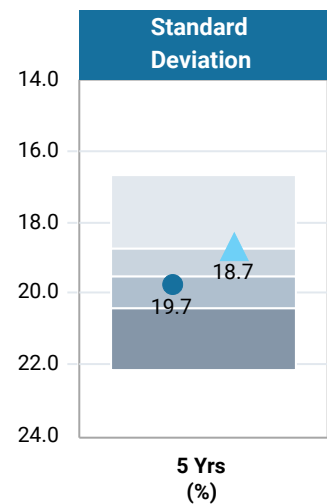
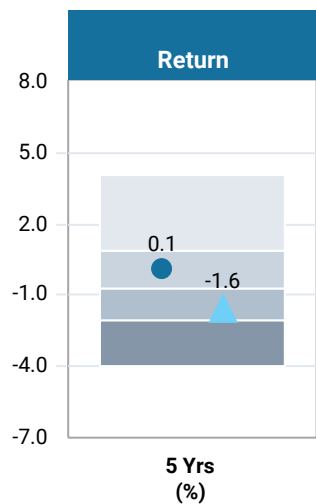


- DFA Emerging Markets
- ▲ MSCI Emerging Markets Value (Net)

Rolling 5 Years Style Map



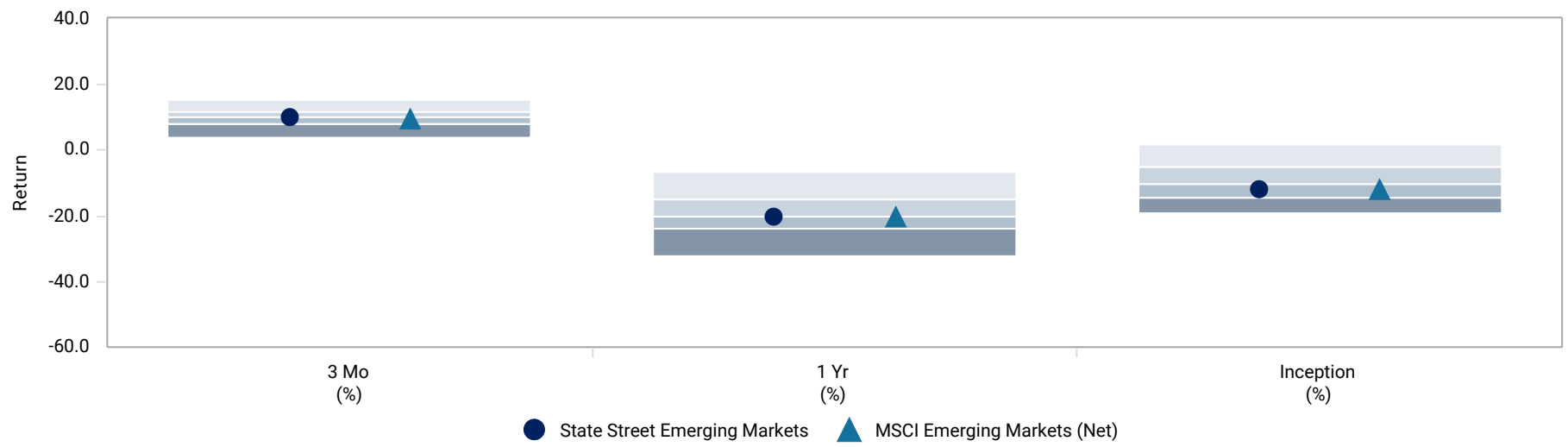
- DFA Emerging Markets
- ▲ MSCI Emerging Markets Value (Net)



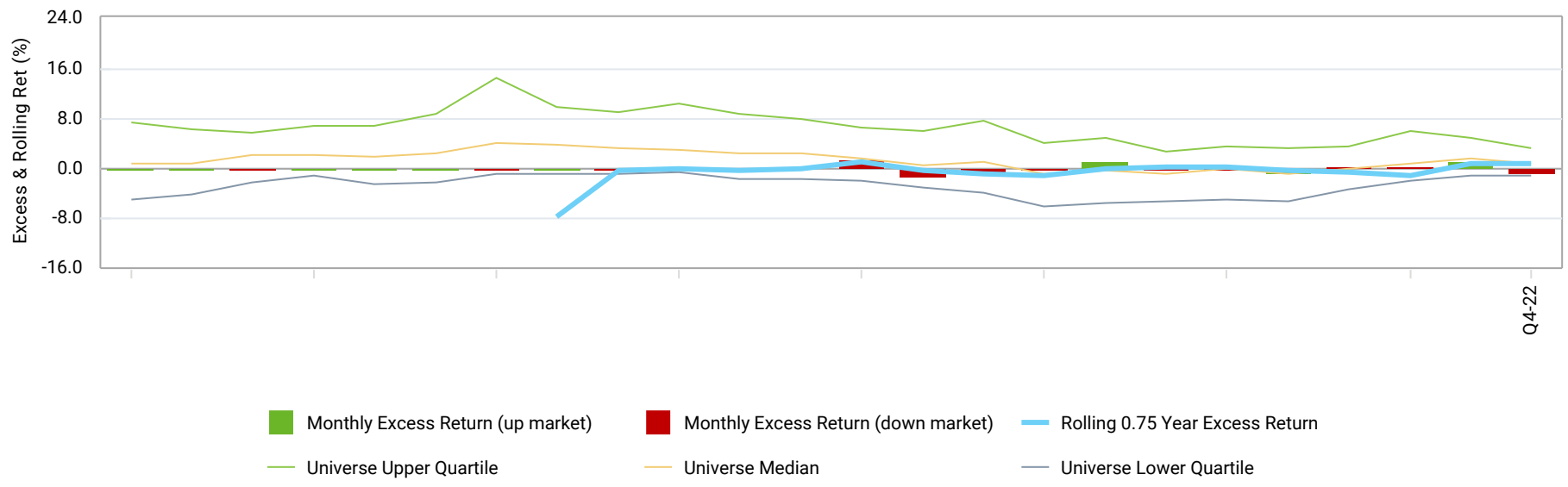
Los Angeles City Employees' Retirement System-LACERS Master Trust

# SSGA EMERGING MARKETS

## eV Emg Mkts Equity (net of fees)



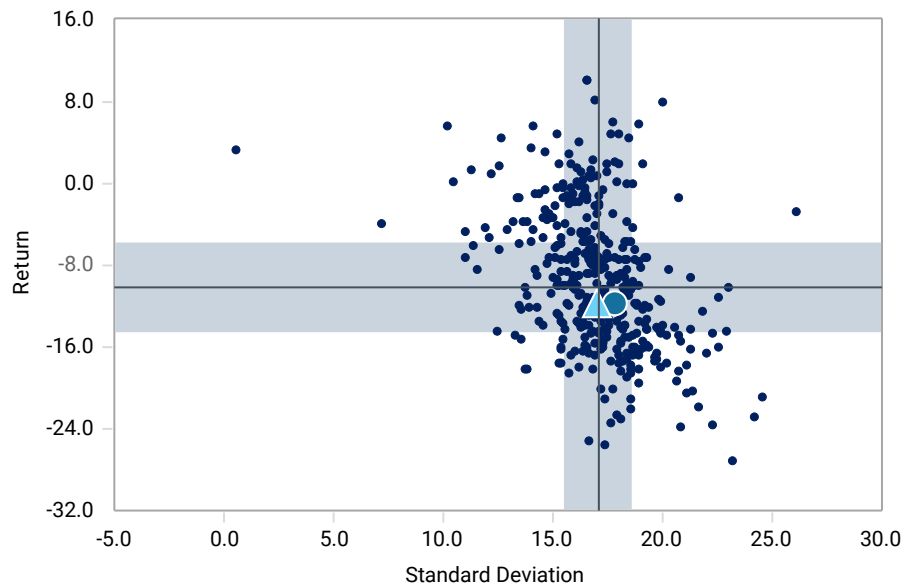
## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

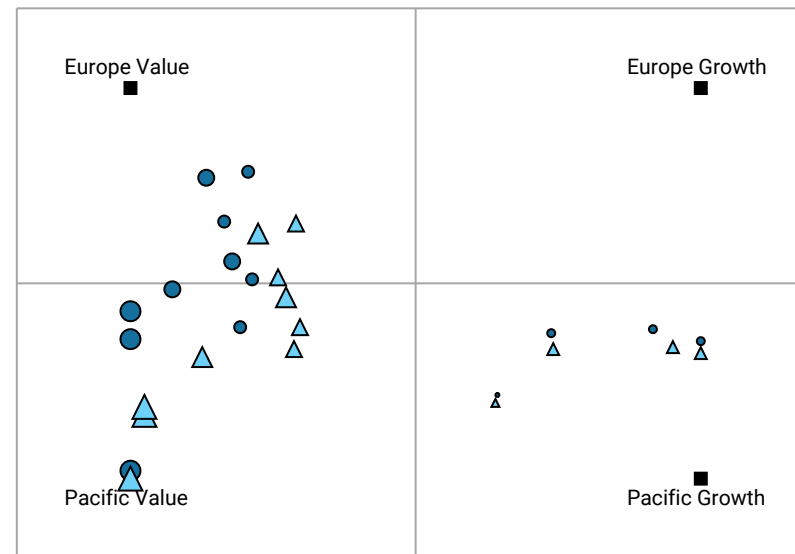
# SSGA EMERGING MARKETS

Since Inception Return vs. Standard Deviation

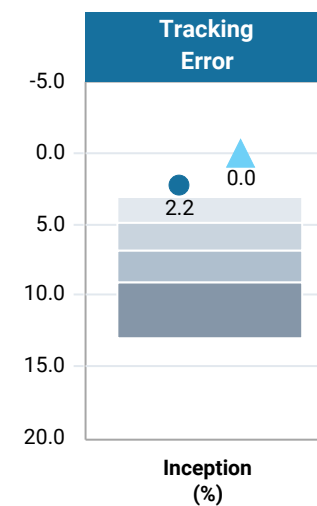
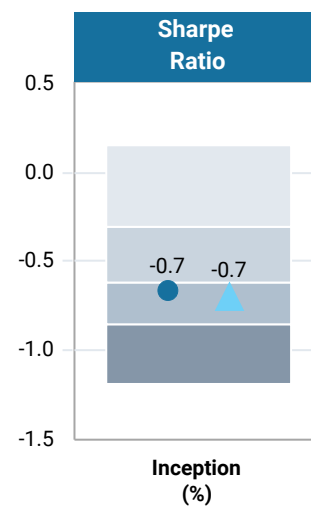
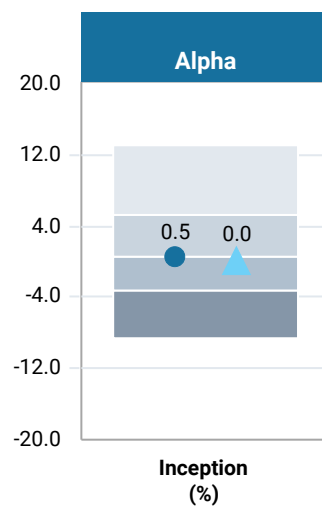
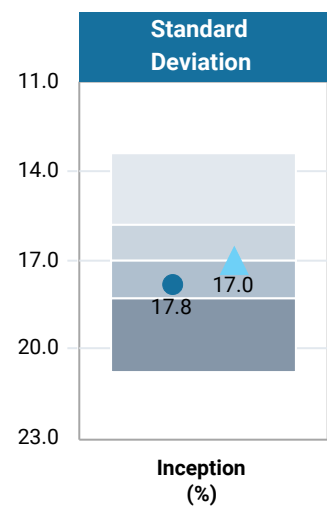
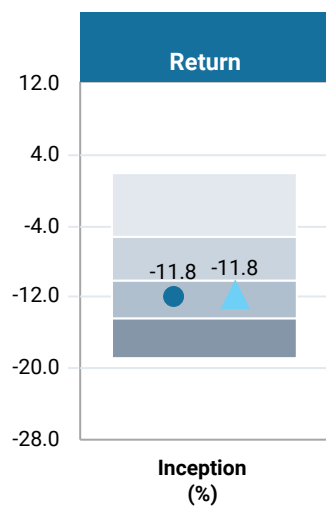


● State Street Emerging Markets ▲ MSCI Emerging Markets (Net)

Rolling 0.75 Year Style Map



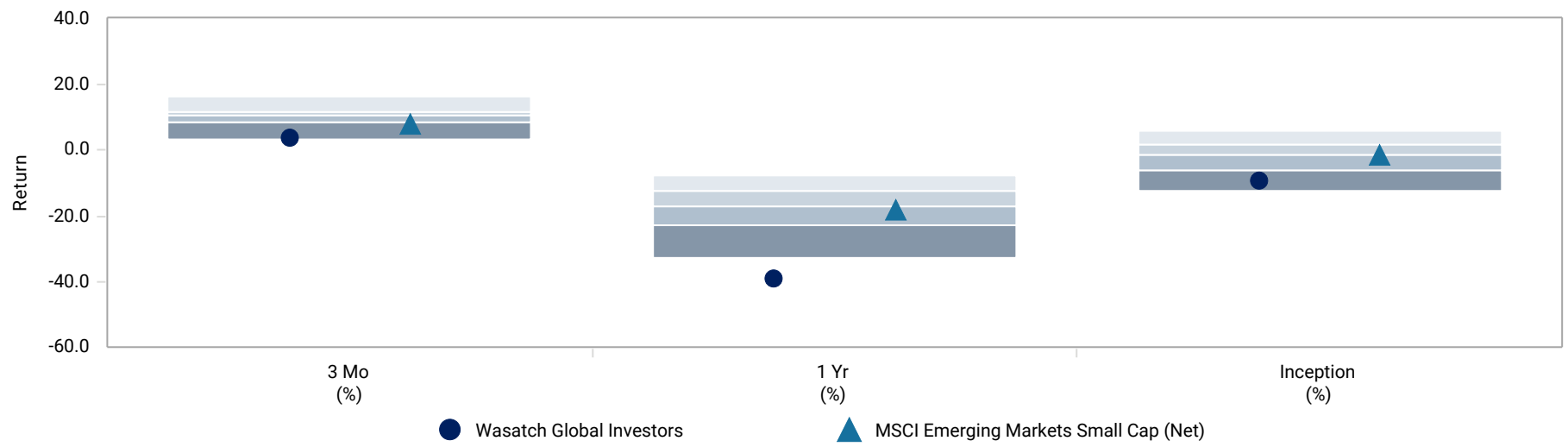
● State Street Emerging Markets ▲ MSCI Emerging Markets (Net)



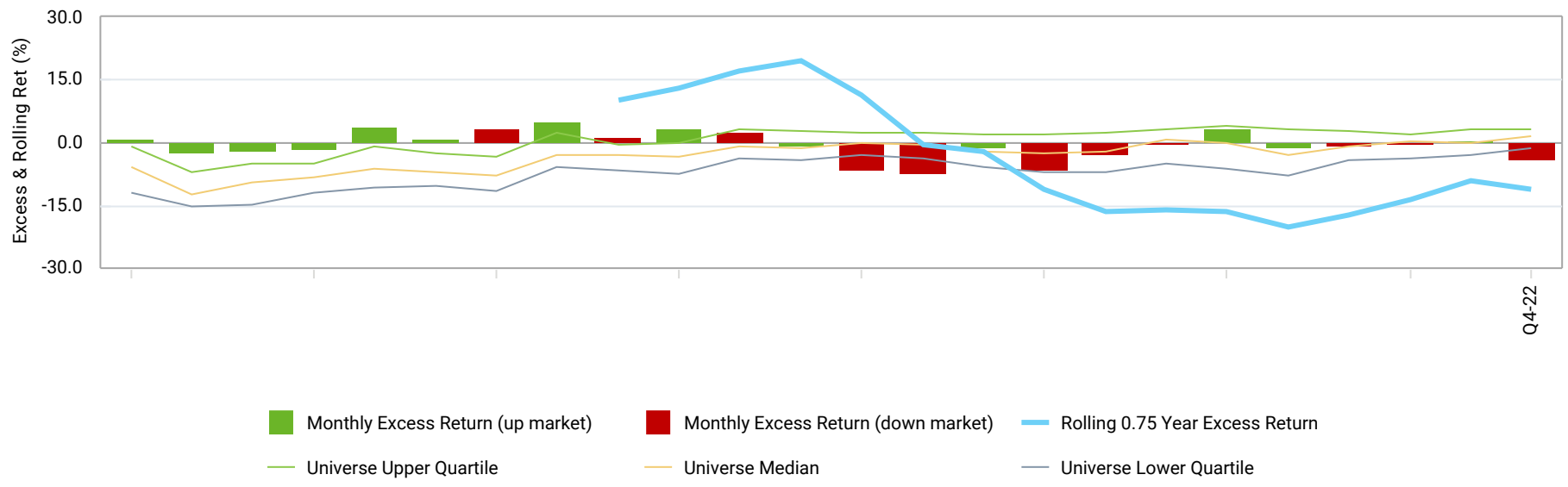
Los Angeles City Employees' Retirement System-LACERS Master Trust

# WASATCH GLOBAL INVESTORS

## eV Emg Mkts Small Cap Equity (net of fees)



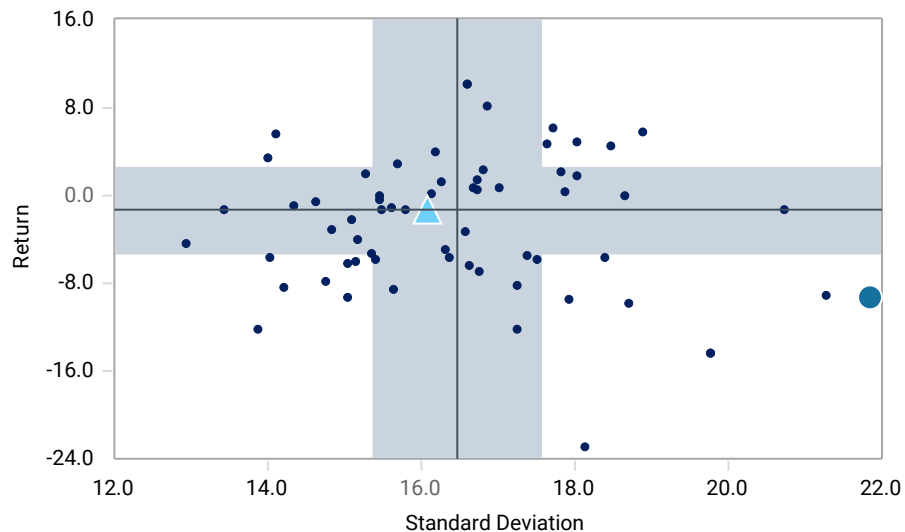
## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

# WASATCH GLOBAL INVESTORS

Since Inception Return vs. Standard Deviation

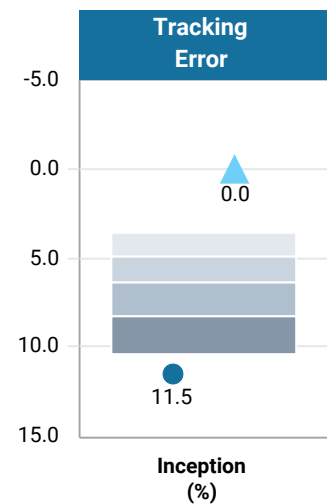
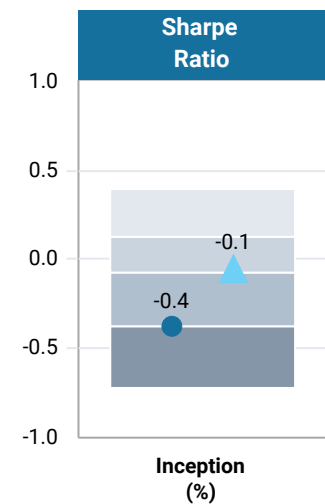
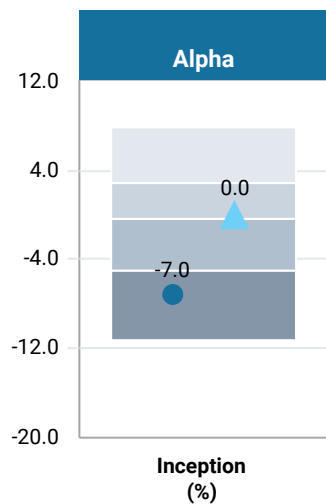
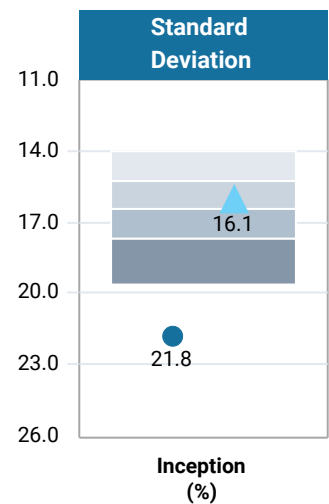
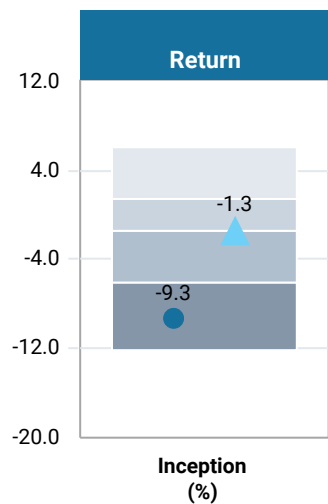


- Wasatch Global Investors
- ▲ MSCI Emerging Markets Small Cap (Net)

Rolling 0.75 Year Style Map



- Wasatch Global Investors
- ▲ MSCI Emerging Markets Small Cap (Net)

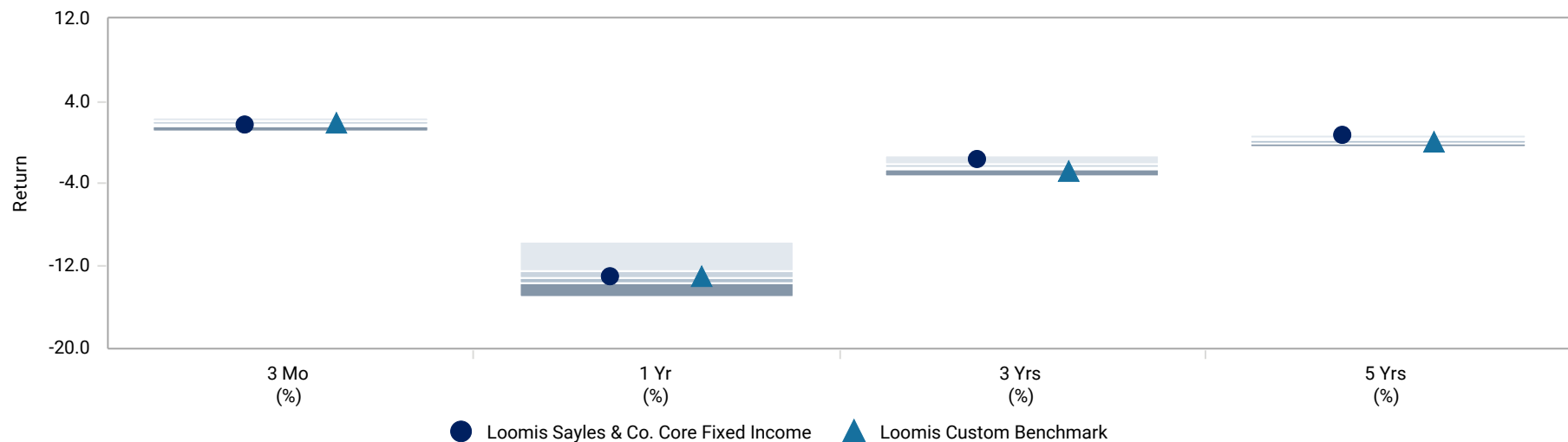


# CORE FIXED INCOME MANAGER PERFORMANCE

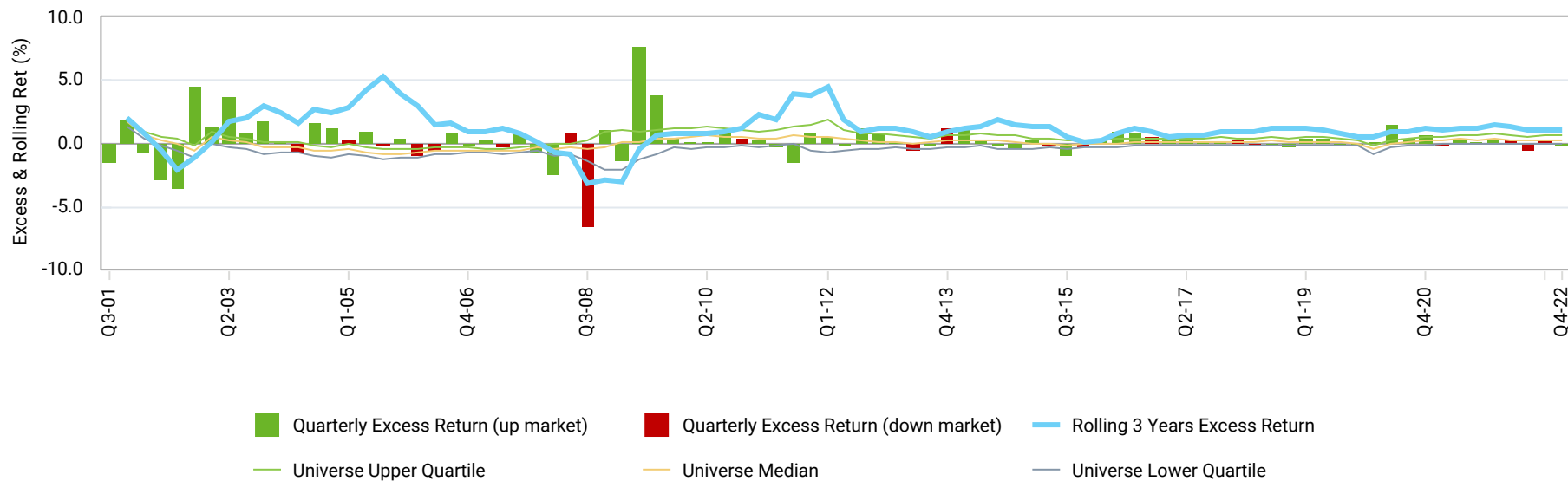
Los Angeles City Employees' Retirement System-LACERS Master Trust

# LOOMIS SAYLES & CO. CORE FIXED INCOME

## eV US Core Fixed Inc (net of fees)



## Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022

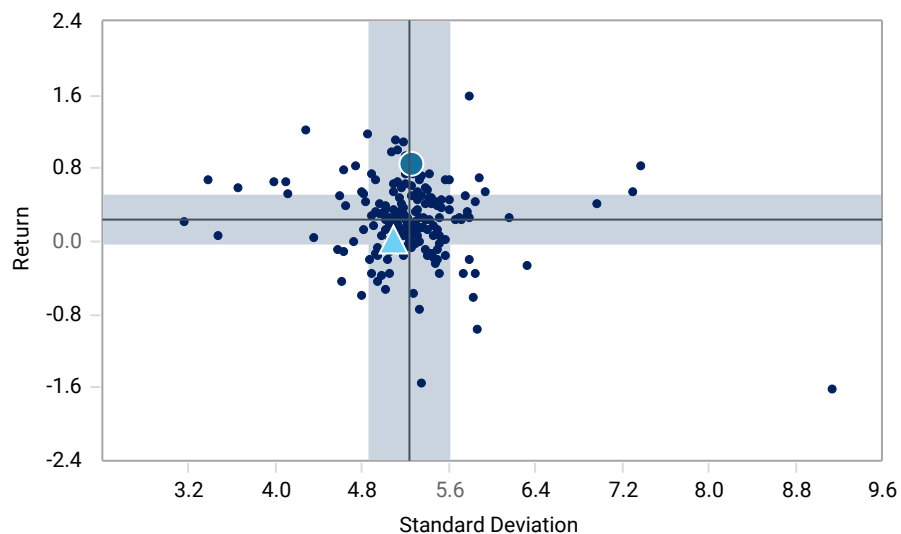




Los Angeles City Employees' Retirement System-LACERS Master Trust

# LOOMIS SAYLES & CO. CORE FIXED INCOME

5 Years Return vs. Standard Deviation

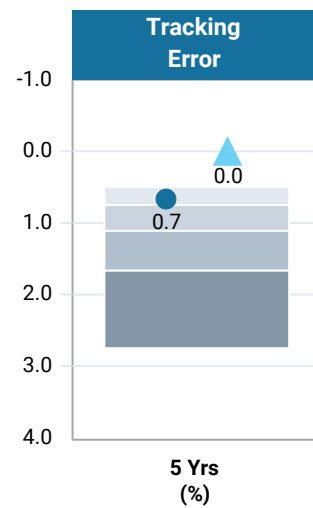
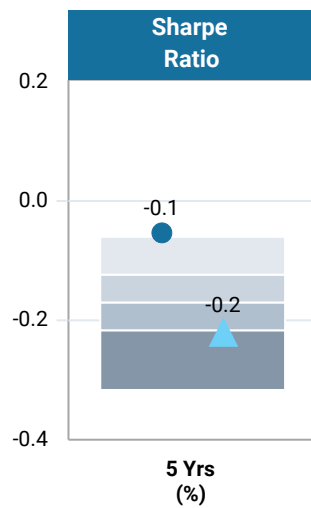
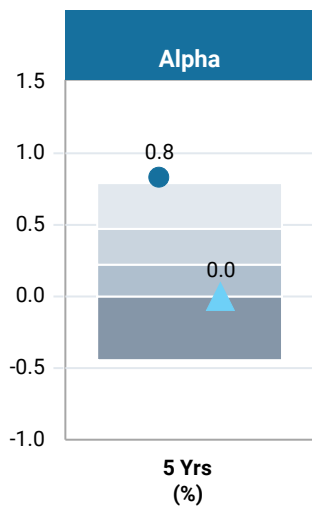
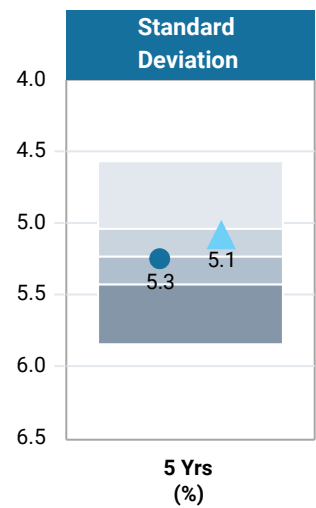
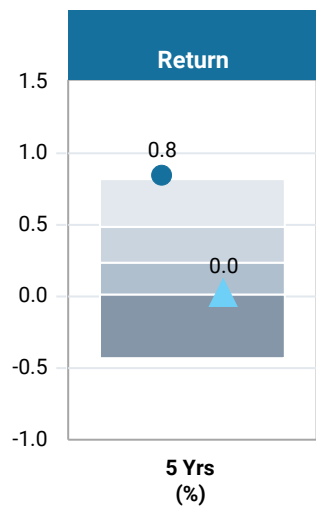


Style Map: (5 Years)



● Loomis Sayles & Co. Core Fixed Income  
▲ Loomis Custom Benchmark

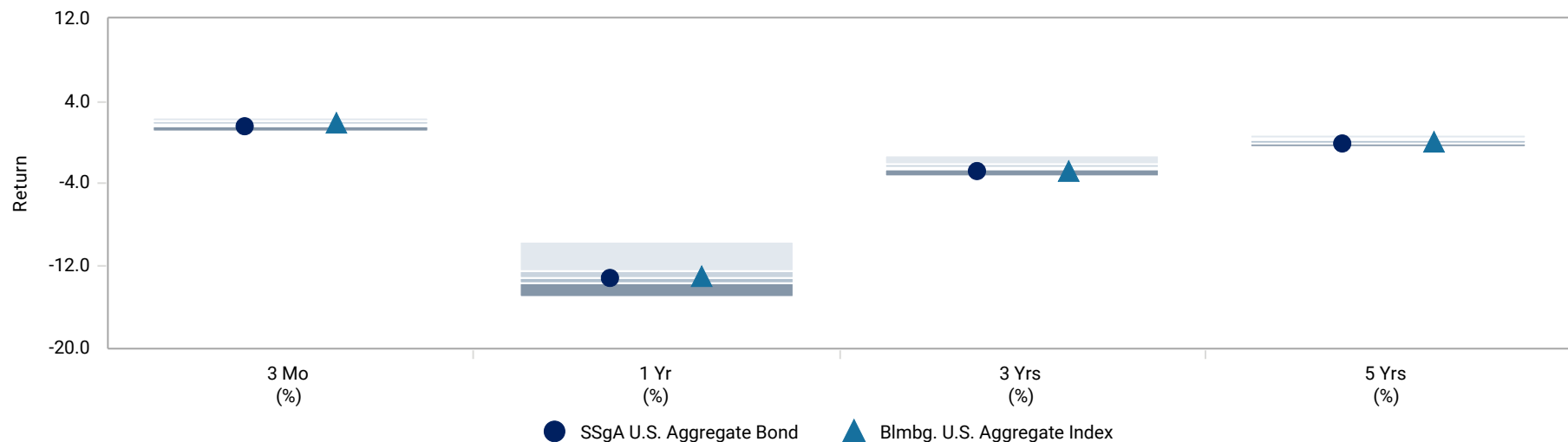
● Loomis Sayles & Co. Core Fixed Income  
▲ Loomis Custom Benchmark



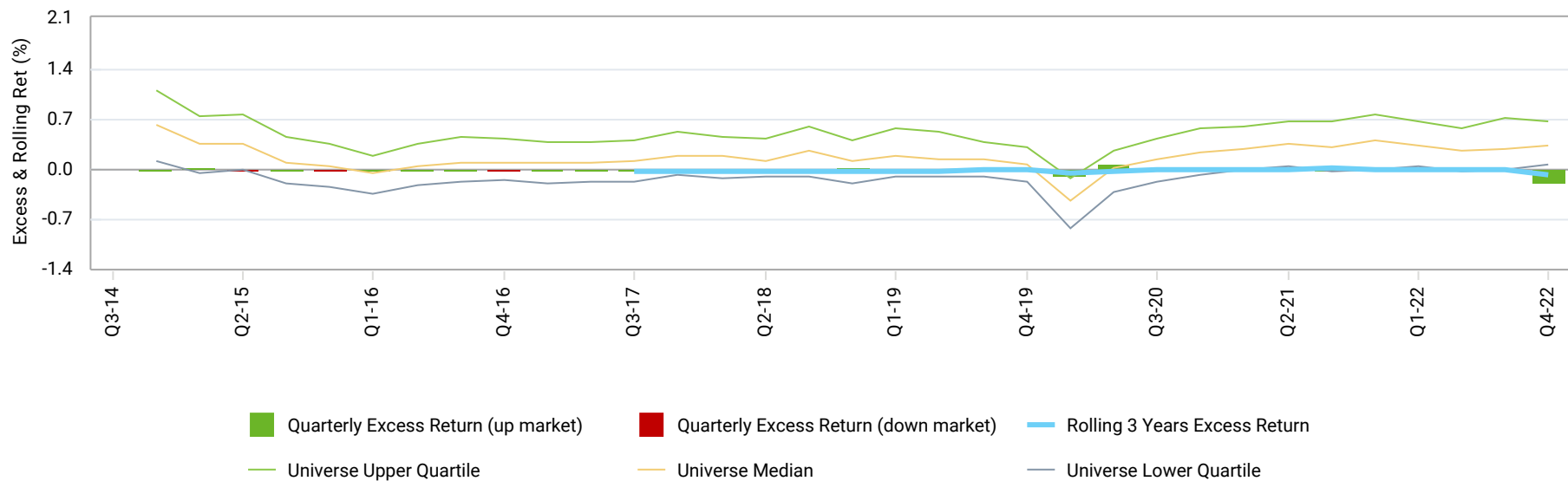
Los Angeles City Employees' Retirement System-LACERS Master Trust

# SSGA U.S. AGGREGATE BOND

## eV US Core Fixed Inc (net of fees)



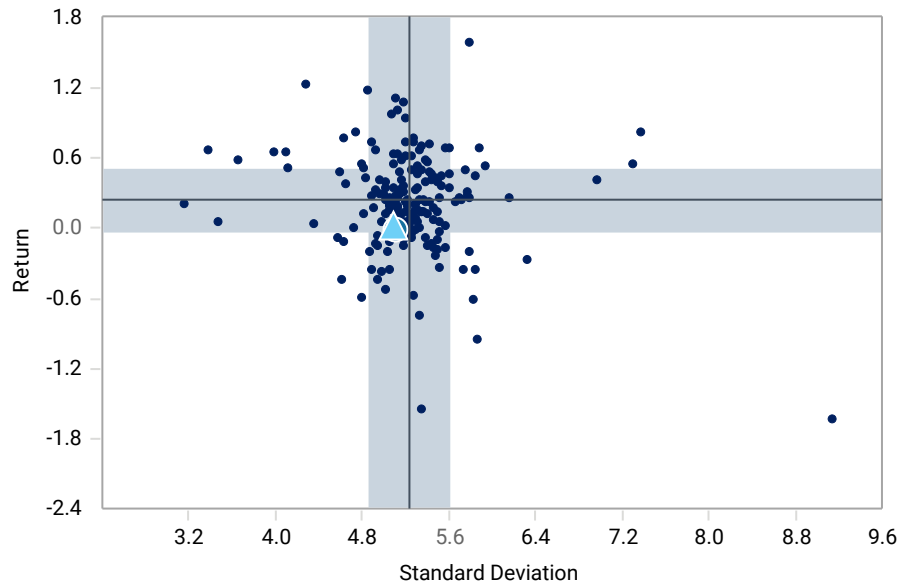
## Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

# SSGA U.S. AGGREGATE BOND

5 Years Return vs. Standard Deviation

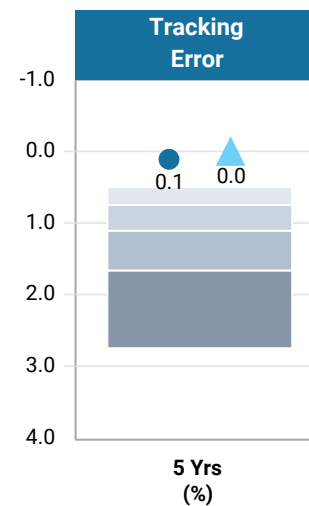
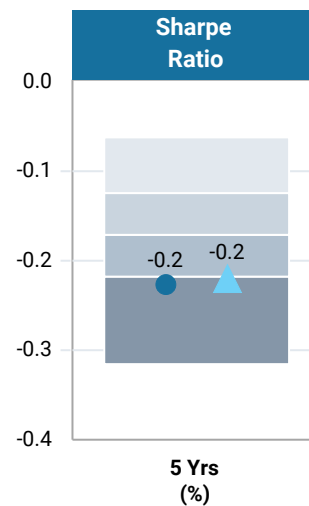
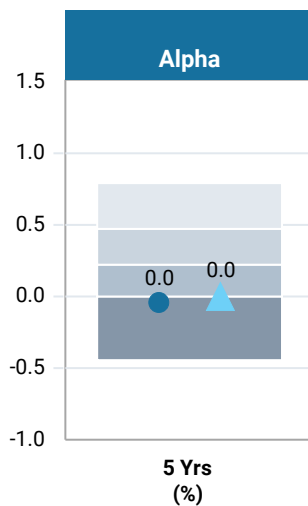
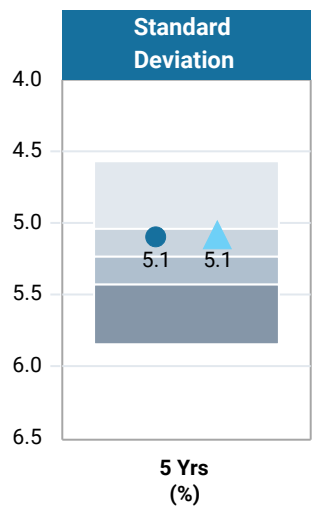
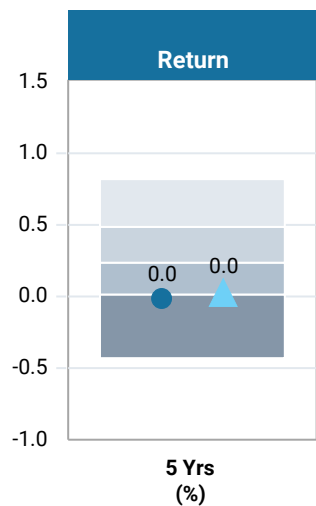


Style Map: (5 Years)



● SSGA U.S. Aggregate Bond ▲ Blmbg. U.S. Aggregate Index

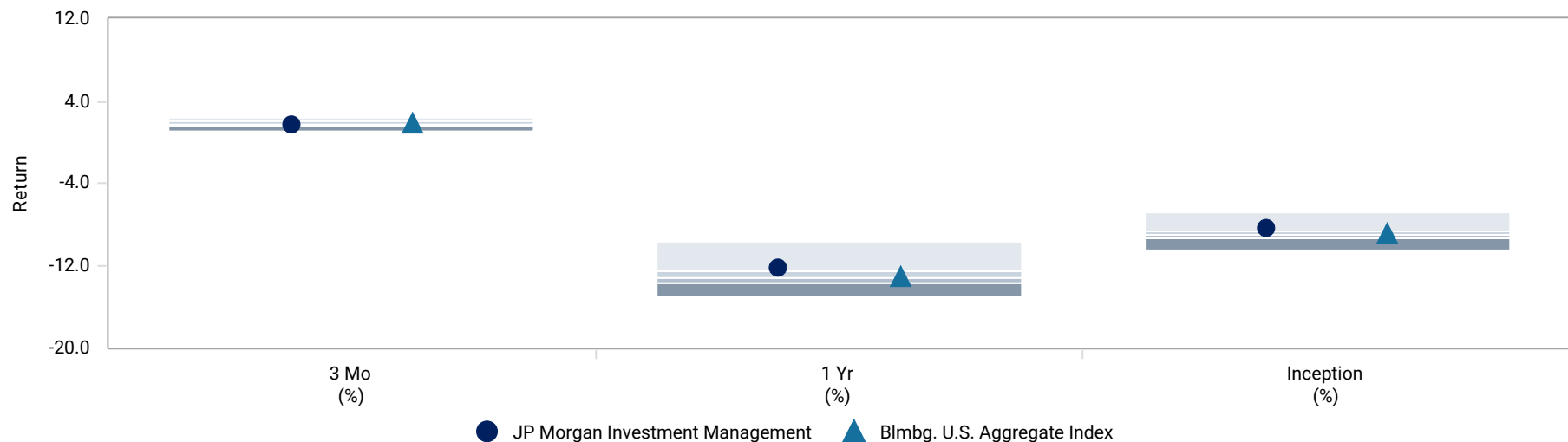
● SSGA U.S. Aggregate Bond ▲ Blmbg. U.S. Aggregate Index



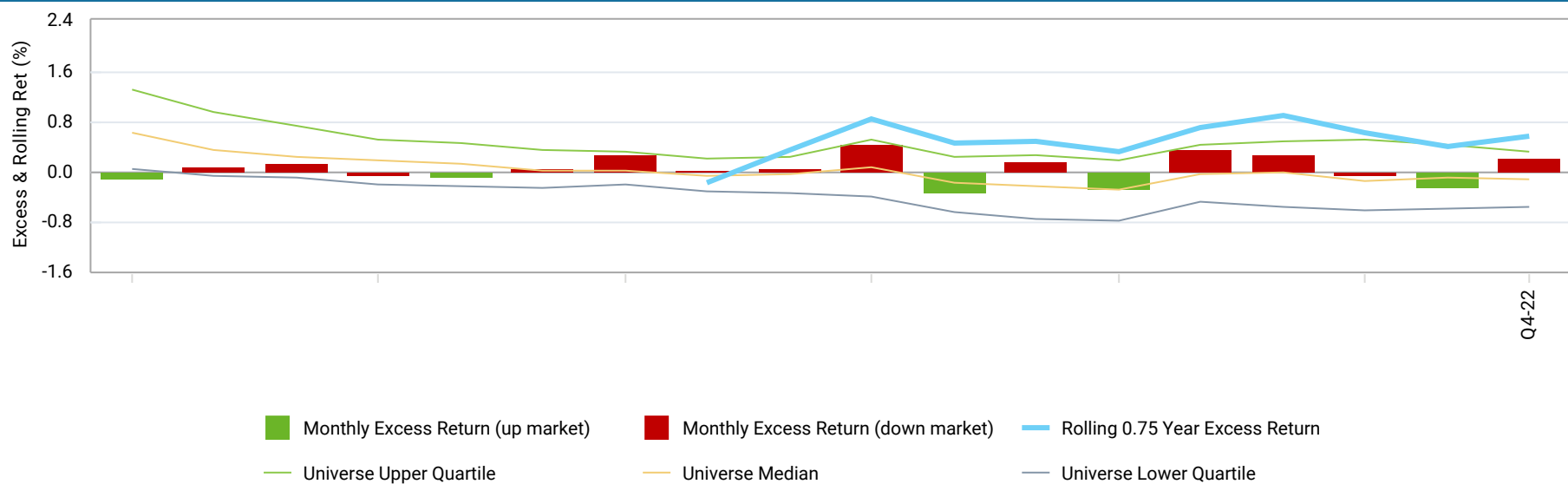
Los Angeles City Employees' Retirement System-LACERS Master Trust

# JP MORGAN INVESTMENT MGMT

## eV US Core Fixed Inc (net of fees)



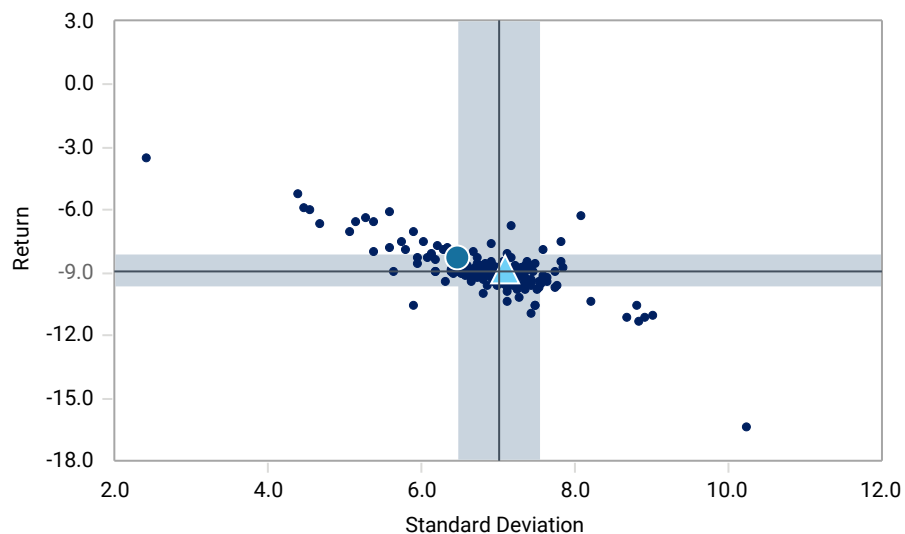
## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



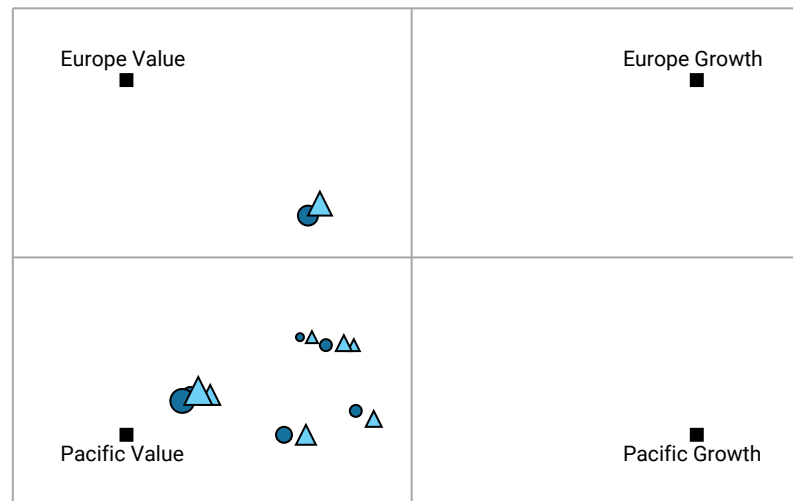
Los Angeles City Employees' Retirement System-LACERS Master Trust

# JP MORGAN INVESTMENT MGMT

Since Inception Return vs. Standard Deviation

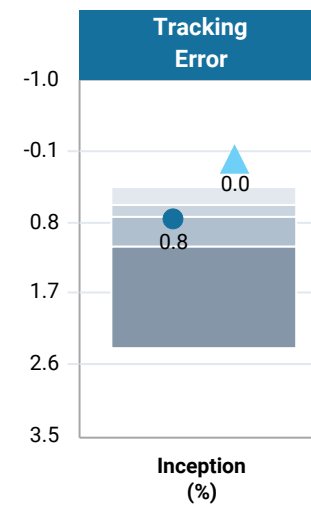
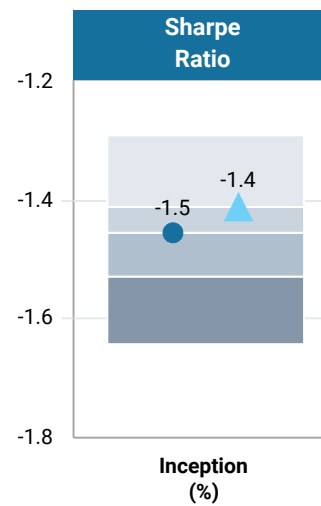
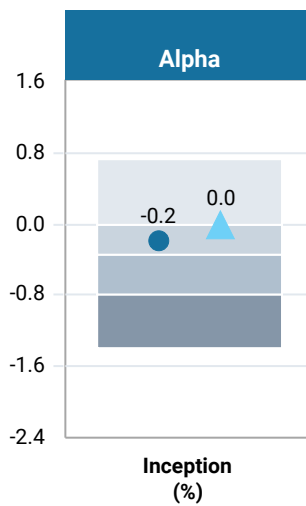
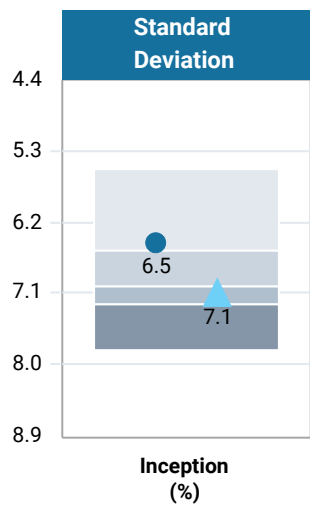
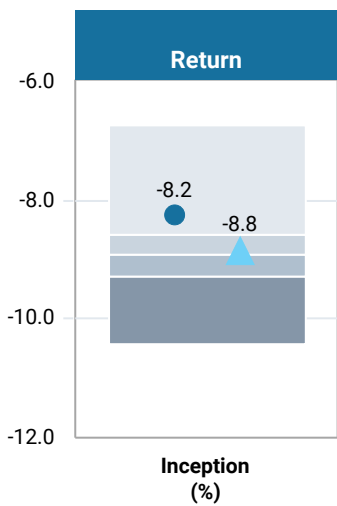


Rolling 0.75 Year Style Map



● JP Morgan Investment Management  
▲ Blmbg. U.S. Aggregate Index

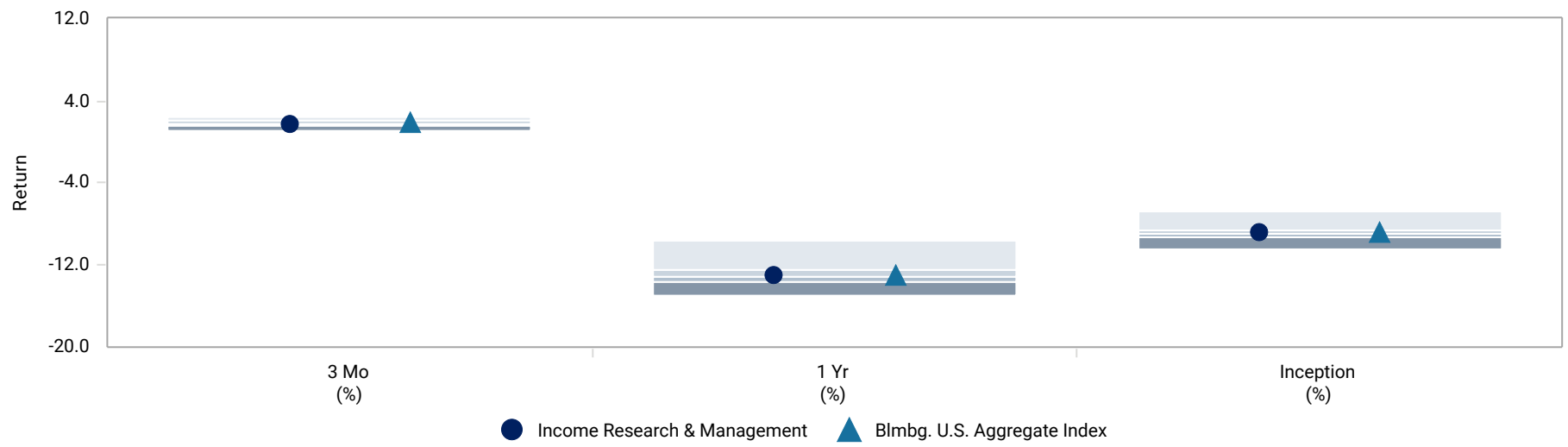
● JP Morgan Investment Management  
▲ Blmbg. U.S. Aggregate Index



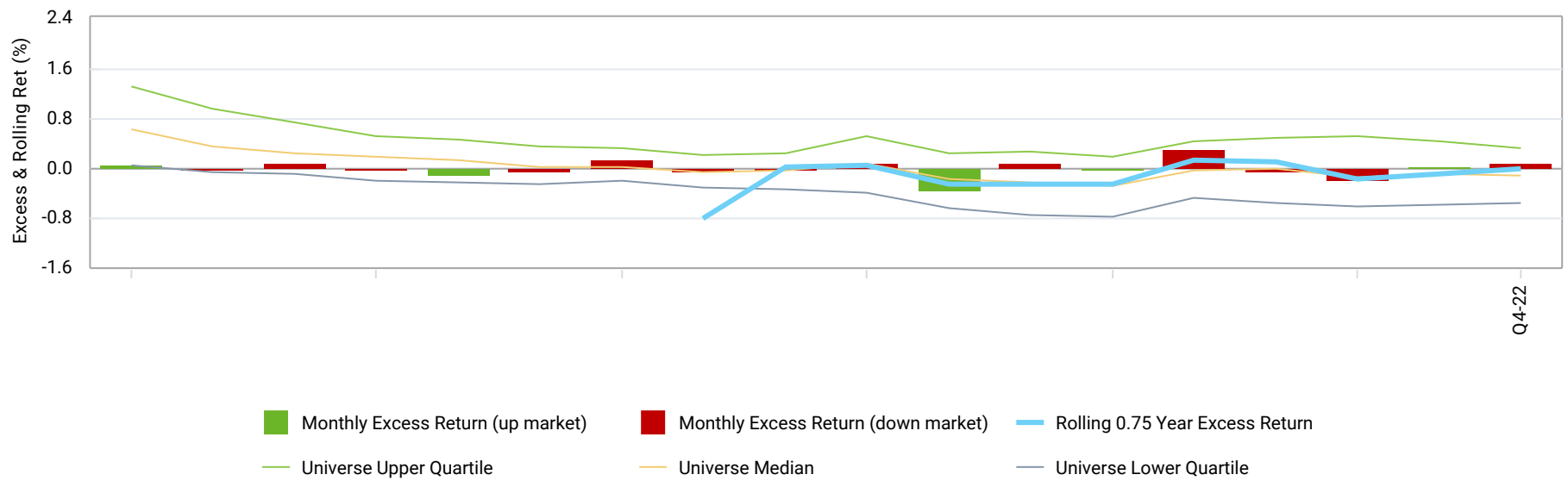
Los Angeles City Employees' Retirement System-LACERS Master Trust

# INCOME RESEARCH AND MGMT

## eV US Core Fixed Inc (net of fees)



## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



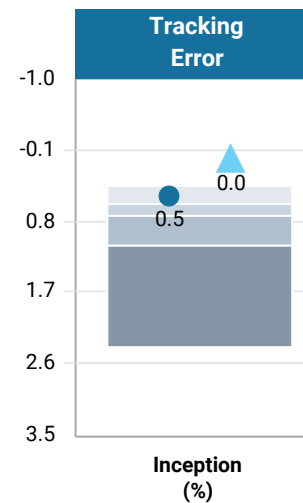
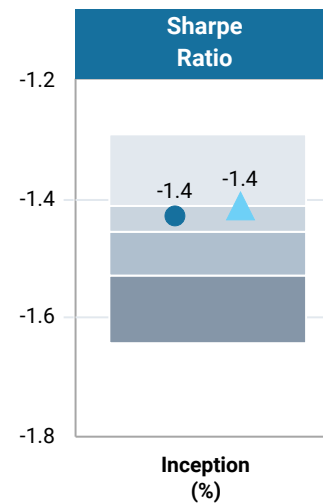
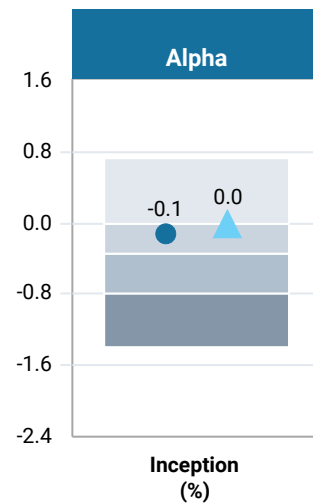
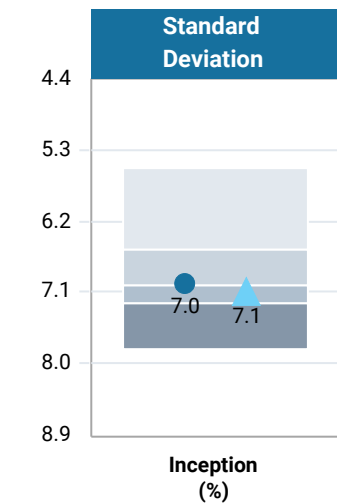
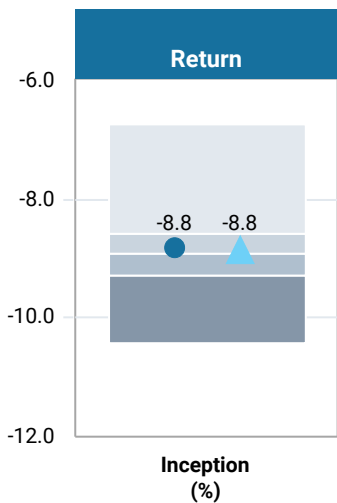
Los Angeles City Employees' Retirement System-LACERS Master Trust

# INCOME RESEARCH AND MGMT

Since Inception Return vs. Standard Deviation



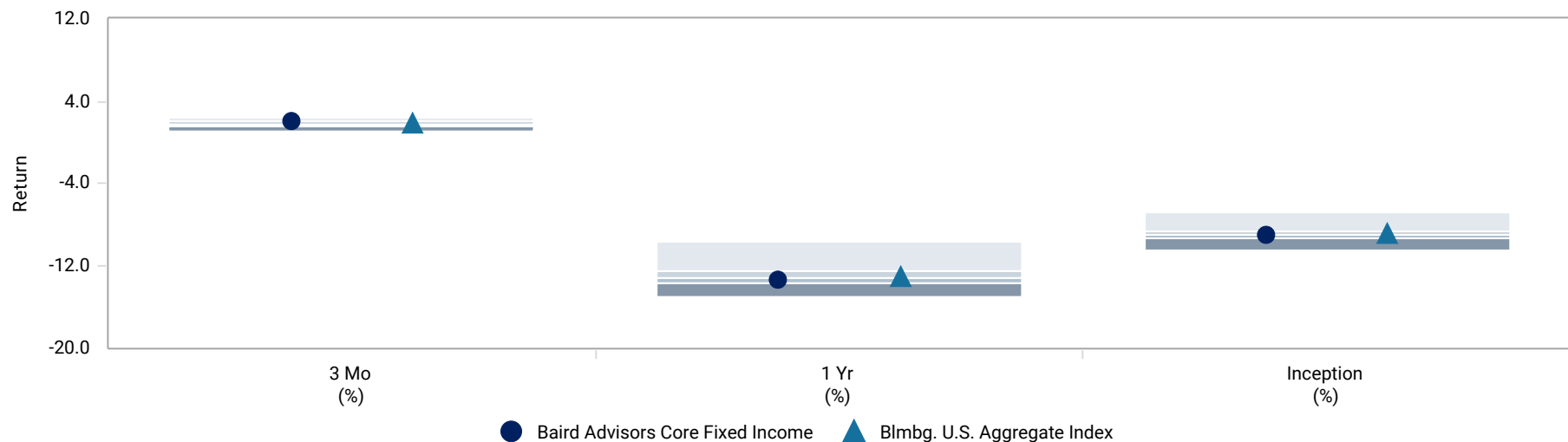
Rolling 0.75 Year Style Map



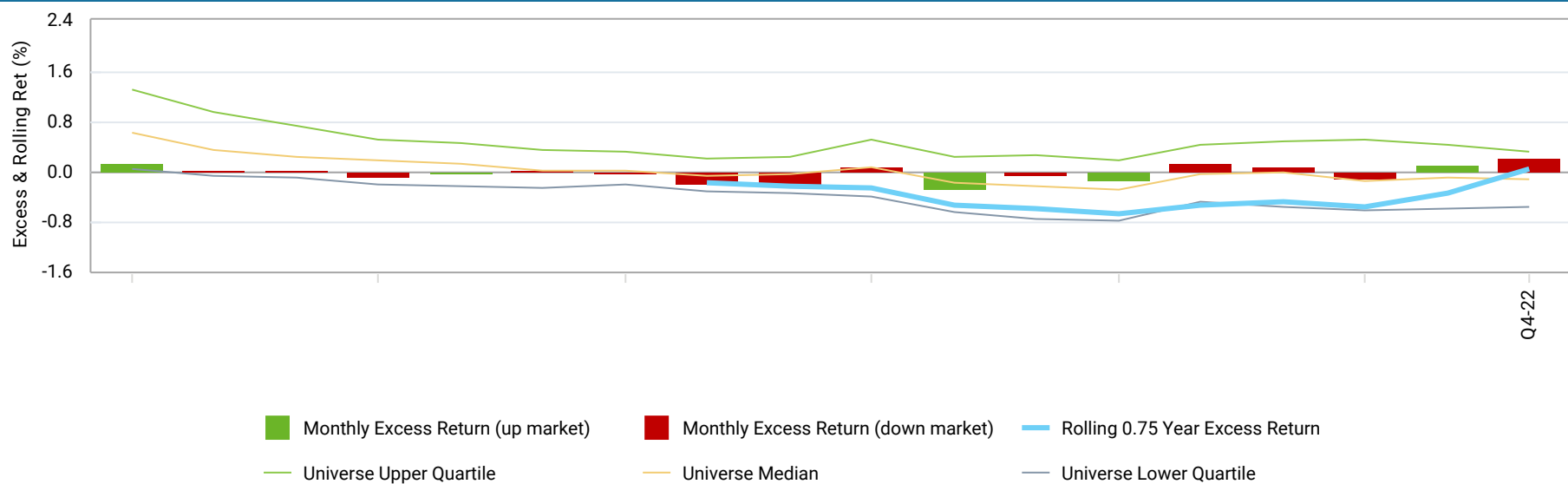
Los Angeles City Employees' Retirement System-LACERS Master Trust

# BAIRD ADVISORS CORE FIXED INCOME

## eV US Core Fixed Inc (net of fees)



## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



- Monthly Excess Return (up market)
- Monthly Excess Return (down market)
- Rolling 0.75 Year Excess Return
- Universe Upper Quartile
- Universe Median
- Universe Lower Quartile

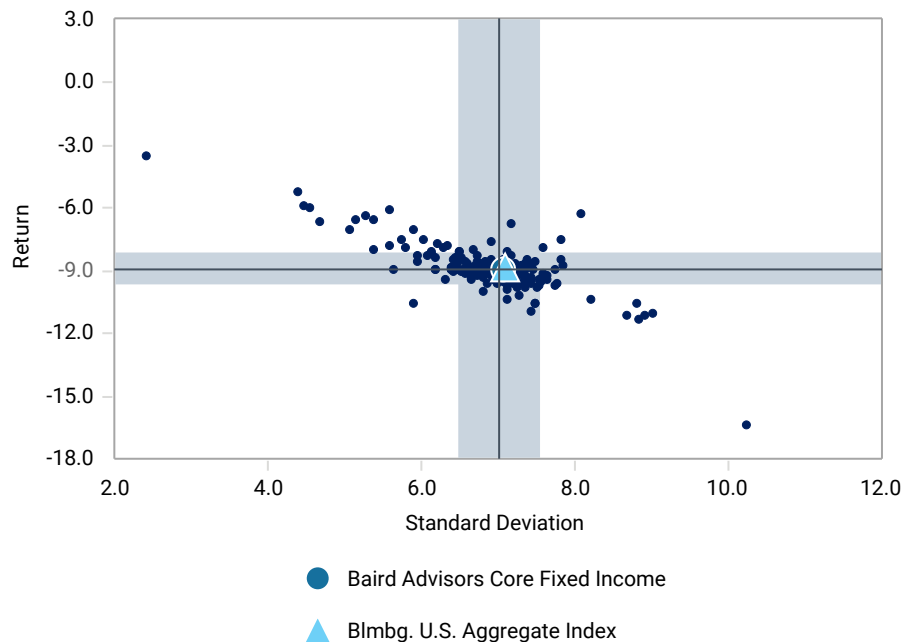




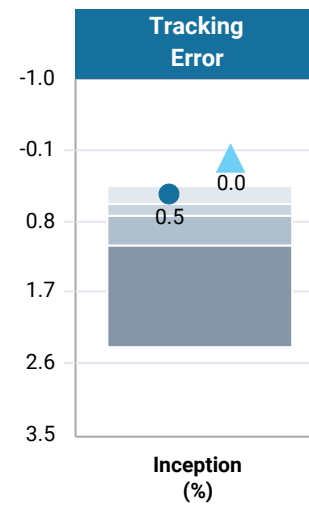
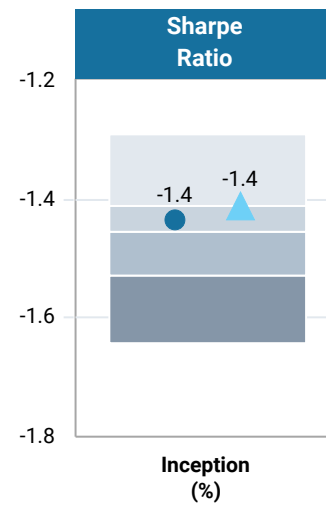
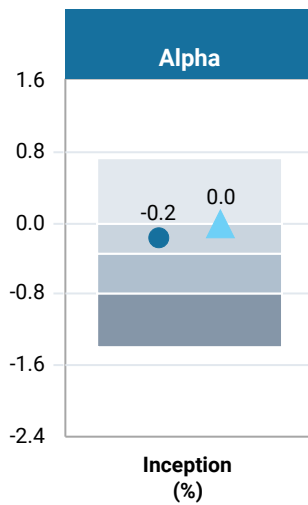
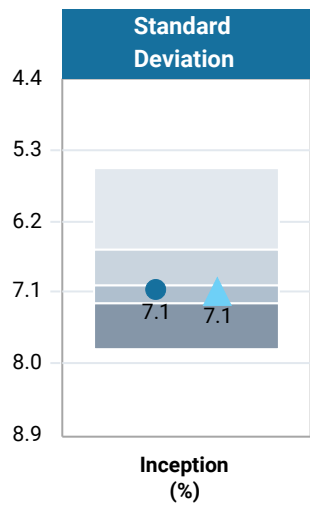
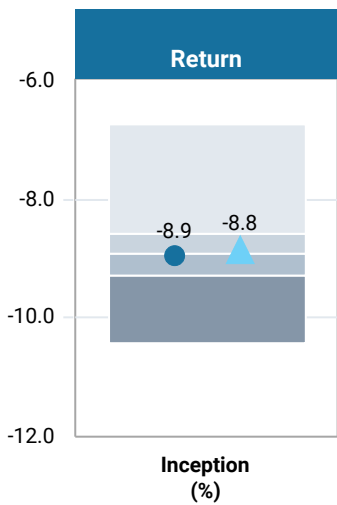
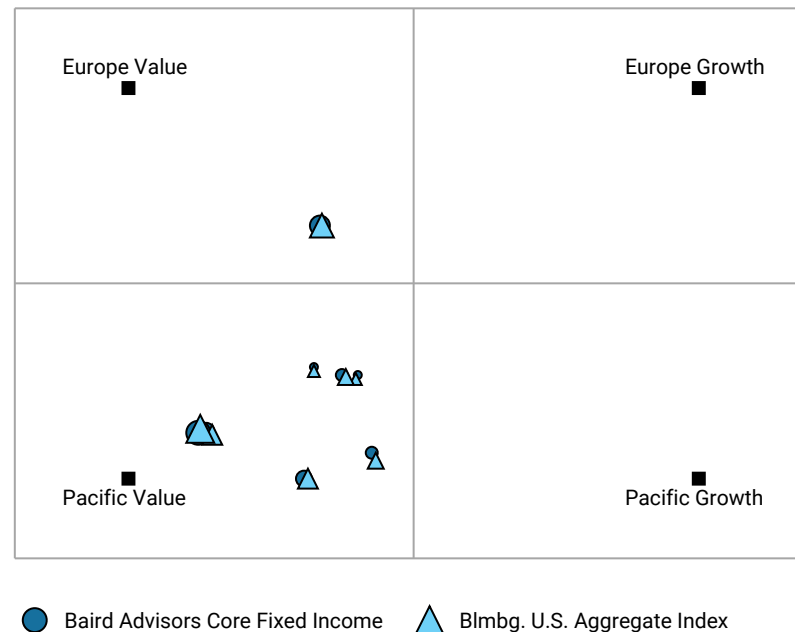
Los Angeles City Employees' Retirement System-LACERS Master Trust

# BAIRD ADVISORS CORE FIXED INCOME

Since Inception Return vs. Standard Deviation



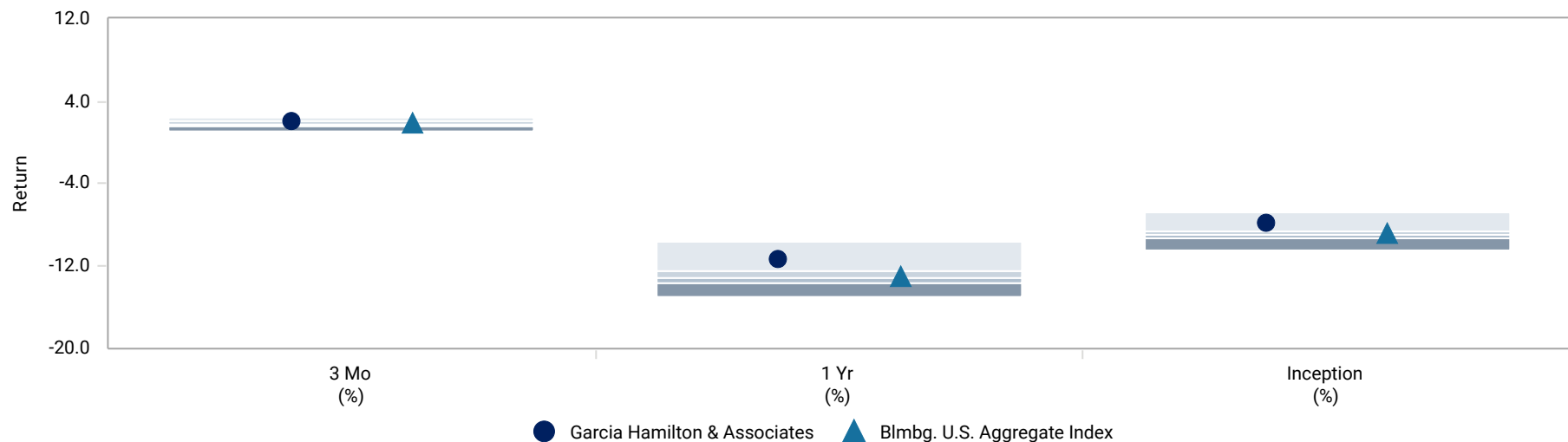
Rolling 0.75 Year Style Map



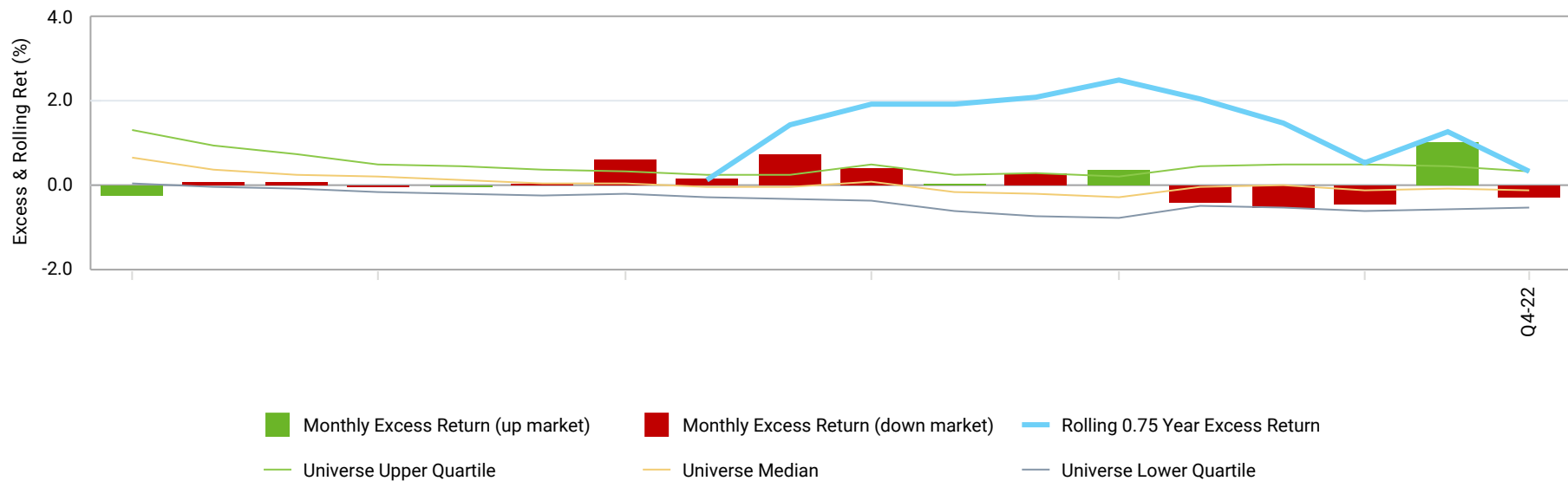
# Los Angeles City Employees' Retirement System-LACERS Master Trust

## GARCIA HAMILTON & ASSOCIATES

### eV US Core Fixed Inc (net of fees)



### Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



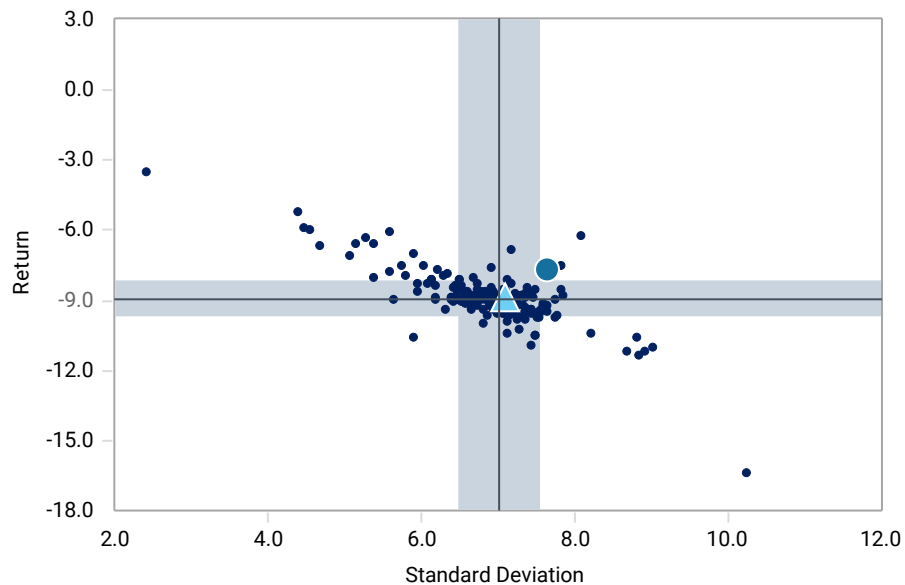
■ Monthly Excess Return (up market)    
 ■ Monthly Excess Return (down market)    
 — Rolling 0.75 Year Excess Return  
— Universe Upper Quartile    
 — Universe Median    
 — Universe Lower Quartile



# Los Angeles City Employees' Retirement System-LACERS Master Trust

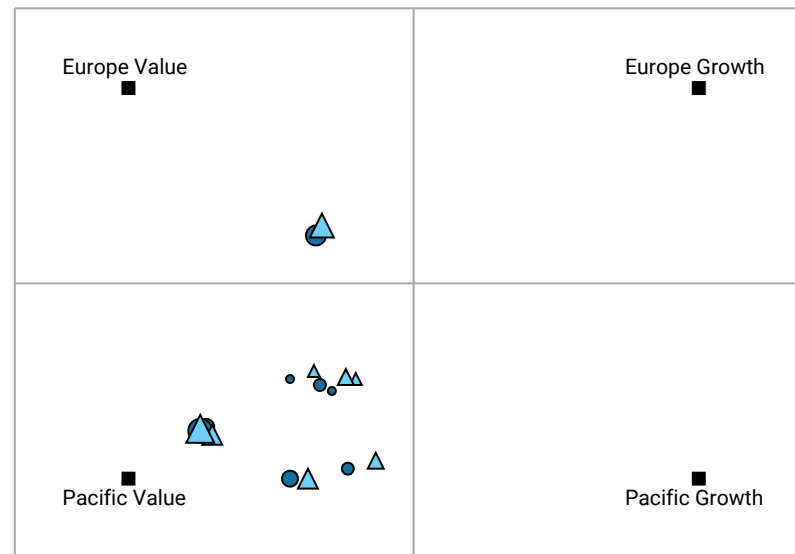
## GARCIA HAMILTON & ASSOCIATES

Since Inception Return vs. Standard Deviation

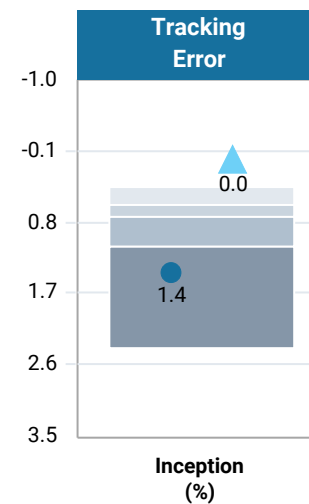
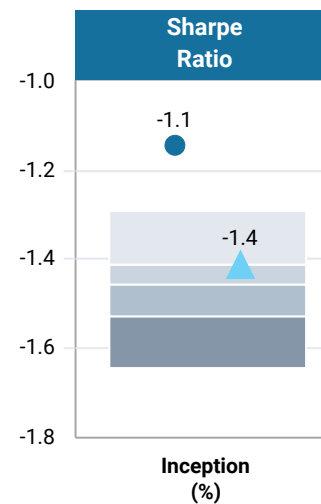
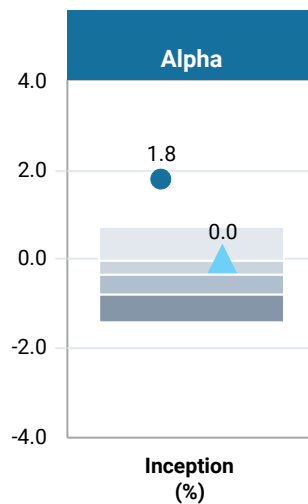
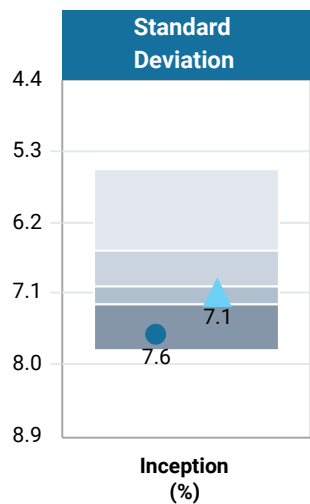
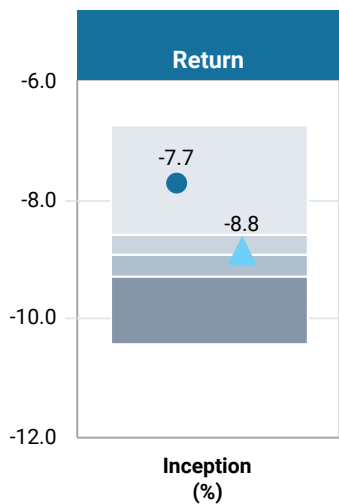


● Garcia Hamilton & Associates ▲ Blmbg. U.S. Aggregate Index

Rolling 0.75 Year Style Map



● Garcia Hamilton & Associates ▲ Blmbg. U.S. Aggregate Index

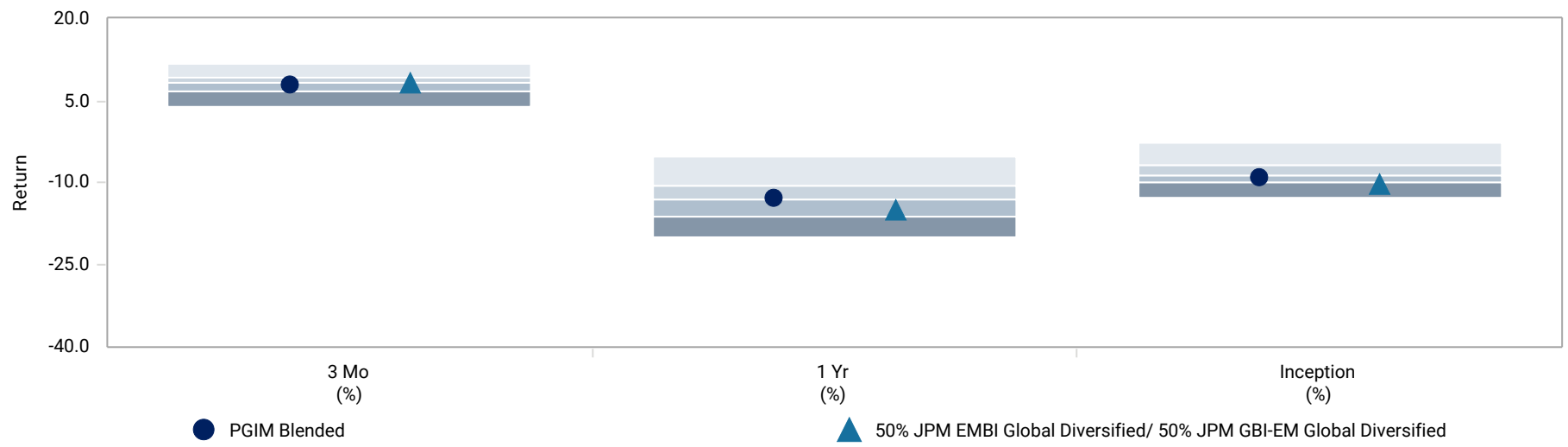


# CREDIT OPPORTUNITIES MANAGER PERFORMANCE

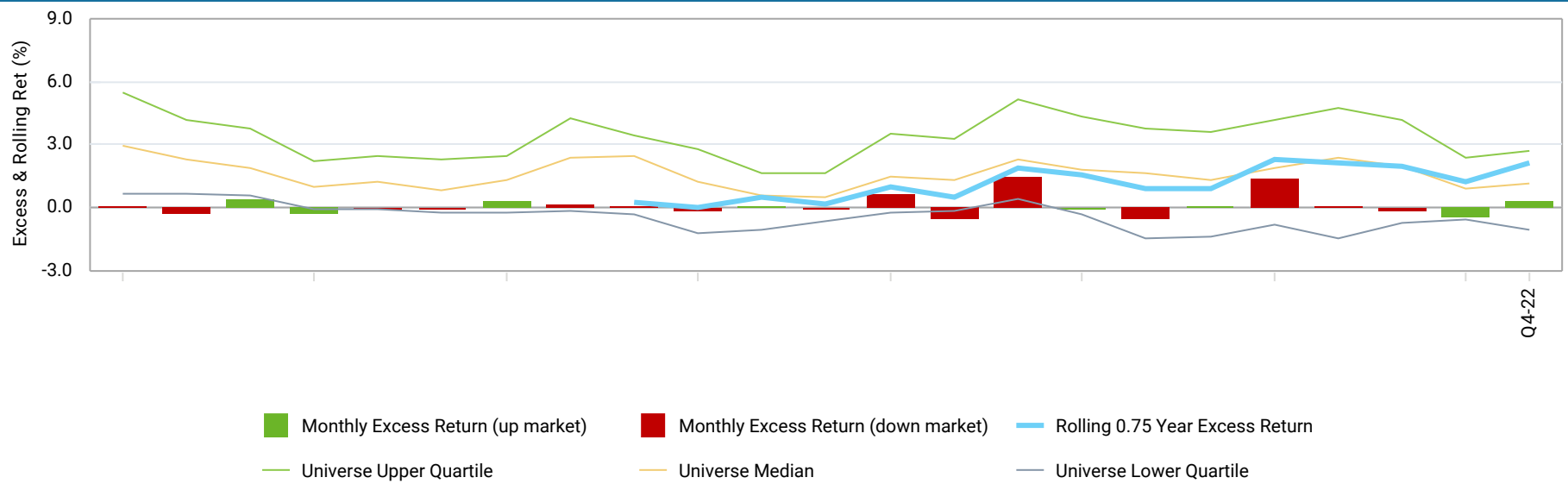
Los Angeles City Employees' Retirement System-LACERS Master Trust

# PGIM BLENDED

eV All Emg Mkts Fixed Inc (net of fees)



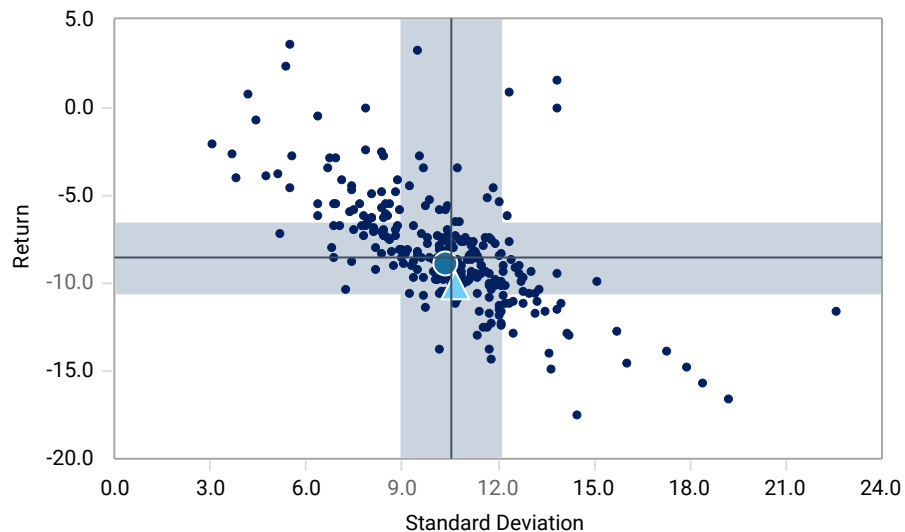
Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

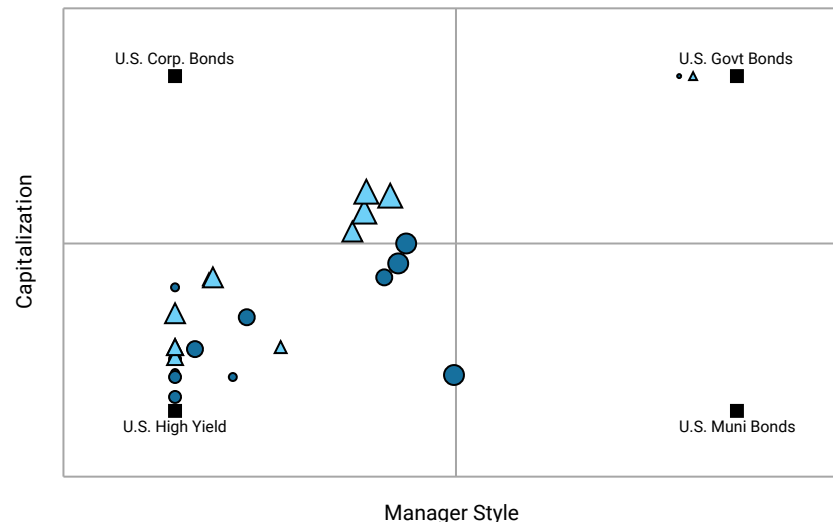
# PGIM BLENDED

Since Inception Return vs. Standard Deviation

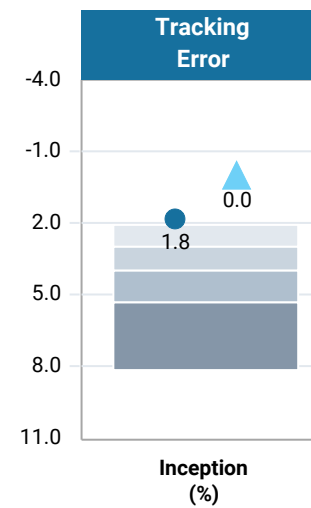
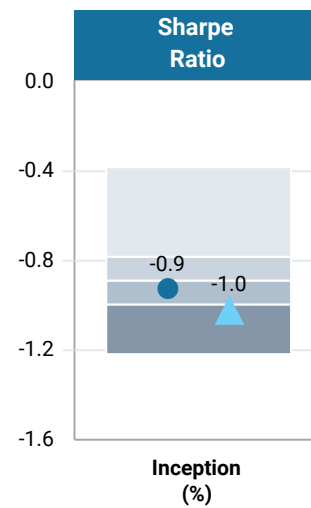
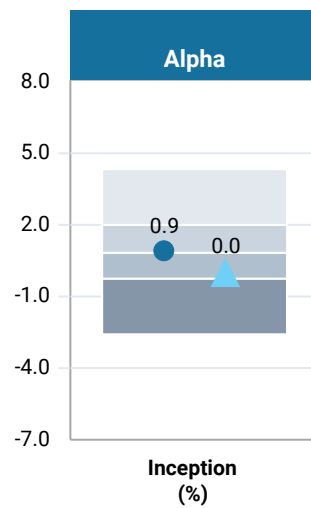
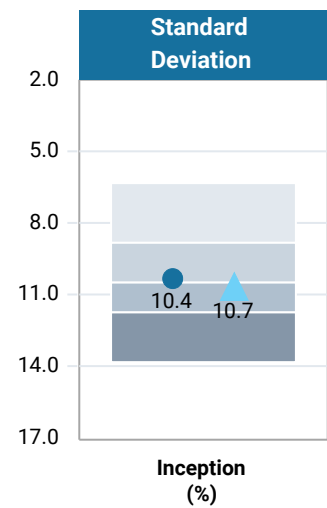
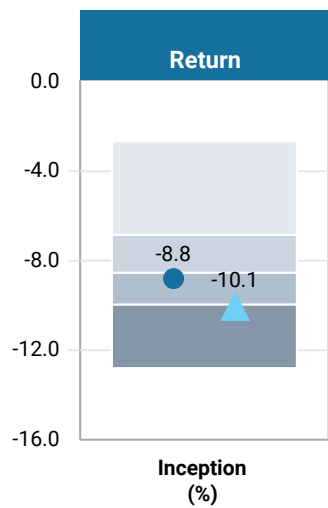


- PGIM Blended
- ▲ 50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified

Style Map: (0.75 Year)



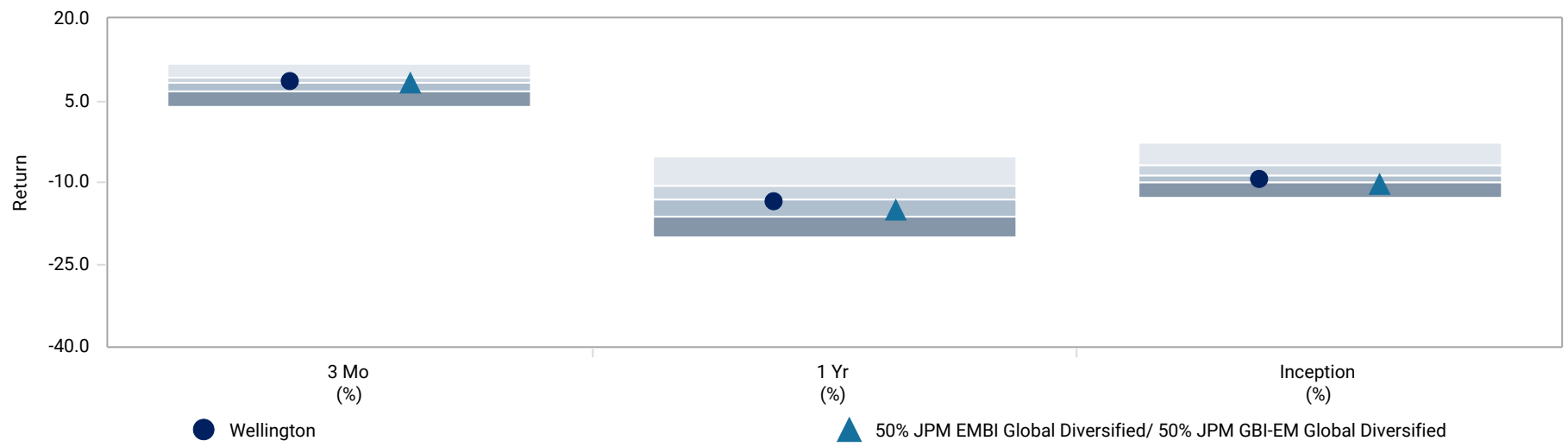
- PGIM Blended
- ▲ 50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified



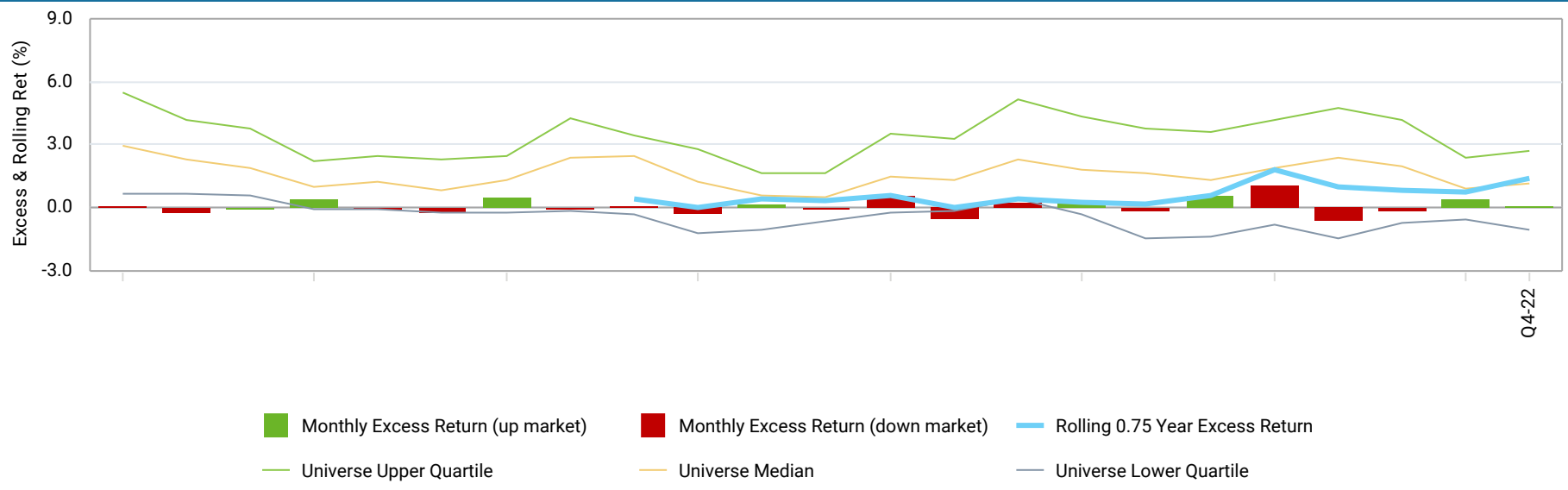
Los Angeles City Employees' Retirement System-LACERS Master Trust

# WELLINGTON

eV All Emg Mkts Fixed Inc (net of fees)



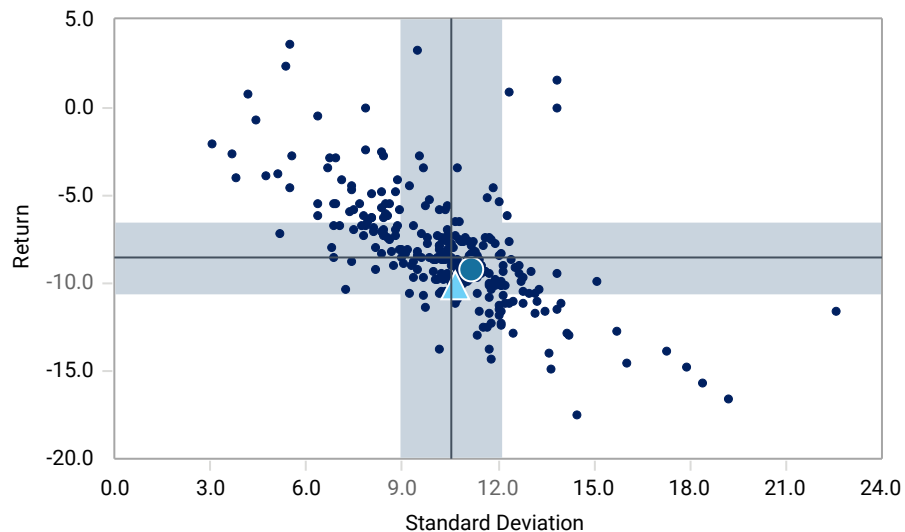
Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

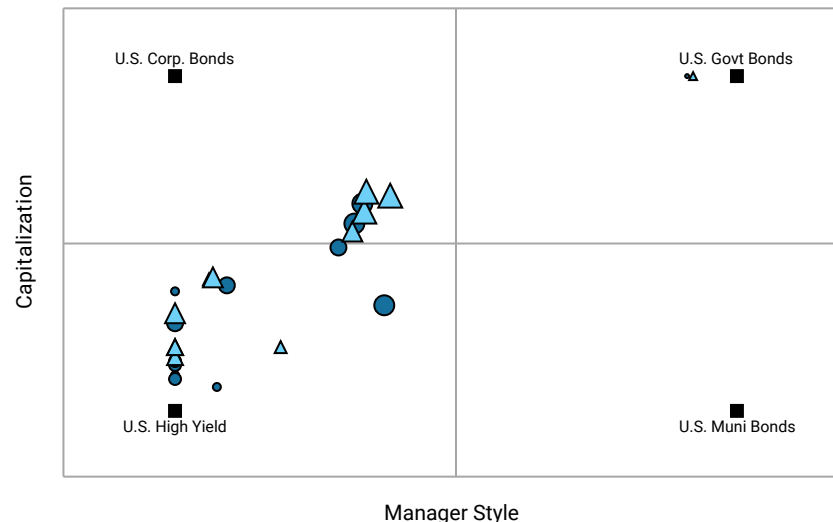
# WELLINGTON

Since Inception Return vs. Standard Deviation

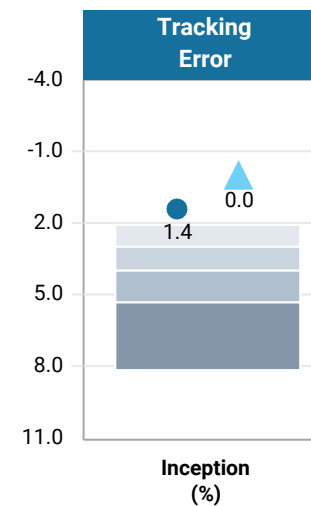
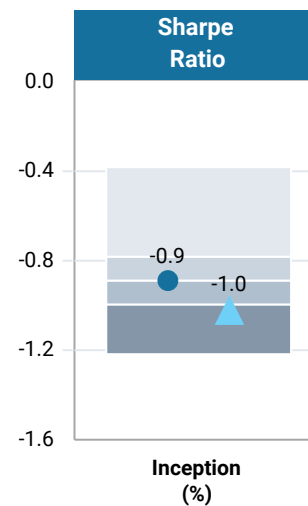
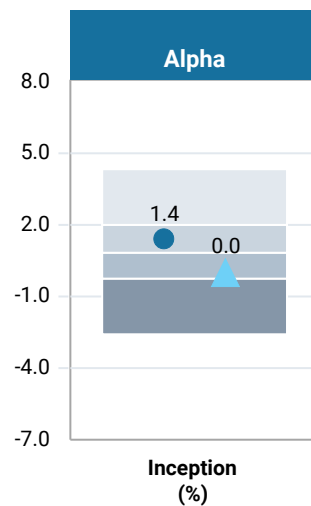
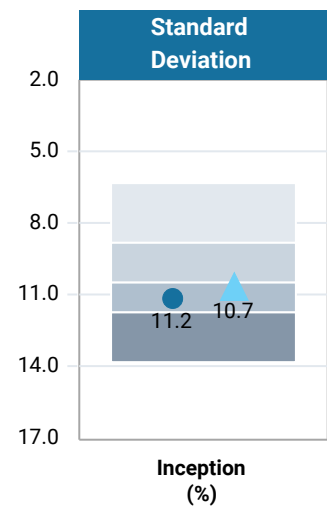
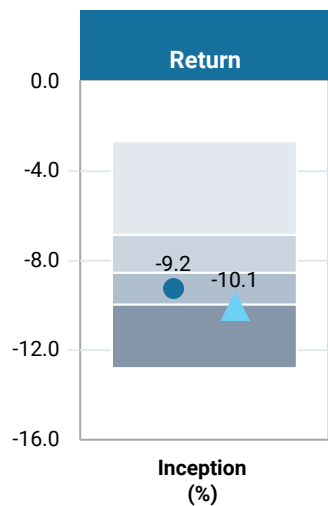


- Wellington
- ▲ 50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified

Style Map: (0.75 Year)



- Wellington
- ▲ 50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified

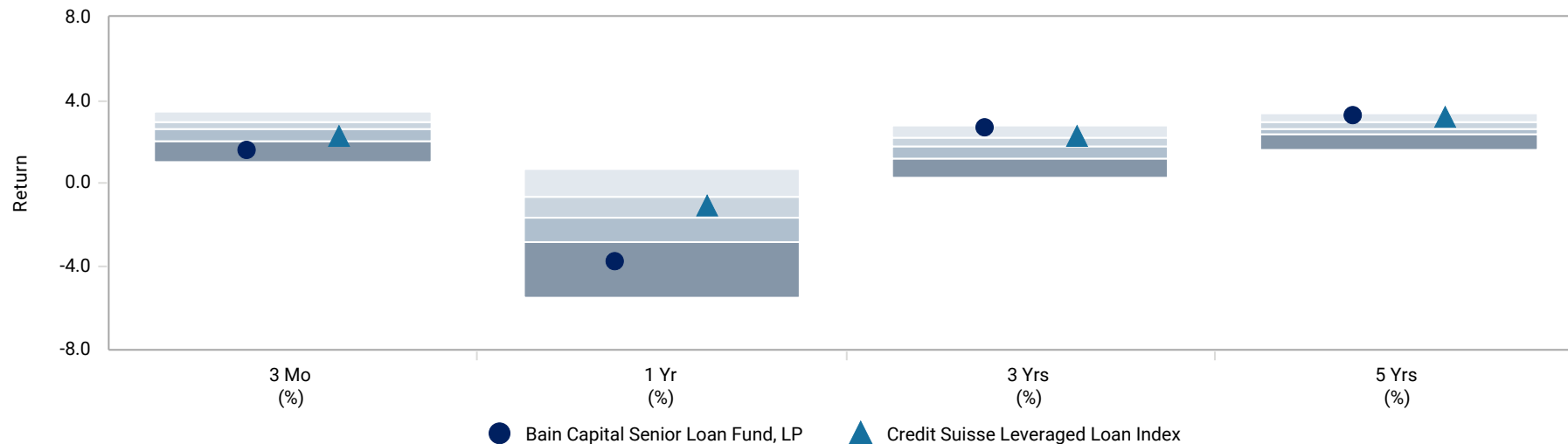




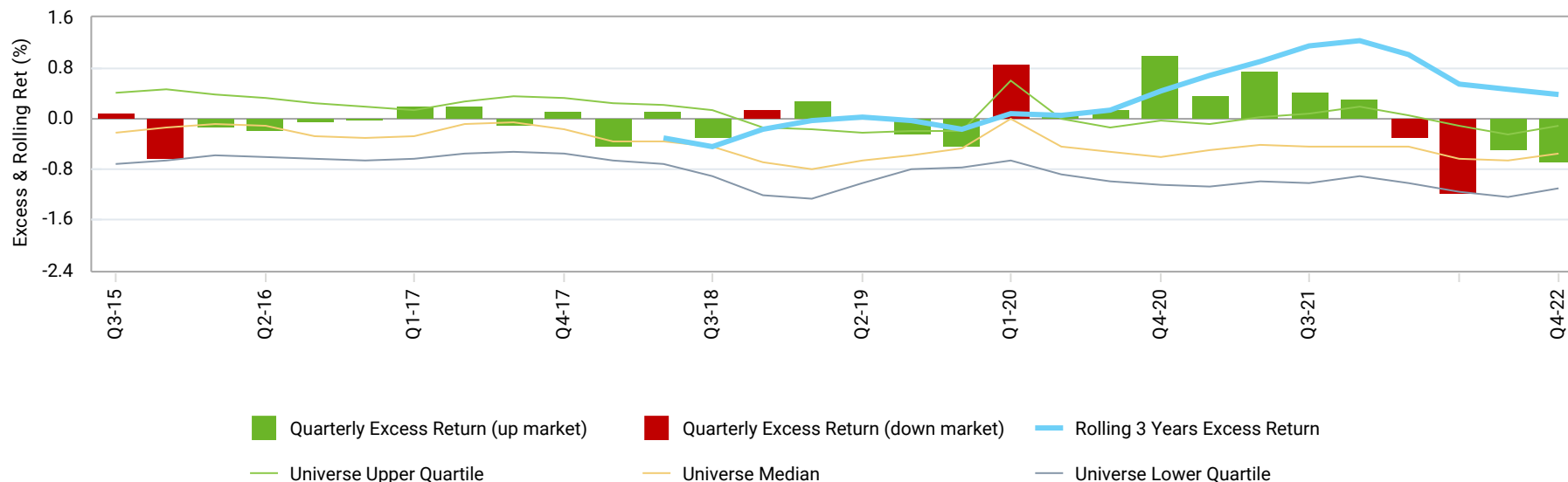
Los Angeles City Employees' Retirement System-LACERS Master Trust

# BAIN CAPITAL SENIOR LOAN FUND, LP

eV US Float-Rate Bank Loan Fixed Inc (net of fees)



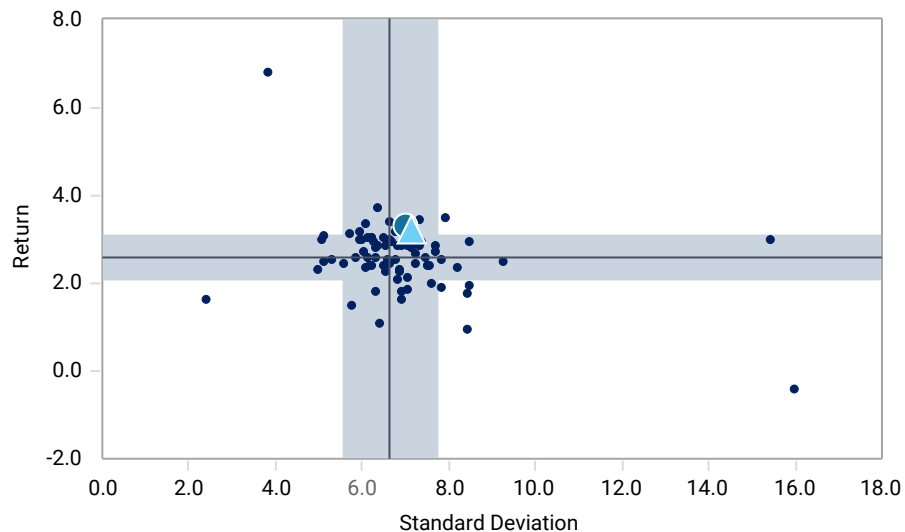
Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

# BAIN CAPITAL SENIOR LOAN FUND, LP

5 Years Return vs. Standard Deviation

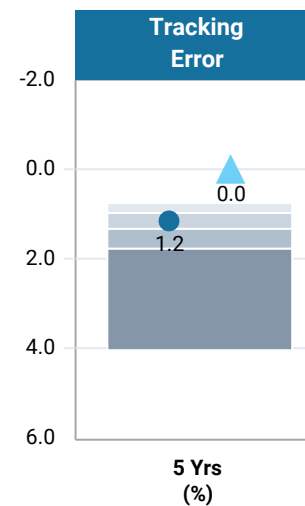
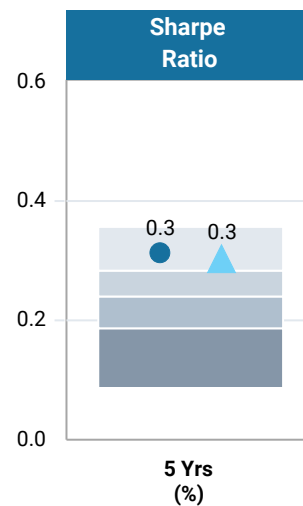
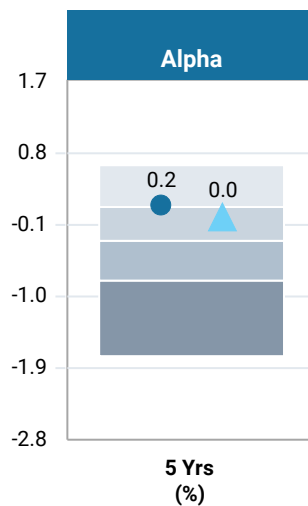
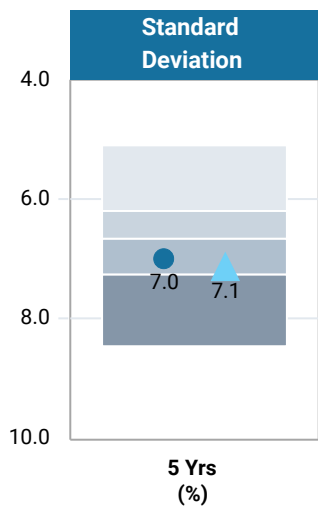
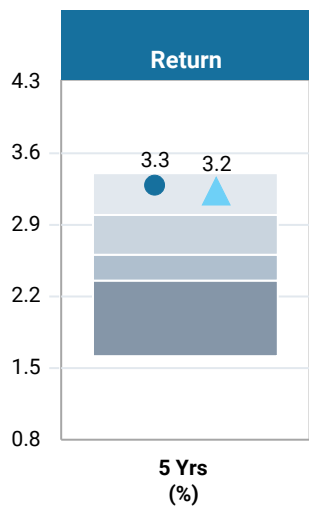


Style Map: (3 Years)



- Bain Capital Senior Loan Fund, LP
- ▲ Credit Suisse Leveraged Loan Index

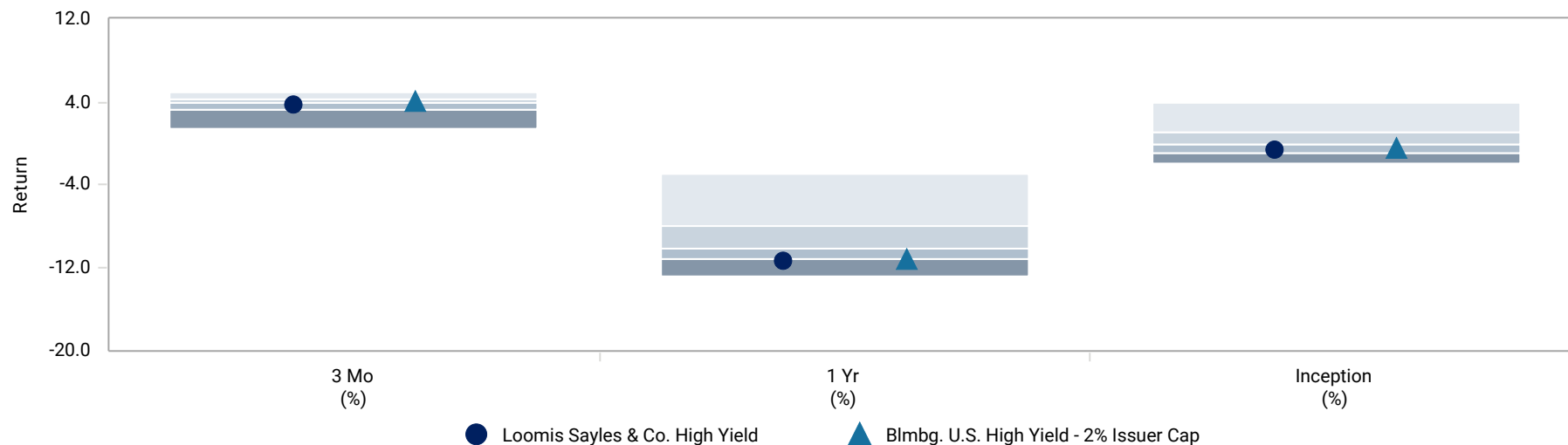
- Bain Capital Senior Loan Fund, LP
- ▲ Credit Suisse Leveraged Loan Index



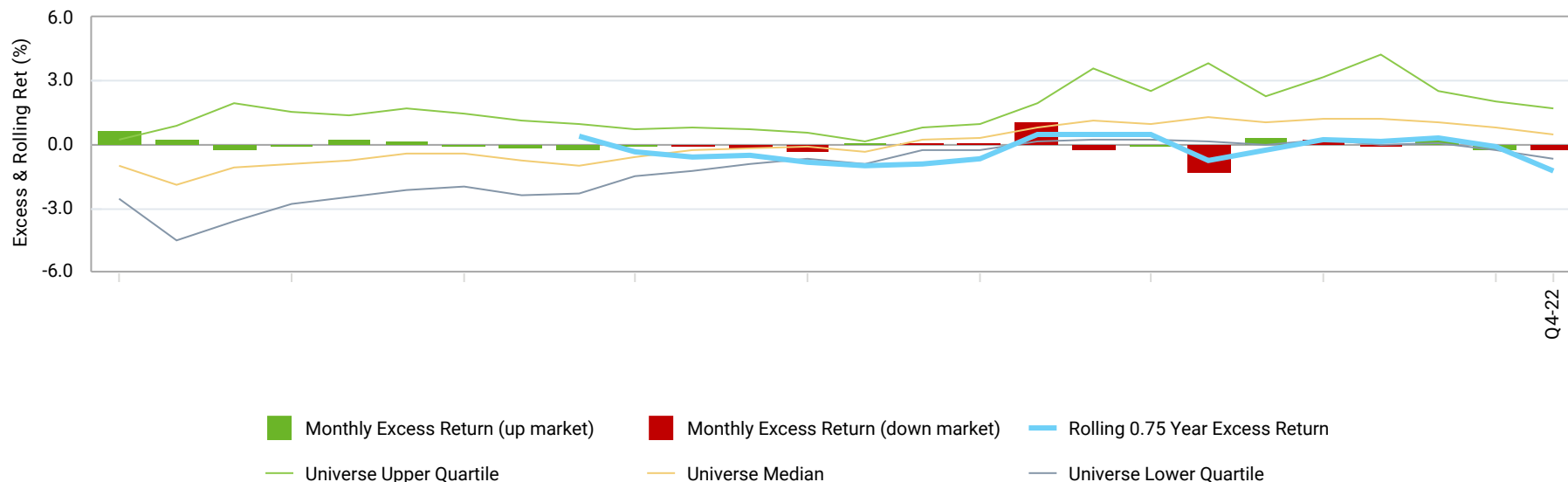
Los Angeles City Employees' Retirement System-LACERS Master Trust

# LOOMIS SAYLES & CO. HIGH YIELD

eV US High Yield Fixed Inc (net of fees)



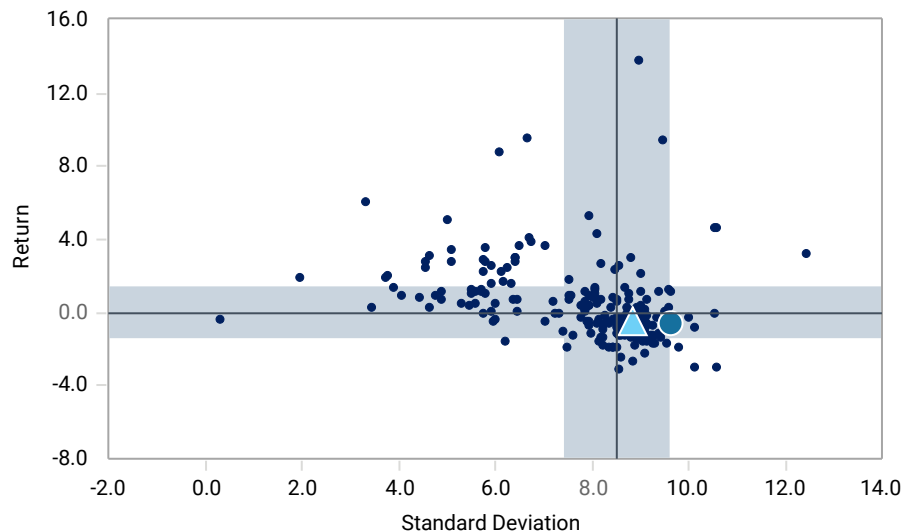
Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



# Los Angeles City Employees' Retirement System-LACERS Master Trust

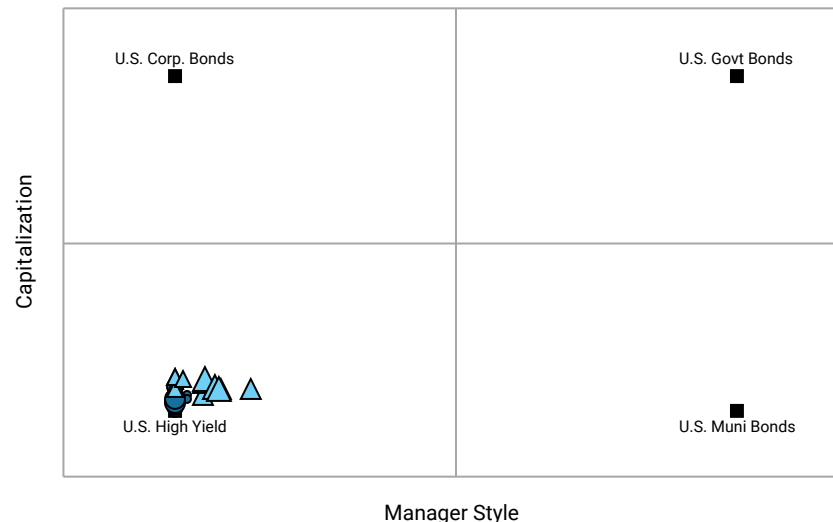
## LOOMIS SAYLES & CO. HIGH YIELD

Since Inception Return vs. Standard Deviation

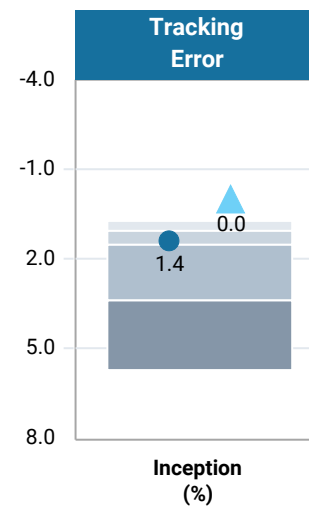
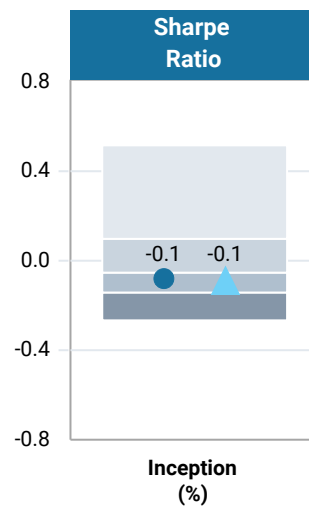
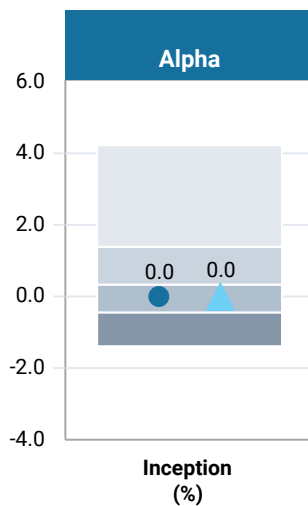
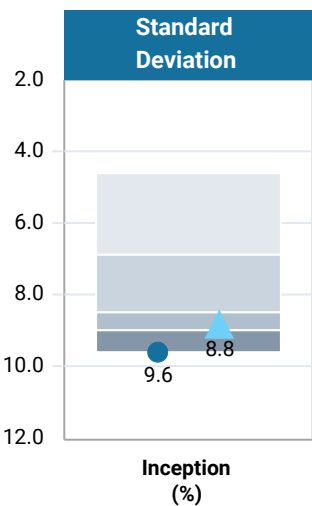
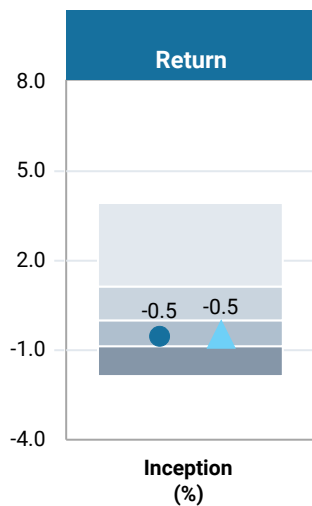


- Loomis Sayles & Co. High Yield
- ▲ Blmbg. U.S. High Yield - 2% Issuer Cap

Style Map: (0.75 Year)



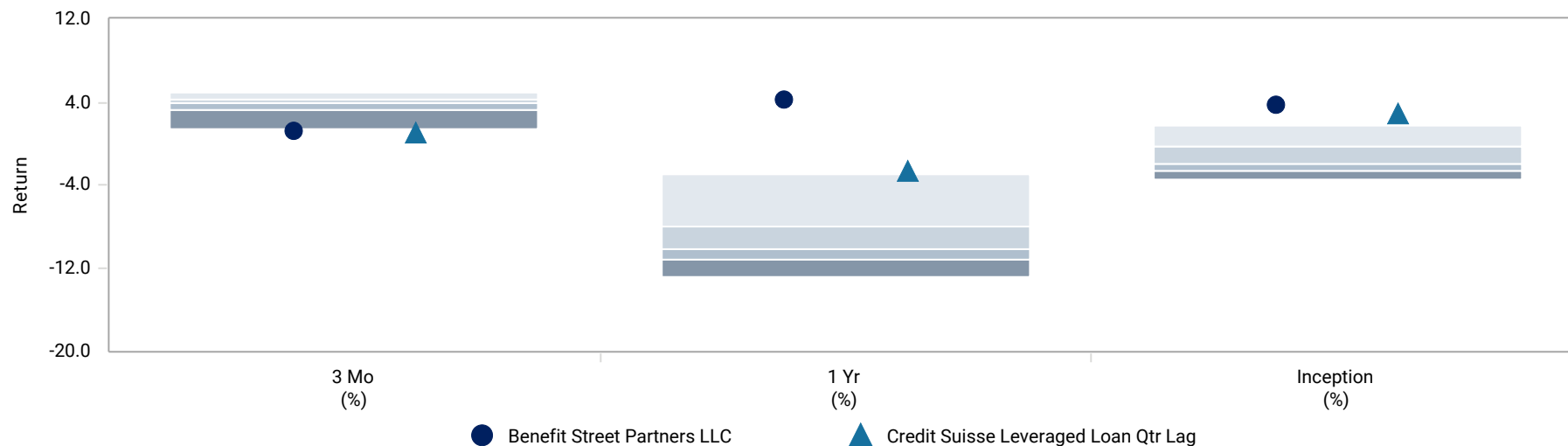
- Loomis Sayles & Co. High Yield
- ▲ Blmbg. U.S. High Yield - 2% Issuer Cap



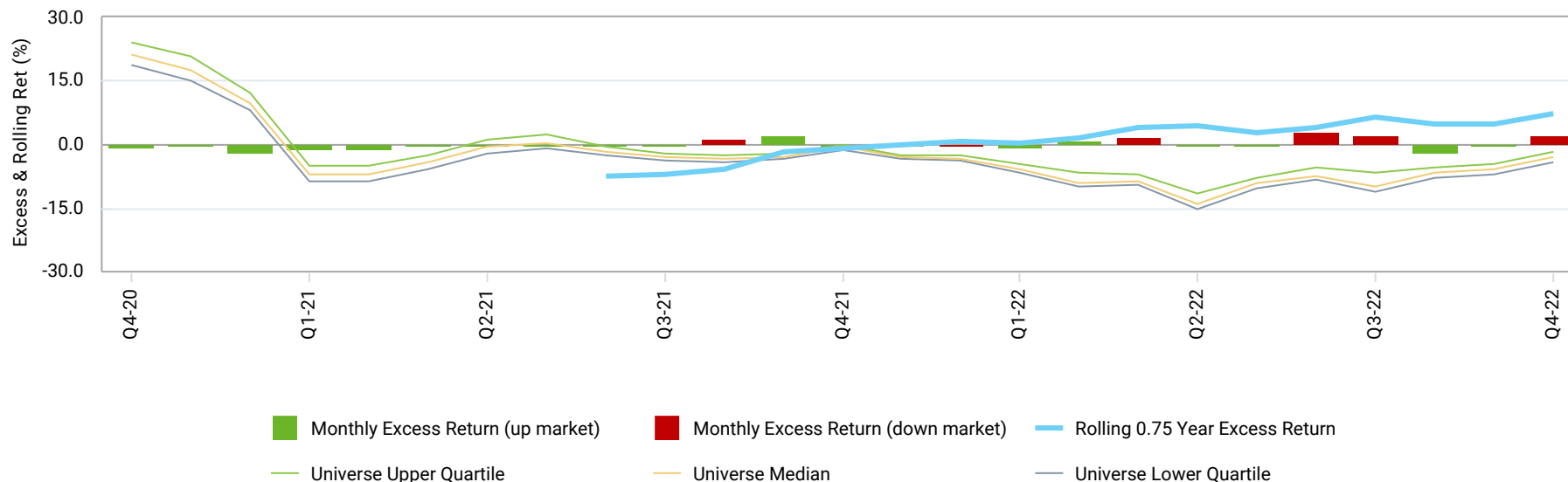
Los Angeles City Employees' Retirement System-LACERS Master Trust

# BENEFIT STREET PARTNERS LLC

## eV US High Yield Fixed Inc (net of fees)



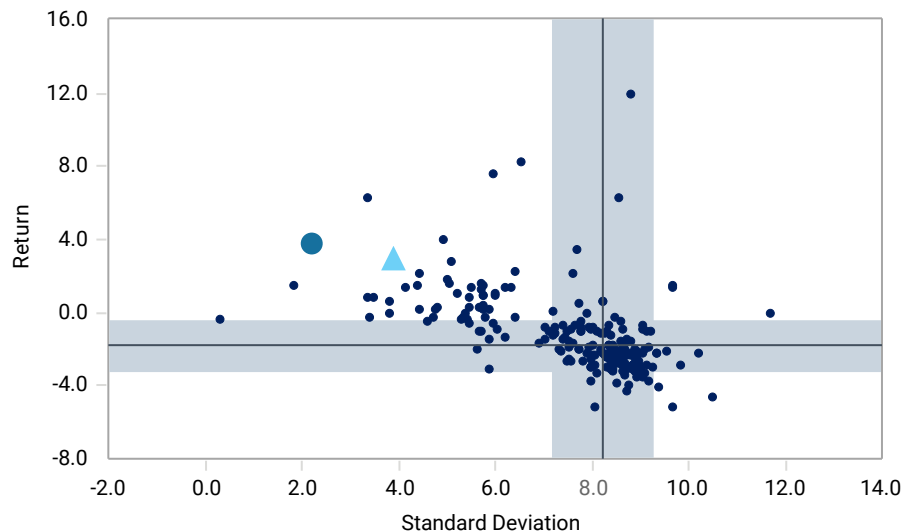
## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

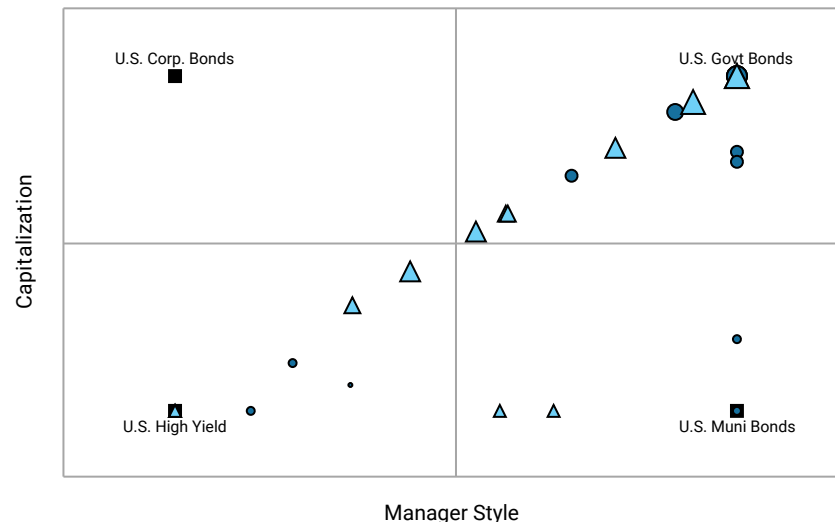
# BENEFIT STREET PARTNERS LLC

Since Inception Return vs. Standard Deviation

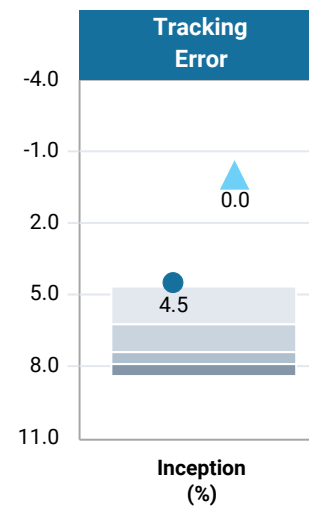
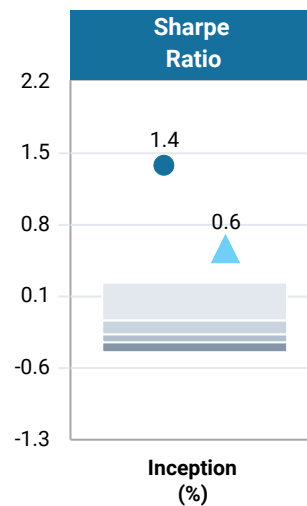
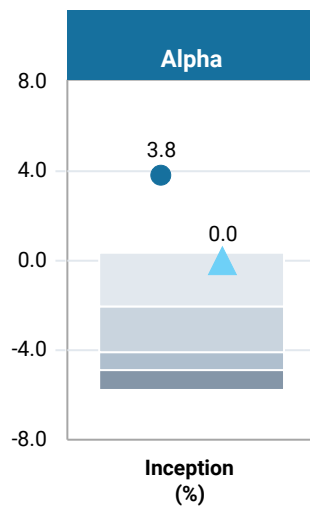
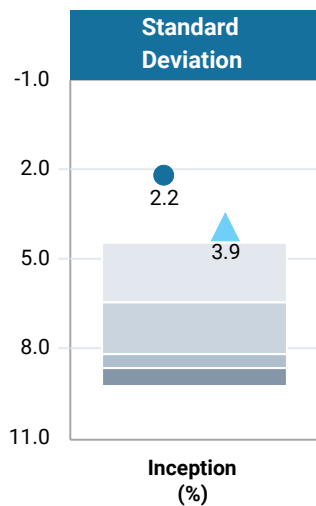
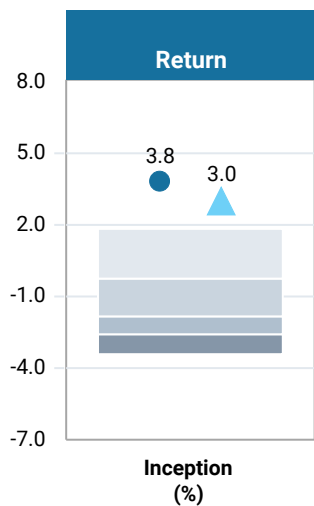


- Benefit Street Partners LLC
- ▲ Credit Suisse Leveraged Loan Qtr Lag

Style Map: (0.75 Year)



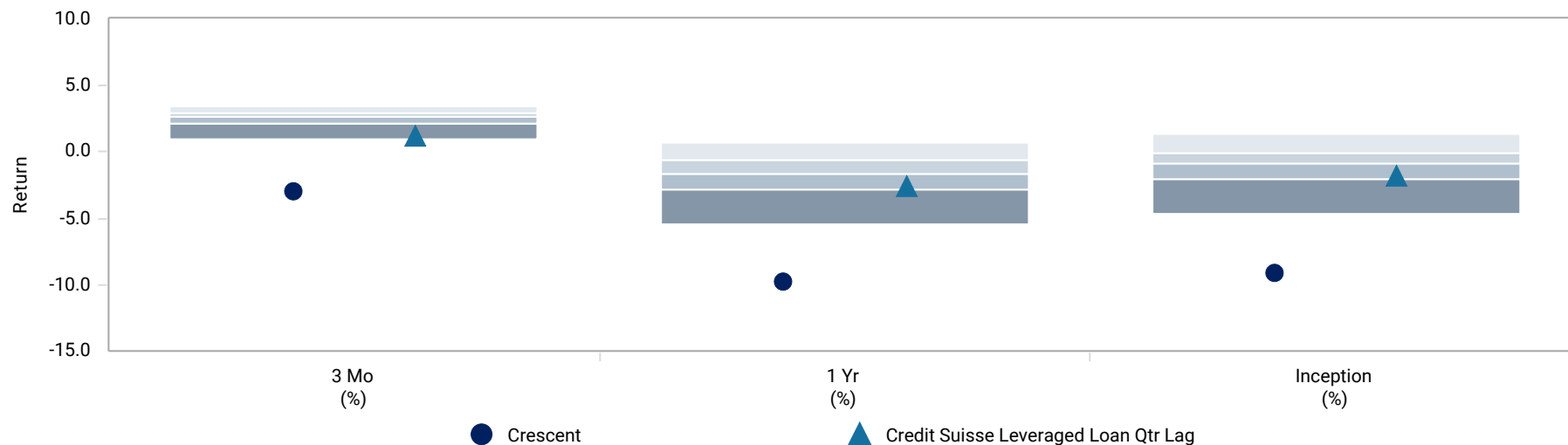
- Benefit Street Partners LLC
- ▲ Credit Suisse Leveraged Loan Qtr Lag



Los Angeles City Employees' Retirement System-LACERS Master Trust

# CRESCENT

## eV US Float-Rate Bank Loan Fixed Inc (net of fees)



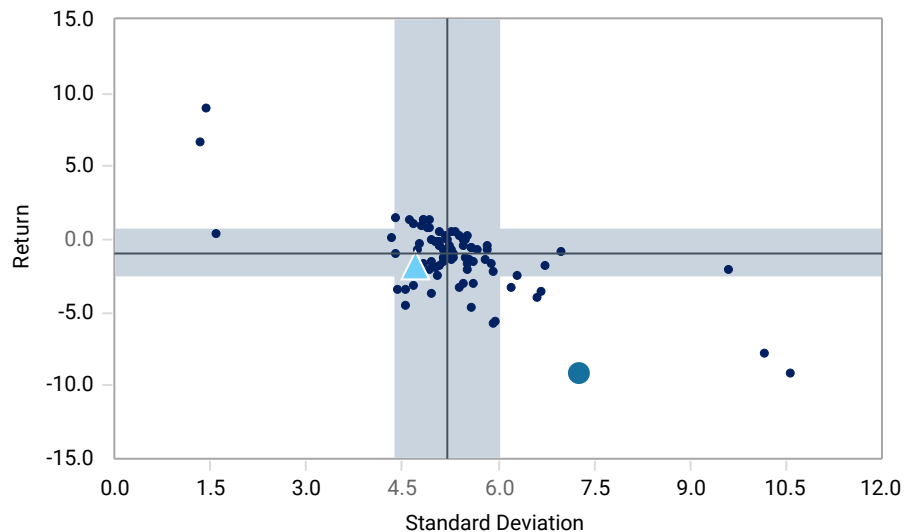
## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

# CRESCENT

Since Inception Return vs. Standard Deviation

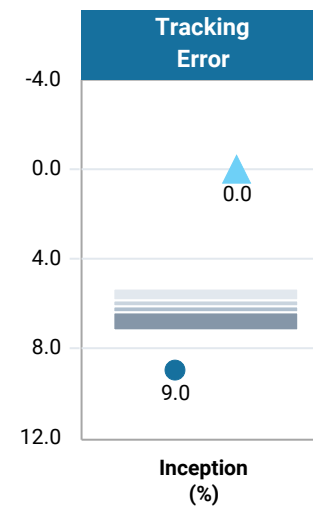
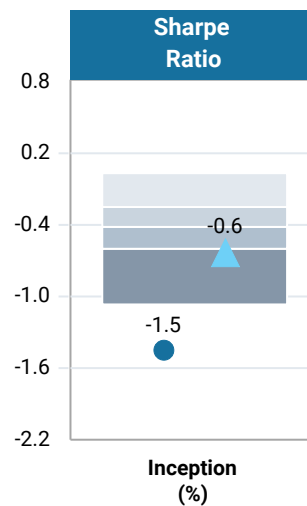
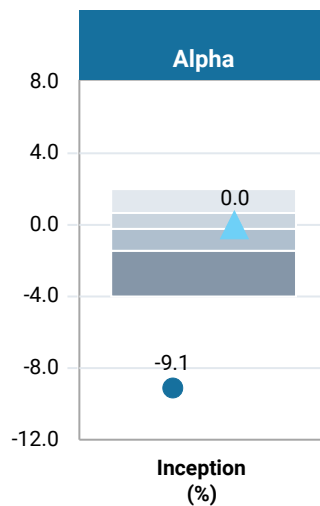
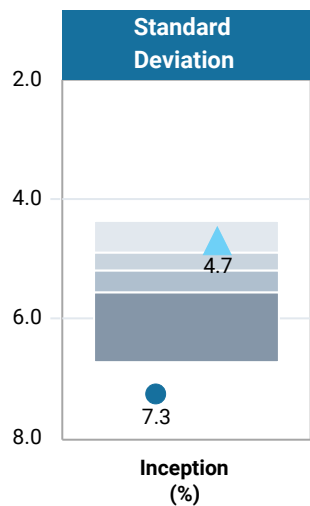
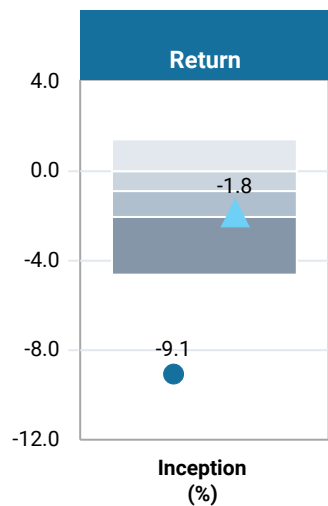


- Crescent
- ▲ Credit Suisse Leveraged Loan Qtr Lag

Style Map: (0.75 Year)



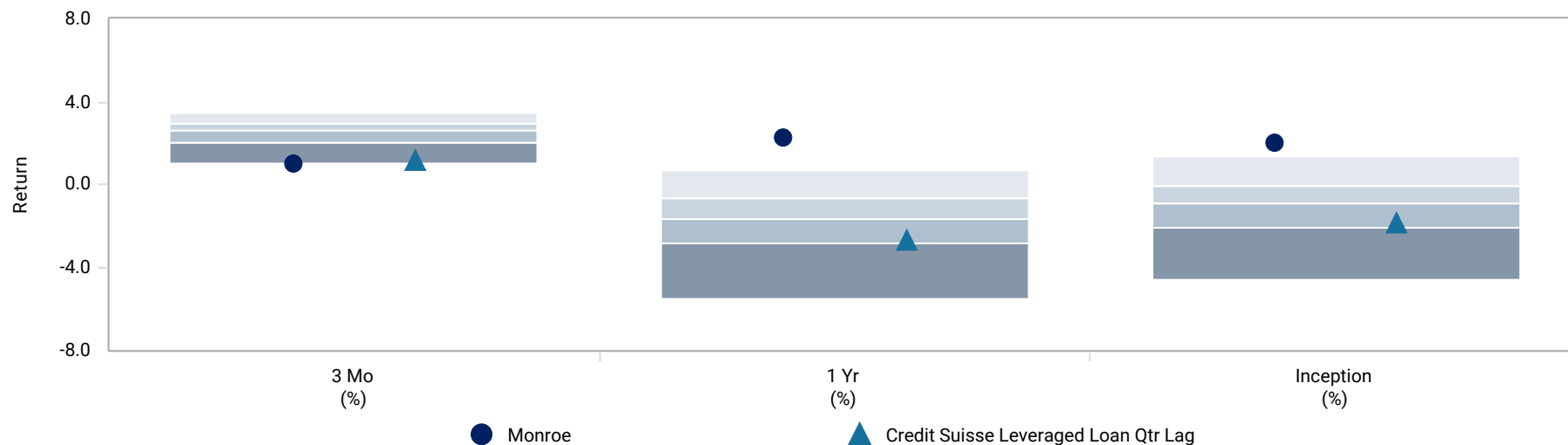
- Crescent
- ▲ Credit Suisse Leveraged Loan Qtr Lag



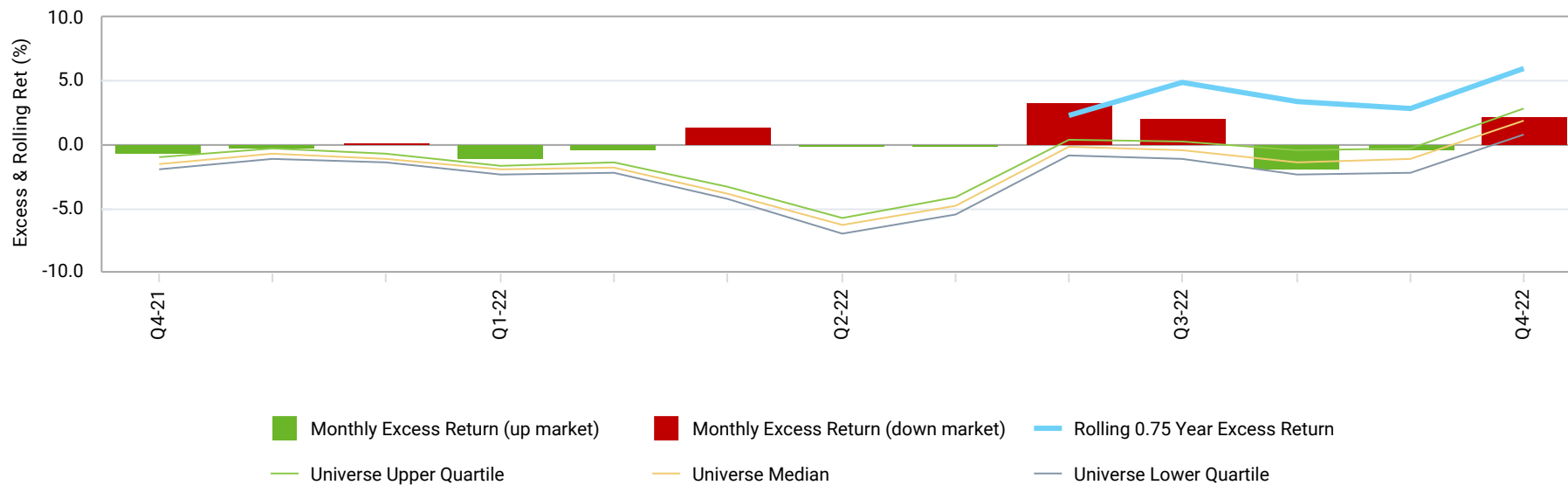


# MONROE

## eV US Float-Rate Bank Loan Fixed Inc (net of fees)



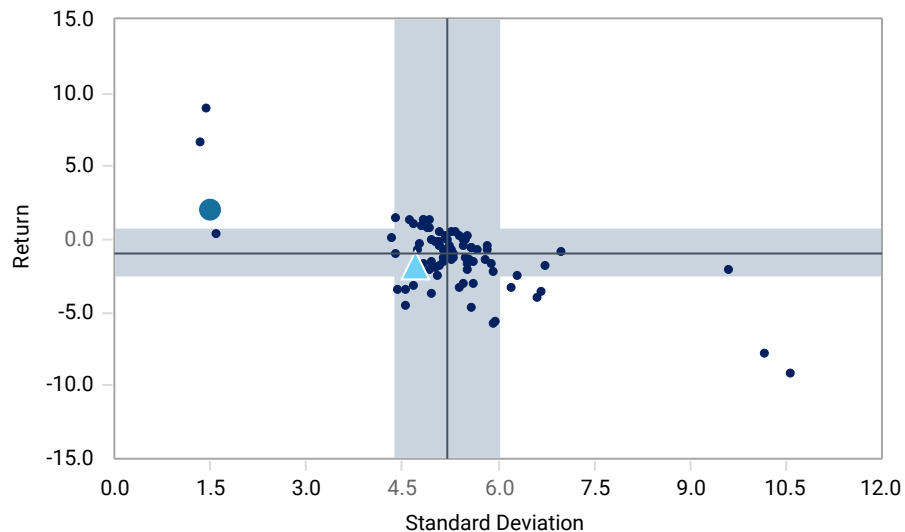
## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

# MONROE

Since Inception Return vs. Standard Deviation

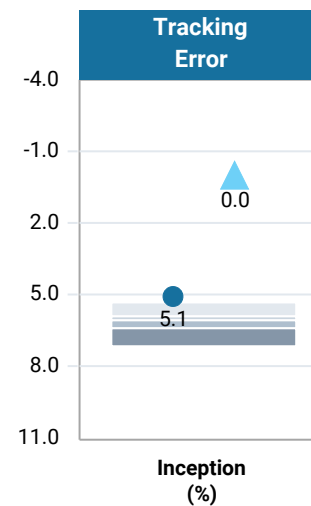
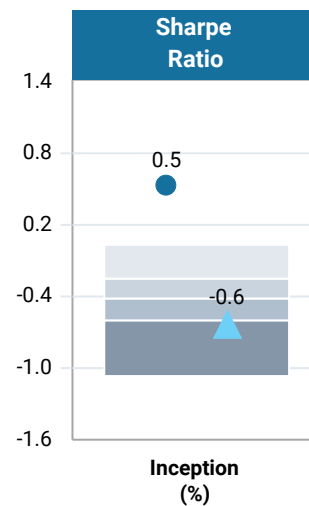
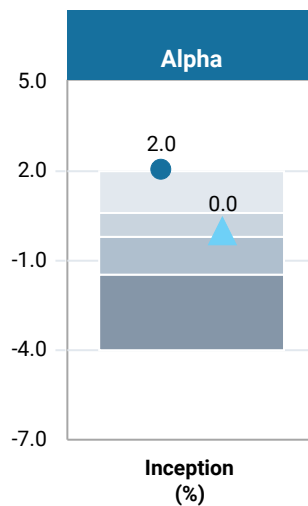
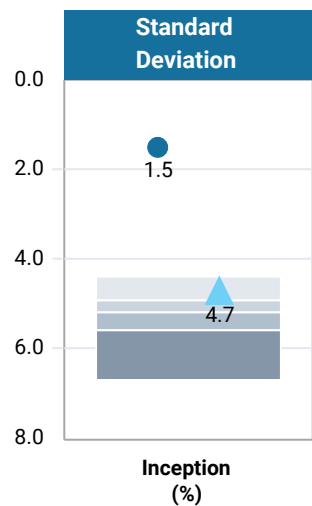
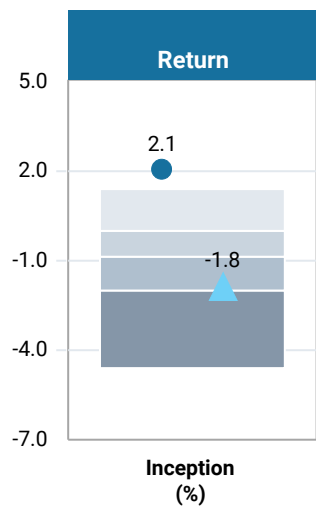


- Monroe
- ▲ Credit Suisse Leveraged Loan Qtr Lag

Style Map: (0.75 Year)



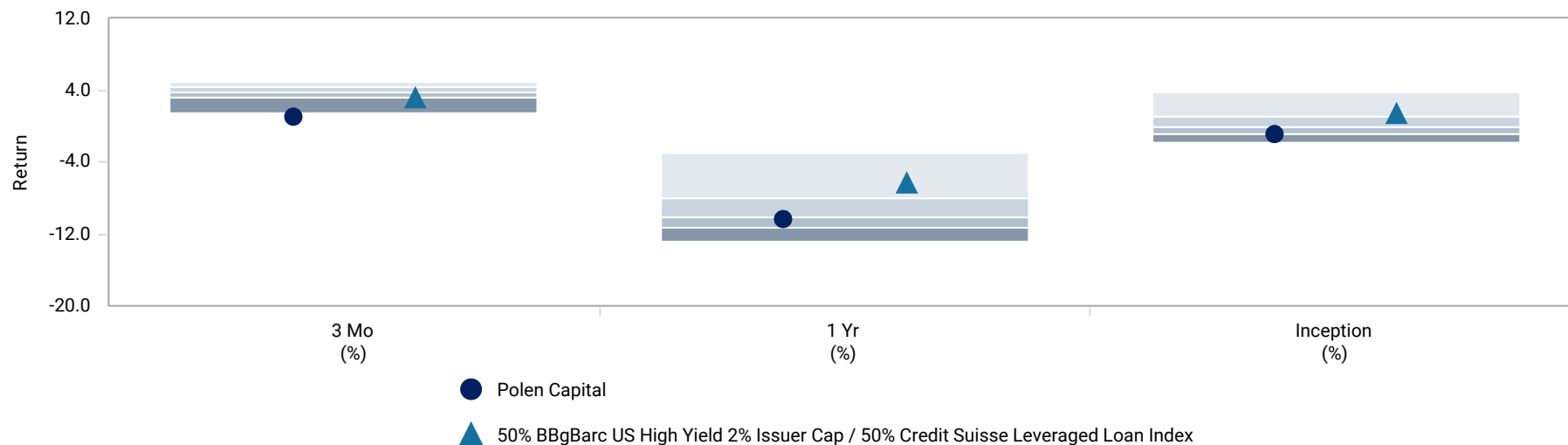
- Monroe
- ▲ Credit Suisse Leveraged Loan Qtr Lag



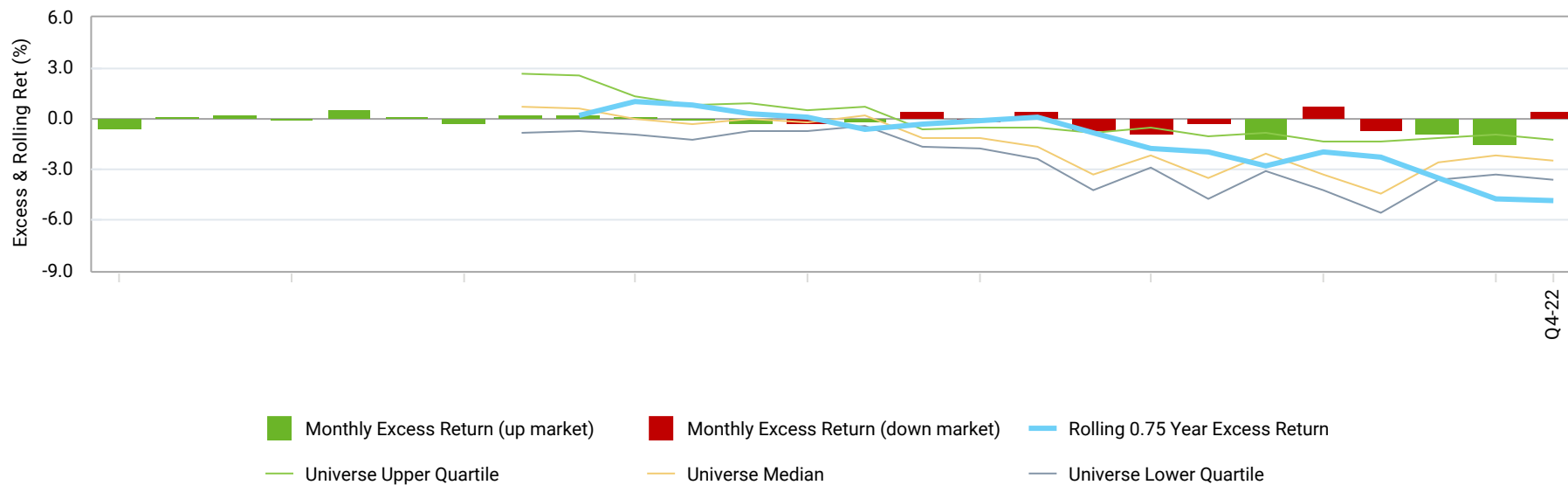
Los Angeles City Employees' Retirement System-LACERS Master Trust

# POLEN CAPITAL

## eV US High Yield Fixed Inc (net of fees)



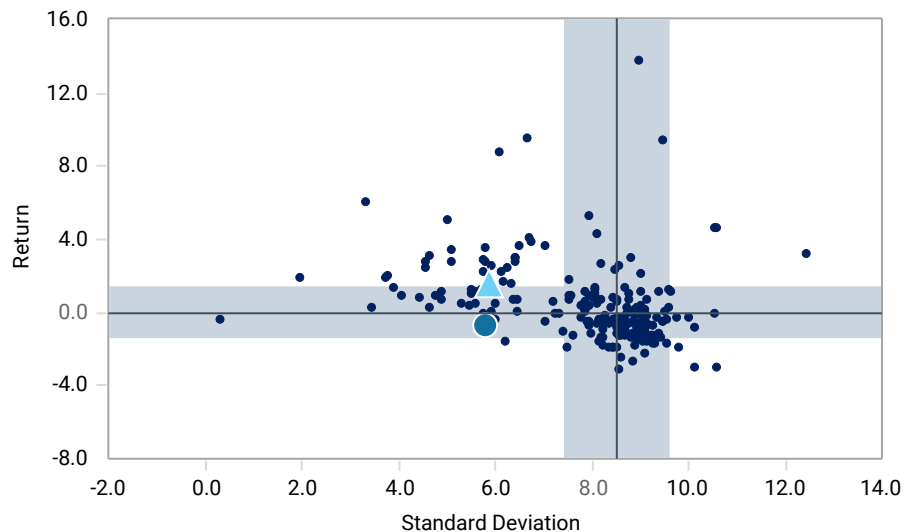
## Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



Los Angeles City Employees' Retirement System-LACERS Master Trust

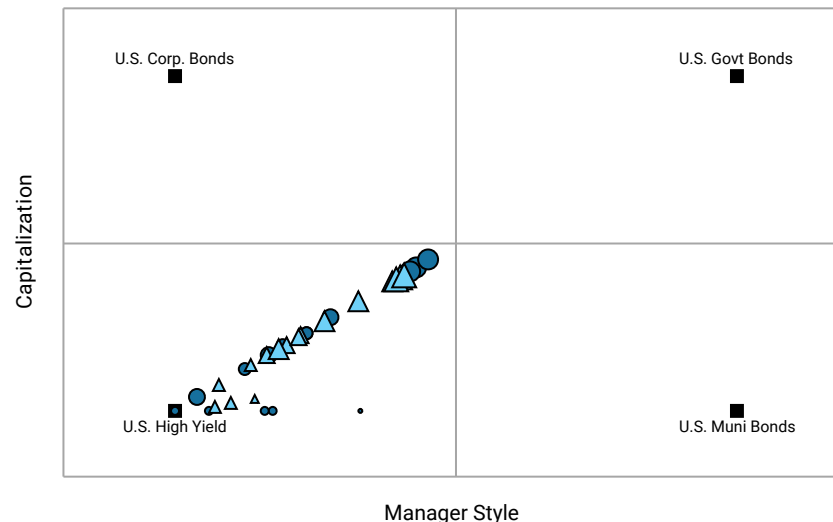
# POLEN CAPITAL

Since Inception Return vs. Standard Deviation

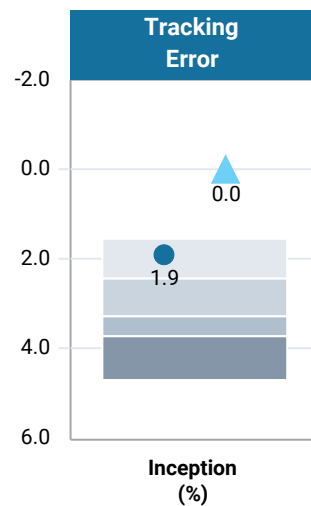
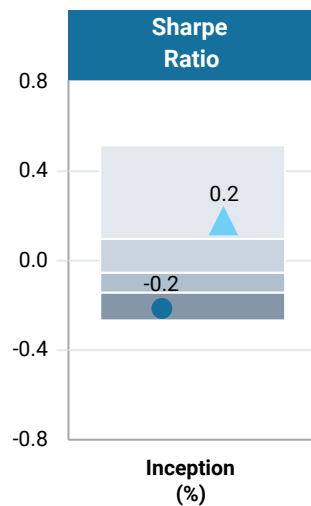
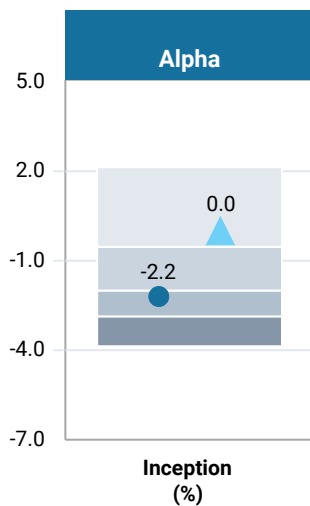
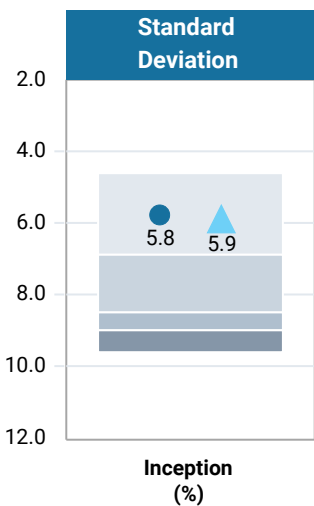
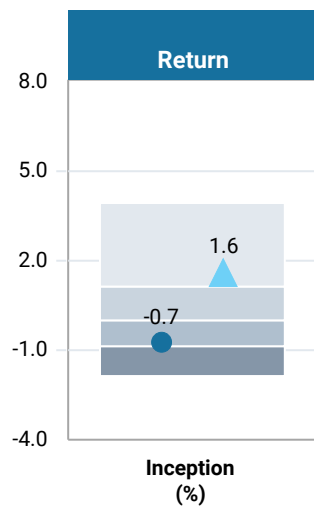


- Polen Capital
- ▲ 50% BBgBarc US High Yield 2% Issuer Cap / 50% Credit Suisse Leveraged Loa

Style Map: (0.75 Year)



- Polen Capital
- ▲ 50% BBgBarc US High Yield 2% Issuer Cap / 50% Credit Suisse Leveraged Loan

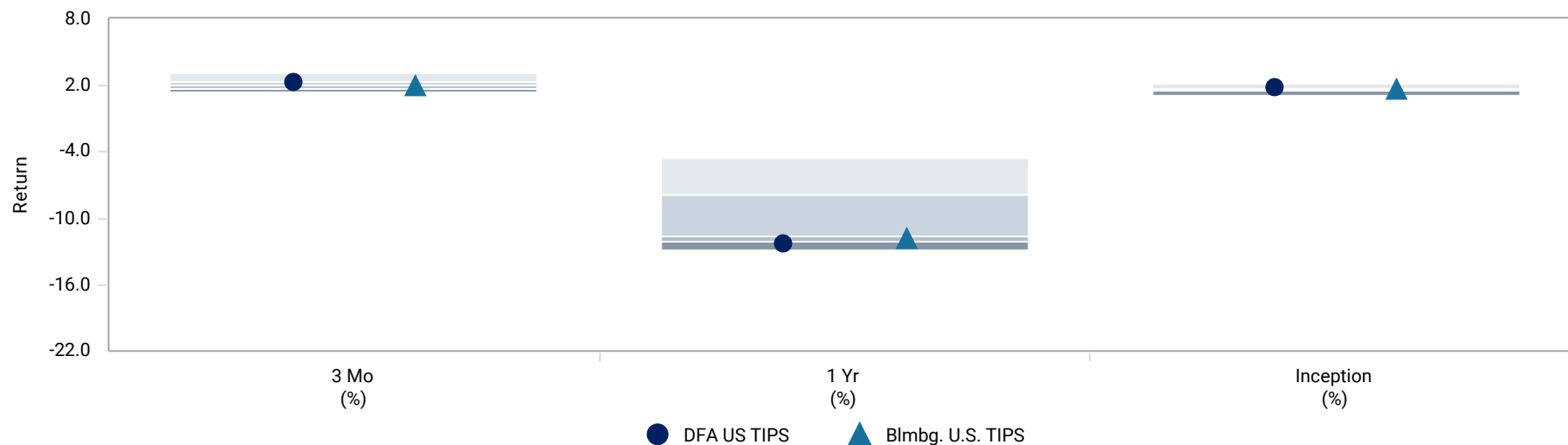


# REAL ASSETS MANAGER PERFORMANCE

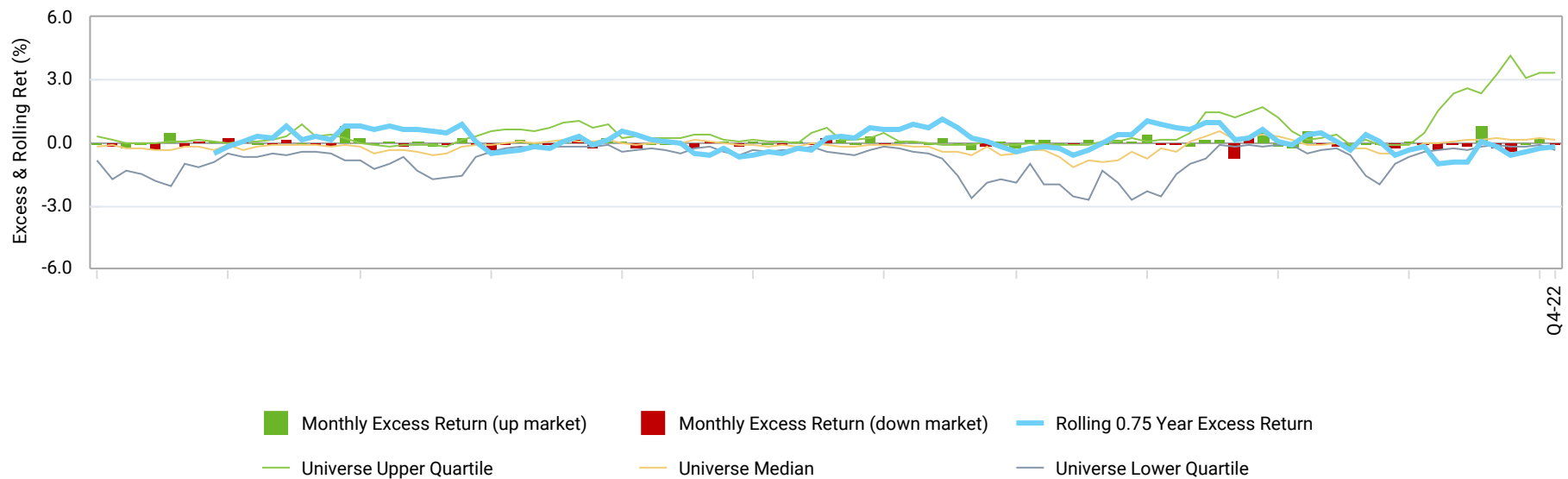
Los Angeles City Employees' Retirement System-LACERS Master Trust

# DFA US TIPS

eV US TIPS / Inflation Fixed Inc (net of fees)



Quarter Excess Return with a Rolling 0.75 Year Excess Return over Since Inception Ending December 31, 2022



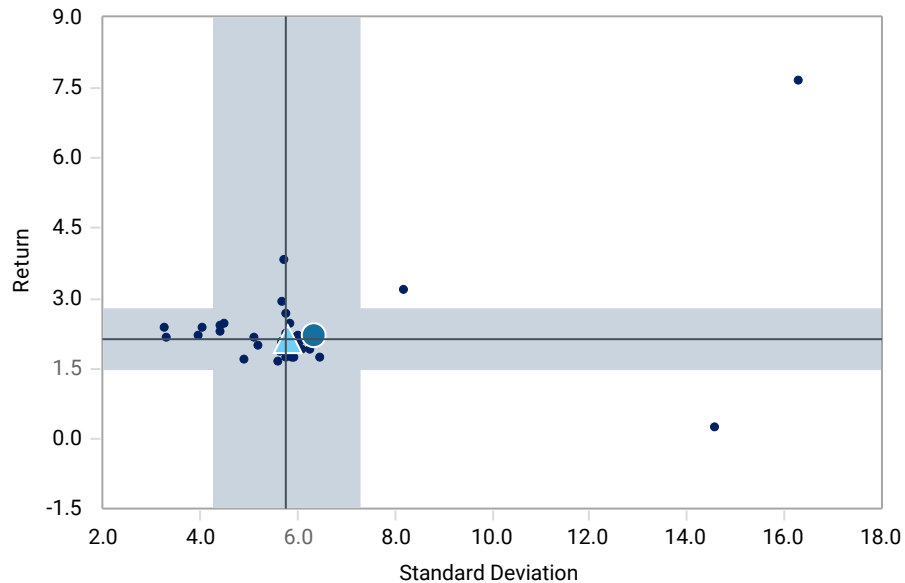
- Monthly Excess Return (up market)
- Monthly Excess Return (down market)
- Rolling 0.75 Year Excess Return
- Universe Upper Quartile
- Universe Median
- Universe Lower Quartile



Los Angeles City Employees' Retirement System-LACERS Master Trust

# DFA US TIPS

5 Years Return vs. Standard Deviation

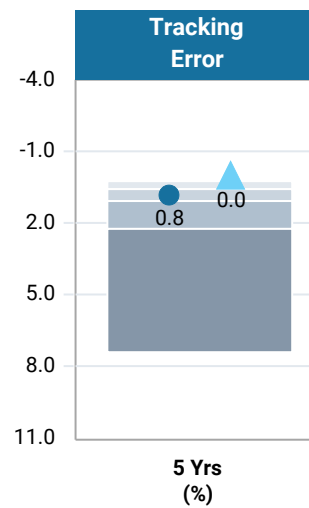
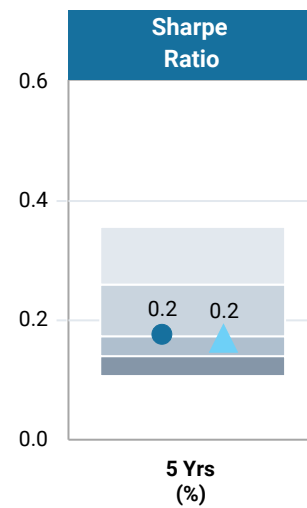
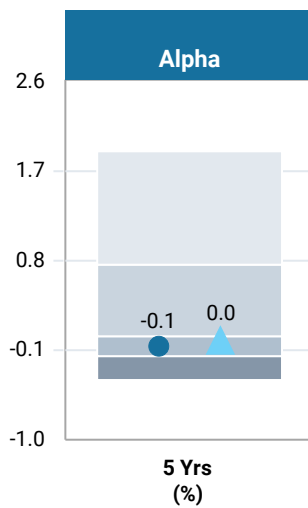
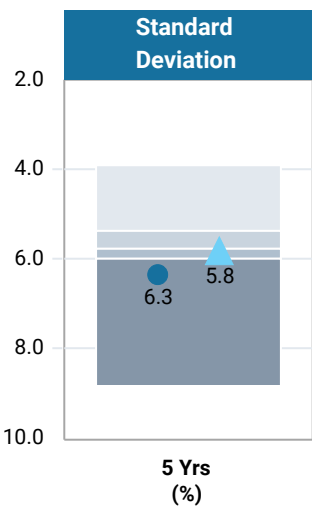
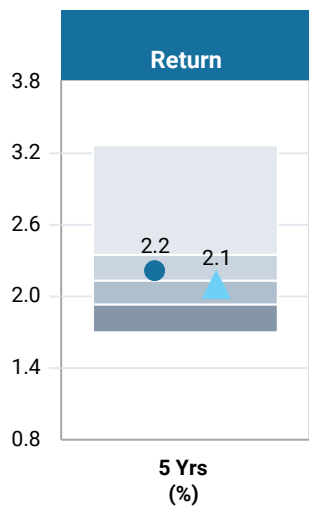


Style Map: (5 Years)



● DFA US TIPS    ▲ Blmbg. U.S. TIPS

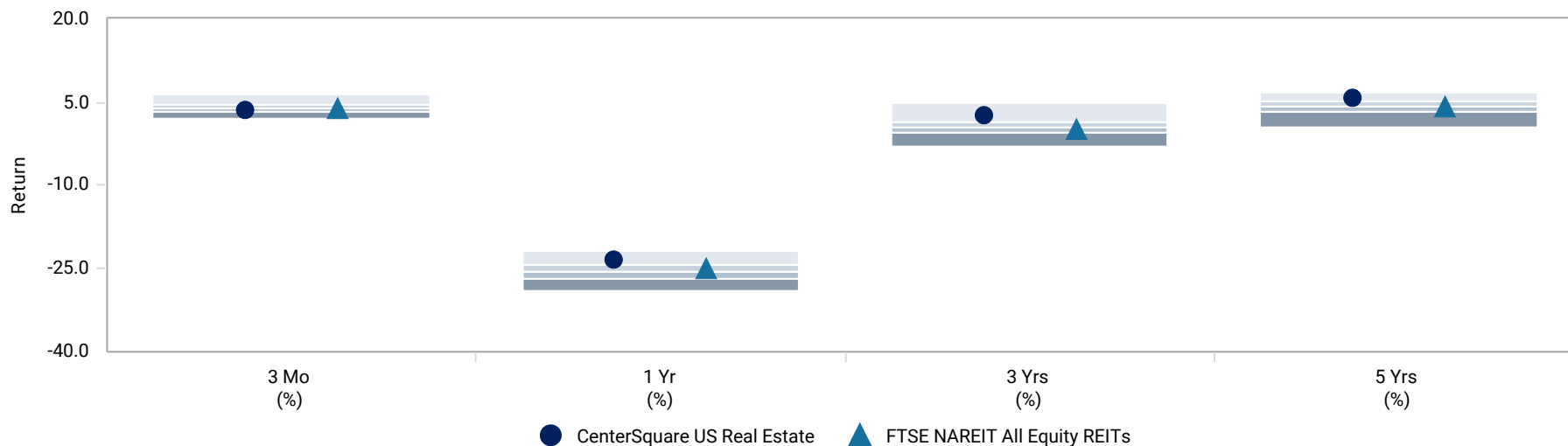
● DFA US TIPS    ▲ Blmbg. U.S. TIPS



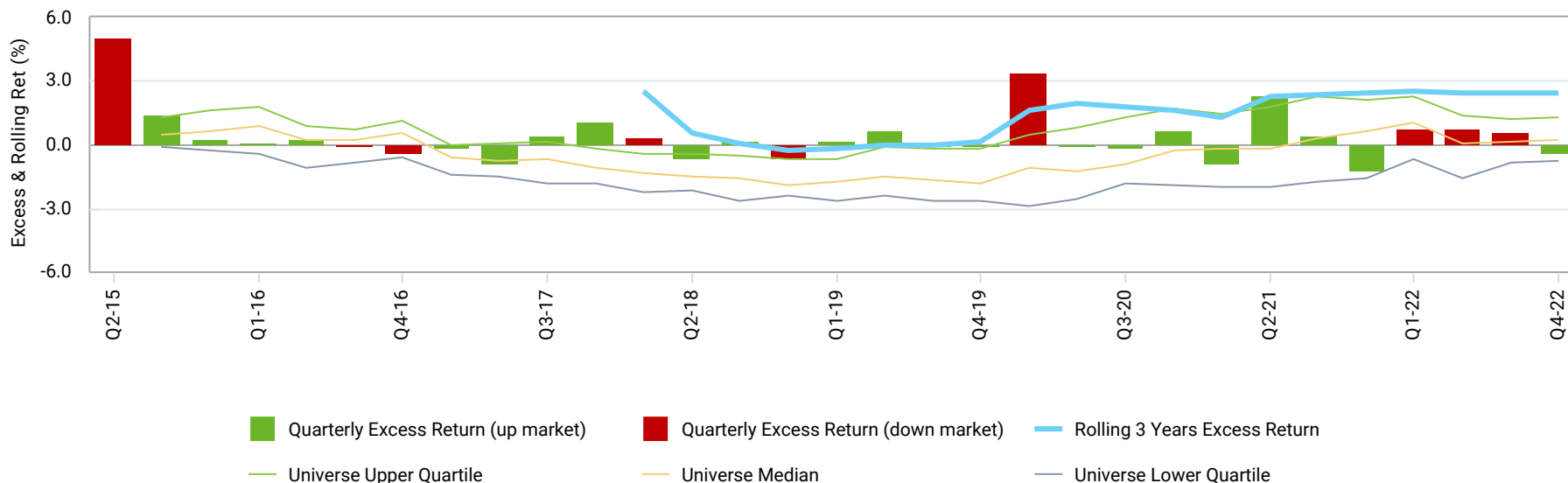
Los Angeles City Employees' Retirement System-LACERS Master Trust

# CENTERSQUARE US REAL ESTATE

## eV US REIT (net of fees)



## Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2022

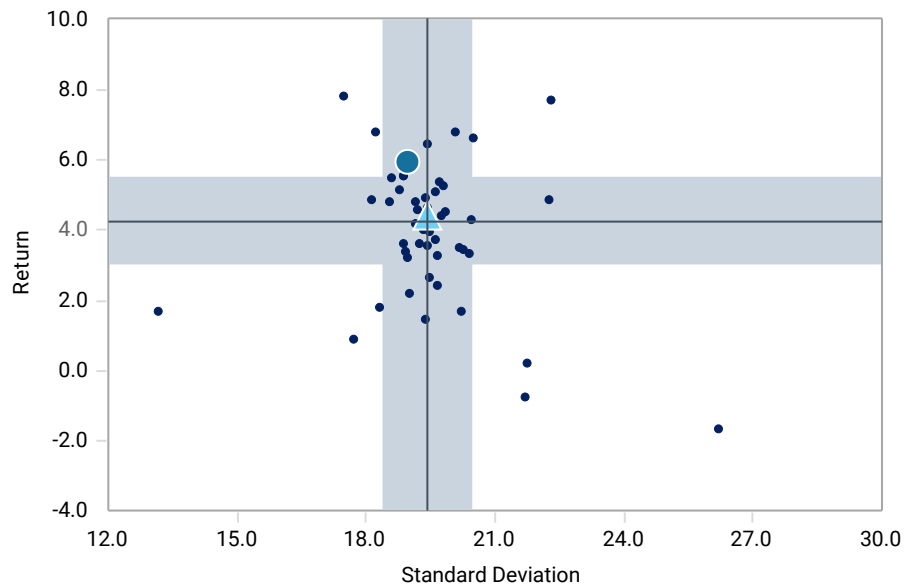




# Los Angeles City Employees' Retirement System-LACERS Master Trust

## CENTERSQUARE US REAL ESTATE

5 Years Return vs. Standard Deviation

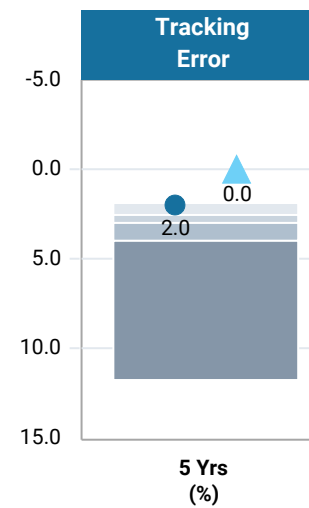
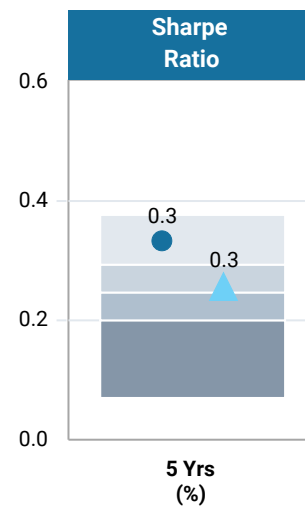
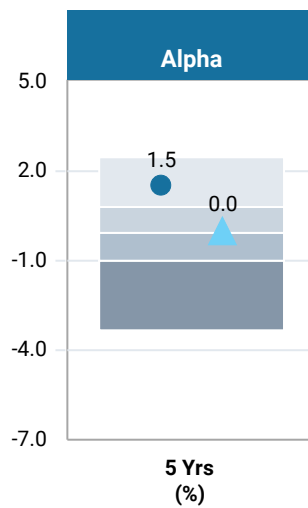
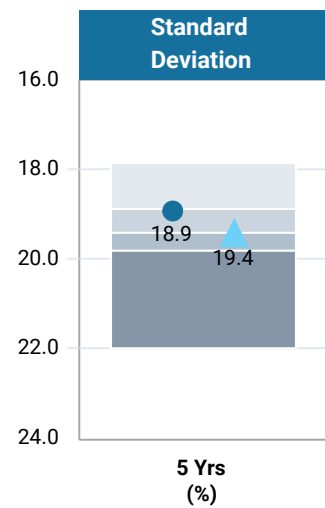
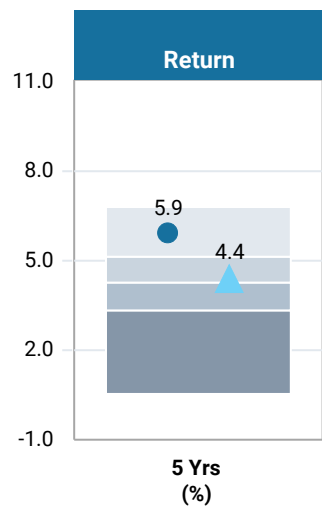


● CenterSquare US Real Estate ▲ FTSE NAREIT All Equity REITs

Style Map: (2.5 Years)



● CenterSquare US Real Estate ▲ FTSE NAREIT All Equity REITs



# DEFINITIONS



# POLICY INDEX DEFINITIONS

EFFECTIVE JULY 1, 2022

**Policy Index:** 19.5% Russell 3000 Index, 25.5% MSCI ACWI ex USA Net Index, 15% Bloomberg U.S. Aggregate Bond Index, 8% Credit Opportunities Blend, 7.5% Public Real Assets Blend, 5.5% Real Estate Blend, 18% 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: Bloomberg U.S. Aggregate Bond Index

**Credit Opportunities Blend:** 18.75% Bloomberg US High Yield 2% Issuer Capped Index, 18.75% Credit Suisse Leveraged Loan Index, 50% Blended Emerging Markets Debt Blend, 12.5% Credit Suisse Leveraged Loan Index One Quarter Lagged

**Emerging Markets Debt Blend:** 50% JPM EMBI Global Diversified, 50% JPM GBI-EM Global Diversified

**Real Assets Policy Benchmark Blend:** 34.62% Bloomberg US TIPS Index, 23.08% FTSE NAREIT All Equity Index, 42.3% Real Estate Blend

**Public Real Assets Blend:** 60% Bloomberg US TIPS Index, 40% FTSE NAREIT All Equity 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:** January 1, 2022 Cambridge Global PE and VC Index; February 1, 2012 – December 31, 2021 Russell 3000 + 3%; Inception – January 31, 2012 Russell 3000 + 4%

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



# POLICY INDEX DEFINITIONS

## INTERIM POLICY TARGETS ADOPTED ON JULY 12, 2022

	Policy Target %	2022	2023	2024	2025
<b>Total Portfolio</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
<b>U.S. Equity</b>	<b>21.00%</b>	<b>19.50%</b>	<b>20.50%</b>	<b>20.50%</b>	<b>21.00%</b>
Large Cap	15.00%	14.00%	14.50%	14.50%	15.00%
Small/Mid Cap	6.00%	5.50%	6.00%	6.00%	6.00%
<b>Non-U.S. Equity</b>	<b>26.00%</b>	<b>25.50%</b>	<b>25.50%</b>	<b>25.50%</b>	<b>26.00%</b>
Developed	15.00%	14.40%	14.40%	14.40%	15.00%
Developed Small Cap	3.00%	3.00%	3.00%	3.00%	3.00%
Emerging Markets	6.67%	6.75%	6.75%	6.75%	6.67%
Emerging Markets Small Cap	1.33%	1.35%	1.35%	1.35%	1.33%
<b>Private Equity</b>	<b>16.00%</b>	<b>18.00%</b>	<b>17.50%</b>	<b>17.00%</b>	<b>16.00%</b>
<b>Core Fixed Income</b>	<b>11.25%</b>	<b>15.00%</b>	<b>14.00%</b>	<b>12.75%</b>	<b>11.25%</b>
<b>Credit Opportunities</b>	<b>12.75%</b>	<b>8.00%</b>	<b>9.25%</b>	<b>10.75%</b>	<b>12.75%</b>
Bank Loans/High Yield	3.00%	3.00%	3.00%	3.00%	3.00%
Emerging Market Debt	4.00%	4.00%	4.00%	4.00%	4.00%
Private Credit	5.75%	1.00%	2.25%	3.75%	5.75%
<b>Public Real Assets</b>	<b>5.00%</b>	<b>7.50%</b>	<b>6.25%</b>	<b>6.00%</b>	<b>5.00%</b>
TIPS	3.60%	4.50%	4.00%	4.00%	3.60%
REITS	1.40%	3.00%	2.25%	2.00%	1.40%
<b>Real Estate</b>	<b>7.00%</b>	<b>5.50%</b>	<b>6.00%</b>	<b>6.50%</b>	<b>7.00%</b>
<b>Cash</b>	<b>1.00%</b>	<b>1.00%</b>	<b>1.00%</b>	<b>1.00%</b>	<b>1.00%</b>

Note: Policy target changes coincide with beginning of fiscal year.



# DISCLOSURES



## 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.

