



Los Angeles County Employees Retirement Association

Investments Division

TOTAL FUND

PERFORMANCE REPORT

For the quarter ended
June 30, 2023

A nighttime photograph of the Los Angeles State Capitol building, illuminated against a dark sky with a purple and orange sunset. The building's dome is prominent, and the surrounding city lights and streets are visible in the foreground.

review

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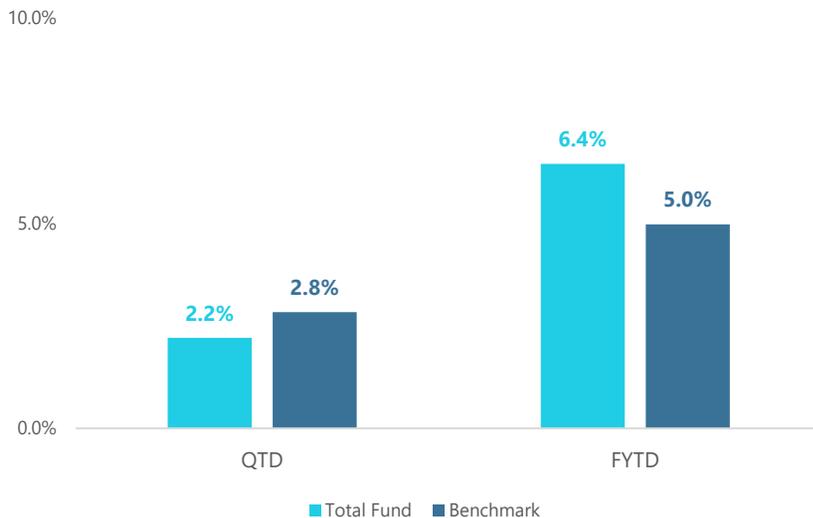
09 APPENDIX

total fund

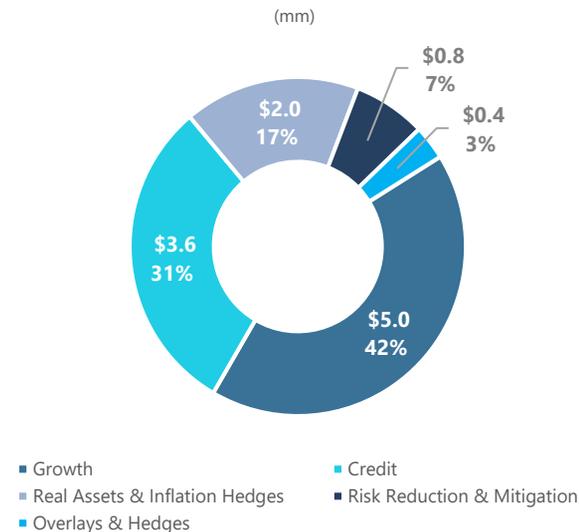
Quarterly Snapshot

for the quarter ended June 30, 2023

Performance (net)



Public Markets Fees¹



Ending Market Value

73,569

↑ **2%**
from prior quarter

Sharpe Ratio²

1.1

↓ **-18%**
from prior quarter

Batting Average³

45%

↓ **-1%**
from prior quarter

Standard Deviation²

8.3

↓ **-2%**
from prior quarter

Tracking Error²

2.9

↑ **2%**
from prior quarter

¹ Reflects estimated investment management fees. Additional details found in the appendix.

² 3 Year Annualized.

³ Percentage of managers that outperformed the benchmark for the quarter.

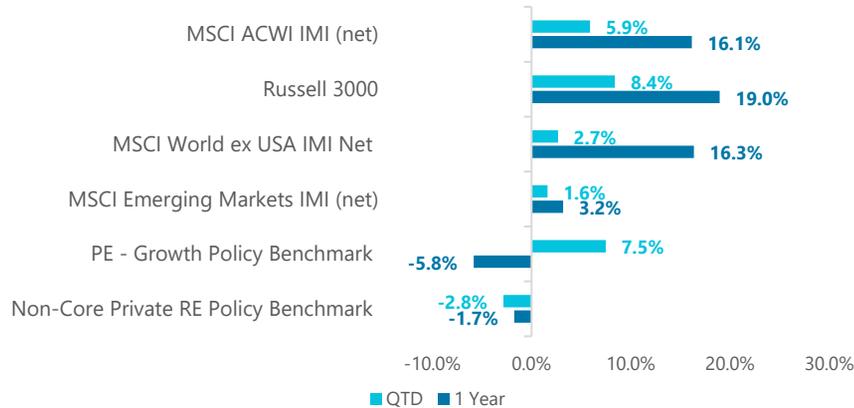
Market Environment

for the quarter ended June 30, 2023

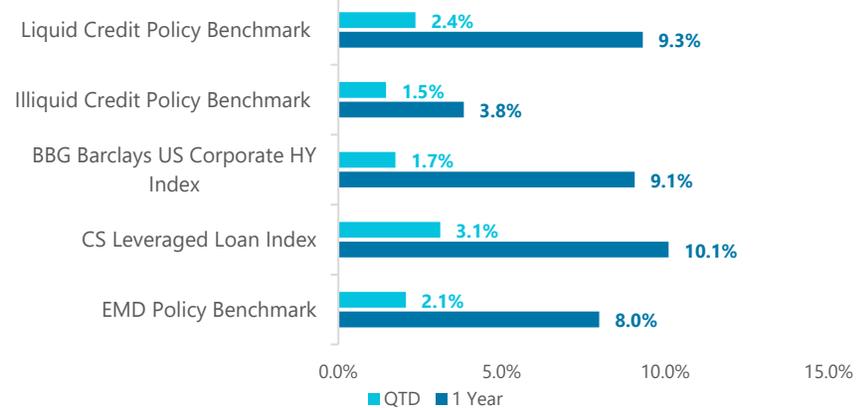


Los Angeles County Employees Retirement Association

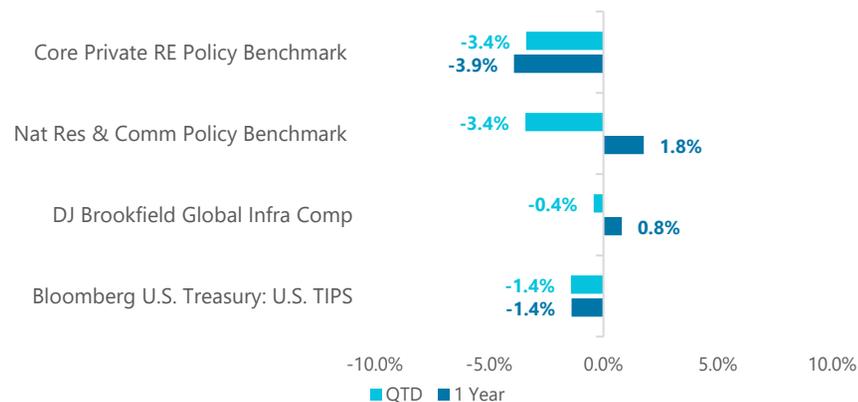
Growth



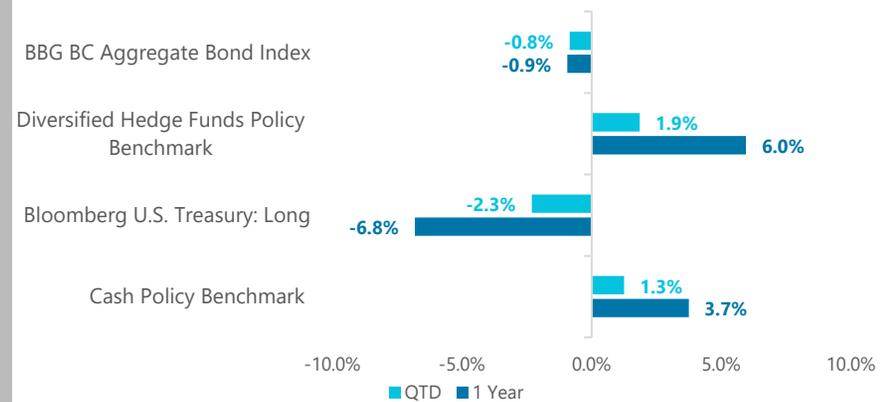
Credit



Real Assets & Inflation Hedges



Risk Reduction & Mitigation



Summary

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Performance (net)



	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
Total Fund	2.2%	5.9%	6.4%	10.1%	7.6%	8.1%	8.6%
Benchmark	2.8%	7.7%	5.0%	7.2%	6.4%	7.3%	--
Excess	-0.6%	-1.8%	1.5%	2.9%	1.2%	0.8%	--

	FY23	FY22	FY21	FY20	FY19
Total Fund	6.4%	0.1%	25.2%	1.8%	6.4%
Benchmark	5.0%	-4.6%	23.1%	2.0%	8.6%

Cumulative Return



Functional Category¹

	QTD	FYTD	1 Year	3 Year
Growth	4.2%	10.2%	10.2%	15.5%
Growth Policy Benchmark	5.8%	8.0%	8.0%	12.5%
Excess	-1.6%	2.1%	2.1%	3.0%
Credit	2.4%	7.7%	7.7%	6.8%
Credit Policy Benchmark	1.8%	6.0%	6.0%	2.4%
Excess	0.6%	1.7%	1.7%	4.4%
Real Assets & Inflation Hedges	-1.2%	0.1%	0.1%	9.6%
RA & IH Policy Benchmark	-2.1%	-0.6%	-0.6%	8.9%
Excess	0.9%	0.7%	0.7%	0.7%
Risk Reduction & Mitigation	-1.2%	-0.2%	-0.2%	-1.7%
RR & M Policy Benchmark	-0.3%	0.0%	0.0%	-2.6%
Excess	-0.9%	-0.3%	-0.3%	0.9%
Overlays & Hedges	31.1%	51.6%	51.6%	--

¹ Cash Overlay composite returns reflect non-notionalized returns.

Peer Ranking (gross)²

	QTD		1 Year		3 Year		5 Year		10 Year	
Total Fund	2.3%	81	6.7%	59	10.4%	28	8.0%	37	8.4%	28
60/40 Portfolio	3.2%	32	9.2%	15	5.0%	93	5.2%	88	6.0%	88
S&P 500 Index	8.7%	4	19.6%	5	14.6%	6	12.3%	5	12.9%	5
5th Percentile	4.5%		11.1%		12.7%		10.0%		9.8%	
25th Percentile	3.3%		8.7%		10.6%		8.2%		8.6%	
50th Percentile	2.8%		7.2%		9.8%		7.7%		7.8%	
75th Percentile	2.4%		5.4%		8.5%		6.6%		7.4%	
95th Percentile	0.6%		1.7%		0.7%		2.9%		3.7%	

² Universe data provided by State Street and is gross-of-fees.

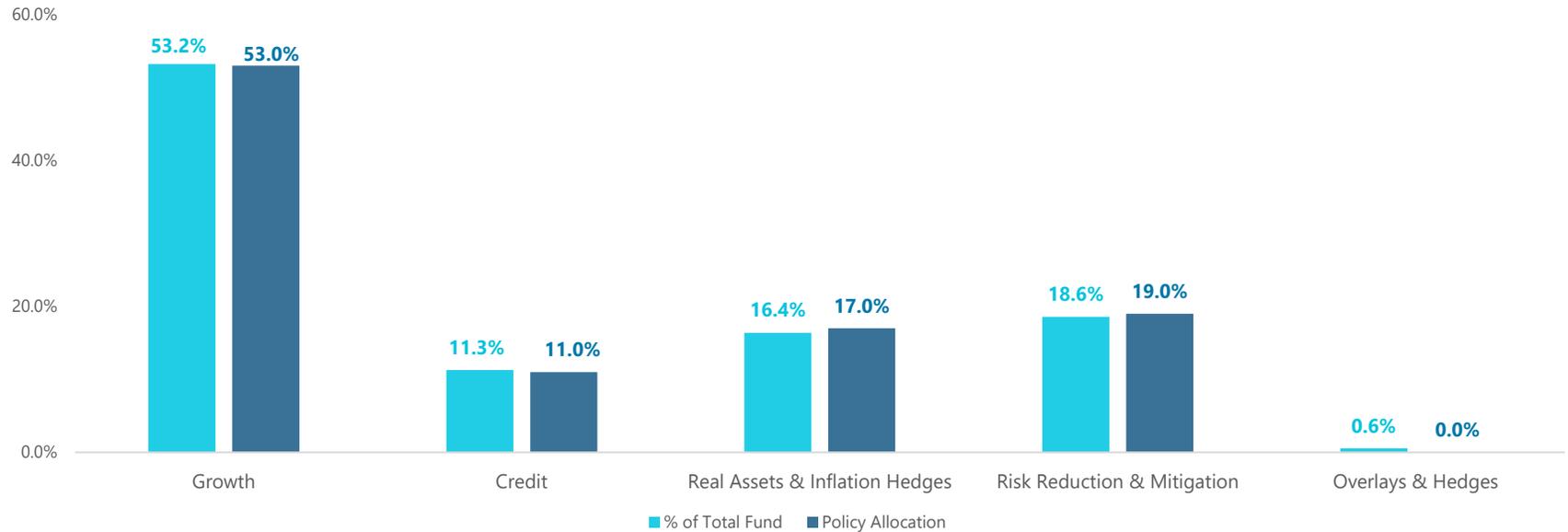
Asset Allocation

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Actual vs. Policy

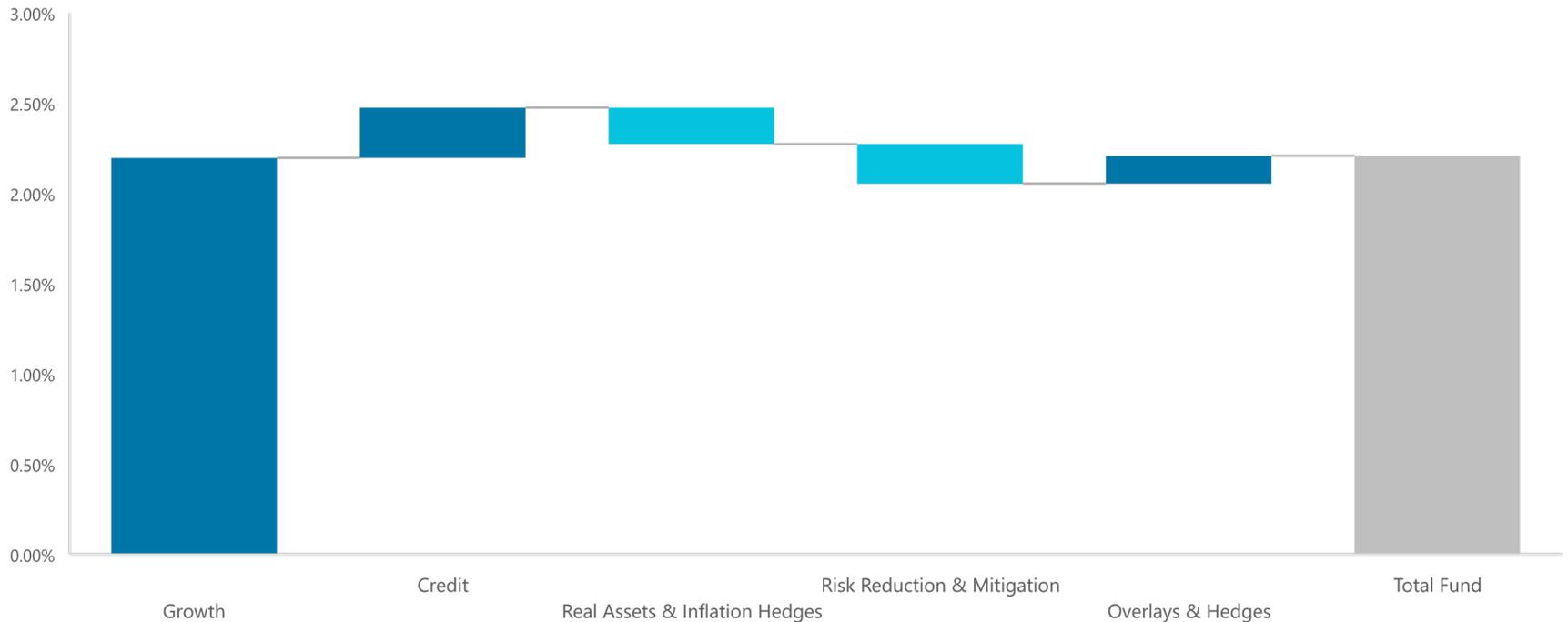


	Ending Market Value (mm)	% of Total Fund	Policy Allocation	Over/Under (%)	Over/Under (mm)
Total Fund	73,569	100.0%	100.0%		
Growth	39,155	53.2%	53.0%	0.2%	164
Credit	8,297	11.3%	11.0%	0.3%	204
Real Assets & Inflation Hedges	12,050	16.4%	17.0%	-0.6%	-456
Risk Reduction & Mitigation	13,659	18.6%	19.0%	-0.4%	-319
Overlays & Hedges	407	0.6%	0.0%	0.6%	407

Contribution to Return

for the quarter ended June 30, 2023

QTD Contribution to Return



Functional Category	Contributors	Detractors
Growth	SSGA MSCI ACWI IMI 1.23%	Real Estate - Real Assets -0.20%
Credit	JPMAM Strategic Beta US 0.50%	BlackRock Long Treasury Bonds -0.10%
Real Assets & Inflation Hedges	Private Equity - Growth 0.31%	Brevan Howard Master Fund -0.06%
Risk Reduction & Mitigation	Frontier US SMID Growth 0.04%	BlackRock TIPS -0.04%
Overlays & Hedges	BTC Euro Tilts 0.04%	DWS Natural Resources -0.04%
Total Fund	2.21%	

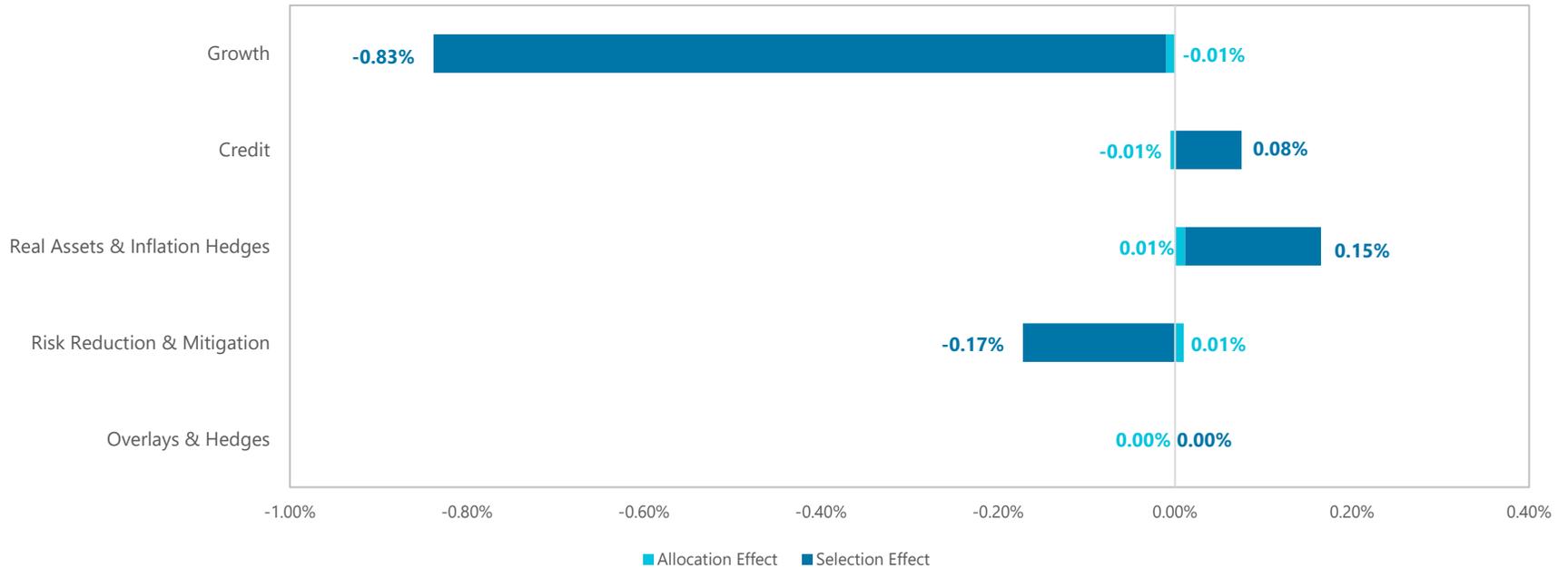
Return Attribution

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

QTD Performance Attribution¹



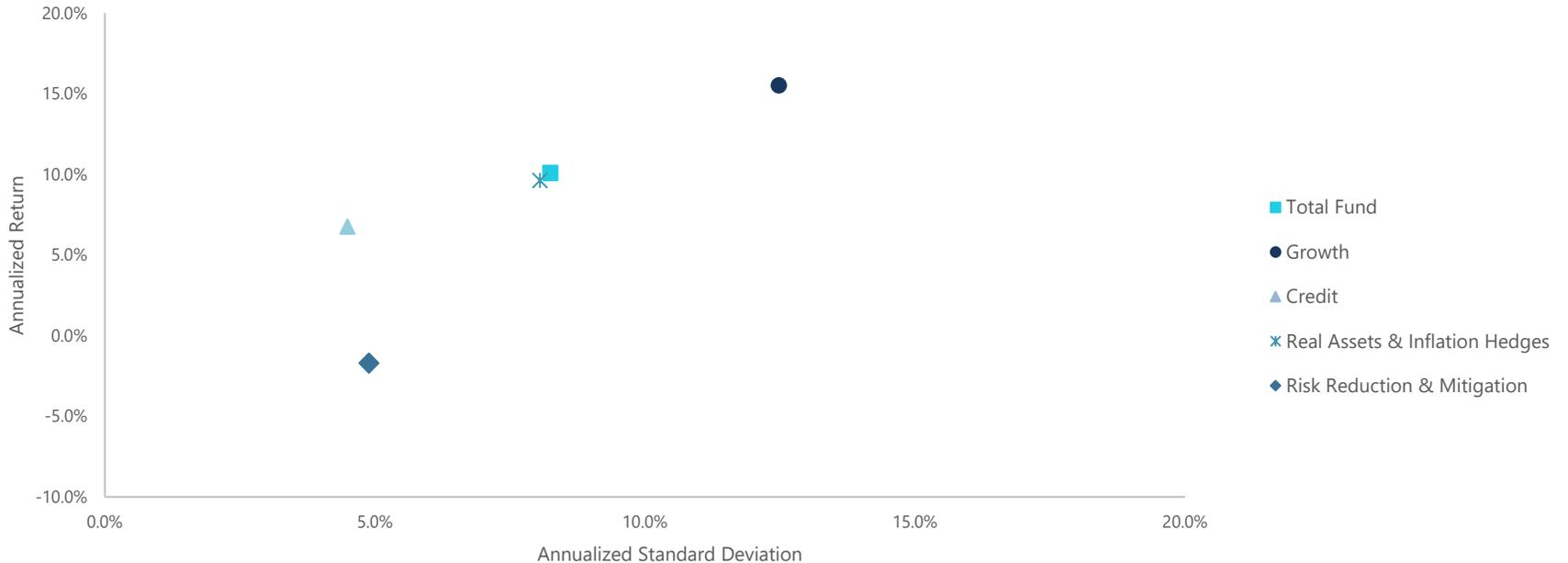
	Ending Market Value (mm)	% of Total Fund	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
Total Fund	73,569	100.0%	100.0%	2.2%	2.8%	-0.01%	-0.61%	-0.62%
Growth	39,155	53.2%	53.0%	4.2%	5.8%	-0.01%	-0.83%	-0.84%
Credit	8,297	11.3%	11.0%	2.4%	1.8%	-0.01%	0.08%	0.07%
Real Assets & Inflation Hedges	12,050	16.4%	17.0%	-1.2%	-2.1%	0.01%	0.15%	0.16%
Risk Reduction & Mitigation	13,659	18.6%	19.0%	-1.2%	-0.3%	0.01%	-0.17%	-0.16%
Overlays & Hedges	407	0.6%	0.0%	31.1%	--	--	--	--

¹ Total Value Add column includes Interaction Effect.

Risk vs. Return

for the quarter ended June 30, 2023

3 Year (Annualized)



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
Total Fund	10.1%	8.2%	1.05	0.91	0.89	2.9%
Growth	15.5%	12.5%	1.13	0.49	0.84	5.2%
Credit	6.8%	4.5%	1.24	1.44	0.78	3.1%
Real Assets & Inflation Hedges	9.6%	8.1%	1.04	0.31	0.91	2.6%
Risk Reduction & Mitigation	-1.7%	4.9%	(0.58)	1.08	0.93	0.8%
Overlays & Hedges	--	--				

Performance Detail

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Annualized Net Returns¹

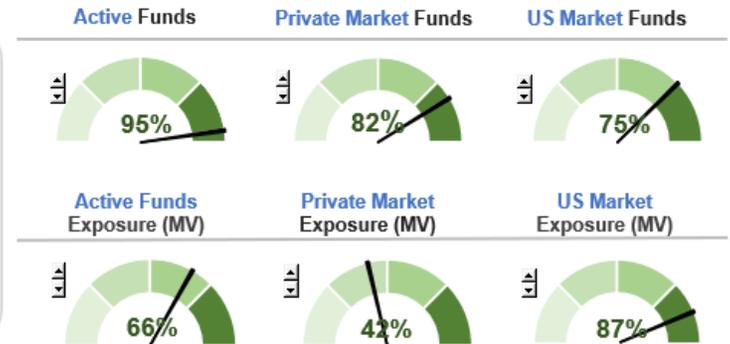
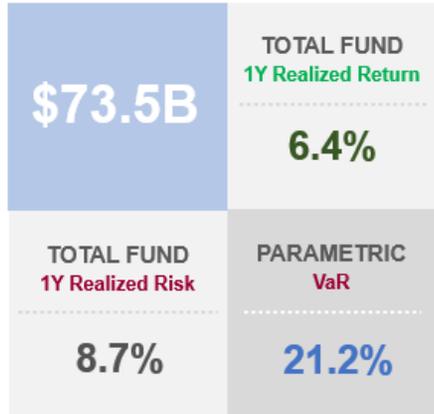
	% of Total Fund	Ending Market Value (mm)	Prior Quarter Ending MV (mm)	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
Total Fund	100.0%	73,569	72,332	2.2%	5.9%	6.4%	10.1%	7.6%	8.1%	8.6%	Dec-1988
Total Fund Policy Benchmark				2.8%	7.7%	5.0%	7.2%	6.4%	7.3%	--	
Growth	53.2%	39,155	37,704	4.2%	9.3%	10.2%	15.5%	--	--	12.2%	Apr-2019
Growth Policy Benchmark				5.8%	13.5%	8.0%	12.5%	--	--	9.9%	
Global Equity	33.4%	24,583	23,521	5.8%	13.3%	16.6%	11.7%	--	--	9.3%	Apr-2019
Global Equity Policy Benchmark				5.9%	13.2%	16.1%	11.0%	--	--	8.8%	
Private Equity - Growth	18.3%	13,428	13,034	1.7%	3.3%	0.1%	25.2%	--	--	18.3%	Jan-2019
PE - Growth Policy Benchmark				7.5%	18.6%	-5.8%	17.9%	--	--	8.4%	
Non-Core Private Real Estate	1.6%	1,145	1,149	-0.5%	-2.6%	4.0%	12.7%	10.8%	10.7%	4.6%	Jan-1996
Non-Core Private RE Policy Benchmark				-2.8%	-7.3%	-1.7%	10.2%	9.5%	11.6%	11.1%	
Credit	11.3%	8,297	8,411	2.4%	6.0%	7.7%	6.8%	--	--	4.6%	Apr-2019
Credit Policy Benchmark				1.8%	5.0%	6.0%	2.4%	--	--	2.9%	
Liquid Credit	4.7%	3,458	4,076	2.9%	6.1%	9.0%	--	--	--	-1.5%	Oct-2021
Liquid Credit Policy Benchmark				2.4%	5.7%	9.3%	--	--	--	-1.4%	
Illiquid Credit	6.6%	4,839	4,335	2.0%	5.7%	5.6%	13.9%	--	--	9.6%	Apr-2019
Illiquid Credit Policy Benchmark				1.5%	4.5%	3.8%	0.8%	--	--	4.3%	
Real Assets & Inflation Hedges	16.4%	12,050	12,202	-1.2%	-1.6%	0.1%	9.6%	--	--	5.9%	Apr-2019
RA & IH Policy Benchmark				-2.1%	-2.7%	-0.6%	8.9%	--	--	6.3%	
Core Private Real Estate	5.5%	4,071	4,124	-3.6%	-8.0%	-1.7%	8.0%	6.4%	7.9%	7.0%	Oct-1985
Core Private RE Policy Benchmark				-3.4%	-8.4%	-3.9%	7.7%	6.9%	8.9%	6.9%	
Natural Resources & Commodities	2.9%	2,110	2,197	0.2%	0.3%	1.1%	21.2%	6.2%	0.4%	-0.8%	Jul-2007
Nat Res & Comm Policy Benchmark				-3.4%	-4.9%	1.8%	18.8%	5.8%	-0.5%	-2.0%	
Infrastructure	5.4%	3,974	3,958	0.7%	2.6%	1.6%	9.0%	--	--	7.0%	Jun-2019
DJ Brookfield Global Infra Comp				-0.4%	2.7%	0.8%	7.4%	--	--	3.7%	
TIPS	2.6%	1,896	1,924	-1.4%	1.9%	-1.8%	-0.2%	--	--	2.4%	May-2019
Bloomberg U.S. Treasury: U.S. TIPS				-1.4%	1.9%	-1.4%	-0.1%	--	--	2.4%	
Risk Reduction & Mitigation	18.6%	13,659	13,598	-1.2%	2.5%	-0.2%	-1.7%	--	--	1.1%	Apr-2019
RR & M Policy Benchmark				-0.3%	3.1%	0.0%	-2.6%	--	--	0.5%	
Investment Grade Bonds	6.9%	5,044	5,083	-0.7%	2.4%	-0.7%	-3.7%	0.9%	1.9%	5.1%	Nov-1994
BBG BC Aggregate Bond Index				-0.8%	2.1%	-0.9%	-4.0%	0.8%	1.5%	4.6%	
Diversified Hedge Funds	6.2%	4,570	4,543	-1.4%	1.8%	4.6%	8.3%	--	--	6.4%	Apr-2019
Diversified Hedge Funds Policy Benchmark				1.9%	3.6%	6.0%	3.7%	--	--	3.9%	
Long-Term Government Bonds	4.0%	2,962	3,032	-2.3%	3.7%	-7.5%	--	--	--	-16.9%	Nov-2021
Bloomberg U.S. Treasury: Long				-2.3%	3.7%	-6.8%	--	--	--	-17.7%	
Cash	1.5%	1,083	939	1.7%	3.1%	5.5%	2.5%	2.4%	1.6%	1.9%	Jun-2001
Cash Policy Benchmark				1.3%	2.4%	3.7%	1.3%	1.6%	1.0%	1.5%	
Overlays & Hedges	0.6%	407	417	31.1%	49.5%	51.6%	--	--	--	135.9%	Oct-2021
Cash Overlay	0.5%	364	412	15.4%	26.0%	41.8%	29.0%	--	--	5.1%	Aug-2019
Total Overlay Custom BM				3.4%	8.9%	9.4%	5.9%	--	--	5.5%	
Currency Hedge	0.1%	43	5	0.8%	0.7%	0.7%	--	--	--	3.4%	Oct-2021
50% FX Hedge Custom Benchmark				0.8%	0.7%	0.7%	--	--	--	3.4%	

¹ Cash Overlay composite returns reflect non-notionalized returns.

Risk Summary

for the quarter ended June 30, 2023

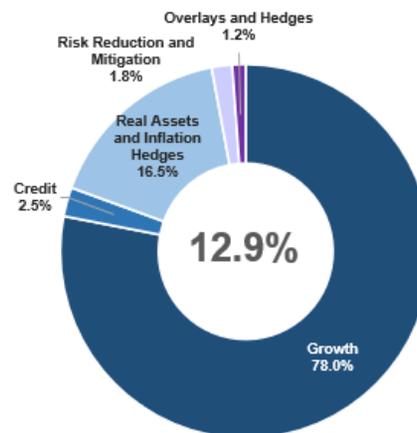
Realized (Ex-Post) Risks



Projected (Ex-Ante) Risks

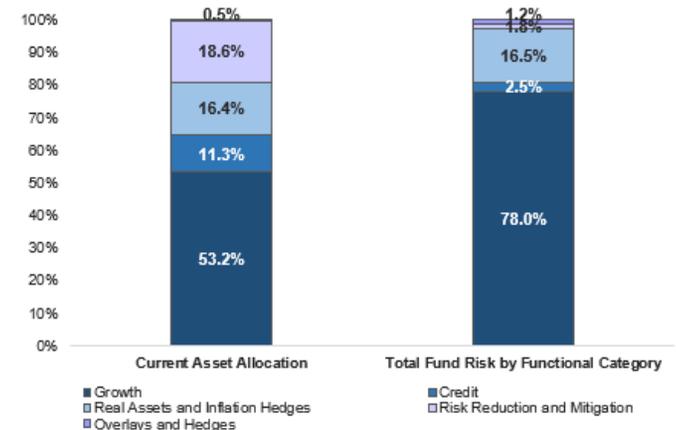


Functional Category Contributions to Total Fund Risk



Total Fund Asset Allocation

Capital-based versus Risk-based



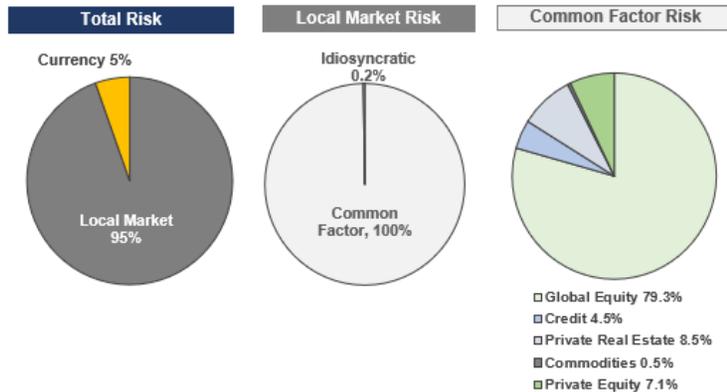
Risk Summary

for the quarter ended June 30, 2023

Decomposition of MSCI Risk Factors

Total Risk							
Currency	Local Market						
	Idiosyncratic	Common Factor					
	Global Equity	Private Equity	Credit	Hedge Funds	Private Real Estate	Private Infrastructure	Commodities
	<ul style="list-style-type: none"> Industry Style Country Market Implied Volatility 	<ul style="list-style-type: none"> Buyout Distressed Venture Capital Growth Equity 	<ul style="list-style-type: none"> Term Structure Implied Volatility Inflation Basis Spread 	<ul style="list-style-type: none"> Strategies <ul style="list-style-type: none"> Global Macro Multi-Strategy Fixed Income Relative Value 	<ul style="list-style-type: none"> Commercial Residential Geography Forestry and Agriculture US Metro Income Return & Quality 	<ul style="list-style-type: none"> Transportation Utilities Non-utilities Industrial Energy 	<ul style="list-style-type: none"> Metals Energy Livestock Agriculture

Total Fund Risk Decomposition



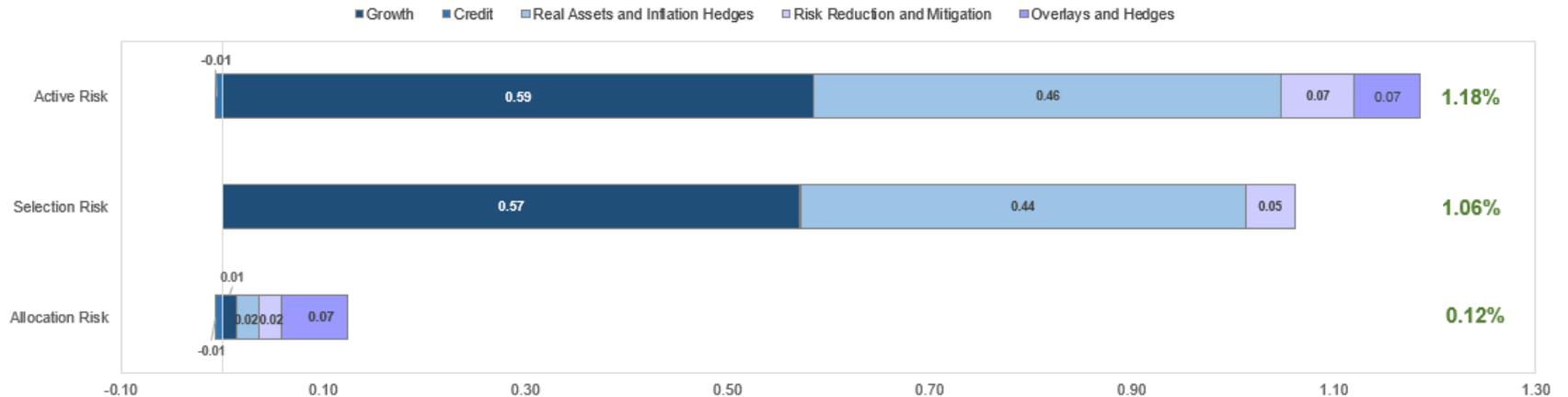
Total Fund Contribution by Risk Factor



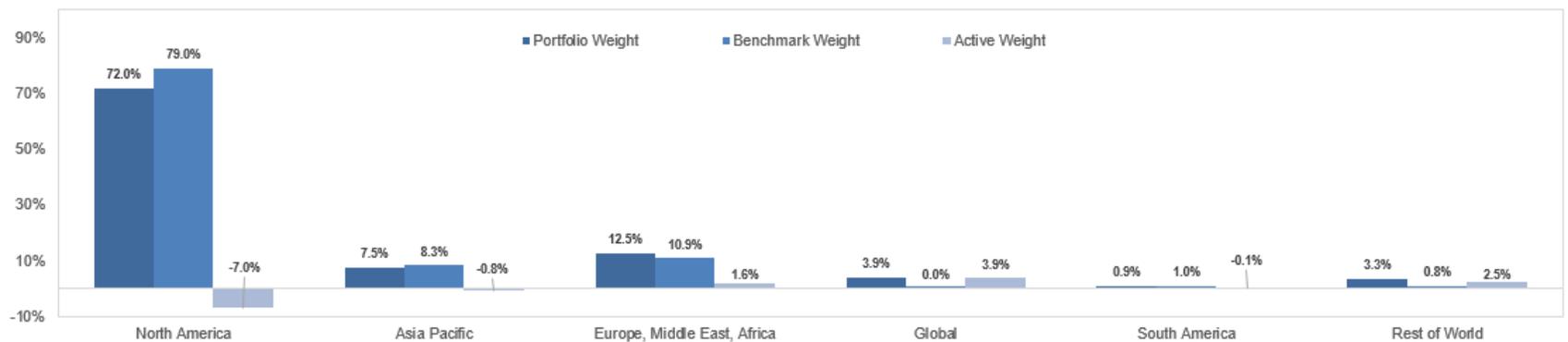
Risk Summary

for the quarter ended June 30, 2023

Functional Category Contributions to Active Risk



Portfolio Allocation by Region^{1,2}



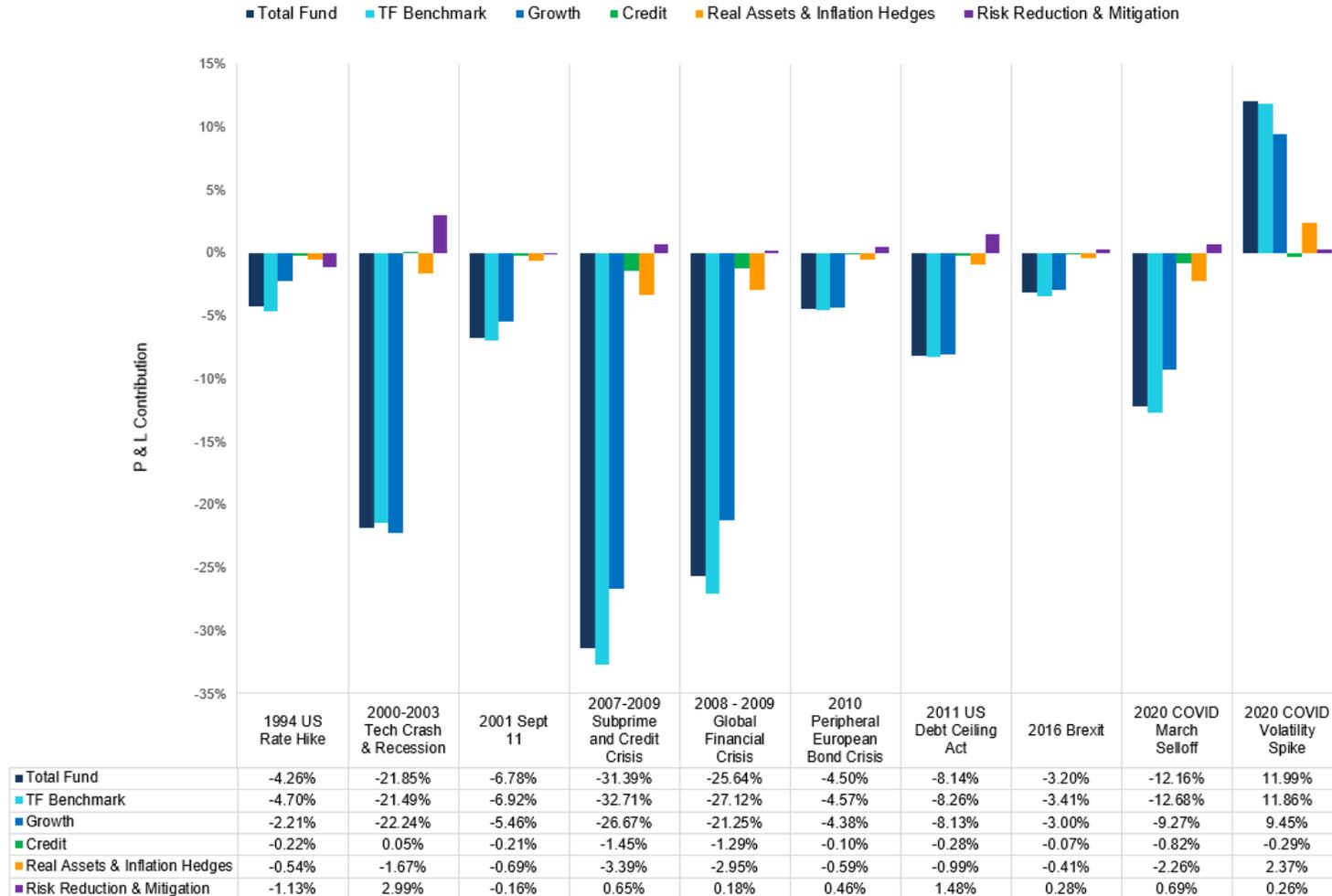
¹ Global represents investments made in regions where specific country allocations are not available.²

² Rest of World is sum of countries with weights below 0.5%.

Stress Tests

for the quarter ended June 30, 2023

Scenarios by Asset Category



Stress Tests

for the quarter ended June 30, 2023

Historical Scenario	Description	Stock Market	Interest Rates	Bond Market	Commodity Market
1994 US Rate Hike	In combating inflation, the US Federal Reserve raised rates from 3.25% in February to 5.5% in November 1994.				
2000-2003 Tech Crash & Recession	Period of crisis and slowdown for technological firms due to a rapid jump in stock prices when tech bubble began to burst.				
2001 September 11th	The US stock market was closed for a week upon a series of coordinated suicide attacks upon the US on September 11, 2001.				
2008-2009 Global Financial Crisis	Major financial crisis starting with the failure of several US-based financial firms. Extended into 2009, when stock markets reached their lowest.				
2010 European Bond Crisis	During crisis, the liquidity access for peripheral countries was affected by budget deficits, high borrowing costs, and failing banking systems.				
2011 US Debt Ceiling Act	Political deadlock on appropriate level of US government spending and its impacts. Debt and equity markets experienced significant volatility.				
2016 Brexit	The referendum by British voters to exit the European Union roiled global markets causing the pound to fall to its lowest level in decades.				
2020 COVID March Selloff	Peak and Valley of the MSCI ACWI index when Covid became a Global Pandemic.				
2020 COVID Volatility Spike	Period it took for the Cboe Volatility Index (VIX) to revert to pre-pandemic levels.				

Market Trend Signals



growth

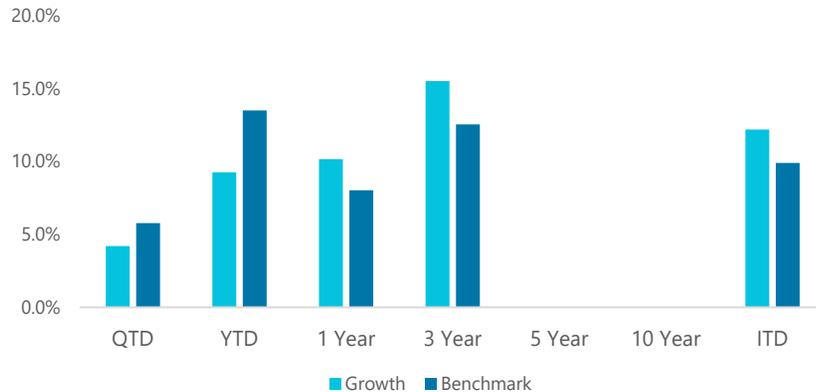
Summary

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Performance (net)



	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
Growth	4.2%	9.3%	10.2%	15.5%	--	--	12.2%
Benchmark	5.8%	13.5%	8.0%	12.5%	--	--	9.9%
Excess	-1.6%	-4.2%	2.1%	3.0%	--	--	2.3%

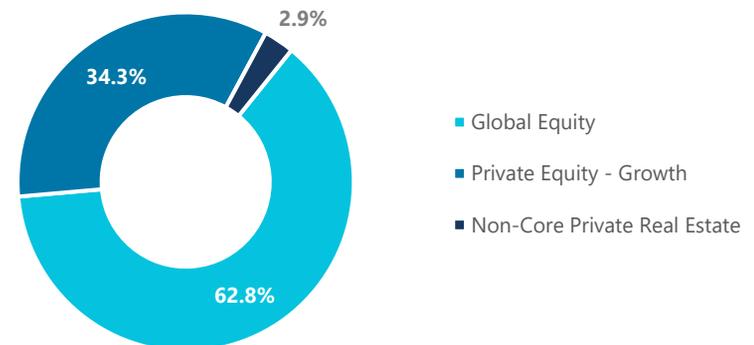
Cumulative Return



Functional Category

	QTD	FYTD	1 Year	3 Year
Global Equity	5.8%	16.6%	16.6%	11.7%
Global Equity Policy Benchmark	5.9%	16.1%	16.1%	11.0%
Excess	-0.1%	0.5%	0.5%	0.7%
Private Equity - Growth	1.7%	0.1%	0.1%	25.2%
PE - Growth Policy Benchmark	7.5%	-5.8%	-5.8%	17.9%
Excess	-5.7%	5.9%	5.9%	7.3%
Non-Core Private Real Estate	-0.5%	4.0%	4.0%	12.7%
Non-Core Private RE Policy Benchmark	-2.8%	-1.7%	-1.7%	10.2%
Excess	2.4%	5.7%	5.7%	2.5%

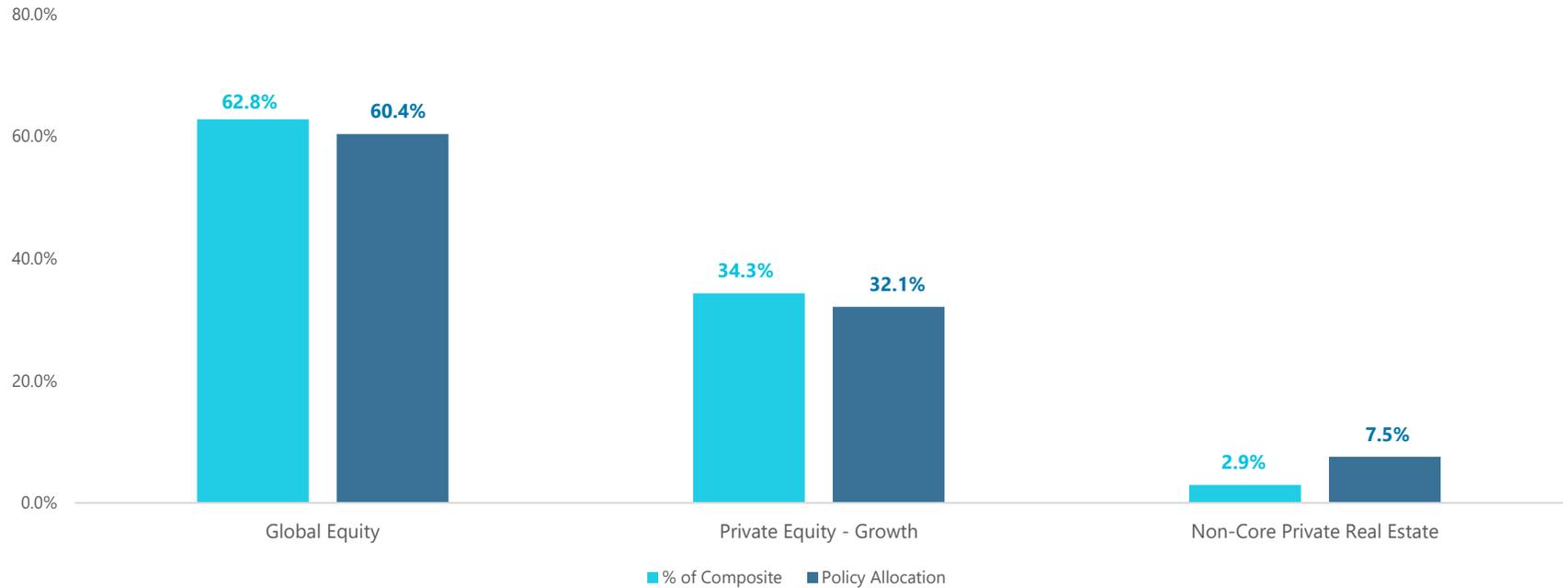
Exposure



Asset Allocation

for the quarter ended June 30, 2023

Actual vs. Policy

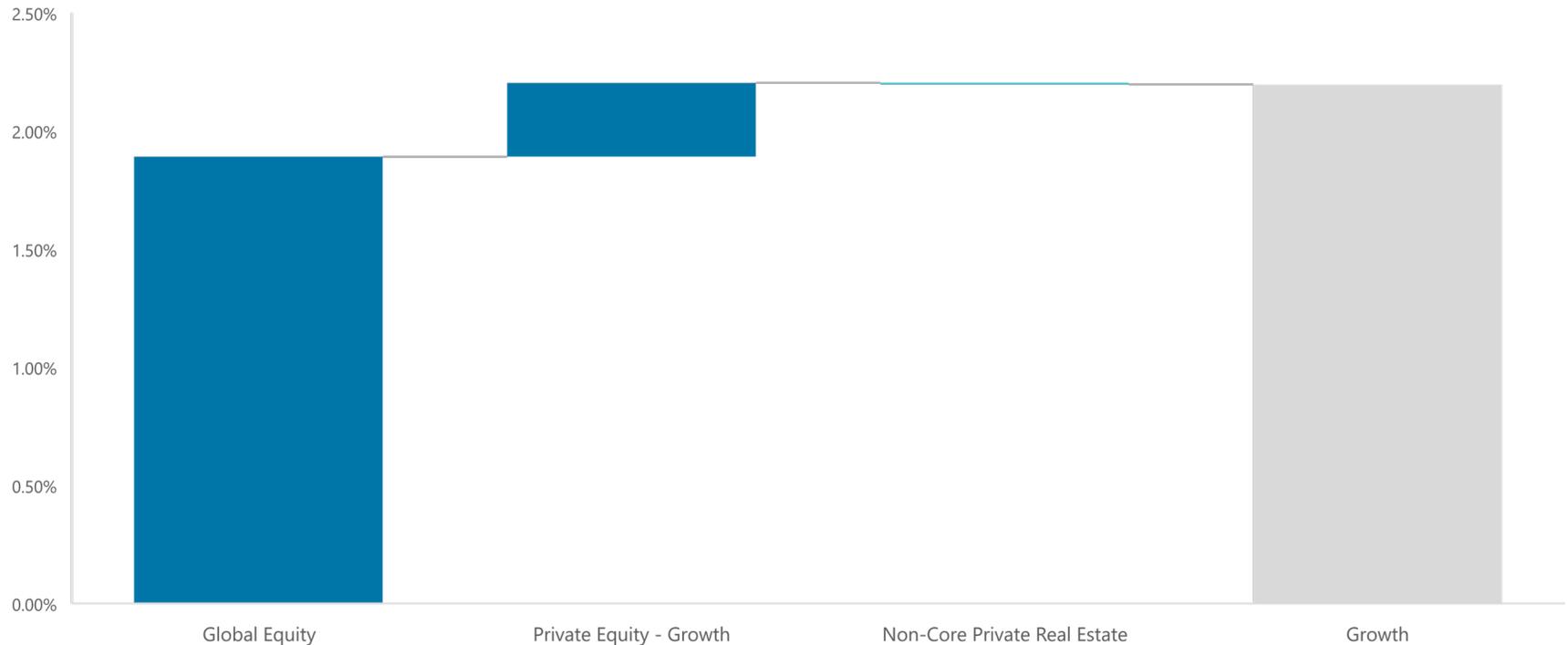


	Ending Market Value (mm)	% of Composite	Policy Allocation	Over / Under (%)	Over / Under (mm)
Growth	39,155	100.0%	100.0%		
Global Equity	24,583	62.8%	60.4%	2.3%	914
Private Equity - Growth	13,428	34.3%	32.1%	2.2%	852
Non-Core Private Real Estate	1,145	2.9%	7.5%	-4.6%	-1,809

Contribution to Return

for the quarter ended June 30, 2023

QTD Contribution to Return



Functional Category	Contributors	Detractors
Global Equity	1.89% SSGA MSCI ACWI IMI	Global Alpha -0.01%
Private Equity - Growth	0.31% JPMAM Strategic Beta US	Real Estate - Growth -0.01%
Non-Core Private Real Estate	-0.01% Private Equity - Growth	
Growth	2.20% Frontier US SMID Growth BTC Euro Tilts	

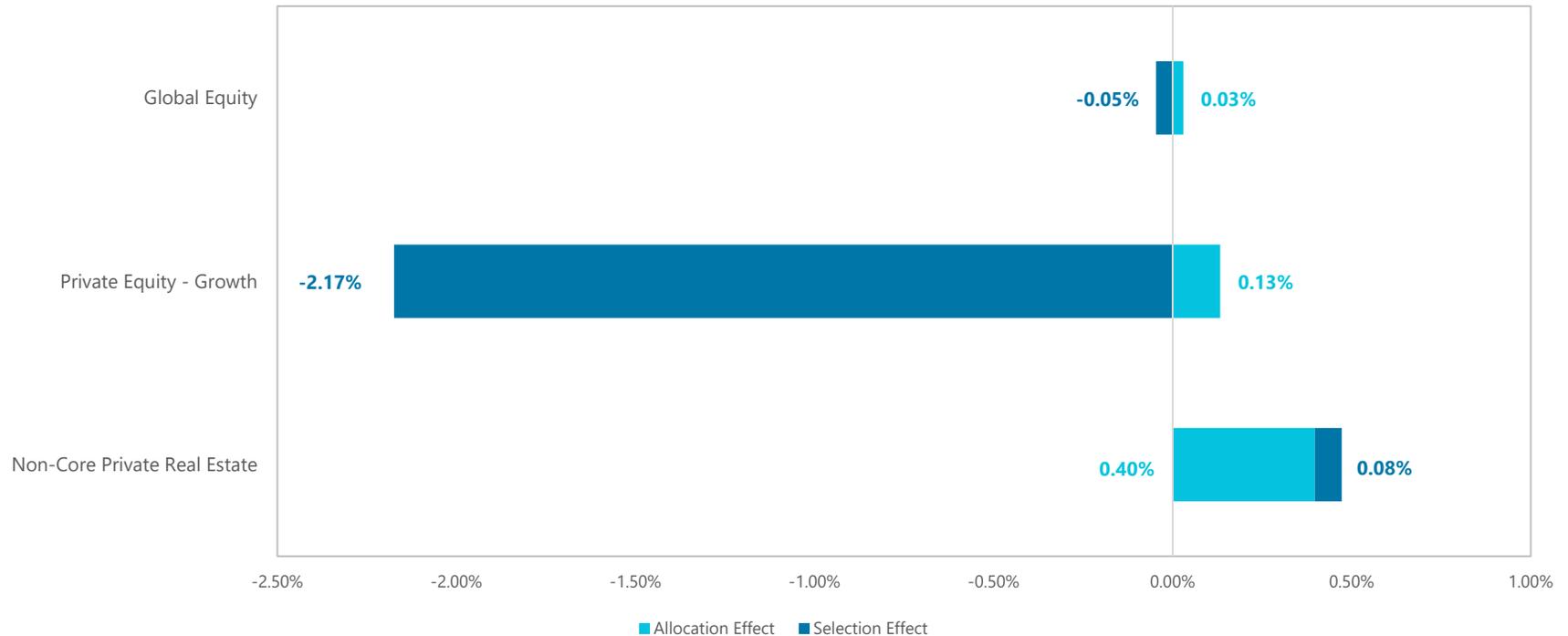
Return Attribution

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

QTD Performance Attribution¹



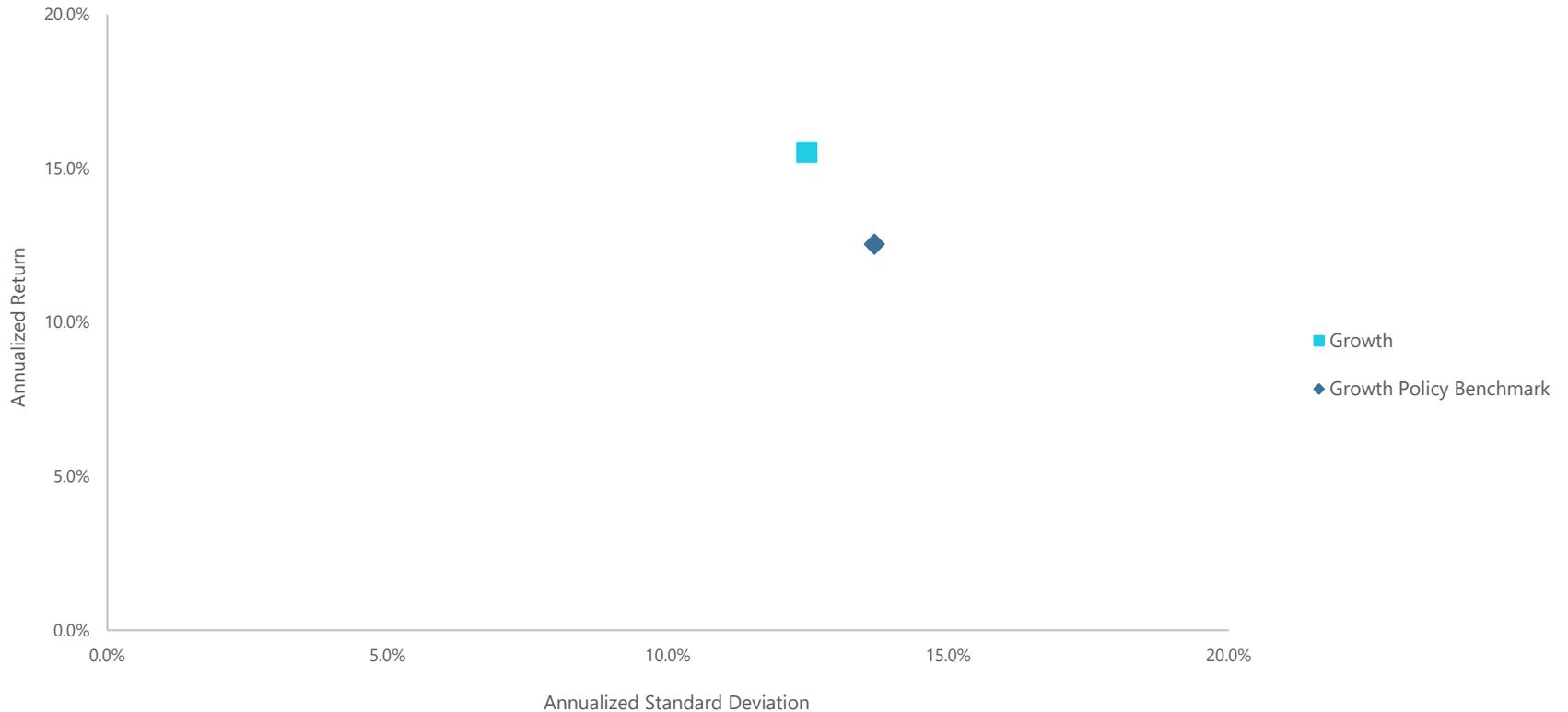
	Ending Market Value (mm)	% of Composite	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
Growth	39,155	100.0%	100.0%	4.2%	5.8%	0.56%	-2.15%	-1.59%
Global Equity	24,583	62.8%	60.4%	5.8%	5.9%	0.03%	-0.05%	-0.02%
Private Equity - Growth	13,428	34.3%	32.1%	1.7%	7.5%	0.13%	-2.17%	-2.04%
Non-Core Private Real Estate	1,145	2.9%	7.5%	-0.5%	-2.8%	0.40%	0.08%	0.47%

¹ Total Value Add column includes Interaction Effect.

Risk vs. Return

for the quarter ended June 30, 2023

3 Year (Annualized)



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
Growth	15.5%	12.5%				
Growth Policy Benchmark	12.5%	13.7%	1.13	0.49	0.84	5.2%

Performance Detail

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Annualized Net Returns

	% of Composite	Ending Market Value (mm)	Prior Quarter Ending MV (mm)	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
Growth	100.0%	39,155	37,704	4.2%	9.3%	10.2%	15.5%	--	--	12.2%	Apr-2019
Growth Policy Benchmark				5.8%	13.5%	8.0%	12.5%	--	--	9.9%	
Global Equity	62.8%	24,583	23,521	5.8%	13.3%	16.6%	11.7%	--	--	9.3%	Apr-2019
Global Equity Policy Benchmark				5.9%	13.2%	16.1%	11.0%	--	--	8.8%	
Passive											
SSGA MSCI ACWI IMI	40.5%	15,868	15,280	5.8%	13.3%	16.3%	11.6%	--	--	7.6%	Jan-2020
Factor Based											
JPMAM Strategic Beta Non-US	1.5%	600	584	2.7%	9.0%	12.7%	--	--	--	6.8%	Aug-2020
JPMAM Strategic Beta US	11.9%	4,656	4,292	8.5%	16.5%	19.4%	14.9%	--	--	14.9%	Jul-2020
Active											
Acadian Developed Markets	1.5%	586	582	0.7%	4.5%	10.2%	9.1%	4.1%	7.4%	4.5%	Apr-2006
BTC Euro Tilts	1.6%	608	581	4.6%	15.1%	25.7%	13.8%	6.7%	7.4%	4.1%	Jan-2007
Cevian Capital II - Activist	1.2%	452	439	2.9%	13.5%	26.0%	18.4%	8.5%	--	9.1%	Oct-2016
CGT International Equity	1.1%	414	408	1.4%	13.6%	20.6%	5.3%	5.7%	6.9%	5.6%	Nov-1994
Comercap US Small Cap - EMP	0.2%	82	80	2.6%	1.8%	7.2%	17.2%	--	--	6.9%	Oct-2018
Frontier US SMID Growth	0.8%	303	276	10.0%	18.4%	25.5%	16.6%	8.2%	10.4%	10.3%	Jun-2002
Global Alpha	0.4%	176	181	-2.9%	6.3%	8.6%	7.6%	--	--	5.2%	Nov-2018
Lazard Emerging Markets	1.0%	381	384	-0.7%	3.6%	1.9%	3.0%	2.4%	4.1%	2.3%	Feb-2013
Parametric GE Market Cap	0.4%	173	136	11.6%	31.3%	10.7%	--	--	--	18.0%	Oct-2021
Parametric GE Region	0.1%	56	69	-14.4%	-28.0%	-18.6%	--	--	--	-30.2%	Dec-2021
Systematic US Small Cap Value	0.5%	199	190	4.5%	6.7%	14.6%	17.9%	6.1%	--	6.1%	Jul-2018
Private Equity - Growth	34.3%	13,428	13,034	1.7%	3.3%	0.1%	25.2%	--	--	18.3%	Jan-2019
PE - Growth Policy Benchmark				7.5%	18.6%	-5.8%	17.9%	--	--	8.4%	
Non-Core Private Real Estate	2.9%	1,145	1,149	-0.5%	-2.6%	4.0%	12.7%	10.8%	10.7%	4.6%	Jan-1996
Non-Core Private RE Policy Benchmark				-2.8%	-7.3%	-1.7%	10.2%	9.5%	11.6%	11.1%	

Growth Risk Summary

for the quarter ended June 30, 2023

Realized (Ex-Post) Risks

\$39.1B	GROWTH 1Y Realized Return
	10.2%
PORTFOLIO Beta	PARAMETRIC VaR
1.02	31.4%

Growth

Value at Risk VARIABLES

95% Confidence Interval
1Y Time Horizon

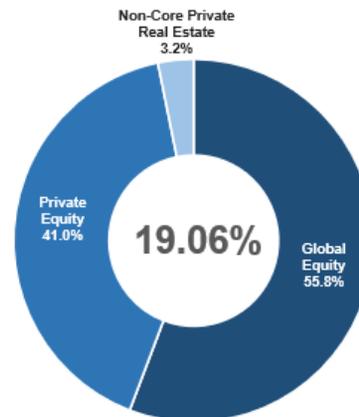
With **95% confidence** (2σ),
LACERA would not lose more than
\$12.2B in 1Y.



Projected (Ex-Ante) Risks

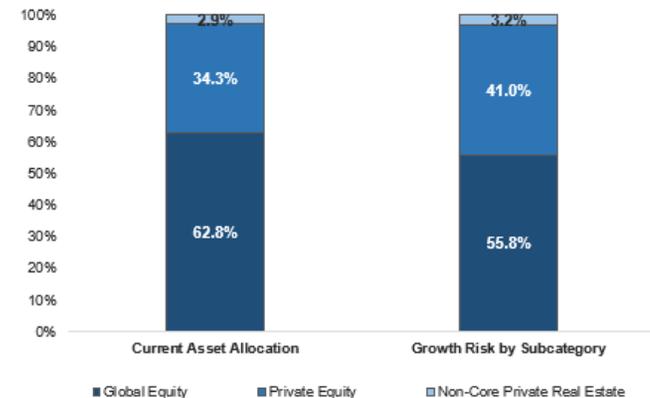
Growth Forecast Risk	Benchmark Risk
19.06%	18.58%
Growth Active Risk	Global Equity 0.39 bps
1.31 bps	Private Equity 3.31 bps
	Non-Core Private RE 16.65 bps

Subcategory Contributions to Growth Risk



Growth Asset Allocation

Capital-based versus Risk-based



Growth Risk Summary

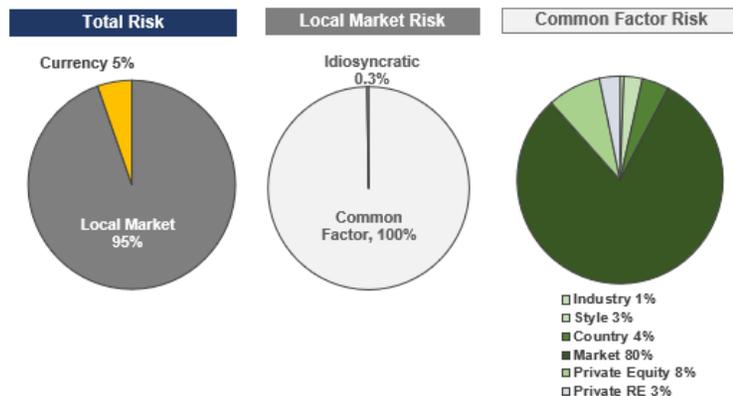
for the quarter ended June 30, 2023

Decomposition of MSCI Risk Factors

Total Risk							
Currency	Local Market						
	Idiosyncratic	Common Factor					
	Global Equity	Private Equity	Credit	Hedge Funds	Private Real Estate	Private Infrastructure	Commodities
	<ul style="list-style-type: none"> Industry Style Country Market Implied Volatility 	<ul style="list-style-type: none"> Buyout Distressed Venture Capital Growth Equity 	<ul style="list-style-type: none"> Term Structure Implied Volatility Inflation Basis Spread 	<ul style="list-style-type: none"> Strategies <ul style="list-style-type: none"> Global Macro Multi-Strategy Fixed Income Relative Value 	<ul style="list-style-type: none"> Commercial Residential Geography Forestry and Agriculture US Metro Income Return & Quality 	<ul style="list-style-type: none"> Transportation Utilities Non-utilities Industrial Energy 	<ul style="list-style-type: none"> Metals Energy Livestock Agriculture

Growth Risk Decomposition

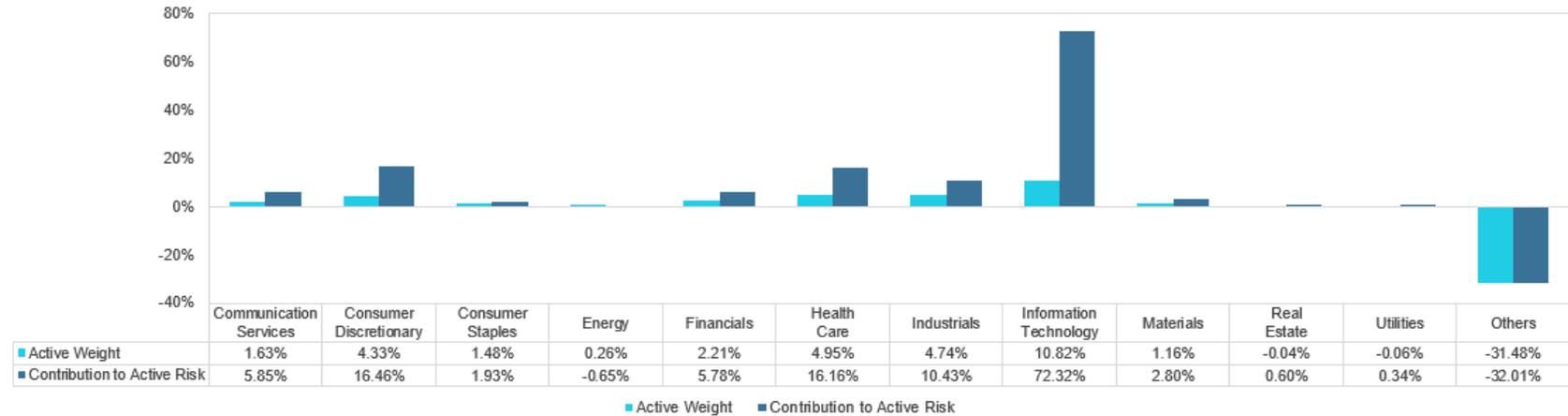
Subcategory Contributions to Active Risk



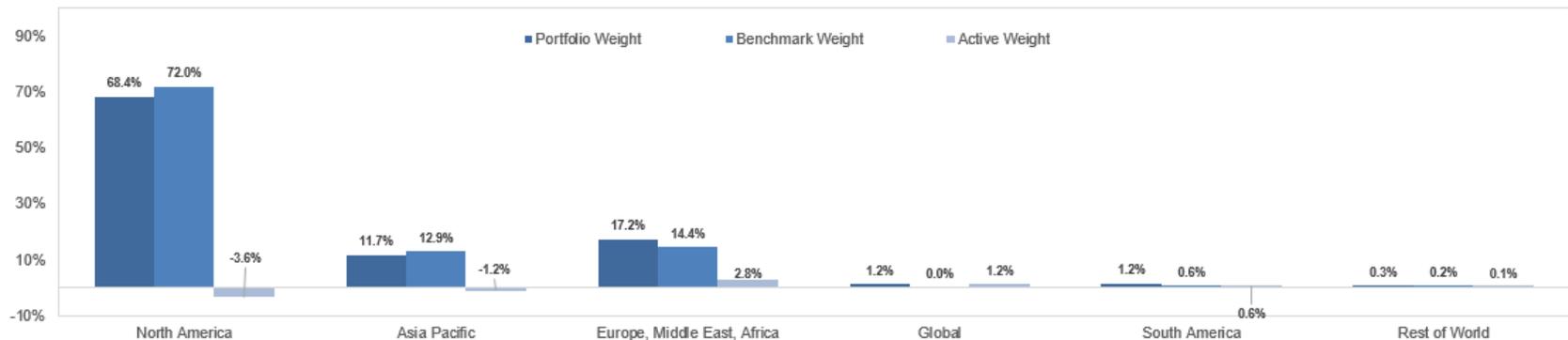
Growth Risk Summary

for the quarter ended June 30, 2023

Portfolio Allocation by GICS Sector



Portfolio Allocation by Region^{1,2}



¹ Global represents investments made in regions where specific country allocations are not available.²

² Rest of World is sum of countries with weights below 0.5%.

Growth – Global Equity Acadian Developed Markets

for the quarter ended June 30, 2023

Strategy

Seeks to capture mispriced opportunities through systematic stock, sector, and country valuation models that are customized to each market. The strategy may be suited to investors looking to gain exposure in non-U.S. developed markets and diversify portfolio through active quantitative investment approach.

Inception Date: April 2006

Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	55,276.0	83,185.0
No. Of Issues	700.0	0.0
Dividend Yield	3.5	3.1
Return on Equity	21.5	17.9
Price to Sales	0.9	3.7
Price to Book	1.7	4.6
PE Ratio	10.8	15.6

Top Holdings (% of assets)

NOVO NORDISK A/S B	3.3%
CIE FINANCIERE RICHEMO A REG	2.4%
INDUSTRIA DE DISENO TEXTIL	2.3%
WOLTERS KLUWER	2.2%
HERMES INTERNATIONAL	1.9%
Top 5 Holdings	12.0%

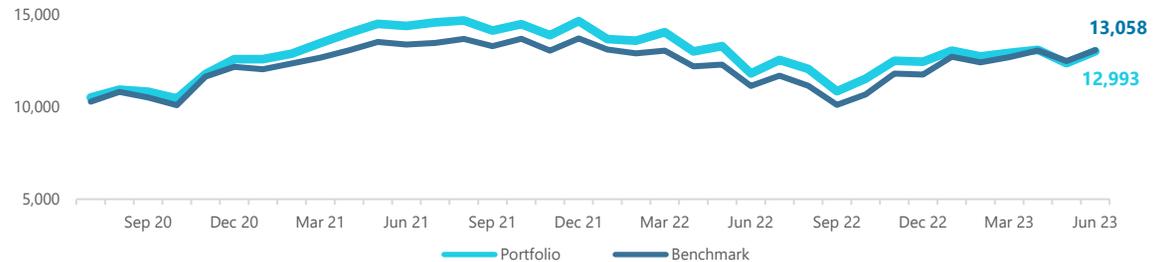
Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Acadian Developed Markets	585.5	0.7%	10.2%	9.1%	4.1%
MSCI EAFE + Canada Net Index		3.0%	17.4%	9.3%	4.6%
Growth Policy Benchmark		5.8%	8.0%	12.5%	--

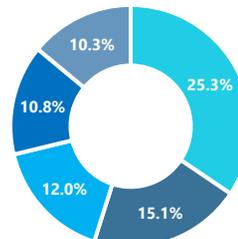
Universe data: Intl/Global Equity Funds - Core	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Acadian Developed Markets	0.8%	91	10.6%	73	9.5%	53	4.5%	56
Median	3.7%		15.0%		10.8%		4.8%	

No. of Observations: 50

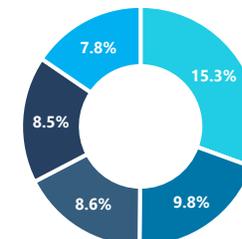
Growth of \$10,000



Top Exposures (% of assets)²



- INDUSTRIALS
- CONSUMER DISCRETIONARY
- INFORMATION TECHNOLOGY
- FINANCIALS
- HEALTH CARE



- JAPAN
- AUSTRALIA
- GERMANY
- CANADA
- UNITED KINGDOM

¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Growth Risk Analysis – Global Equity

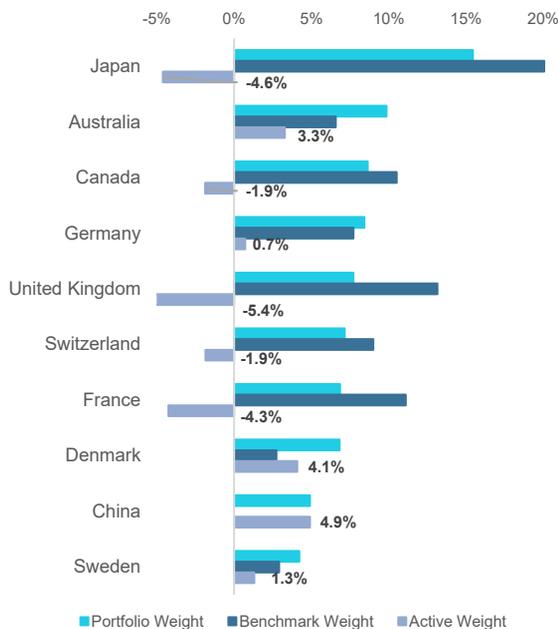
Acadian Developed Markets

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
18.0%	17.0%
PORTFOLIO Active Risk	PORTFOLIO Beta
3.65 bps	1.04

Top 10 Countries by Weight



Top 10 Assets by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
MEG ENERGY CORP	0.78%	0.00%	0.78%	0.15
SOUTH32 LIMITED	1.29%	0.07%	1.22%	0.14
BLUESCOPE STEEL LTD	1.15%	0.04%	1.11%	0.12
NESTLE SA	0.00%	1.90%	-1.90%	0.11
BP PLC	1.68%	0.00%	1.68%	0.09
SPOTIFY TECHNOLOGY SA	1.10%	0.00%	1.10%	0.09
COMPAGNIE FINANCIERE RICHEMONT SA	2.39%	0.51%	1.89%	0.09
DEUTSCHE LUFTHANSA REG	1.43%	0.00%	1.43%	0.08
QANTAS AIRWAYS LTD	1.04%	0.02%	1.02%	0.08
ATLISSIAN CORP	0.70%	0.00%	0.70%	0.08

Portfolio Allocation by GICS Sector



Growth – Global Equity BTC Europe Alpha Tilts

for the quarter ended June 30, 2023

Strategy

Seeks to generate risk-controlled and consistent active returns by using a unique blend of bottom-up stock selection insights and broader top-down thematic insights. The strategy may be suited to investors looking to capture active return opportunities in European region.

Inception Date: January 2007

Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	115.0	106.0
No. Of Issues	170.0	--
Dividend Yield	3.7	3.4
Return on Equity	20.6	21.0
Price to Sales	1.1	1.3
Price to Book	1.7	1.9
PE Ratio	13.4	14.4

Top Holdings (% of assets)

NESTLE SA REG	4.6%
ASTRAZENECA PLC	3.5%
NOVO NORDISK A/S B	3.4%
NOVARTIS AG REG	3.4%
ASML HOLDING NV	2.9%
Top 5 Holdings	17.9%

Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
BTC Euro Tilts	607.5	4.6%	25.7%	13.8%	6.7%
MSCI EUROPE		2.7%	21.8%	10.7%	5.2%
Growth Policy Benchmark		5.8%	8.0%	12.5%	--

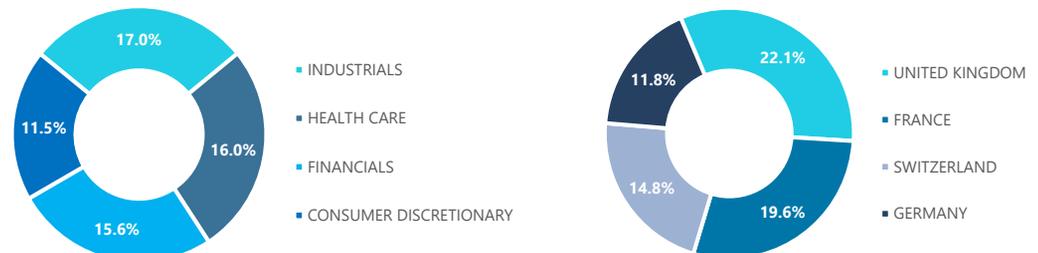
Universe data: Intl Equity Developed Mkt Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
BTC Euro Tilts	4.3%	22	25.8%	7	14.1%	12	7.0%	16
Median	3.2%		17.4%		8.9%		4.7%	

No. of Observations: 177

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Growth Risk Analysis – Global Equity

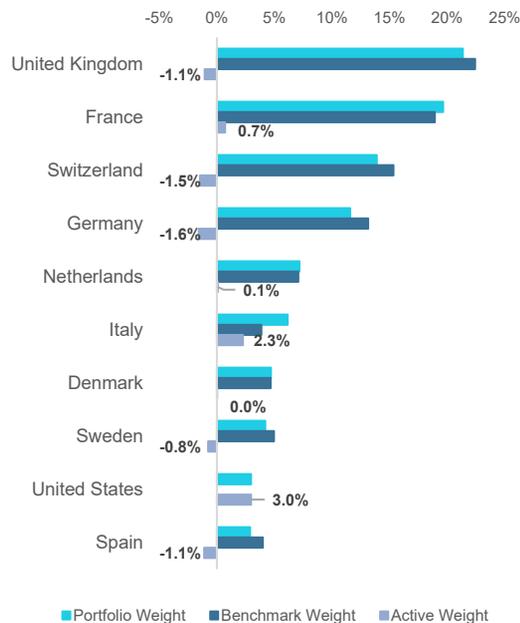
BTC Europe Alpha Tilts

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
18.6%	19.0%
PORTFOLIO Active Risk	PORTFOLIO Beta
1.53 bps	0.97

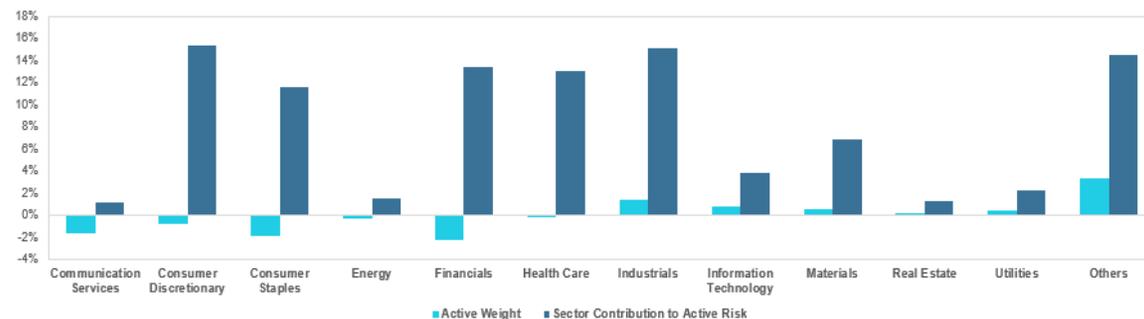
Top 10 Countries by Weight



Top 10 Assets by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
GL OTHER	2.89%	0.00%	2.89%	0.19
CARREFOUR SA	1.58%	0.11%	1.47%	0.08
NOVARTIS AG	3.41%	2.02%	1.39%	0.06
ASML HOLDING NV	0.00%	2.86%	-2.86%	0.05
PROSUS NV	0.00%	0.58%	-0.58%	0.05
ASTRAZENECA PLC	3.50%	2.18%	1.32%	0.05
WOLTERS KLUWER NV	1.49%	0.32%	1.17%	0.04
SOLVAY SA	1.26%	0.08%	1.18%	0.04
DAIMLER AG	2.11%	0.00%	2.11%	0.04
AXA SA	2.01%	0.53%	1.48%	0.03

Portfolio Allocation by GICS Sector



Growth – Global Equity

Capital Group Developed Markets

for the quarter ended June 30, 2023

Strategy

Seeks to generate long-term capital appreciation through fundamental research and proprietary models for earnings estimates and valuations. The strategy may be suited to investors looking to gain exposures in non-U.S. developed markets with emphasis on bottom-up, fundamental investment analysis.

Inception Date: October 1987

Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	128,735.1	83,185.9
No. Of Issues	162.0	0.0
Dividend Yield	2.0	3.1
Return on Equity	20.3	17.9
Price to Sales	5.5	3.7
Price to Book	6.7	4.6
PE Ratio	23.6	15.6

Top Holdings (% of assets)

ASML HOLDING NV	4.2%
NOVO NORDISK A/S B	3.4%
SAFRAN SA	2.9%
ASTRAZENECA PLC	2.4%
LVMH MOET HENNESSY LOUIS VUI	2.3%
Top 5 Holdings	15.2%

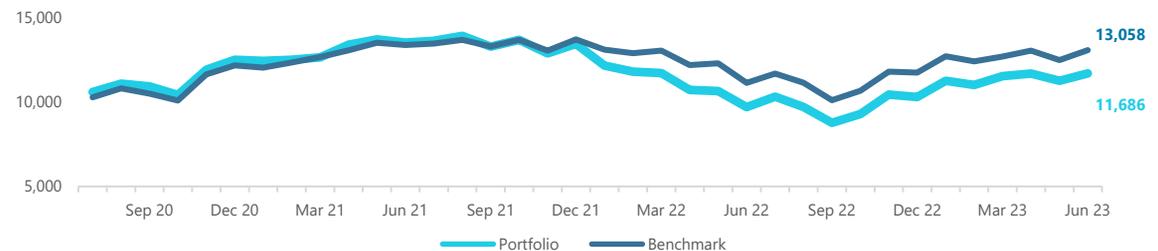
Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Capital Group Developed Markets	413.6	1.4%	20.6%	5.3%	5.7%
EAFE Custom Benchmark		3.0%	17.4%	9.3%	4.6%
Growth Policy Benchmark		5.8%	8.0%	12.5%	--

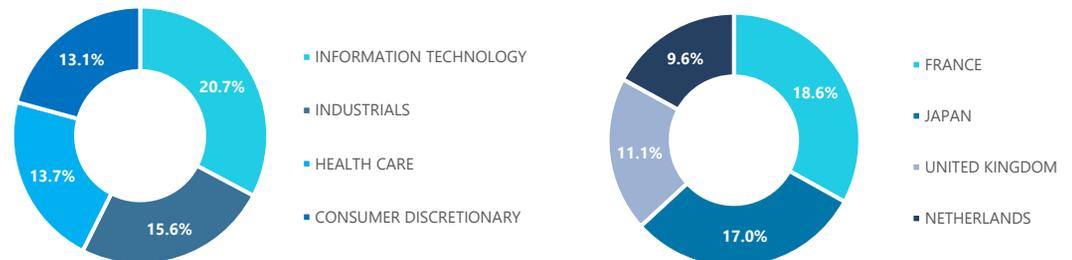
Universe data: Intl/Global Equity Funds - Core	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Capital Group Developed Markets	1.5%	78	21.0%	18	5.7%	70	6.1%	45
Median	3.7%		15.0%		10.8%		4.8%	

No. of Observations 50

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

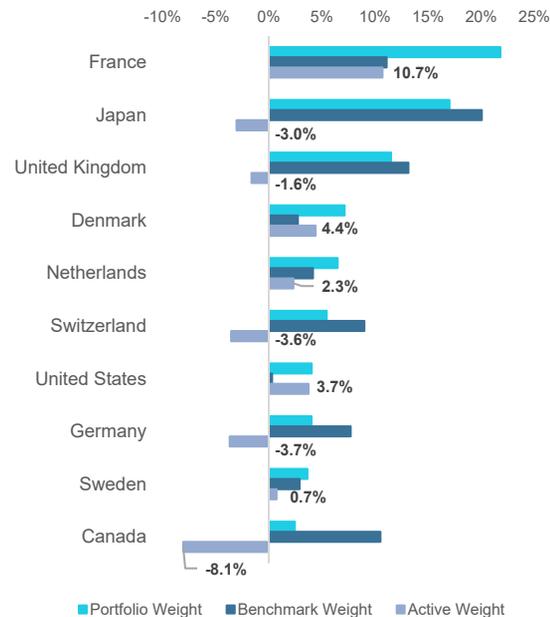
Growth Risk Analysis – Global Equity Capital Group Developed Markets

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
17.3%	17.0%
PORTFOLIO Active Risk	PORTFOLIO Beta
3.70 bps	0.99

Top 10 Countries by Weight



Top 10 Assets by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
ASML HOLDING NV	4.22%	0.00%	4.22%	0.58
EVOLUTION AB	2.27%	0.13%	2.13%	0.22
TOKYO ELECTRON LTD	1.49%	0.37%	1.12%	0.15
OCADO GROUP PLC	1.24%	0.02%	1.22%	0.13
KEYENCE CORP	1.92%	0.53%	1.40%	0.13
SHELL PLC	0.00%	1.17%	-1.17%	0.12
HAMAMATSU PHOTONICS KK	1.84%	0.04%	1.80%	0.13
NOVO NORDISK A/S	3.31%	1.53%	1.77%	0.12
GENMAB A/S	1.67%	0.14%	1.53%	0.12
CAPGEMINI SE	1.67%	0.18%	1.49%	0.11

Portfolio Allocation by GICS Sector



Growth – Global Equity Cevian Capital II

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Strategy

Seeks to generate long-term returns by researching and investing in European companies that have profitable businesses and significant improvement potential. The strategy may be suited to investors looking to increase portfolio diversification through differentiated investment approach and take advantage of return opportunities in Europe.

Inception Date: October 2016

Risk Statistics (since inception)

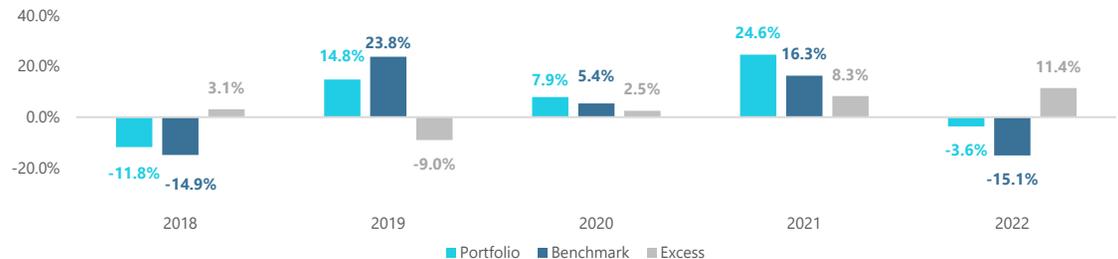
Standard Deviation	16.6%
Benchmark Standard Deviation	17.5%
Sharpe Ratio	0.53
Information Ratio	0.23
Beta	0.78
Tracking Error	10.2%

Performance (net)¹

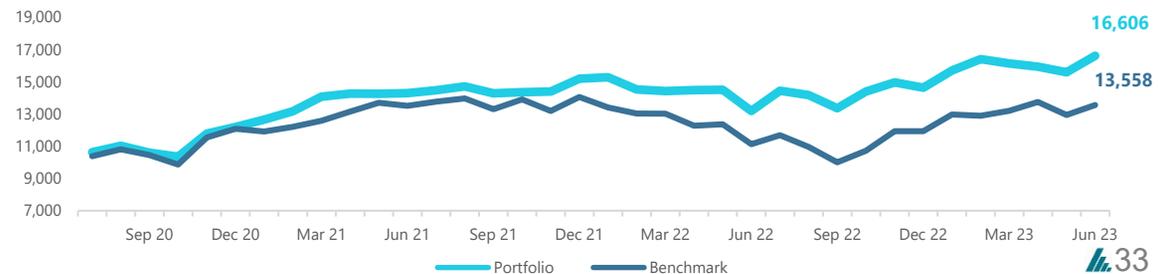
	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Cevian Capital II - Activist	452.1	2.9%	26.0%	18.4%	8.5%
MSCI EUROPE		2.7%	21.8%	10.7%	5.2%
Growth Policy Benchmark		5.8%	8.0%	12.5%	--

Universe data: Intl Equity Developed Mkt Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Cevian Capital II - Activist	3.2%	49	27.4%	7	19.7%	2	9.7%	6
Median	3.2%		17.4%		8.9%		4.7%	
No. of Observations	177							

Calendar Year Returns



Growth of \$10,000



Note: Commingled fund account with no position-level transparency.
¹ Universe data is gross-of-fees.

Growth Risk Analysis – Global Equity

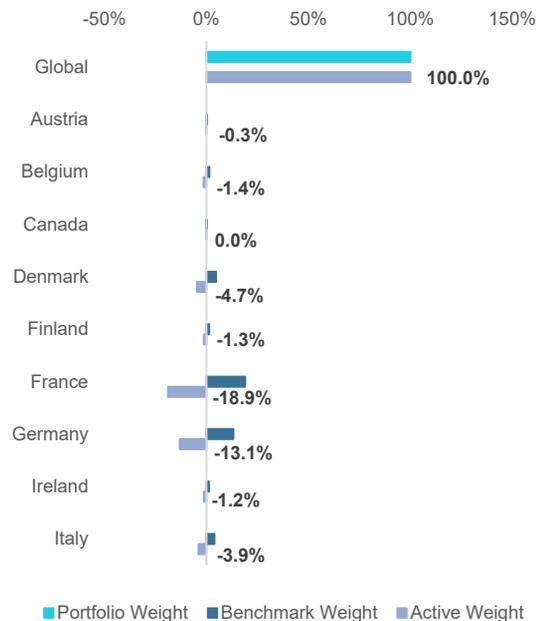
Cevian Capital II

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
19.8%	19.0%
PORTFOLIO Active Risk	PORTFOLIO Beta
9.38 bps	0.92

Top 10 Countries by Weight



Top 10 Assets by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
CEVIAN CAPITAL II	100.00%	0.00%	100.00%	9.38
NOVO NORDISK A/S	0.00%	2.61%	-2.61%	0.07
NESTLE SA	0.00%	3.24%	-3.24%	0.03
ASTRAZENECA PLC	0.00%	2.18%	-2.18%	0.07
ROCHE HOLDING AG	0.00%	2.11%	-2.11%	0.05
ASML HOLDING NV	0.00%	2.86%	-2.86%	0.01
NOVARTIS AG	0.00%	2.02%	-2.02%	0.03
UNILEVER PLC	0.00%	1.29%	-1.29%	0.02
LVMH MOET HENNESSY LOUIS VUITTON SE	0.00%	2.55%	-2.55%	-0.02
SHELL PLC	0.00%	2.00%	-2.00%	0.00

Portfolio Allocation by GICS Sector



Growth – Global Equity CornerCap US Small Cap

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Strategy

Seeks to exploit small cap market inefficiencies by using proprietary fundamental factors. The strategy may be suited to investors looking to increase U.S. small cap exposure and diversify portfolio through an active quantitative investment approach.

Inception Date: October 2018

Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	2,655.8	2,870.7
No. Of Issues	352.0	0.0
Dividend Yield	1.6	1.4
Return on Equity	11.7	10.3
Price to Sales	3.0	12.8
Price to Book	1.3	15.4
PE Ratio	18.4	36.7

Top Holdings (% of assets)

ALLISON TRANSMISSION HOLDING	0.6%
PRIMORIS SERVICES CORP	0.6%
AMERICAN WOODMARK CORP	0.6%
LIVERAMP HOLDINGS INC	0.6%
GIBRALTAR INDUSTRIES INC	0.5%
Top 5 Holdings	2.9%

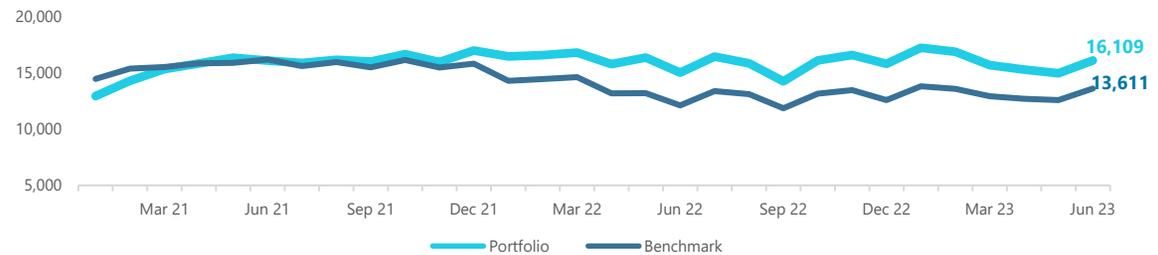
Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Cornercap US Small Cap - EMP	82.1	2.6%	7.2%	17.2%	--
RUSSELL 2000		5.2%	12.3%	10.8%	--
Growth Policy Benchmark		5.8%	8.0%	12.5%	--

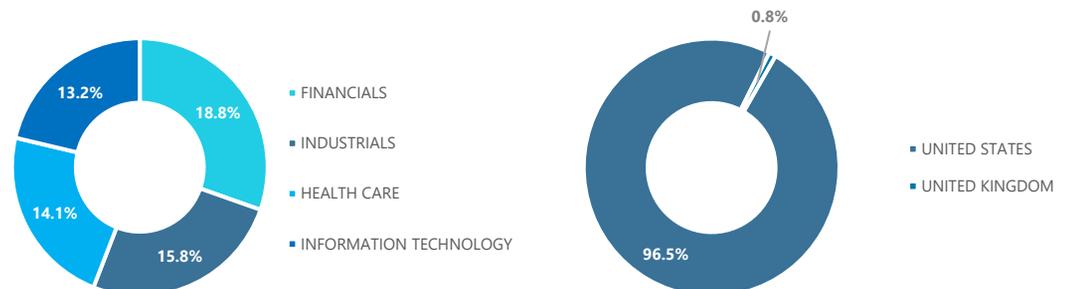
Universe data: US Equity Funds - Small Cap	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Cornercap US Small Cap - EMP	2.7%	71	7.7%	66	17.9%	27	--	--
Median	4.8%		15.8%		15.5%		--	

No. of Observations: 56

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Growth Risk Analysis – Global Equity

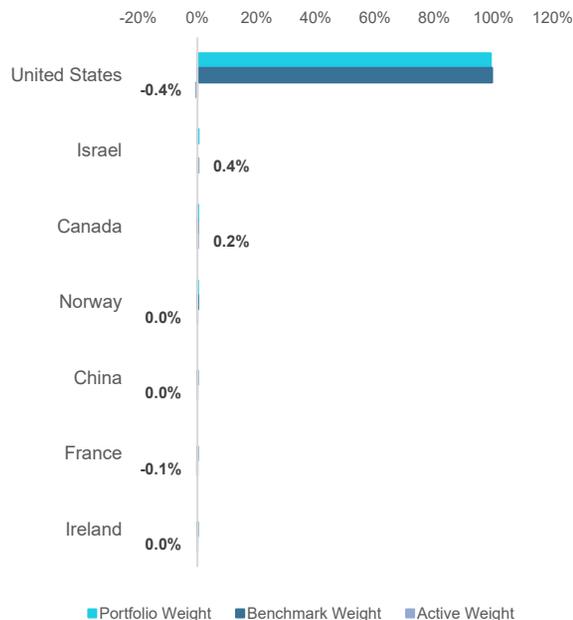
CornerCap US Small Cap

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
23.8%	25.0%
PORTFOLIO Active Risk	PORTFOLIO Beta
3.75 bps	0.94

Top Countries by Weight



Top 10 Assets by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
SUPER MICRO COMPUTER INC	0.00%	0.48%	-0.48%	0.08
AXCELIS TECHNOLOGIES INC	0.00%	0.25%	-0.25%	0.04
IVERIC BIO	0.00%	0.23%	-0.23%	0.04
RAMBUS INC	0.00%	0.29%	-0.29%	0.03
CHART INDUSTRIES INC	0.00%	0.28%	-0.28%	0.03
ONTO INNOVATION INC	0.00%	0.24%	-0.24%	0.02
LANTHEUS HOLDINGS INC	0.00%	0.24%	-0.24%	0.02
IMMUNOGEN INC	0.00%	0.19%	-0.19%	0.03
VAXCYTE INC	0.00%	0.19%	-0.19%	0.02
SPS COMMERCE INC	0.00%	0.29%	-0.29%	0.01

Portfolio Allocation by GICS Sector



Growth – Global Equity

Frontier US SMID Growth

for the quarter ended June 30, 2023

Strategy

Seeks to invest in high quality companies at attractive valuations and sustainable secular growth through fundamental analysis. The strategy may be suited to investors looking to increase U.S. mid and small cap exposures and generate returns through stock selection and low turnover.

Inception Date: June 2002

Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	8,348.3	6,313.6
No. Of Issues	137.0	0.0
Dividend Yield	0.5	1.5
Return on Equity	19.6	14.0
Price to Sales	2.9	3.0
Price to Book	3.4	3.4
PE Ratio	19.6	17.0

Top Holdings (% of assets)

ATI INC	2.0%
BUILDERS FIRSTSOURCE INC	2.0%
JABIL INC	2.0%
ARRAY TECHNOLOGIES INC	1.8%
BEACON ROOFING SUPPLY INC	1.7%
Top 5 Holdings	9.6%

Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Frontier US SMID Growth	303.4	10.0%	25.5%	16.6%	8.2%
RUSSELL 2500		5.2%	13.6%	12.3%	6.5%
Growth Policy Benchmark		5.8%	8.0%	12.5%	--

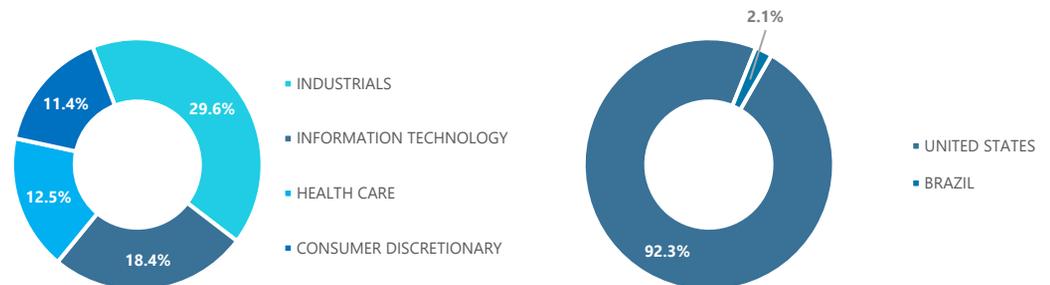
Universe data: US Equity Funds - Small Cap	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Frontier US SMID Growth	10.2%	2	26.4%	2	17.5%	30	9.0%	13
Median	4.8%		15.8%		15.5%		7.3%	

No. of Observations: 56

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

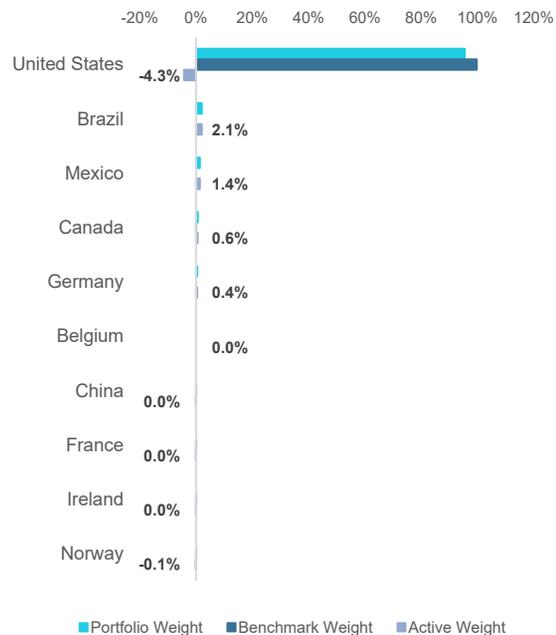
Growth Risk Analysis – Global Equity Frontier US SMID Growth

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
26.2%	23.8%
PORTFOLIO Active Risk	PORTFOLIO Beta
4.78 bps	1.08

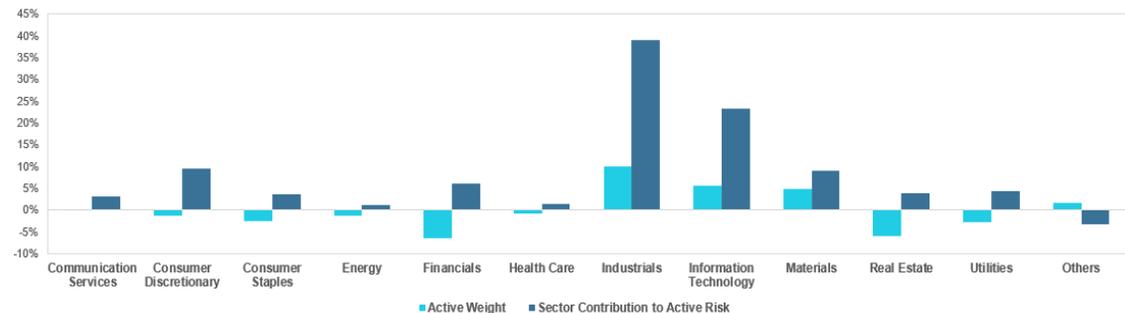
Top 10 Countries by Weight



Top 10 Assets by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
AZUL SA	2.07%	0.00%	2.07%	0.60
ARRAY TECHNOLOGIES INC	1.78%	0.06%	1.72%	0.37
WOLFSPEED INC	1.50%	0.12%	1.38%	0.27
SITIME CORPORATION	0.90%	0.04%	0.86%	0.18
CONTROLADORA VUELA	1.40%	0.00%	1.40%	0.17
MRC GLOBAL INC	1.61%	0.01%	1.60%	0.16
ALBEMARLE CORP	1.49%	0.00%	1.49%	0.14
CAESARS ENTERTAINMENT INC	1.49%	0.00%	1.49%	0.14
JABIL INC	1.99%	0.25%	1.74%	0.09
ATI INC	2.04%	0.10%	1.94%	0.09

Portfolio Allocation by GICS Sector



Growth – Global Equity

Global Alpha

for the quarter ended June 30, 2023

Strategy

Seeks to identify mispriced companies with high rates of growth, strong balance sheets, and high insider ownership using a bottom-up, research-based approach coupled with investment themes. The strategy may be suited to investors looking to increase exposure to international small cap stocks.

Inception Date: November 2018

Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	2,755.4	2,673.1
No. Of Issues	61.0	0.0
Dividend Yield	2.9	3.8
Return on Equity	13.8	12.1
Price to Sales	4.9	6.0
Price to Book	2.3	3.2
PE Ratio	12.5	14.5

Top Holdings (% of assets)

MELIA HOTELS INTERNATIONAL	4.0%
ROTHSCHILD + CO	3.5%
SOPRA STERIA GROUP	3.5%
ASICS CORP	3.0%
SEGA SAMMY HOLDINGS INC	3.0%
Top 5 Holdings	17.1%

Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Global Alpha	176.0	-2.9%	8.6%	7.6%	--
MSCI EAFE SMALL CAP NET		0.6%	10.2%	5.7%	--
Growth Policy Benchmark		5.8%	8.0%	12.5%	--

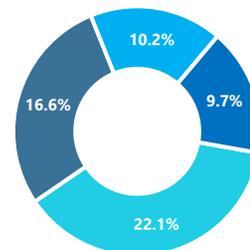
Universe data: International Equity Funds Core	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Global Alpha	-2.7%	100	9.4%	75	8.4%	60	--	--
Median	3.7%		15.0%		10.8%		--	

No. of Observations 50

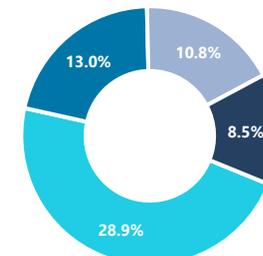
Growth of \$10,000



Top Exposures (% of assets)²



- INDUSTRIALS
- CONSUMER DISCRETIONARY
- FINANCIALS
- CONSUMER STAPLES



- JAPAN
- UNITED KINGDOM
- FRANCE
- AUSTRALIA

¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Growth Risk Analysis – Global Equity

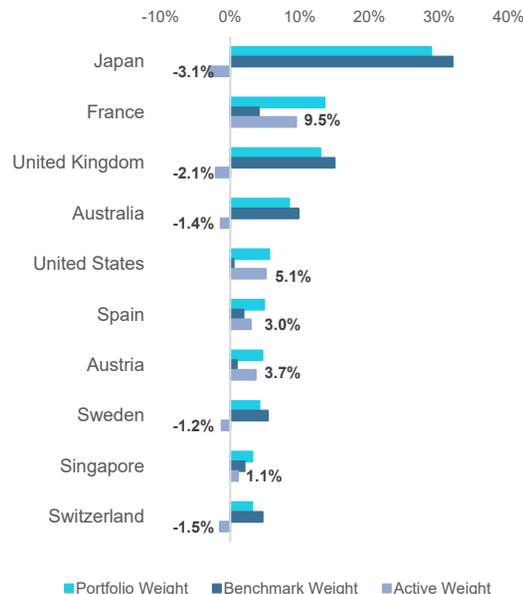
Global Alpha

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
18.6%	18.9%
PORTFOLIO Active Risk	PORTFOLIO Beta
3.83 bps	0.96

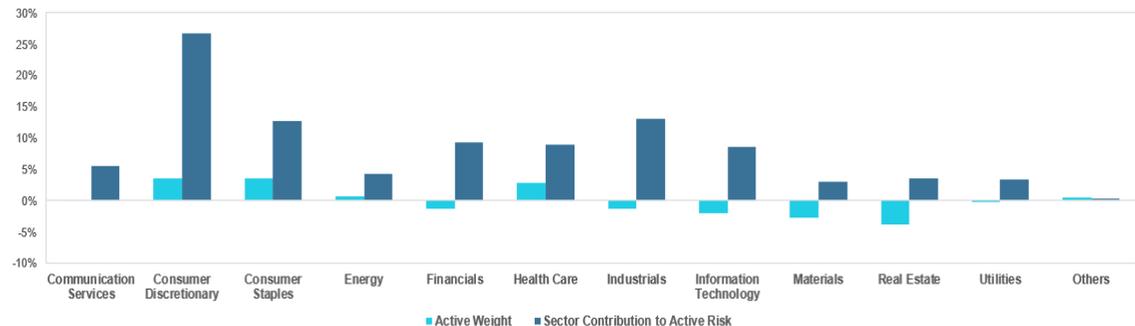
Top 10 Countries by Weight



Top 10 Assets by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
L'OCCITANE INTERNATIONAL SA	2.78%	0.00%	2.78%	0.31
MELIA HOTELS INTERNATIONAL SA	4.04%	0.03%	4.01%	0.29
SAMSONITE INTERNATIONAL SA	2.44%	0.00%	2.44%	0.21
SEGA SAMMY HOLDINGS INC	3.02%	0.13%	2.89%	0.19
ASICS CORP	3.01%	0.20%	2.81%	0.18
ROTHSCHILD & CO	3.54%	0.00%	3.54%	0.19
ORMAT TECHNOLOGIES INC	2.69%	0.00%	2.69%	0.14
INTERNET INITIATIVE JAPAN INC	2.27%	0.08%	2.19%	0.12
RAFFLES MEDICAL GROUP LTD	3.20%	0.03%	3.16%	0.15
SOPRA STERIA GROUP SA	3.48%	0.12%	3.36%	0.15

Portfolio Allocation by GICS Sector



Growth – Global Equity

JPMorgan Strategic Beta Non-US

for the quarter ended June 30, 2023

Strategy

Seeks to capture incremental alpha through investing in equity factors that are rule-based, transparent, and academically proven. This strategy may be suited to investors looking to gain equity factor exposures in non-U.S. markets at lower volatility and cost than active strategies.

Inception Date: August 2020

Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	77,569.1	76,676.1
No. Of Issues	1,805.0	0.0
Dividend Yield	3.5	3.2
Return on Equity	18.7	17.1
Price to Sales	3.7	4.2
Price to Book	4.2	4.2
PE Ratio	12.7	15.1

Top Holdings (% of assets)

ISHARES MSCI INDIA ETF	4.0%
TAIWAN SEMICONDUCTOR MANUFAC	1.6%
NESTLE SA REG	1.2%
ASML HOLDING NV	1.1%
NOVO NORDISK A/S B	1.0%
Top 5 Holdings	8.9%

Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
JPMAM Strategic Beta Non-US	600.3	2.7%	12.7%	--	--
MSCI ACWI ex USA IMI Net		2.4%	12.5%	--	--
Growth Policy Benchmark		5.8%	8.0%	12.5%	--

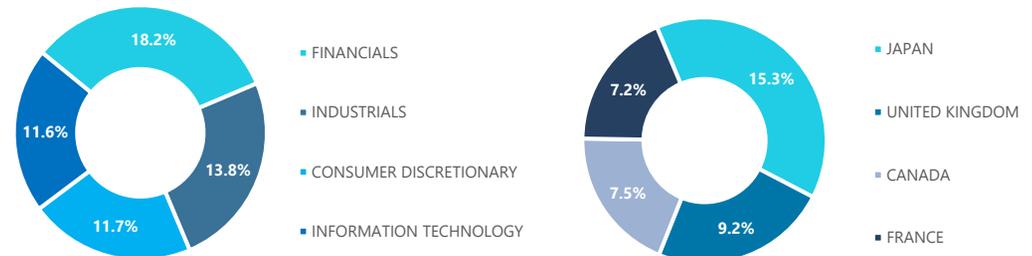
Universe data: Intl Equity Developed Mkt Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
JPMAM Strategic Beta Non-US	2.7%	61	12.8%	74	--	--	--	--
Median	3.2%		17.4%		--		--	

No. of Observations 177

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Growth Risk Analysis – Global Equity

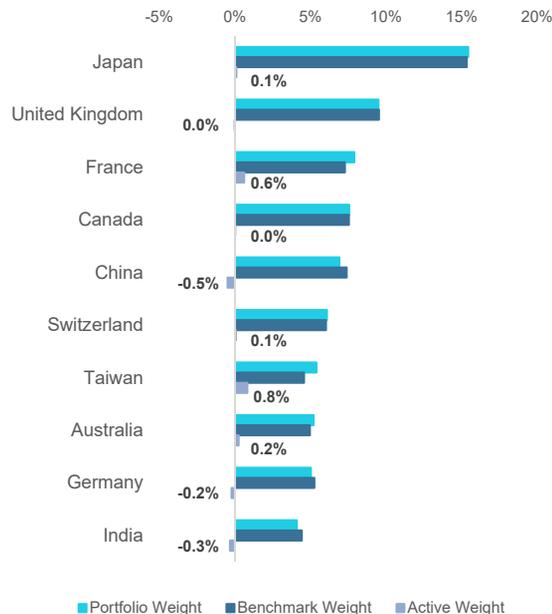
JPMorgan Strategic Beta Non-US

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
16.5%	16.7%
PORTFOLIO Active Risk	PORTFOLIO Beta
0.68 bps	0.99

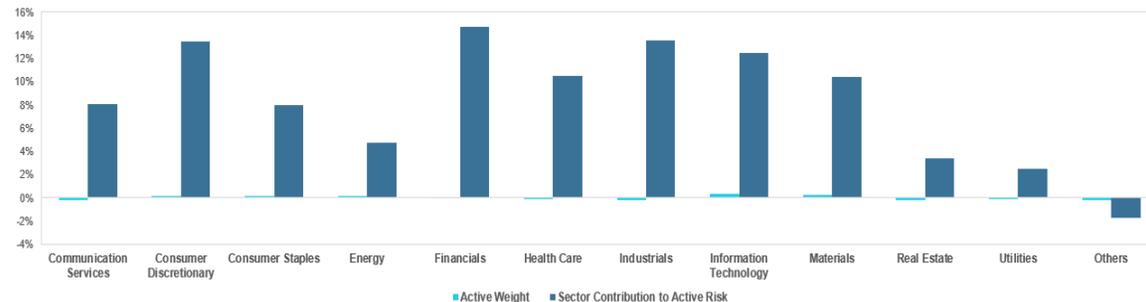
Top 10 Countries by Weight



Top 10 Assets by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
TRIP.COM GROUP LTD	0.00%	0.07%	-0.07%	0.01
XPENG INC	0.00%	0.02%	-0.02%	0.01
MITSUBISHI UFJ FINANCIAL GROUP INC	0.00%	0.30%	-0.30%	0.00
LI AUTO INC	0.03%	0.07%	-0.04%	0.01
UNILEVER PLC	0.02%	0.47%	-0.45%	-0.01
KUAISHOU TECHNOLOGY	0.03%	0.06%	-0.03%	0.01
ARGENX SE	0.00%	0.08%	-0.08%	0.00
SHOPIFY INC	0.24%	0.28%	-0.03%	0.01
ADVANTEST CORP	0.00%	0.09%	-0.09%	0.00
SEA LIMITED	0.05%	0.08%	-0.03%	0.00

Portfolio Allocation by GICS Sector



Growth – Global Equity

JPMorgan Strategic Beta US

for the quarter ended June 30, 2023

Strategy

Seeks to capture incremental alpha through investing in equity factors that are rule-based, transparent, and academically proven. This strategy may be suited to investors looking to gain equity factor exposures in the U.S. at lower volatility and cost than active strategies.

Inception Date: July 2020

Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	590,080.4	680,646.7
No. Of Issues	935.0	0.0
Dividend Yield	1.2	1.2
Return on Equity	29.7	29.8
Price to Sales	6.2	6.4
Price to Book	3.9	3.7
PE Ratio	22.5	25.0

Top Holdings (% of assets)

APPLE INC	7.1%
MICROSOFT CORP	5.5%
AMAZON.COM INC	2.7%
NVIDIA CORP	2.4%
TESLA INC	1.7%
Top 5 Holdings	19.4%

Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
JPMAM Strategic Beta US	4,656.1	8.5%	19.4%	14.9%	--
MSCI USA IMI Gross		8.4%	19.2%	14.1%	--
Growth Policy Benchmark		5.8%	8.0%	12.5%	--

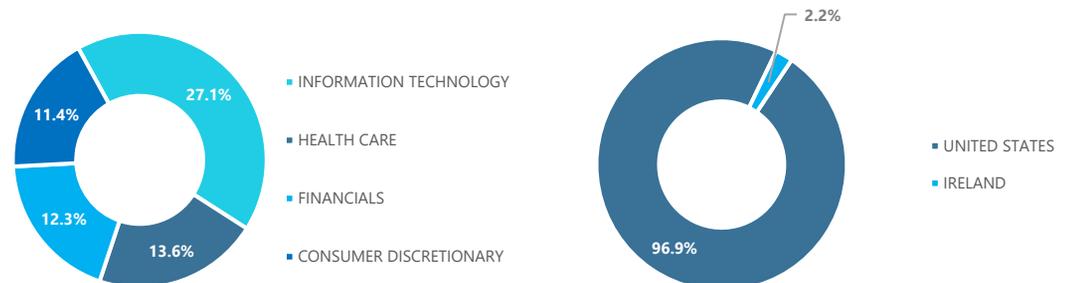
Universe data: U.S. Equities Total Large Cap	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
JPMAM Strategic Beta US	8.5%	55	19.4%	52	15.0%	37	--	--
Median	8.6%		19.5%		14.5%		--	

No. of Observations: 80

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Growth Risk Analysis – Global Equity

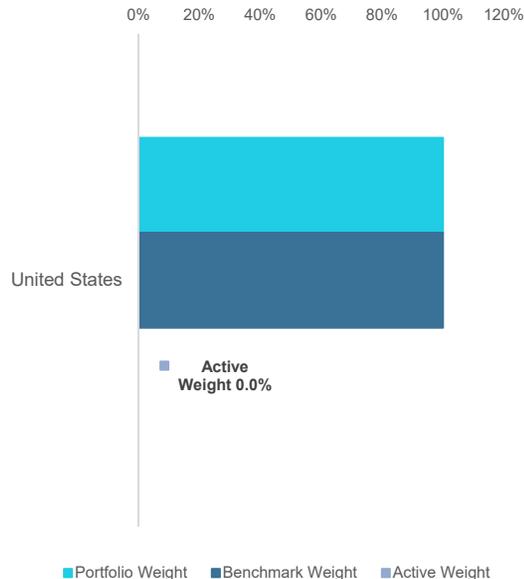
JPMorgan Strategic Beta US

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk <hr/> 19.3%	BENCHMARK Risk <hr/> 19.4%
PORTFOLIO Active Risk <hr/> 0.56 bps	PORTFOLIO Beta <hr/> 0.99

Top Country by Weight



Top 10 Assets by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
JPMORGAN CHASE & CO	0.00%	0.98%	-0.98%	0.06
MONGODB INC	0.02%	0.07%	-0.05%	0.01
TESLA INC	1.66%	1.72%	-0.06%	0.01
WARNER BROS DISCOVERY INC	0.03%	0.07%	-0.04%	0.01
CLOUDFLARE INC	0.00%	0.04%	-0.04%	0.01
CARNIVAL CORP	0.00%	0.04%	-0.04%	0.01
RIVIAN AUTOMOTIVE INC	0.00%	0.02%	-0.02%	0.01
SNOWFLAKE INC	0.07%	0.11%	-0.04%	0.01
PALANTIR TECHNOLOGIES INC	0.02%	0.06%	-0.04%	0.00
DATADOG INC	0.02%	0.06%	-0.04%	0.00

Portfolio Allocation by GICS Sector



Growth – Global Equity Lazard Emerging Markets

for the quarter ended June 30, 2023

Strategy

Seeks to provide long-term capital appreciation by investing in funds trading at a discount to their estimated net asset value, sum of the parts valuation, and/or underlying investments/businesses. The strategy may be suited to investors looking to capture growth opportunities in emerging markets and increase portfolio diversification.

Inception Date: February 2013

Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	39,613.8	102,141.8
No. Of Issues	47.0	0.0
Dividend Yield	2.4	3.1
Return on Equity	11.6	12.7
Price to Sales	1.7	1.2
Price to Book	1.6	1.6
PE Ratio	13.7	12.6

Top Holdings (% of assets)

PROSUS NV	9.0%
JPMORGAN EMERGING MARKETS INVE	6.5%
TEMPLETON EMERGING MARKETS INV	6.3%
CITIC SECURITIES CO LTD H	5.6%
FIDELITY CHINA SPECIAL SITUATI	5.2%
Top 5 Holdings	32.6%

Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Lazard Emerging Markets	381.4	-0.7%	1.9%	3.0%	2.4%
MSCI EMERGING MARKETS		0.9%	1.7%	2.3%	0.9%
Growth Policy Benchmark		5.8%	8.0%	12.5%	--

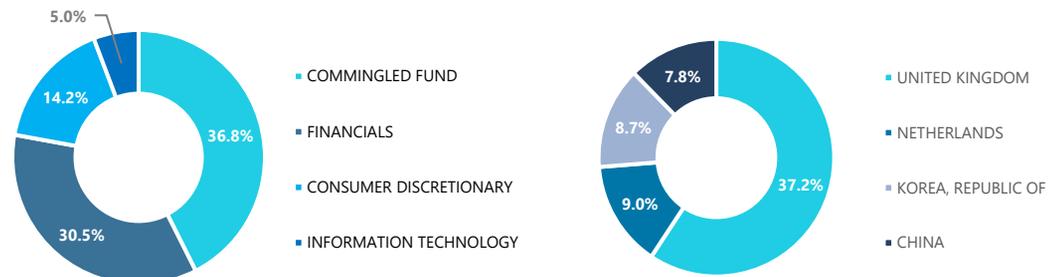
Universe data: Intl Equity Emerging Mkt Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Lazard Emerging Markets	-0.5%	93	2.5%	77	3.7%	56	3.1%	56
Median	2.6%		7.9%		6.4%		3.4%	

No. of Observations: 84

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Growth Risk Analysis – Global Equity

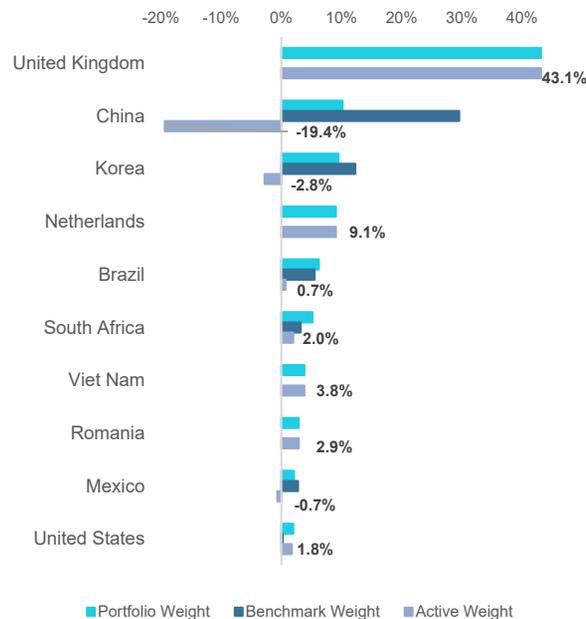
Lazard Emerging Markets

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
19.5%	17.5%
PORTFOLIO Active Risk	PORTFOLIO Beta
10.30 bps	0.95

Top 10 Countries by Weight

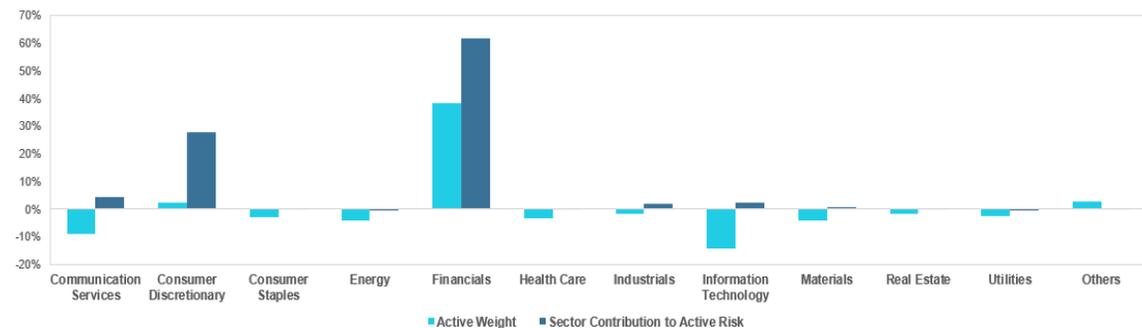


Top 10 Assets¹ by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
PROSUS NV	9.07%	0.00%	9.07%	1.77
JPM EMERGING MARKETS INVT TRUST PLC	6.48%	0.00%	6.48%	1.04
FIDELITY CHINA SPECIAL SITUATIONS PLC	5.08%	0.00%	5.08%	0.96
TEMPLETON EMERGING MKTS INVT TRUST PLC	6.18%	0.00%	6.18%	0.90
NASPERS	5.13%	0.53%	4.60%	0.63
SCHRODER ASIAPACIFIC FUND PLC	2.77%	0.00%	2.77%	0.38
ASIA DRAGON TRUST PLC	2.49%	0.00%	2.49%	0.37
FIDELITY EMERGING MARKETS LTD	2.31%	0.00%	2.31%	0.34
UTILICO EMERGING MARKETS TRUST PLC	2.59%	0.00%	2.59%	0.32
INVESCO ASIA TRUST PLC	2.09%	0.00%	2.09%	0.31

Note: Weights represent country of domicile of closed-end fund and not country of underlying fund holdings.

Portfolio Allocation by GICS Sector



Growth – Global Equity SSGA MSCI ACWI IMI

for the quarter ended June 30, 2023

Strategy

Seeks to provide global equity market exposure and passive index returns. This strategy may be suited to investors looking to gain passive, global equity exposures with low tracking error.

Inception Date: January 2020

Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	391,323.4	390,150.5
No. Of Issues	6,491.0	0.0
Dividend Yield	1.9	2.0
Return on Equity	23.6	23.5
Price to Sales	5.8	5.7
Price to Book	8.9	8.7
PE Ratio	20.2	20.3

Top Holdings (% of assets)

APPLE INC	4.3%
MICROSOFT CORP	3.3%
AMAZON.COM INC	1.7%
TESLA INC	1.0%
ALPHABET INC CL A	1.0%
Top 5 Holdings	11.3%

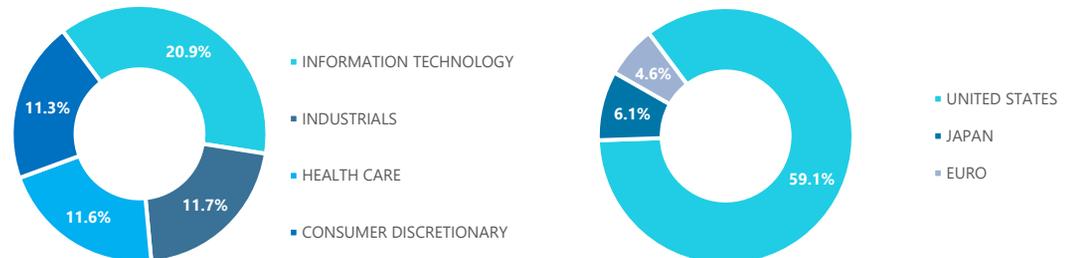
Performance (net)¹

	Ending Market Value (mm)			QTD	1 Year	3 Year	5 Year	
SSGA MSCI ACWI IMI	15,868.3			5.8%	16.3%	11.6%	--	
MSCI ACWI IMI Net				5.9%	16.1%	11.0%	--	
Growth Policy Benchmark				5.8%	8.0%	12.5%	--	
Universe data: Global Equity Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
SSGA MSCI ACWI IMI	5.8%	26	16.3%	51	11.6%	42	--	--
Median	3.6%		16.4%		10.4%		--	
No. of Observations	105							

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Growth Risk Analysis – Global Equity

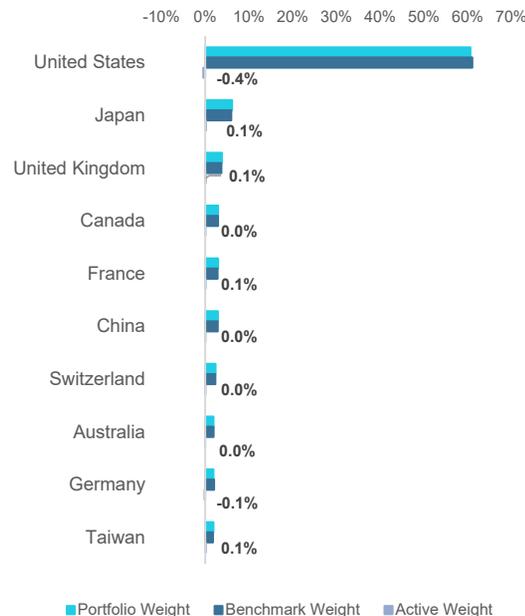
SSGA MSCI ACWI IMI

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
17.7%	17.7%
PORTFOLIO Active Risk	PORTFOLIO Beta
0.17 bps	1.00

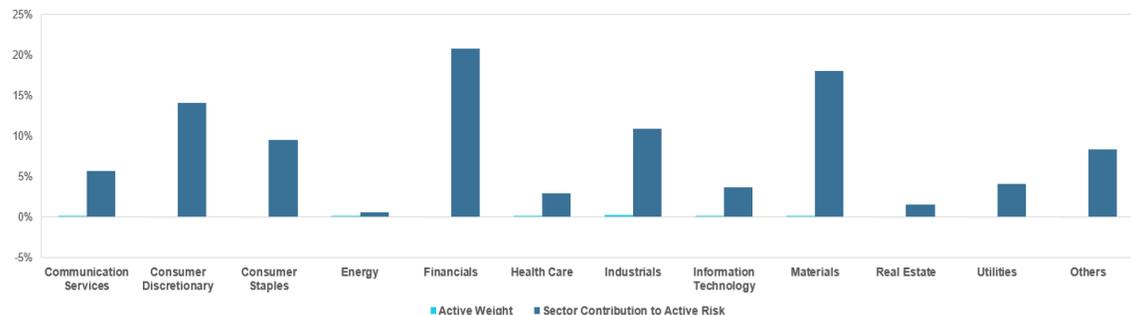
Top 10 Countries by Weight



Top 10 Assets by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
RELIANCE INDUSTRIES LTD	0.00%	0.13%	-0.13%	0.01
VALE SA	0.06%	0.00%	0.06%	0.00
HOUSING DEVELOPMENT FINANCE CORP	0.00%	0.08%	-0.08%	0.01
DAIMLER AG	0.09%	0.00%	0.09%	0.00
FERGUSON PLC	0.05%	0.00%	0.05%	0.00
ATLAS COPCO AB	0.08%	0.03%	0.05%	0.00
BAJAJ FINANCE LTD	0.00%	0.03%	-0.03%	0.00
AXIS BANK LTD	0.00%	0.04%	-0.04%	0.00
ICICI BANK LTD	0.00%	0.08%	-0.08%	0.01
MITSUBISHI UFJ FINANCIAL GROUP C/S	0.12%	0.00%	0.12%	0.00

Portfolio Allocation by GICS Sector



Growth – Global Equity Systematic US Small Cap Value

for the quarter ended June 30, 2023

Strategy

Seeks to identify high quality small cap companies capable of generating high rates of return with attractive valuations. The strategy may be suited for investors looking to increase U.S. small cap exposure with defensive characteristics.

Inception Date: July 2018

Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	4,489.4	2,870.7
No. Of Issues	151.0	0.0
Dividend Yield	1.9	1.4
Return on Equity	11.4	5.1
Price to Sales	1.9	12.8
Price to Book	2.7	15.4
PE Ratio	12.3	12.6

Top Holdings (% of assets)

FIRST CITIZENS BCSHS CL A	3.1%
MAGNOLIA OIL + GAS CORP A	1.9%
EMCOR GROUP INC	1.9%
KBR INC	1.7%
CROSS COUNTRY HEALTHCARE INC	1.7%
Top 5 Holdings	10.3%

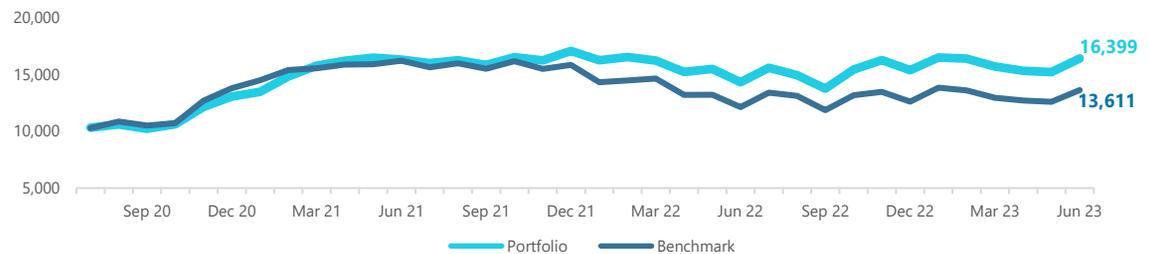
Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Systematic US Small Cap Value	198.9	4.5%	14.6%	17.9%	6.1%
RUSSELL 2000		5.2%	12.3%	10.8%	4.2%
Growth Policy Benchmark		5.8%	8.0%	12.5%	--

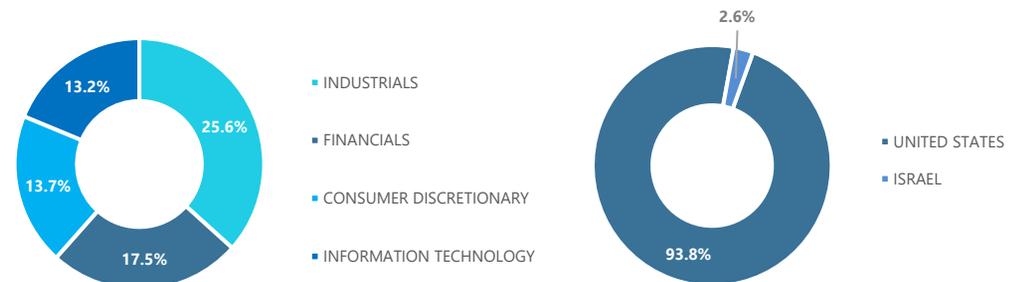
Universe data: US Equity Funds - Small Cap	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Systematic US Small Cap Value	4.6%	55	15.2%	54	18.6%	22	6.7%	58
Median	4.8%		15.8%		15.5%		7.3%	

No. of Observations: 56

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

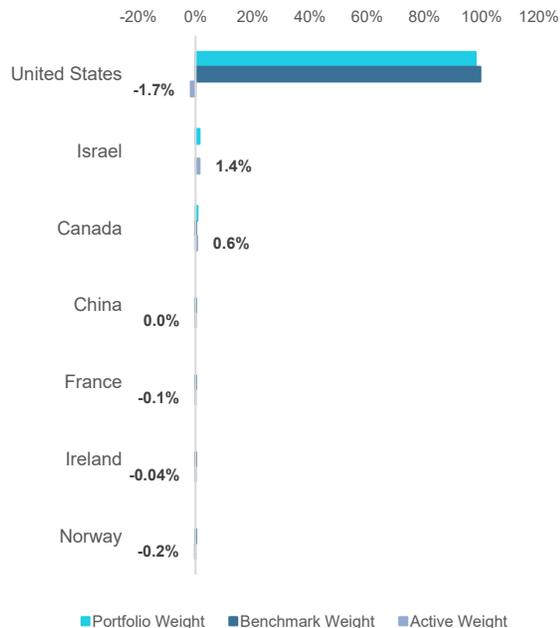
Growth Risk Analysis – Global Equity Systematic US Small Cap Value

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
21.9%	25.0%
PORTFOLIO Active Risk	PORTFOLIO Beta
5.41 bps	0.86

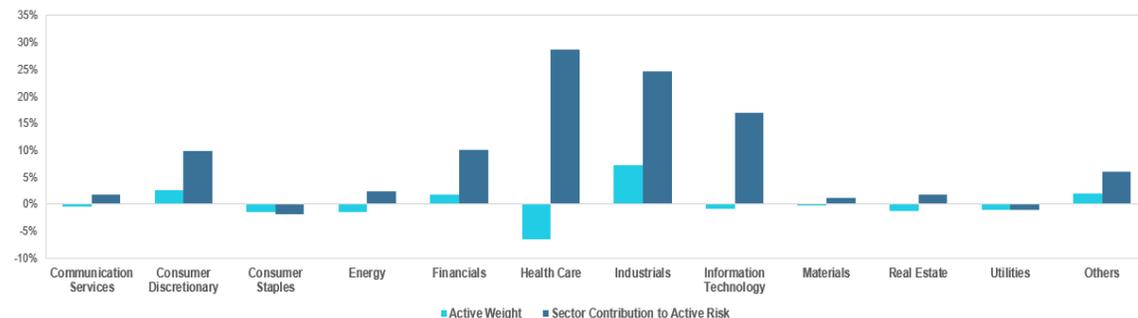
Top Countries by Weight



Top 10 Assets by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
SUPER MICRO COMPUTER INC	0.00%	0.48%	-0.48%	0.03
CHART INDUSTRIES INC	0.00%	0.28%	-0.28%	0.02
IVERIC BIO	0.00%	0.23%	-0.23%	0.02
IMMUNOGEN INC	0.00%	0.19%	-0.19%	0.02
TENABLE HOLDINGS INC	0.00%	0.21%	-0.21%	0.02
GUARDANT HEALTH INC	0.00%	0.17%	-0.17%	0.02
MICROSTRATEGY INC	0.00%	0.16%	-0.16%	0.02
AXCELIS TECHNOLOGIES INC	0.00%	0.25%	-0.25%	0.01
INTELLIA THERAPEUTICS	0.00%	0.15%	-0.15%	0.02
SHOALS TECHNOLOGIES GROUP INC	0.00%	0.18%	-0.18%	0.02

Portfolio Allocation by GICS Sector

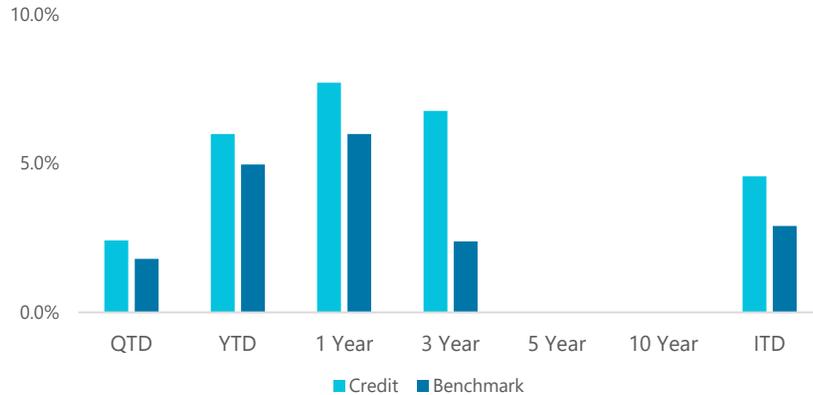


credit

Summary

for the quarter ended June 30, 2023

Performance (net)



	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
Credit	2.4%	6.0%	7.7%	6.8%	--	--	4.6%
Benchmark	1.8%	5.0%	6.0%	2.4%	--	--	2.9%
Excess	0.6%	1.0%	1.7%	4.4%	--	--	1.7%

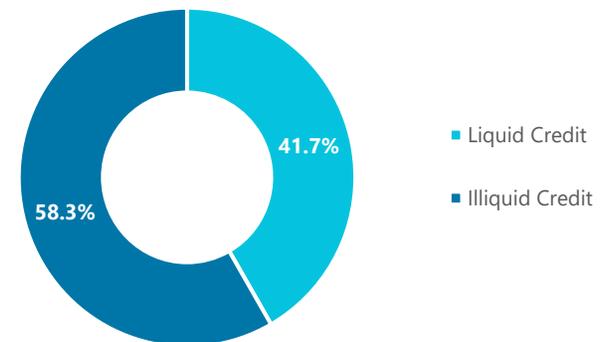
Cumulative Return



Functional Category

	QTD	FYTD	1 Year	3 Year
Liquid Credit	2.9%	9.0%	9.0%	--
Liquid Credit Policy Benchmark	2.4%	9.3%	9.3%	--
Excess	0.5%	-0.3%	-0.3%	--
Illiquid Credit	2.0%	5.6%	5.6%	13.9%
Illiquid Credit Policy Benchmark	1.5%	3.8%	3.8%	0.8%
Excess	0.6%	1.8%	1.8%	13.1%

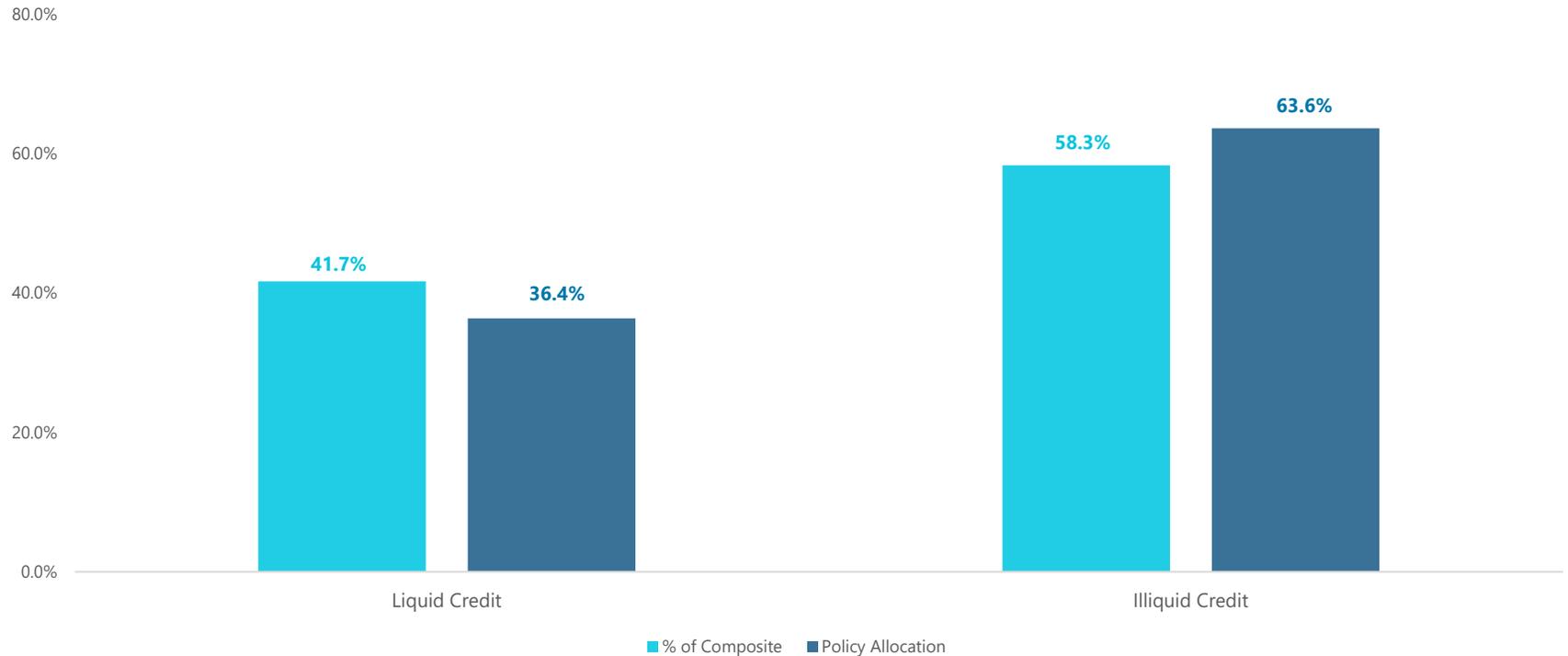
Exposure



Asset Allocation

for the quarter ended June 30, 2023

Actual vs. Policy

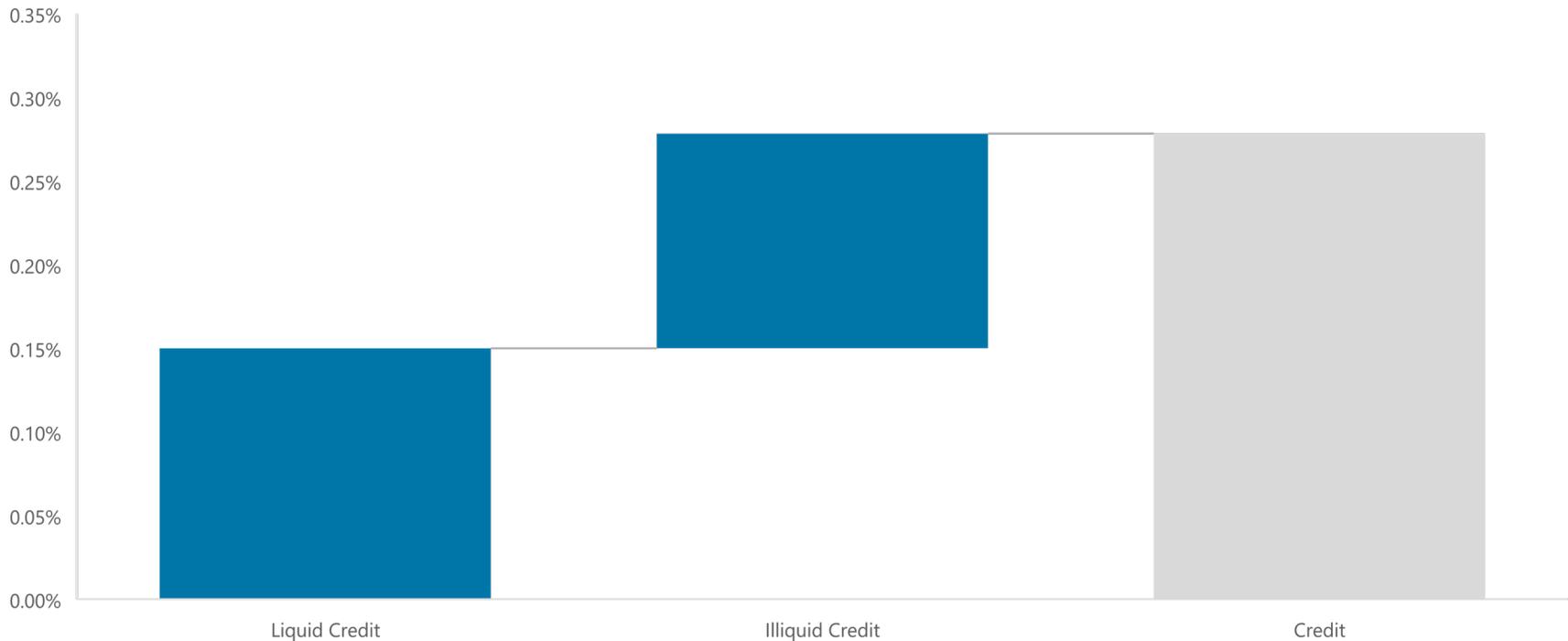


	Ending Market Value (mm)	% of Composite	Policy Allocation	Over / Under (%)	Over / Under (mm)
Credit	8,297	100.0%	100.0%		
Liquid Credit	3,458	41.7%	36.4%	5.3%	441
Illiquid Credit	4,839	58.3%	63.6%	-5.3%	-441

Contribution to Return

for the quarter ended June 30, 2023

QTD Contribution to Return



Functional Category	Contributors	Detractors
Liquid Credit	0.15% Credit Suisse Bank Loans	0.04% Beach Point - Fund III
Illiquid Credit	0.13% Magnetar	
Credit	0.28% BlackRock/Tennenbaum	
	abrnd	
	Crescent Capital	

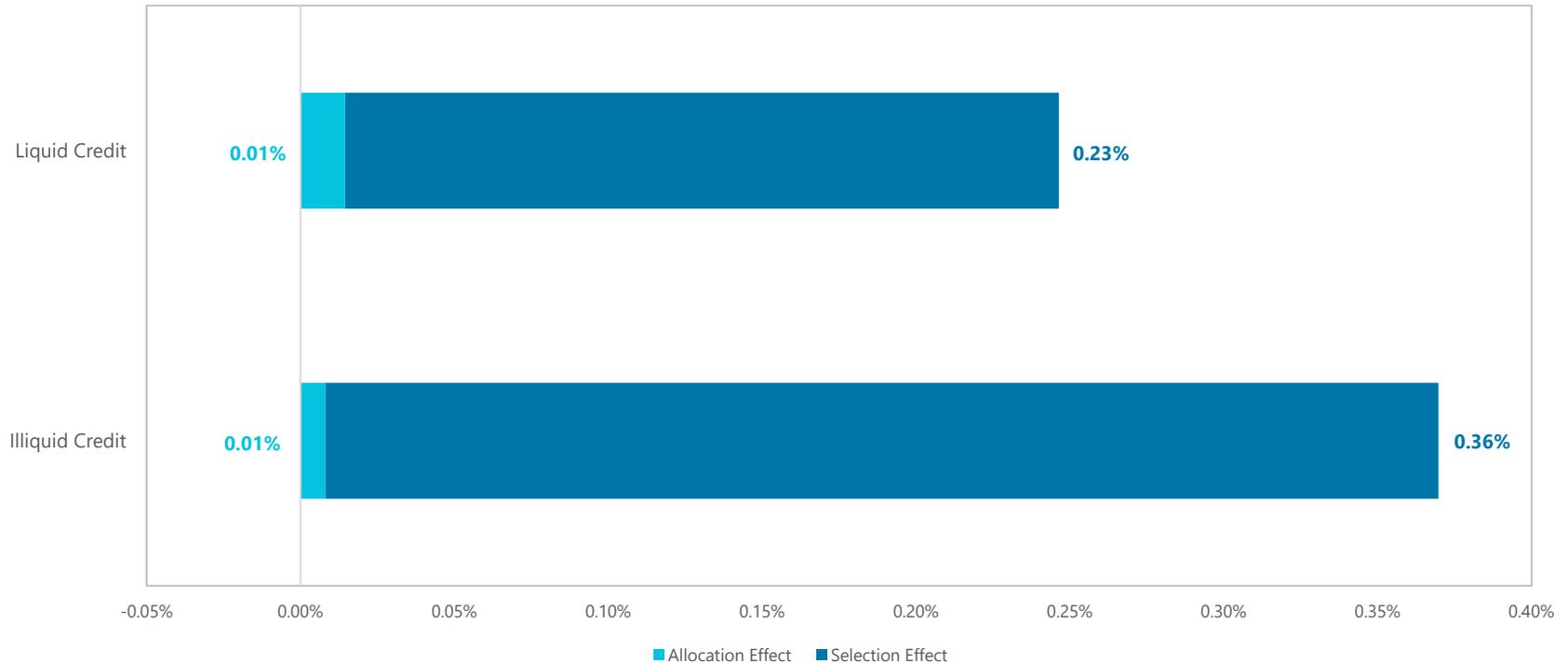
Return Attribution

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

QTD Performance Attribution¹



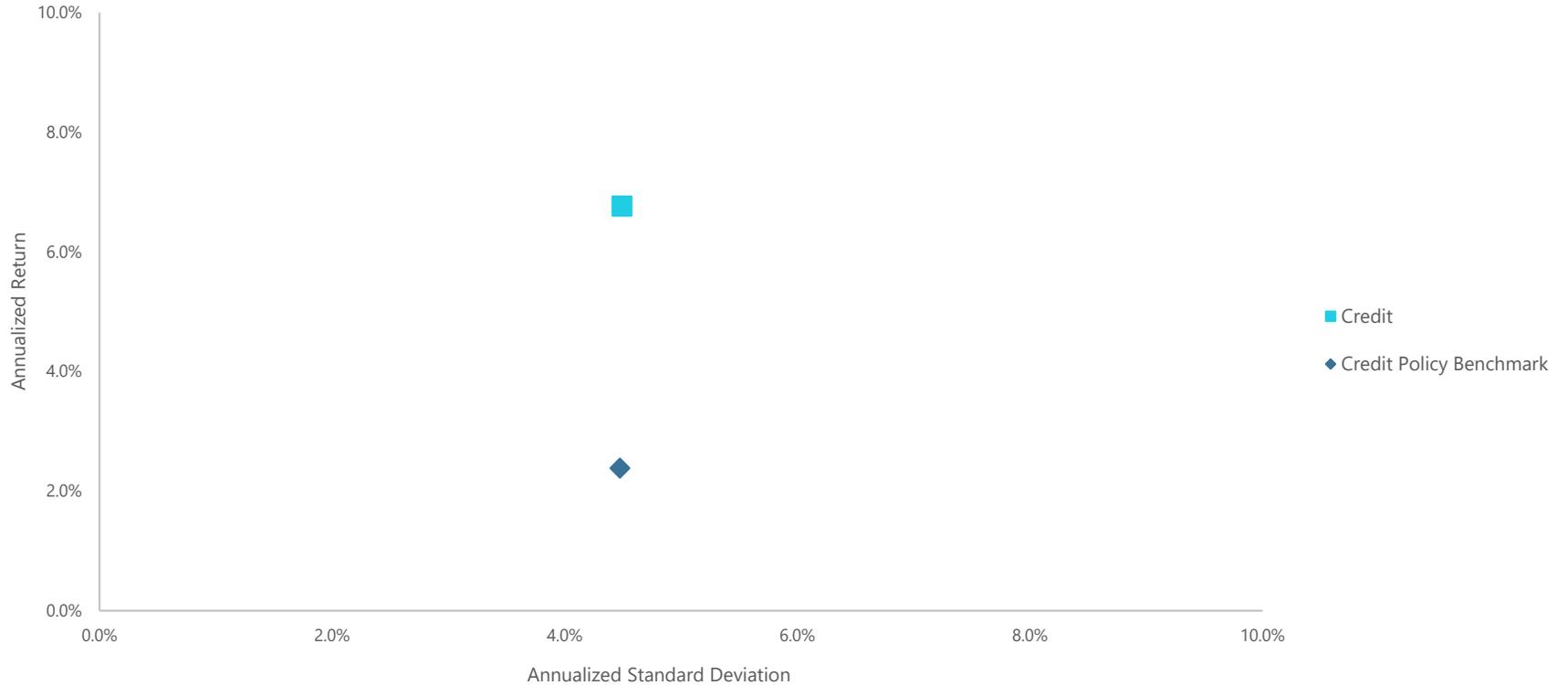
	Ending Market Value (mm)	% of Composite	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
Credit	8,297	100.0%	100.0%	2.4%	1.8%	0.02%	0.59%	0.62%
Liquid Credit	3,458	41.7%	36.4%	2.9%	2.4%	0.01%	0.23%	0.25%
Illiquid Credit	4,839	58.3%	63.6%	2.0%	1.5%	0.01%	0.36%	0.37%

¹ Total Value Add column includes Interaction Effect.

Risk vs. Return

for the quarter ended June 30, 2023

3 Year (Annualized)



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
Credit	6.8%	4.5%				
Credit Policy Benchmark	2.4%	4.5%	1.24	1.44	0.78	3.1%

Performance Detail

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

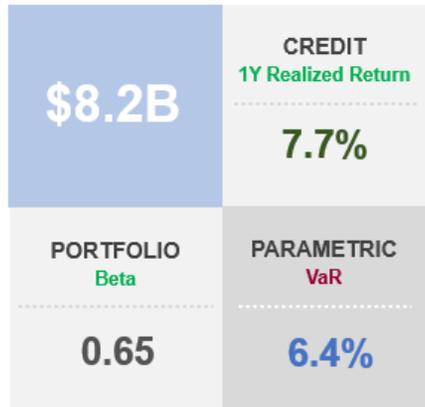
Annualized Net Returns

	% of Composite	Ending Market Value (mm)	Prior Quarter Ending MV (mm)	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
Credit	100.0%	8,297	8,411	2.4%	6.0%	7.7%	6.8%	--	--	4.6%	Apr-2019
Credit Policy Benchmark				1.8%	5.0%	6.0%	2.4%	--	--	2.9%	
Liquid Credit	41.7%	3,458	4,076	2.9%	6.1%	9.0%	--	--	--	-1.5%	Oct-2021
Liquid Credit Policy Benchmark				2.4%	5.7%	9.3%	--	--	--	-1.4%	
abrdn	4.4%	367	380	4.8%	6.7%	11.9%	-1.4%	0.9%	--	0.3%	Jul-2017
Ashmore Investment Management	3.1%	256	351	1.5%	4.5%	8.0%	-2.4%	-1.5%	--	-1.5%	Jun-2017
Bain Capital	5.4%	446	432	3.3%	7.1%	9.5%	7.4%	4.7%	--	4.1%	Jun-2014
Beach Point	3.6%	299	291	3.0%	6.7%	9.8%	3.0%	3.4%	--	4.4%	Mar-2014
Brigade Cap Mgmt	6.3%	519	641	2.0%	4.9%	3.6%	5.9%	2.7%	4.0%	5.8%	Jul-2010
Credit Suisse Bank Loans	8.0%	660	1,006	3.1%	7.0%	12.0%	5.9%	--	--	7.5%	Apr-2020
Crescent Capital	5.5%	460	508	3.3%	6.9%	7.3%	6.1%	4.5%	--	3.6%	May-2014
Pinebridge Investments	5.4%	450	466	1.8%	5.6%	9.9%	--	--	--	-3.2%	Sep-2021
Illiquid Credit	58.3%	4,839	4,335	2.0%	5.7%	5.6%	13.9%	--	--	9.6%	Apr-2019
Illiquid Credit Policy Benchmark				1.5%	4.5%	3.8%	0.8%	--	--	4.3%	
Beach Point - Fund II	0.1%	12	15	--	--	--	--	--	--	--	Jun-2014
Beach Point - Fund III	1.4%	113	161	-6.6%	-2.6%	-9.7%	13.7%	8.4%	--	8.7%	Jun-2017
BlackRock/Tennenbaum	7.6%	631	659	2.5%	4.3%	7.3%	9.3%	7.1%	--	7.2%	Nov-2014
Grosvenor OPCRD 2 HFOF	0.2%	21	21	--	--	--	--	--	--	--	Mar-2016
Lake Cascade	6.1%	506	300	1.0%	--	--	--	--	--	1.0%	Jan-2023
Lake Cottage	6.3%	522	317	3.2%	5.1%	--	--	--	--	5.1%	Nov-2022
Lake Vineyard	6.5%	543	421	2.4%	5.6%	3.8%	--	--	--	4.4%	Apr-2022
Magnetar	11.5%	958	933	2.6%	5.9%	5.9%	--	--	--	17.1%	Aug-2020
Napier Park	10.9%	907	885	0.8%	8.3%	7.7%	11.9%	--	--	15.3%	Apr-2020
PIMCO Tac Opps	3.4%	284	273	4.2%	4.2%	0.8%	8.9%	--	--	5.6%	Nov-2018
Private Equity - Credit	2.8%	229	228	4.4%	12.3%	14.9%	32.3%	--	--	15.0%	Jan-2019
Real Estate - Credit	0.7%	59	74	5.1%	7.0%	11.3%	11.0%	10.3%	9.0%	9.3%	Oct-2011
Stable Asset Management - IC	0.7%	55	49	-0.4%	-0.1%	--	--	--	--	-0.1%	Nov-2022

Credit Risk Summary

for the quarter ended June 30, 2023

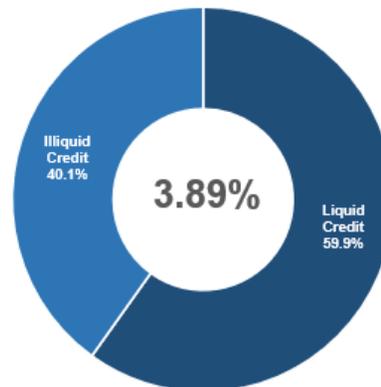
Realized (Ex-Post) Risks



Projected (Ex-Ante) Risks

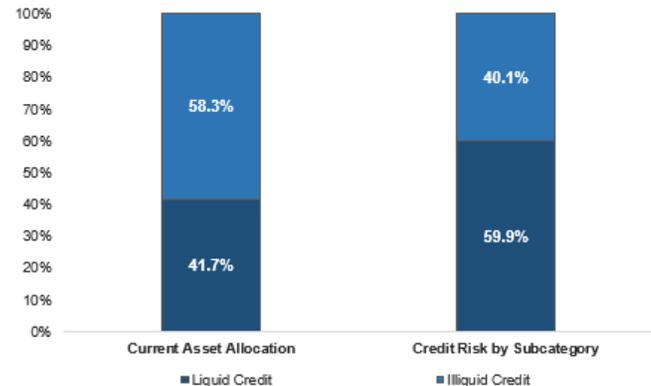


Subcategory Contributions to Credit Risk



Credit Asset Allocation

Capital-based versus Risk-based



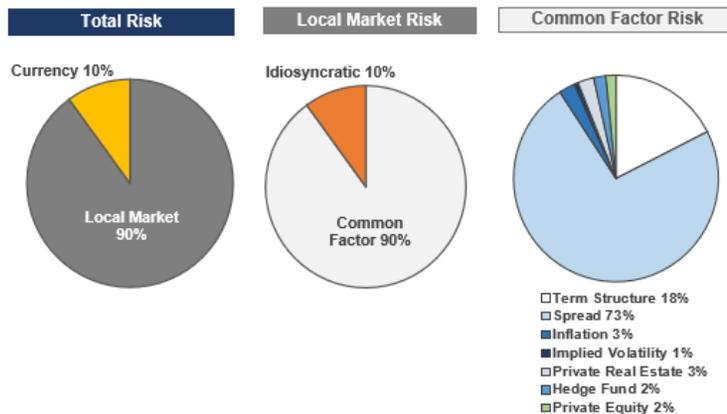
Credit Risk Summary

for the quarter ended June 30, 2023

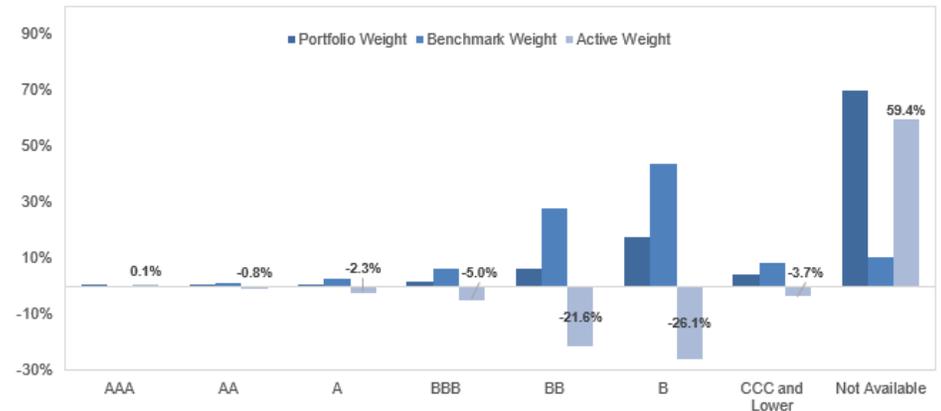
Decomposition of MSCI Risk Factors



Credit Risk Decomposition



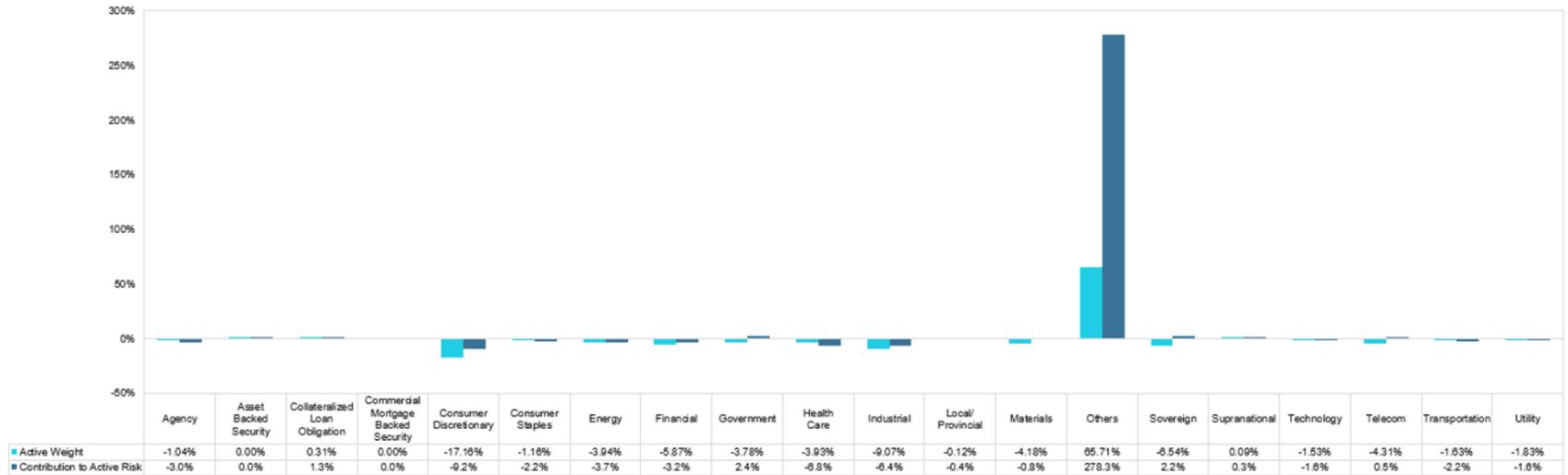
Portfolio Allocation by Moody's Rating



Credit Risk Summary

for the quarter ended June 30, 2023

Portfolio Allocation by Bond Sector



Liquid Credit Risk Summary

for the quarter ended June 30, 2023

Realized (Ex-Post) Risks

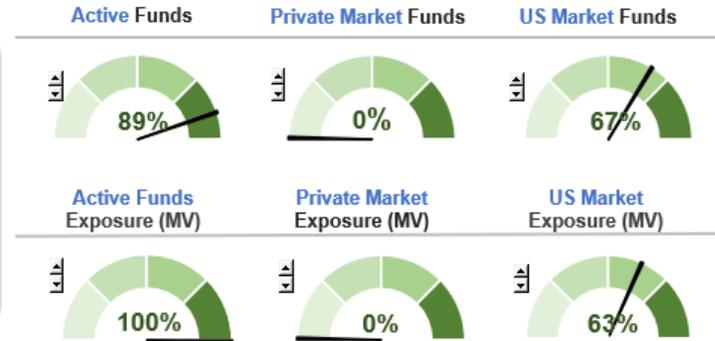
\$3.4B	LIQUID CREDIT 1Y Realized Return
	9.0%
PORTFOLIO Beta	PARAMETRIC VaR
1.12	10.3%

Liquid Credit

Value at Risk
VARIABLES

95% Confidence Interval
1Y Time Horizon

With **95% confidence** (2σ),
LACERA would not lose more than
\$337.5M in 1Y.



Projected (Ex-Ante) Risks

Liquid Credit
Forecast Risk

6.24%

Benchmark
Risk

5.56%

Liquid Credit
Active Risk

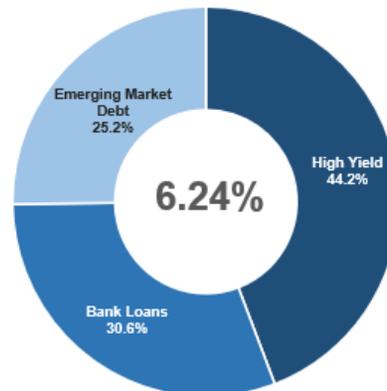
0.93 bps

Effective Duration
2.51

Yield to Worst
9.08%

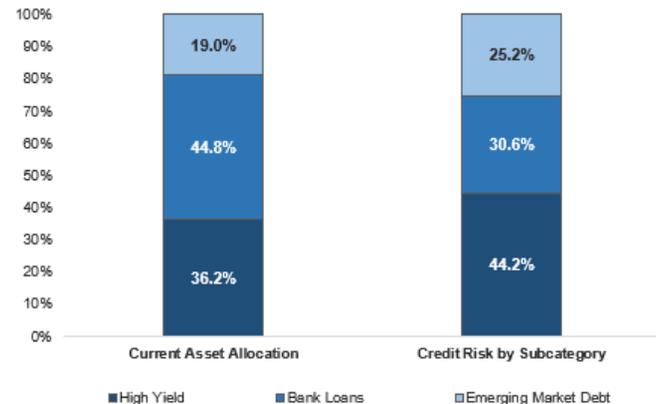
OAS to Swap
461

Subcategory Contributions to Liquid Credit Risk



Credit Asset Allocation

Capital-based versus Risk-based



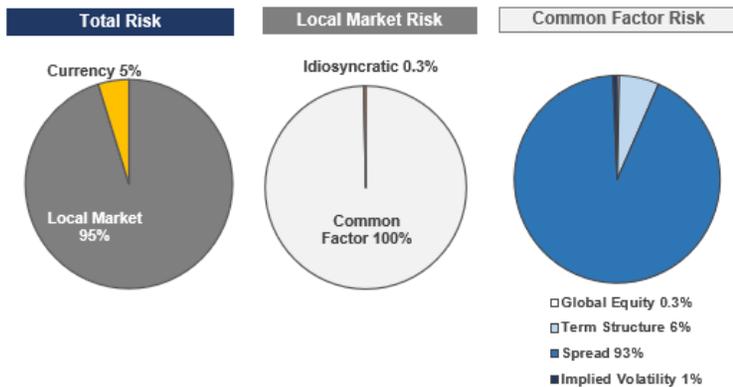
Liquid Credit Risk Summary

for the quarter ended June 30, 2023

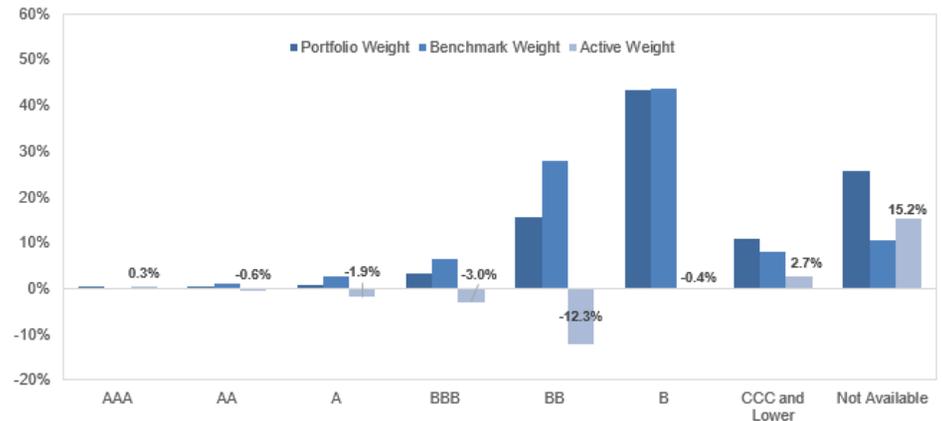
Decomposition of MSCI Risk Factors



Liquid Credit Risk Decomposition



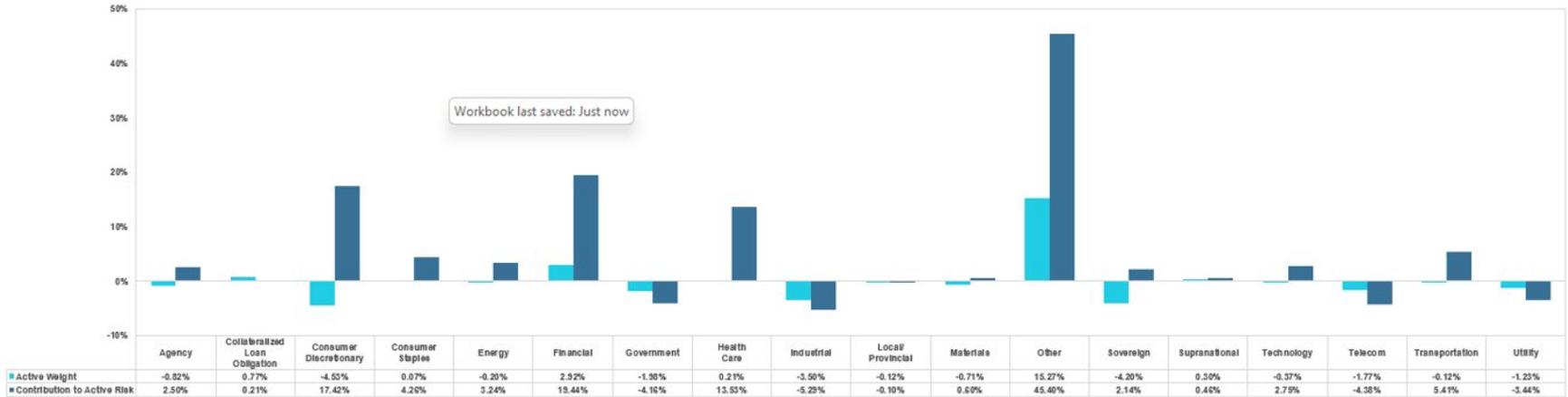
Portfolio Allocation by Moody's Rating



Liquid Credit Risk Summary

for the quarter ended June 30, 2023

Portfolio Allocation by Bond Sector



Credit – Liquid Credit abrdn

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Strategy

An emerging market debt strategy that invests in sovereigns, quasi-sovereigns, and corporate bonds denominated in US Dollar or local currencies.

Inception Date: July 2017

Risk Statistics (since inception)

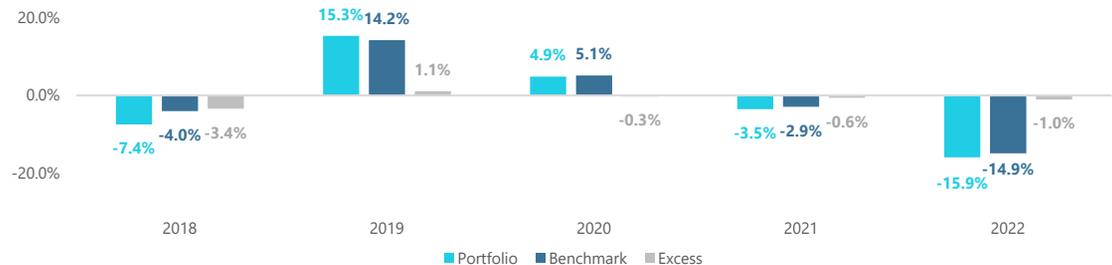
Standard Deviation	11.1%
Benchmark Standard Deviation	9.4%
Sharpe Ratio	-0.06
Information Ratio	-0.16
Beta	1.16
Tracking Error	2.7%

Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Aberdeen	366.6	4.8%	11.9%	-1.4%	0.9%
EMD Custom Benchmark		2.1%	8.0%	-2.0%	1.0%
Credit Policy Benchmark		1.8%	6.0%	2.4%	--

Universe data: US Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Aberdeen	4.8%	8	12.2%	9	-1.1%	53	1.2%	66
Median	-0.1%		1.2%		-0.8%		1.6%	
No. of Observations	726							

Calendar Year Returns



Growth of \$10,000

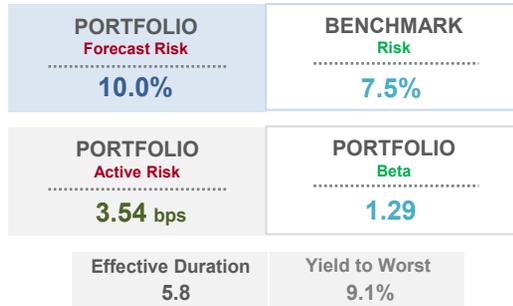


Note: Commingled fund account with no position-level transparency.
¹ Universe data is gross-of-fees.

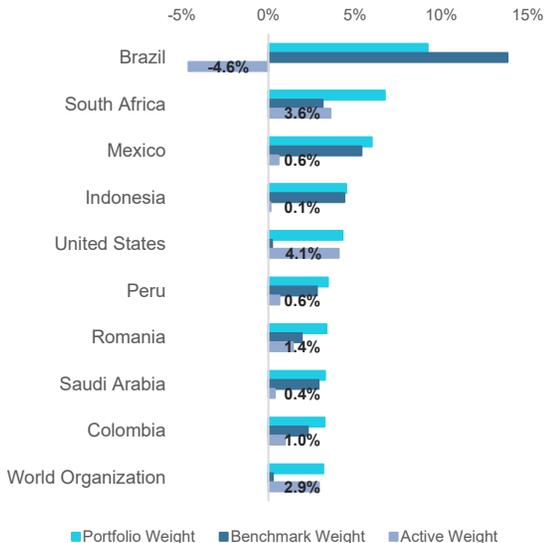
Credit Risk Analysis – Liquid Credit abrdn

for the quarter ended June 30, 2023

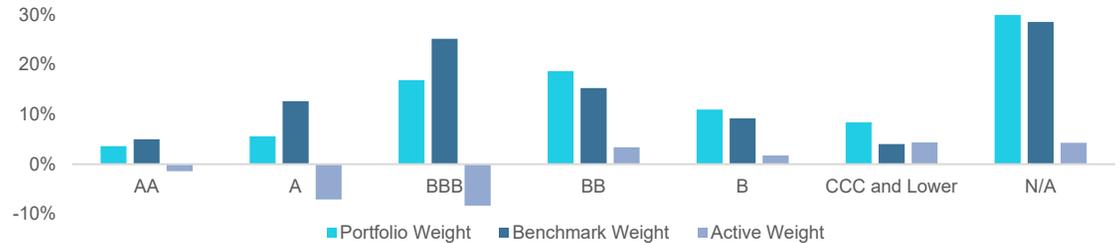
Portfolio Risk Summary



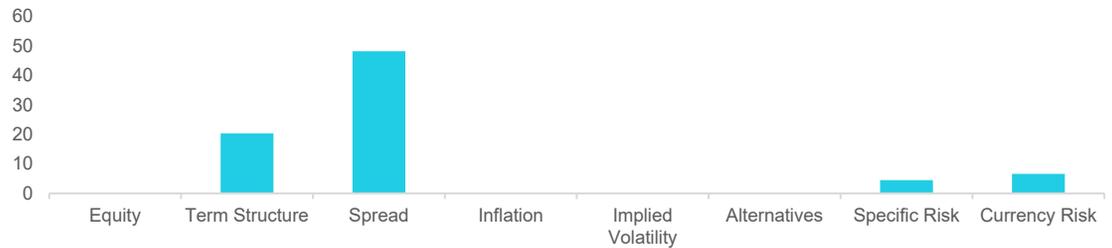
Top 10 Countries by Weight



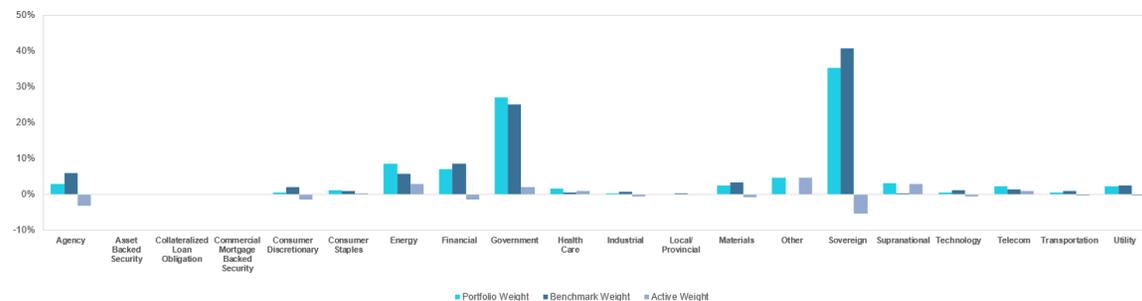
Allocation by Moody's Rating



Active Risk from Common Factors



Portfolio Allocation by Bond Sector



Credit – Liquid Credit Ashmore

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Strategy

A value-driven emerging market debt strategy that applies a macro, top-down approach to build a well-diversified portfolio that adds value through asset rotation, security selection, and currency positioning utilizing a committee driven, systematic risk mitigating process.

Inception Date: June 2017

Risk Statistics (since inception)

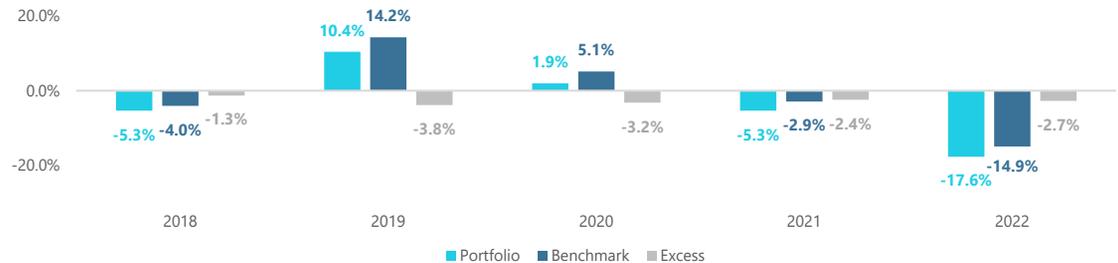
Standard Deviation	13.1%
Benchmark Standard Deviation	9.4%
Sharpe Ratio	-0.16
Information Ratio	-0.46
Beta	1.37
Tracking Error	4.4%

Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Ashmore Investment Management	255.9	1.5%	8.0%	-2.4%	-1.5%
EMD Custom Benchmark		2.1%	8.0%	-2.0%	1.0%
Credit Policy Benchmark		1.8%	6.0%	2.4%	--

Universe data: US Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Ashmore Investment Management	1.6%	21	8.6%	18	-1.9%	59	-0.9%	95
Median	-0.1%		1.2%		-0.8%		1.6%	
No. of Observations	726							

Calendar Year Returns



Growth of \$10,000



Note: Commingled fund account with no position-level transparency.
¹ Universe data is gross-of-fees.

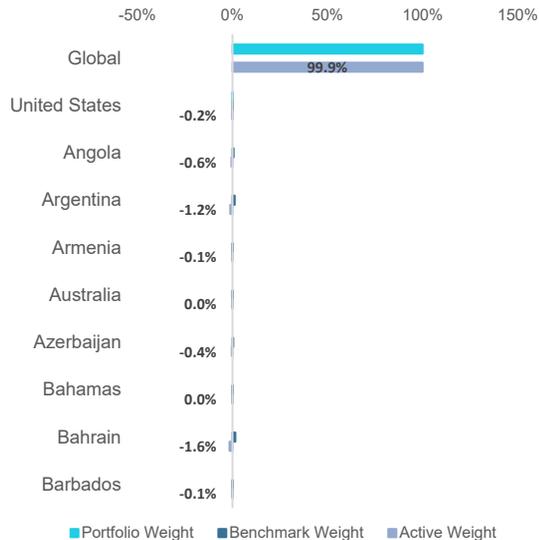
Credit Risk Analysis – Liquid Credit Ashmore

for the quarter ended June 30, 2023

Portfolio Risk Summary



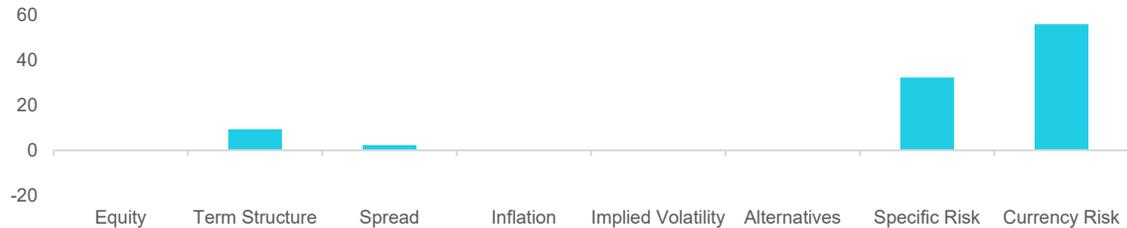
Top 10 Countries by Weight



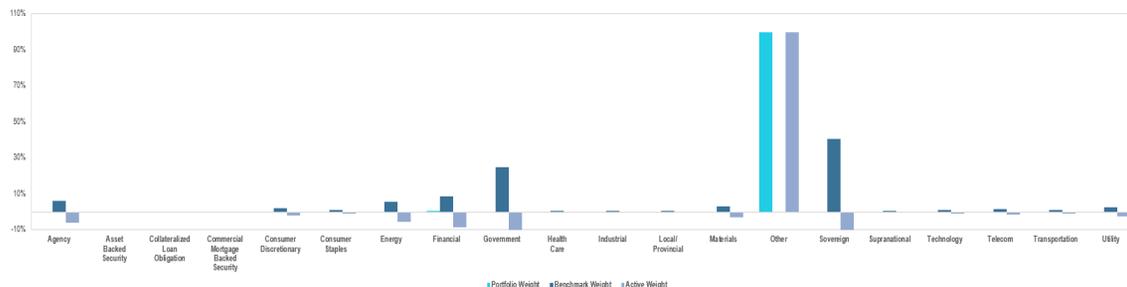
Allocation by Moody's Rating



Active Risk from Common Factors



Portfolio Allocation by Bond Sector



Credit – Liquid Credit Bain Capital

for the quarter ended June 30, 2023

Strategy

A long-only strategy designed to provide exposure to senior secured, floating-rate bank loans. The strategy takes a fundamental, active, and global approach to investing, capitalizing on opportunities in an inefficient asset class. The return objective is to outperform the Index through strong credit selection and active portfolio management.

Inception Date: June 2014

Portfolio Characteristics

	Portfolio	Benchmark
No. of Issues	541.0	0.0
Effective Duration	0.2	3.6
Convexity	0.1	0.0
Coupon Rate	8.6	5.9
Yield to Maturity	7.9	8.4
Current Yield	8.8	6.6
Rating – Moody's	B-2	B-1
Rating – S & P	B	B+

Top Holdings (% of assets)

INVESCO SENIOR LOAN ETF	1.0%
CPS GROUP HOLDINGS INC	0.8%
NAVICURE INC	0.7%
AQGEN ISLAND HOLDINGS, INC.	0.6%
CHAMBER BIDCO LIMITED	0.6%
Top 5 Holdings	3.7%

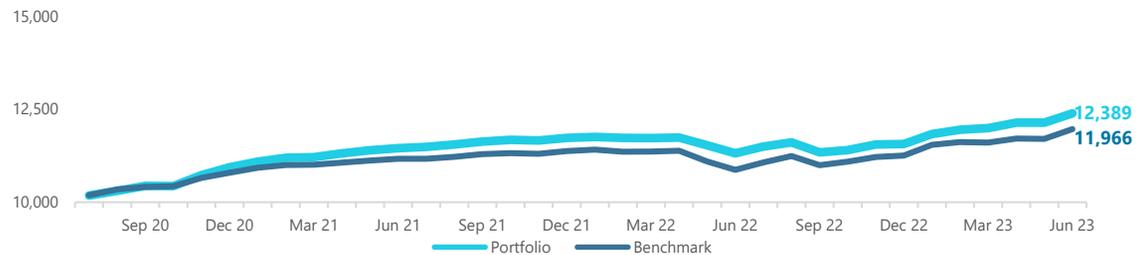
Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Bain Capital	446.3	3.3%	9.5%	7.4%	4.7%
Bank Loans Custom Benchmark		3.1%	10.1%	6.2%	4.6%
Credit Policy Benchmark		1.8%	6.0%	2.4%	--

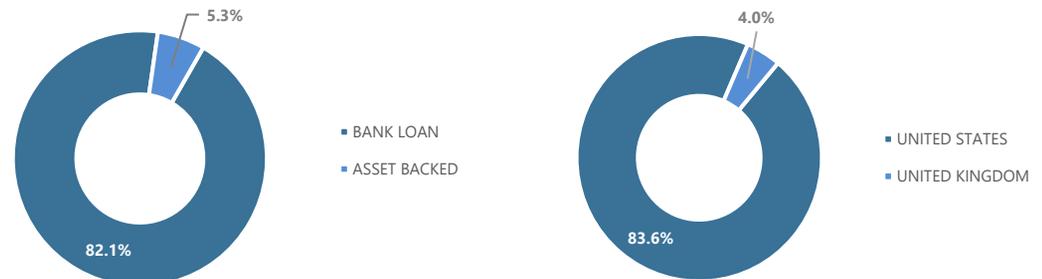
Universe data: U.S. Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Bain Capital	3.5%	11	10.1%	14	8.0%	17	5.4%	14
Median	-0.1%		1.2%		-0.6%		1.6%	

No. of Observations: 726

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

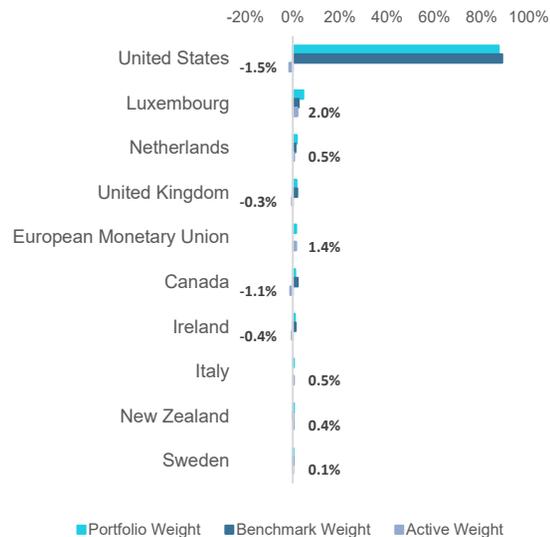
Credit Risk Analysis – Liquid Credit Bain Capital

for the quarter ended June 30, 2023

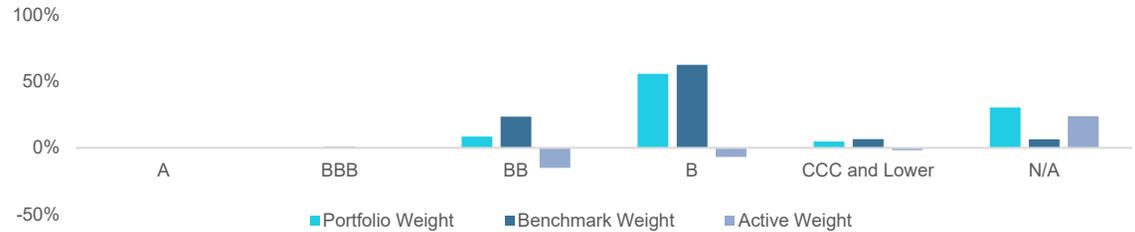
Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
4.0%	5.2%
PORTFOLIO Active Risk	PORTFOLIO Beta
1.36 bps	0.76
Effective Duration 0.4	Yield to Worst 8.0%

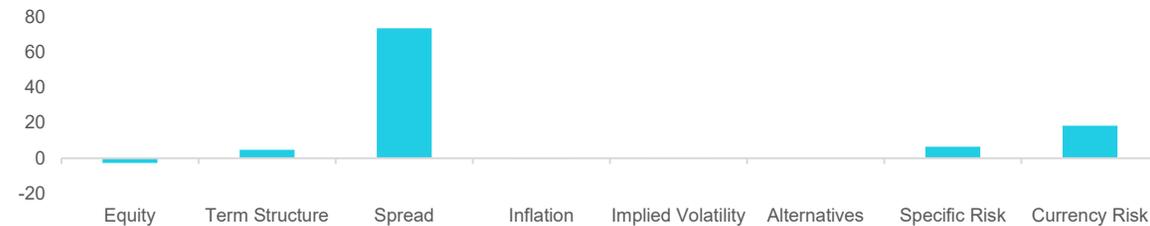
Top 10 Countries by Weight



Allocation by Moody's Rating



Active Risk from Common Factors



Portfolio Allocation by Bond Sector



Credit – Liquid Credit Beach Point

for the quarter ended June 30, 2023

Strategy

A fundamental, value oriented high yield bond strategy that utilizes legal skills to identify market anomalies in bond covenants and indentures. The primary investment goal is to generate superior returns while controlling risk to minimize the possibility of capital impairment.

Inception Date: June 2014

Portfolio Characteristics

	Portfolio	Benchmark
No. of Issues	279.0	0.0
Effective Duration	3.5	3.6
Convexity	0.4	0.0
Coupon Rate	6.0	5.9
Yield to Maturity	8.7	8.4
Current Yield	6.8	6.6
Rating – Moody's	B-1	B-1
Rating – S & P	B	B+

Top Holdings (% of assets)

MPH ACQUISITION HOLDINGS	1.6%
DEALER TIRE LLC/DT ISSR	1.5%
COMPASS GROUP DIVERSIFIE	1.3%
SANDSTONE PEAK LTD.	1.1%
FORTRESS TRANS + INFRAST	1.1%
Top 5 Holdings	6.6%

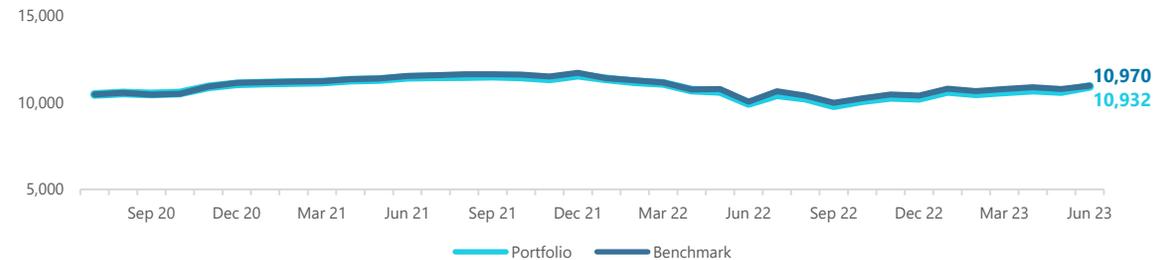
Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Beach Point	299.5	3.0%	9.8%	3.0%	3.4%
Beachpoint Custom Benchmark		1.7%	9.1%	3.1%	2.8%
Credit Policy Benchmark		1.8%	6.0%	2.4%	--

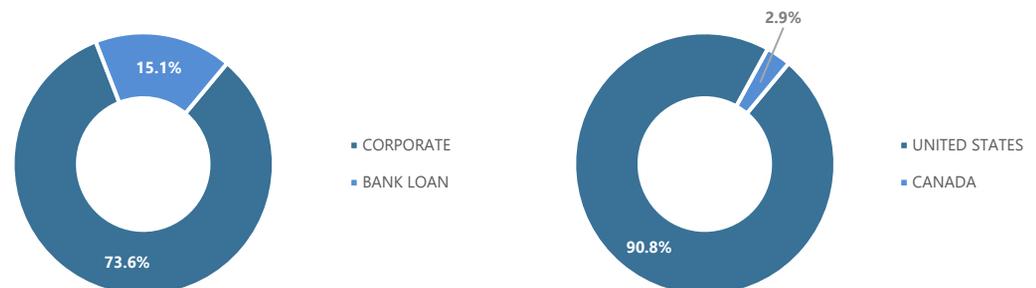
Universe data: US Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Beach Point	3.1%	13	10.3%	13	3.5%	27	3.9%	18
Median	-0.1%		1.2%		-0.8%		1.6%	

No. of Observations: 726

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Credit Risk Analysis – Liquid Credit Beach Point

for the quarter ended June 30, 2023

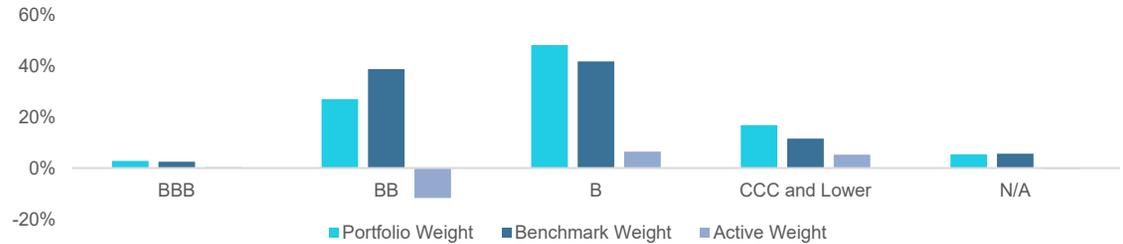
Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
7.6%	6.6%
PORTFOLIO Active Risk	PORTFOLIO Beta
1.35 bps	1.14
Effective Duration 3.6	Yield to Worst 8.4%

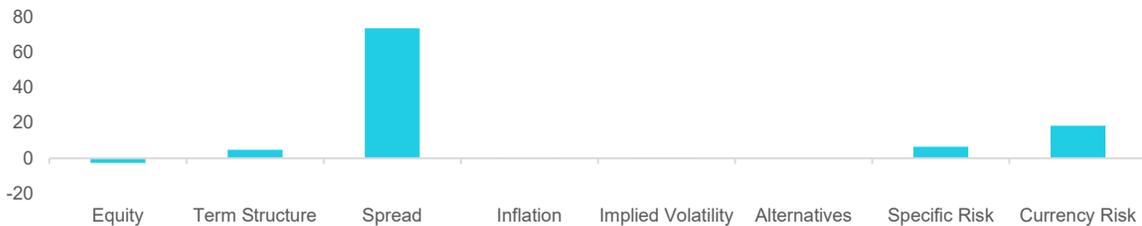
Top 10 Countries by Weight



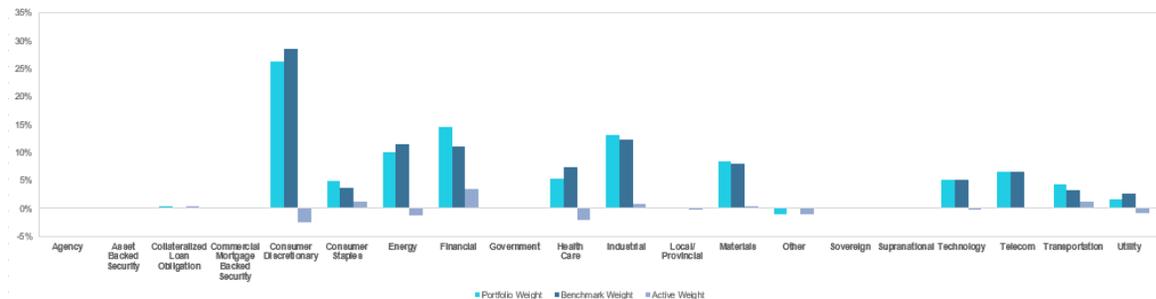
Allocation by Moody's Rating



Active Risk from Common Factors



Portfolio Allocation by Bond Sector



Credit – Liquid Credit Brigade Capital

for the quarter ended June 30, 2023

Strategy

A strategy that focuses on identifying attractive companies within the high yield bond marketplace. The strategy invests in companies that have a lower likelihood of default or are better able to recover from economic downturns because of their substantial asset value relative to debt.

Inception Date: July 2010

Portfolio Characteristics

	Portfolio	Benchmark
No. of Issues	260.0	0.0
Effective Duration	2.8	3.6
Convexity	0.1	0.0
Coupon Rate	7.3	5.9
Yield to Maturity	12.3	8.4
Current Yield	9.0	6.6
Rating – Moody's	B-2	B-1
Rating – S & P	B	B+

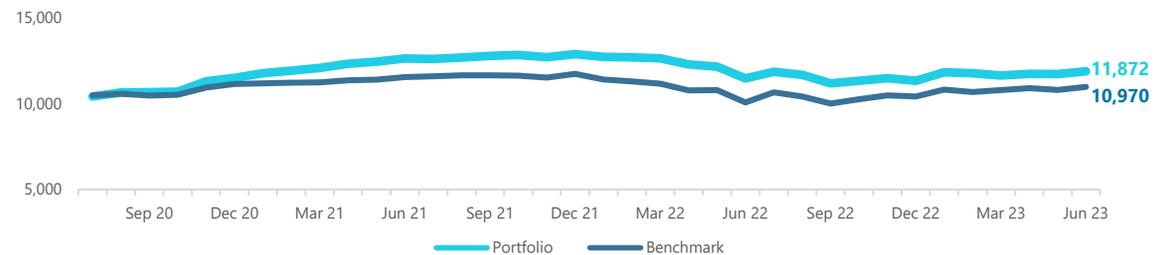
Top Holdings (% of assets)

EPIC Y GRADE SERVICES, LP	2.7%
CORNERSTONE CHEMICAL CO	2.6%
LIFESCAN GLOBAL CORPORATION	1.7%
STRATHCONA RESOURCES	1.3%
FINANCE OF AMERICA FUNDI	1.2%
Top 5 Holdings	9.4%

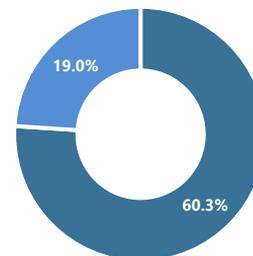
Performance (net)¹

	Ending Market Value (mm)			QTD	1 Year	3 Year	5 Year	
Brigade Cap Mgmt	519.2			2.0%	3.6%	5.9%	2.7%	
Brigade Custom Benchmark				1.7%	9.1%	3.1%	3.2%	
Credit Policy Benchmark				1.8%	6.0%	2.4%	--	
Universe data: US Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Brigade Cap Mgmt	2.2%	18	4.0%	27	6.3%	20	3.3%	22
Median	-0.1%		1.2%		-0.8%		1.6%	
No. of Observations	726							

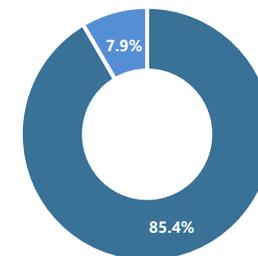
Growth of \$10,000



Top Exposures (% of assets)²



■ CORPORATE
■ BANK LOAN



■ UNITED STATES
■ CANADA

¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

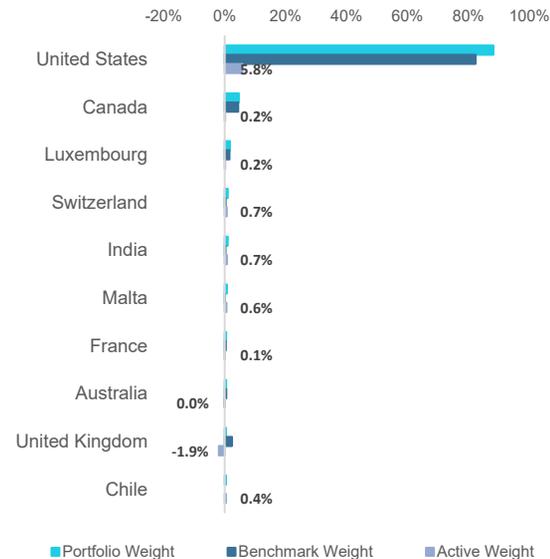
Credit Risk Analysis – Liquid Credit Brigade Capital

for the quarter ended June 30, 2023

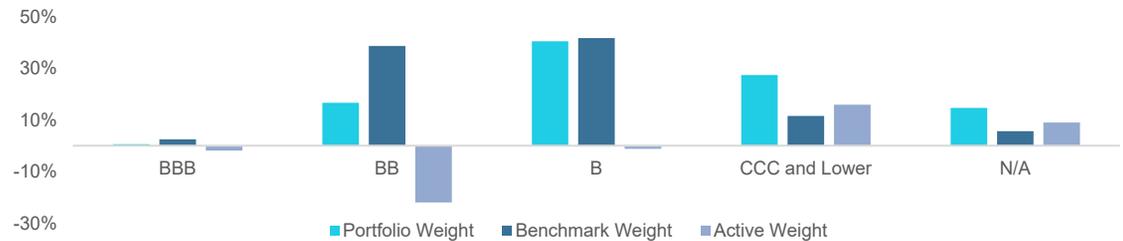
Portfolio Risk Summary



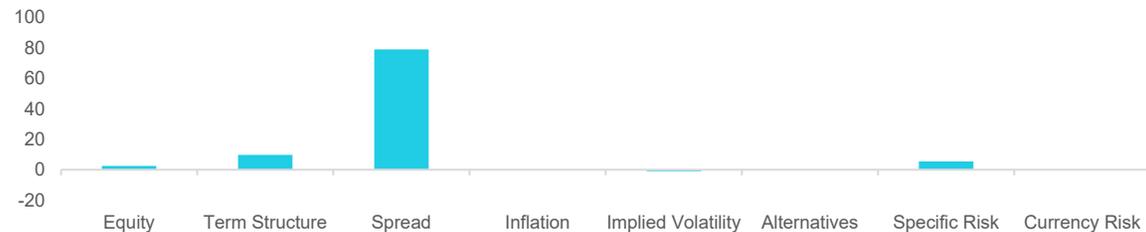
Top 10 Countries by Weight



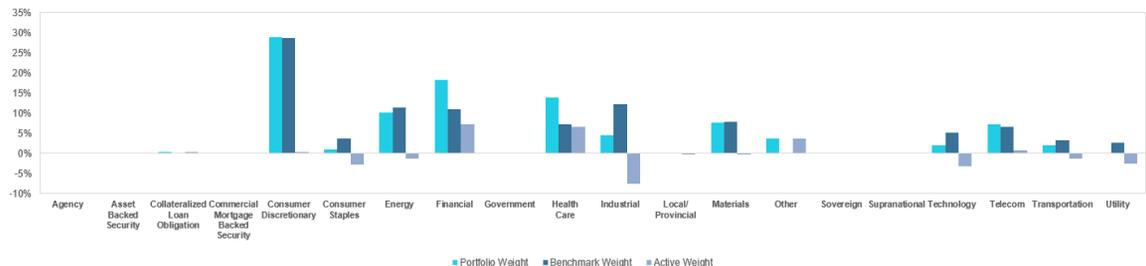
Allocation by Moody's Rating



Active Risk from Common Factors



Portfolio Allocation by Bond Sector



Credit – Liquid Credit

Credit Suisse

for the quarter ended June 30, 2023

Strategy

A bank loan strategy that invests in senior floating rate loans whose primary performance objective is to generate alpha while mitigating loss, utilizing bottom-up, fundamental credit analysis emphasizing a relative value approach.

Inception Date: April 2020

Portfolio Characteristics

	Portfolio	Benchmark
No. of Issues	406.0	0.0
Effective Duration	0.1	3.6
Convexity	0.0	0.0
Coupon Rate	9.3	5.9
Yield to Maturity	9.8	8.4
Current Yield	9.7	6.6
Rating – Moody's	B-2	B-1
Rating – S & P	B	B+

Top Holdings (% of assets)

FINASTRA USA, INC.	1.4%
HYLAND SOFTWARE INC	1.4%
WILLIAM MORRIS ENDEAVOR ENTMT	1.1%
CERIDIAN HCM HLDG INC	1.1%
ULTIMATE SOFTWARE GROUP INC.	1.0%
Top 5 Holdings	6.0%

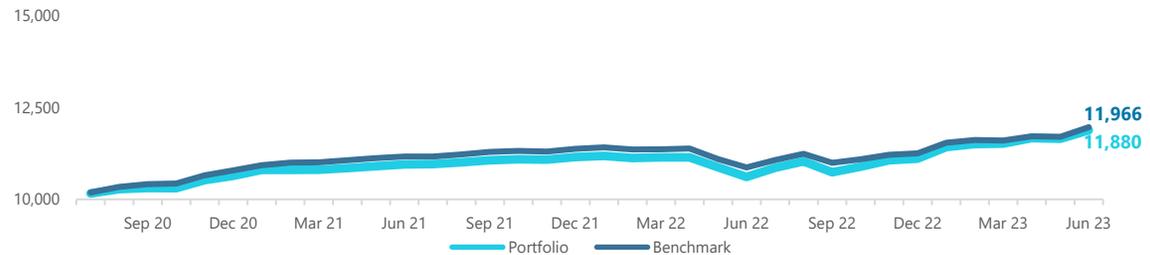
Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Credit Suisse Bank Loans	660.5	3.1%	12.0%	5.9%	--
CS Leveraged Loan Index		3.1%	10.1%	6.2%	--
Credit Policy Benchmark		1.8%	6.0%	2.4%	--

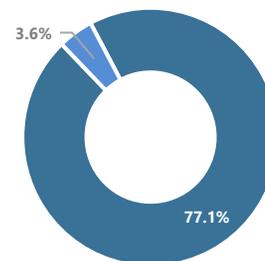
Universe data: US Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Credit Suisse Bank Loans	3.3%	12	12.2%	9	6.1%	21	--	--
Median	-0.1%		1.2%		-0.8%		--	

No. of Observations: 726

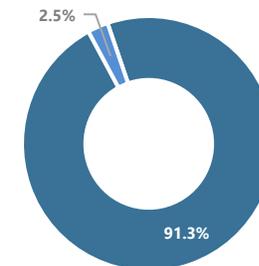
Growth of \$10,000



Top Exposures (% of assets)²



- BANK LOAN
- ASSET BACKED



- UNITED STATES
- CANADA

¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Credit Risk Analysis – Liquid Credit

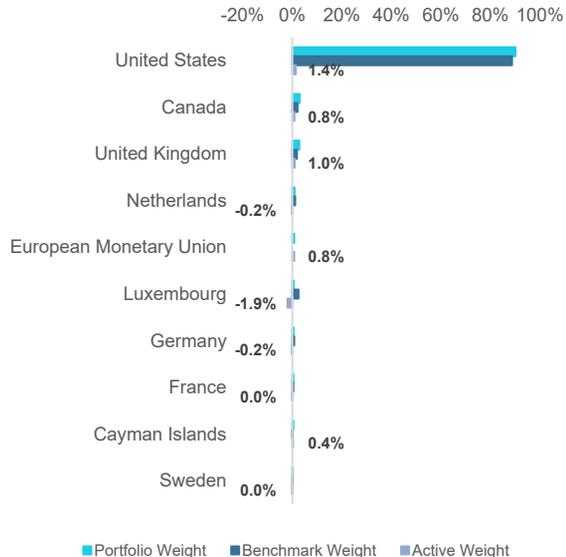
Credit Suisse

for the quarter ended June 30, 2023

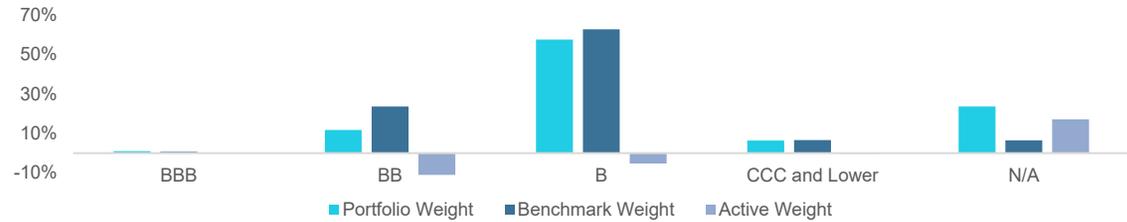
Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
4.0%	5.2%
PORTFOLIO Active Risk	PORTFOLIO Beta
1.32 bps	0.76
Effective Duration 0.4	Yield to Worst 6.0%

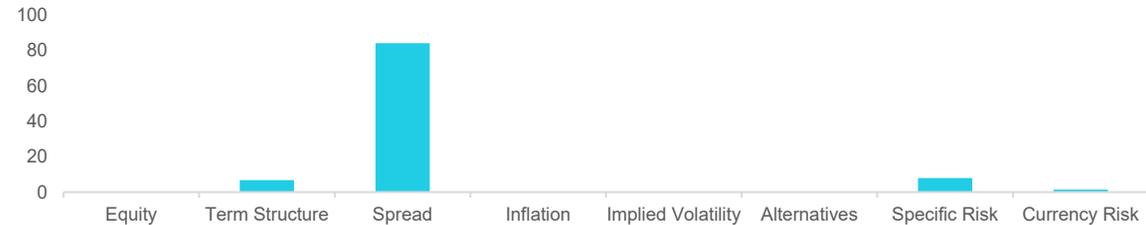
Top 10 Countries by Weight



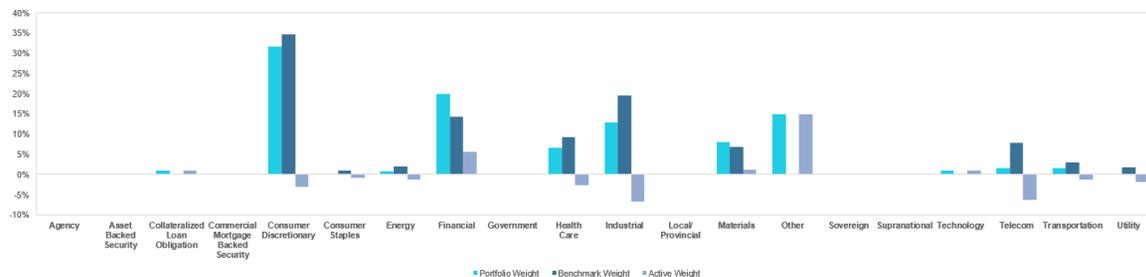
Allocation by Moody's Rating



Active Risk from Common Factors



Portfolio Allocation by Bond Sector



Credit – Liquid Credit Crescent Capital

for the quarter ended June 30, 2023

Strategy

A bank loan strategy that invests in privately negotiated, below investment grade, secured corporate debt. The primary target is U.S. based middle market companies whose EBITDA falls between \$30M to \$100M. The strategy's bottom-up credit research process emphasizes high current income and principal preservation.

Inception Date: May 2014

Portfolio Characteristics

	Portfolio	Benchmark
No. of Issues	138.0	0.0
Effective Duration	0.2	3.6
Convexity	0.0	0.0
Coupon Rate	10.1	5.9
Yield to Maturity	11.5	8.4
Current Yield	11.0	6.6
Rating – Moody's	B-2	B-1
Rating – S & P	B-	B+

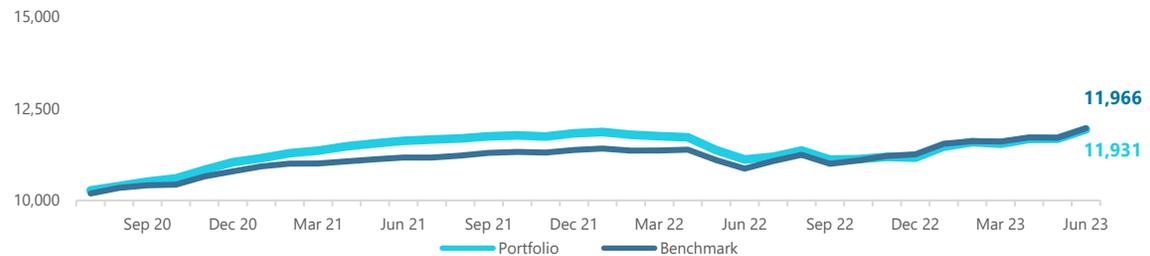
Top Holdings (% of assets)

MAGNATE WORLDWIDE LLC	2.0%
ARCLINE FM HOLDINGS, LLC	1.9%
CTC HOLDINGS LP	1.9%
LIFEMILES LTD	1.9%
LASERAWAY INTERM HOLD II LLC	1.9%
Top 5 Holdings	9.6%

Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year			
Crescent Capital	460.4	3.3%	7.3%	6.1%	4.5%			
Bank Loans Custom Benchmark		3.1%	10.1%	6.2%	4.6%			
Credit Policy Benchmark		1.8%	6.0%	2.4%	--			
Universe data: U.S. Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Crescent Capital	3.5%	11	7.8%	19	6.6%	20	5.0%	14
Median	-0.1%		1.2%		-0.8%		1.6%	
No. of Observations	726							

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Credit Risk Analysis – Liquid Credit Crescent Capital

for the quarter ended June 30, 2023

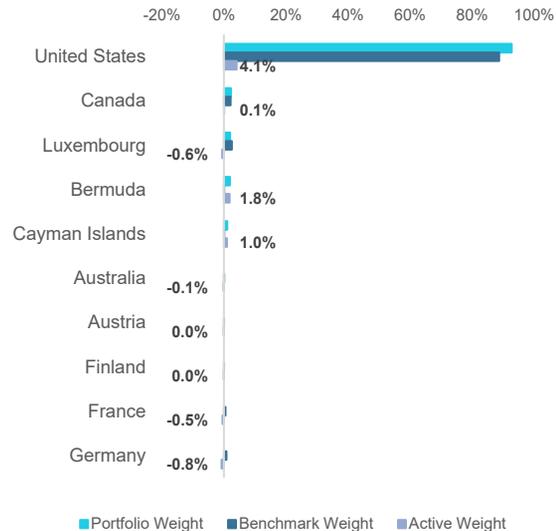


Los Angeles County Employees Retirement Association

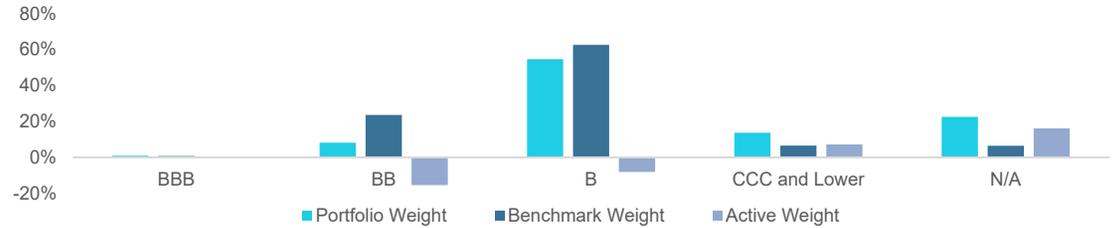
Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
6.9%	5.2%
PORTFOLIO Active Risk	PORTFOLIO Beta
1.32 bps	0.76
Effective Duration 0.4	Yield to Worst 8.2%

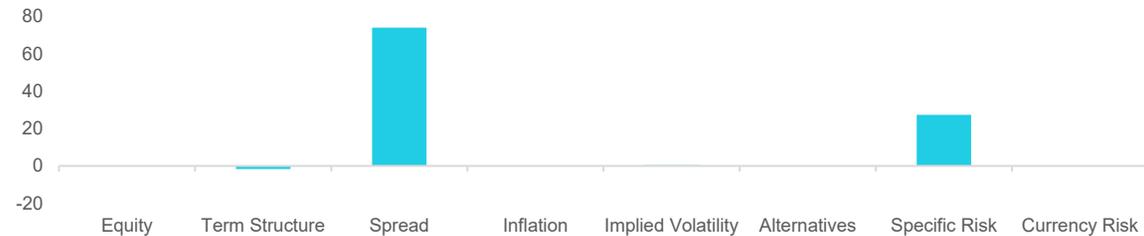
Top 10 Countries by Weight



Allocation by Moody's Rating



Active Risk from Common Factors



Portfolio Allocation by Bond Sector



Credit – Liquid Credit Pinebridge

for the quarter ended June 30, 2023

Strategy

Active manager of a broadly diversified portfolio primarily of U.S. dollar denominated high yield securities.

Inception Date: August 2021

Portfolio Characteristics

	Portfolio	Benchmark
No. of Issues	299.0	0.0
Effective Duration	6.3	6.2
Convexity	0.6	0.7
Coupon Rate	3.6	2.9
Yield to Maturity	4.7	4.6
Current Yield	3.8	3.2
Rating – Moody's	AA-2	AA-2
Rating – S & P	AA-	AA-

Top Holdings (% of assets)

CARNIVAL CORP	1.2%
AMERICAN AIRLINES INC	1.2%
OCCIDENTAL PETROLEUM COR	1.0%
ALTICE FINANCING SA	0.9%
CCO HLDGS LLC/CAP CORP	0.9%

Top 5 Holdings

5.2%

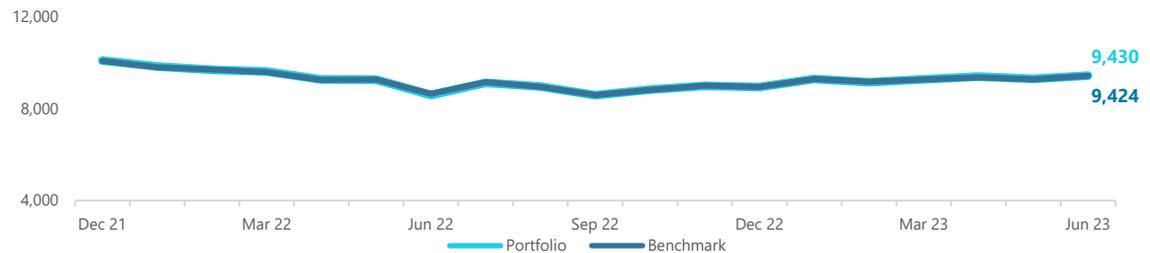
Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Pinebridge Investments	449.6	1.8%	9.9%	--	--
BBG BARC US Corp HY Idx		1.7%	9.1%	--	--
Credit Policy Benchmark		1.8%	6.0%	2.4%	--

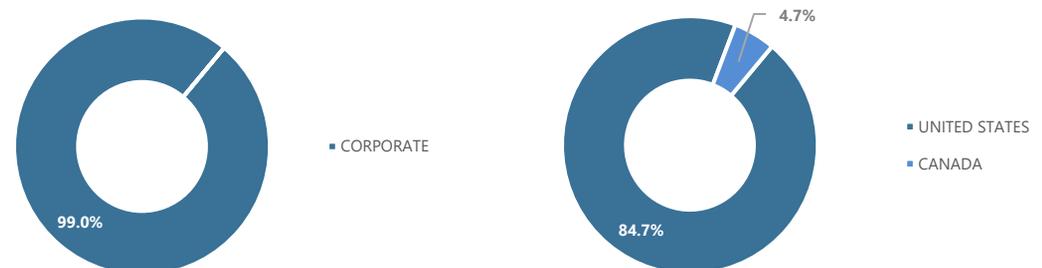
Universe data: US Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Pinebridge Investments	1.8%	20	10.2%	13	--	--	--	--
Median	-0.1%		1.2%		--	--	--	--

No. of Observations 726

Growth of \$10,000



Top Exposures (% of assets)



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

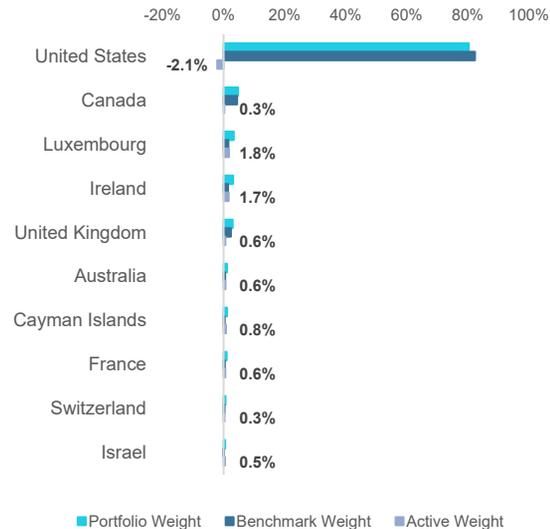
Credit Risk Analysis – Liquid Credit Pinebridge

for the quarter ended June 30, 2023

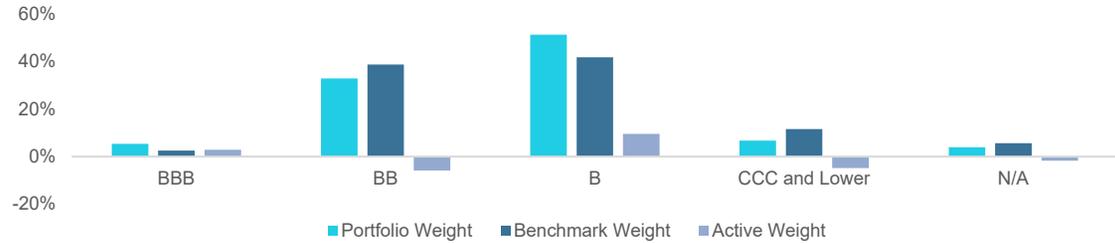
Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
6.7%	6.6%
PORTFOLIO Active Risk	PORTFOLIO Beta
0.55 bps	1.00
Effective Duration 3.7	Yield to Worst 8.3%

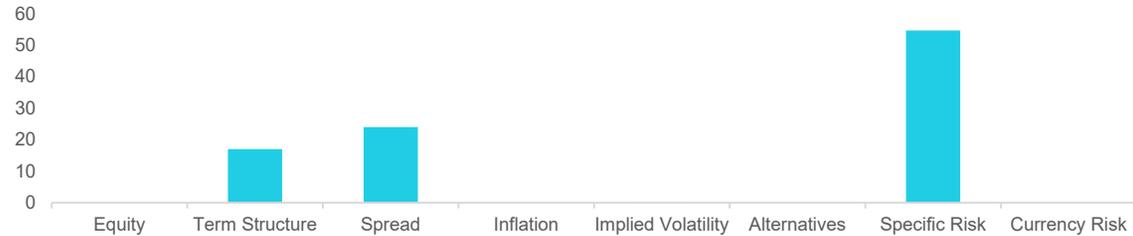
Top 10 Countries by Weight



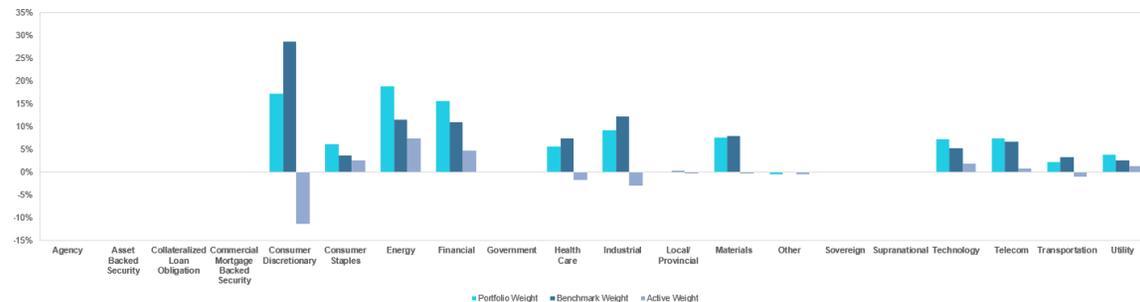
Allocation by Moody's Rating



Active Risk from Common Factors



Portfolio Allocation by Bond Sector



real assets & inflation hedges

Summary

for the quarter ended June 30, 2023

Performance (net)



	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
Real Assets & Inflation Hedges	-1.2%	-1.6%	0.1%	9.6%	--	--	5.9%
Benchmark	-2.1%	-2.7%	-0.6%	8.9%	--	--	6.3%
Excess	0.9%	1.0%	0.7%	0.7%	--	--	-0.4%

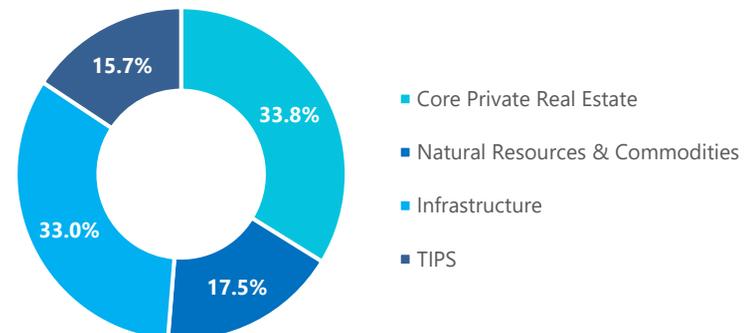
Cumulative Return



Functional Category

	QTD	FYTD	1 Year	3 Year
Core Private Real Estate	-3.6%	-1.7%	-1.7%	8.0%
Core Private RE Policy Benchmark	-3.4%	-3.9%	-3.9%	7.7%
Excess	-0.2%	2.2%	2.2%	0.3%
Natural Resources & Commodities	0.2%	1.1%	1.1%	21.2%
Nat Res & Comm Policy Benchmark	-3.4%	1.8%	1.8%	18.8%
Excess	3.6%	-0.6%	-0.6%	2.4%
Infrastructure	0.7%	1.6%	1.6%	9.0%
DJ Brookfield Global Infra Comp	-0.4%	0.8%	0.8%	7.4%
Excess	1.1%	0.8%	0.8%	1.5%
TIPS	-1.4%	-1.8%	-1.8%	-0.2%
Bloomberg U.S. Treasury: U.S. TIPS	-1.4%	-1.4%	-1.4%	-0.1%
Excess	0.0%	-0.4%	-0.4%	-0.1%

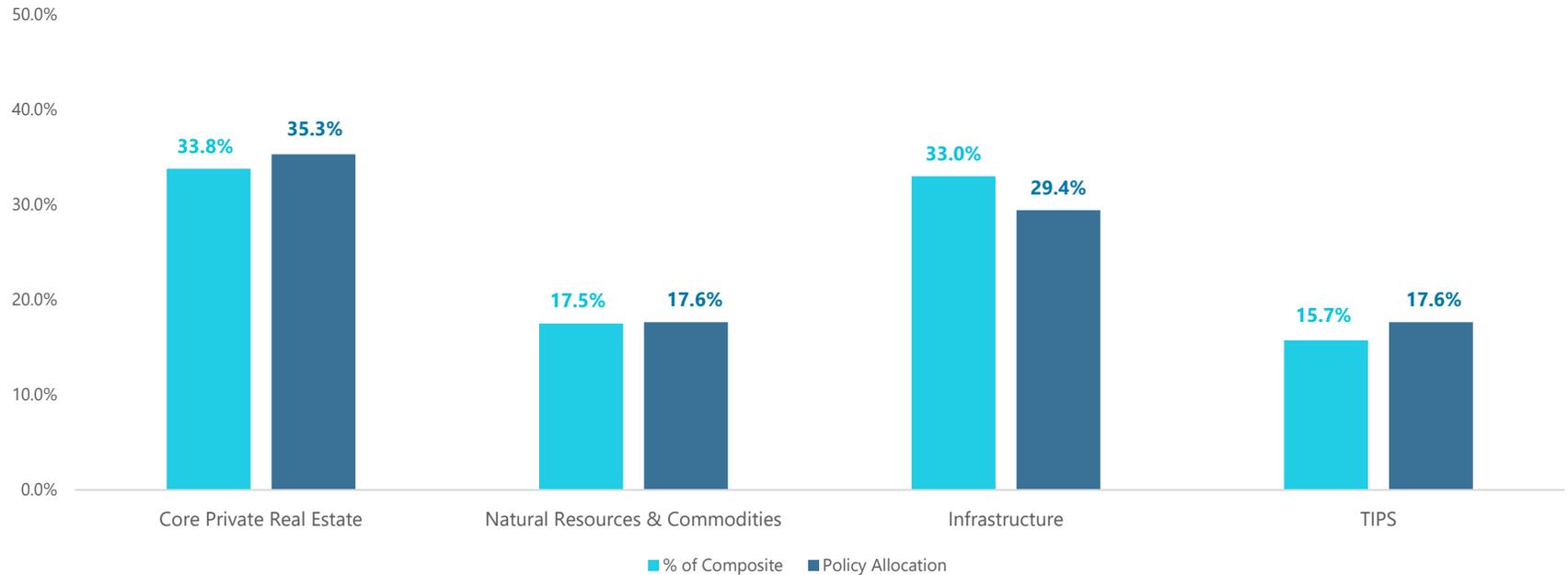
Exposure



Asset Allocation

for the quarter ended June 30, 2023

Actual vs. Policy

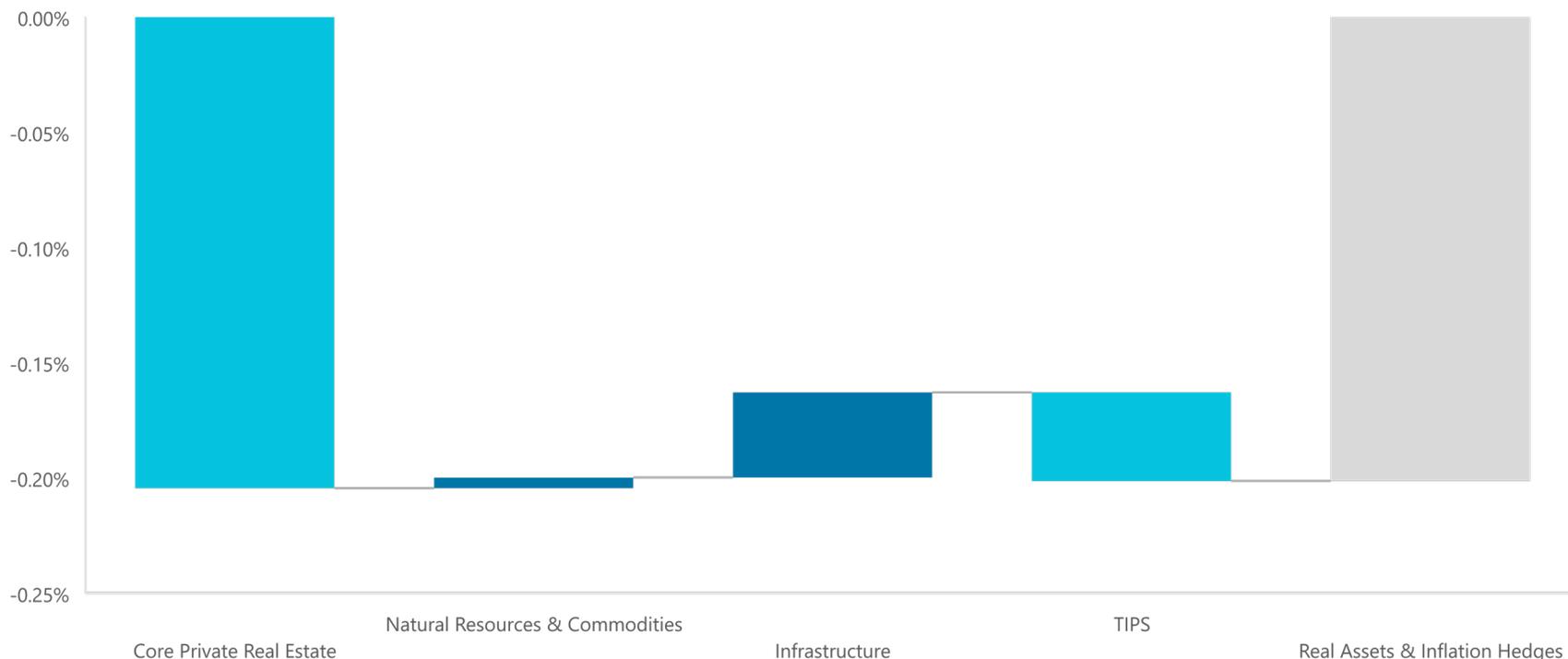


	Ending Market Value (mm)	% of Composite	Policy Allocation	Over / Under (%)	Over / Under (mm)
Real Assets & Inflation Hedges	12,050	100.0%	100.0%		
Core Private Real Estate	4,071	33.8%	35.3%	-1.5%	-182
Natural Resources & Commodities	2,110	17.5%	17.6%	-0.1%	-17
Infrastructure	3,974	33.0%	29.4%	3.6%	430
TIPS	1,896	15.7%	17.6%	-1.9%	-231

Contribution to Return

for the quarter ended June 30, 2023

QTD Contribution to Return



Functional Category	Contributors	Detractors
Core Private Real Estate	Orion Mine Finance Fund III	Real Estate - Real Assets
Natural Resources & Commodities	TIAA-CREF Global Agriculture I	BlackRock TIPS
Infrastructure	HiTecVision New Energy	DWS Natural Resources
TIPS	KKR DCIF	Credit Suisse Commodity
Real Assets & Inflation Hedges	Axiom Infrastructure	Grain Spectrum Holdings III

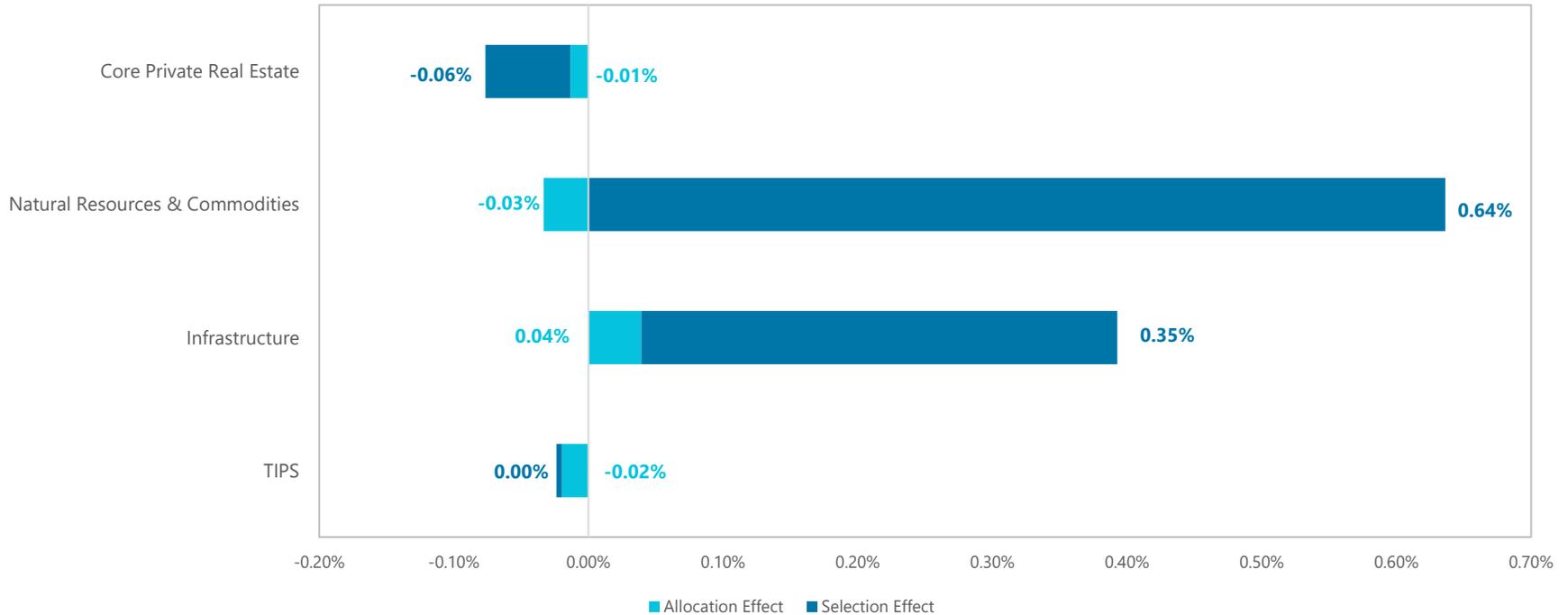
Return Attribution

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

QTD Performance Attribution¹



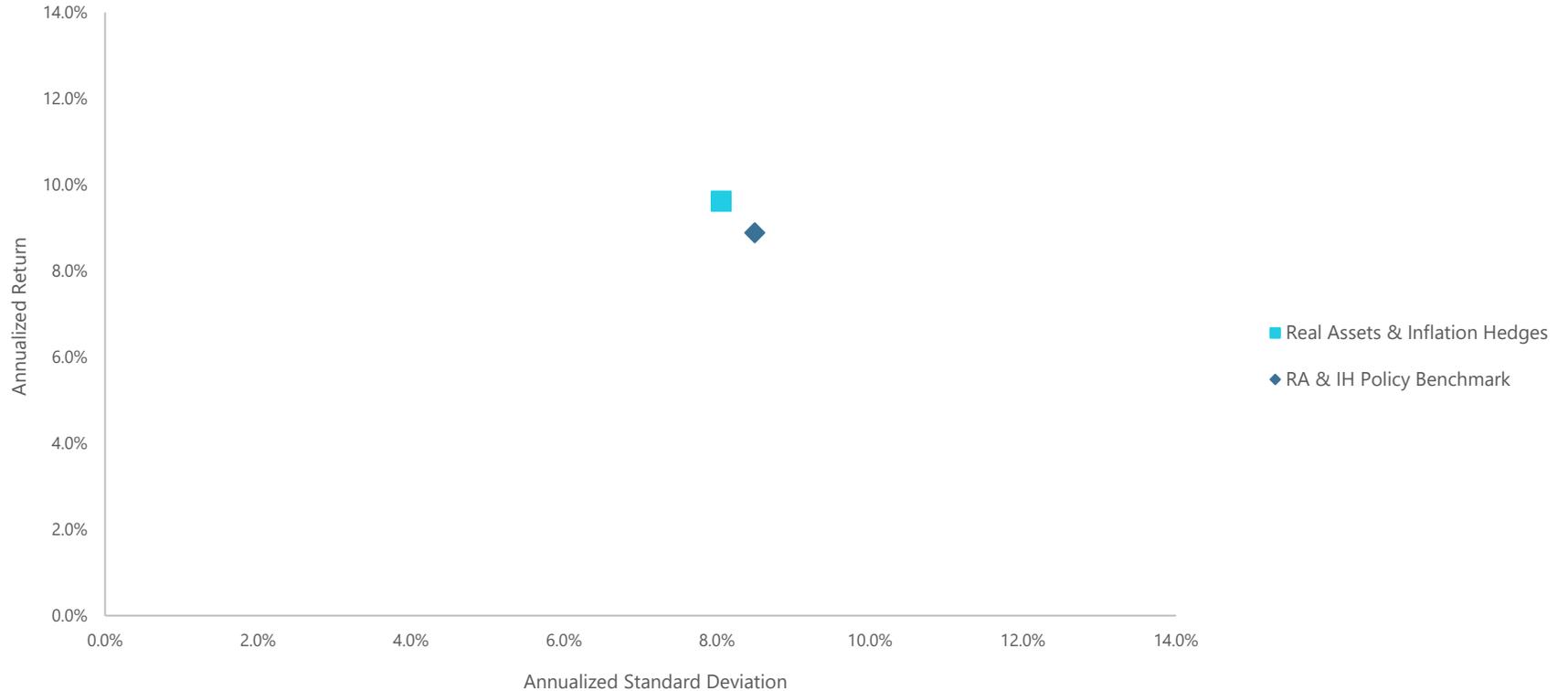
	Ending Market Value (mm)	% of Composite	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
Real Assets & Inflation Hedges	12,050	100.0%	100.0%	-1.2%	-2.1%	-0.03%	0.92%	0.90%
Core Private Real Estate	4,071	33.8%	35.3%	-3.6%	-3.4%	-0.01%	-0.06%	-0.08%
Natural Resources & Commodities	2,110	17.5%	17.6%	0.2%	-3.4%	-0.03%	0.64%	0.60%
Infrastructure	3,974	33.0%	29.4%	0.7%	-0.4%	0.04%	0.35%	0.39%
TIPS	1,896	15.7%	17.6%	-1.4%	-1.4%	-0.02%	0.00%	-0.02%

¹ Total Value Add column includes Interaction Effect.

Risk vs. Return

for the quarter ended June 30, 2023

3 Year (Annualized)



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
Real Assets & Inflation Hedges	9.6%	8.1%				
RA & IH Policy Benchmark	8.9%	8.5%	1.04	0.31	0.91	2.6%

Performance Detail

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Annualized Net Returns¹

	% of Composite	Ending Market Value (mm)	Prior Quarter Ending MV (mm)	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
Real Assets & Inflation Hedges	100.0%	12,050	12,202	-1.2%	-1.6%	0.1%	9.6%	--	--	5.9%	Apr-2019
RA & IH Policy Benchmark				-2.1%	-2.7%	-0.6%	8.9%	--	--	6.3%	
Core Private Real Estate	33.8%	4,071	4,124	-3.6%	-8.0%	-1.7%	8.0%	6.4%	7.9%	7.0%	Oct-1985
Core Private RE Policy Benchmark				-3.4%	-8.4%	-3.9%	7.7%	6.9%	8.9%	6.9%	
Natural Resources & Commodities	17.5%	2,110	2,197	0.2%	0.3%	1.1%	21.2%	6.2%	0.4%	-0.8%	Jul-2007
Nat Res & Comm Policy Benchmark				-3.4%	-4.9%	1.8%	18.8%	5.8%	-0.5%	-2.0%	
Appian Fund III	0.0%	4	0	--	--	--	--	--	--	0.5%	Jun-2023
Cibus Enterprise II	0.0%	5	4	-0.1%	3.2%	-8.7%	--	--	--	-8.2%	Jun-2022
Cibus Fund II	0.2%	29	18	-2.5%	-4.2%	-15.8%	--	--	--	-14.9%	Jun-2022
Co-Investments - Natural Resources	0.2%	24	15	0.0%	-0.1%	--	--	--	--	0.0%	Oct-2022
Credit Suisse Commodity	2.4%	286	295	-2.9%	-8.4%	-10.2%	18.2%	5.3%	-0.5%	-2.6%	Mar-2011
DWS Natural Resources	4.0%	478	632	-3.9%	-6.1%	2.7%	19.0%	--	--	9.9%	Jun-2019
HiTecVision New Energy	0.8%	95	86	7.1%	21.7%	--	--	--	--	32.0%	Sep-2022
Neuberger Berman/Gresham	2.8%	338	344	-1.8%	-7.7%	-11.0%	18.3%	4.4%	-0.4%	-1.1%	Jul-2007
Orion Mine Finance Fund III	1.1%	133	126	14.7%	14.7%	13.3%	--	--	--	13.1%	Sep-2021
Orion Mining Royalty Fund I	0.2%	23	24	-2.7%	-2.7%	-14.8%	--	--	--	-2.4%	Sep-2021
Private Equity - Real Assets	0.7%	82	83	-0.4%	1.6%	1.4%	7.0%	--	--	-7.4%	Jan-2019
Sprott	0.4%	45	19	-1.7%	--	--	--	--	--	-1.7%	Mar-2023
TIAA-CREF Global Agriculture I	2.4%	295	279	6.4%	16.0%	11.7%	--	--	--	19.4%	Dec-2021
TIAA-CREF Global Agriculture II	2.3%	272	272	1.1%	9.7%	7.2%	--	--	--	13.2%	Dec-2021
Infrastructure	33.0%	3,974	3,958	0.7%	2.6%	1.6%	9.0%	--	--	7.0%	Jun-2019
DJ Brookfield Global Infra Comp				-0.4%	2.7%	0.8%	7.4%	--	--	3.7%	
Antin Mid Cap	0.4%	50	40	0.4%	5.5%	10.9%	--	--	--	-3.6%	Dec-2021
Axiom Infrastructure	2.2%	263	259	2.0%	3.9%	7.4%	--	--	--	4.0%	Dec-2021
Axiom Infrastructure Canada	1.2%	150	146	3.5%	4.6%	6.0%	--	--	--	-100.0%	Nov-2021
Co-Investments - Infrastructure	0.3%	35	26	1.0%	--	--	--	--	--	1.0%	Mar-2023
DIF CIF III	0.4%	44	34	4.0%	-3.5%	1.5%	--	--	--	0.6%	Jun-2022
DIF Infrastructure VI	1.0%	119	100	2.3%	-0.2%	11.4%	--	--	--	17.6%	Mar-2021
DWS Infrastructure	21.0%	2,525	2,593	0.2%	1.4%	-0.3%	8.2%	--	--	6.5%	Jun-2019
Grain Communications Opportunity III	0.4%	44	38	2.2%	4.4%	1.9%	--	--	--	-100.0%	Feb-2021
Grain Spectrum Holdings III	0.6%	66	70	-5.6%	38.5%	38.1%	--	--	--	12.1%	Nov-2020
KKR DCIF	4.2%	509	506	1.1%	2.6%	4.5%	--	--	--	3.6%	Apr-2022
Pan-European Infrastructure Fund III	0.6%	76	68	2.5%	6.6%	11.9%	--	--	--	5.0%	Nov-2020
Partners Grp Direct Infra 2020	0.8%	92	76	4.4%	10.3%	13.3%	--	--	--	10.8%	Jan-2022
TIPS											
Blackrock TIPS	15.7%	1,896	1,924	-1.4%	1.9%	-1.8%	-0.2%	--	--	2.4%	May-2019
Bloomberg U.S. Treasury: U.S. TIPS				-1.4%	1.9%	-1.4%	-0.1%	--	--	2.4%	

¹ Private natural resources and infrastructure funds reflect early-stage life cycle performance.

Real Assets & Inflation Hedges Risk Summary

for the quarter ended June 30, 2023

Realized (Ex-Post) Risks

\$12.0B	REAL ASSETS 1Y Realized Return
	0.1%
PORTFOLIO Beta	PARAMETRIC VaR
1.01	23.2%

Real Assets & Inflation Hedges

Value at Risk VARIABLES

95% Confidence Interval
1Y Time Horizon

With **95% confidence** (2σ),
LACERA would not lose more than
\$2.8B in **1Y**.



Projected (Ex-Ante) Risks

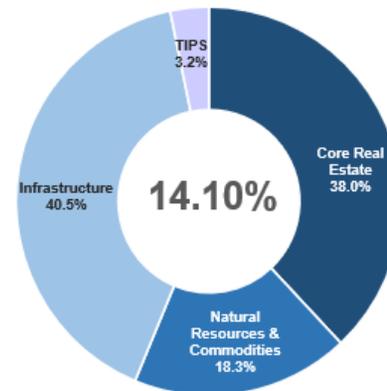
Real Assets Forecast Risk
14.10%

Benchmark Risk
13.60%

Real Assets Active Risk
3.47 bps

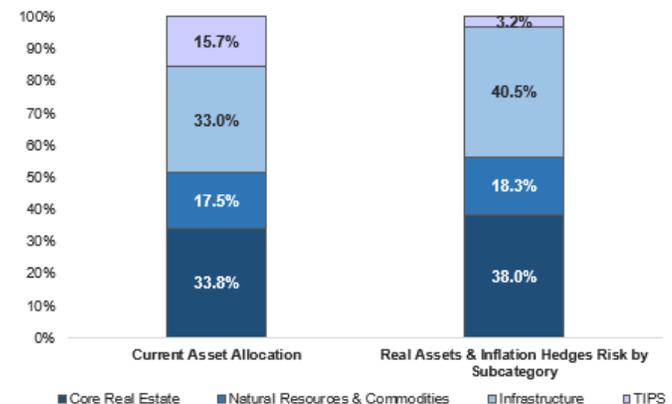
- Core Private Real Estate: 4.30 bps
- Natural Resources & Commodities: 4.86 bps
- Infrastructure: 7.82 bps
- TIPS: 0.10 bps

Subcategory Contributions to Real Assets and Inflation Hedges Risk



Real Assets and Inflation Hedges Asset Allocation

Capital-based versus Risk-based



Real Assets & Inflation Hedges Risk Summary

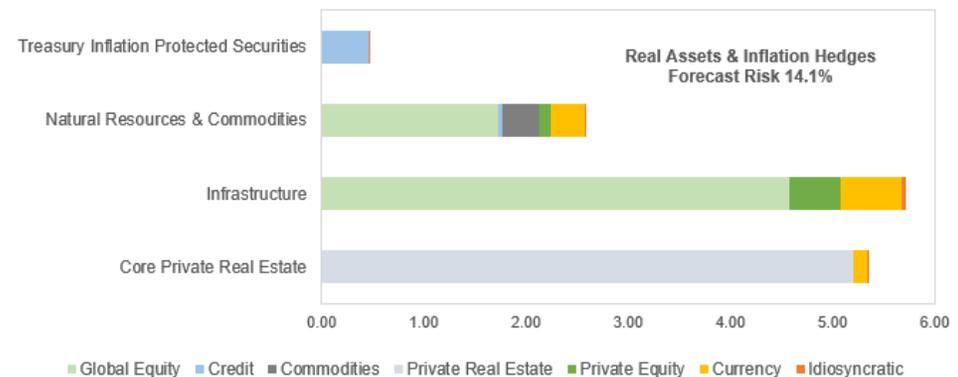
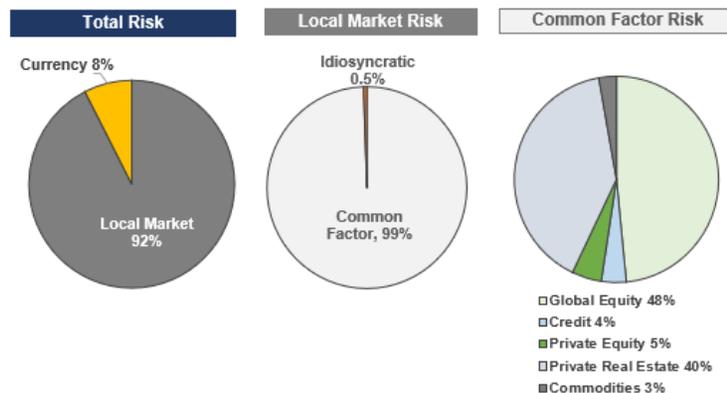
for the quarter ended June 30, 2023

Decomposition of MSCI Risk Factors



Real Assets & Inflation Hedges Risk Decomposition

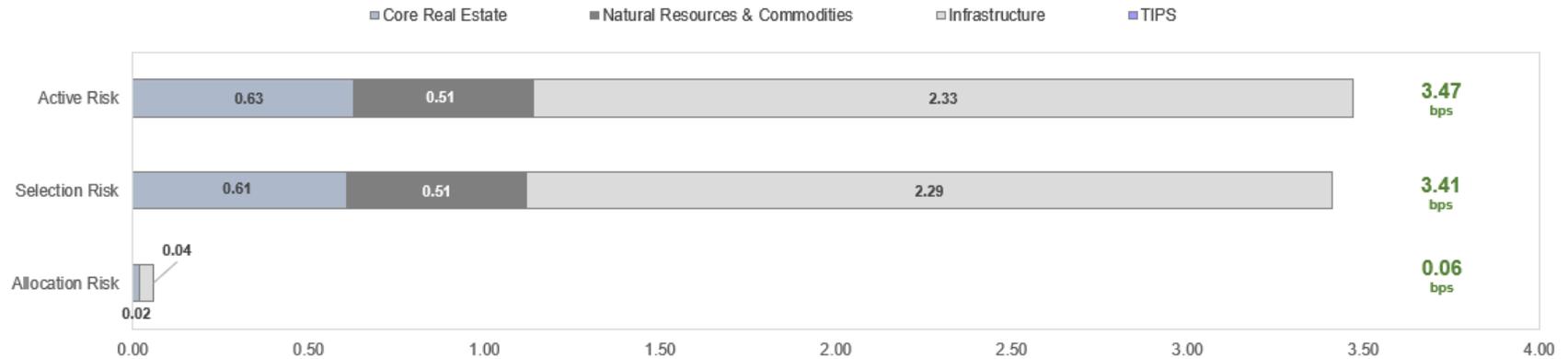
Subcategory Contributions by Risk Factor



Real Assets & Inflation Hedges Risk Summary

for the quarter ended June 30, 2023

Subcategory Contributions to Active Risk



Portfolio Allocation by Region^{1,2}



² Rest of World is sum of countries with weights below 0.5%.

Real Assets & Inflation Hedges

Natural Resources & Commodities

Credit Suisse

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Strategy

Seeks to provide a hedge against inflation and exposure to commodities markets such as energy, agriculture and timber, and metals and mining.

Inception Date: June 2011

Risk Statistics (since inception)

Standard Deviation	15.6%
Benchmark Standard Deviation	15.9%
Sharpe Ratio	0.27
Information Ratio	0.52
Beta	0.98
Tracking Error	1.0%

Top Holdings (% of assets)

US TREASURY FRN	17.6%
GOLD 100 OZ FUTR DEC23	16.7%
US TREASURY FRN	14.4%
US TREASURY FRN	11.3%
WTI CRUDE FUTURE SEP23	7.9%
Top 5 Holdings	67.9%

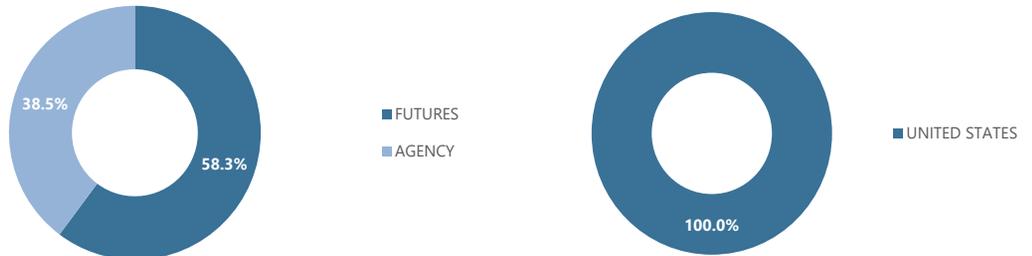
Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year			
Credit Suisse Commodity	286.2	-2.9%	-10.2%	18.2%	5.3%			
Bloomberg Commodity Index Total Return		-2.6%	-9.6%	17.8%	4.7%			
RA & IH Policy Benchmark		-2.1%	-0.6%	8.9%	--			
Universe data: Commodity Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Credit Suisse Commodity	-2.9%	87	-10.0%	84	18.5%	37	5.6%	69
Median	0.0%		3.6%		16.4%		10.5%	
No. of Observations	18							

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Real Assets & Inflation Hedges Risk Analysis

Natural Resources & Commodities

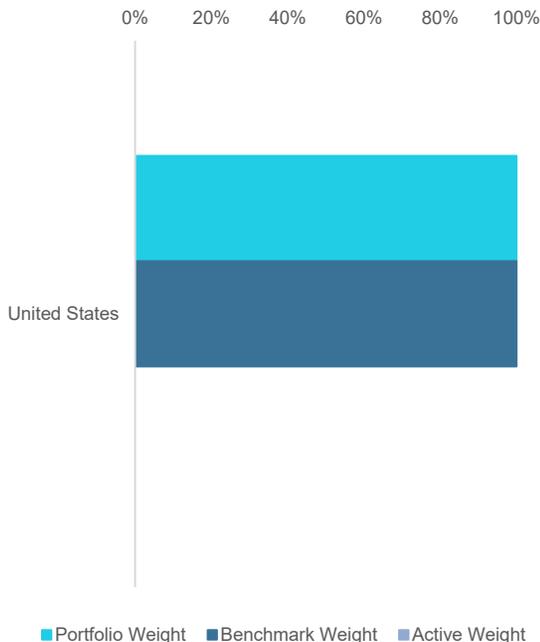
Credit Suisse

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk <hr/> 13.8%	BENCHMARK Risk <hr/> 18.6%
PORTFOLIO Active Risk <hr/> 6.57 bps	PORTFOLIO Beta <hr/> 0.71

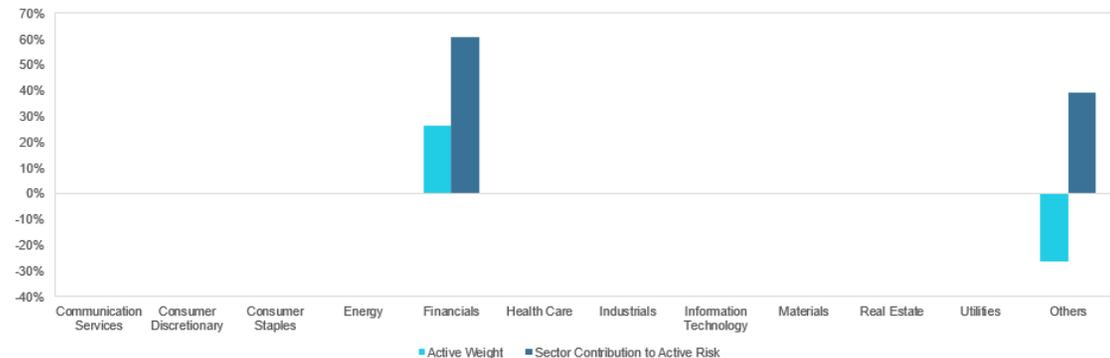
Top Country by Weight



Top 10 Assets by Contribution to Portfolio Active Risk

Asset	Portfolio Weight	Benchmark Weight	Active Weight	Contribution to Portfolio Active Risk (bps)
NYMEX CRUDE OIL AUG23	0.00%	0.00%	0.00%	4.69
PROXY ISSUER 0.365% JAN24	17.50%	0.00%	17.50%	2.63
PROXY ISSUER 1.666% APR24	14.34%	0.00%	14.34%	2.16
PROXY ISSUER 4.993% JUL24	11.20%	0.00%	11.20%	1.68
ICE BRENT CRUDE SEP23	0.00%	0.00%	0.00%	1.60
NYMEX NATURAL GAS AUG23	0.00%	0.00%	0.00%	1.31
FEDERAL FARM CREDIT BANKS FUNDING CORP 0.075% SEP23	7.11%	0.00%	7.11%	1.07
PROXY ISSUER 9.428% JAN25	7.01%	0.00%	7.01%	1.05
ICE GAS OIL AUG23	0.00%	0.00%	0.00%	0.98
PROXY ISSUER 8.028% OCT24	5.95%	0.00%	5.95%	0.89

Portfolio Allocation by GICS Sector



Real Assets & Inflation Hedges

Natural Resources & Commodities

DWS

for the quarter ended June 30, 2023

Strategy

Seeks to provide capital appreciation and a hedge to inflation. A diversified approach within infrastructure to gain exposure to infrastructure related to telecommunication, transportation, utilities, waste and energy.

Inception Date: June 2019

Risk Statistics (since inception)

Standard Deviation	24.4%
Benchmark Standard Deviation	24.4%
Sharpe Ratio	0.45
Information Ratio	-0.21
Beta	0.98
Tracking Error	4.3%

Top Holdings (% of assets)

CHEVRON CORP	7.9%
AGNICO EAGLE MINES LTD	6.3%
ARCHER DANIELS MIDLAND CO	5.4%
NUTRIEN LTD	5.3%
CORTEVA INC	4.9%
Top 5 Holdings	29.9%

Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
DWS Natural Resources	478.4	-3.9%	2.7%	19.0%	--
DWS NR Custom Benchmark		-3.9%	7.6%	18.2%	--
RA & IH Policy Benchmark		-1.8%	-0.4%	9.0%	--

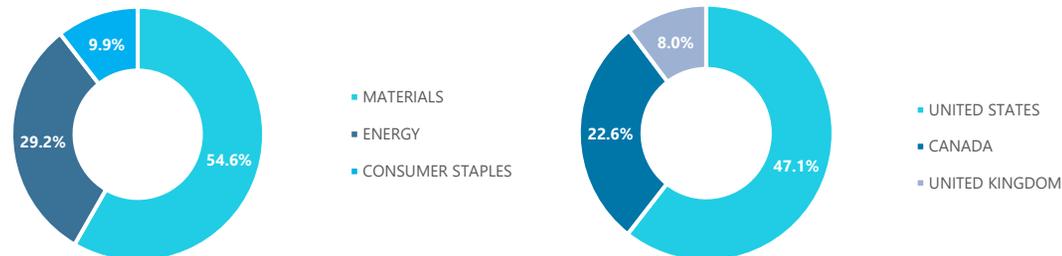
Universe data: Commodity Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
DWS Natural Resources	-3.8%	100	2.9%	52	19.2%	35	--	--
Median	0.0%		3.6%		16.4%		10.5%	

No. of Observations: 18

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Real Assets & Inflation Hedges Risk Analysis

Natural Resources & Commodities

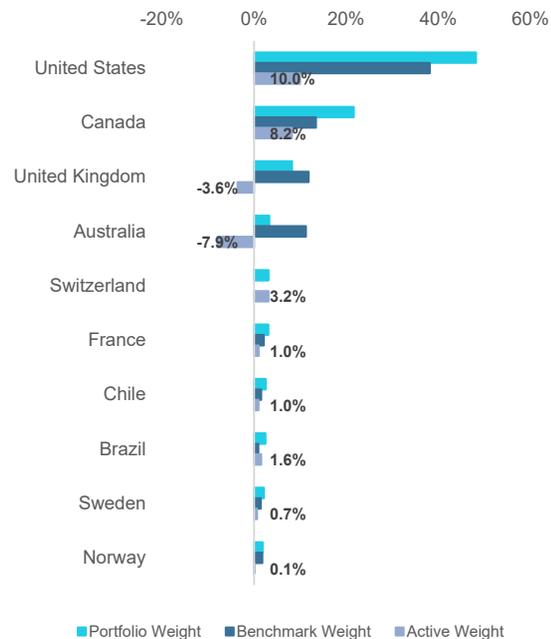
DWS

for the quarter ended June 30, 2023

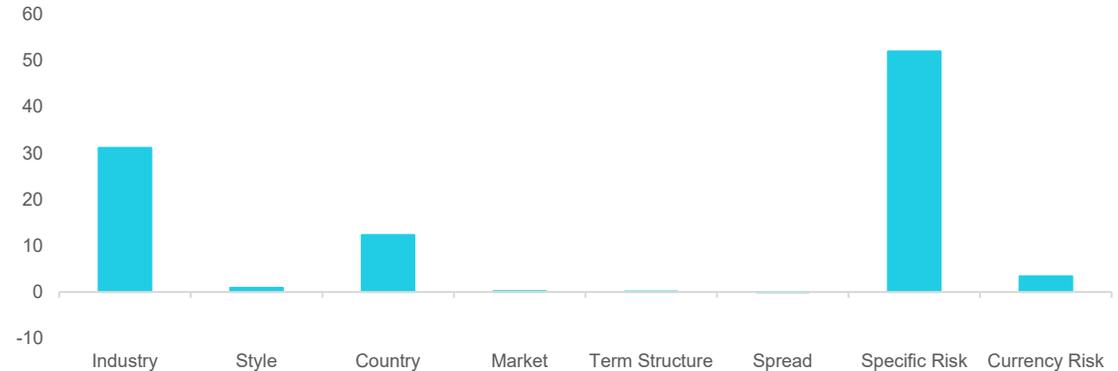
Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
22.8%	23.4%
PORTFOLIO Active Risk	PORTFOLIO Beta
4.18 bps	0.96

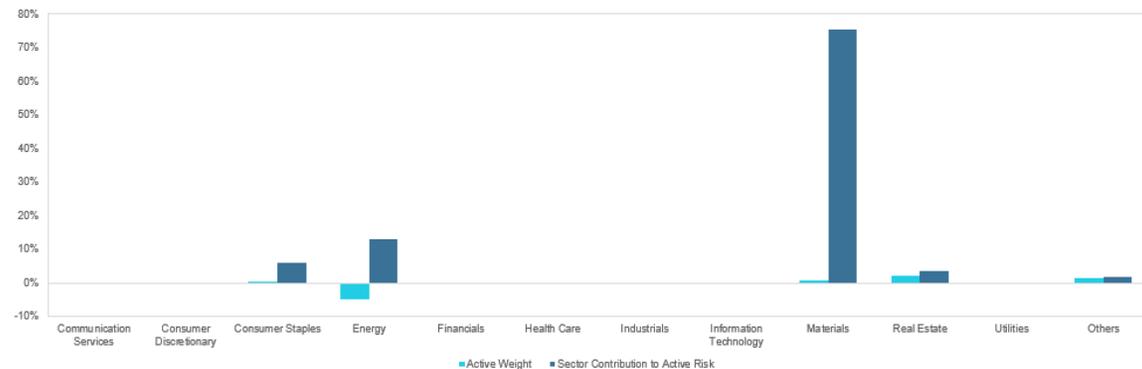
Top 10 Countries by Weight



Portfolio Active Risk from Common Factors



Portfolio Allocation by GICS Sector



Real Assets & Inflation Hedges

Natural Resources & Commodities

Neuberger Berman / Gresham

for the quarter ended June 30, 2023

Strategy

Seeks to provide a hedge against inflation and exposure to commodities markets such as energy, agriculture and timber, and metals and mining. The collateral portfolio provides income with conservative fixed income exposure.

Inception Date: July 2007

Risk Statistics (since inception)

Standard Deviation	18.3%
Benchmark Standard Deviation	16.9%
Sharpe Ratio	0.13
Information Ratio	0.48
Beta	1.04
Tracking Error	4.8%

Top Holdings (% of assets)

GOLD 100 OZ FUTR AUG23	13.9%
WTI CRUDE FUTURE SEP23	7.6%
BRENT CRUDE FUTR SEP23	5.9%
SOYBEAN FUTURE NOV23	5.4%
TREASURY BILL	4.4%
Top 5 Holdings	37.2%

Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Neuberger Berman/Gresham	337.9	-1.8%	-11.0%	18.3%	4.4%
Bloomberg Commodity Index Total Return		-2.6%	-9.6%	17.8%	4.7%
RA & IH Policy Benchmark		-2.1%	-0.6%	8.9%	--

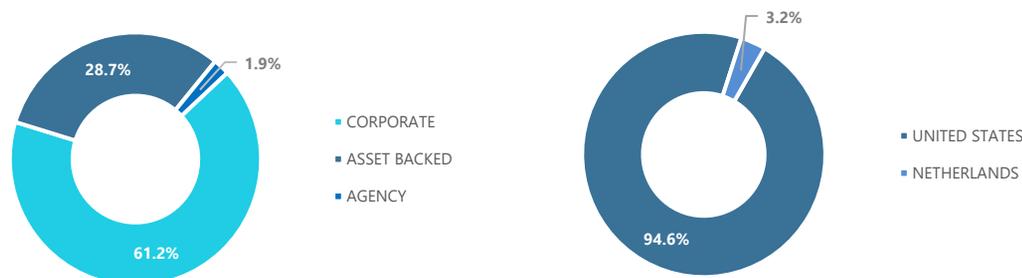
Universe data: Commodity Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Neuberger Berman/Gresham	-1.8%	78	-10.7%	85	18.7%	37	4.7%	80
Median	0.0%		3.6%		16.4%		10.5%	

No. of Observations: 18

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Real Assets & Inflation Hedges Risk Analysis

Natural Resources & Commodities

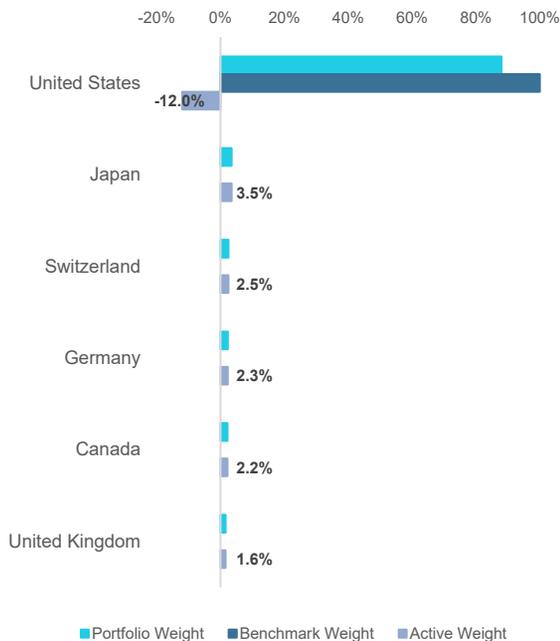
Neuberger Berman / Gresham

for the quarter ended June 30, 2023

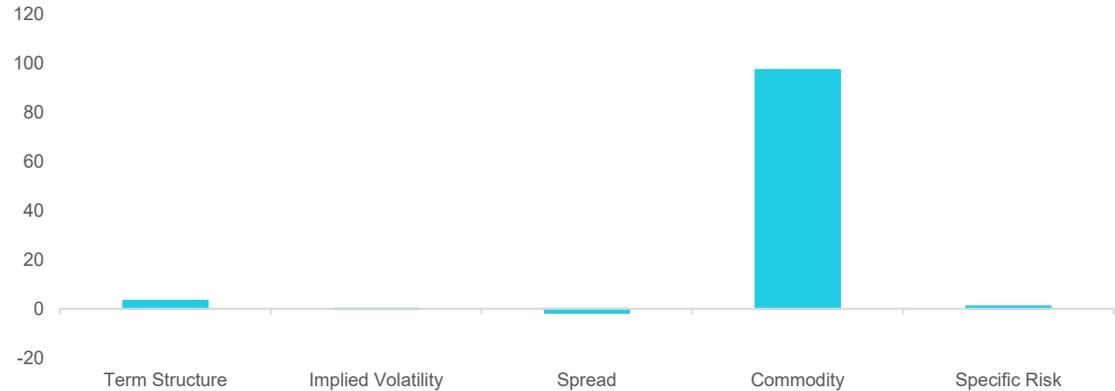
Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
13.5%	16.7%
PORTFOLIO Active Risk	PORTFOLIO Beta
3.66 bps	0.80

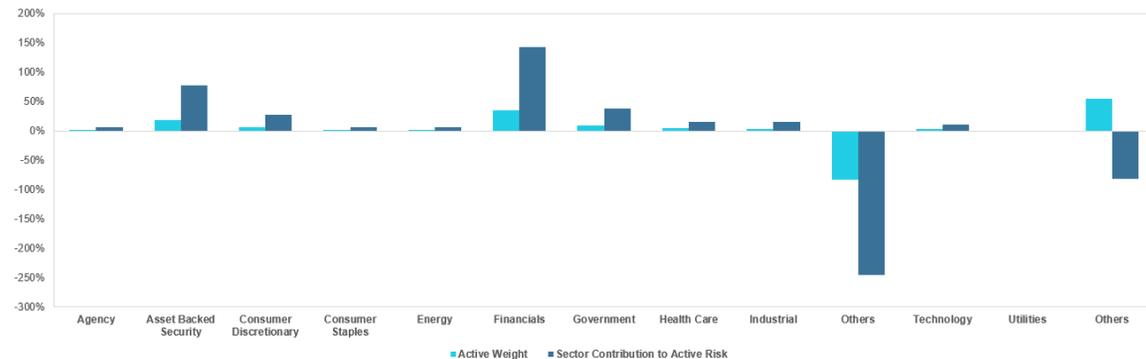
Top Countries by Weight



Portfolio Active Risk from Common Factors



Portfolio Allocation by GICS Sector



Real Assets & Inflation Hedges

Infrastructure

DWS

for the quarter ended June 30, 2023

Strategy

Seeks to provide capital appreciation and income with global infrastructure securities. The strategy takes a diversified approach within infrastructure to gain exposure to infrastructure related to telecommunication, transportation, utilities, waste and energy.

Inception Date: June 2019

Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	39,983.3	37,327.8
No. Of Issues	50.0	0.0
Dividend Yield	3.1	3.5
Return on Equity	12.4	11.2
Price to Sales	3.6	4.0
Price to Book	3.5	3.8
PE Ratio	20.1	19.3

Top Holdings (% of assets)

ENBRIDGE INC	6.6%
AMERICAN TOWER CORP	5.3%
NATIONAL GRID PLC	5.0%
VINCI SA	4.1%
SEMPRA	4.0%

Top 5 Holdings

25.1%

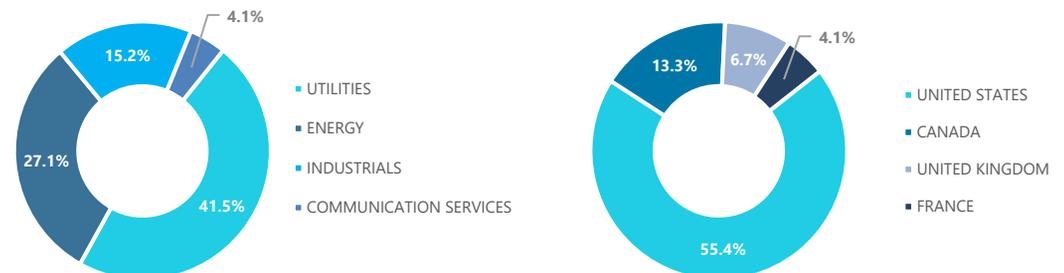
Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
DWS Infrastructure	2,525.2	0.2%	-0.3%	8.2%	--
DJ Brookfield Global Infra Comp		-0.4%	0.8%	7.4%	--
RA & IH Policy Benchmark		-2.1%	-0.6%	8.9%	--

Growth of \$10,000



Top Exposures (% of assets)²



¹ Peer rankings not shown; comparable public market infrastructure universe not available.

² Charts display top exposures and may not add up to 100%.

Real Assets & Inflation Hedges Risk Analysis

Infrastructure

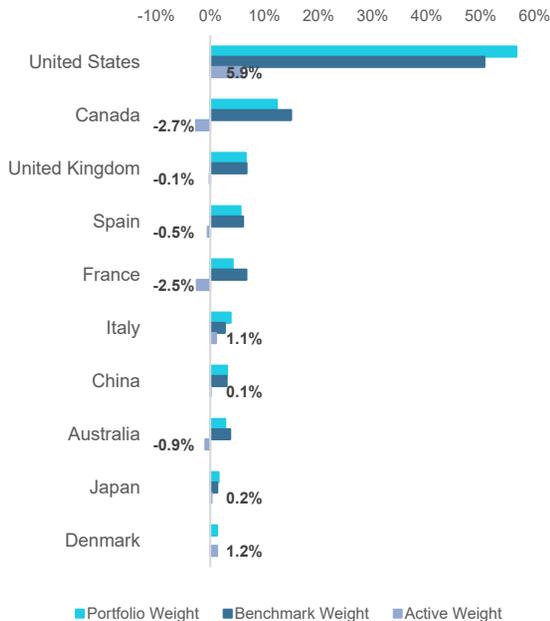
DWS

for the quarter ended June 30, 2023

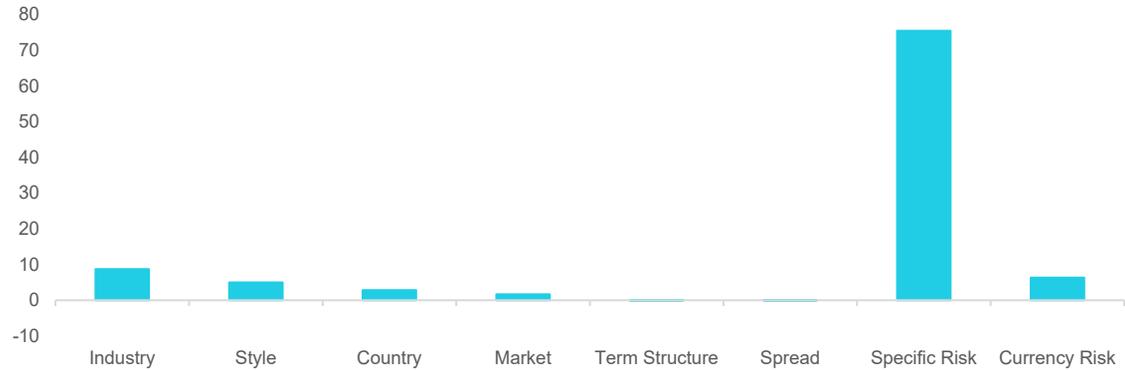
Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
17.2%	17.6%
PORTFOLIO Active Risk	PORTFOLIO Beta
1.74 bps	0.97

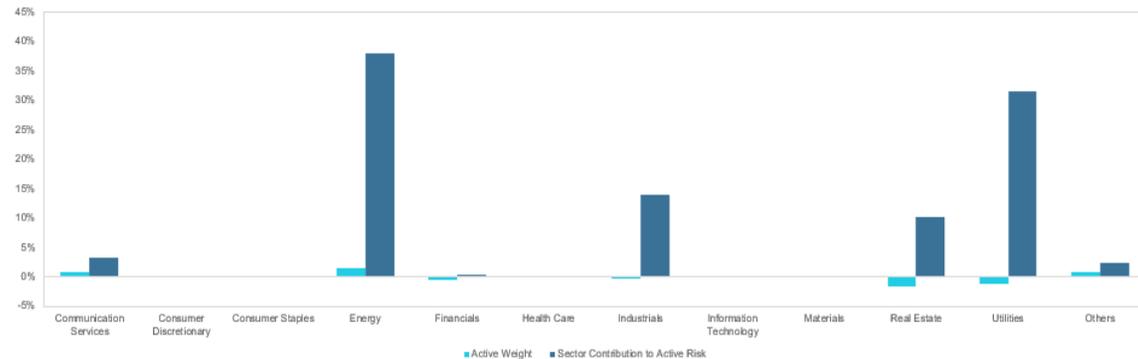
Top 10 Countries by Weight



Portfolio Active Risk from Common Factors



Portfolio Allocation by GICS Sector



Real Assets & Inflation Hedges

TIPS

BlackRock

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Strategy

Seeks to provide income and a hedge against inflation with passive TIPS exposure.

Inception Date: May 2019

Risk Statistics (since inception)

Standard Deviation	6.4%
Benchmark Standard Deviation	6.4%
Sharpe Ratio	0.18
Information Ratio	-0.08
Beta	0.99
Tracking Error	0.8%

Top Holdings (% of assets)

TSY INFL IX N/B	4.3%
TSY INFL IX N/B	3.9%
TSY INFL IX N/B	3.8%
TSY INFL IX N/B	3.6%
TSY INFL IX N/B	3.4%

Top 5 Holdings

19.0%

Performance (net)¹

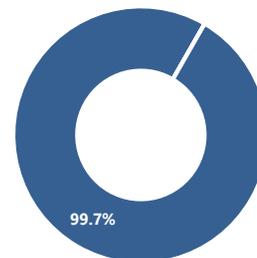
	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
BlackRock TIPS	1,895.9	-1.4%	-1.8%	-0.2%	--
Bloomberg U.S. Treasury: U.S. TIPS		-1.4%	-1.4%	-0.1%	--
Real Assets & Inflation Hedges Policy BM		-2.1%	-0.6%	8.9%	--

Universe data: Inflation Linked Bond Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
BlackRock TIPS	-1.4%	--	-1.8%	--	-0.2%	--	--	--
Median	--	--	--	--	--	--	--	--

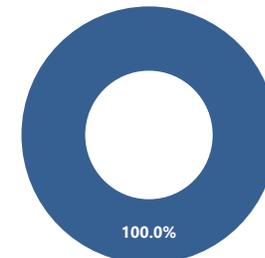
Growth of \$10,000



Top Exposures (% of assets)²



■ US TREASURY



■ UNITED STATES

¹ Universe data for TIPS is not available.

² Charts display top exposures and may not add up to 100%.

Real Assets & Inflation Hedges Risk Analysis

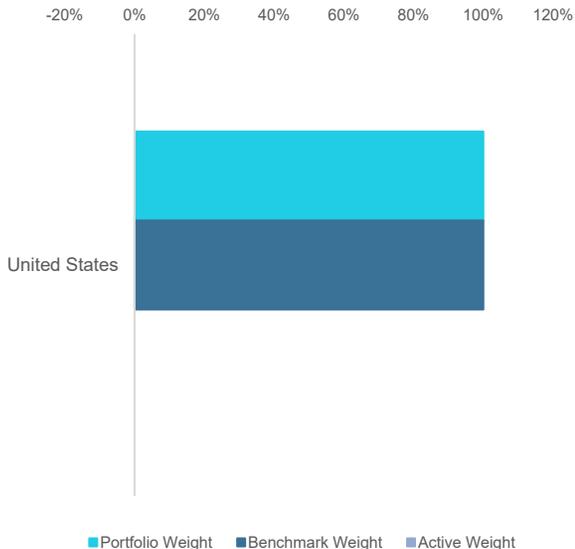
TIPS

for the quarter ended June 30, 2023

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
6.4%	6.5%
PORTFOLIO Active Risk	PORTFOLIO Beta
0.10 bps	0.99
Effective Duration 16.0	Yield to Worst 4.0%

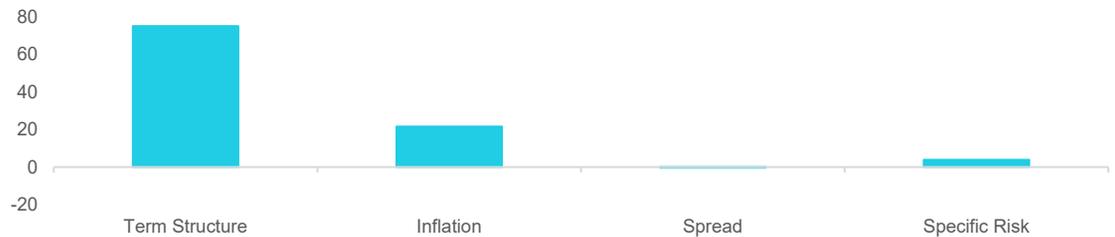
Top Country by Weight



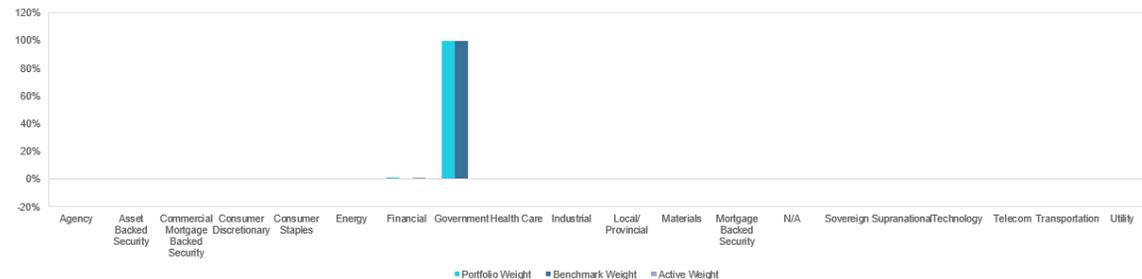
Allocation by Moody's Rating



Active Risk from Common Factors



Portfolio Allocation by Bond Sector

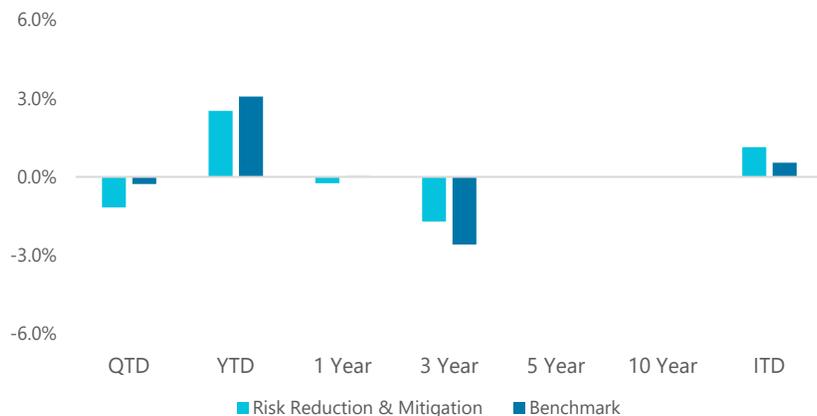


risk reduction & mitigation

Summary

for the quarter ended June 30, 2023

Performance (net)



	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
Risk Reduction & Mitigation	-1.2%	2.5%	-0.2%	-1.7%	--	--	1.1%
Benchmark	-0.3%	3.1%	0.0%	-2.6%	--	--	0.5%
Excess	-0.9%	-0.5%	-0.3%	0.9%	--	--	0.6%

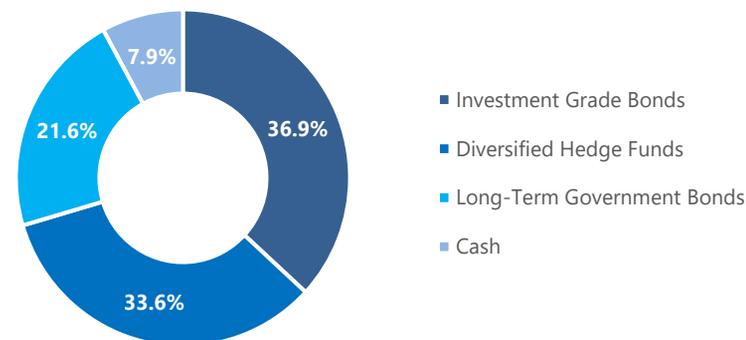
Cumulative Return



Functional Category

	QTD	FYTD	1 Year	3 Year
Investment Grade Bonds	-0.7%	-0.7%	-0.7%	-3.7%
BBG BC Aggregate Bond Index	-0.8%	-0.9%	-0.9%	-4.0%
Excess	0.1%	0.2%	0.2%	0.2%
Diversified Hedge Funds	-1.4%	4.6%	4.6%	8.3%
Diversified Hedge Funds Policy Benchmark	1.9%	6.0%	6.0%	3.7%
Excess	-3.2%	-1.3%	-1.3%	4.5%
Long-Term Government Bonds	-2.3%	-7.5%	-7.5%	--
Bloomberg U.S. Treasury: Long	-2.3%	-6.8%	-6.8%	--
Excess	0.0%	-0.6%	-0.6%	--
Cash	1.7%	5.5%	5.5%	2.5%
Cash Policy Benchmark	1.3%	3.7%	3.7%	1.3%
Excess	0.4%	1.7%	1.7%	1.2%

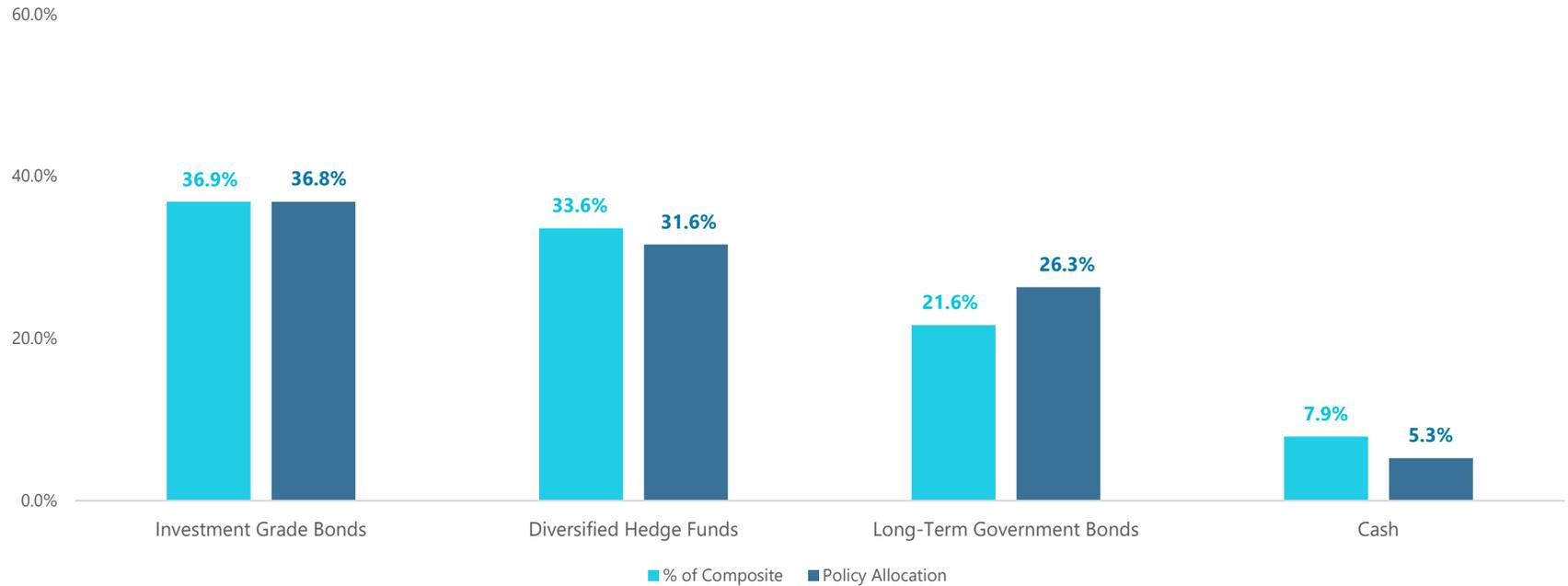
Exposure



Asset Allocation

for the quarter ended June 30, 2023

Actual vs. Policy

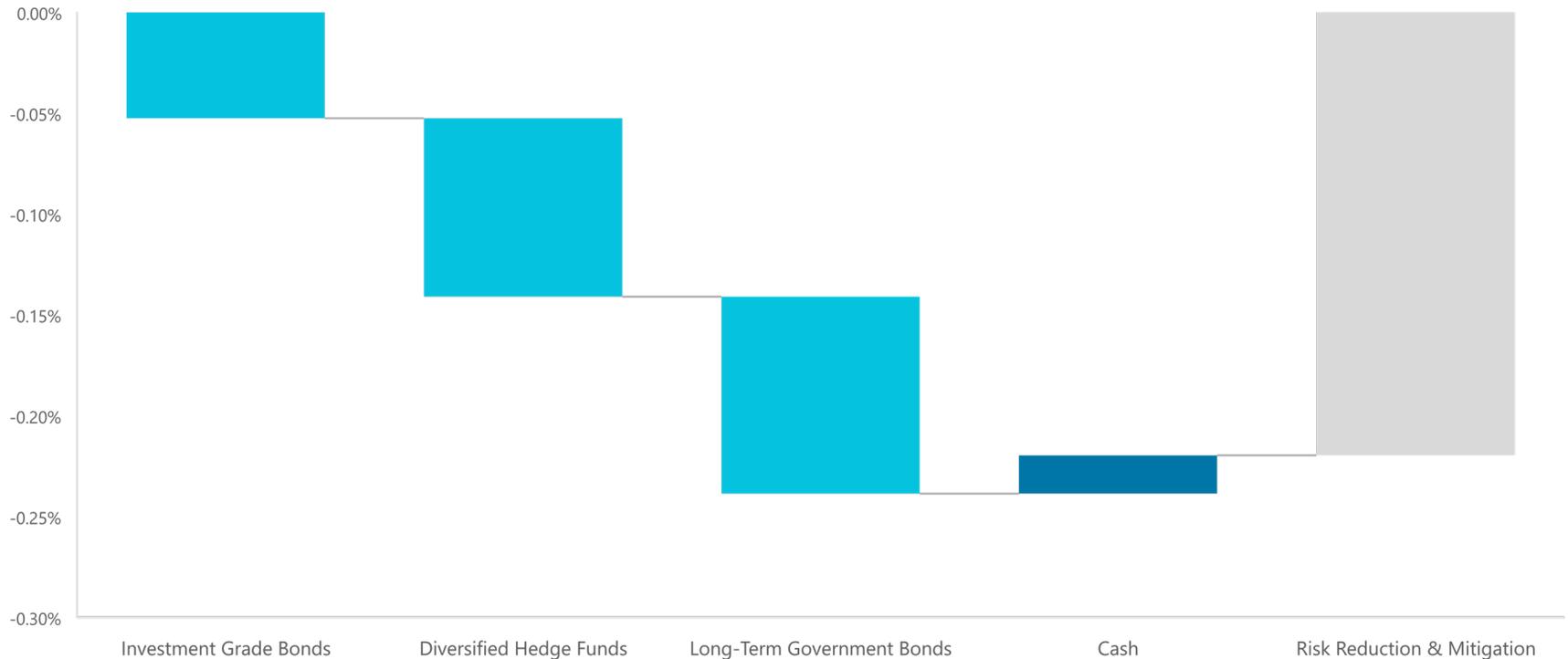


	Ending Market Value (mm)	% of Composite	Policy Allocation	Over / Under (%)	Over / Under (mm)
Risk Reduction & Mitigation	13,682	100.0%	100.0%		
Investment Grade Bonds	5,044	36.9%	36.8%	-0.7%	-99
Diversified Hedge Funds	4,594	33.6%	31.6%	1.3%	179
Long-Term Government Bonds	2,962	21.6%	26.3%	-5.1%	-700
Cash	1,083	7.9%	5.3%	2.5%	341

Contribution to Return

for the quarter ended June 30, 2023

QTD Contribution to Return



Functional Category	Contributors	Detractors
Investment Grade Bonds	-0.05%	Cash 0.02%
Diversified Hedge Funds	-0.09%	BlackRock Long Treasury Bonds -0.10%
Long-Term Government Bonds	-0.10%	Capula GRV 0.02%
Cash	0.02%	Brevan Howard Master Fund -0.06%
Risk Reduction & Mitigation	-0.22%	BTC US Debt Index Fund -0.03%
		Caxton Global Investments -0.03%
		AM Asia Strategies -0.02%

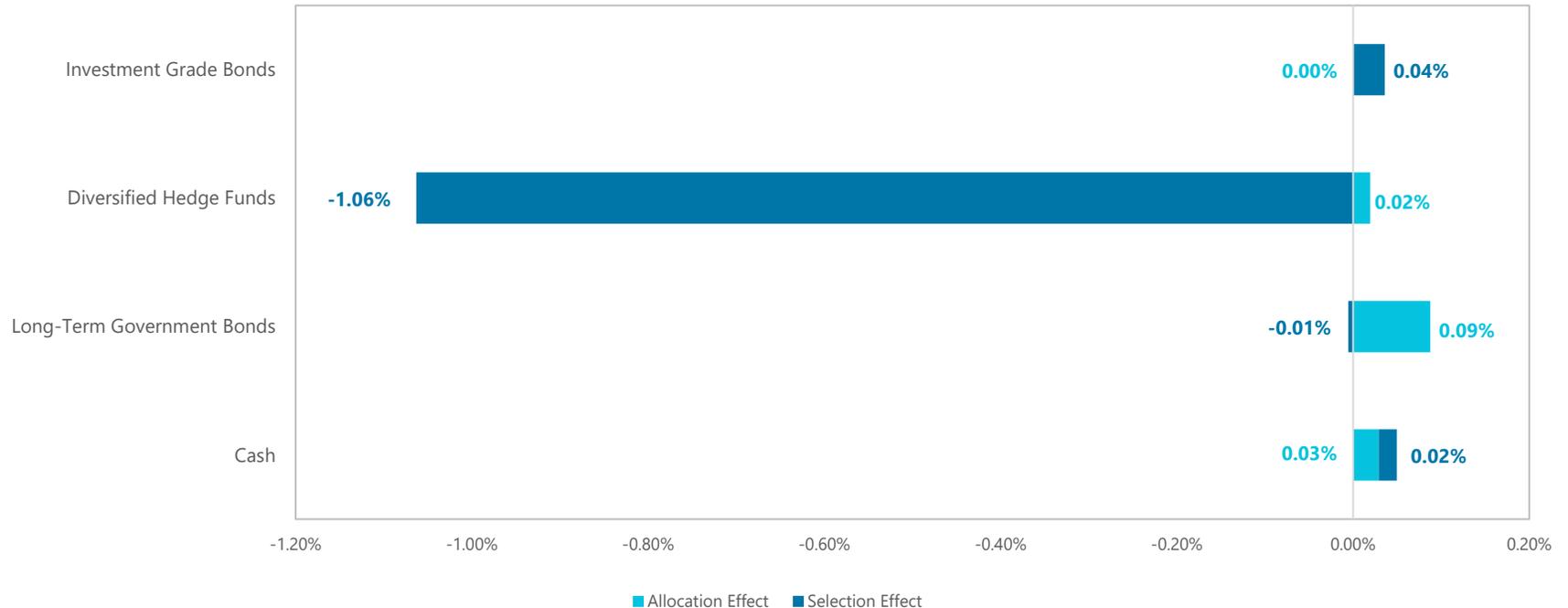
Return Attribution

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

QTD Performance Attribution¹



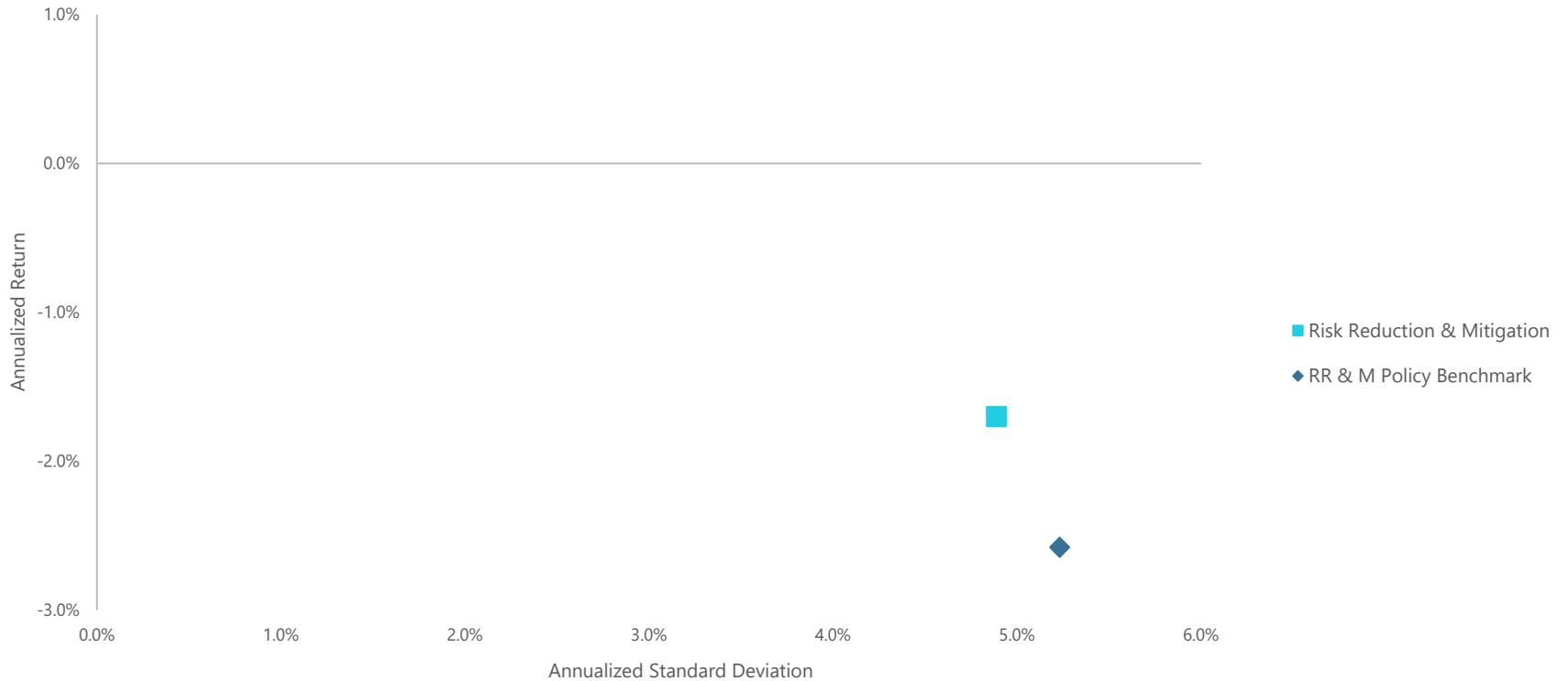
	Ending Market Value (mm)	% of Composite	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
Risk Reduction & Mitigation	13,682	100.0%	100.0%	-1.2%	-0.3%	0.14%	-1.01%	-0.88%
Investment Grade Bonds	5,044	36.9%	36.8%	-0.7%	-0.8%	0.00%	0.04%	0.04%
Diversified Hedge Funds	4,594	33.6%	31.6%	-1.4%	1.9%	0.02%	-1.06%	-1.04%
Long-Term Government Bonds	2,962	21.6%	26.3%	-2.3%	-2.3%	0.09%	-0.01%	0.08%
Cash	1,083	7.9%	5.3%	1.7%	1.3%	0.03%	0.02%	0.05%

¹ Total Value Add column includes Interaction Effect.

Risk vs. Return

for the quarter ended June 30, 2023

3 Year (Annualized)



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
Risk Reduction & Mitigation	-1.7%	4.9%				
RR & M Policy Benchmark	-2.6%	5.2%	(0.58)	1.08	0.93	0.8%

Performance Detail

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

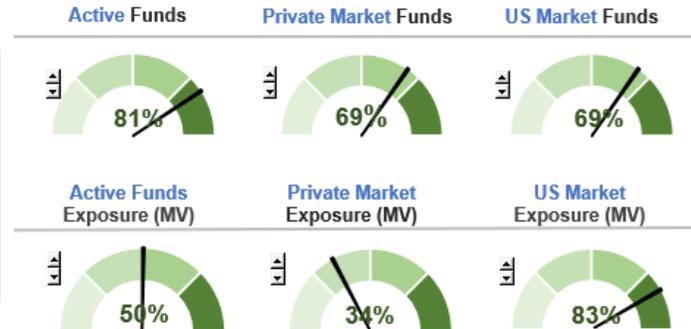
Annualized Net Returns

	% of Composite	Ending Market Value (mm)	Prior Quarter Ending MV (mm)	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
Risk Reduction & Mitigation	100.0%	13,659	13,598	-1.2%	2.5%	-0.2%	-1.7%	--	--	1.1%	Apr-2019
RR & M Policy Benchmark				-0.3%	3.1%	0.0%	-2.6%	--	--	0.5%	
Investment Grade Bonds	36.9%	5,044	5,083	-0.7%	2.4%	-0.7%	-3.7%	0.9%	1.9%	5.1%	Nov-1994
BBG BC Aggregate Bond Index				-0.8%	2.1%	-0.9%	-4.0%	0.8%	1.5%	4.6%	
Allspring/Wells	9.4%	1,283	1,291	-0.6%	2.5%	-0.4%	-3.5%	1.2%	2.0%	3.8%	Mar-2004
BTC US Debt Index Fund	21.2%	2,897	2,921	-0.8%	2.3%	-0.9%	-3.9%	0.8%	1.6%	3.8%	Nov-1999
MHLP	0.1%	10	10	1.3%	2.5%	5.0%	5.1%	5.2%	5.6%	5.4%	Apr-2005
Pugh Capital Mgmt	6.3%	855	860	-0.7%	2.3%	-0.7%	-3.9%	0.9%	1.6%	3.2%	Jul-2005
Diversified Hedge Funds	33.5%	4,570	4,543	-1.4%	1.8%	4.6%	8.3%	--	--	6.4%	Apr-2019
Diversified Hedge Funds Policy Benchmark				1.9%	3.6%	6.0%	3.7%	--	--	3.9%	
AM Asia Strategies	1.8%	245	263	-6.7%	13.1%	11.6%	--	--	--	4.2%	Jun-2021
Brevan Howard Master Fund	4.6%	625	669	-6.6%	-3.9%	-0.1%	--	--	--	5.4%	Apr-2021
Capula GRV	4.9%	676	663	1.9%	5.2%	11.2%	6.7%	--	--	7.0%	Dec-2018
Caxton Global Investments	2.1%	282	302	-6.7%	-5.0%	-2.6%	--	--	--	5.5%	Feb-2021
DK Institutional Partners	3.6%	497	500	-0.7%	2.2%	2.2%	6.7%	4.8%	--	4.6%	May-2018
Grosvenor HFOF	0.2%	24	27	--	--	--	--	--	--	--	Nov-2011
HBK Multi-strategy	4.3%	586	585	0.1%	1.4%	6.7%	7.6%	5.2%	--	5.2%	Jun-2018
Hudson Bay	4.9%	672	669	0.5%	3.3%	6.3%	10.0%	--	--	10.0%	Jul-2020
Polar	3.5%	484	481	0.7%	3.6%	5.4%	9.9%	--	--	9.9%	May-2020
Stable Asset Management	3.5%	480	385	0.5%	0.7%	0.2%	--	--	--	0.2%	Aug-2021
Long-Term Government Bonds	21.7%	2,962	3,032	-2.3%	3.7%	-7.5%	--	--	--	-16.9%	Nov-2021
Bloomberg U.S. Treasury: Long				-2.3%	3.7%	-6.8%	--	--	--	-17.7%	Nov-2021
BlackRock Long Treasury Bonds	21.7%	2,962	3,032	-2.3%	3.7%	-7.5%	--	--	--	-16.9%	Nov-2021
Cash	7.9%	1,083	939	1.7%	3.1%	5.5%	2.5%	2.4%	1.6%	1.9%	Jun-2001
Cash Policy Benchmark				1.3%	2.4%	3.7%	1.3%	1.6%	1.0%	1.5%	

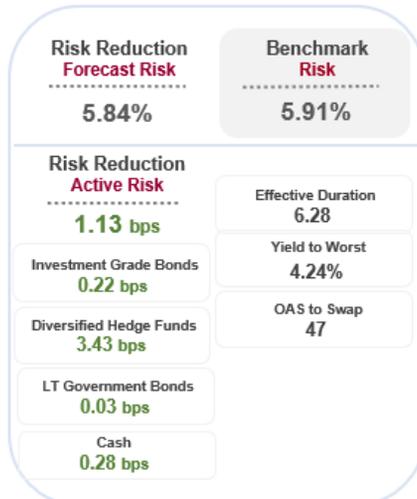
Risk Reduction & Mitigation Risk Summary

for the quarter ended June 30, 2023

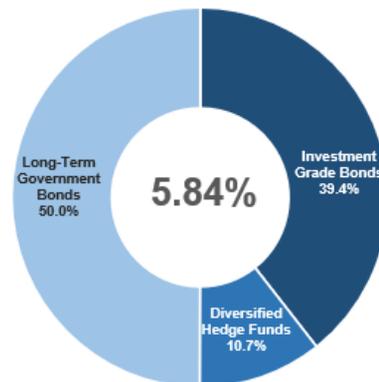
Realized (Ex-Post) Risks



Projected (Ex-Ante) Risks

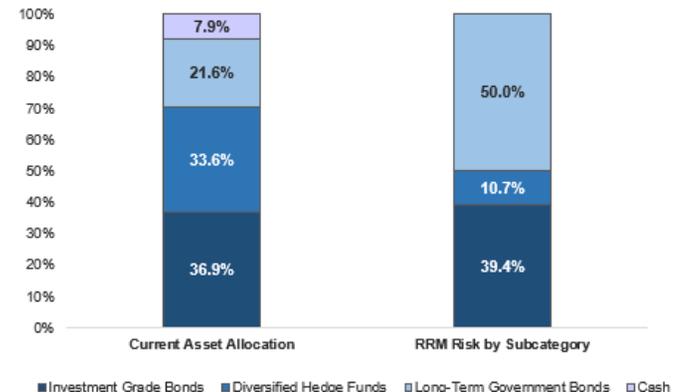


Subcategory Contributions to Risk Reduction & Mitigation (RRM) Risk



Risk Reduction & Mitigation Asset Allocation

Capital-based versus Risk-based



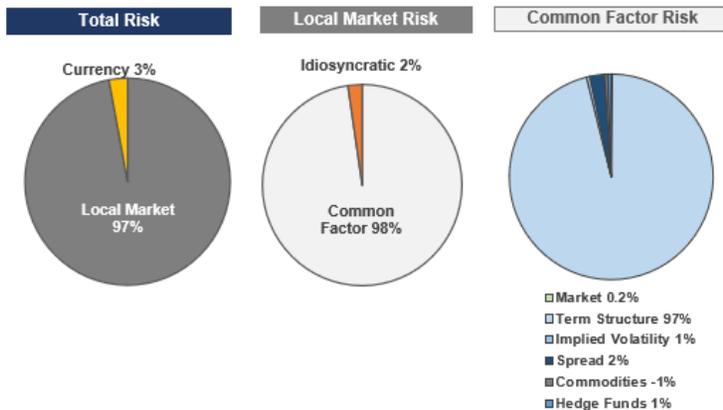
Risk Reduction & Mitigation Risk Summary

for the quarter ended June 30, 2023

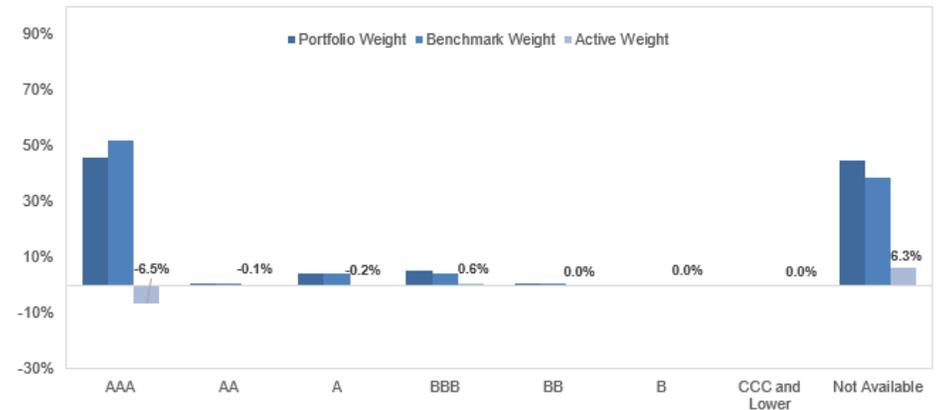
Decomposition of MSCI Risk Factors



Risk Reduction & Mitigation Risk Decomposition



Portfolio Allocation by Moody's Rating



Risk Reduction & Mitigation

Risk Summary

for the quarter ended June 30, 2023

Portfolio Allocation by Bond Sector



Risk Reduction & Mitigation

Investment Grade Bonds

Allspring/Wells

for the quarter ended June 30, 2023

Strategy

A core fixed income strategy focusing on bottom-up quantitative and qualitative security selection and comprehensive risk management. Value is added primarily through security selection and sector rotation.

Inception Date: June 2004

Portfolio Characteristics

	Portfolio	Benchmark
No. of Issues	882.0	0.0
Effective Duration	6.4	6.2
Convexity	0.7	0.7
Coupon Rate	3.6	2.9
Yield to Maturity	4.8	4.6
Current Yield	3.8	3.2
Rating – Moody's	AA-2	AA-2
Rating – S & P	AA	AA-

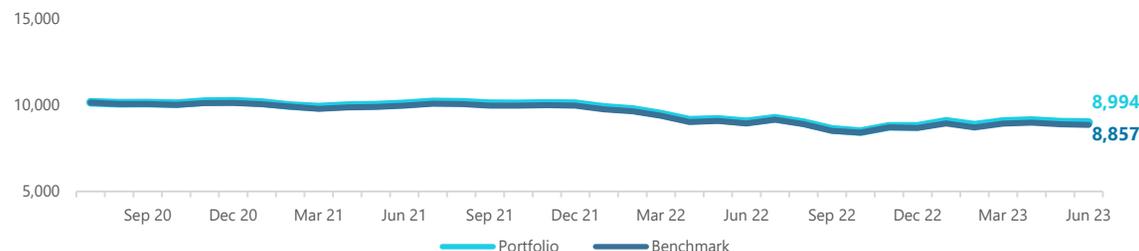
Top Holdings (% of assets)

US TREASURY N/B	3.2%
FNMA TBA 30 YR 6	2.4%
US TREASURY N/B	1.7%
US TREASURY N/B	1.6%
US TREASURY N/B	1.6%
Top 5 Holdings	10.6%

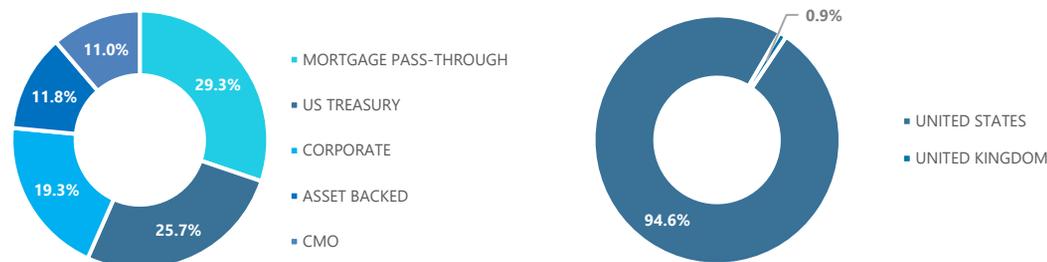
Performance (net)¹

	Ending Market Value (mm)		QTD	1 Year	3 Year	5 Year		
Allspring/Wells	1,283.0		-0.6%	-0.4%	-3.5%	1.2%		
BBG BARC Agg			-0.8%	-0.9%	-4.0%	0.8%		
RR & M Policy Benchmark			-0.3%	0.0%	-2.6%	--		
Universe data: US Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Allspring/Wells	-0.6%	72	-0.3%	72	-3.4%	75	1.3%	63
Median	-0.1%		1.2%		-0.8%		1.6%	
No. of Observations	726							

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Risk Reduction & Mitigation Risk Analysis

Investment Grade Bonds

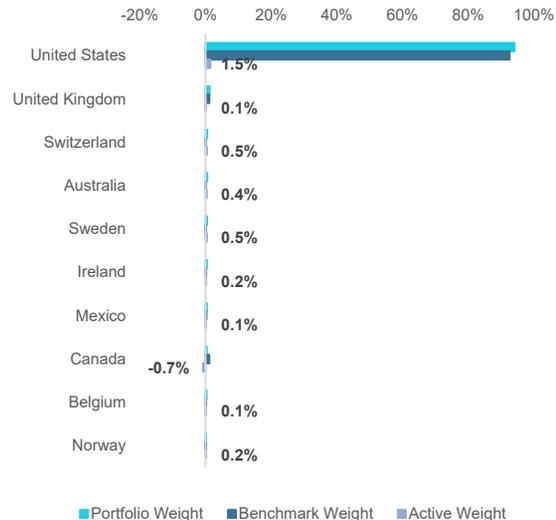
Allspring/Wells

for the quarter ended June 30, 2023

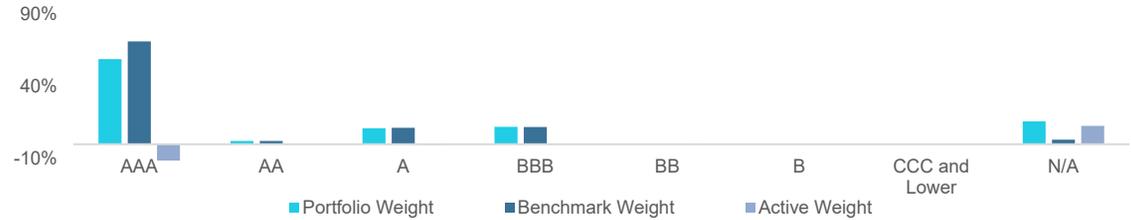
Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
6.8%	6.4%
PORTFOLIO Active Risk	PORTFOLIO Beta
0.66 bps	1.07
Effective Duration 7.1	Yield to Worst 4.6%

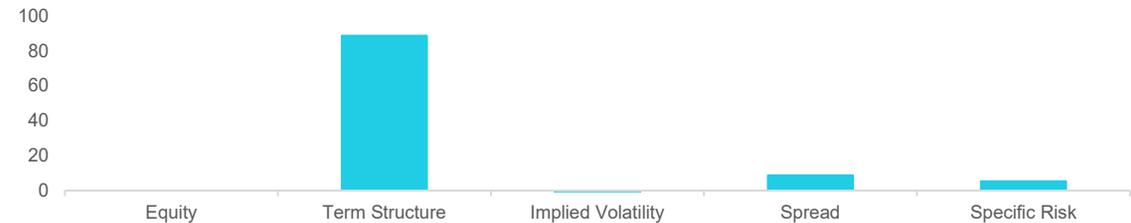
Top 10 Countries by Weight



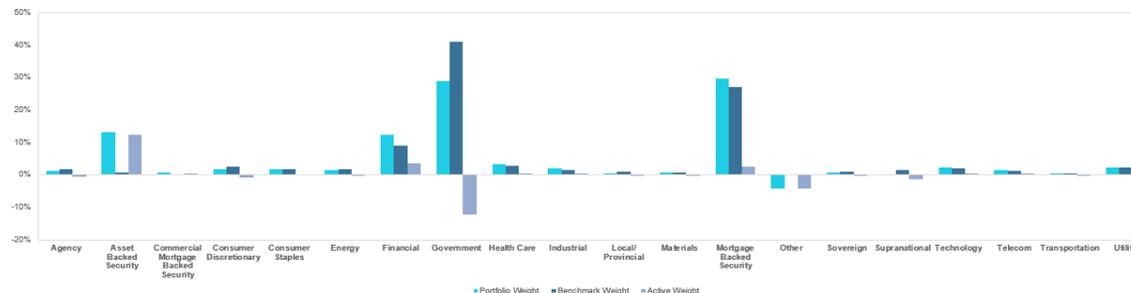
Allocation by Moody's Rating



Active Risk from Common Factors



Portfolio Allocation by Bond Sector



Risk Reduction & Mitigation

Investment Grade Bonds

Pugh Capital

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Strategy

A core fixed income strategy that invests in investment-grade securities, with an emphasis on higher credit quality and mortgage-backed securities. The strategy seeks to add value relative to the Index by minimizing downside risk across the portfolio while adding incremental return through issue selection.

Inception Date: July 2005

Portfolio Characteristics

	Portfolio	Benchmark
No. of Issues	299.0	0.0
Effective Duration	6.3	6.2
Convexity	0.6	0.7
Coupon Rate	3.6	2.9
Yield to Maturity	4.7	4.6
Current Yield	3.8	3.2
Rating – Moody's	AA-2	AA-2
Rating – S & P	AA-	AA-

Top Holdings (% of assets)

US TREASURY N/B	3.0%
US TREASURY N/B	2.3%
US TREASURY N/B	1.6%
FORD CREDIT AUTO OWNER TRUST/F	1.6%
GNMA II POOL MA8151	1.6%
Top 5 Holdings	10.1%

Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
Pugh Capital Mgmt	854.6	-0.7%	-0.7%	-3.9%	0.9%
BBG BARC Agg		-0.8%	-0.9%	-4.0%	0.8%
RR & M Policy Benchmark		-0.3%	0.0%	-2.6%	--

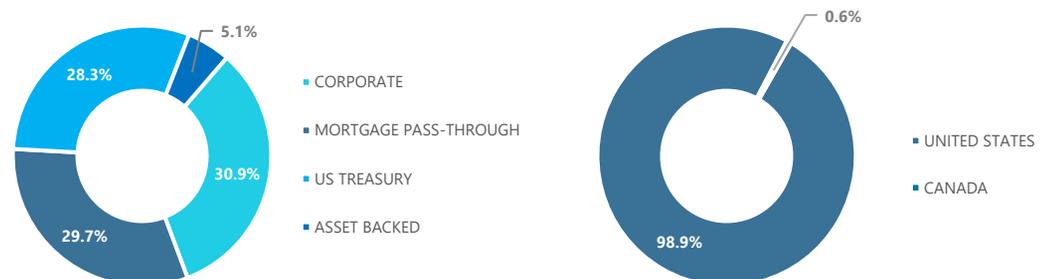
Universe data: US Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
Pugh Capital Mgmt	-0.6%	72	-0.6%	75	-3.7%	81	1.1%	76
Median	-0.1%		1.2%		-0.8%		1.6%	

No. of Observations: 726

Growth of \$10,000



Top Exposures (% of assets)²



¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Risk Reduction & Mitigation Risk Analysis

Investment Grade Bonds

Pugh Capital

for the quarter ended June 30, 2023

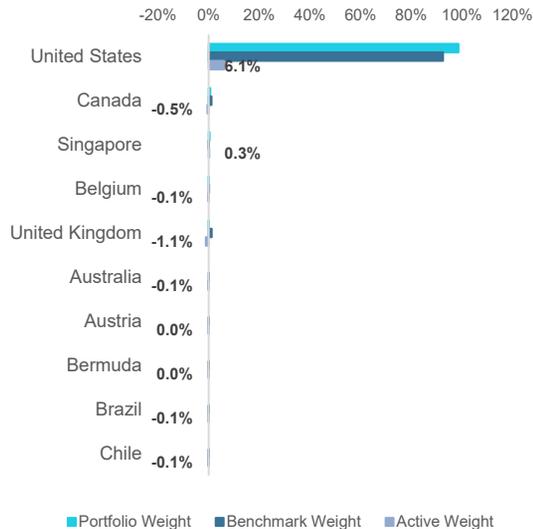


Los Angeles County Employees Retirement Association

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
6.8%	6.4%
PORTFOLIO Active Risk	PORTFOLIO Beta
0.52 bps	1.07
Effective Duration 6.6	Yield to Worst 4.6%

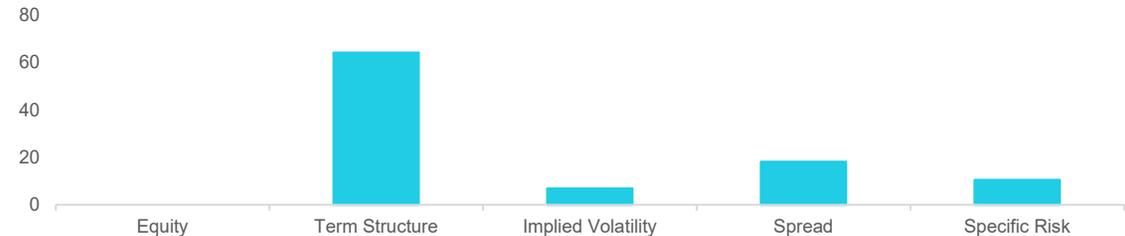
Top 10 Countries by Weight



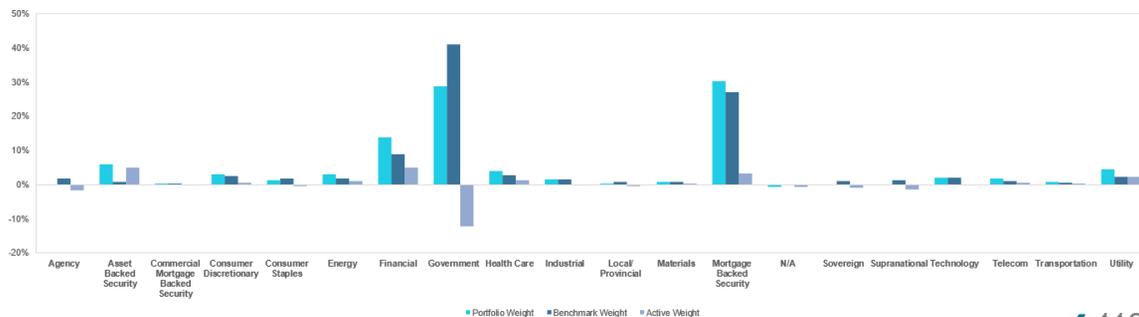
Allocation by Moody's Rating



Active Risk from Common Factors



Portfolio Allocation by Bond Sector



Risk Reduction & Mitigation

Long-term Government Bonds

BlackRock

for the quarter ended June 30, 2023

Strategy

Seeks investment results that correspond generally to the price and yield performance of long duration U.S. government bonds.

Inception Date: Nov 2021

Portfolio Characteristics

Standard Deviation	15.3%
Benchmark Standard Deviation	15.3%
Sharpe Ratio	-1.25
Information Ratio	-0.20
Beta	1.00
Tracking Error	1.2%

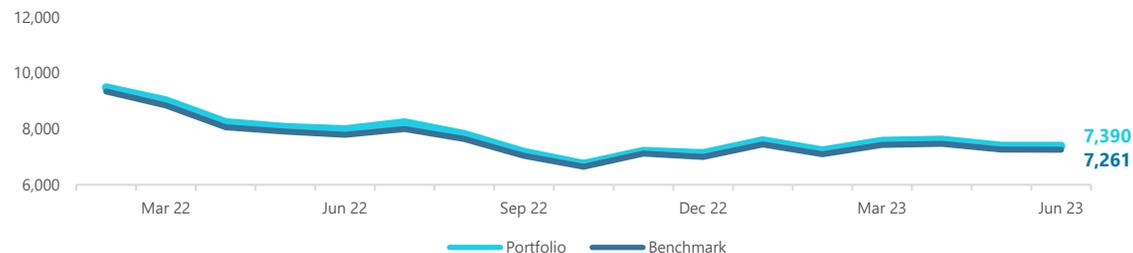
Top Holdings (% of assets)

US TREASURY N/B	2.8%
US TREASURY N/B	2.7%
US TREASURY N/B	2.6%
US TREASURY N/B	2.6%
US TREASURY N/B	2.5%
Top 5 Holdings	13.1%

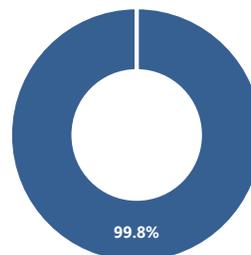
Performance (net)¹

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year			
BlackRock Long Treasury Bonds	2,961.8	-2.3%	-7.5%	--	--			
Bloomberg U.S. Treasury: Long		-2.3%	-6.8%	--	--			
RR & M Policy Benchmark		-0.3%	0.0%	-2.6%	--			
Universe data: US Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
BlackRock Long Treasury Bonds	-2.3%	94	-7.4%	93	--	--	--	--
Median	-0.1%		1.2%		--	--	--	--
No. of Observations	726							

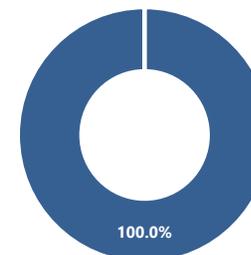
Growth of \$10,000



Top Exposures (% of assets)²



■ US TREASURY



■ UNITED STATES

¹ Universe data is gross-of-fees.

² Charts display top exposures and may not add up to 100%.

Risk Reduction & Mitigation Risk Analysis

Long-term Government Bonds

BlackRock

for the quarter ended June 30, 2023

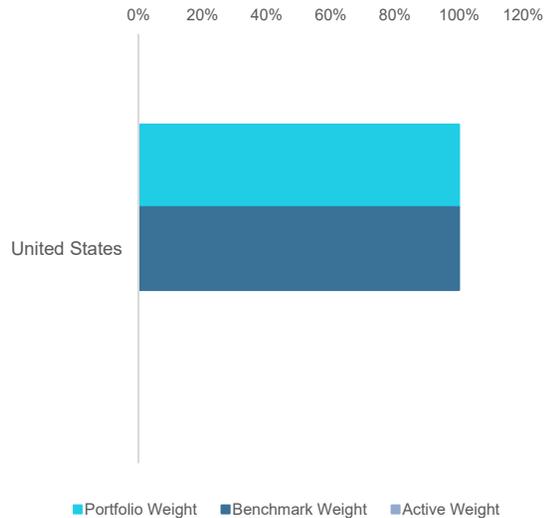


Los Angeles County Employees Retirement Association

Portfolio Risk Summary

PORTFOLIO Forecast Risk	BENCHMARK Risk
13.8%	13.8%
PORTFOLIO Active Risk	PORTFOLIO Beta
0.03 bps	1.00
Effective Duration 16.0	Yield to Worst 4.0%

Top Country by Weight



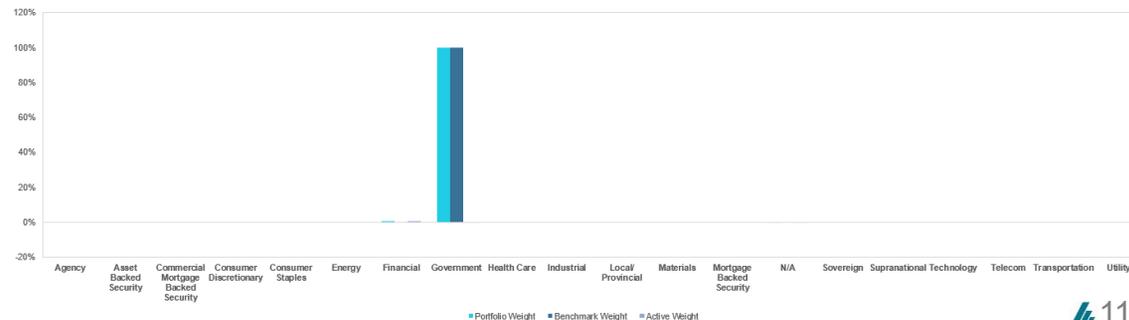
Allocation by Moody's Rating



Active Risk from Common Factors



Portfolio Allocation by Bond Sector



private markets

Summary

Private Equity

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Performance (net)



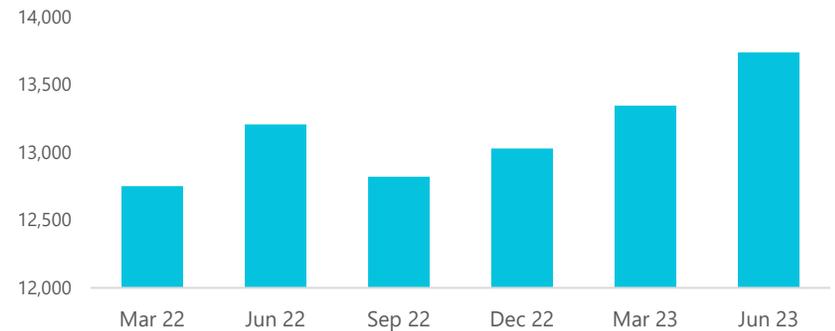
	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
Private Equity	1.8%	3.5%	0.3%	25.1%	17.8%	16.5%	15.2%
Benchmark	7.3%	18.4%	-5.7%	17.6%	13.0%	13.1%	--
Excess	-5.6%	-14.9%	6.0%	7.5%	4.8%	3.4%	--

Cumulative Return

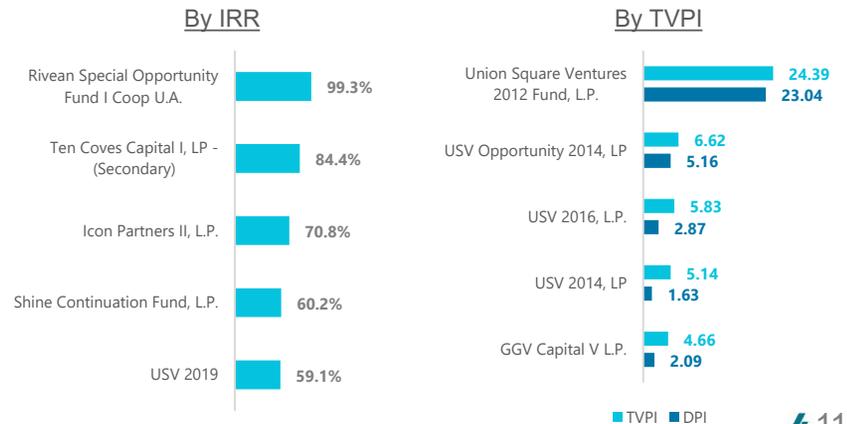


Asset Growth (mm)

	QTD	1 Year	3 Year
Beginning Market Value	13,345	13,207	6,580
Net Cash Flow	158	480	702
Gain/Loss	235	52	6,457
Ending Market Value	13,739	13,739	13,739



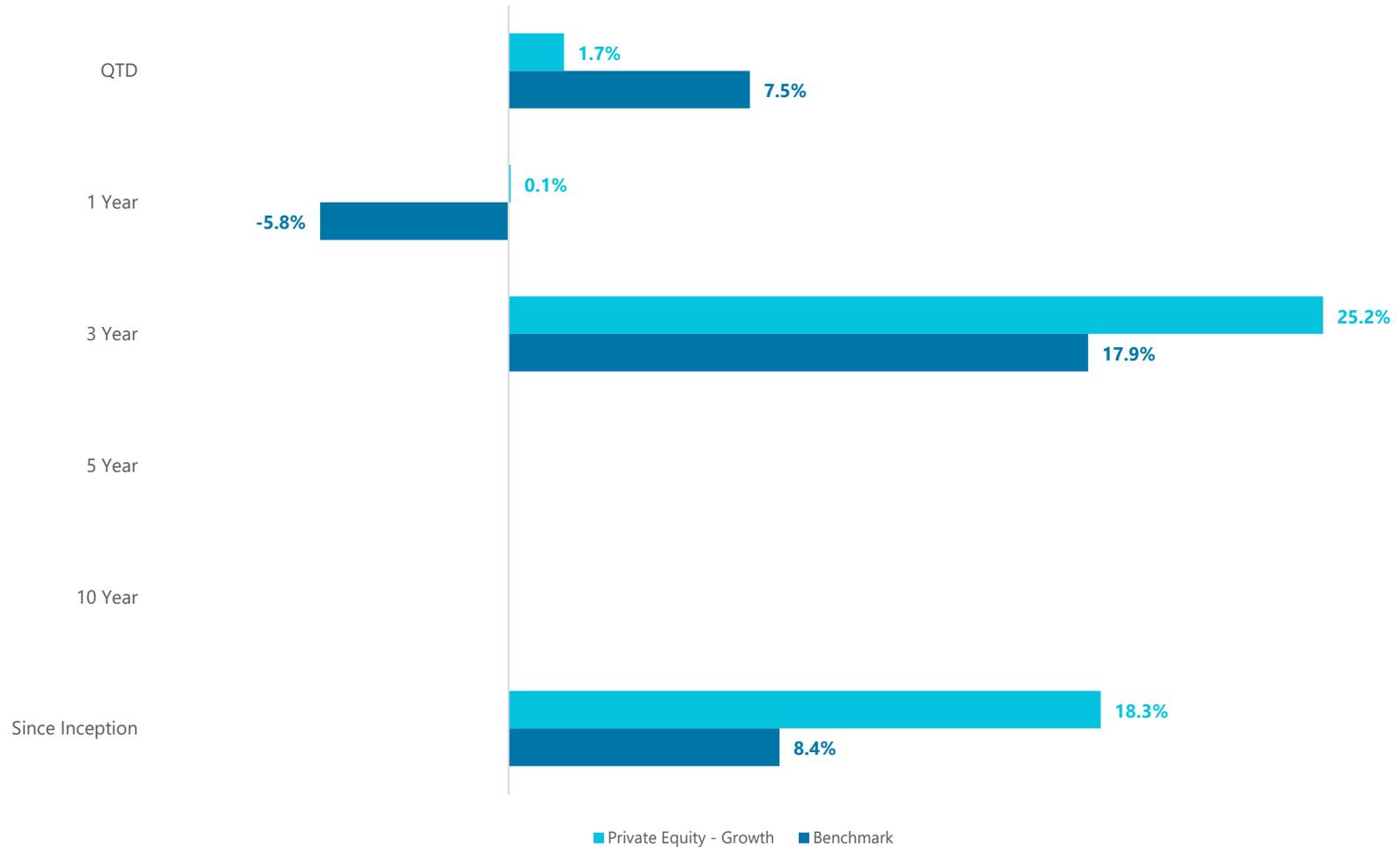
Top Performing Investments (since inception)



Historical Returns

Private Equity – Growth
for the quarter ended June 30, 2023

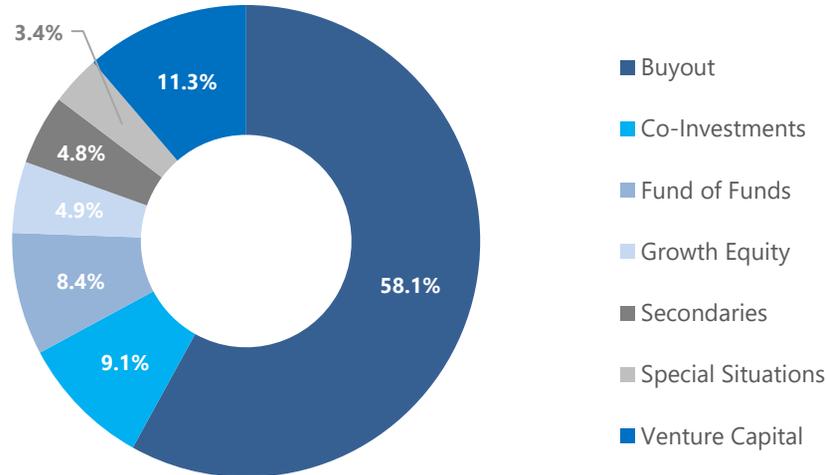
Time-Weighted Returns (net)



Performance by Strategy

Private Equity – Growth
for the quarter ended June 30, 2023

By Strategy^{1,2}



	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / Loss (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME
Buyout	208	15,093.3	13,403.6	14,692.7	7,871.7	22,564.4	9,160.8	1.10x	1.68x	14.0%	1.55
Co-Investments	10	1,558.2	1,373.3	1,031.4	1,236.0	2,267.4	894.1	0.71x	1.57x	18.1%	1.40
Fund of Funds	15	1,851.4	1,365.6	1,595.5	1,137.5	2,733.0	1,367.4	1.17x	2.00x	13.7%	1.44
Growth Equity	23	1,347.2	1,186.6	1,526.4	662.8	2,189.2	1,002.6	1.29x	1.84x	86.9%	1.67
Secondaries	20	887.3	713.0	369.8	650.2	1,019.9	307.0	0.52x	1.43x	17.8%	1.33
Special Situations	22	1,175.0	1,067.5	1,087.0	466.7	1,553.7	486.2	1.02x	1.46x	9.6%	1.16
Venture Capital	107	2,303.4	1,972.6	2,635.8	1,535.3	4,171.1	2,198.5	1.34x	2.11x	21.7%	1.96
Total Private Equity - Growth	405	24,215.9	21,082.1	22,938.6	13,560.1	36,498.7	15,416.6	1.08x	1.73x	16.3%	1.67

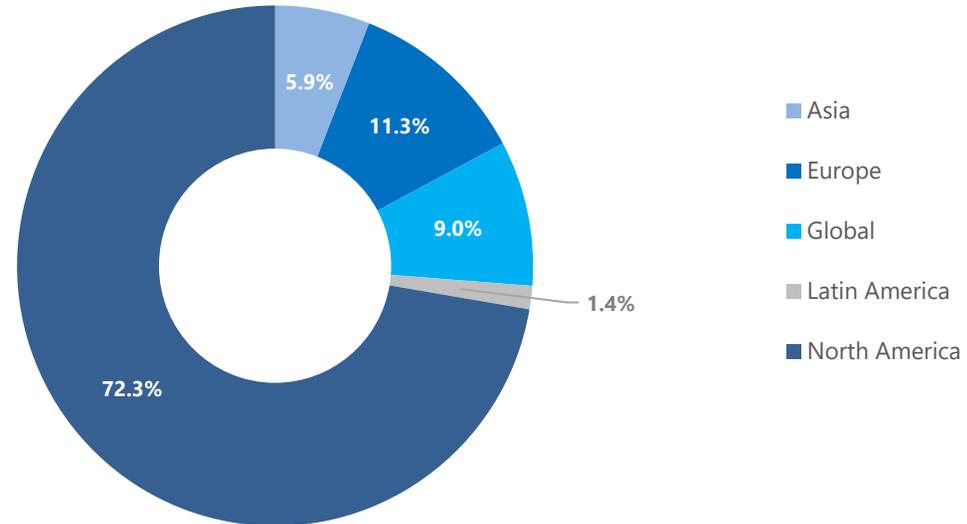
¹ Based on best available cash flow adjusted market values.

² Investment counts for Co-Investments and Fund of Funds do not include underlying funds.

Performance by Geography

Private Equity – Growth
for the quarter ended June 30, 2023

By Geography^{1,2}



	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / Loss (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME
Asia	14	826.0	742.9	475.9	805.2	1,281.2	538.3	0.64x	1.72x	14.7%	1.27
Europe	37	2,771.9	2,475.0	2,410.1	1,528.5	3,938.7	1,463.6	0.97x	1.59x	15.9%	1.35
Global	28	2,312.6	1,407.1	820.3	1,223.9	2,044.2	637.1	0.58x	1.45x	15.5%	1.27
Latin America	2	200.0	193.0	56.9	196.6	253.5	60.5	0.29x	1.31x	9.2%	1.02
North America	324	18,105.4	16,264.1	19,175.4	9,805.8	28,981.2	12,717.1	1.17x	1.77x	16.4%	1.70
Total Private Equity - Growth	405	24,215.9	21,082.1	22,938.6	13,560.1	36,498.7	15,416.6	1.08x	1.73x	16.3%	1.67

¹ Based on best available cash flow adjusted market values.

² Investment counts for Co-Investments and Fund of Funds do not include underlying funds.

Performance by Vintage Year

Private Equity – Growth
for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

By Vintage Year^{1,2,3}

	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / Loss (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME	Quartile Ranking
1986	3	80.0	80.0	267.5	0.0	267.5	187.5	3.34x	3.34x	15.7%	--	1st
1987	1	25.0	25.0	40.3	0.0	40.3	15.3	1.61x	1.61x	7.3%	--	3rd
1988	2	200.0	216.6	466.9	0.0	466.9	250.3	2.16x	2.16x	15.5%	89.91	2nd
1989	0	--	--	--	--	--	--	--	--	--	--	N/A
1990	1	7.5	7.5	16.7	0.0	16.7	9.2	2.22x	2.22x	13.0%	9.13	3rd
1991	0	--	--	--	--	--	--	--	--	--	--	N/A
1992	10	116.0	111.0	242.5	0.0	242.5	131.6	2.19x	2.19x	29.1%	3.78	2nd
1993	8	68.0	64.8	239.5	0.0	239.5	174.7	3.70x	3.70x	39.7%	3.22	1st
1994	5	56.9	58.8	237.6	0.0	237.6	178.8	4.04x	4.04x	54.1%	2.82	1st
1995	7	100.5	102.3	362.6	0.0	362.6	260.2	3.54x	3.54x	43.2%	2.58	1st
1996	12	222.9	225.2	608.8	0.0	608.8	383.6	2.70x	2.70x	37.5%	2.15	1st
1997	11	397.5	410.4	606.4	0.0	606.4	196.0	1.48x	1.48x	7.7%	1.20	3rd
1998	22	644.4	655.2	945.3	0.5	945.8	290.6	1.44x	1.44x	7.3%	1.19	2nd
1999	21	363.2	369.7	436.6	0.0	436.6	66.9	1.18x	1.18x	3.4%	0.96	2nd
2000	25	375.4	387.3	575.0	0.2	575.2	187.9	1.48x	1.49x	8.7%	1.07	2nd
2001	15	411.8	442.6	835.5	2.5	838.1	395.5	1.89x	1.89x	21.7%	1.38	1st
2002	8	220.4	230.3	537.4	0.0	537.4	307.1	2.33x	2.33x	19.0%	1.64	2nd
2003	8	309.9	339.2	701.6	0.4	701.9	362.7	2.07x	2.07x	21.3%	1.60	1st
2004	7	345.6	392.2	746.7	0.7	747.4	355.3	1.90x	1.91x	19.5%	1.58	1st
2005	15	506.2	506.2	1,040.3	4.3	1,044.6	538.3	2.05x	2.06x	13.4%	1.64	1st
2006	28	1,519.8	1,607.7	2,563.0	9.0	2,572.0	964.3	1.59x	1.60x	8.8%	1.25	2nd
2007	11	517.1	462.0	784.9	31.3	816.2	354.2	1.70x	1.77x	11.5%	1.20	2nd
2008	10	642.2	701.3	1,238.3	23.4	1,261.7	560.5	1.77x	1.80x	13.2%	1.21	2nd
2009	0	--	--	--	--	--	--	--	--	--	--	N/A
2010	2	450.0	473.2	724.4	242.5	966.9	493.7	1.53x	2.04x	15.5%	1.41	2nd
2011	7	391.0	422.8	819.6	148.9	968.5	545.8	1.94x	2.29x	18.4%	1.47	2nd
2012	7	435.0	582.0	1,071.5	96.0	1,167.6	585.6	1.84x	2.01x	21.6%	1.66	1st
2013	10	896.8	986.7	1,280.0	520.1	1,800.0	813.3	1.30x	1.82x	15.2%	1.31	2nd
2014	11	1,249.9	1,395.6	1,533.6	1,196.3	2,729.8	1,334.3	1.10x	1.96x	17.1%	1.41	2nd
2015	10	1,087.0	1,267.5	1,389.8	1,317.2	2,707.0	1,439.5	1.10x	2.14x	21.4%	1.58	2nd
2016	12	1,131.7	1,297.3	1,140.7	1,244.4	2,385.1	1,087.8	0.88x	1.84x	17.9%	1.34	3rd
2017	8	594.0	582.6	376.4	713.3	1,089.6	507.0	0.65x	1.87x	20.0%	1.41	3rd
2018	9	1,263.2	1,179.5	405.2	1,496.0	1,901.2	721.7	0.34x	1.61x	20.5%	1.37	3rd
2019	30	2,122.2	1,887.4	404.7	2,364.5	2,769.2	881.8	0.21x	1.47x	18.0%	1.25	3rd
2020	10	1,173.4	910.5	158.2	1,102.8	1,261.0	350.5	0.17x	1.38x	21.1%	1.33	2nd
2021	30	3,070.6	1,822.2	113.0	2,013.1	2,126.1	303.9	0.06x	1.17x	13.0%	1.14	2nd
2022	16	1,757.0	833.8	28.3	914.4	942.8	109.0	0.03x	1.13x	11.7%	1.01	1st
2023	13	1,463.7	45.9	--	118.3	--	--	0.00x	1.00x	-0.6%	0.93	1st

Total Private Equity - Growth	405	24,215.9	21,082.1	22,938.6	13,560.1	36,498.7	15,416.6	1.08x	1.73x	16.3%	1.67	
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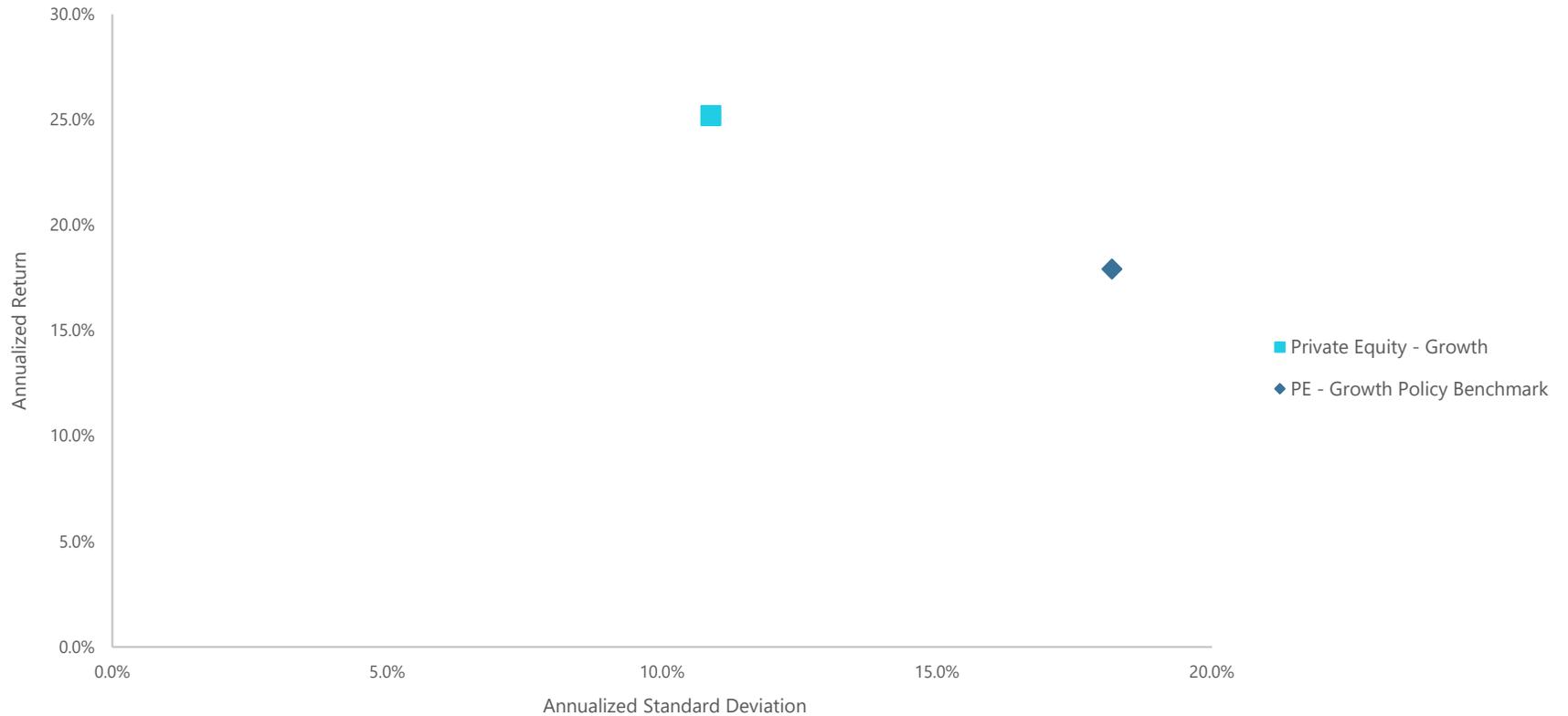
1. Based on best available cash flow adjusted market values.
2. Investment counts for Co-Investments and Fund of Funds do not include underlying funds.
3. Benchmark data used is latest available by Burgiss Private IQ. Quartile rankings are reported as not applicable (N/A) if commitment date is within 3 years of reporting date or if no commitments were made for the respective vintage year.

Risk vs. Return

Private Equity – Growth

for the quarter ended June 30, 2023

3 Year (Annualized)



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
Private Equity - Growth	25.2%	10.9%				
PE - Growth Policy Benchmark	17.9%	18.2%	2.02	0.27	0.16	18.7%

Annual Cash Flow Activity

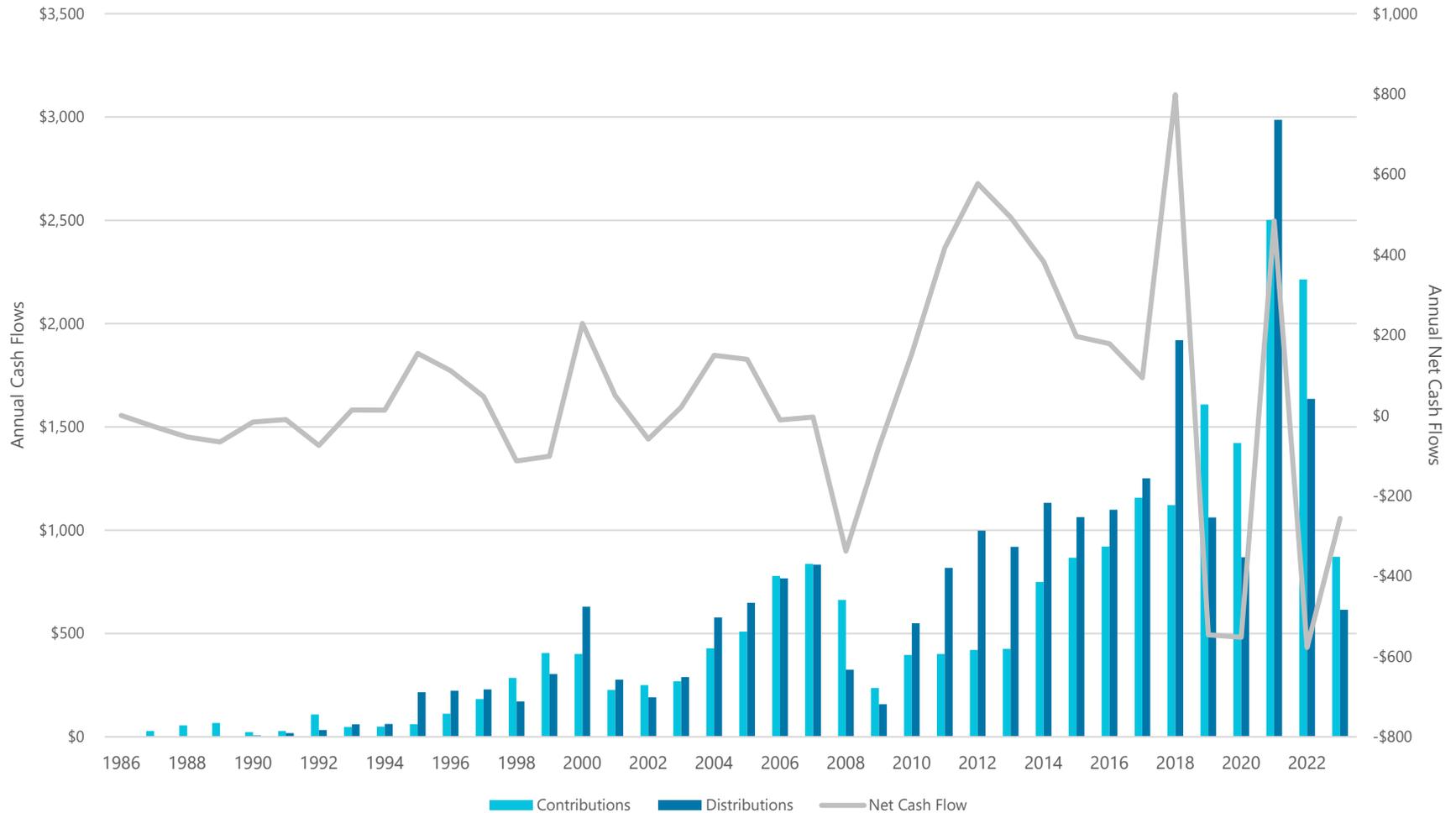
Private Equity

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

By Year (mm)



Summary

Real Estate

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Performance (net)



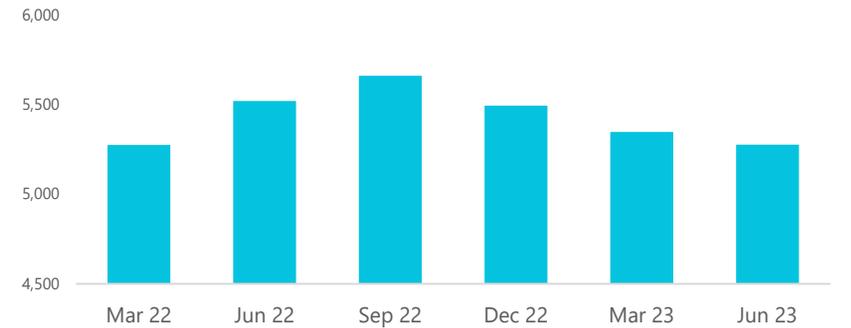
	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
Real Estate	-2.8%	-6.6%	-0.4%	8.6%	7.1%	8.4%	7.8%
Benchmark	-3.2%	-8.0%	-3.4%	7.9%	7.1%	8.9%	--
Excess	0.4%	1.3%	3.0%	0.7%	0.0%	-0.5%	--

Cumulative Return

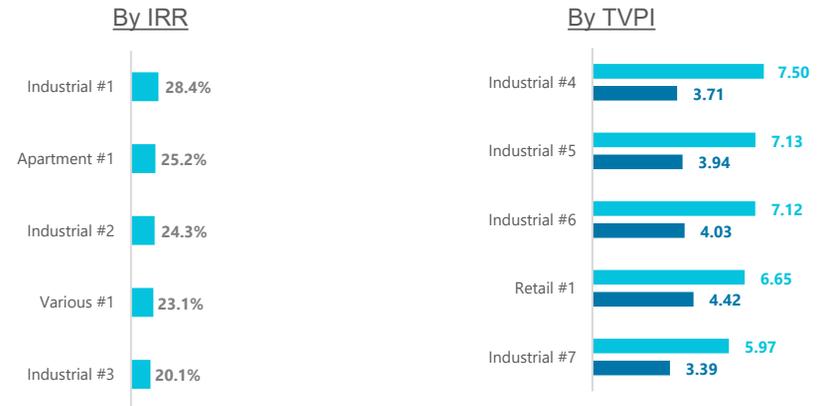


Asset Growth (mm)

	QTD	1 Year	3 Year
Beginning Market Value	5,346	5,519	5,565
Net Cash Flow	78	-241	-1,620
Gain/Loss	-149	-2	1,330
Ending Market Value	5,275	5,275	5,275



Top Performing Investments (since inception)¹



¹ Property names removed due to confidentiality reasons.

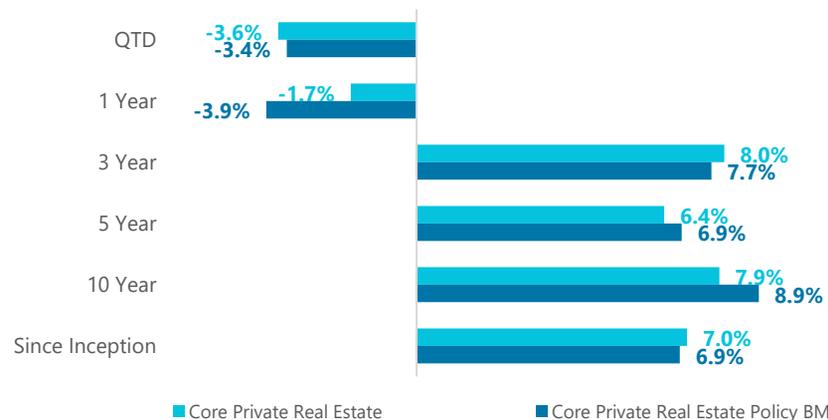
Historical Returns

Real Estate

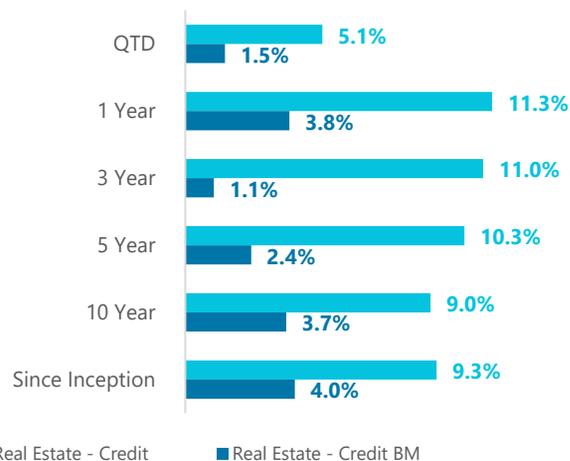
for the quarter ended June 30, 2023

Time-Weighted Returns (net)

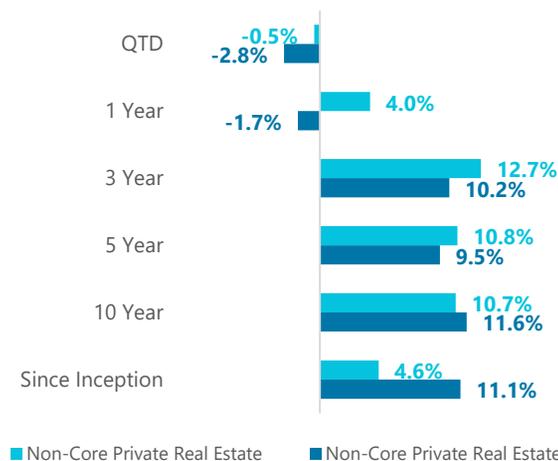
Core



Debt



Non-Core

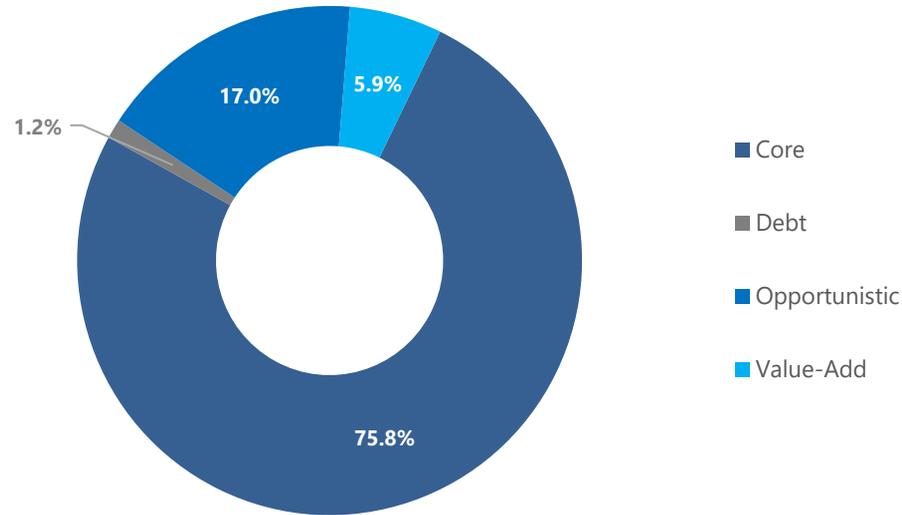


Performance by Strategy

Real Estate

for the quarter ended June 30, 2023

By Strategy^{1,2}



	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / (Loss) (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME
Core	81	1,034.1	7,529.9	6,897.5	3,869.3	10,766.8	3,236.9	0.92x	1.43x	8.1%	1.12
Debt	7	0.0	158.5	139.8	63.0	202.8	44.3	0.88x	1.28x	8.9%	1.19
Opportunistic	18	1,700.1	1,297.5	799.5	869.0	1,668.5	371.0	0.62x	1.29x	6.2%	0.98
Value-Add	12	472.5	626.1	235.1	302.3	537.4	(88.7)	0.38x	0.86x	-3.5%	0.60
Total Real Estate	118	3,206.8	9,612.0	8,071.8	5,103.6	13,175.5	3,563.5	0.84x	1.37x	7.5%	1.07

¹ Based on best available cash flow adjusted market values and includes only active investments and sold assets with balance sheet residuals.

² Commitment amounts reflect only commingled fund investments.

Performance by Property Type

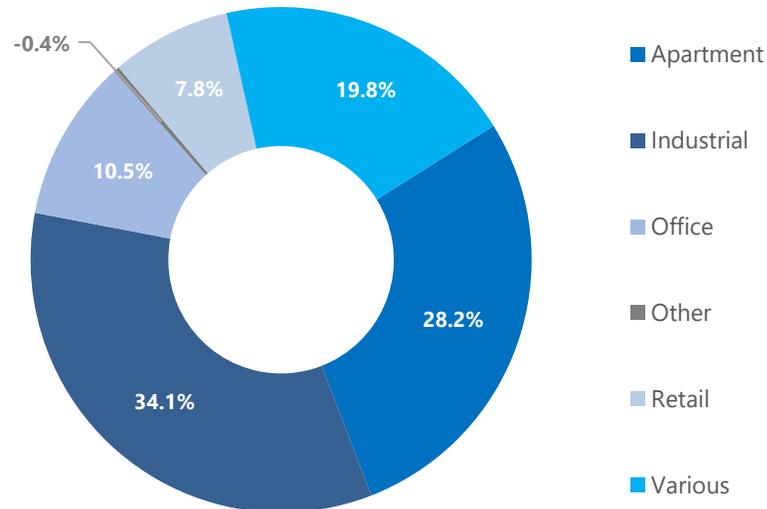
Real Estate

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

By Property Type^{1,2,3}



	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / (Loss) (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME
Apartment	36	384.1	3,090.5	2,605.4	1,441.0	4,046.3	955.8	0.84x	1.31x	7.2%	1.08
Industrial	21	234.1	1,696.4	1,574.2	1,740.4	3,314.7	1,618.3	0.93x	1.95x	12.9%	1.65
Office	19	0.0	2,016.7	1,936.0	535.5	2,471.6	454.8	0.96x	1.23x	5.2%	1.03
Other	4	100.0	170.7	199.0	(19.3)	179.6	8.9	1.17x	1.05x	1.3%	0.70
Retail	15	0.0	1,280.5	1,279.0	397.7	1,676.6	396.1	1.00x	1.31x	6.2%	0.82
Various	23	2,488.6	1,357.2	478.3	1,008.4	1,486.7	129.5	0.35x	1.10x	2.3%	0.82
Total Real Estate	118	3,206.8	9,612.0	8,071.8	5,103.6	13,175.5	3,563.5	0.84x	1.37x	7.5%	1.07

¹ Based on best available cash flow adjusted market values and includes only active investments and sold assets with balance sheet residuals.

² Commitment amounts reflect only commingled fund investments.

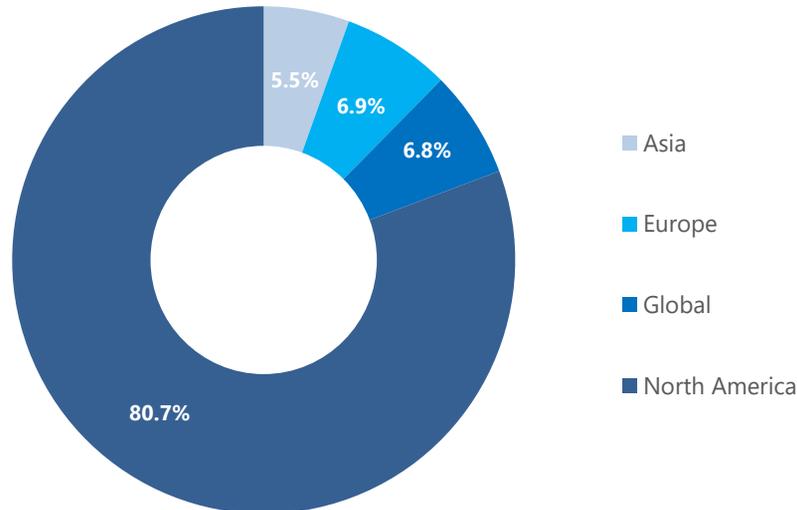
³ Various refers to commingled fund investments with more than one property type; Other refers to hotel and fund level market values for the debt program.

Performance by Geography

Real Estate

for the quarter ended June 30, 2023

By Geography (non-US)^{1,2}



	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / (Loss) (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME
Asia	4	300.0	310.2	124.1	281.0	405.1	94.9	0.40x	1.31x	5.8%	1.05
Europe	10	478.9	623.5	380.0	354.5	734.5	111.0	0.61x	1.18x	3.8%	0.84
Global	7	1,068.8	452.0	226.2	349.5	575.8	123.8	0.50x	1.27x	11.2%	1.07
North America	97	1,359.1	8,226.3	7,341.5	4,118.6	11,460.1	3,233.8	0.89x	1.39x	7.6%	1.08
Total Real Estate	118	3,206.8	9,612.0	8,071.8	5,103.6	13,175.5	3,563.5	0.84x	1.37x	7.5%	1.07

¹ Based on best available cash flow adjusted market values and includes only active investments and sold assets with balance sheet residuals.

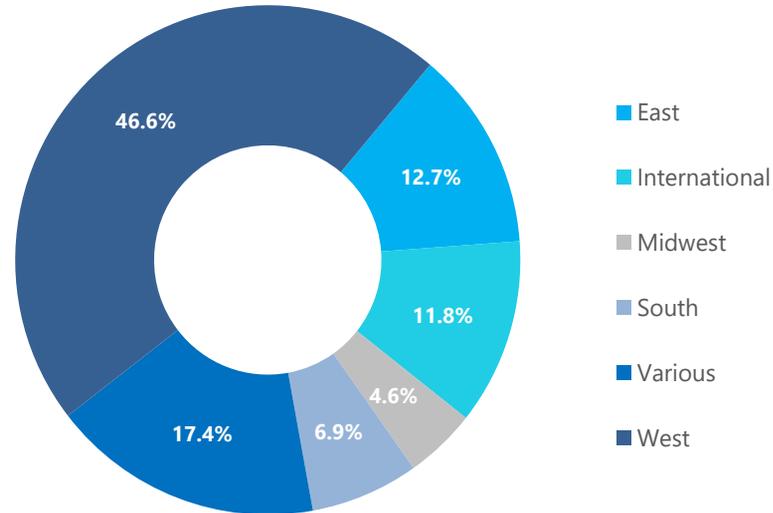
² Commitment amounts reflect only commingled fund investments.

Performance by Geography

Real Estate

for the quarter ended June 30, 2023

By Geography (US NCREIF)^{1,2}



	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / (Loss) (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME
East	26	0.0	2,475.8	2,302.6	648.8	2,951.4	475.6	0.93x	1.19x	5.1%	0.86
International	13	724.4	893.3	504.1	603.3	1,107.4	214.1	0.56x	1.24x	4.7%	0.92
Midwest	10	0.0	592.8	496.7	233.1	729.7	136.9	0.84x	1.23x	4.6%	0.81
South	11	0.0	1,198.6	1,261.6	353.4	1,615.0	416.3	1.05x	1.35x	7.9%	0.98
Various	15	2,098.3	972.0	365.5	887.8	1,253.3	281.3	0.38x	1.29x	6.4%	0.98
West	43	384.1	3,479.4	3,141.4	2,377.2	5,518.6	2,039.2	0.90x	1.59x	9.1%	1.37
Total Real Estate	118	3,206.8	9,612.0	8,071.8	5,103.6	13,175.5	3,563.5	0.84x	1.37x	7.5%	1.07

¹ Based on best available cash flow adjusted market values and includes only active investments and sold assets with balance sheet residuals.

² Commitment amounts reflect only commingled fund investments.

Performance by Vintage Year

Real Estate

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

By Vintage Year^{1,2,3}

	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / (Loss) (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME	Quartile Ranking
1990	1	0.0	249.9	305.4	114.9	420.3	170.3	1.22x	1.68x	6.3%	4.56	N/A
1991	3	0.0	33.1	126.1	103.8	229.9	196.8	3.81x	6.95x	12.4%	13.98	N/A
1992	0	0.0	--	--	--	--	--	--	--	--	--	N/A
1993	0	0.0	--	--	--	--	--	--	--	--	--	N/A
1994	1	0.0	15.5	68.4	34.8	103.2	87.7	4.42x	6.67x	12.8%	1.43	N/A
1995	1	0.0	67.2	113.6	95.1	208.7	141.5	1.69x	3.11x	11.5%	1.21	N/A
1996	1	0.0	24.1	38.9	25.6	64.5	40.4	1.61x	2.68x	7.2%	0.77	N/A
1997	1	0.0	18.4	68.4	71.4	139.8	121.3	3.71x	7.58x	15.8%	2.09	N/A
1998	1	0.0	48.9	102.1	10.9	113.0	64.1	2.09x	2.31x	6.2%	0.70	N/A
1999	0	0.0	--	--	--	--	--	--	--	--	--	N/A
2000	0	0.0	--	--	--	--	--	--	--	--	--	N/A
2001	1	0.0	143.6	79.3	87.2	166.5	22.9	0.55x	1.16x	3.9%	0.70	N/A
2002	0	0.0	--	--	--	--	--	--	--	--	--	N/A
2003	1	0.0	142.9	132.3	57.0	189.3	46.4	0.93x	1.32x	3.8%	0.68	N/A
2004	0	0.0	--	--	--	--	--	--	--	--	--	N/A
2005	0	0.0	--	--	--	--	--	--	--	--	--	N/A
2006	0	0.0	--	--	--	--	--	--	--	--	--	N/A
2007	3	38.0	454.6	401.9	0.5	402.4	(52.2)	0.88x	0.89x	-5.5%	0.54	4th
2008	1	150.0	150.0	96.0	0.0	96.0	(53.9)	0.64x	0.64x	-5.7%	0.34	4th
2009	1	18.9	22.5	28.8	0.2	29.0	6.4	1.28x	1.29x	8.2%	0.84	3rd
2010	1	100.0	97.1	152.0	6.3	158.3	61.1	1.57x	1.63x	9.6%	0.92	3rd
2011	4	17.5	222.2	117.5	8.4	125.9	(96.4)	0.53x	0.57x	-16.4%	0.23	4th
2012	3	134.1	441.3	188.4	155.1	343.4	(97.9)	0.43x	0.78x	-5.9%	0.60	4th
2013	7	100.0	474.8	582.9	46.1	629.0	154.2	1.23x	1.32x	6.8%	0.92	3rd
2014	15	263.7	993.8	822.7	618.3	1,441.0	447.3	0.83x	1.45x	7.8%	1.11	3rd
2015	9	0.0	954.9	761.5	691.2	1,452.7	497.8	0.80x	1.52x	11.5%	1.37	2nd
2016	7	150.0	487.3	227.0	524.7	751.7	264.4	0.47x	1.54x	11.4%	1.33	2nd
2017	12	179.6	1,342.5	933.1	811.1	1,744.1	401.7	0.70x	1.30x	8.9%	1.15	3rd
2018	10	150.0	378.5	216.7	250.0	466.8	88.3	0.57x	1.23x	7.5%	1.10	4th
2019	25	413.3	2,417.6	2,421.2	1,027.1	3,448.3	1,030.7	1.00x	1.43x	8.7%	1.01	3rd
2020	2	0.0	71.8	81.2	0.0	81.2	9.4	1.13x	1.13x	5.2%	1.13	3rd
2021	2	181.8	85.2	2.9	88.9	91.8	6.6	0.03x	1.08x	6.4%	1.14	3rd
2022	3	710.0	174.3	3.8	175.0	178.8	4.6	0.02x	1.03x	4.8%	1.04	1st
2023	2	600.0	--	--	--	--	--	--	--	--	--	N/A
Total Real Estate	118	3,206.8	9,612.0	8,071.8	5,103.6	13,175.5	3,563.5	0.84x	1.37x	7.5%	1.07	

1. Based on best available cash flow adjusted market values.
2. Commitment amounts reflect only commingled fund investments.
3. Benchmark data used is latest available by Burgiss Private IQ. Quartile rankings exclude IMAs and Core Funds.

Leverage Exposure

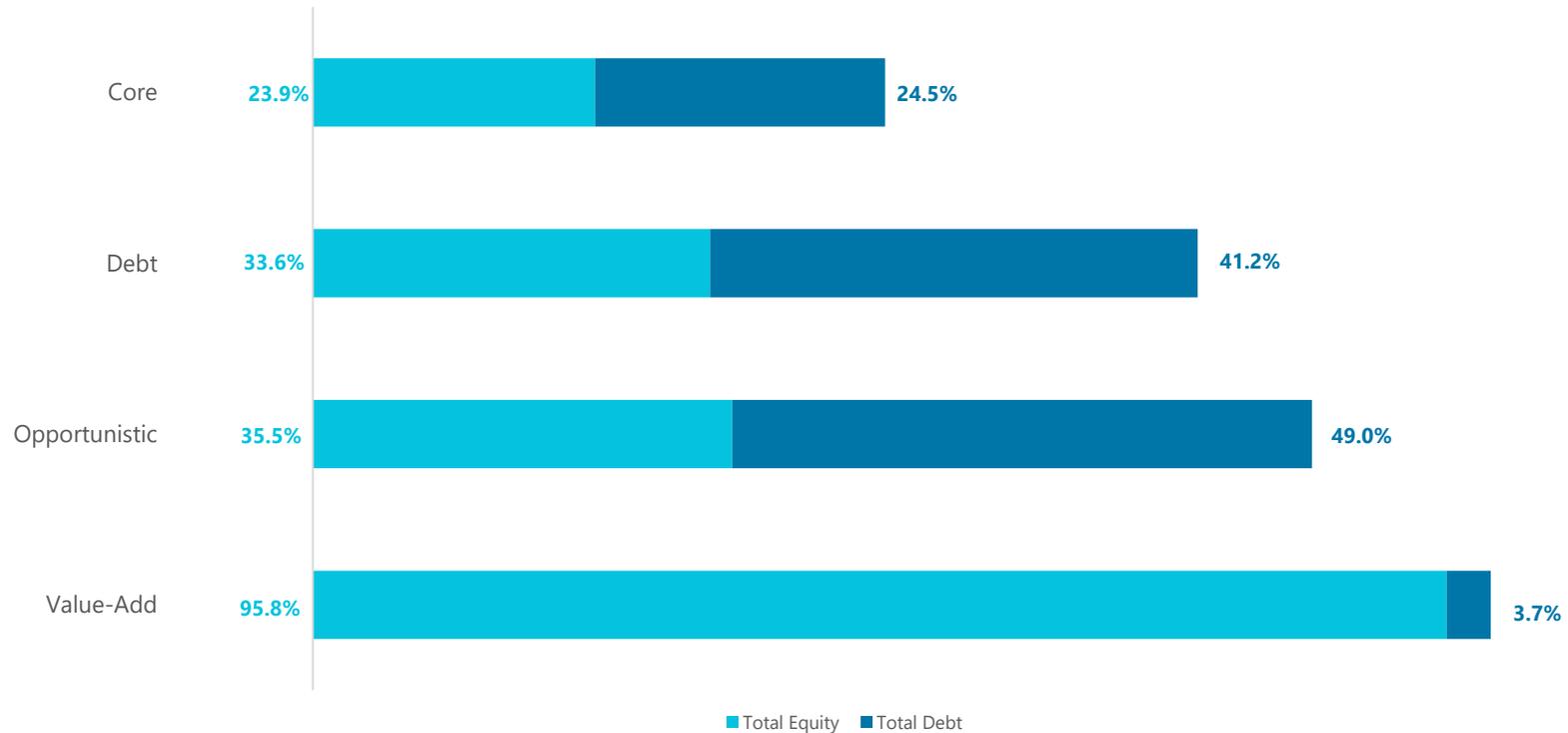
Real Estate

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Leverage Exposure^{1,2}



	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / (Loss) (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME	Total Debt-Fund Level (mm)	Total Equity-Fund Level (mm)	Total Debt-Fund Level (%)	Total Equity-Fund Level (%)
Core	81	1,034.1	7,529.9	6,897.5	3,869.3	10,766.8	3,236.9	0.92x	1.43x	8.1%	1.12	8,946.2	8,707.3	24.5%	23.9%
Debt	7	0.0	158.5	139.8	63.0	202.8	44.3	0.88x	1.28x	8.9%	1.19	109.3	89.0	41.2%	33.6%
Opportunistic	18	1,700.1	1,297.5	799.5	869.0	1,668.5	371.0	0.62x	1.29x	6.2%	0.98	15,642.2	11,319.0	49.0%	35.5%
Value-Add	12	472.5	626.1	235.1	302.3	537.4	(88.7)	0.38x	0.86x	-3.5%	0.60	5,502.1	141,823.3	3.7%	95.8%
Total Real Estate	118	3,206.8	9,612.0	8,071.8	5,103.6	13,175.5	3,563.5	0.84x	1.37x	7.5%	1.07	30,199.8	161,938.7	13.9%	74.7%

¹ Based on best available cash flow adjusted market values and includes only active investments and sold assets with balance sheet residuals.

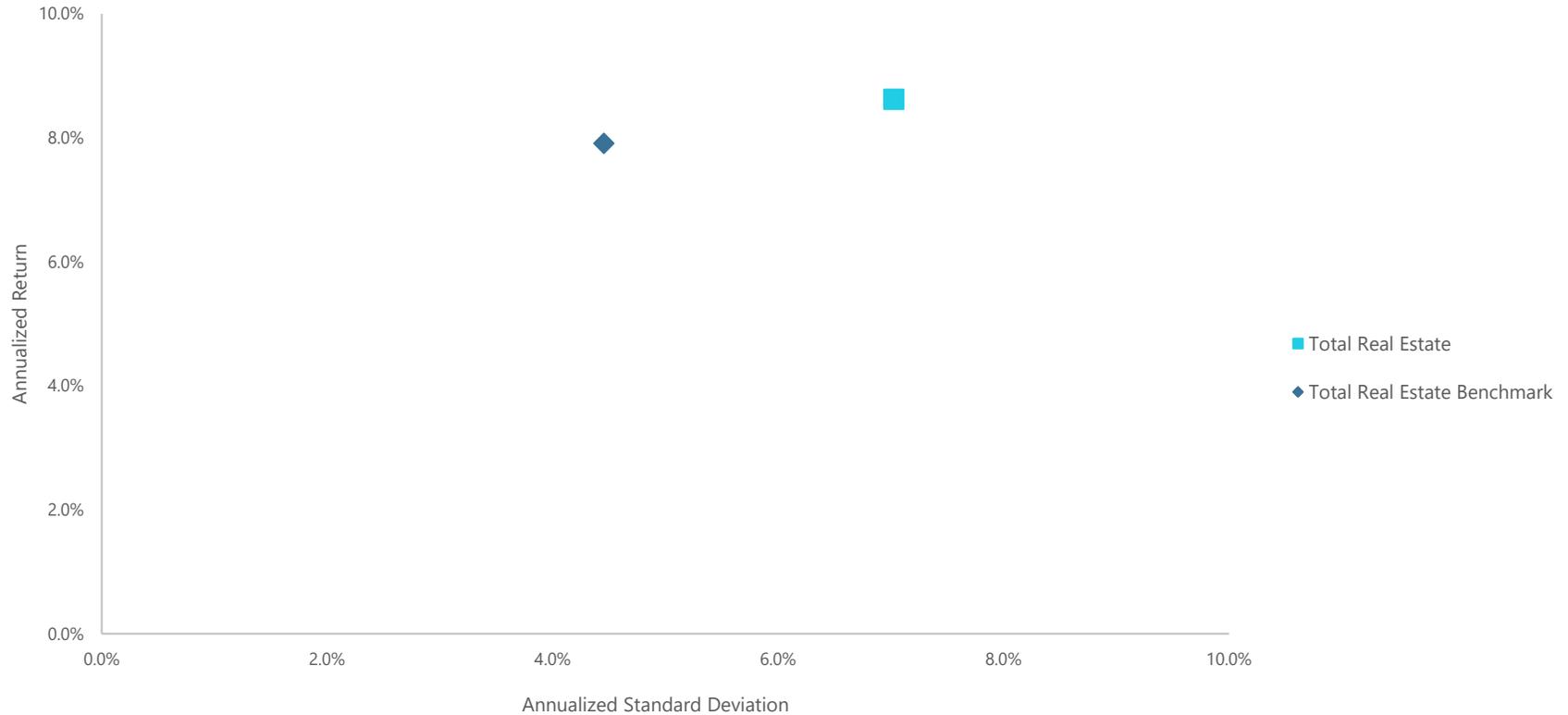
² Commitment amounts reflect only commingled fund investments.

Risk vs. Return

Real Estate

for the quarter ended June 30, 2023

3 Year (Annualized)



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
Total Real Estate	8.6%	7.0%				
Total Real Estate Benchmark	7.9%	4.5%	1.03	0.12	0.92	19.8%

Annual Cash Flow Activity

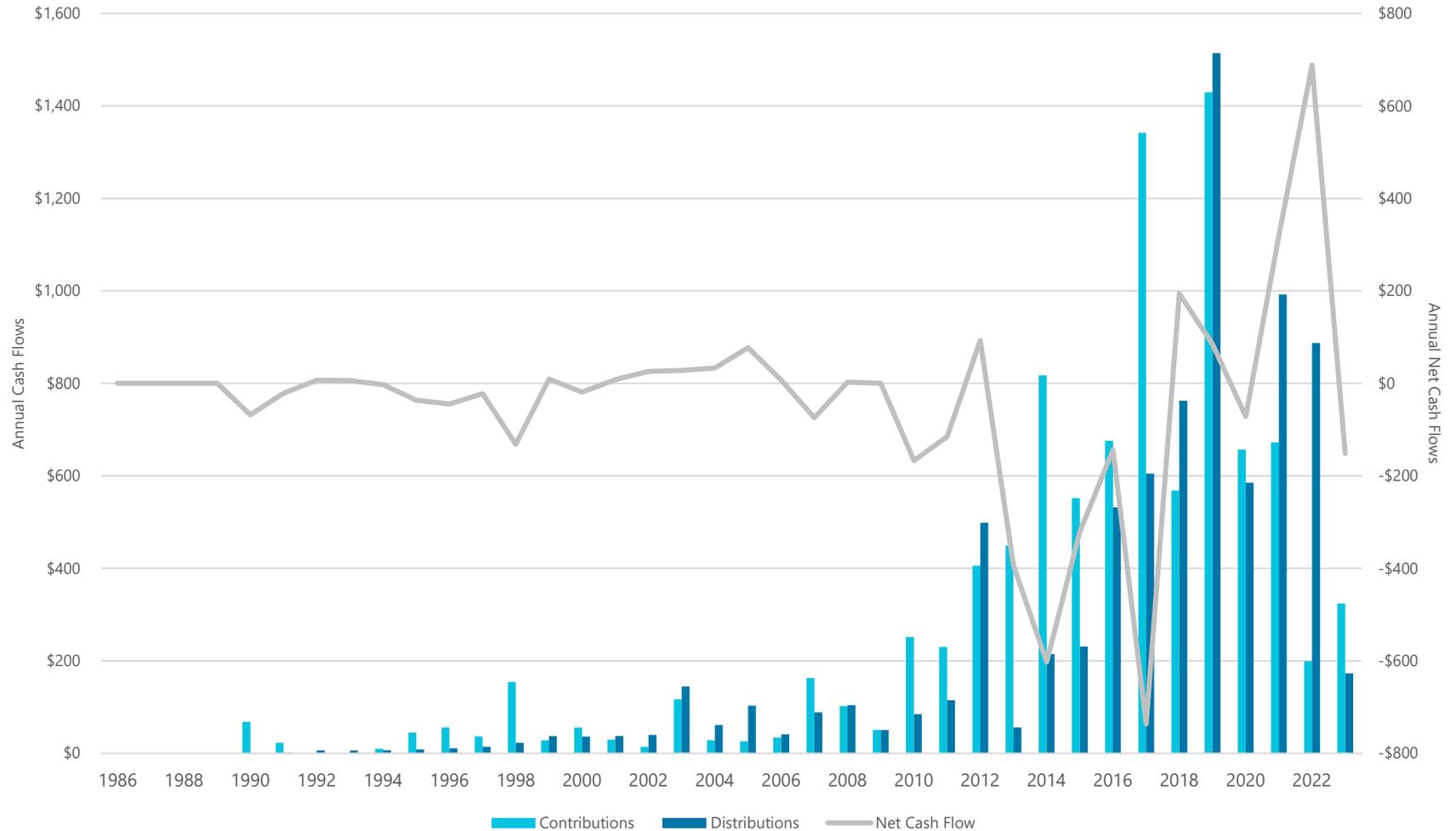
Real Estate

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

By Year (mm)



Summary

Private Real Assets ex. Real Estate
for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Performance (net)¹



	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
Private Natural Resources & Commodities	4.8%	11.5%	9.2%	9.0%	--	--	-4.5%
Benchmark	-1.3%	12.5%	-5.8%	31.7%	--	--	14.9%
Excess	6.1%	-0.9%	15.0%	-22.7%	--	--	-19.4%

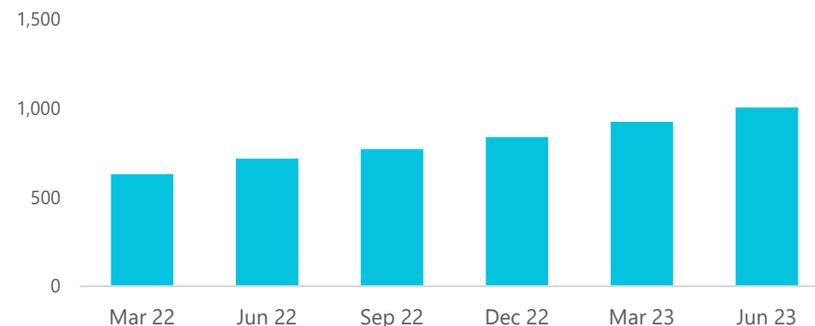
Cumulative Return¹



¹ Private natural resources & commodities funds reflect early-stage life cycle performance.

Asset Growth (mm)

	QTD	1 Year	3 Year
Beginning Market Value	925	719	72
Net Cash Flow	38	203	761
Gain/Loss	44	85.4	173.6
Ending Market Value	1,007	1,007	1,007



Top Performing Investments (since inception)¹



■ TVPI ■ DPI

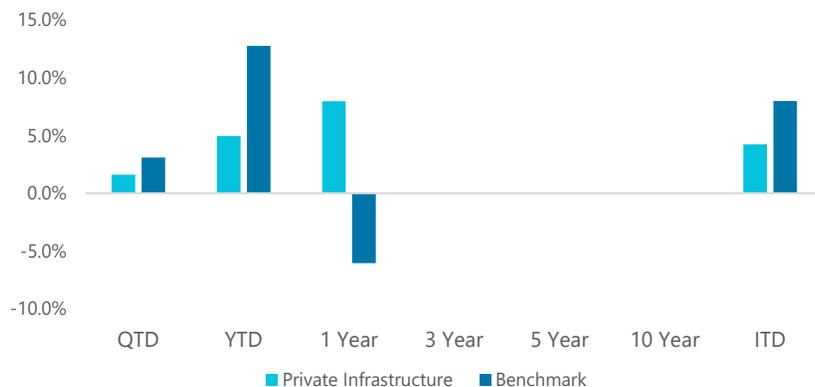
Summary

Private Real Assets ex. Real Estate
for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Performance (net)¹



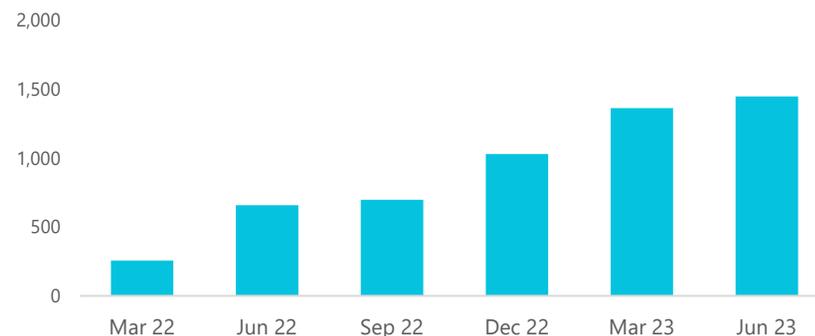
	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
Private Infrastructure	1.6%	5.0%	8.0%	--	--	--	4.2%
Benchmark	3.1%	12.8%	-6.1%	--	--	--	8.0%
Excess	-1.5%	-7.8%	14.0%	--	--	--	-3.7%

Cumulative Return¹

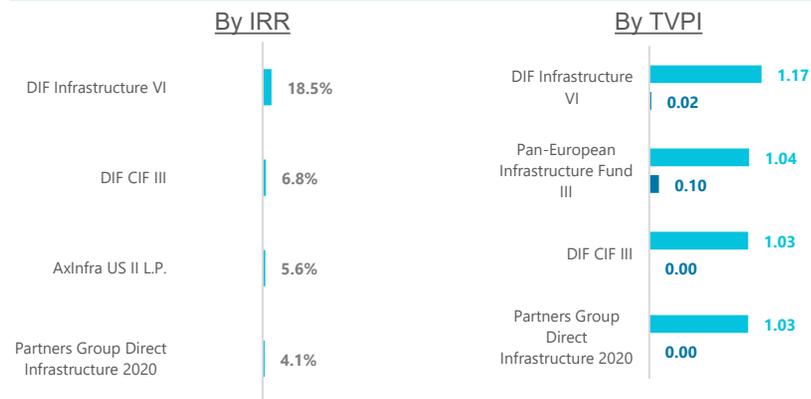


Asset Growth (mm)

	QTD	1 Year	3 Year
Beginning Market Value	1,365	659	--
Net Cash Flow	62	696	--
Gain/Loss	22	94	--
Ending Market Value	1,449	1,449	--



Top Performing Investments (since inception)¹



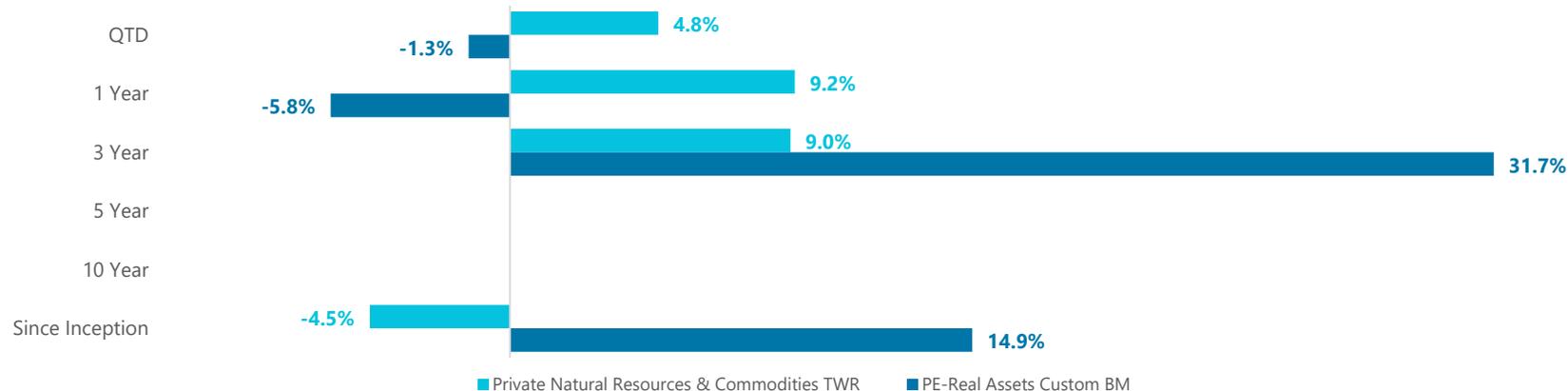
¹ Private infrastructure funds reflect early-stage life cycle performance.

Historical Returns

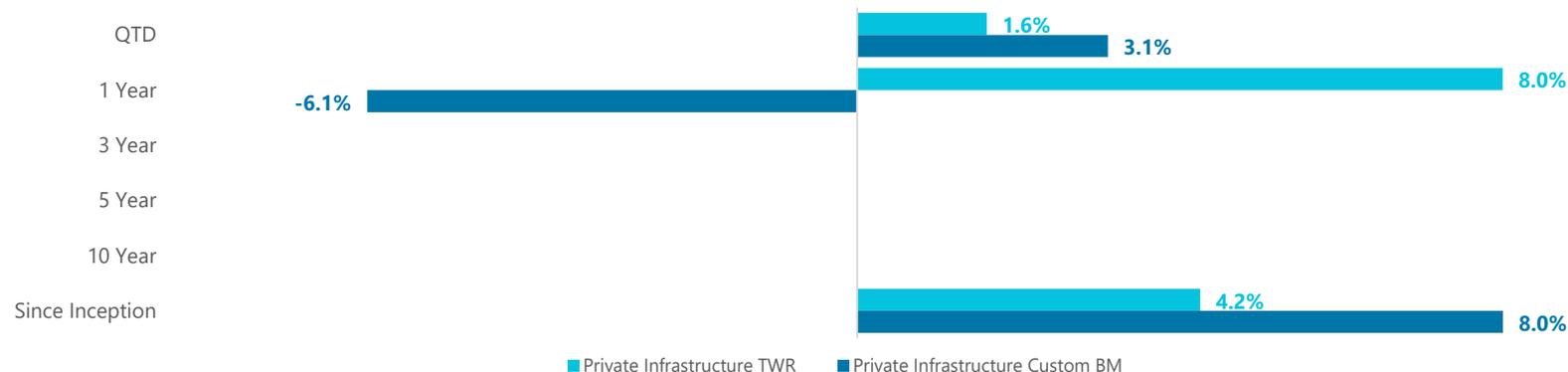
Private Real Assets ex. Real Estate
for the quarter ended June 30, 2023

Time-Weighted Returns (net)¹

Private Natural Resources & Commodities



Private Infrastructure



¹ Private natural resources and infrastructure funds reflect early-stage life cycle performance.

Performance by Strategy

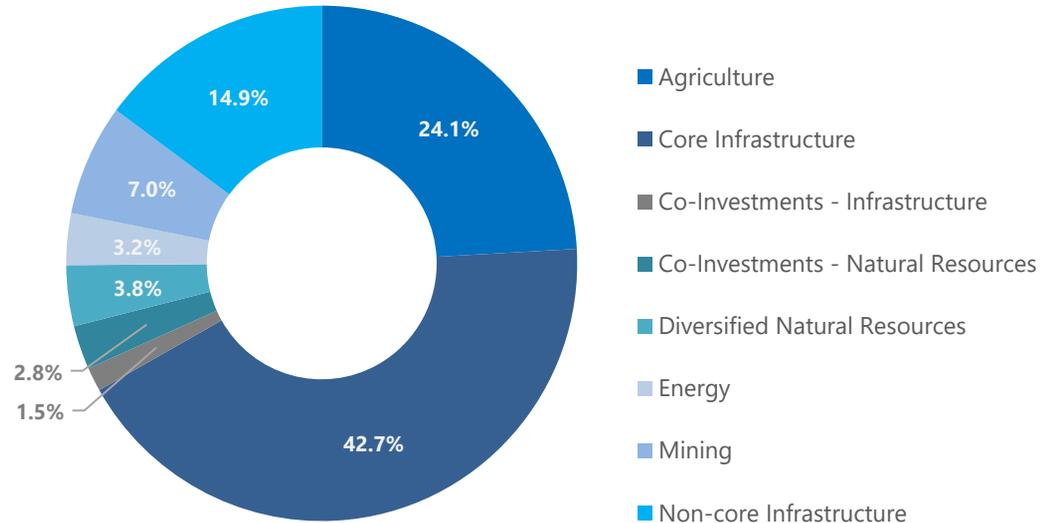
Private Real Assets ex. Real Estate

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

By Strategy¹



	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / Loss (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME
Agriculture	4	750.0	573.8	84.4	600.9	685.3	111.4	0.15x	1.19x	15.6%	1.15
Core Infrastructure	5	1,064.8	1,010.1	26.0	1,064.8	1,090.8	80.8	0.03x	1.08x	9.2%	1.10
Co-Investments - Infrastructure	3	100.2	35.1	0.0	37.2	37.2	2.2	0.00x	1.06x	7.4%	1.11
Co-Investments - Natural Resources	4	240.1	69.3	0.0	68.8	68.8	(0.6)	0.00x	0.99x	-2.3%	0.97
Diversified Natural Resources	1	136.4	72.8	0.0	95.1	95.1	22.3	0.00x	1.31x	45.3%	1.26
Energy	3	325.0	205.6	119.3	80.9	200.2	(5.4)	0.58x	0.97x	-0.8%	0.76
Mining	3	325.0	160.0	23.4	174.4	197.9	37.9	0.15x	1.24x	17.7%	1.18
Non-core Infrastructure	7	809.4	346.8	9.1	370.7	379.8	33.0	0.03x	1.10x	7.6%	1.03
Total Private Real Assets ex. Real Estate	30	3,750.8	2,473.5	262.2	2,492.8	2,755.0	281.5	0.11x	1.11x	8.7%	1.06

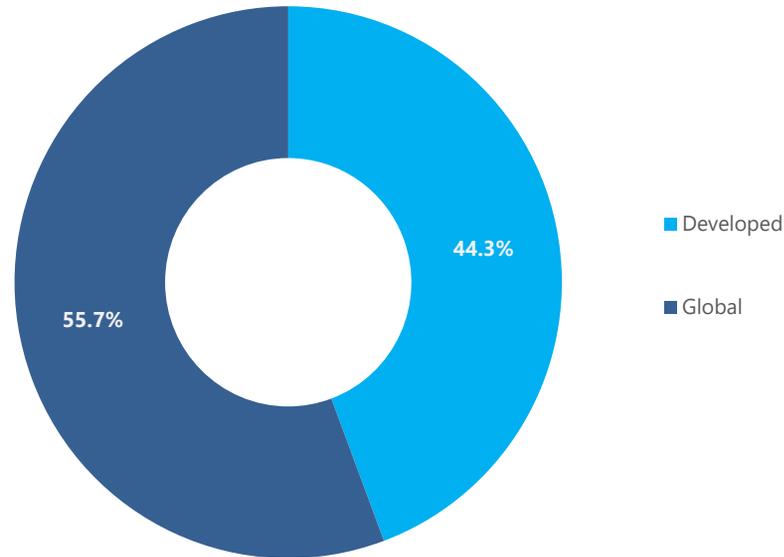
¹ Based on best available cash flow adjusted market values.

Performance by Geography

Private Real Assets ex. Real Estate

for the quarter ended June 30, 2023

By Geography¹



	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / Loss (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME
Developed	14	1,495.8	1,180.7	200.3	1,104.6	1,304.9	124.1	0.17x	1.11x	6.6%	1.02
Global	16	2,255.0	1,292.7	61.9	1,388.2	1,450.1	157.4	0.05x	1.12x	12.5%	1.11
Total Private Real Assets ex. Real Estate	30	3,750.8	2,473.5	262.2	2,492.8	2,755.0	281.5	0.11x	1.11x	8.7%	1.06

¹ Based on best available cash flow adjusted market values.

Performance by Vintage Year

Private Real Assets ex. Real Estate

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

By Vintage Year^{1,2}

Private Natural Resources & Commodities

	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / Loss (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME	Quartile Ranking
2004	1	50.0	50.0	91.4	0.0	91.4	41.4	1.83x	1.83x	31.1%	1.40	1st
2011	1	350.0	256.9	25.9	294.9	320.8	64.0	0.10x	1.25x	20.6%	1.20	1st
2014	2	450.0	435.7	86.4	353.3	439.7	4.0	0.20x	1.01x	0.3%	0.82	4th
2021	2	250.0	155.9	23.4	171.9	195.3	39.5	0.15x	1.25x	18.4%	1.20	2nd
2022	4	251.4	124.8	0.0	143.7	143.7	19.0	0.00x	1.15x	22.2%	1.15	1st
2023	5	425.0	58.4	0.0	56.3	56.3	(2.1)	0.00x	0.96x	-7.6%	0.95	N/A
Total Private Natural Resources & Commodities	15	1,776.4	1,081.6	227.1	1,020.1	1,247.2	165.6	0.21x	1.15x	8.7%	1.04	

1. Based on best available cash flow adjusted market values.
2. Benchmark data used is latest available by Burgiss Private IQ.

Private Infrastructure

	Number of Investments	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / Loss (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME	Quartile Ranking
2020	3	332.8	230.3	8.7	265.3	274.0	43.6	0.04x	1.19x	12.0%	1.07	3rd
2021	6	577.7	500.5	15.5	513.4	528.9	28.4	0.03x	1.06x	6.5%	1.07	3rd
2022	4	963.7	626.0	11.0	656.7	667.7	41.7	0.02x	1.07x	8.0%	1.08	2nd
2023	2	100.2	35.1	0.0	37.2	37.2	2.2	0.00x	1.06x	7.4%	1.11	1st
Total Private Infrastructure	15	1,974.3	1,391.9	35.1	1,472.7	1,507.8	115.9	0.03x	1.08x	8.8%	1.08	

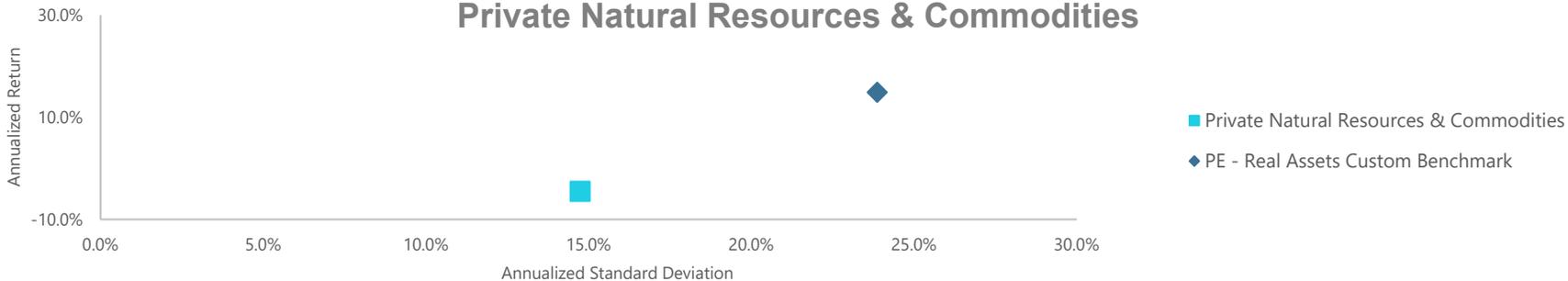
1. Based on best available cash flow adjusted market values.
2. Benchmark data used is latest available by Burgiss Private IQ.

Risk vs. Return

Private Real Assets ex. Real Estate
for the quarter ended June 30, 2023

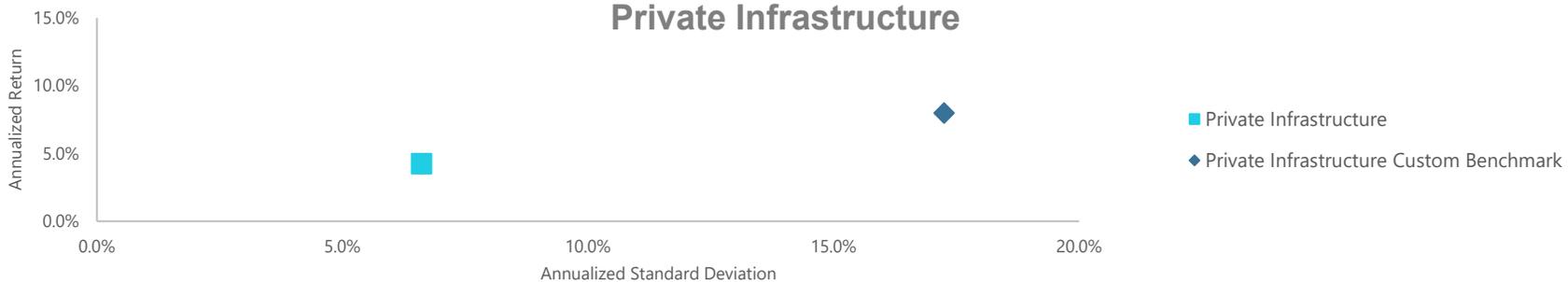
Since Inception (Annualized)

Private Natural Resources & Commodities



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
Private Natural Resources & Commodities	-4.5%	14.7%				
PE - Real Assets Custom Benchmark	14.9%	23.9%	(0.33)	(0.76)	0.13	25.4%

Private Infrastructure



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
Private Infrastructure	4.2%	6.6%				
Private Infrastructure Custom Benchmark	8.0%	17.3%	0.40	(0.19)	(0.04)	19.3%

Annual Cash Flow Activity

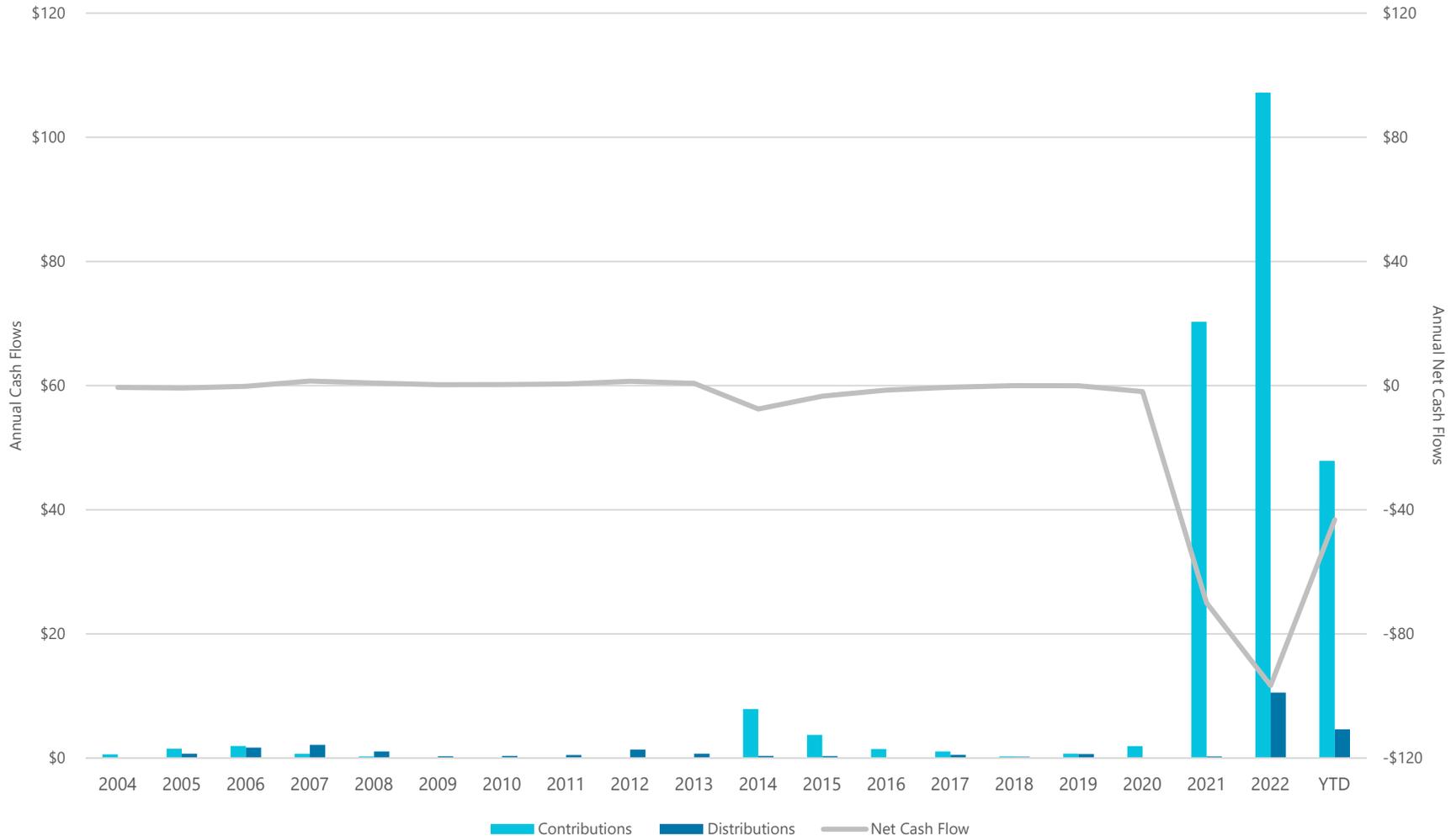
Private Real Assets ex. Real Estate

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

By Year (mm)



Summary

Diversified Hedge Funds for the quarter ended June 30, 2023



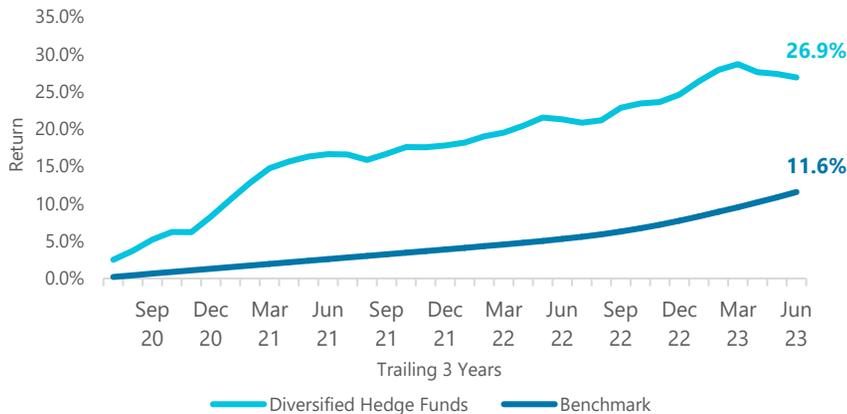
Los Angeles County Employees Retirement Association

Performance (net)



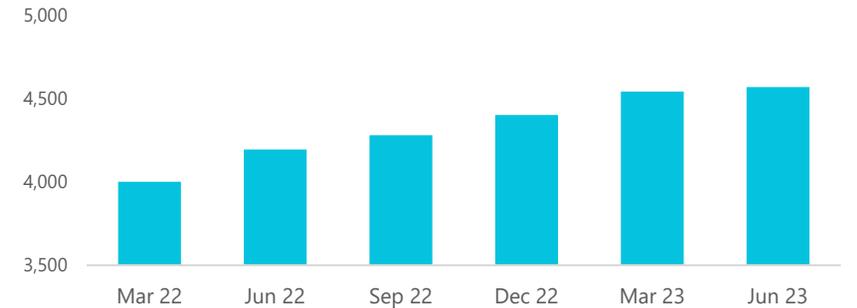
	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
Diversified Hedge Funds	-1.4%	1.8%	4.6%	8.3%	--	--	6.4%
Benchmark	1.9%	3.6%	6.0%	3.7%	--	--	3.9%
Excess	-3.2%	-1.7%	-1.3%	4.5%	--	--	2.4%

Cumulative Return

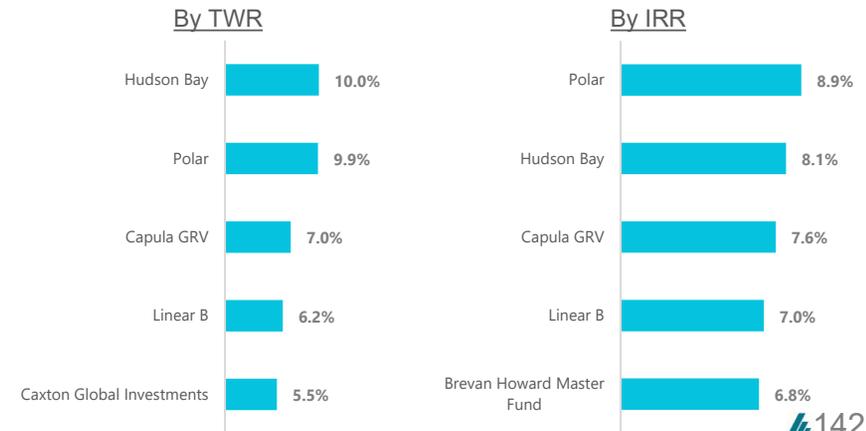


Asset Growth (mm)

	QTD	1 Year	3 Year
Beginning Market Value	4,543	4,196	1,950
Net Cash Flow	91	178	1,979
Gain/Loss	-64	196	641
Ending Market Value	4,570	4,570	4,570



Top Performing Investments (since inception)

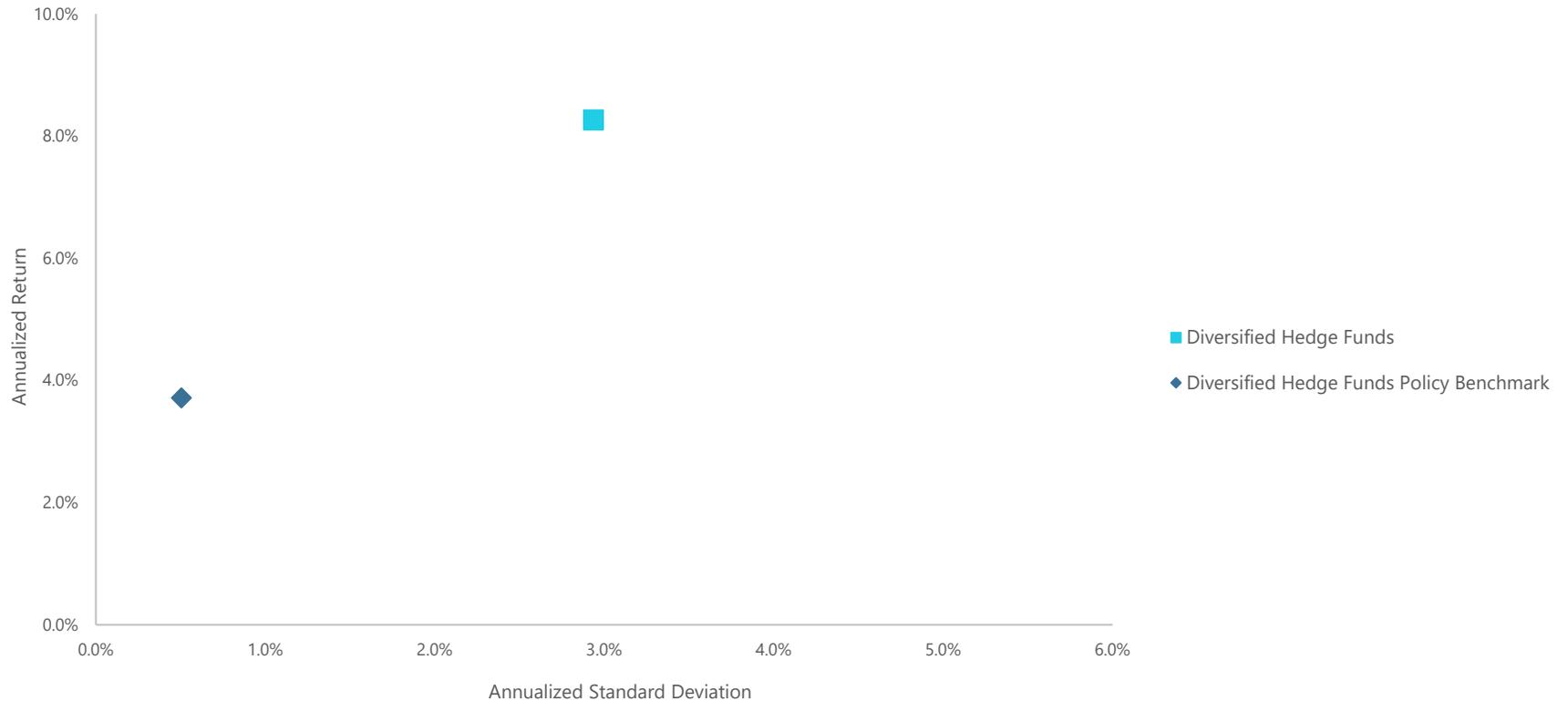


Risk vs. Return

Diversified Hedge Funds

for the quarter ended June 30, 2023

3 Year (Annualized)



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
Diversified Hedge Funds	8.3%	2.9%				
Diversified Hedge Funds Policy Benchmark	3.7%	0.5%	2.29	1.40	(2.02)	3.1%

Performance Detail

Diversified Hedge Funds

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Annualized Net Returns

	% of Composite	Ending Market Value (mm)	Prior Quarter Ending MV (mm)	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
Diversified Hedge Funds	100.0%	4,570	4,543	-1.4%	1.8%	4.6%	8.3%	--	--	6.4%	Apr-2019
Diversified Hedge Funds Policy Benchmark				1.9%	3.6%	6.0%	3.7%	--	--	3.9%	
LACERA HF Direct	89.0%	4,066	4,132	-1.6%	2.0%	5.1%	8.3%	5.6%	--	5.0%	May-2018
Custom Hedge Fund Benchmark				1.9%	3.6%	6.0%	3.7%	4.4%	--	4.5%	
AM Asia Strategies	5.4%	245	263	-6.7%	13.1%	11.6%	--	--	--	4.2%	Jun-2021
Brevan Howard Master Fund	13.7%	625	669	-6.6%	-3.9%	-0.1%	--	--	--	5.4%	Apr-2021
Capula GRV	14.8%	676	663	1.9%	5.2%	11.2%	6.7%	--	--	7.0%	Dec-2018
Caxton Global Investments	6.2%	282	302	-6.7%	-5.0%	-2.6%	--	--	--	5.5%	Feb-2021
DK Institutional Partners	10.9%	497	500	-0.7%	2.2%	2.2%	6.7%	4.8%	--	4.6%	May-2018
HBK Multi-strategy	12.8%	586	585	0.1%	1.4%	6.7%	7.6%	5.2%	--	5.2%	Jun-2018
Hudson Bay	14.7%	672	669	0.5%	3.3%	6.3%	10.0%	--	--	10.0%	Jul-2020
Polar	10.6%	484	481	0.7%	3.6%	5.4%	9.9%	--	--	9.9%	May-2020
HF Emerging Managers Program	10.5%	480	385	0.5%	0.7%	0.2%	--	--	--	0.2%	Aug-2021
Custom Hedge Fund Benchmark				1.9%	3.6%	6.0%	--	--	--	4.4%	
Stable Asset Management	10.5%	480	385	0.5%	0.7%	0.2%	--	--	--	0.2%	Aug-2021
Stable Fund Investments	10.5%	480	385	0.5%	0.7%	0.2%	--	--	--	0.2%	Aug-2021
Amundsen	1.3%	61	62	-1.9%	-4.0%	-1.6%	--	--	--	-3.8%	Sep-2021
ClearAlpha	2.0%	93	0	--	--	--	--	--	--	0.0%	May-2023
Clear Sky	1.9%	88	87	0.3%	-4.8%	-5.0%	--	--	--	-1.8%	Apr-2022
Linear B	1.6%	72	71	2.1%	3.1%	5.9%	--	--	--	6.2%	Aug-2021
Quarry	1.8%	82	81	1.3%	0.2%	--	--	--	--	-0.5%	Sep-2022
Sparta	1.1%	52	53	-2.4%	9.7%	2.5%	--	--	--	2.3%	Sep-2021
Trutino	0.7%	32	30	6.7%	10.0%	13.8%	--	--	--	4.0%	Aug-2021

emerging manager program

Emerging Manager Program

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Annualized Net Returns

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year	ITD TWR	ITD MWR	Inception Date
Growth								
Global Equity								
Cornercap	82.1	2.6%	7.2%	17.2%	--	6.9%	6.9%	Oct-2018
Global Equity Policy Benchmark		5.9%	16.1%	11.0%	--	8.8%	8.8%	
Private Equity								
J.P. Morgan Emerging Managers Program	72.4	0.0%	15.6%	35.2%	23.9%	26.1%	22.7%	Jan-2010
J.P. Morgan Emerging Managers Program II	74.2	0.1%	-10.4%	23.2%	9.9%	26.7%	36.2%	Apr-2014
J.P. Morgan Emerging Managers Program III	105.7	0.2%	0.6%	31.7%	28.5%	28.6%	32.3%	Jan-2017
J.P. Morgan Emerging Managers Program IV	243.7	0.6%	9.3%	23.0%	--	19.1%	17.5%	Nov-2018
Total Private Equity Custom Benchmark		7.3%	-5.7%	17.6%	13.0%	13.7%	13.7%	
Non-Core Private Real Estate								
Cityview Bay Area Fund II	78.4	0.0%	-4.9%	3.3%	2.3%	--	10.3%	Oct-2012
Cityview Western Fund I, LP	215.0	0.2%	0.5%	16.6%	18.1%	-47.5%	13.3%	Jun-2016
CVBAF II Union City Co-Invest	21.5	0.2%	-9.5%	5.5%	-2.7%	3.7%	4.2%	Nov-2015
Non-Core Private RE Policy Benchmark		-2.8%	-1.7%	10.2%	9.5%	11.1%	11.1%	
Credit								
Illiquid Credit								
Stable Asset Management - IC	54.8	-0.4%	--	--	--	-0.1%	-0.7%	Nov-2022
Illiquid Credit Policy Benchmark		1.5%	--	--	--	11.7%	11.7%	
Real Assets & Inflation Hedges								
Core Private Real Estate								
Cityview Core I.M.A	187.9	0.1%	-8.5%	2.4%	2.5%	3.7%	3.8%	Jun-2014
Core Private RE Policy Benchmark		-3.4%	-3.9%	7.7%	6.9%	6.9%	6.9%	
Risk Reduction & Mitigation								
Hedge Funds								
Stable Asset Management	480.3	0.5%	0.2%	--	--	0.2%	0.9%	Aug-2021
Custom Hedge Fund Benchmark		1.9%	6.0%	--	--	4.4%	4.4%	

manager scorecards



Los Angeles County Employees Retirement Association

PUBLIC MARKETS MANAGER SCORECARD

2nd Quarter 2023

		Performance <i>1 to 5 (with 5 the best)</i>	Organization & Operations <i>S+, S, or S- (with S+ the best)</i>	ESG <i>1 to 5 (with 5 the best)</i>	Partnership <i>A, B, or C (with A the best)</i>	Fees & Terms <i>1 to 5 (with 5 the best)</i>		
		SCORE	SCORE	SCORE	SCORE	SCORE		
Manager	Market Value (in \$ millions)	% of Total Fund						
GROWTH	GLOBAL EQUITY							
	Acadian Developed Markets	585.5	0.8%	4	S-	3	B	3
	BTC Euro Tilts	607.5	0.8%	5	S+	4	A	3
	Capital Group Developed Markets	413.6	0.6%	3	S	2	B	3
	Cevian Capital II - Activist	452.1	0.6%	3	S	4	B	1
	Cornercap US SC - EMP	82.1	0.1%	5	S-	1	A	3
	Frontier US SMID Growth	303.4	0.4%	3	S	2	A	1
	Global Alpha	176.0	0.2%	4	S+	3	A	3
	JPMAM Strategic Beta Non-U.S.	600.3	0.8%	* 3	S	2	B	3
	JPMAM Strategic Beta U.S.	4,656.1	6.3%	* 3	S	2	B	3
	Lazard Emerging Markets	381.4	0.5%	1	S-	3	B	1
	Parametric GE Cash Overlay	228.3	0.3%	—	S	—	B	5
	SSGA MSCI ACWI IMI	15,868.3	21.6%	4	S	—	B	5
Systematic US Small Cap Value	198.9	0.3%	2	S	2	A	3	
CREDIT	HIGH YIELD							
	Beach Point	299.5	0.4%	5	S	3	B	3
	Brigade Cap Mgmt	519.2	0.7%	3	S	2	B	3
	Pinebridge Investments	449.6	0.6%	* 3	S	4	B	3
	BANK LOANS							
	Bain Capital Credit	446.3	0.6%	4	S	2	B	1
	Credit Suisse Bank Loans	660.5	0.9%	2	S-	3	B	5
	Crescent Capital	460.4	0.6%	3	S	2	B	3
	EMERGING MARKET DEBT							
	Aberdeen Asset Management	366.6	0.5%	1	S	3	B	3
Ashmore Investment Management	255.9	0.3%	1	S	3	B	3	
REAL ASSETS & INFLATION HEDGES	NATURAL RESOURCES & COMMODITIES							
	Credit Suisse Commodity	286.2	0.4%	4	S-	1	A	3
	DWS Natural Resources	478.4	0.7%	2	S-	2	A	5
	Neuberger Berman/Gresham	337.9	0.5%	3	S	1	A	1
	INFRASTRUCTURE							
	DWS Infrastructure	2,525.2	3.4%	4	S-	2	A	5
	TIPS							
Blackrock TIPS	1,895.9	2.6%	2	S+	—	A	5	

PUBLIC MARKETS MANAGER SCORECARD

2nd Quarter 2023

		Performance <i>1 to 5 (with 5 the best)</i>	Organization & Operations <i>S+, S, or S-</i> <i>(with S+ the best)</i>	ESG <i>1 to 5 (with 5 the best)</i>	Partnership <i>A, B, or C (with A the best)</i>	Fees & Terms <i>1 to 5 (with 5 the best)</i>		
		SCORE	SCORE	SCORE	SCORE	SCORE		
Manager	Market Value (in \$ millions)	% of Total Fund						
RISK REDUCTION & MITIGATION	INVESTMENT GRADE BONDS							
	Alspring/Wells	1,283.0	1.7%	5	S	3	B	5
	BTC US Debt Index Fund	2,896.8	3.9%	4	S+	—	B	5
	Pugh Capital Mgmt	854.6	1.2%	3	S	1	A	3
	LONG-TERM GOVERNMENT BONDS							
	BlackRock	2,961.8	4.0%	* 3	S+	—	B	5
OVERLAYS & HEDGES	CASH							
	SSGA Cash	781.1	1.1%	* 3	S+	—	A	5
	OVERLAYS							
Parametric Cash Overlay	364.3	0.5%	—	S	—	B	5	
HEDGES								
BTC Passive Currency Hedge	43.0	0.1%	—	S+	—	B	5	

- Exceeds 3-Year Net Excess Return
- Meets 3-Year Net Excess Return
- Below 3-Year Net Excess Return

- For Organization, ESG, and Partnership**
- Downgrade from the prior quarter
 - Upgrade from the prior quarter

Footnotes

Pillar methodologies in refinement and may evolve over time

Category Descriptions

Performance

Quarterly score based on Sharpe and Information Ratios, which provide insight into a manager's risk-adjusted performance and performance relative to its benchmark, respectively

*' denotes a manager with an inception date of less than 3 years, resulting in a neutral score of 3

Circle icons reflect trailing 3-year net excess returns against the manager's benchmark above or below a specified range

Organization & Operations

Includes factors such as organization, professional staff, diversity & inclusion, investment philosophy & process, risk management, legal & compliance framework

'S' stands for Satisfactory

ESG

Evaluates the extent to which material ESG factors are identified, assessed, and incorporated into risk/return analysis and portfolio construction

'-' denotes passive index funds and cash where ESG scores are not relevant and/or reflect strategies that do not incorporate active decisions, including ESG considerations, in portfolio construction

'+' denotes mandates where ESG scores are currently under review

Partnership

Blended score based on:

- Value added services – e.g., providing education, distributing research, and performing analytics on portfolio
- Client service – e.g., responsiveness, timeliness, competency, and approach
- Size of LACERA's investment relative to the firm's assets under management

Fees & Terms

Compared to a benchmark of median fees by asset category and/or investment structure



Los Angeles County Employees Retirement Association

PRIVATE MARKETS MANAGER SCORECARD

2nd Quarter 2023

			Performance	Organization & Operations	ESG	Partnership	Fees & Terms
			1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
			SCORE	SCORE	SCORE	SCORE	SCORE
Manager	Market Value (in \$ millions)	% of Total Fund					
GLOBAL/LARGE BUYOUT							
Advent International Group	133.6	0.2%	4	S+	3	C	4
Blackstone Management	211.5	0.3%	2	S	4	B	5
CVC Capital Partners	574.9	0.8%	5	S	4	A	4
Green Equity Investors	375.2	0.5%	5	S+	3	A	4
Hellman & Friedman	461.6	0.6%	1	S+	3	B	4
MBK	297.7	0.4%	1	S	4	A	2
Silver Lake Partners	553.1	0.8%	3	S+	3	A	5
Thoma Bravo LLC	219.1	0.3%	*	S+	3	B	3
Vista Equity Partners	859.4	1.2%	3	S-	3	A	2
MID-MARKET BUYOUT							
Accel-KKR Capital Partners	223.3	0.3%	3	S+	4	A	3
Alpine Investors	0.0	0.0%	*	S+	4	B	2
BlackFin Capital Partners	52.6	0.1%	1	S	3	B	3
Carlyle Group	229.5	0.3%	3	S+	4	B	4
Clearlake Capital	538.9	0.7%	5	S	4	A	4
GHO Capital	113.9	0.2%	*	S	3	A	3
Gilde Partners	37.2	0.1%	5	S	2	A	5
Harvest Partners	61.3	0.1%	5	S	1	C	3
Marlin Equity	26.6	0.0%	1	S-	2	C	3
Novacap	16.6	0.0%	*	S	3	B	3
Onex Partners	309.8	0.4%	2	S	4	A	5
PAI	174.1	0.2%	4	S-	2	B	4
Revelstoke	169.9	0.2%	3	S	4	A	2
Riverside Capital	111.1	0.2%	1	S	3	B	3
Siris Capital Group	162.6	0.2%	2	S	3	B	4
Sterling Partners	128.1	0.2%	4	S	3	A	4
STG Partners	58.4	0.1%	*	S	3	A	3
Triton	156.3	0.2%	5	S-	3	C	5
TSG	2.9	0.0%	*	S+	3	C	2
Veritas Capital	78.8	0.1%	*	S+	3	B	3
Vinci Partners	82.5	0.1%	2	S	4	B	5
Webster Equity Partners	83.3	0.1%	*	S	3	B	3
Wynnchurch Capital	59.2	0.1%	*	S+	3	C	3
SMALL BUYOUT							
AE Industrial Partners	107.5	0.1%	5	S+	3	A	3
Atlantic Street Capital	47.7	0.1%	5	S	3	A	3
Clarion	28.8	0.0%	3	S+	2	B	4
Excellere Partners	134.1	0.2%	2	S-	3	A	3
Incline Equity Partners	41.1	0.1%	5	S	2	C	4
Insignia Capital Partners	150.2	0.2%	5	S	1	B	5
Juggernaut Capital Partners	313.4	0.4%	4	S	3	A	4
Lightyear Capital	235.1	0.3%	3	S	2	A	5
Livingbridge	56.8	0.1%	1	S+	4	A	3
Montefiore Investment	21.2	0.0%	*	S+	4	B	4
One Rock Capital Partners	233.6	0.3%	1	S	3	A	4
Palladium Equity Partners	94.4	0.1%	2	S-	4	C	2

PRIVATE EQUITY



Los Angeles County Employees Retirement Association

PRIVATE MARKETS MANAGER SCORECARD

2nd Quarter 2023

			Performance	Organization & Operations	ESG	Partnership	Fees & Terms
			1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
			SCORE	SCORE	SCORE	SCORE	SCORE
Manager	Market Value (in \$ millions)	% of Total Fund					
GROWTH EQUITY							
Australis Partners	114.0	0.2%	1	S-	4	B	5
Great Hill Partners	-1.8	0.0%	*	S	4	A	4
JMI Equity	4.7	0.0%	2	S	3	C	2
RedBird Capital Partners	185.4	0.3%	2	S	4	A	3
Summit Partners	85.1	0.1%	4	S	4	A	4
TA Associates	162.9	0.2%	5	S	4	B	4
Technology Crossover Ventures	2.1	0.0%	5	S	2	B	3
VENTURE CAPITAL							
BlueRun Ventures	116.6	0.2%	2	S	2	B	2
Canaan Partners	164.9	0.2%	4	S	3	A	4
GGV Capital	459.8	0.6%	3	S	3	A	3
Institutional Venture Partners	157.0	0.2%	5	S	1	C	4
Joy Capital	87.1	0.1%	1	S-	2	B	4
Lilly Asia Ventures	156.1	0.2%	4	S	4	B	2
Primary Ventures	0.0	0.0%	*	S	2	C	4
Sinovation Ventures	93.3	0.1%	1	S-	2	C	2
Storm Ventures LLC	227.0	0.3%	2	S	3	A	4
Union Square	100.4	0.1%	5	S-	1	B	5
SPECIAL SITUATIONS							
Alchemy Partners	47.5	0.1%	1	S	3	B	4
Black Diamond	176.1	0.2%	5	S	3	B	4
Centerbridge	180.6	0.2%	3	S	4	A	2
FUND OF FUNDS							
Gateway	652.4	0.9%	5	S	3	C	4
MS GTB Capital Partners	320.8	0.4%	1	S	4	A	2
J.P. Morgan	493.7	0.7%	3	S+	+	B	4

PRIVATE EQUITY
(continued)



Los Angeles County Employees Retirement Association

PRIVATE MARKETS MANAGER SCORECARD

2nd Quarter 2023

			Performance	Organization & Operations	ESG	Partnership	Fees & Terms
			1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
			SCORE	SCORE	SCORE	SCORE	SCORE
Manager	Market Value (in \$ millions)	% of Total Fund					
COMMINGLED FUNDS							
AERMONT Real Estate Fund IV	32.2	0.0%	1	S	4	B	3
AEW Value Investors Asia III	30.2	0.0%	1	S	4	B	4
AG Asia Realty Fund IV	75.3	0.1%	4	S	2	B	3
AG Europe Realty Fund II	48.1	0.1%	3	S	2	B	3
Bain Capital Real Estate Fund I	79.3	0.1%	5	S	3	A	3
Bain Capital Real Estate Fund II	47.9	0.1%	*	S	3	A	3
Blackstone Real Estate Partners Fund X	-0.8	0.0%	*	S	3	B	3
Brookfield Strategic Real Estate Partners Fund IV	114.8	0.2%	*	S	3	B	3
CapMan Nordic Real Estate Fund II	41.0	0.1%	1	S	3	A	3
CapMan Nordic Real Estate Fund III	31.0	0.0%	*	S	3	A	3
CBRE US Core Partners	100.0	0.1%	*	S+	3	A	5
CityView Bay Area Fund II	76.3	0.1%	1	S	3	B	3
CityView Western Fund I, L.P.	214.6	0.3%	5	S	3	B	3
Core Property Index Fund	118.7	0.2%	3	S	2	A	5
Europa Fund IV	11.9	0.0%	1	S-	3	C	2
Heitman Asia-Pacific Property Investors	32.6	0.0%	2	S	3	B	4
Invesco Real Estate Asia Fund	150.8	0.2%	2	S	4	B	5
Prologis European Logistics Fund (PELF)	190.9	0.3%	3	S	4	A	1
RREEF Core Plus Industrial Fund (CPIF)	288.0	0.4%	5	S-	3	B	5
Starwood Capital Hospitality Fund	6.3	0.0%	4	S	2	C	3
TPG Real Estate Partners III	40.4	0.1%	4	S	2	B	3
TPG Real Estate Partners IV	4.6	0.0%	*	S	2	B	3
SEPARATE ACCOUNTS							
Cityview Core I.M.A.	187.7	0.3%	1	S	3	B	2
Clarion I.M.A.	495.2	0.7%	5	S	3	A	4
Clarion Takeover Core IMA	322.0	0.4%	*	S	3	A	4
Clarion Takeover Value IMA	8.6	0.0%	*	S	3	A	3
Heitman I.M.A.	304.9	0.4%	4	S	3	B	4
RREEF Core/High Return I.M.A. III	1,251.3	1.7%	1	S-	3	C	5
RREEF Takeover I.M.A.	0.1	0.0%	2	S-	3	C	4
Stockbridge I.M.A.	622.3	0.8%	4	S	2	B	4
Stockbridge High I.M.A. Vintage 2014	59.1	0.1%	*	S	2	B	5
Stockbridge Value I.M.A. Vintage 2014	24.6	0.0%	*	S	2	B	3

REAL ESTATE



Los Angeles County Employees Retirement Association

PRIVATE MARKETS MANAGER SCORECARD

2nd Quarter 2023

			Performance	Organization & Operations	ESG	Partnership	Fees & Terms
			1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
			SCORE	SCORE	SCORE	SCORE	SCORE
Manager	Market Value (in \$ millions)	% of Total Fund					
NATURAL RESOURCES & COMMODITIES							
Applan III	4.1	0.0%	*	S	3	B	3
Ara III	0.0	0.0%	*	S	4	B	3
Cibus Enterprise II	4.6	0.0%	*	S	3	B	3
Cibus Fund II	29.0	0.0%	*	S	3	B	3
EMG	81.5	0.1%	2	S	3	B	1
HiTecVision	95.1	0.1%	*	S	3	A	3
Orion Mine Finance Onshore III	132.8	0.2%	*	S	4	B	4
Orion Mineral Royalty Fund I	23.5	0.0%	*	S	4	B	4
Sprott	44.8	0.1%	*	S	3	B	5
TIAA-CREF Global Agriculture	294.9	0.4%	5	S+	4	A	5
TIAA-CREF Global Agriculture II	272.4	0.4%	5	S+	4	A	5
INFRASTRUCTURE							
Antin Mid Cap	50.0	0.1%	*	S	3	B	2
Axiom Infrastructure Canada II	150.1	0.2%	*	S	4	A	3
Axiom Infrastructure US II	263.3	0.4%	*	S	4	A	3
DIF CIF III	43.5	0.1%	*	S	3	A	4
DIF Infrastructure VI	118.8	0.2%	5	S	3	A	2
Grain Communications Opportunity Fund III	44.5	0.1%	*	S-	3	C	2
Grain Spectrum Holdings III	66.3	0.1%	3	S-	3	C	2
Guardian Smart Infrastructure	0.0	0.0%	*	S	3	C	4
KKR Diversified Core Infrastructure Fund	509.1	0.7%	*	S	3	A	4
Macquarie Global Infrastructure Fund	0.0	0.0%	*	S	3	A	4
Pan-European Infrastructure Fund III	76.4	0.1%	2	S-	3	B	3
Partners Group Direct Infrastructure 2020	91.8	0.1%	*	S	3	A	3

PRIVATE REAL ASSETS
(ex. Real Estate)



Los Angeles County Employees Retirement Association

PRIVATE MARKETS MANAGER SCORECARD

2nd Quarter 2023

			Performance	Organization & Operations	ESG	Partnership	Fees & Terms
			1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
			SCORE	SCORE	SCORE	SCORE	SCORE
Manager	Market Value (in \$ millions)	% of Total Fund					
HEDGE FUNDS							
AM Asia	245.4	0.3%	4	S	2	A	5
Brevan Howard	624.9	0.8%	4	S+	2	A	2
Capula GRV	675.6	0.9%	5	S	1	B	3
Caxton	281.8	0.4%	4	S	3	B	3
DK Institutional Partners	496.8	0.7%	4	S	1	B	3
HBK Multistrategy	585.9	0.8%	4	S	1	B	3
Hudson Bay	671.7	0.9%	5	S	1	B	3
Polar	484.0	0.7%	5	S	2	B	4
Stable	480.3	0.7%	*	S	2	A	5
ILLIQUID CREDIT							
Barings	34.9	0.0%	3	S-	3	C	4
Beach Point	423.9	0.6%	4	S	1	B	3
BlackRock/Tennenbaum	630.7	0.9%	2	S-	2	C	4
Glendon	0.0	0.0%	5	S	1	B	2
Magnetar	957.7	1.3%	*	S	2	A	3
Napier Park	906.8	1.2%	3	S	2	A	3
Oaktree	0.0	0.0%	5	S	2	B	2
PIMCO Tac Opps	284.3	0.4%	1	S-	1	C	3
Quadrant	24.6	0.0%	1	S	1	B	4
Silver Rock	542.8	0.7%	*	S	2	A	4
Stable - IC	54.8	0.1%	*	S	2	A	4
Varde	522.1	0.7%	*	S	2	B	4
Waterfall	505.8	0.7%	*	S	2	B	4

HEDGE FUNDS & ILLIQUID CREDIT

For Organization, ESG, and Partnership

- Downgrade from the prior quarter
- Upgrade from the prior quarter

Footnotes

Pillar methodologies in refinement and may evolve over time

Category Descriptions

Performance

Quarterly score based on risk-adjusted performance metrics over time
 *' denotes a manager with an inception date of less than 3 years

Organization & Operations

Includes factors such as organization, professional staff, investment philosophy & process, risk management, legal & compliance framework, diversity & inclusion
 'S' stands for Satisfactory

ESG

Evaluates the extent to which material ESG factors are identified, assessed, and incorporated into risk/return analysis and portfolio construction
 '+' denotes mandates where ESG scores are currently under review

Partnership

Assesses the quality of investment manager relationships both quantitatively and qualitatively

Fees & Terms

Compares various fees and terms within each asset category, strategy and/or investment structure

appendix

Summary

Securities Lending Income

for the quarter ended June 30, 2023

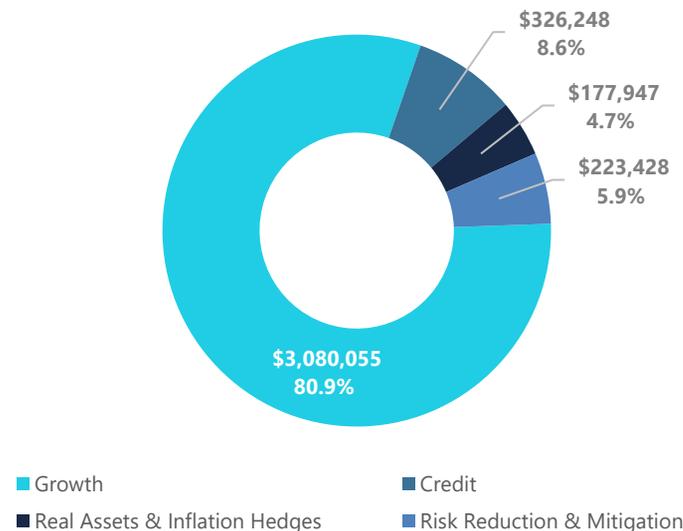


Los Angeles County Employees Retirement Association

Earnings by Quarter



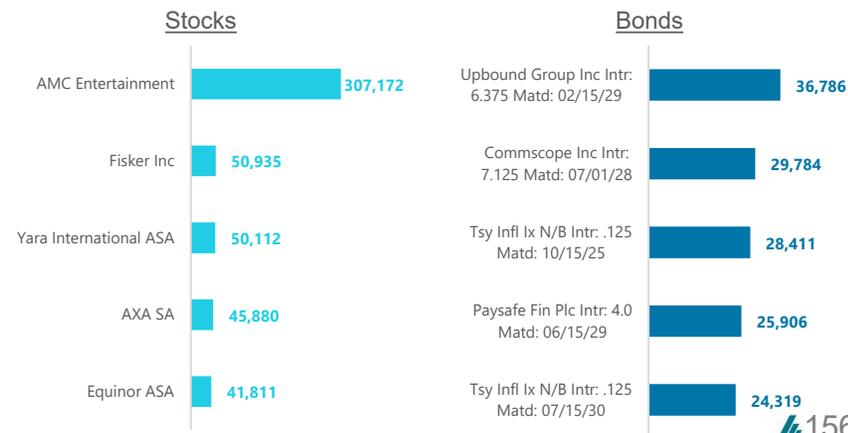
Earnings by Functional Category



Top Earning Funds

Fund	% of Total Fund Earnings	Total Earnings	Cash Earnings	Non-Cash Earnings
SSGA MSCI ACWI IMI	56.7%	2,159,957	1,451,212	708,745
JPMAM Strategic Beta US	13.2%	503,387	393,945	109,443
Frontier US SMID Growth	4.8%	182,398	144,735	37,663
Pinebridge Investments	4.5%	169,825	146,155	23,670
BlackRock TIPS	4.1%	156,310	53,922	102,389

Top Earning Securities



Public Markets Manager Fees

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Growth

	Average Market Value (\$ mm)	Fees ¹	Annualized Effective Rate (bps)
Active			
Acadian Asset Management	\$577.0	\$542,409	37.6
BTC Europe Alpha Tilts ²	\$597.0	\$274,670	18.4
Capital Guardian	\$394.5	\$342,123	34.7
Cevian Capital	\$436.7	\$1,194,409	109.4
CornerCap	\$78.8	\$104,097	52.9
Frontier Capital Management	\$281.3	\$527,439	75.0
Global Alpha	\$177.0	\$315,150	71.2
Lazard Asset Management	\$373.9	\$598,305	64.0
Parametric GE Market Cap	\$922.3	\$63,331	2.7
Parametric GE Region	\$597.5	\$41,029	2.7
Systematic	\$189.6	\$260,650	55.0
Subtotal:	\$4,625.7	\$4,263,611	36.9
Factor-Based			
JPMAM Strategic Beta Non-US	\$589.6	\$50,071	3.4
JPMAM Strategic Beta US	\$4,449.1	\$377,829	3.4
Subtotal:	\$5,038.7	\$427,900	3.4
Passive			
SSGA MSCI ACWI IMI	\$15,539.9	\$284,083	0.7
Subtotal:	\$15,539.9	\$284,083	0.7

¹ Reflects estimated investment management fees.

² Mandate was converted to a separately managed account during the quarter; as such, fees do not reflect standard 35 bps flat fee.

Public Markets Manager Fees

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Credit

	Average Market Value (\$ mm)	Fees ¹	Annualized Effective Rate (bps)
Liquid Credit			
Aberdeen Standard Investments	\$367.4	\$353,031	38.4
Ashmore Investment Management	\$255.9	\$324,443	50.7
Bain Capital	\$446.3	\$596,793	53.5
Beach Point Capital	\$294.9	\$331,722	45.0
Brigade Capital Management	\$603.8	\$622,055	41.2
Credit Suisse Bank Loan	\$735.3	\$380,878	20.7
Crescent Capital Group	\$495.8	\$596,256	48.1
Pinebridge	\$463.3	\$382,188	33.0
Subtotal:	\$3,662.5	\$3,587,365	39.2

¹ Reflects estimated investment management fees.

Public Markets Manager Fees

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Real Assets & Inflation Hedges

	Average Market Value (\$ mm)	Fees ¹	Annualized Effective Rate (bps)
Natural Resources & Commodities			
Credit Suisse	\$284.7	\$193,339	27.2
DWS Natural Resources	\$552.9	\$257,740	18.6
Neuberger Berman/Gresham	\$332.4	\$309,384	37.2
Subtotal:	\$1,170.0	\$760,463	26.0
Infrastructure			
DWS Infrastructure	\$2,546.0	\$1,186,773	18.6
Subtotal:	\$2,546.0	\$1,186,773	18.6
Treasury Inflation-Protected Securities			
BlackRock TIPS	\$1,908.3	\$47,577	1.0
Subtotal:	\$1,908.3	\$47,577	1.0

¹ Reflects estimated investment management fees.

Public Markets Manager Fees

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Risk Reduction & Mitigation

	Average Market Value (\$ mm)	Fees ¹	Annualized Effective Rate (bps)
Investment Grade Bonds			
Allspring/Wells	\$1,289.3	\$338,660	10.5
Pugh Capital Management	\$859.1	\$285,579	13.3
Subtotal:²	\$5,062.3	\$685,989	5.4
Long-Term Government Bonds			
BlackRock	\$2,990.8	\$73,376	1.0
Subtotal:	\$2,990.8	\$73,376	1.0
Cash			
SSGA Cash	\$637.6	\$63,763	4.0
Subtotal:	\$637.6	\$63,763	4.0

¹ Reflects estimated investment management fees.

² Includes BTC US Debt Index account.

Public Markets Manager Fees

for the quarter ended June 30, 2023



Los Angeles County Employees Retirement Association

Overlays & Hedges

	Average Market Value (\$ mm)	Fees ¹	Annualized Effective Rate (bps)
Overlays			
Parametric Cash Overlay	\$1,761.8	\$120,974	2.7
Subtotal:	\$1,761.8	\$120,974	2.7
Hedges			
BlackRock Developed Markets Currency Hedge	\$7,101.5	\$265,578	1.5
Subtotal:	\$7,101.5	\$265,578	1.5

¹ Reflects estimated investment management fees.

Benchmark Definitions

Current Composition

	Weight	Component
Total Fund		
Total Fund Policy Benchmark		
	53%	Growth Policy Benchmark
	11%	Credit Policy Benchmark
	17%	RA & IH Policy Benchmark
	19%	RR & M Policy Benchmark
Growth		
Growth Policy Benchmark		
	60%	Global Equity Policy Benchmark
	32%	Private Equity – Growth Policy BM
	8%	Non-Core Private RE Policy Benchmark
Global Equity Policy Benchmark		
	100%	MSCI ACWI IMI Net
Private Equity – Growth Policy BM		
	100%	MSCI ACWI IMI Net + 200 bps (3-month lagged)
Non-Core Private RE Policy Benchmark		
	100%	NFI ODCE + 225 bps (3-month lagged)

Benchmark Definitions

Current Composition

	Weight	Component
Credit		
Credit Policy Benchmark		
	36%	Liquid Credit Policy Benchmark
	64%	Illiquid Credit Policy Benchmark
Liquid Credit Policy Benchmark		
	40%	Bloomberg U.S. Corporate High Yield
	40%	CS Leveraged Loan Index
	10%	JPMorgan EMBI Global Diversified Index
	5%	JPM GBI-EM Global Diversified Index
	5%	JPM CEMBI Broad Diversified
Illiquid Credit Policy Benchmark		
	100%	Liquid Credit Policy BM + 150 bps (1-month lagged)
Bank Loans Custom Benchmark	100%	CS Leveraged Loan Index
Beachpoint Custom Benchmark	100%	Bloomberg U.S. Corporate High Yield
Brigade Custom Index	100%	Bloomberg U.S. Corporate High Yield
EMD Custom Benchmark		
	50%	JPMorgan EMBI Global Diversified Index
	25%	JPM CEMBI Broad Diversified
	25%	JPM GBI-EM Global Diversified Index

Benchmark Definitions

Current Composition

	Weight	Component
Real Assets & Inflation Hedges		
RA & IH Policy Benchmark		
	35%	Core Private RE Policy Benchmark
	18%	Nat Res & Comm Policy Benchmark
	29%	DJ Brookfield Global Infra Comp
	18%	Bloomberg U.S. Treasury: U.S. TIPS
Core Private RE Policy Benchmark		
	100%	NFI ODCE (3-month lagged)
Nat Res & Comm Policy Benchmark		
	33%	Bloomberg Commodity Index Total Return
	66%	S&P Global Natural Resources Index
<hr/>		
Private Equity – Real Assets Custom BM	100%	S&P Glb LargeMidCap Commod & Resources (3-month lagged)
Private Infrastructure Custom BM	100%	DJ Brookfield Global Infra Comp (3-month lagged)
Risk Reduction & Mitigation		
RR & M Policy Benchmark		
	37%	Bloomberg U.S. Aggregate
	32%	Diversified Hedge Funds Policy Benchmark
	26%	Bloomberg U.S. Treasury: Long
	5%	FTSE 3-Month US Treasury Bill
Diversified Hedge Funds Policy Benchmark		
	100%	FTSE 3-Month US Treasury Bill + 250 bps (1-month lagged)
Cash Policy Benchmark		
	100%	FTSE 3-Month US Treasury Bill
<hr/>		
Custom Hedge Fund BM	100%	Diversified Hedge Funds Policy Benchmark

A

ANNUAL RETURN

The total return of a security over a specified period, expressed as an annual rate of interest.

ACTIVE RISK

The expected standard deviation of the differential return between the portfolio and the benchmark. Active total risk arises from active management, and it is the result of active weights (deviations from the benchmark at the asset level) and therefore active exposures; for passively managed portfolios, it is referred to as “total tracking error.”

ACTIVE RISK CONTRIBUTION

Percent contribution to active total risk (or tracking error). The percent of active total risk that an individual asset or risk source contributes. For example, a % CR to Active Total Risk of 10% indicates that 10% of the portfolio’s active total risk is arising from the active position in that particular asset.

B

BASIS POINTS (BPS)

One one-hundredth of one percent. One hundred basis points equal one percent.

BETA

A measure of the volatility of a stock relative to the overall market. A beta of less than one indicates lower risk than the market; a beta of more than one indicates higher risk than the market.

D

DURATION

A measure of the price sensitivity of a bond portfolio to changes in interest rates.

DISTRIBUTED TO PAID-IN (DPI)

A measure of distributions received relative to contributed capital.

F

FUTURES CONTRACT

Agreement to buy or sell a specific amount of a commodity or financial instrument at a particular price and a stipulated future date.

H

HIGH YIELD BOND

A bond with a low investment quality and credit worthiness, usually with a rating of BB or less.

I

INFORMATION RATIO

The excess return (alpha) per unit of active risk (tracking error).

INTERNAL RATE OF RETURN (IRR)

A total rate of return that gives full weight to the size and timing of cash flows over the period measured and fully reflects unrealized gains and losses in addition to realized gains and losses, interest and dividend income.

K

KAPLAN & SCHOAR PUBLIC MARKET EQUIVALENT (KS-PME)

A ratio that benchmarks the performance of a fund against an appropriate public market index while accounting for the timing of a fund's cash flows.

M

MC TO TOTAL TRACKING ERROR

This value represents the change in the active risk of an asset's portfolio or group that would result from a one percent increase in the asset's effective position plus an equal short position in the benchmark.

S

SHARPE RATIO

Measures the performance of an investment compared to a risk-free asset, after adjusting for its risk. It is the difference between the returns of the investment and the risk-free return, divided by the standard deviation of the investment.

STANDARD DEVIATION

Statistical measure of the degree to which an individual value in a probability distribution tends to vary from the mean of the distribution. The greater the degree of dispersion, the greater the risk.

T

TIME-WEIGHTED RATE OF RETURN (TWR)

A measure of the compound rate of growth in a portfolio. Often used to compare the returns of investment managers because it eliminates the distorting effects on growth rates created by inflows and outflows of money.

TOTAL RISK

The total (gross) risk to an asset (or portfolio), which is the standard deviation of the asset's total return distribution, expressed in percent. Total risk is forecasted using MSCI Barra's multiple factor models. The total risk for an asset depends on the asset's exposures to the risk factors, the factor variance/covariance matrix, and the forecast selection risk of the asset.

TOTAL RISK CONTRIBUTION

The percent of total risk that an individual asset or risk source contributes. For example, a % CR to Total Risk of 10% indicates that 10% of the portfolio's total risk is arising from the portfolio's position in that particular asset.

TOTAL VALUE TO PAID-IN (TVPI)

A measure of total value created relative to capital invested.

TRACKING ERROR

The volatility of a manager's excess return. It is measured by subtracting the benchmark return from the manager's return and calculating the standard deviation.

Y

YIELD TO MATURITY

The return a bond earns on the price at which it was purchased if it were held to maturity. It assumes that coupon payments can be reinvested at the yield to maturity.