



Los Angeles County Employees Retirement Association

# Investments Division

## TOTAL FUND

## PERFORMANCE REPORT

For the quarter ended  
December 31, 2021

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 are visible. The word 'review' is overlaid in a large, light blue, lowercase font across the bottom of the image.

review

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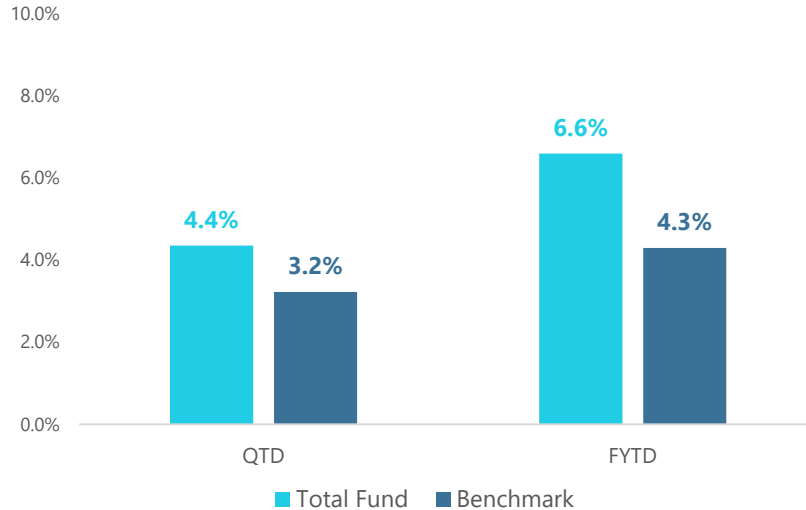
<b>01</b>	TOTAL FUND
<b>02</b>	GROWTH
<b>03</b>	CREDIT
<b>04</b>	REAL ASSETS & INFLATION HEDGES
<b>05</b>	RISK REDUCTION & MITIGATION
<b>06</b>	PRIVATE MARKETS
<b>07</b>	EMERGING MANAGER PROGRAM
<b>08</b>	RISK REPORTS
<b>09</b>	MANAGER SCORECARDS
<b>10</b>	APPENDIX

total fund

# Quarterly Snapshot

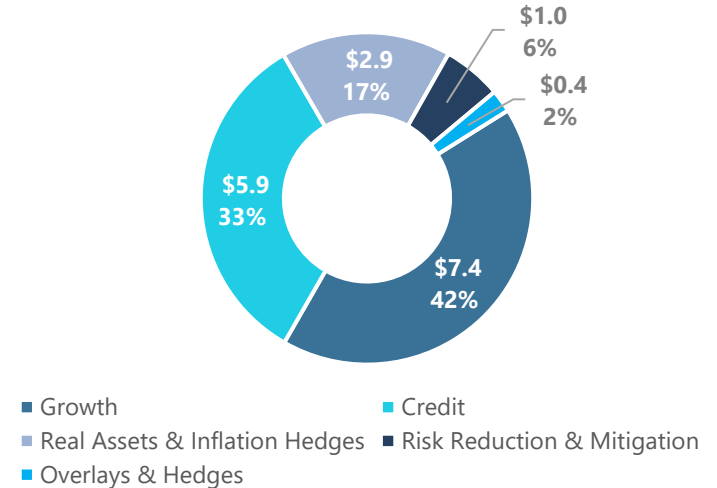
for the quarter ended December 31, 2021

## Performance (net)



## Public Markets Fees<sup>1</sup>

(mm)



### Ending Market Value

75,580

↑ 4%

from prior quarter

### Sharpe Ratio<sup>2</sup>

1.49

↑ 53%

from prior quarter

### Batting Average<sup>3</sup>

62%

↑ 20%

from prior quarter

### Standard Deviation<sup>2</sup>

8.0

↓ -7%

from prior quarter

### Tracking Error<sup>2</sup>

2.4

0%

from prior quarter

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

2. 3 Year Annualized.

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

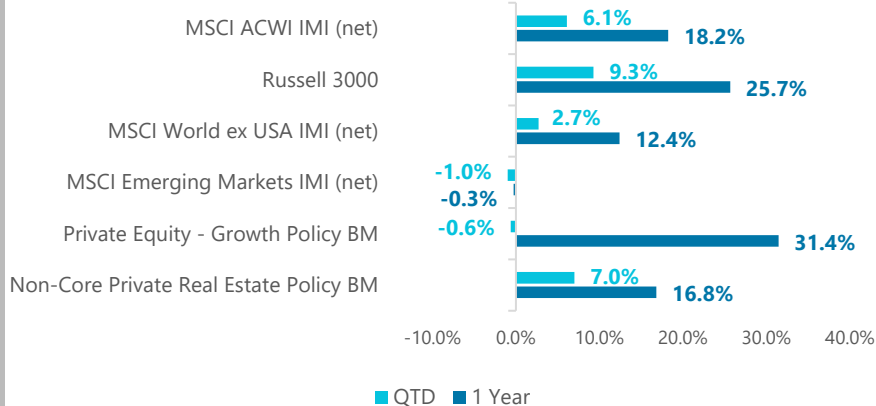
# Market Environment

for the quarter ended December 31, 2021

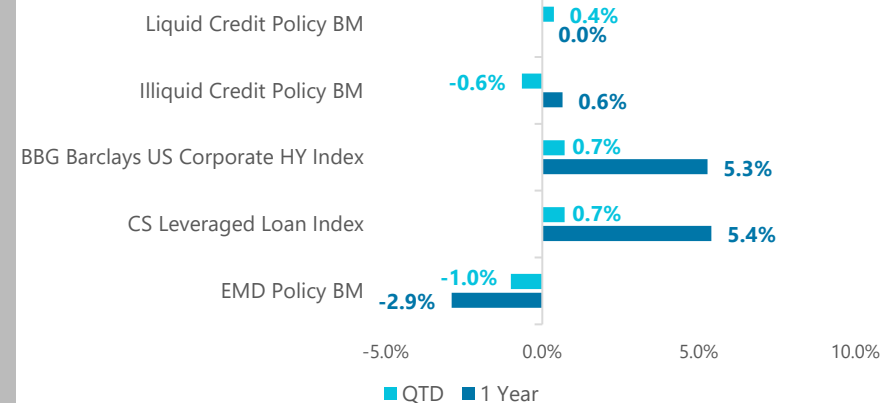


Los Angeles County Employees Retirement Association

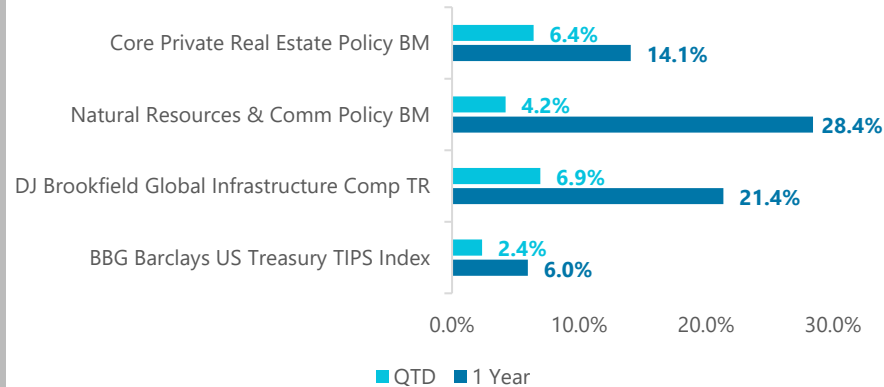
## Growth



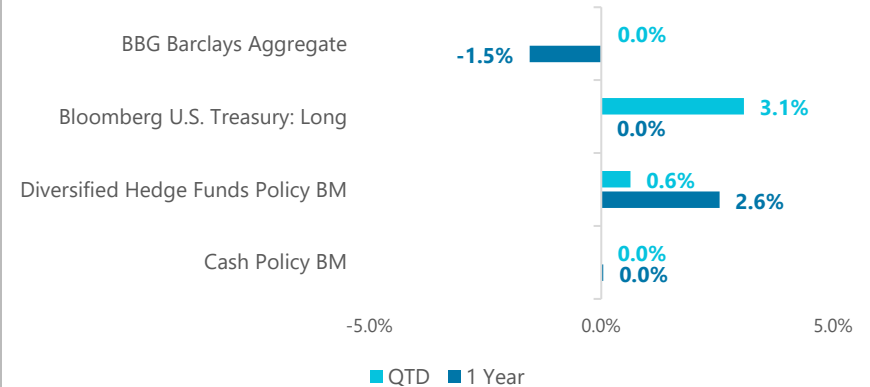
## Credit



## Real Assets & Inflation Hedges



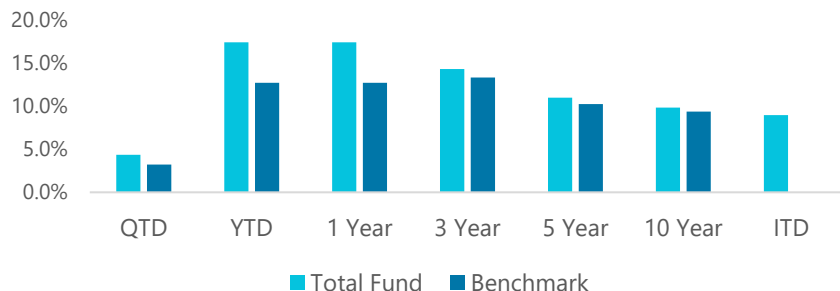
## Risk Reduction & Mitigation



# Summary

for the quarter ended December 31, 2021

## Performance (net)



	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>Total Fund</b>	<b>4.4%</b>	<b>17.4%</b>	<b>17.4%</b>	<b>14.3%</b>	<b>11.0%</b>	<b>9.8%</b>	<b>9.0%</b>
Benchmark	3.2%	12.7%	12.7%	13.3%	10.3%	9.4%	--
Excess	1.1%	4.7%	4.7%	1.0%	0.7%	0.5%	--

	FY21	FY20	FY19	FY18	FY17
<b>Total Fund</b>	<b>25.2%</b>	<b>1.8%</b>	<b>6.4%</b>	<b>9.0%</b>	<b>12.7%</b>
Benchmark	23.1%	2.0%	8.6%	7.8%	11.2%

## Cumulative Return



## Functional Category

	QTD	FYTD	1 Year	3 Year
<b>Growth</b>	<b>6.3%</b>	<b>9.5%</b>	<b>27.8%</b>	--
Growth Policy BM	4.4%	5.4%	20.7%	--
Excess	1.9%	4.1%	7.1%	--
<b>Credit</b>	<b>1.8%</b>	<b>3.0%</b>	<b>9.6%</b>	--
Credit Policy BM	-0.1%	0.9%	2.6%	--
Excess	1.9%	2.1%	7.0%	--
<b>Real Assets &amp; Inflation Hedges</b>	<b>5.3%</b>	<b>7.8%</b>	<b>16.6%</b>	--
Real Assets & Inflation Hedges Policy BM	5.3%	7.9%	17.1%	--
Excess	-0.1%	-0.1%	-0.5%	--
<b>Risk Reduction &amp; Mitigation</b>	<b>0.1%</b>	<b>0.2%</b>	<b>-0.1%</b>	--
Risk Reduction & Mitigation Policy BM	0.5%	0.6%	-0.5%	--
Excess	-0.3%	-0.4%	0.4%	--
<b>Overlays And Hedges</b>	<b>7.9%</b>	--	--	--

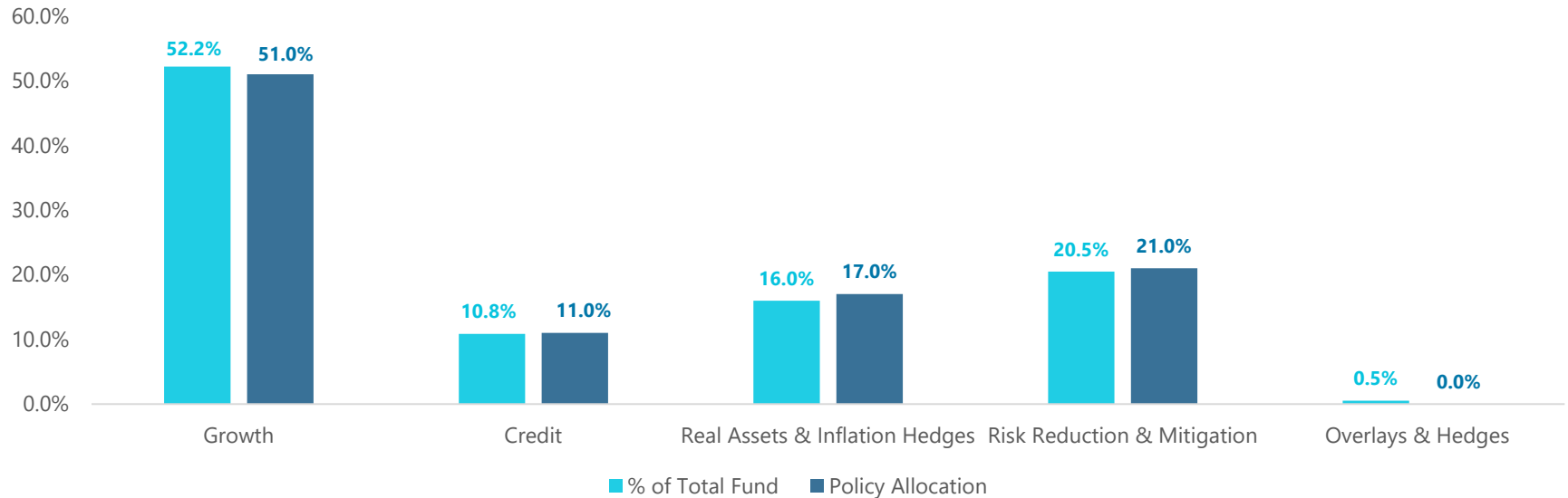
## Peer Ranking (gross)

	QTD	1 Year	3 Year	5 Year	10 Year					
<b>Total Fund</b>	<b>4.5%</b>	<b>56</b>	<b>18.0%</b>	<b>27</b>	<b>14.7%</b>	<b>60</b>	<b>11.3%</b>	<b>45</b>	<b>10.1%</b>	<b>48</b>
60/40 Portfolio	3.7%	81	10.0%	89	14.2%	72	10.1%	83	8.4%	88
S&P 500 Index	11.0%	2	28.7%	3	26.1%	3	18.5%	3	16.6%	4
5th Percentile	7.4%		22.1%		19.2%		14.5%		12.1%	
25th Percentile	5.5%		18.1%		16.2%		12.3%		11.0%	
50th Percentile	4.8%		16.6%		15.1%		11.2%		9.9%	
75th Percentile	3.8%		13.5%		13.9%		10.7%		9.2%	
95th Percentile	0.3%		2.7%		9.5%		6.5%		6.1%	

# Asset Allocation

for the quarter ended December 31, 2021

## Actual vs. Policy



	Ending Market Value (mm)	% of Total Fund	Policy Allocation	Over/Under (%)	Over/Under (mm)
<b>Total Fund</b>	<b>75,580</b>	<b>100.0%</b>	<b>100.0%</b>		
Growth	39,441	52.2%	51.0%	1.2%	896
Credit	8,193	10.8%	11.0%	-0.2%	-120
Real Assets & Inflation Hedges	12,075	16.0%	17.0%	-1.0%	-773
Risk Reduction & Mitigation	15,485	20.5%	21.0%	-0.5%	-387
Overlays & Hedges	384	0.5%	0.0%	0.5%	384

# Contribution to Return

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## QTD Contribution to Return



Functional Category	Contributors	Detractors
Growth	3.28% SSGA MSCI ACWI IMI	1.43% BTC PASSIVE CURRENCY HEDGING
Credit	0.20% LACERA- PE GROWTH	0.86% GENESIS EMERGING MARKETS
Real Assets & Inflation Hedges	0.82% JPMAM STRATEGIC BETA U.S.	0.70% PARAMETRIC GROWTH OVERLAY
Risk Reduction & Mitigation	0.13% LACERA RE - REAL ASSETS	0.34% ASHMORE INVESTMENT MANAGEMENT
Overlays And Hedges	0.05% DWS INFRASTRUCTURE	0.27% ABERDEEN ASSET MANAGEMENT
<b>Total Fund</b>	<b>4.48%</b>	<b>-0.01%</b>



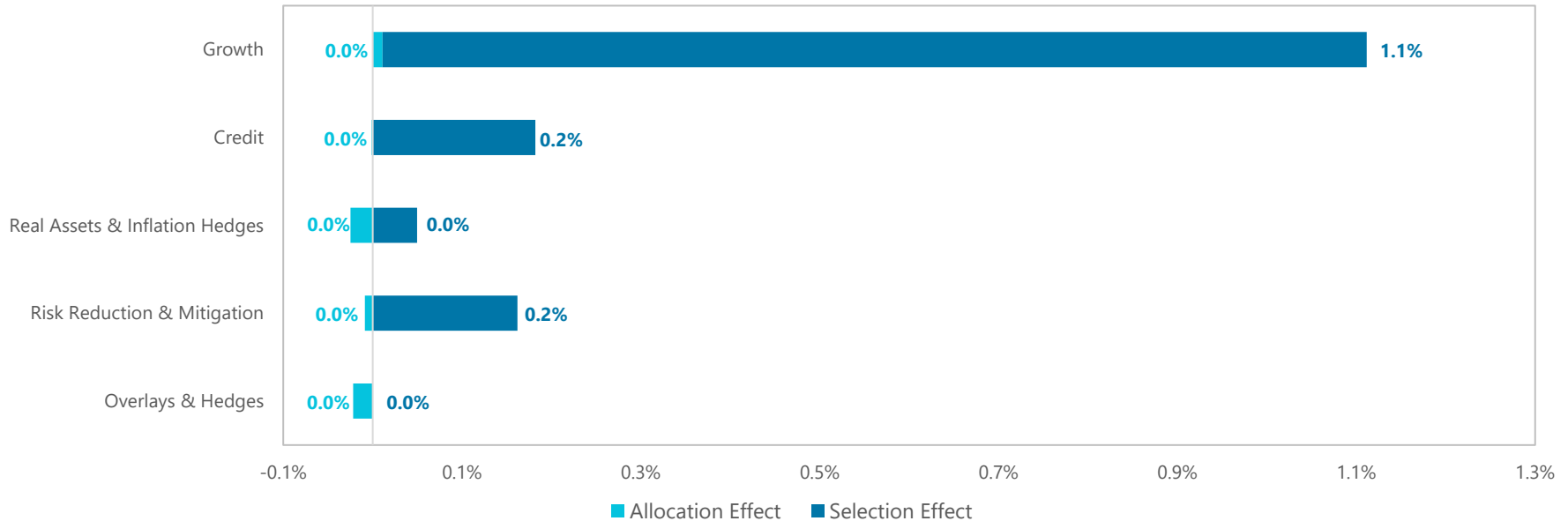
# Return Attribution

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## QTD Performance Attribution<sup>1</sup>



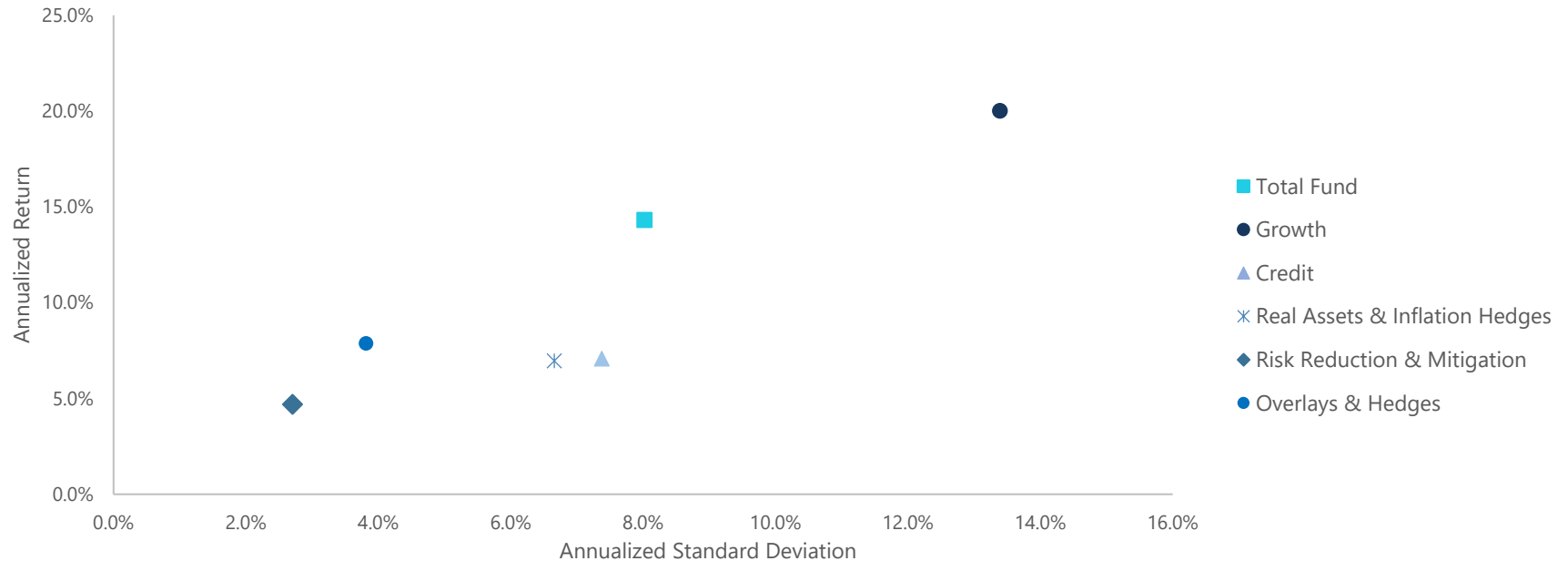
	Ending Market Value (mm)	% of Total Fund	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
<b>Total Fund</b>	<b>75,580</b>	<b>100.0%</b>	<b>100.0%</b>	<b>4.4%</b>	<b>3.2%</b>	<b>0.0%</b>	<b>1.5%</b>	<b>1.2%</b>
Growth	39,441	52.2%	51.0%	6.3%	4.4%	0.0%	1.1%	1.0%
Credit	8,193	10.8%	11.0%	1.8%	-0.3%	0.0%	0.2%	0.2%
Real Assets & Inflation Hedges	12,075	16.0%	17.0%	5.3%	5.3%	0.0%	0.0%	0.0%
Risk Reduction & Mitigation	15,485	20.5%	21.0%	0.1%	0.5%	0.0%	0.2%	0.0%
Overlays & Hedges	384	0.5%	0.0%	7.9%	0.0%	0.0%	0.0%	0.0%

1. Total Value Add includes Interaction Effect.

# Risk vs. Return

for the quarter ended December 31, 2021

## 3 Year (Annualized)<sup>1</sup>



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
<b>Total Fund</b>	<b>14.3%</b>	<b>8.0%</b>	<b>1.49</b>	<b>0.04</b>	<b>0.96</b>	<b>2.4%</b>
Growth	20.0%	13.4%	1.25	(0.03)	0.92	5.1%
Credit	7.1%	7.4%	0.88	0.57	1.01	3.0%
Real Assets & Inflation Hedges	7.0%	6.7%	0.94	(0.77)	0.91	1.9%
Risk Reduction & Mitigation	4.7%	2.7%	1.40	0.81	0.96	0.8%
Overlays & Hedges	7.9%	3.8%				

1. Functional composites risk statistics are since inception.

# Performance Detail

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Annualized Net Returns

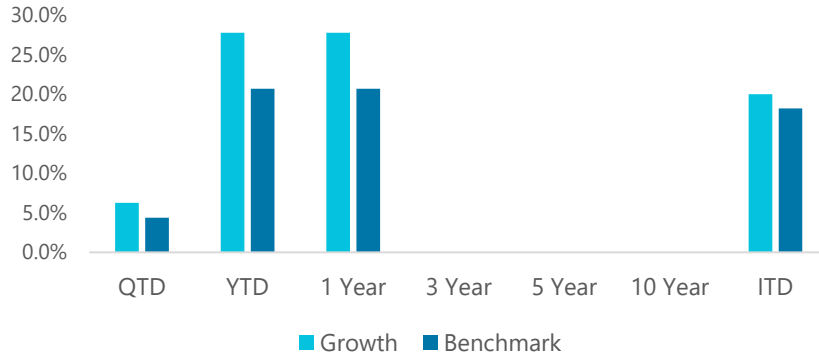
	% of Total Fund	Ending Market Value (mm)	Prior Quarter Ending MV (mm)	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>TOTAL FUND</b>	<b>100.0%</b>	<b>75,580</b>	<b>72,708</b>	<b>4.4%</b>	<b>17.4%</b>	<b>17.4%</b>	<b>14.3%</b>	<b>11.0%</b>	<b>9.8%</b>	<b>9.0%</b>
Total Fund Policy BM				3.2%	12.7%	12.7%	13.3%	10.3%	9.4%	--
<b>GROWTH</b>	<b>52.2%</b>	<b>39,441</b>	<b>37,361</b>	<b>6.3%</b>	<b>27.8%</b>	<b>27.8%</b>	--	--	--	<b>20.0%</b>
Growth Policy BM				4.4%	20.7%	20.7%	--	--	--	18.2%
GLOBAL EQUITY	35.7%	26,947	25,971	6.7%	20.4%	20.4%	--	--	--	17.6%
Global Equity Policy BM				6.1%	18.2%	18.2%	--	--	--	17.1%
PRIVATE EQUITY - GROWTH	15.2%	11,490	10,750	5.5%	50.6%	50.6%	25.0%	--	--	25.0%
Private Equity - Growth Policy BM				-0.6%	31.4%	31.4%	14.6%	--	--	14.6%
NON-CORE PRIVATE REAL ESTATE	1.3%	1,005	640	1.9%	18.2%	18.2%	11.5%	12.1%	10.4%	4.3%
Non-Core Private Real Estate Policy BM				7.0%	16.8%	16.8%	9.2%	9.7%	12.1%	11.2%
<b>CREDIT</b>	<b>10.8%</b>	<b>8,193</b>	<b>7,985</b>	<b>1.8%</b>	<b>9.6%</b>	<b>9.6%</b>	--	--	--	<b>7.1%</b>
Credit Policy BM				-0.1%	2.6%	2.6%	--	--	--	5.6%
LIQUID CREDIT	6.8%	5,142	5,819	0.3%	--	--	--	--	--	0.3%
Liquid Policy BM				0.4%	--	--	--	--	--	0.4%
ILLIQUID CREDIT	4.0%	3,051	2,166	4.5%	23.8%	23.8%	--	--	--	13.2%
Illiquid Credit Policy BM				-0.6%	0.6%	0.6%	--	--	--	7.3%
<b>REAL ASSETS &amp; INFLATION HEDGES</b>	<b>16.0%</b>	<b>12,075</b>	<b>11,870</b>	<b>5.3%</b>	<b>16.6%</b>	<b>16.6%</b>	--	--	--	<b>7.0%</b>
Real Assets & Inflation Hedges Policy BM				5.3%	17.1%	17.1%	--	--	--	8.6%
CORE PRIVATE REAL ESTATE	5.3%	3,969	4,480	6.1%	12.5%	12.5%	4.4%	5.7%	7.5%	7.0%
Core Private Real Estate Policy BM				6.4%	14.1%	14.1%	6.6%	7.1%	9.4%	6.8%
NATURAL RESOURCES & COMMODITIES	4.5%	3,413	3,031	3.5%	27.7%	27.7%	11.0%	4.7%	-1.7%	-1.7%
Natural Resources & Comm Policy BM				4.2%	28.4%	28.4%	11.9%	4.8%	-2.3%	-2.6%
INFRASTRUCTURE	3.4%	2,582	2,298	8.3%	21.3%	21.3%	--	--	--	12.3%
DJ Brookfield Global Infrastr Comp TR				6.9%	21.4%	21.4%	--	--	--	8.0%
TIPS	2.8%	2,111	2,061	2.5%	5.8%	5.8%	--	--	--	8.0%
BBG BARC US Tsy TIPS Idx				2.4%	6.0%	6.0%	--	--	--	8.1%
<b>RISK REDUCTION &amp; MITIGATION</b>	<b>20.5%</b>	<b>15,485</b>	<b>14,947</b>	<b>0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>	--	--	--	<b>4.7%</b>
Risk Reduction & Mitigation Policy BM				0.5%	-0.5%	-0.5%	--	--	--	4.0%
INVESTMENT GRADE BONDS	12.2%	9,191	10,897	-0.3%	-1.8%	-1.8%	5.1%	4.0%	3.6%	5.9%
BBG BC Aggregate Bond Index				0.0%	-1.5%	-1.5%	4.8%	3.6%	2.9%	5.4%
LONG-TERM GOVERNMENT BONDS	2.0%	1,520	0	--	--	--	--	--	--	0.3%
Bloomberg U.S. Treasury: Long				--	--	--	--	--	--	-1.1%
DIVERSIFIED HEDGE FUNDS	5.1%	3,835	3,098	0.9%	8.5%	8.5%	--	--	--	7.0%
Diversified Hedge Funds Policy BM				0.6%	2.6%	2.6%	--	--	--	3.4%
CASH	1.2%	940	952	0.3%	0.9%	0.9%	1.5%	1.5%	1.0%	1.8%
Cash Policy BM				0.0%	0.0%	0.0%	1.0%	1.1%	0.6%	1.4%
<b>OVERLAYS &amp; HEDGES</b>	<b>0.5%</b>	<b>384</b>	<b>545</b>	<b>7.9%</b>	--	--	--	--	--	<b>7.9%</b>
Cash Overlay	0.4%	329	545	-2.2%	-10.1%	-10.1%	--	--	--	-22.7%
Total Overlay Policy BM				3.8%	11.5%	11.5%	--	--	--	12.5%
Currency Hedge	0.1%	55	0	0.6%	--	--	--	--	--	0.6%

growth

# Summary

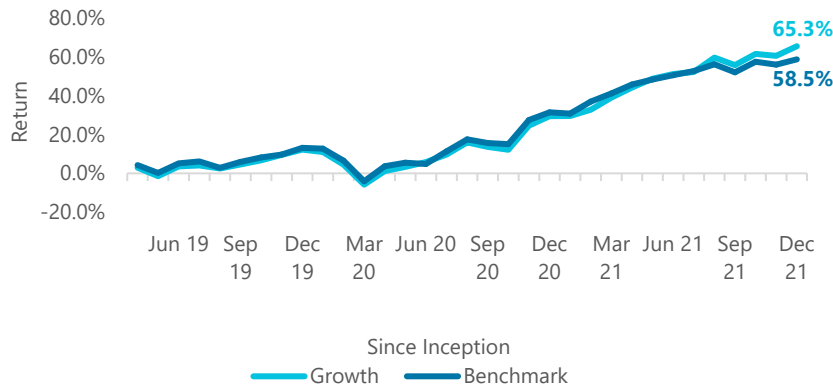
for the quarter ended December 31, 2021

## Performance (net)



	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>Growth</b>	<b>6.3%</b>	<b>27.8%</b>	<b>27.8%</b>	--	--	--	<b>20.0%</b>
Benchmark	4.4%	20.7%	20.7%	--	--	--	18.2%
Excess	1.9%	7.1%	7.1%	--	--	--	1.8%

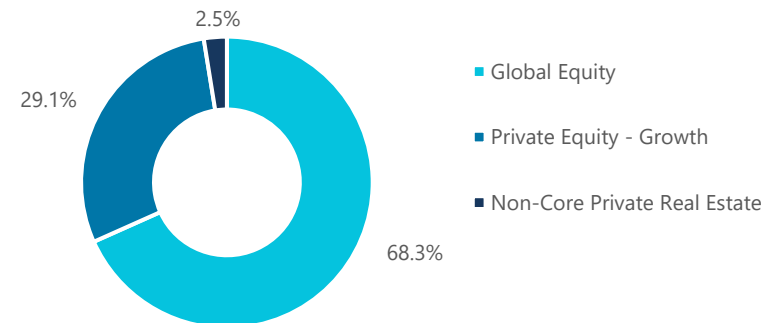
## Cumulative Return



## Functional Category

	QTD	FYTD	1 Year	3 Year
<b>Global Equity</b>	<b>6.7%</b>	<b>5.9%</b>	<b>20.4%</b>	--
Global Equity Policy BM	6.1%	4.9%	18.2%	--
Excess	0.6%	1.0%	2.2%	--
<b>Private Equity - Growth</b>	<b>5.5%</b>	<b>19.3%</b>	<b>50.6%</b>	<b>25.0%</b>
Private Equity - Growth Policy BM	-0.6%	7.0%	31.4%	14.6%
Excess	6.1%	12.3%	19.2%	10.3%
<b>Non-Core Private Real Estate</b>	<b>1.9%</b>	<b>9.4%</b>	<b>18.2%</b>	<b>11.5%</b>
Non-Core Private Real Estate Policy BM	7.0%	11.7%	16.8%	9.2%
Excess	-5.1%	-2.3%	1.4%	2.2%

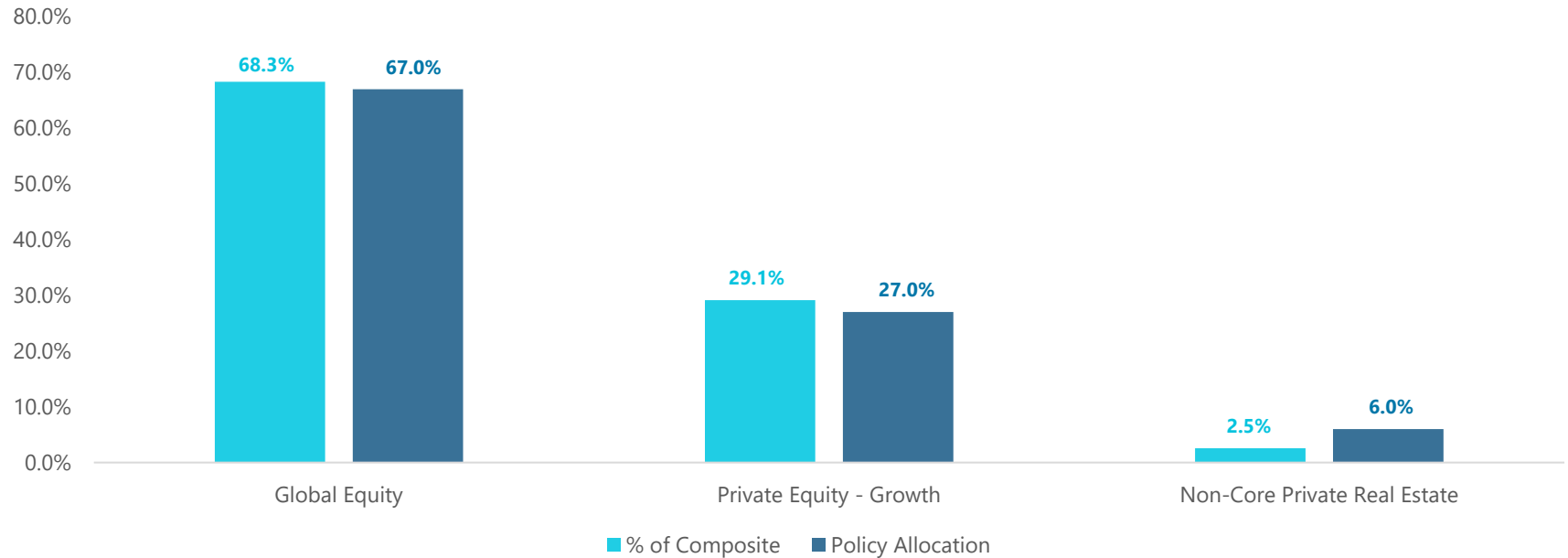
## Exposure



# Asset Allocation

for the quarter ended December 31, 2021

## Actual vs. Policy

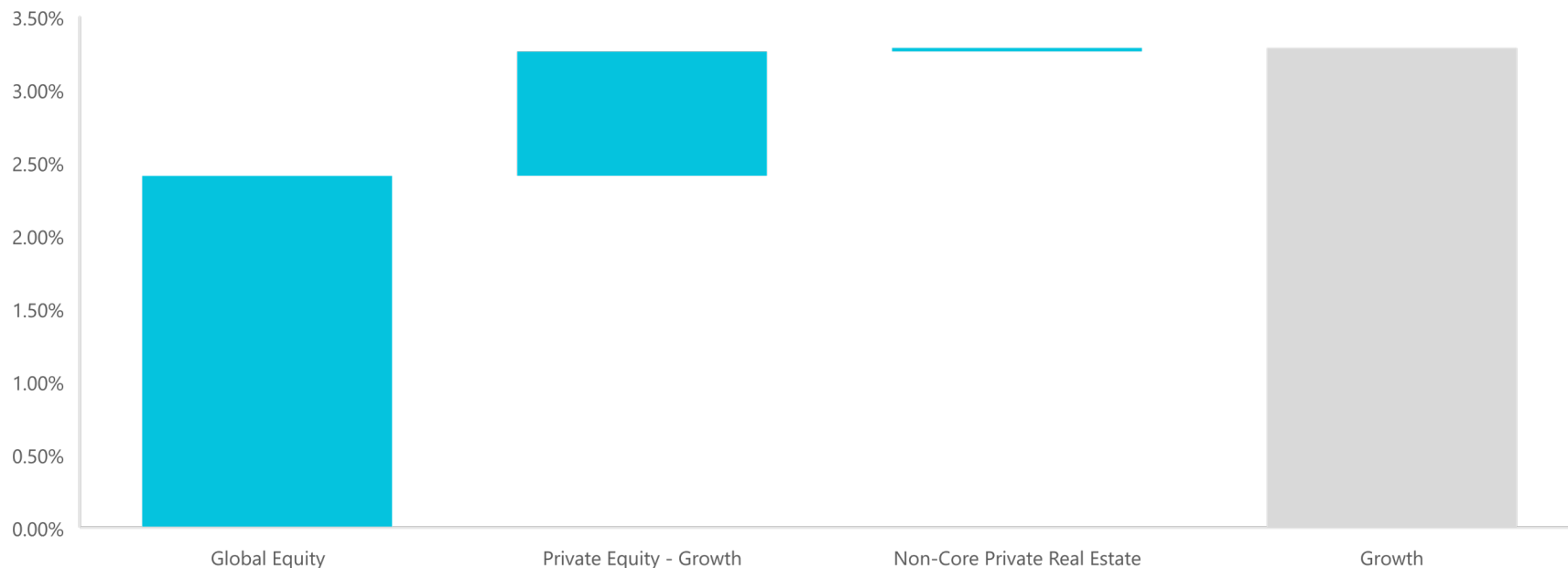


	Ending Market Value (mm)	% of Composite	Policy Allocation	Over / Under (%)	Over / Under (mm)
<b>Growth</b>	<b>39,441</b>	<b>100.0%</b>	<b>100.0%</b>		
Global Equity	26,947	68.3%	67.0%	1.3%	521
Private Equity - Growth	11,490	29.1%	27.0%	2.1%	840
Non-Core Private Real Estate	1,005	2.5%	6.0%	-3.5%	-1,362

# Contribution to Return

for the quarter ended December 31, 2021

## QTD Contribution to Return



Functional Category	Contributors	Detractors
Global Equity	2.41% SSGA MSCI ACWI IMI	1.43% GENESIS EMERGING MARKETS -0.04%
Private Equity - Growth	0.85% LACERA- PE GROWTH	0.86% GLOBAL ALPHA IE SC - EMP 0.00%
Non-Core Private Real Estate	0.02% JPMAM STRATEGIC BETA U.S.	0.70% LAZARD EMERGING MARKETS 0.01%
Growth	3.28% BTC EURO TILTS	0.07% CORNERCAP US SC - EMP 0.01%
	CEVIAN CAPITAL II - ACTIVIST	0.03% CAPITAL GROUP DEVELOPED MARKET 0.01%

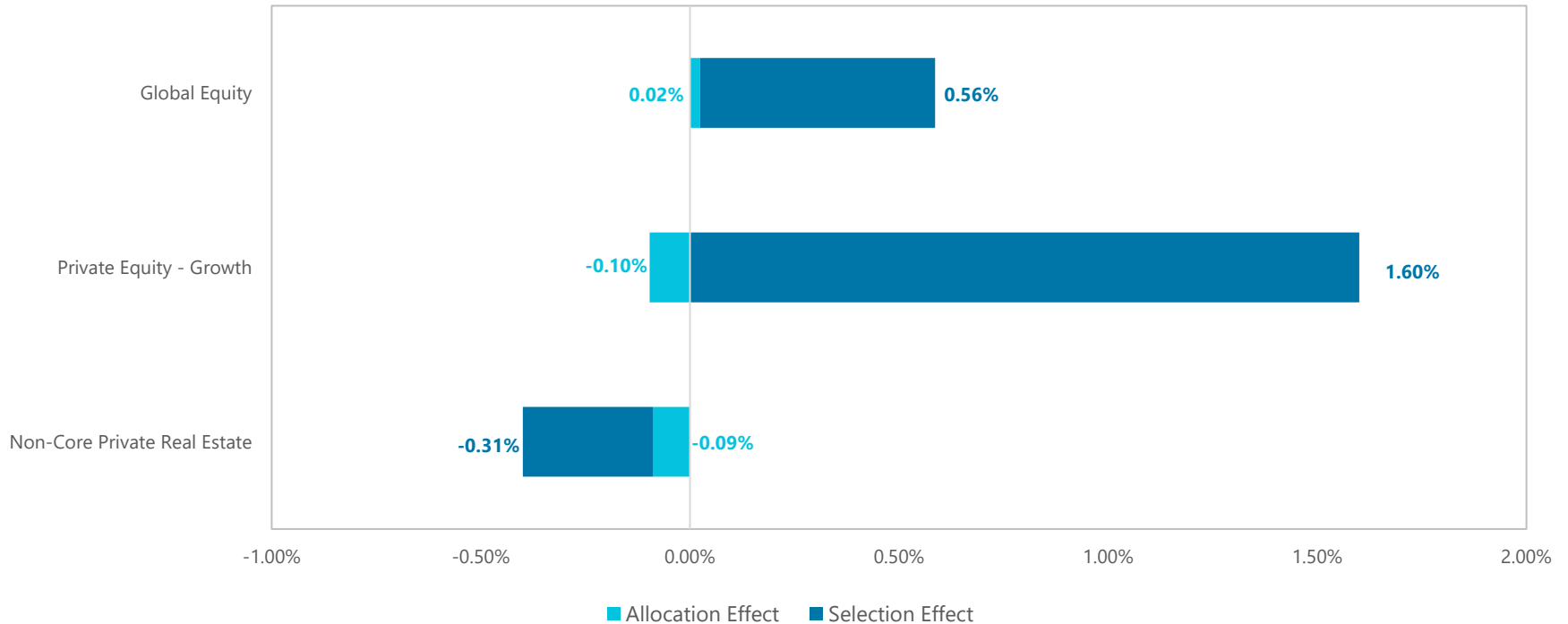
# Return Attribution

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## QTD Performance Attribution<sup>1</sup>



	Ending Market Value (mm)	% of Composite	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
<b>Growth</b>	<b>39,441</b>	<b>100.0%</b>	<b>100.0%</b>	<b>6.3%</b>	<b>4.4%</b>	<b>-0.16%</b>	<b>1.85%</b>	<b>1.85%</b>
Global Equity	26,947	68.3%	67.0%	6.7%	6.1%	0.02%	0.56%	0.46%
Private Equity - Growth	11,490	29.1%	27.0%	5.5%	-0.6%	-0.10%	1.60%	1.62%
Non-Core Private Real Estate	1,005	2.5%	6.0%	1.9%	7.0%	-0.09%	-0.31%	-0.22%

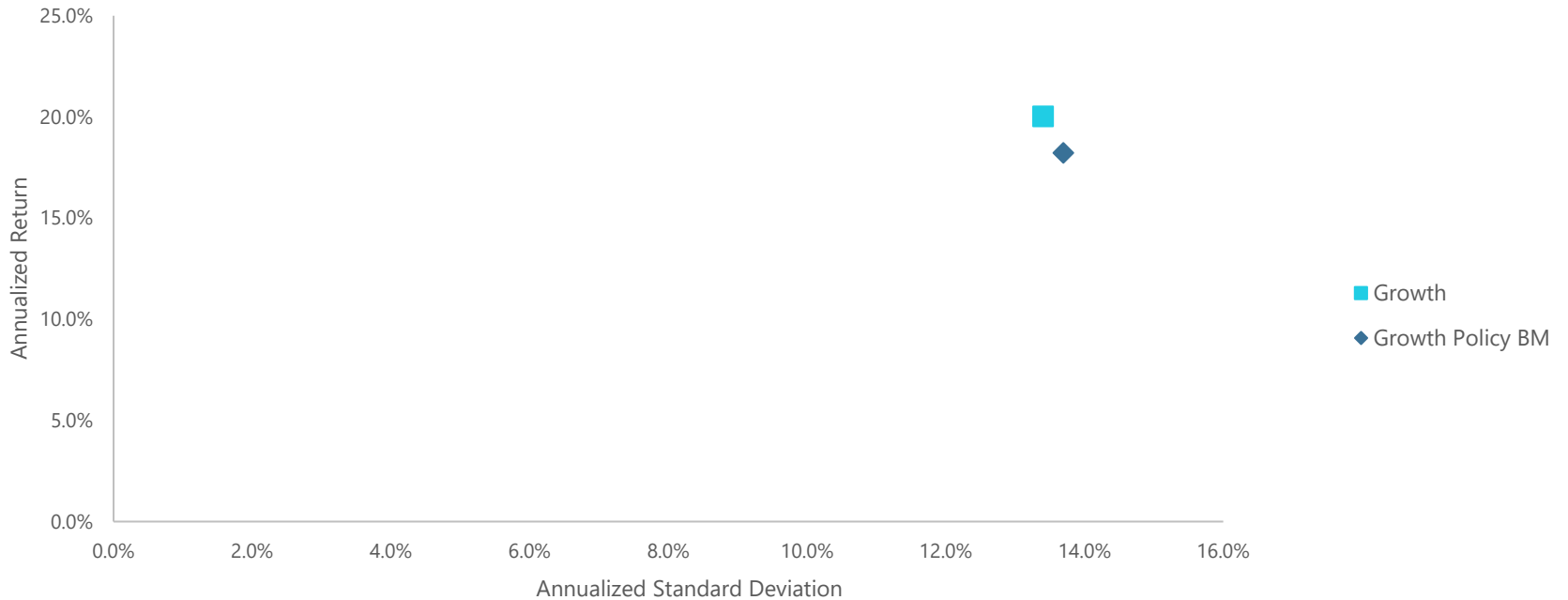
1. Total Value Add includes Interaction Effect.



# Risk vs. Return

for the quarter ended December 31, 2021

## Since Inception (Annualized)<sup>1</sup>



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
<b>Growth</b>	<b>20.0%</b>	<b>13.4%</b>				
Growth Policy BM	18.2%	13.7%	1.41	0.56	0.94	4.1%

1. Composite risk statistics are relative to the policy benchmark.

# Performance Detail

for the quarter ended December 31, 2021



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
<b>GROWTH</b>	<b>100.0%</b>	<b>39,441</b>	<b>37,361</b>	<b>6.3%</b>	<b>27.8%</b>	<b>27.8%</b>	--	--	--	<b>20.0%</b>
Growth Policy BM				4.4%	20.7%	20.7%	--	--	--	18.2%
<b>GLOBAL EQUITY</b>	<b>68.3%</b>	<b>26,947</b>	<b>25,971</b>	<b>6.7%</b>	<b>20.4%</b>	<b>20.4%</b>	--	--	--	<b>17.6%</b>
Global Equity Policy BM				6.1%	18.2%	18.2%	--	--	--	17.1%
<b>PASSIVE</b>										
SSGA MSCI ACWI IMI	42.1%	16,611	15,769	6.6%	19.4%	19.4%	--	--	--	17.8%
<b>FACTOR BASED</b>										
JPMAM STRATEGIC BETA NON-US	1.6%	644	628	2.6%	9.4%	9.4%	--	--	--	20.3%
JPMAM STRATEGIC BETA US	12.4%	4,872	4,863	10.6%	27.5%	27.5%	--	--	--	36.0%
<b>ACTIVE</b>										
ACADIAN DEVELOPED MARKETS	1.7%	659	636	3.6%	16.4%	16.4%	16.7%	12.9%	11.0%	5.7%
BTC EURO TILTS	1.9%	764	713	7.2%	22.5%	22.5%	16.5%	11.0%	9.9%	4.5%
CAPITAL GROUP DEVELOPED MARKETS	1.2%	475	470	1.2%	7.5%	7.5%	20.3%	15.2%	10.9%	--
CEVIAN CAPITAL II - ACTIVIST	1.0%	413	389	6.3%	24.6%	24.6%	15.5%	9.4%	--	10.0%
CORNERCAP	0.2%	87	82	6.2%	34.3%	34.3%	21.1%	--	--	12.0%
FRONTIER US SMID GROWTH	0.8%	312	295	5.9%	18.2%	18.2%	21.5%	13.0%	14.3%	11.3%
GENESIS EMERGING MARKETS	1.6%	637	668	-4.6%	-7.0%	-7.0%	12.1%	9.7%	6.2%	5.1%
GLOBAL ALPHA IE SC -EMP	0.4%	163	164	-0.7%	13.0%	13.0%	16.1%	--	--	13.0%
JANA JSI FUND V - ACTIVIST	0.3%	123	124	6.6%	24.0%	24.0%	26.6%	16.7%	--	20.9%
LAZARD EMERGING MARKETS	1.2%	475	471	1.0%	0.1%	0.1%	15.9%	12.5%	--	5.3%
PARAMETRIC GE MARKET CAP	0.3%	123	0	--	--	--	--	--	--	19.8%
PARAMETRIC GE REGION	0.3%	106	0	--	--	--	--	--	--	1.2%
QMA US SMALL CAP CORE	0.0%	1	198	--	--	--	--	--	--	--
SYMPHONY FINANCIAL- ACTIVIST	0.7%	258	252	2.3%	14.7%	14.7%	21.2%	16.1%	--	17.6%
SYSTEMATIC US SMALL CAP VLAUE	0.5%	207	192	7.8%	30.8%	30.8%	19.4%	--	--	10.1%
<b>PRIVATE EQUITY GROWTH</b>	<b>29.1%</b>	<b>11,490</b>	<b>10,750</b>	<b>5.5%</b>	<b>50.6%</b>	<b>50.6%</b>	<b>25.0%</b>	--	--	<b>25.0%</b>
Private Equity - Growth Policy BM				-0.6%	31.4%	31.4%	14.6%	--	--	14.6%
<b>NON-CORE PRIVATE REAL ESTATE</b>	<b>2.5%</b>	<b>1,005</b>	<b>640</b>	<b>1.9%</b>	<b>18.2%</b>	<b>18.2%</b>	<b>11.5%</b>	<b>12.1%</b>	<b>10.4%</b>	<b>4.3%</b>
Non-Core Private Real Estate Policy BM				7.0%	16.8%	16.8%	9.2%	9.7%	12.1%	11.2%

# Growth

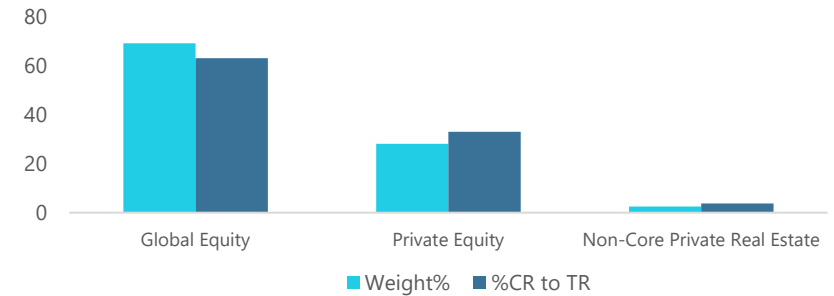
## Risk Summary

for the quarter ended December 31, 2021

### Risk Summary

	Value
<b>Total Risk</b>	<b>18.43</b>
Benchmark Risk	17.89
Active Risk	1.18
Portfolio Beta	1.03

### Contribution to Risk

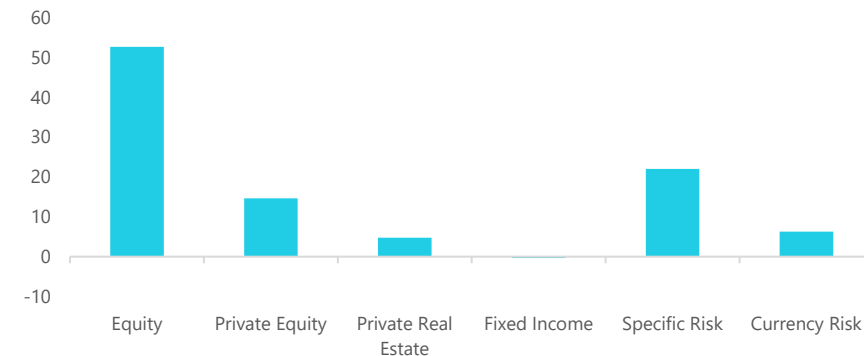


	Mkt Value (mm)	Weight%	Total Risk	Risk Contribution	%CR to TR
<b>Growth</b>	<b>38,839</b>	<b>100.00</b>	<b>18.43</b>	<b>18.43</b>	<b>100.00</b>
Global Equity	26,899	69.26	17.33	11.65	63.20
Private Equity	10,957	28.21	24.05	6.09	33.06
Non-Core Private Real Estate	983	2.53	44.63	0.69	3.75

### Risk Decomposition

Risk Source	Portfolio		Active	
	Risk Contribution	%Risk	Risk Contribution	%Risk
<b>Total Risk</b>	<b>18.43</b>	<b>100.00</b>	<b>1.18</b>	<b>100.00</b>
Local Market Risk	17.75	96.27	1.10	93.72
Common Factor Risk	17.69	95.96	0.84	71.70
Specific Risk	0.06	0.32	0.26	22.02
Currency Risk	0.69	3.73	0.07	6.28

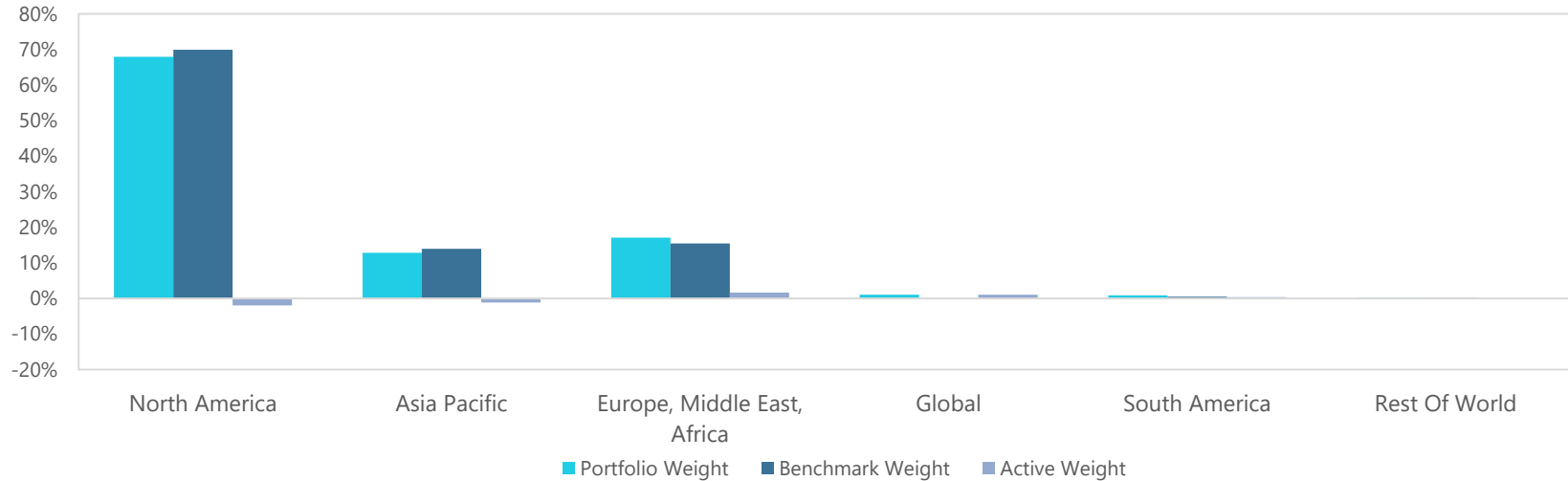
### Active Risk from Common Factors



# Growth Risk Summary

for the quarter ended December 31, 2021

## Portfolio Allocation by Region

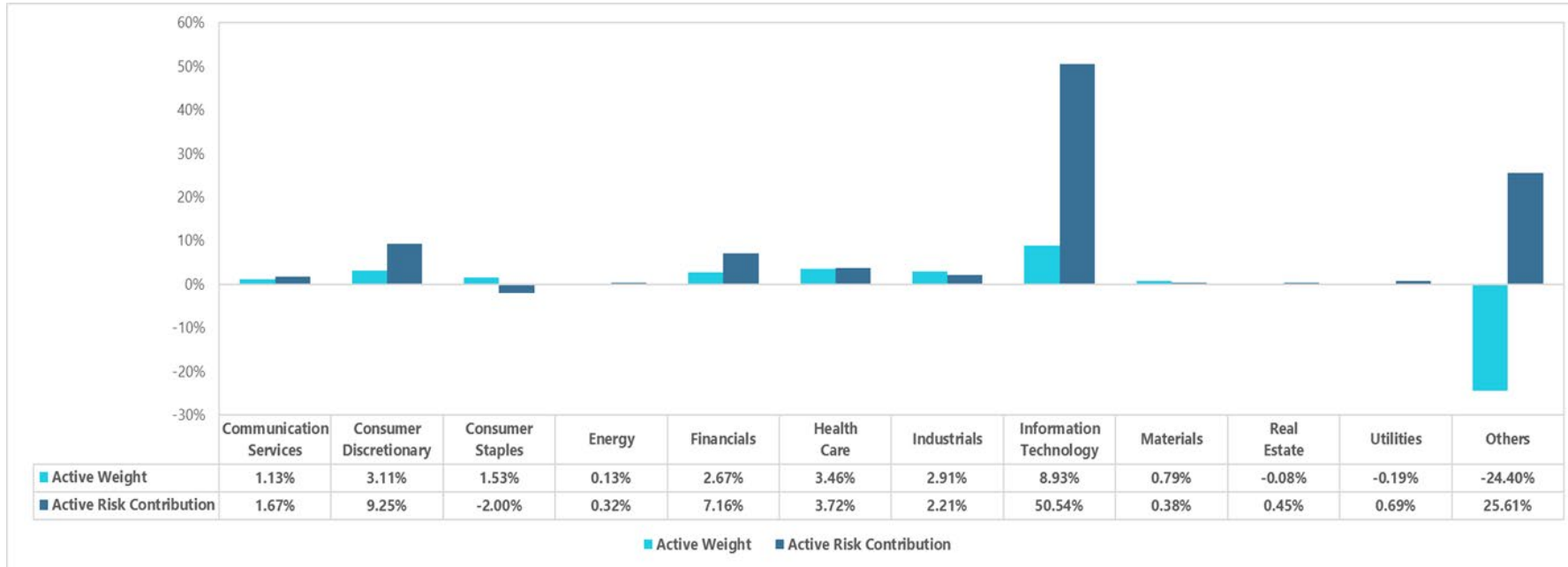


Region	Weight%			Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
	Portfolio	Benchmark	Active				
<b>Total Growth</b>	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>	<b>18.43</b>	<b>1.18</b>	<b>100.00</b>	<b>0.01</b>
North America	67.93%	69.88%	-1.95%	19.79	0.81	68.61	0.02
Asia Pacific	12.83%	13.96%	-1.13%	15.16	0.21	18.02	-0.01
Europe, Middle East, Africa	17.09%	15.46%	1.63%	19.94	0.13	11.35	0.01
Global	1.07%	0.00%	1.07%	20.15	0.00	0.42	0.00
South America	0.89%	0.51%	0.38%	31.46	0.02	1.36	0.03
Rest Of World	0.20%	0.19%	0.01%	14.25	0.00	0.24	-0.03

# Growth Risk Summary

for the quarter ended December 31, 2021

## Portfolio Allocation by GICS Sector



# Growth – Global Equity Acadian Developed Markets

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## 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)	59,815.6	84,612.7
No. Of Issues	623.0	--
Dividend Yield	2.6	2.7
Return on Equity	22.8	17.2
Price to Sales	8.1	5.4
Price to Book	1.8	5.9
PE Ratio	13.0	19.3

## Top Holdings (% of assets)

ASML HOLDING NV	3.1%
NOVO NORDISK A/S B	2.5%
AP MOLLER MAERSK A/S B	1.9%
WOLTERS KLUWER	1.8%
FUJITSU LTD	1.8%
<b>Top 5 Holdings</b>	<b>10.9%</b>

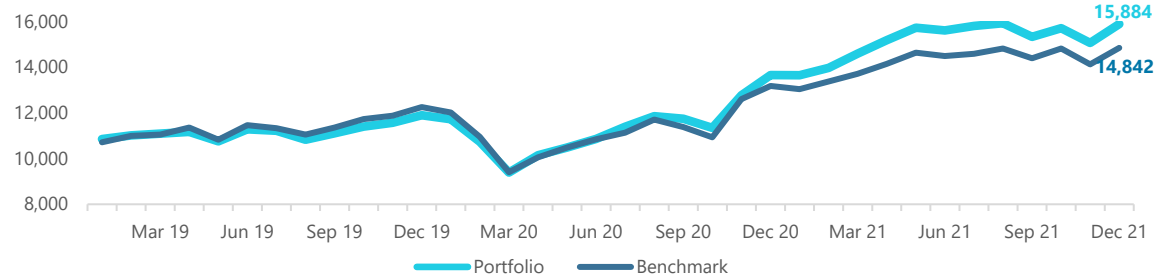
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>ACADIAN DEVELOPED MARKETS</b>	<b>659.1</b>	<b>3.6%</b>	<b>16.4%</b>	<b>16.7%</b>	<b>12.9%</b>
MSCI EAFE + Canada Net Index		3.1%	12.6%	14.1%	9.6%
Growth Policy BM		4.4%	20.7%	--	--

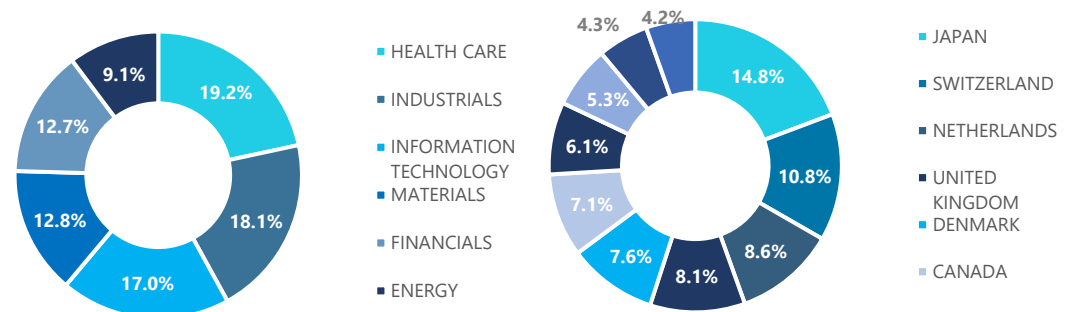
  

Universe data: International Equity Funds Core	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>ACADIAN DEVELOPED MARKETS</b>	<b>3.7%</b>	<b>41</b>	<b>16.8%</b>	<b>47</b>	<b>17.1%</b>	<b>55</b>	<b>13.3%</b>	<b>40</b>
Median	2.3%		15.6%		17.7%		12.9%	

## Growth of \$10,000



## Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.

# Growth Risk Analysis – Global Equity

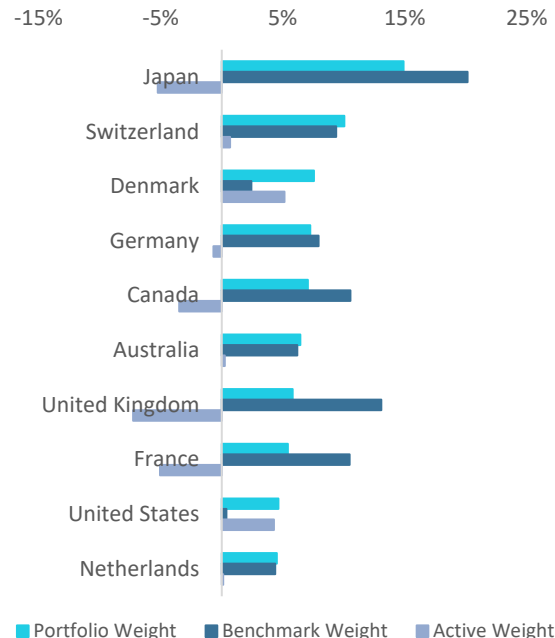
## Acadian Developed Markets

for the quarter ended December 31, 2021

### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>19.28</b>
Benchmark Risk	17.29
Active Risk	4.57
Portfolio Beta	1.09

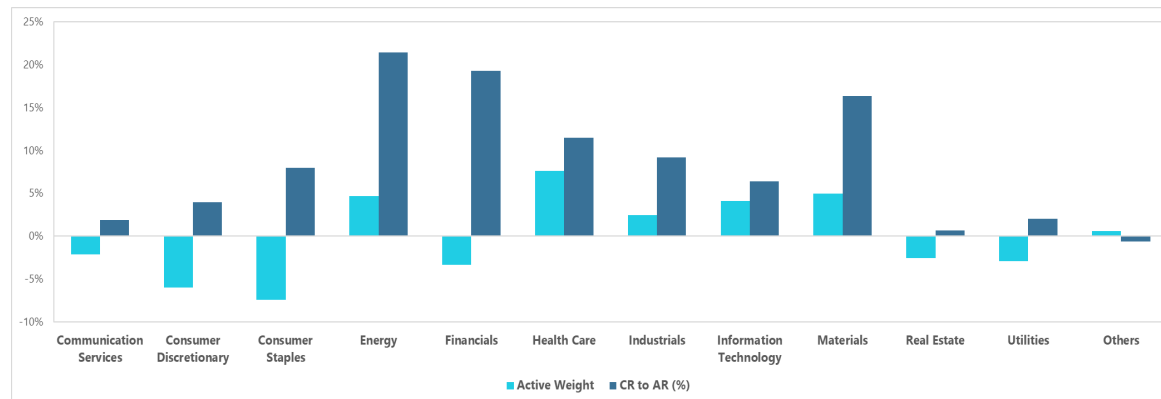
### Top Countries by Weight%



### Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
AURELIUS EQUITY OPPORTUNITIES SE & CO.	3.07%	0.00%	3.07%	48.61	10.64	0.215
AKER BP ASA	0.73%	0.02%	0.71%	57.55	3.03	0.252
SOUTH32 LIMITED	1.45%	0.07%	1.38%	36.73	2.90	0.153
TOURMALINE OIL CORP	0.79%	0.05%	0.74%	50.89	2.89	0.235
ZIM INTEGRATED SHIPPING SERVICES LTD	0.72%	0.00%	0.72%	60.95	2.81	0.236
AP MOLLER MAERSK A S B	1.88%	0.00%	1.88%	34.76	2.72	0.123
ATLISSIAN CORP PLC	1.46%	0.00%	1.46%	40.93	2.50	0.135
ASM INTERNATIONAL NV	1.46%	0.11%	1.36%	40.08	2.43	0.139
NESTLE SA	0.03%	2.04%	-2.00%	16.34	2.40	0.002
BP PLC	1.44%	0.00%	1.44%	41.09	2.28	0.129

### Portfolio Risk by GICS Sector



# Growth – Global Equity BTC Europe Alpha Tilts

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## 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

## Risk Statistics (since inception)

Standard Deviation	19.2%
Benchmark Standard Deviation	19.2%
Sharpe Ratio	0.28
Information Ratio	0.49
Beta	0.99
Tracking Error	1.9%

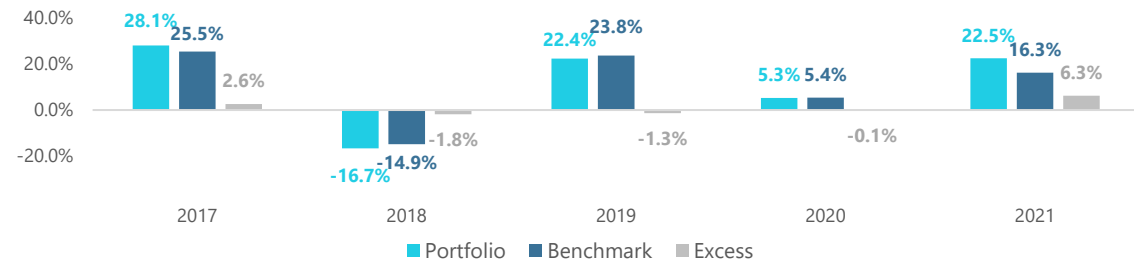
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>BTC EURO TILTS</b>	<b>764.4</b>	<b>7.2%</b>	<b>22.5%</b>	<b>16.5%</b>	<b>11.0%</b>
MSCI EUROPE		5.7%	16.3%	14.9%	10.1%
Growth Policy BM		4.4%	20.7%	--	--

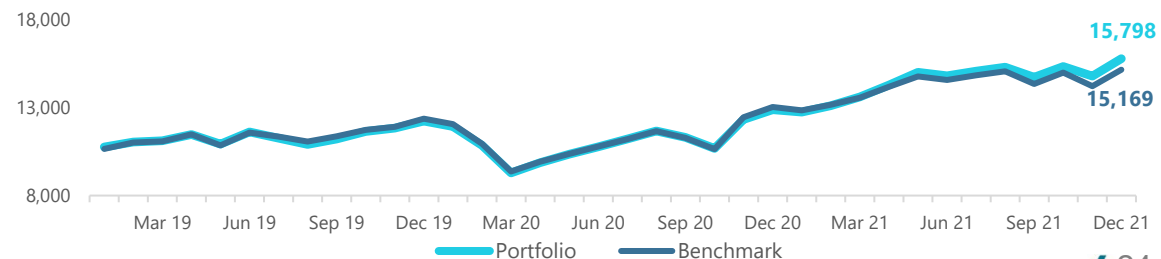
  

Universe data: International Equity Developed Markets	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>BTC EURO TILTS</b>	<b>7.3%</b>	<b>7</b>	<b>23.0%</b>	<b>11</b>	<b>16.9%</b>	<b>35</b>	<b>11.5%</b>	<b>40</b>
Median	1.4%		11.3%		14.4%		10.5%	

## 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

## BTC Europe Alpha Tilts

for the quarter ended December 31, 2021

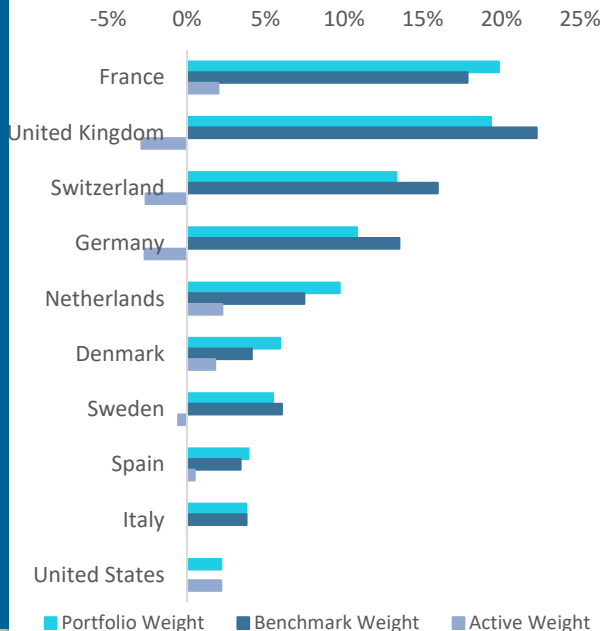


Los Angeles County Employees Retirement Association

### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>18.25</b>
Benchmark Risk	18.79
Active Risk	1.78
Portfolio Beta	0.97

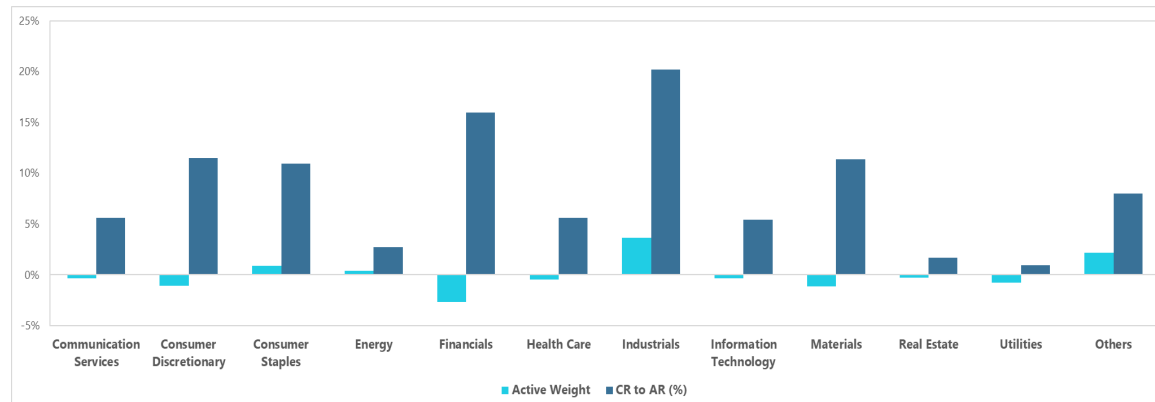
### Top Countries by Weight%



### Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
US Dollar	2.10%	0.00%	2.10%	0.00	7.68	0.000
NOVO NORDISK A/S	3.08%	1.67%	1.42%	24.96	6.79	0.020
KONINKLIJKE KPN NV	1.47%	0.09%	1.38%	25.43	4.90	-0.002
GIVAUDAN SA	1.89%	0.43%	1.46%	19.62	4.60	-0.009
L'OREAL SA	2.48%	1.05%	1.43%	19.56	4.17	-0.013
PERNOD RICARD SA	1.86%	0.44%	1.42%	20.46	3.85	-0.017
TOTALENERGIES SE	0.00%	1.12%	-1.12%	39.52	3.85	-0.127
NOVARTIS AG	3.22%	1.70%	1.52%	18.86	3.57	-0.023
HSBC HOLDINGS PLC	0.00%	1.09%	-1.09%	32.23	3.26	-0.118
JERONIMO MARTINS SGPS SA	0.85%	0.06%	0.79%	24.08	3.24	0.007

### Portfolio Risk by GICS Sector



# Growth – Global Equity Capital Group Developed Markets

for the quarter ended December 31, 2021

## 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)	132,334.0	84,612.0
No. Of Issues	155.0	--
Dividend Yield	1.8	2.7
Return on Equity	18.0	17.2
Price to Sales	8.7	5.4
Price to Book	3.5	5.9
PE Ratio	32.4	19.3

## Top Holdings (% of assets)

EVOLUTION AB	3.7%
OCADO GROUP PLC	3.2%
LVMH MOET HENNESSY LOUIS VUI	3.0%
TOKYO ELECTRON LTD	2.5%
NOVO NORDISK A/S B	2.4%
<b>Top 5 Holdings</b>	<b>14.8%</b>

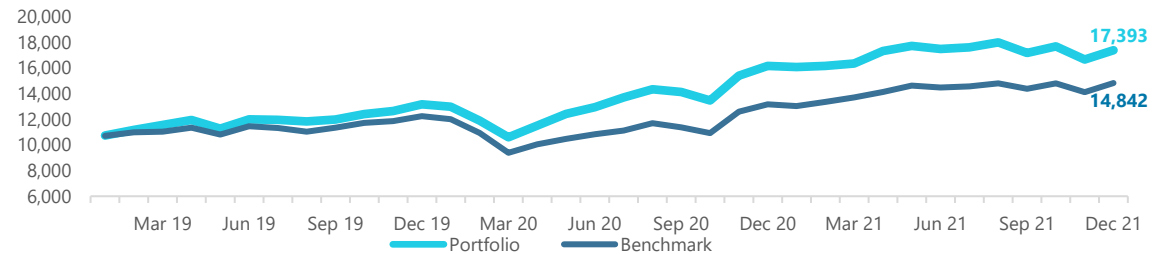
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>CAPITAL GROUP DEVELOPED MARKETS</b>	<b>475.2</b>	<b>1.2%</b>	<b>7.5%</b>	<b>20.3%</b>	<b>15.2%</b>
EAFE CUSTOM INDEX		3.1%	12.6%	14.1%	9.6%
Growth Policy BM		4.4%	20.7%	--	--

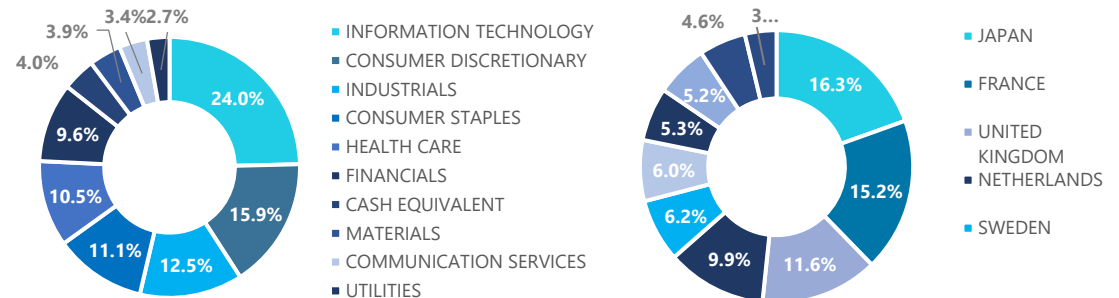
  

Universe data: International Equity Funds Core	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>CAPITAL GROUP DEVELOPED MARKETS</b>	<b>1.3%</b>	<b>55</b>	<b>7.9%</b>	<b>76</b>	<b>20.7%</b>	<b>37</b>	<b>15.6%</b>	<b>29</b>
Median	2.3%		15.6%		17.7%		12.9%	

## Growth of \$10,000



## Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.

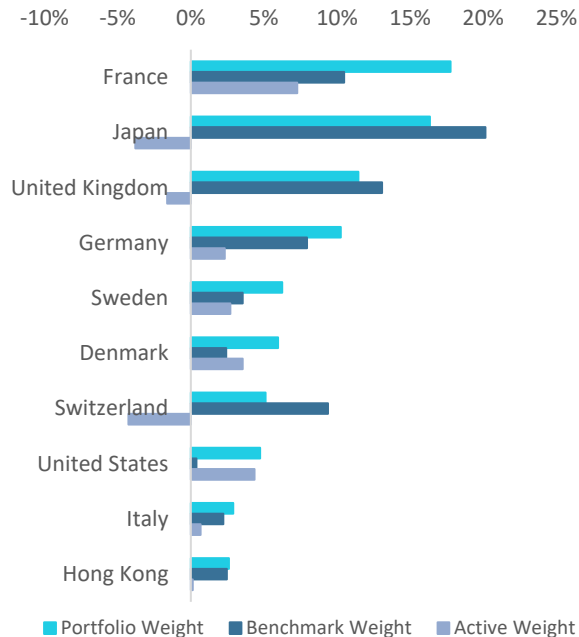
# Growth Risk Analysis – Global Equity Capital Group Developed Markets

for the quarter ended December 31, 2021

## Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>17.98</b>
Benchmark Risk	17.29
Active Risk	4.87
Portfolio Beta	1.00

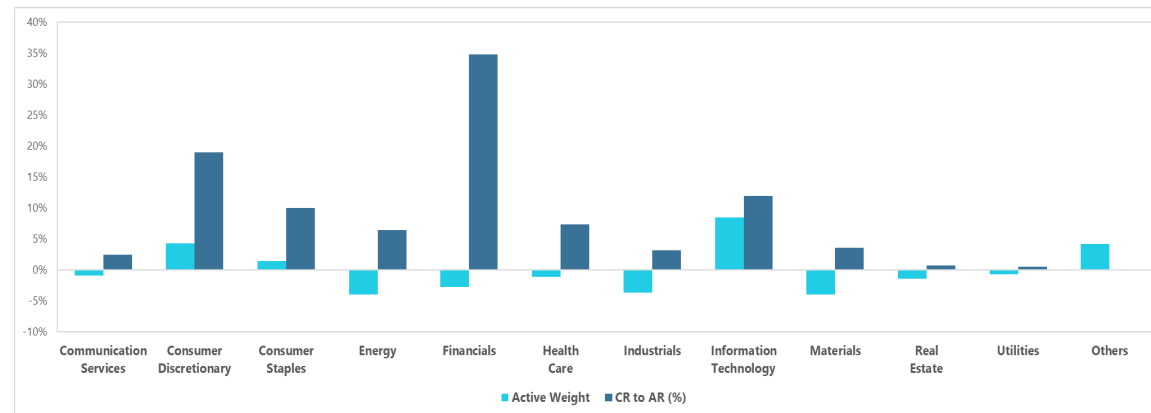
## Top Countries by Weight%



## Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
AURELIUS EQUITY OPPORTUNITIES SE & CO.	6.78%	0.00%	5.73%	48.61	24.21	0.175
EVOLUTION AB (PUBL)	3.73%	0.13%	3.61%	52.22	15.09	0.204
OCADO GROUP PLC	3.21%	0.06%	3.15%	40.65	8.81	0.137
TOKYO ELECTRON LTD	2.47%	0.44%	2.02%	34.65	3.99	0.097
GENMAB A/S	1.56%	0.14%	1.42%	31.71	2.66	0.092
KEYENCE CORP	1.93%	0.63%	1.30%	25.32	1.63	0.062
HAMAMATSU PHOTONICS KK	1.59%	0.05%	1.55%	24.05	1.50	0.048
BEIGENE LTD	0.55%	0.00%	0.55%	46.55	1.36	0.122
NOVO NORDISK A/S	2.33%	0.98%	1.35%	24.96	1.35	0.049
LVMH MOET HENNESSY LOUIS VUITTON SE	3.03%	1.19%	1.84%	25.66	1.33	0.035

## Portfolio Risk by GICS Sector



# Growth – Global Equity Cevian Capital II

for the quarter ended December 31, 2021



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: April 2006

## Risk Statistics (since inception)

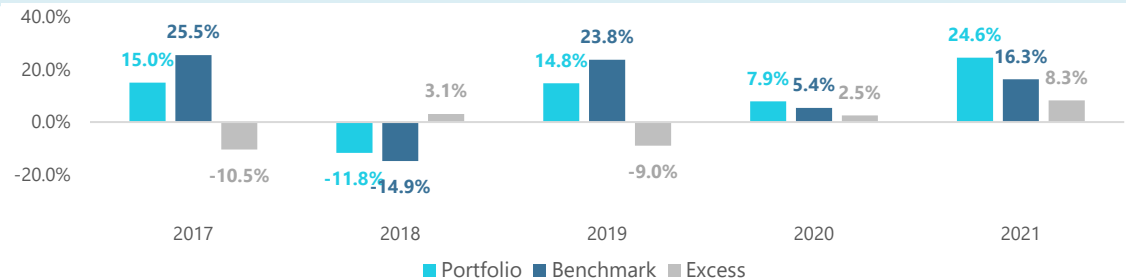
Standard Deviation	16.4%
Benchmark Standard Deviation	16.4%
Sharpe Ratio	0.01
Information Ratio	0.01
Beta	0.85
Tracking Error	9.0%

## Performance (net)<sup>1</sup>

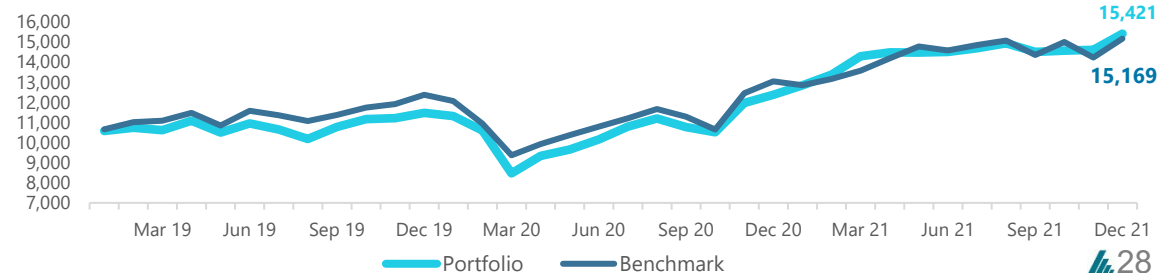
	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>CEVIAN CAPITAL II - ACTIVIST</b>	<b>413.4</b>	<b>6.3%</b>	<b>24.6%</b>	<b>15.5%</b>	<b>9.4%</b>
MSCI EUROPE		5.7%	16.3%	14.9%	10.1%
Growth Policy BM		4.4%	20.7%	--	--

Universe data: International Equity Developed Markets	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>CEVIAN CAPITAL II - ACTIVIST</b>	<b>6.6%</b>	<b>7</b>	<b>25.9%</b>	<b>7</b>	<b>16.8%</b>	<b>36</b>	<b>10.8%</b>	<b>46</b>
Median	1.4%		11.2%		14.4%		10.5%	

## 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

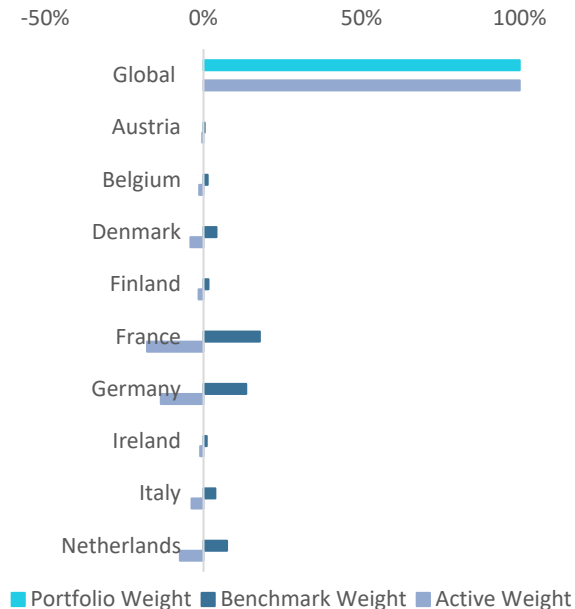
## Cevian Capital II

for the quarter ended December 31, 2021

### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>20.19</b>
Benchmark Risk	18.79
Active Risk	8.65
Portfolio Beta	0.97

### Top Countries by Weight%

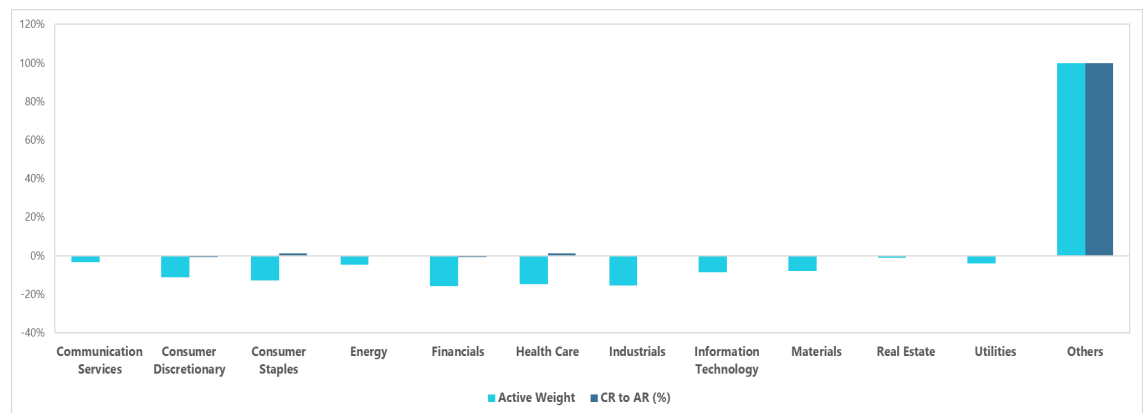


Note: Commingled fund account with no position-level transparency.

### Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
CEVIAN CAPITAL II - ACTIVIST	100.00%	0.00%	100.00%	20.19	100.00	0.075
NESTLE SA	0.00%	3.47%	-3.47%	16.34	0.53	-0.025
ROCHE HOLDING AG	0.00%	2.58%	-2.58%	21.17	0.41	-0.026
ASTRAZENECA PLC	0.00%	1.60%	-1.60%	25.07	0.37	-0.032
UNILEVER PLC	0.00%	1.22%	-1.22%	20.52	0.23	-0.028
NOVO NORDISK A/S	0.00%	1.67%	-1.67%	24.96	0.21	-0.023
DIAGEO PLC	0.00%	1.12%	-1.12%	21.47	0.20	-0.027
GLAXOSMITHKLINE PLC	0.00%	0.96%	-0.96%	21.97	0.19	-0.027
NOVARTIS AG	0.00%	1.70%	-1.70%	18.86	0.13	-0.018
RECKITT BENCKISER GROUP PLC	0.00%	0.54%	-0.54%	23.33	0.11	-0.018

### Portfolio Risk by GICS Sector



# Growth – Global Equity CornerCap US Small Cap

for the quarter ended December 31, 2021



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)	2,738.2	3,479.7
No. Of Issues	298.0	--
Dividend Yield	1.6	1.1
Return on Equity	12.9	10.7
Price to Sales	2.6	17.7
Price to Book	2.9	4.7
PE Ratio	21.1	56.1

## Top Holdings (% of assets)

BLUEGREEN VACATIONS HOLDING	0.6%
HANMI FINANCIAL CORPORATION	0.5%
APA CORP	0.5%
QCR HOLDINGS INC	0.5%
PRESTIGE CONSUMER HEALTHCARE	0.5%
<b>Top 5 Holdings</b>	<b>2.6%</b>

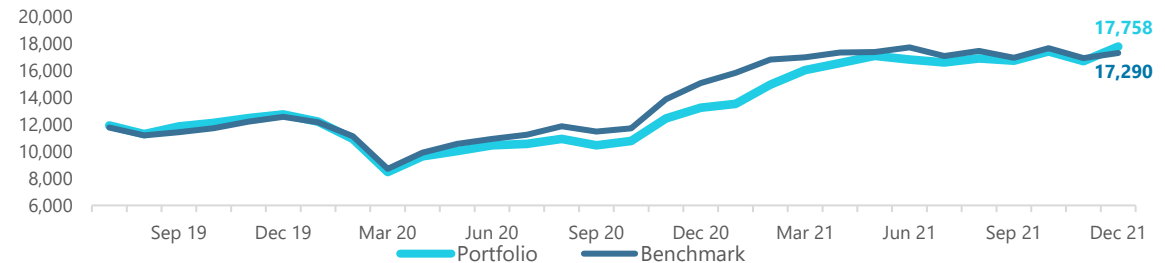
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>CORNERCAP US SC - EMP</b>	<b>86.6</b>	<b>6.2%</b>	<b>34.3%</b>	<b>21.1%</b>	--
RUSSELL 2000		2.1%	14.8%	20.0%	--
Growth Policy BM		4.4%	20.7%	--	--

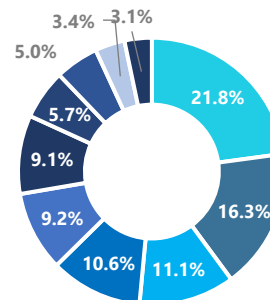
  

Universe data: U.S. Equities Small Cap	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>CORNERCAP US SC - EMP</b>	<b>6.3%</b>	<b>52</b>	<b>35.0%</b>	<b>14</b>	<b>21.8%</b>	<b>34</b>	--	--
Median	6.3%		24.8%		21.1%		--	--

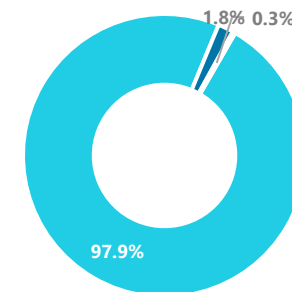
## Growth of \$10,000



## Top Exposures (% of assets)<sup>2</sup>



- FINANCIALS
- INDUSTRIALS
- INFORMATION TECHNOLOGY
- HEALTH CARE
- CONSUMER DISCRETIONARY
- REAL ESTATE
- ENERGY
- MATERIALS
- COMMUNICATION SERVICES
- UTILITIES



- UNITED STATES
- UNITED KINGDOM
- MARSHALL ISLANDS

1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.

# Growth Risk Analysis – Global Equity

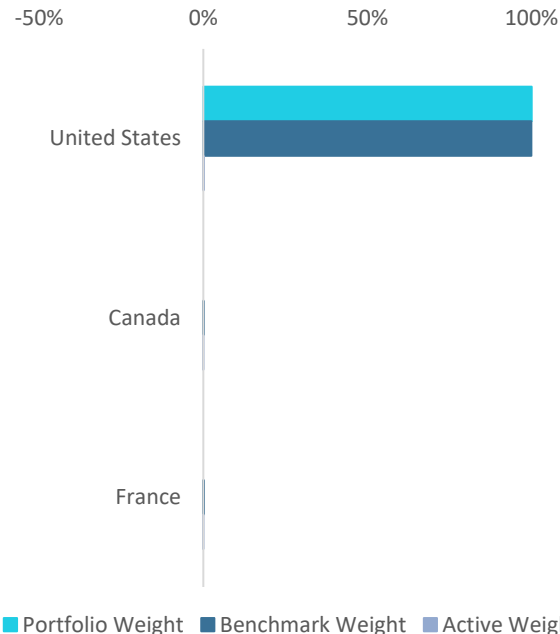
## CornerCap US Small Cap

for the quarter ended December 31, 2021

### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>26.85</b>
Benchmark Risk	26.47
Active Risk	5.40
Portfolio Beta	0.99

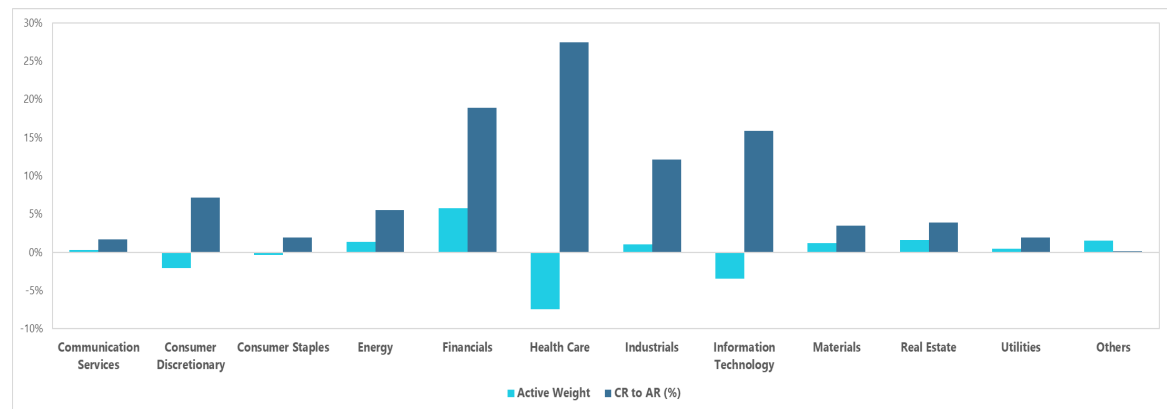
### Top Countries by Weight%



### Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
APA CORP	0.49%	0.00%	0.49%	73.33	1.65	0.174
RANGER OIL CORP	0.43%	0.02%	0.42%	91.56	1.31	0.162
PROPETRO HOLDING CORP	0.39%	0.02%	0.37%	79.22	1.29	0.181
INTELLIA THERAPEUTICS	0.00%	0.28%	-0.28%	65.72	1.14	-0.231
FINANCIAL INSTITUTIONS INC	0.48%	0.02%	0.46%	39.59	1.13	0.124
HANMI FINANCIAL CORP	0.54%	0.02%	0.52%	40.50	1.10	0.107
SOLARIS OILFIELD INFRASTRUCTURE INC	0.36%	0.01%	0.35%	65.33	1.00	0.146
MERCANTILE BANK CORP	0.42%	0.02%	0.40%	36.19	0.99	0.125
MIDLAND STS BANCORP INC	0.43%	0.02%	0.41%	36.18	0.98	0.121
CNB FINANCIAL CORP	0.38%	0.01%	0.37%	37.81	0.92	0.126

### Portfolio Risk by GICS Sector



# Growth – Global Equity Frontier US SMID Growth

for the quarter ended December 31, 2021

## 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: April 2006

## Portfolio Characteristics

	Portfolio	Benchmark
Market Cap Wtd Average (mm)	8,279.5	7,902.0
No. Of Issues	142.0	--
Dividend Yield	0.7	1.1
Return on Equity	12.3	14.2
Price to Sales	4.6	12.4
Price to Book	7.5	6.7
PE Ratio	37.2	35.5

## Top Holdings (% of assets)

MACOM TECHNOLOGY SOLUTIONS H	2.3%
KBR INC	1.9%
WOLFSPEED INC	1.8%
DANA INC	1.7%
CAESARS ENTERTAINMENT INC	1.6%
<b>Top 5 Holdings</b>	<b>9.2%</b>

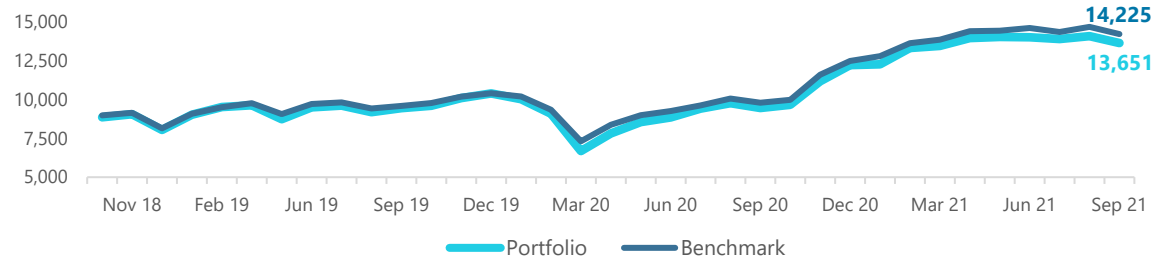
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>FRONTIER US SMID GROWTH</b>	<b>312.1</b>	<b>5.9%</b>	<b>18.2%</b>	<b>21.5%</b>	<b>13.0%</b>
RUSSELL 2500		3.8%	18.2%	21.9%	13.8%
Growth Policy BM		4.4%	20.7%	--	--

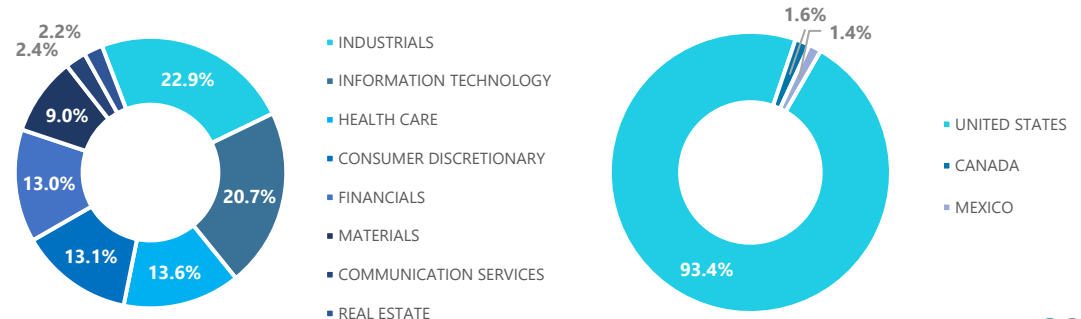
  

Universe data: U.S. Equity Funds- Small Cap	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>FRONTIER US SMID GROWTH</b>	<b>6.1%</b>	<b>57</b>	<b>19.1%</b>	<b>78</b>	<b>22.2%</b>	<b>28</b>	<b>13.8%</b>	<b>29</b>
Median	6.3%		24.8%		21.1%		12.2%	

## Growth of \$10,000



## Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.



# Growth Risk Analysis – Global Equity Frontier US SMID Growth

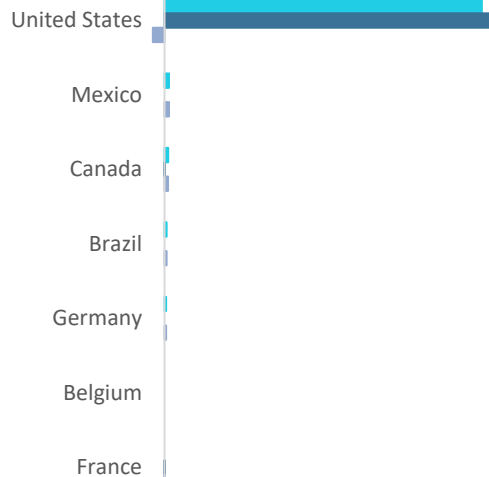
for the quarter ended December 31, 2021

## Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>27.03</b>
Benchmark Risk	24.90
Active Risk	4.13
Portfolio Beta	1.08

## Top Countries by Weight%

-50% 0% 50% 100%

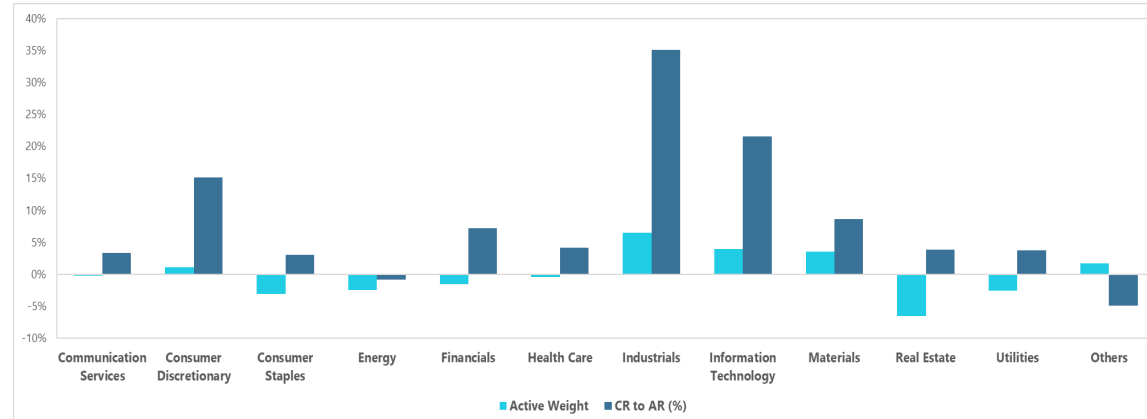


■ Portfolio Weight ■ Benchmark Weight ■ Active Weight

## Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
CAESARS ENTERTAINMENT INC	1.63%	0.00%	1.63%	61.21	6.59	0.281
BUILDERS FIRSTSOURCE INC	3.00%	0.24%	2.76%	44.08	6.38	0.209
DANA INC	1.66%	0.05%	1.61%	50.29	5.38	0.252
WOLFSPEED INC	1.82%	0.19%	1.63%	49.68	4.62	0.231
CONTROLADORA VUELA	1.37%	0.00%	1.37%	56.00	3.89	0.231
MACOM TECHNOLOGY SOLUTIONS	2.25%	0.06%	2.20%	38.02	3.86	0.186
TUTOR PERINI CORP	1.18%	0.01%	1.18%	57.39	3.73	0.244
CARDLYTICS INC	0.93%	0.03%	0.90%	67.97	3.16	0.259
AZUL SA	0.64%	0.00%	0.64%	75.57	2.89	0.301
ARRAY TECHNOLOGIES INC	0.77%	0.03%	0.75%	71.46	2.88	0.273

## Portfolio Risk by GICS Sector



# Growth – Global Equity Genesis Emerging Markets

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Strategy

Seeks to generate long-term returns in emerging markets through independent bottom-up research and creating a diversified portfolio. The strategy may be suited to investors looking to take advantage of emerging market growth opportunities at attractive valuations.

Inception Date: September 2007

## Risk Statistics (since inception)

Standard Deviation	21.1%
Benchmark Standard Deviation	21.8%
Sharpe Ratio	0.31
Information Ratio	0.39
Beta	0.95
Tracking Error	4.2%

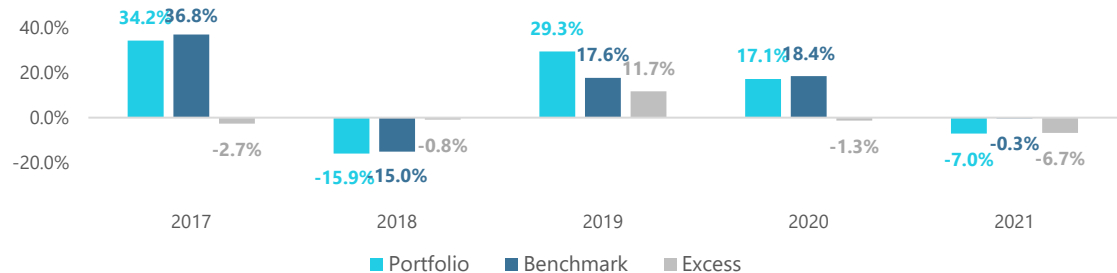
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>GENESIS EMERGING MARKETS</b>	<b>636.9</b>	<b>-4.6%</b>	<b>-7.0%</b>	<b>12.1%</b>	<b>9.7%</b>
MSCI EM IMI CUSTOM INDEX		-1.0%	-0.3%	11.6%	10.1%
Growth Policy BM		4.4%	20.7%	--	--

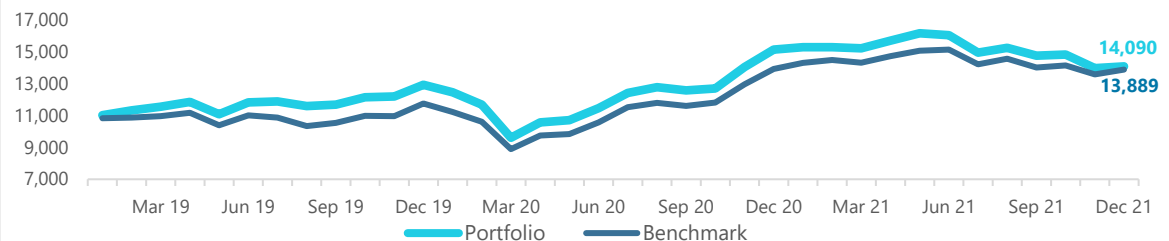
  

Universe data: International Equity Funds Emerging Markets	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>GENESIS EMERGING MARKETS</b>	<b>-4.4%</b>	<b>91</b>	<b>-6.4%</b>	<b>91</b>	<b>12.9%</b>	<b>51</b>	<b>10.5%</b>	<b>55</b>
Median	-0.9%		2.0%		13.0%		10.7%	

## 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

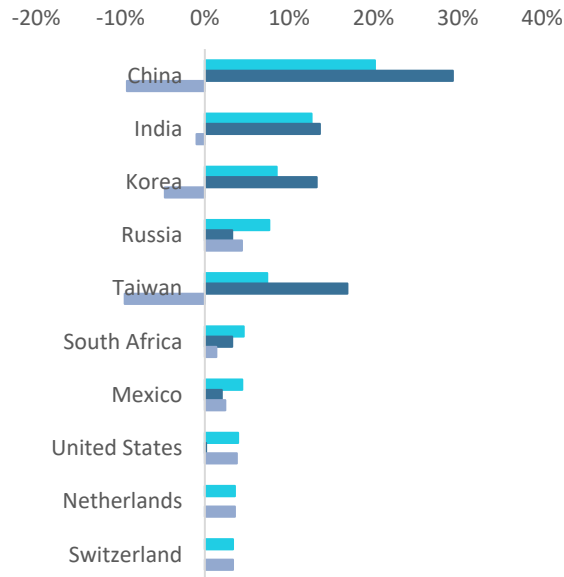
## Genesis Emerging Markets

for the quarter ended December 31, 2021

### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>16.82</b>
Benchmark Risk	18.24
Active Risk	4.54
Portfolio Beta	0.89

### Top Countries by Weight%

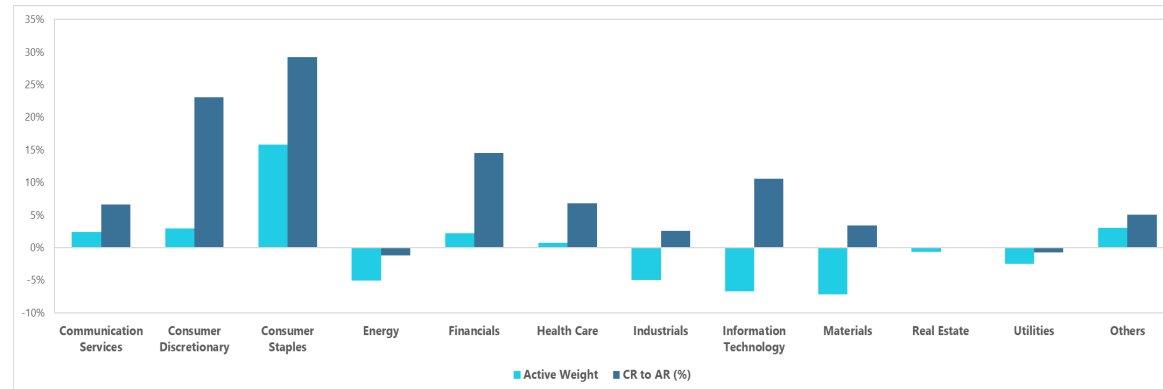


■ Portfolio Weight ■ Benchmark Weight ■ Active Weight

### Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
SBERBANK ROSSII PAO	3.88%	0.47%	3.41%	33.26	6.80	0.013
COMPAGNIE FINANCIERE RICHEMONT SA	3.31%	0.00%	3.31%	33.15	6.30	0.009
HEINEKEN NV	1.86%	0.00%	1.86%	24.19	4.11	0.022
HEINEKEN HOLDING NV	1.71%	0.00%	1.71%	24.14	3.82	0.024
US DOLLAR	1.95%	0.00%	1.95%	0.00	3.35	0.000
WULIANGYE YIBIN CO LTD	1.97%	0.00%	1.97%	37.54	3.33	-0.001
OTP BANK PLC	1.93%	0.13%	1.80%	34.89	3.06	-0.001
GRUMA SAB DE CV	1.45%	0.03%	1.42%	31.79	2.94	0.016
MEITUAN	0.00%	1.31%	-1.31%	46.96	2.88	-0.177
YANDEX N.V.	1.70%	0.00%	1.70%	36.76	2.73	-0.005

### Portfolio Risk by GICS Sector



# Growth – Global Equity

## Global Alpha

for the quarter ended December 31, 2021

### 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)	132,334.0	84,612.0
No. Of Issues	155.0	--
Dividend Yield	1.8	2.7
Return on Equity	18.0	17.2
Price to Sales	8.7	5.4
Price to Book	2.0	5.9
PE Ratio	32.4	19.3

### Top Holdings (% of assets)

SAVILLS PLC	3.4%
BIFFA PLC	3.4%
ORMAT TECHNOLOGIES INC	3.0%
ROTHSCHILD + CO	2.9%
INTERNET INITIATIVE JAPAN	2.9%
<b>Top 5 Holdings</b>	<b>15.5%</b>

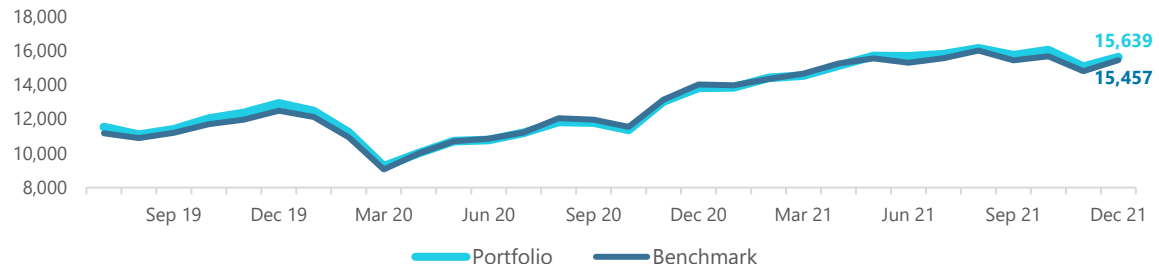
### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>GLOBAL ALPHA IE SC - EMP</b>	<b>163.2</b>	<b>-0.7%</b>	<b>13.0%</b>	<b>16.1%</b>	--
MSCI EAFE SMALL CAP NET		0.1%	10.1%	15.6%	--
Growth Policy BM		4.4%	20.7%	--	--

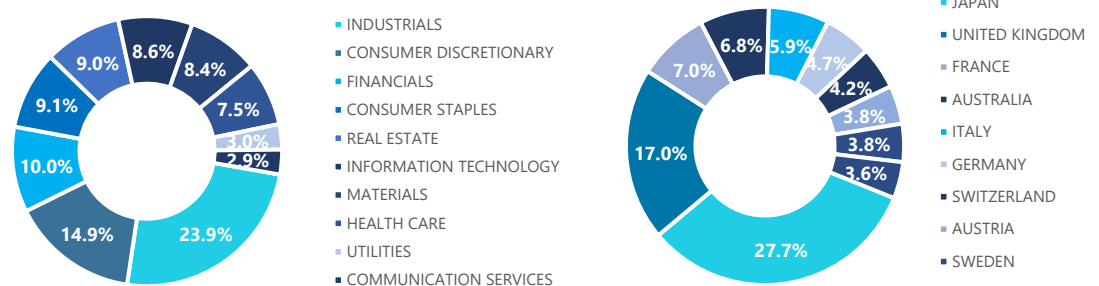
  

Universe data: International Equity Funds Core	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>GLOBAL ALPHA IE SC - EMP</b>	<b>-0.5%</b>	<b>71</b>	<b>13.8%</b>	<b>55</b>	<b>16.9%</b>	<b>55</b>	--	--
Median	2.3%		15.6%		17.7%		--	

### Growth of \$10,000



### Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
 2. Charts display top exposures only and may not add up to 100%.

# Growth Risk Analysis – Global Equity

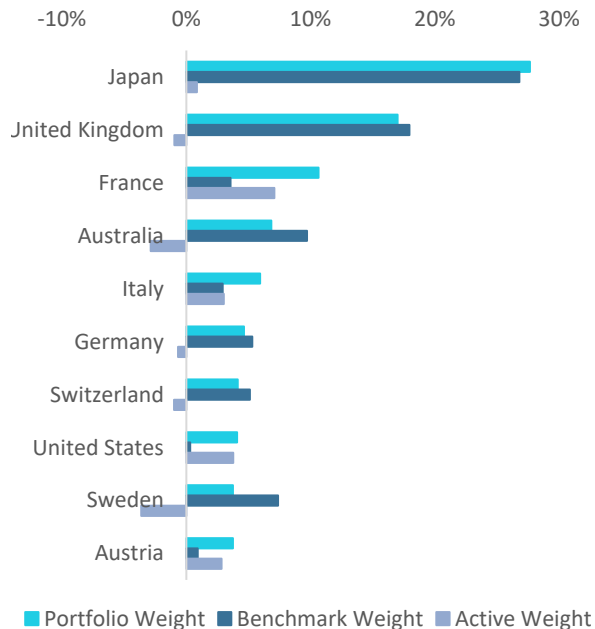
## Global Alpha

for the quarter ended December 31, 2021

### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>19.65</b>
Benchmark Risk	20.04
Active Risk	4.28
Portfolio Beta	0.96

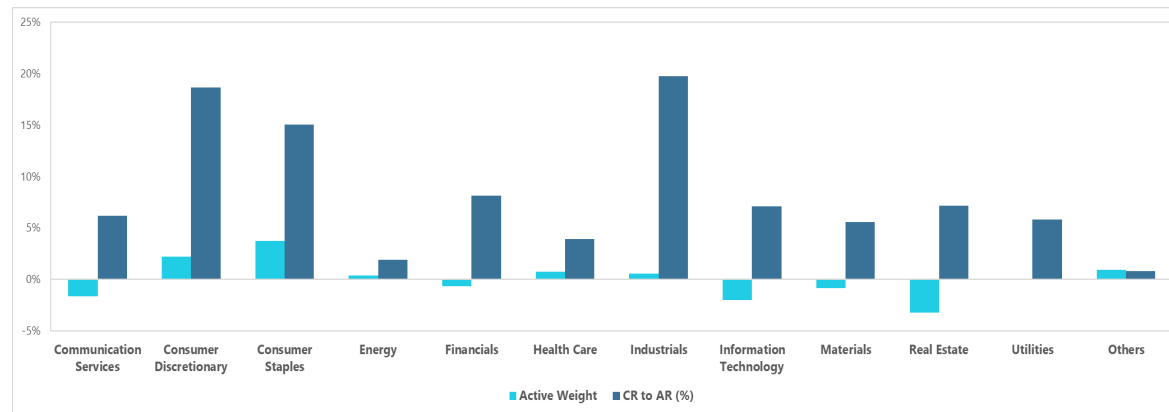
### Top Countries by Weight%



### Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
L'OCCITANE INTERNATIONAL SA	3.59%	0.00%	3.59%	40.11	11.00	0.091
BIFFA PLC	3.35%	0.05%	3.31%	39.26	6.64	0.046
ORMAT TECHNOLOGIES INC	2.95%	0.00%	2.95%	40.09	6.29	0.051
INTERNET INITIATIVE JAPAN INC	2.88%	0.07%	2.81%	36.52	6.14	0.053
AUTOGRILL SPA	2.44%	0.04%	2.40%	51.30	4.21	0.035
ASICS CORP	2.10%	0.11%	2.00%	46.52	3.92	0.044
ROTHSCHILD & CO	2.93%	0.00%	2.93%	31.23	3.16	0.006
SEGA SAMMY HOLDINGS INC	2.42%	0.09%	2.33%	29.06	3.06	0.016
SAVILLS	3.44%	0.09%	3.35%	33.00	2.96	-0.002
RAFFLES MEDICAL GROUP LTD	2.62%	0.03%	2.59%	30.65	2.94	0.009

### Portfolio Risk by GICS Sector



# Growth – Global Equity

## JANA JSI Fund V

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

### Strategy

Seeks to invest in undervalued public companies located primarily in North America, with a potential catalyst for value creation that management has not considered or is not executing. The strategy may be suited to investors looking to increase portfolio diversification through activist approach and focus on absolute return.

Inception Date: October 2016

### Risk Statistics (since inception)

Standard Deviation	24.9%
Benchmark Standard Deviation	15.0%
Sharpe Ratio	0.84
Information Ratio	0.12
Beta	0.88
Tracking Error	21.2%

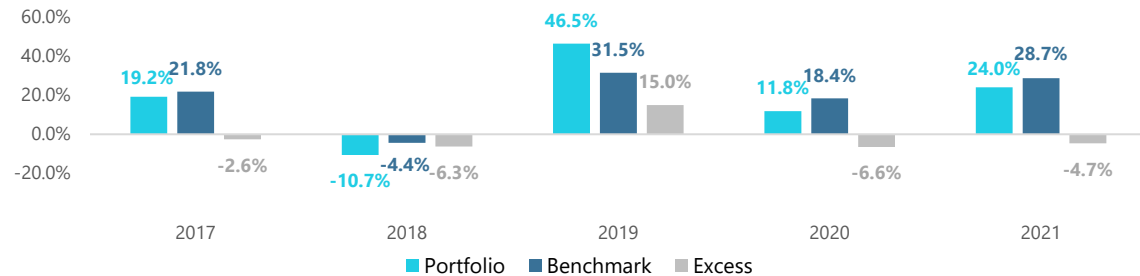
### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>JANA JSI FUND V - ACTIVIST</b>	<b>123.5</b>	<b>6.6%</b>	<b>24.0%</b>	<b>26.6%</b>	<b>16.7%</b>
S&P 500 INDEX		11.0%	28.7%	26.1%	18.5%
Growth Policy BM		4.4%	20.7%	--	--

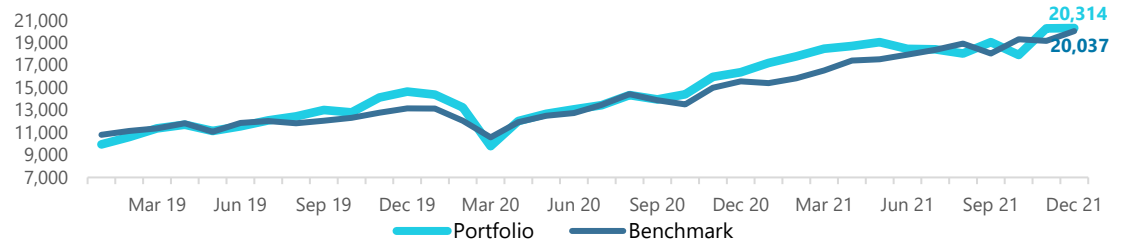
  

Universe data: U.S. Equities Total Large Cap	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>JANA JSI FUND V - ACTIVIST</b>	<b>9.1%</b>	<b>43</b>	<b>31.7%</b>	<b>15</b>	<b>32.0%</b>	<b>18</b>	<b>21.4%</b>	<b>24</b>
Median	8.1%		26.5%		26.0%		18.2%	

### 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

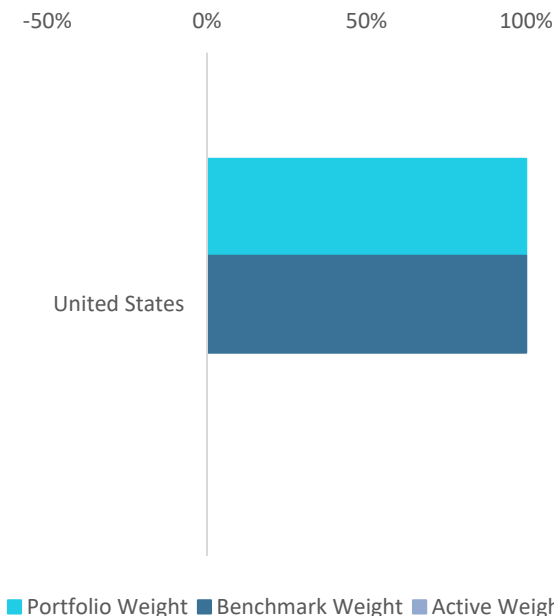
## JANA JSI Fund V

for the quarter ended December 31, 2021

### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>22.11</b>
Benchmark Risk	18.10
Active Risk	12.51
Portfolio Beta	1.01

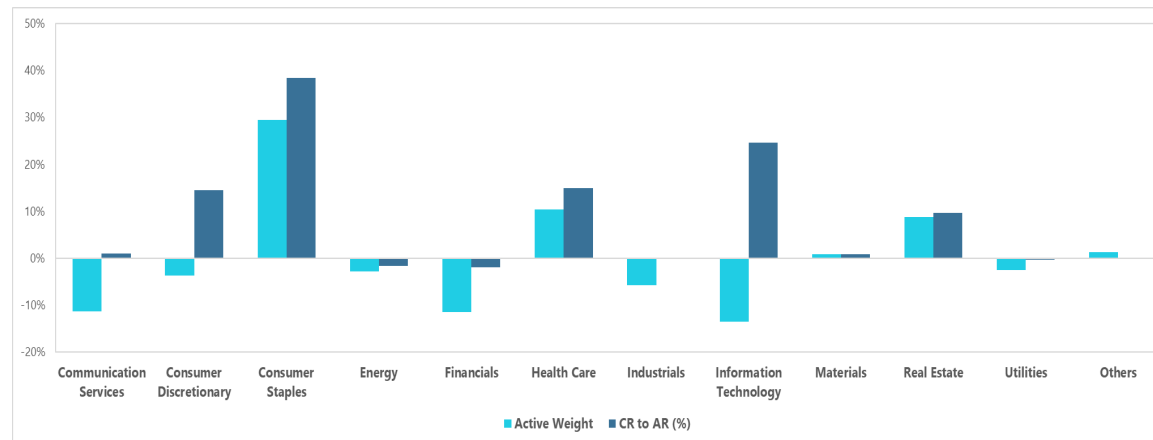
### Top Countries by Weight%



### Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
TREEHOUSE FOODS INC	15.89%	0.00%	15.89%	35.41	23.86	0.190
VONAGE HOLDINGS CORP	14.16%	0.00%	14.16%	44.20	18.74	0.168
CONAGRA BRANDS	19.28%	0.04%	19.24%	23.23	14.92	0.099
MACYS INC	8.64%	0.00%	8.64%	63.82	14.90	0.218
ENCOMPASS HEALTH CORPORATION	13.76%	0.00%	13.76%	30.55	10.21	0.095
CYRUSONE INC	11.43%	0.00%	11.43%	36.84	10.07	0.112
LABORATORY CORP OF AMERICA HLDS	9.86%	0.07%	9.79%	30.33	4.62	0.061
APPLE INC	0.00%	6.08%	-6.08%	28.89	1.96	-0.038
MICROSOFT CORP	0.00%	5.80%	-5.80%	22.26	1.92	-0.040
MERCURY SYSTEMS INC	2.33%	0.00%	2.33%	44.77	1.43	0.079

### Portfolio Risk by GICS Sector



Note: Data is as of September 30, 2021 (one quarter lagged).

# Growth – Global Equity

## JPMorgan Strategic Beta Non-US

for the quarter ended December 31, 2021

### 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)	85,216.0	83,368.0
No. Of Issues	1,574.0	--
Dividend Yield	3.1	2.7
Return on Equity	18.8	16.9
Price to Sales	5.2	6.3
Price to Book	4.5	5.5
PE Ratio	14.6	17.8

### Top Holdings (% of assets)

TAIWAN SEMICONDUCTOR MANUFAC	1.7%
NESTLE SA REG	1.2%
ISHARES MSCI SAUDI ARABIA ETF	1.1%
ASML HOLDING NV	1.1%
SAMSUNG ELECTRONICS CO LTD	1.0%
<b>Top 5 Holdings</b>	<b>6.1%</b>

1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.

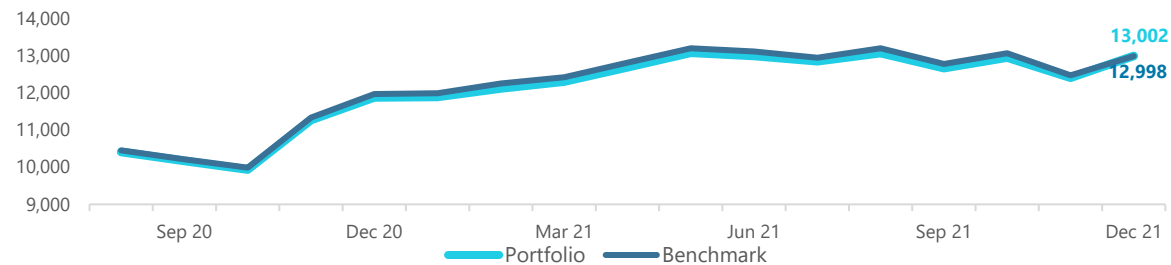
### Performance (net)<sup>1</sup>

	Ending Market Value (mm)		QTD	1 Year	3 Year	5 Year
<b>JPMAM STRATEGIC BETA NON-U.S.</b>	<b>644.1</b>		<b>2.6%</b>	<b>9.4%</b>	--	--
MSCI ACWI ex USA IMI Net			1.6%	8.5%	--	--
Growth Policy BM			4.4%	20.7%	--	--

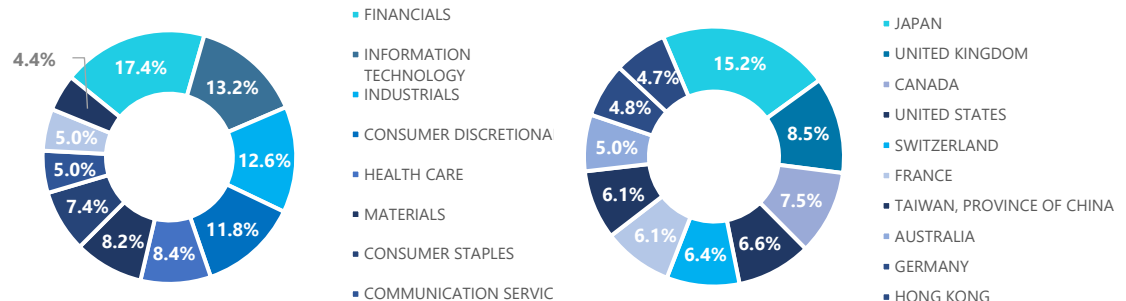
  

Universe data: International Equity	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>JPMAM STRATEGIC BETA NON-U.S.</b>	<b>2.6%</b>	<b>23</b>	<b>9.1%</b>	<b>53</b>	--	--	--	--
Median	1.5%		9.8%		--	--	--	

### Growth of \$10,000



### Top Exposures (% of assets)<sup>2</sup>





# Growth Risk Analysis – Global Equity

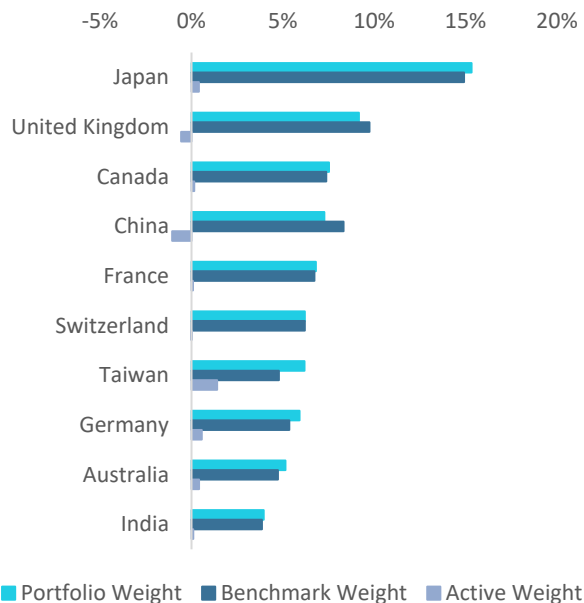
## JPMorgan Strategic Beta Non-US

for the quarter ended December 31, 2021

### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>17.38</b>
Benchmark Risk	17.34
Active Risk	0.99
Portfolio Beta	1.00

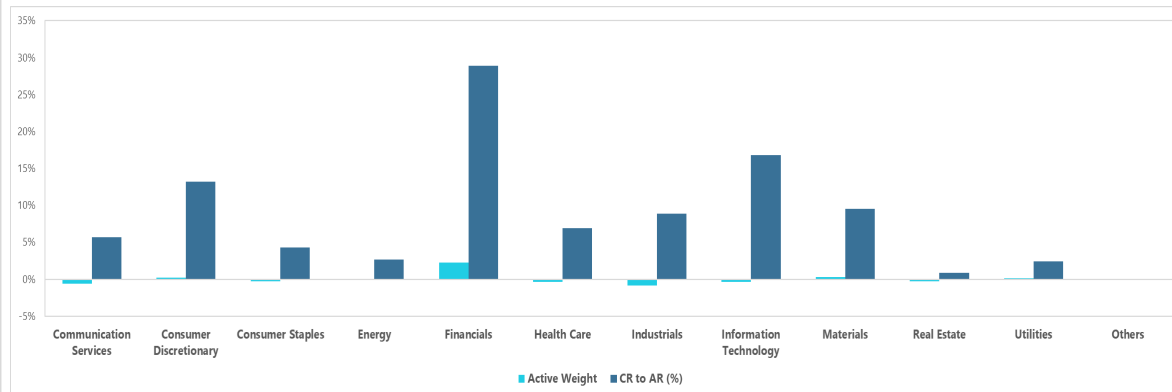
### Top Countries by Weight%



### Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
AURELIUS EQUITY OPPORTUNITIES SE & CO.	1.07%	0.00%	1.07%	48.61	17.84	0.165
ALIBABA GROUP HOLDING	0.00%	0.73%	-0.72%	41.85	8.57	-0.116
ASML HOLDING NV	0.00%	1.04%	-1.04%	31.68	8.14	-0.077
JD.COM INC	0.00%	0.19%	-0.19%	42.19	1.86	-0.096
ROYAL DUTCH SHELL PLC A SHS	0.29%	0.00%	0.29%	37.92	1.61	0.056
VALE SA COMMON STOC	0.22%	0.00%	0.22%	46.12	1.21	0.055
NETEASE INC	0.00%	0.13%	-0.13%	39.42	1.19	-0.092
DAIMLER AG REGISTERED SHARES	0.23%	0.00%	0.23%	35.91	0.88	0.039
MITSUBISHI UFJ FINANCIAL GRO	0.24%	0.00%	0.24%	24.00	0.79	0.033
XPENG INC	0.01%	0.06%	-0.05%	64.00	0.69	-0.134

### Portfolio Risk by GICS Sector



# Growth – Global Equity

## JPMorgan Strategic Beta US

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

### 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)	570,567.0	676,531.0
No. Of Issues	910.0	--
Dividend Yield	1.0	1.0
Return on Equity	32.3	33.6
Price to Sales	7.2	7.5
Price to Book	14.1	15.0
PE Ratio	24.6	27.5

### Top Holdings (% of assets)

MICROSOFT CORP	5.0%
AMAZON.COM INC	3.1%
ALPHABET INC CL A	1.8%
TESLA INC	1.8%
ALPHABET INC CL C	1.7%
<b>Top 5 Holdings</b>	<b>13.4%</b>

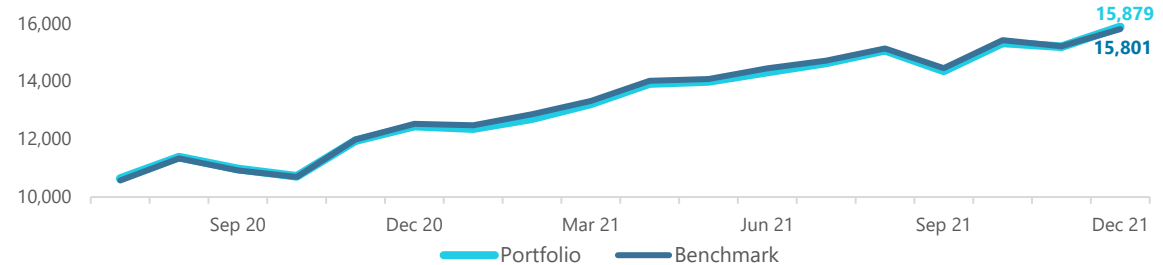
### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>JPMAM STRATEGIC BETA U.S.</b>	<b>4,872.5</b>	<b>10.6%</b>	<b>27.5%</b>	--	--
MSCI USA IMI Gross		9.4%	26.1%	--	--
Growth Policy BM		4.4%	20.7%	--	--

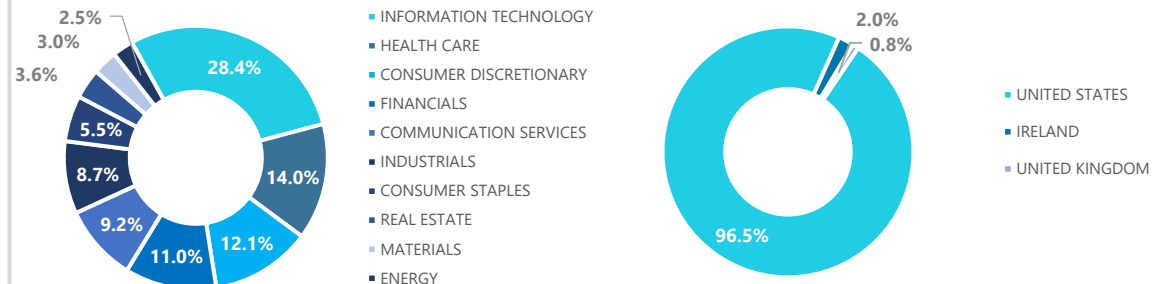
  

Universe data: U.S. Equities Total Large Cap	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>JPMAM STRATEGIC BETA U.S.</b>	<b>10.6%</b>	<b>26</b>	<b>27.5%</b>	<b>44</b>	--	--	--	--
Median	8.1%		26.5%		--	--	--	

### Growth of \$10,000



### Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.

# Growth Risk Analysis – Global Equity

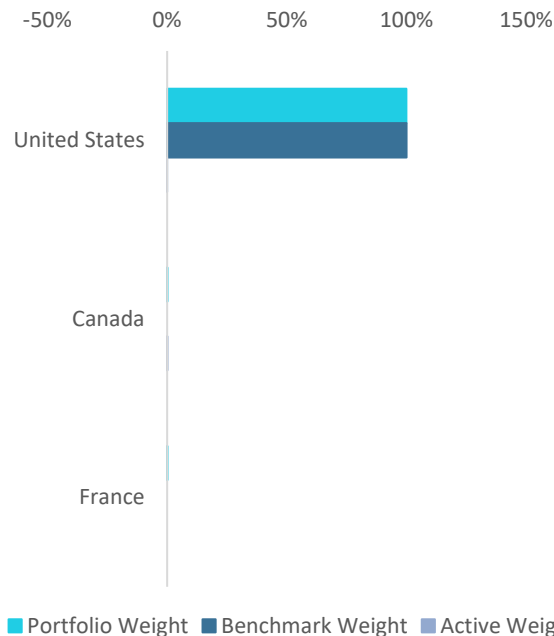
## JPMorgan Strategic Beta US

for the quarter ended December 31, 2021

### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>18.32</b>
Benchmark Risk	18.45
Active Risk	0.74
Portfolio Beta	0.99

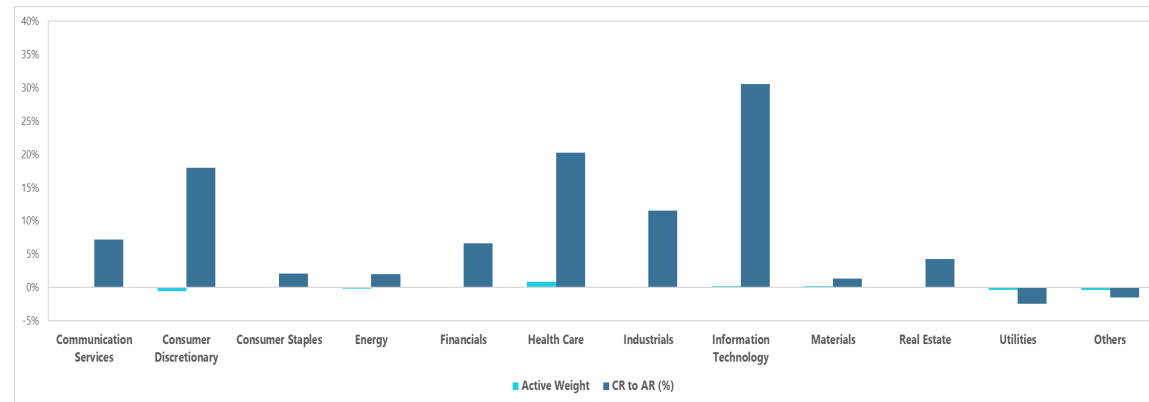
### Top Countries by Weight%



### Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
CHASE & CO	0.00%	0.98%	-0.98%	26.37	2.88	-0.057
TWILIO INC	0.05%	0.09%	-0.04%	46.87	1.13	-0.227
PINTEREST INC	0.00%	0.04%	-0.04%	54.28	1.09	-0.249
MONGODB INC	0.02%	0.06%	-0.05%	49.75	1.09	-0.207
ROKU INC	0.01%	0.06%	-0.04%	53.97	1.08	-0.229
SNAP INC	0.06%	0.10%	-0.04%	52.87	1.05	-0.210
THE TRADE DESK INC	0.04%	0.08%	-0.05%	52.80	0.98	-0.193
CARNIVAL CORP	0.00%	0.03%	-0.03%	62.59	0.91	-0.231
CAESARS ENTERTAINMENT INC	0.00%	0.04%	-0.04%	61.21	0.90	-0.196
OKTA	0.01%	0.06%	-0.04%	41.83	0.88	-0.186

### Portfolio Risk by GICS Sector



# Growth – Global Equity Lazard Emerging Markets

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Strategy

Seeks to provide long-term capital appreciation by investing in companies 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)	57,254.8	127,129.4
No. Of Issues	52.0	--
Dividend Yield	3.4	2.7
Return on Equity	26.2	18.1
Price to Sales	12.8	6.1
Price to Book	2.5	5.1
PE Ratio	5.1	14.1

## Top Holdings (% of assets)

SAMSUNG ELECTRONICS PREF	7.9%
JPMORGAN EMERGING MARKETS INVE	6.8%
FIDELITY CHINA SPECIAL SITUATI	6.3%
TEMPLETON EMERGING MARKETS INV	5.3%
CITIC SECURITIES CO LTD H	5.1%
<b>Top 5 Holdings</b>	<b>31.3%</b>

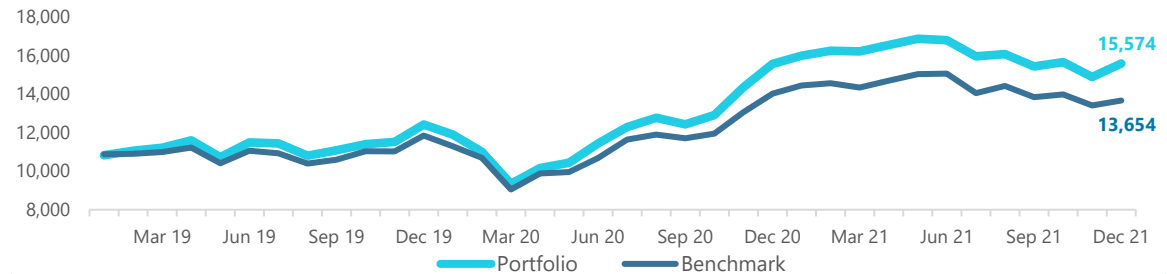
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>LAZARD EMERGING MARKETS</b>	<b>475.2</b>	<b>1.0%</b>	<b>0.1%</b>	<b>15.9%</b>	<b>12.5%</b>
MSCI EMERGING MARKETS		-1.3%	-2.5%	10.9%	9.9%
Growth Policy BM		4.4%	20.7%	--	--

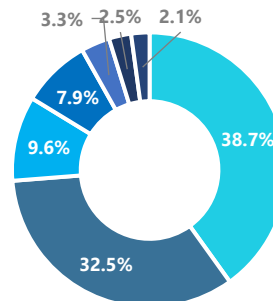
  

Universe data: International Equity Funds Emerging Markets	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>LAZARD EMERGING MARKETS</b>	<b>1.1%</b>	<b>20</b>	<b>0.8%</b>	<b>55</b>	<b>16.7%</b>	<b>28</b>	<b>13.3%</b>	<b>32</b>
Median	-0.9%		2.0%		13.0%		10.7%	

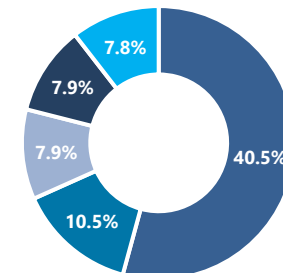
## Growth of \$10,000



## Top Exposures (% of assets)<sup>2</sup>



- COMMINGLED FUND
- FINANCIALS
- CONSUMER DISCRETIONARY
- INFORMATION TECHNOLOGY
- INDUSTRIALS
- CASH EQUIVALENT
- PRIVATE PLACEMENT



- UNITED KINGDOM
- KOREA, REPUBLIC OF
- NETHERLANDS
- UNITED STATES
- CHINA

1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.

# Growth Risk Analysis – Global Equity

## Lazard Emerging Markets

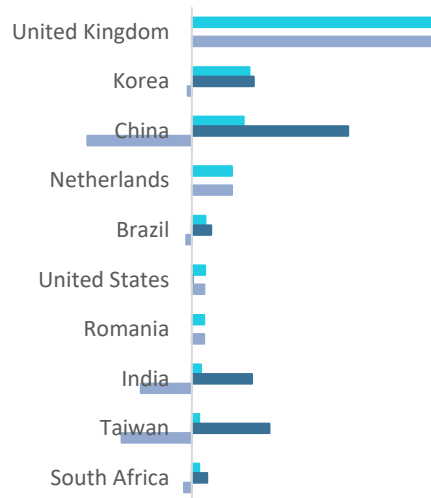
for the quarter ended December 31, 2021

### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>18.98</b>
Benchmark Risk	17.99
Active Risk	10.57
Portfolio Beta	0.88

### Top Countries by Weight%

-40% -20% 0% 20% 40% 60%



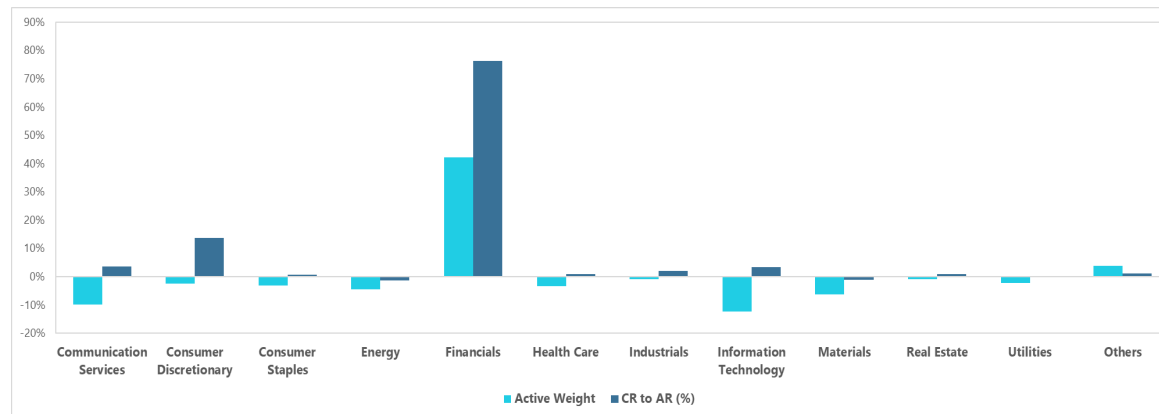
■ Portfolio Weight ■ Benchmark Weight ■ Active Weight

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

### Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
JPMORGAN EMERGING MK	6.82%	0.00%	6.82%	29.65	11.39	0.141
FIDELITY CHINA SPECIAL SITUATIONS PLC	6.38%	0.00%	6.38%	34.77	9.76	0.126
PROSUS NV	8.30%	0.00%	8.30%	35.99	8.72	0.075
TEMPLETON EMERG MKTS INVSTMNT TRUST	5.26%	0.00%	5.26%	28.73	8.61	0.137
VINACAPITAL VIETNAM OPPORTUNITY FD	3.79%	0.00%	3.79%	29.42	5.32	0.113
ASIA DRAGON TRUST PLC	2.67%	0.00%	2.67%	30.27	4.27	0.133
SCHRODER ASIA PAC	2.85%	0.00%	2.85%	28.70	4.09	0.116
JPMORGAN RUSSIAN SEC	2.93%	0.00%	2.93%	31.67	3.99	0.108
ABRDN CHINA INVESTMENT COMPANY LTD	2.35%	0.00%	2.35%	28.10	3.68	0.130
FIDELITY EMERGING MARKETS LTD	2.27%	0.00%	2.27%	29.61	3.62	0.133

### Portfolio Risk by GICS Sector



# Growth – Global Equity

## SSGA MSCI ACWI IMI

for the quarter ended December 31, 2021

### 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)	385,014.0	379,839.0
No. Of Issues	6,520.0	--
Dividend Yield	1.6	1.7
Return on Equity	25.3	25.1
Price to Sales	7.3	7.6
Price to Book	11.1	11.3
PE Ratio	23.1	23.4

### Top Holdings (% of assets)

MICROSOFT CORP	3.0%
AMAZON.COM INC	1.8%
ALPHABET INC CL A	1.2%
TESLA INC	1.1%
META PLATFORMS INC CLASS A	1.0%
<b>Top 5 Holdings</b>	<b>8.1%</b>

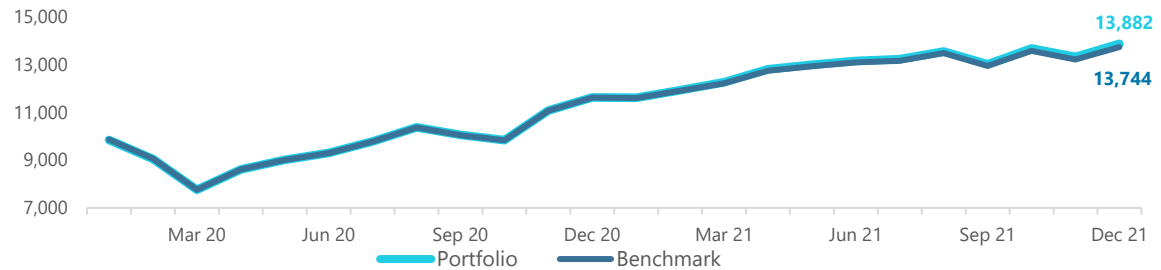
### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>SSGA MSCI ACWI IMI</b>	<b>16,610.9</b>	<b>6.6%</b>	<b>19.4%</b>	--	--
MSCI ACWI IMI Net		6.1%	18.2%	--	--
Growth Policy BM		4.4%	20.7%	--	--

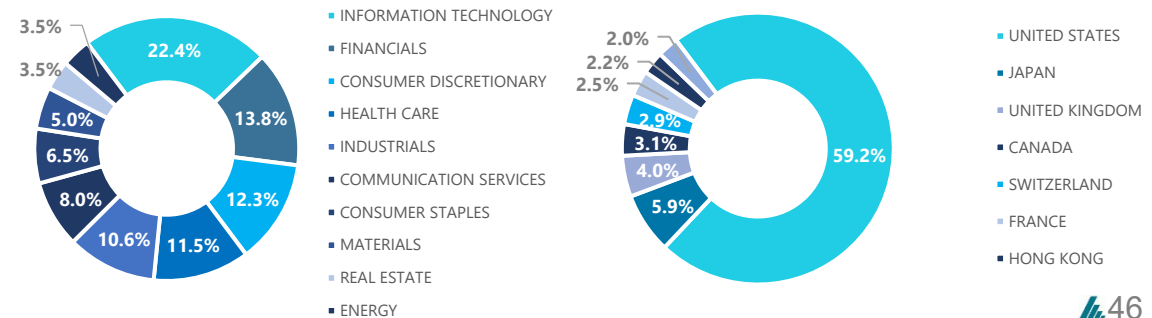
  

Universe data: Global Equity Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>SSGA MSCI ACWI IMI</b>	<b>6.6%</b>	<b>20</b>	<b>19.4%</b>	<b>22</b>	--	--	--	--
Median	2.9%		13.4%		--	--	--	

### Growth of \$10,000



### Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
 2. Charts display top exposures only and may not add up to 100%.

# Growth Risk Analysis – Global Equity

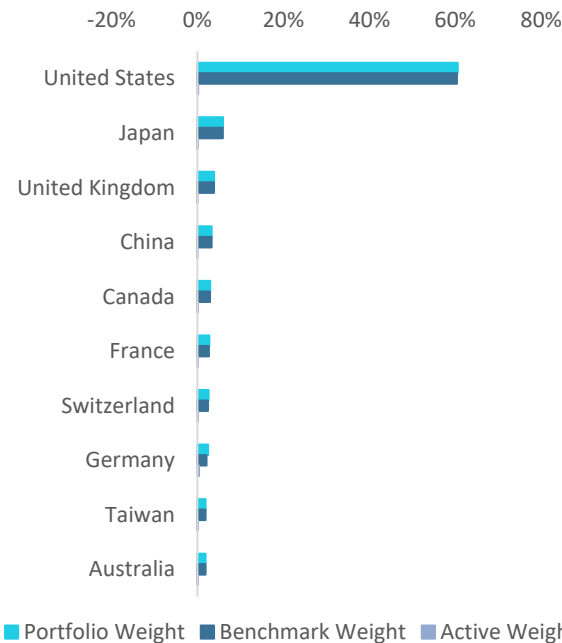
## SSGA MSCI ACWI IMI

for the quarter ended December 31, 2021

### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>17.50</b>
Benchmark Risk	17.52
Active Risk	0.28
Portfolio Beta	1.00

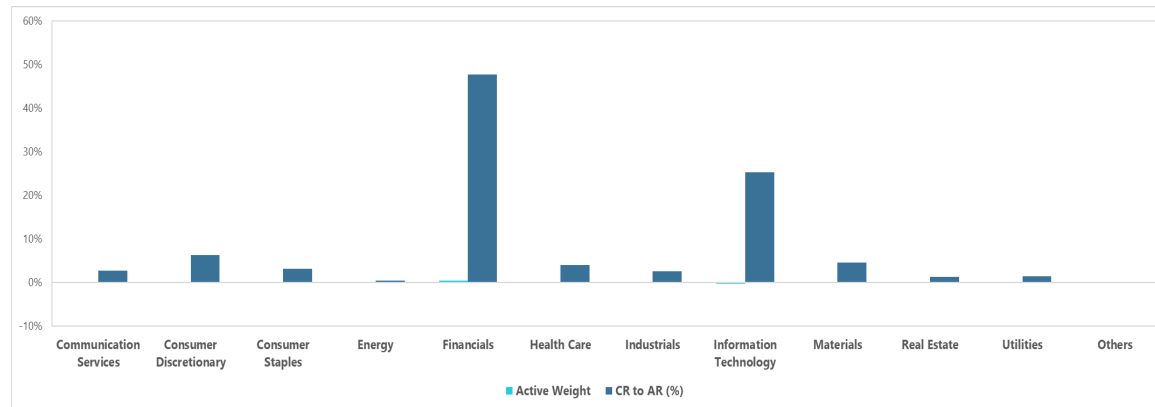
### Top Countries by Weight%



### Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
AURELIUS EQUITY OPPORTUNITIES SE & CO.	0.45%	0.00%	0.44%	48.61	36.69	0.221
ASML HOLDING NV	0.00%	0.42%	-0.41%	31.68	12.99	-0.096
ROYAL DUTCH SHELL PLC A SHS COMMON	0.13%	0.00%	0.13%	37.92	2.41	0.046
RELIANCE INDUSTRIES LTD	0.00%	0.11%	-0.11%	33.49	1.27	-0.039
AMAZON.COM INC	1.81%	1.90%	-0.09%	26.33	1.00	-0.039
CLOUDFLARE INC	0.02%	0.04%	-0.02%	54.22	0.91	-0.147
MITSUBISHI UFJ FINANCIAL GRO	0.08%	0.00%	0.08%	24.00	0.85	-0.021
DAIMLER AG REGISTERED SHARES	0.09%	0.00%	0.09%	35.91	0.78	-0.017
BAJAJ FINANCE LTD	0.00%	0.03%	-0.03%	42.13	0.75	-0.074
DATADOG INC	0.02%	0.04%	-0.02%	45.06	0.75	-0.110

### Portfolio Risk by GICS Sector



# Growth – Global Equity Symphony Financial

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Strategy

Seeks to invest in profitable Japanese companies where the share prices do not reflect the true value of the underlying business. The strategy may be suited to investors looking to capture return opportunities in Japan.

Inception Date: November 2016

## Risk Statistics (since inception)

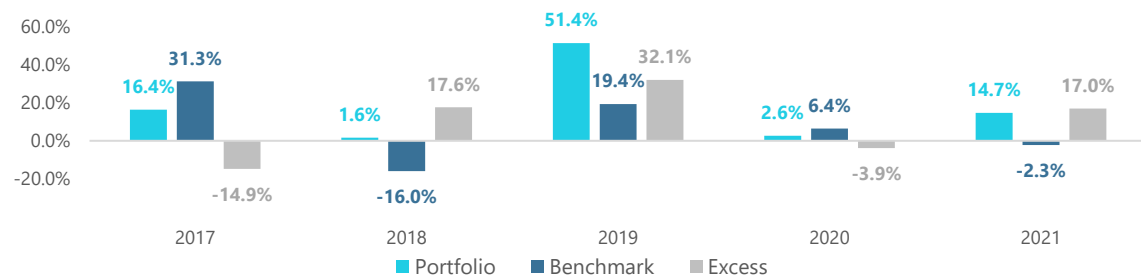
Standard Deviation	22.3%
Benchmark Standard Deviation	13.4%
Sharpe Ratio	0.79
Information Ratio	0.63
Beta	0.89
Tracking Error	18.8%

## Performance (net)<sup>1</sup>

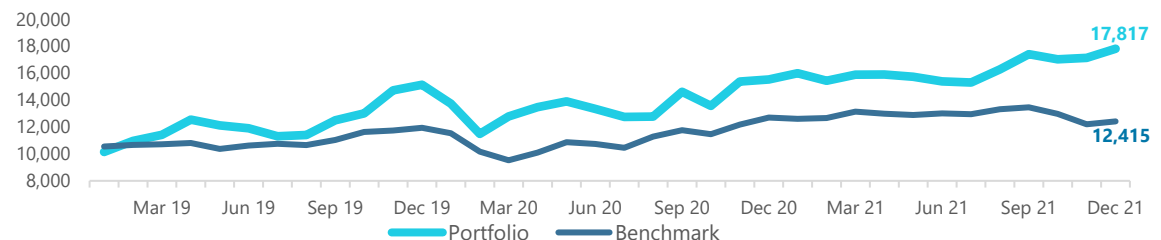
	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>SYMPHONY FINANCIAL - ACTIVIST</b>	<b>257.8</b>	<b>2.3%</b>	<b>14.7%</b>	<b>21.2%</b>	<b>16.1%</b>
MSCI Japan Small Cap		-7.8%	-2.3%	7.5%	6.5%
Growth Policy BM		4.4%	20.7%	--	--

Universe data: International Equity Developed Markets Active	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>SYMPHONY FINANCIAL - ACTIVIST</b>	<b>2.5%</b>	<b>37</b>	<b>15.5%</b>	<b>19</b>	<b>23.9%</b>	<b>10</b>	<b>18.4%</b>	<b>7</b>
Median	1.3%		10.8%		14.3%		10.5%	

## 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

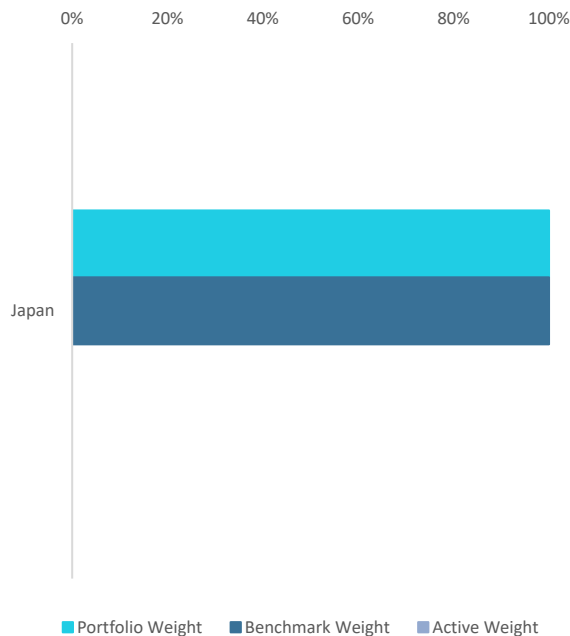
## Symphony Financial

for the quarter ended December 31, 2021

### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>21.50</b>
Benchmark Risk	17.10
Active Risk	14.82
Portfolio Beta	0.91

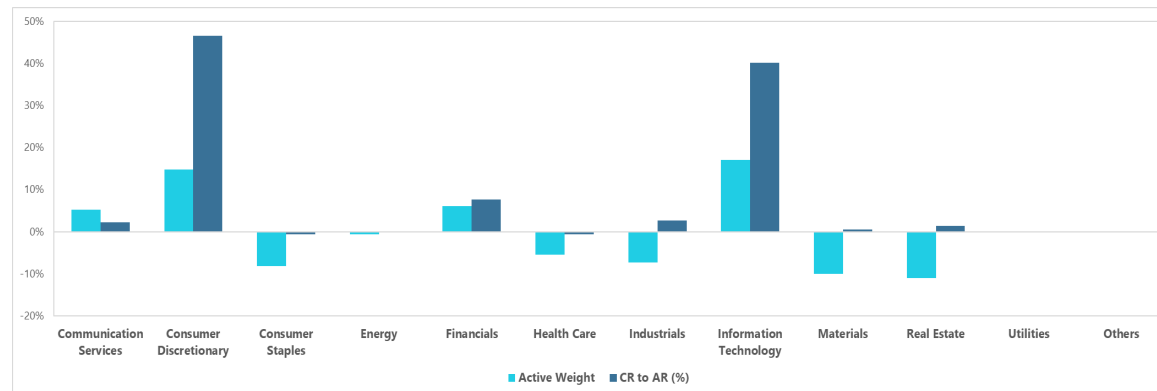
### Top Countries by Weight%



### Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
NAGAWA	25.64%	0.09%	25.55%	39.74	44.20	0.240
INFOMART	19.17%	0.19%	18.99%	42.63	28.72	0.207
RIKEN KEIKI	10.58%	0.08%	10.50%	47.00	13.13	0.168
JAPAN SECURITIES FINANCE CO LTD	12.11%	0.09%	12.02%	32.81	7.12	0.071
UNDISCLOSED – ENTERTAINMENT <sup>1</sup>	7.57%	0.11%	7.46%	29.82	2.48	0.033
KOMATSU MATERE CO LTD	4.71%	0.00%	4.71%	32.00	1.83	0.041
ZUIKO	6.15%	0.00%	6.15%	28.25	1.30	0.015
KANAME	2.03%	0.00%	2.03%	26.20	0.28	0.004
MITSUI OSK LINES LTD	0.00%	0.95%	-0.95%	47.47	0.15	-0.041
K&O ENERGY GROUP INC	2.19%	0.00%	2.19%	26.53	0.13	-0.008

### Portfolio Risk by GICS Sector



<sup>1</sup> Security name undisclosed due to confidentiality reasons.

# Growth – Global Equity Systematic US Small Cap Value

for the quarter ended December 31, 2021

## 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)	4,157.5	3,479.7
No. Of Issues	151.0	--
Dividend Yield	1.2	1.1
Return on Equity	15.6	10.7
Price to Sales	2.5	17.7
Price to Book	2.7	4.7
PE Ratio	18.0	56.1

## Top Holdings (% of assets)

CROSS COUNTRY HEALTHCARE INC	1.7%
SILICON MOTION TECHNOL ADR	1.6%
REGAL REXNORD CORP	1.4%
MUELLER INDUSTRIES INC	1.4%
SPECTRUM BRANDS HOLDINGS INC	1.4%
<b>Top 5 Holdings</b>	<b>7.5%</b>

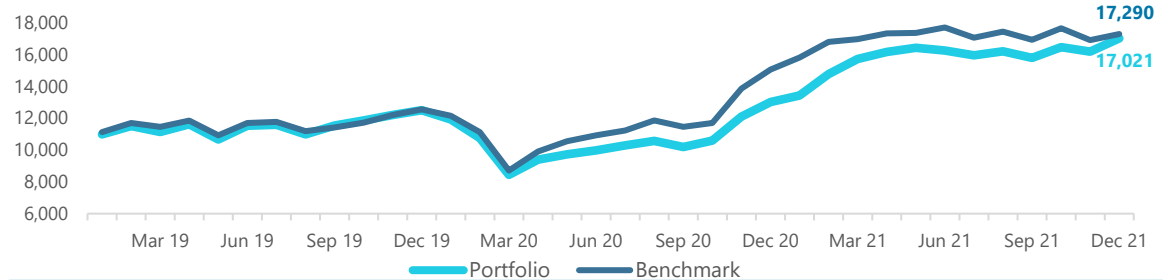
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>SYSTEMATIC US SMALL CAP VALUE</b>	<b>206.9</b>	<b>7.8%</b>	<b>30.8%</b>	<b>19.4%</b>	--
RUSSELL 2000		2.1%	14.8%	20.0%	--
Growth Policy BM		4.4%	20.7%	--	--

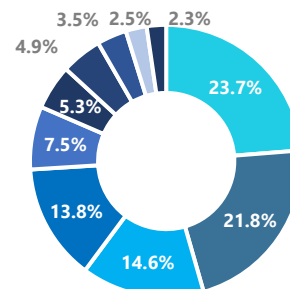
  

Universe data: U.S. Equities Small Cap	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>SYSTEMATIC US SMALL CAP VALUE</b>	<b>7.9%</b>	<b>27</b>	<b>31.5%</b>	<b>22</b>	<b>20.1%</b>	<b>66</b>	--	--
Median	6.3%		24.8%		21.1%		--	

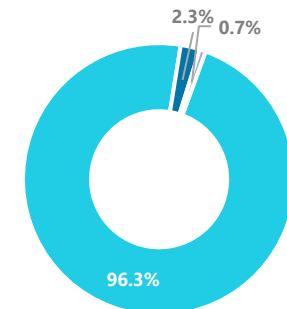
## Growth of \$10,000



## Top Exposures (% of assets)<sup>2</sup>



- FINANCIALS
- INDUSTRIALS
- INFORMATION TECHNOLOGY
- CONSUMER DISCRETIONARY
- HEALTH CARE
- REAL ESTATE
- MATERIALS
- ENERGY
- CONSUMER STAPLES
- CASH EQUIVALENT



- UNITED STATES
- ISRAEL
- CANADA

1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.

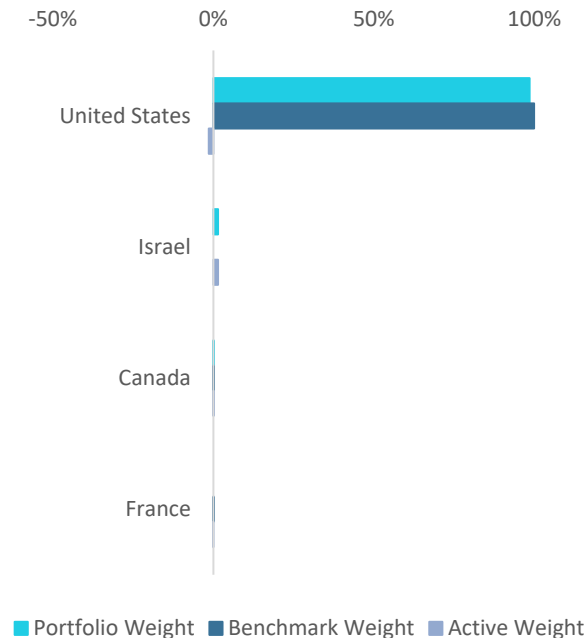
# Growth Risk Analysis – Global Equity Systematic US Small Cap Value

for the quarter ended December 31, 2021

## Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>24.97</b>
Benchmark Risk	26.47
Active Risk	5.49
Portfolio Beta	0.92

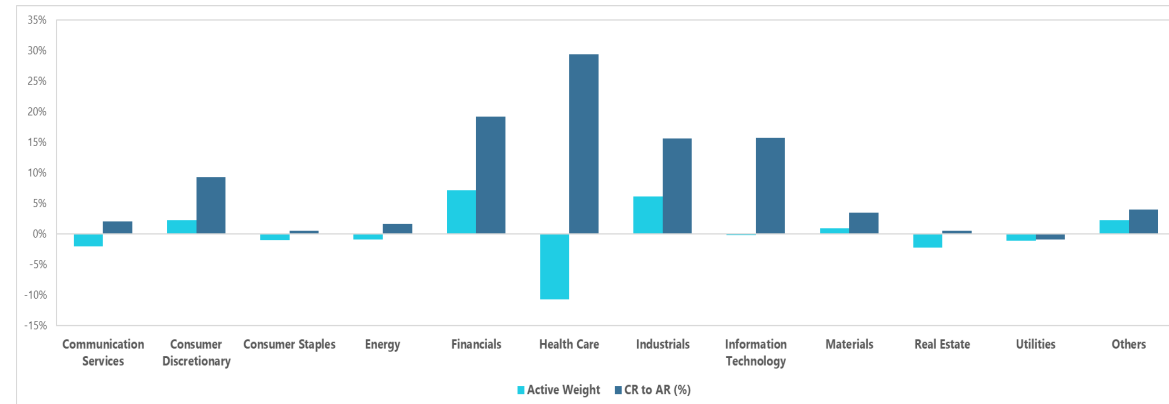
## Top Countries by Weight%



## Top 10 Assets by Contribution to Active Risk

Asset	Weight			Total Risk	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active			
FIRST CITIZENS BANCSHARES INC NRTH	3.07%	0.00%	3.07%	38.99	6.14	0.012
SSC GOVERNMENT MM GVMXX	2.24%	0.00%	2.24%	2.13	3.95	-0.001
SILICON MOTION TECHNOLOGY CORP	1.62%	0.00%	1.62%	45.69	2.12	-0.025
CROSS COUNTRY HEALTHCARE INC	1.68%	0.03%	1.65%	54.86	2.11	-0.028
NORTHWESTERN CORP	1.20%	0.10%	1.10%	26.23	1.86	-0.005
REGAL REXNORD CORP	1.41%	0.00%	1.41%	31.77	1.78	-0.029
UNITED COMMUNITY BANKS INC	0.97%	0.11%	0.87%	36.09	1.78	0.015
MUELLER INDUSTRIES INC	1.38%	0.11%	1.27%	33.83	1.71	-0.024
WASHINGTON FEDERAL INC	1.15%	0.07%	1.08%	34.28	1.68	-0.012
LAKELAND BANCORP INC	0.89%	0.03%	0.86%	32.82	1.66	0.008

## Portfolio Risk by GICS Sector

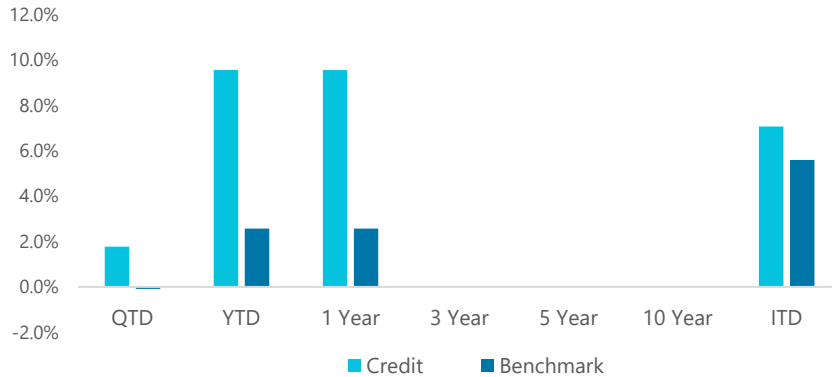


credit

# Summary

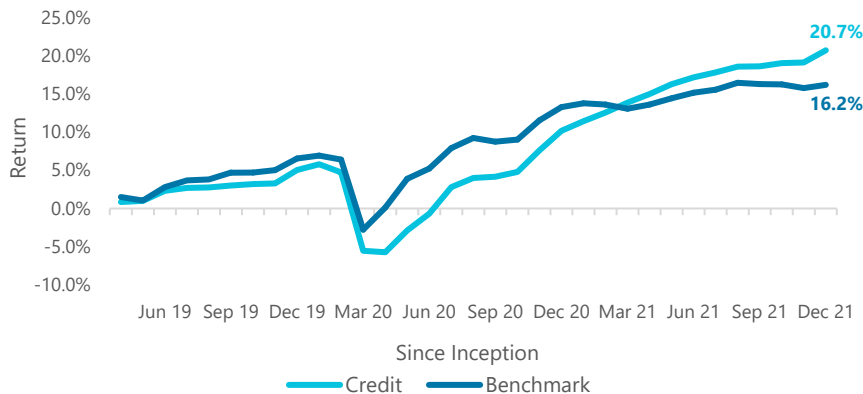
for the quarter ended December 31, 2021

## Performance (net)



	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>Credit</b>	<b>1.8%</b>	<b>9.6%</b>	<b>9.6%</b>	--	--	--	<b>7.1%</b>
Benchmark	-0.1%	2.6%	2.6%	--	--	--	5.6%
Excess	1.9%	7.0%	7.0%	--	--	--	1.5%

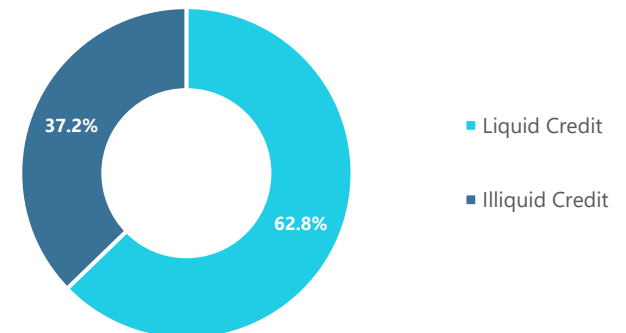
## Cumulative Return



## Functional Category

	QTD	FYTD	1 Year	3 Year
<b>Liquid Credit</b>	<b>0.3%</b>	--	--	--
Liquid Credit Policy BM	0.4%	--	--	--
Excess	-0.1%	--	--	--
<b>Illiquid Credit</b>	<b>4.5%</b>	<b>7.5%</b>	<b>23.8%</b>	--
Illiquid Credit Policy BM	-0.6%	1.6%	0.6%	--
Excess	5.1%	5.9%	23.2%	--

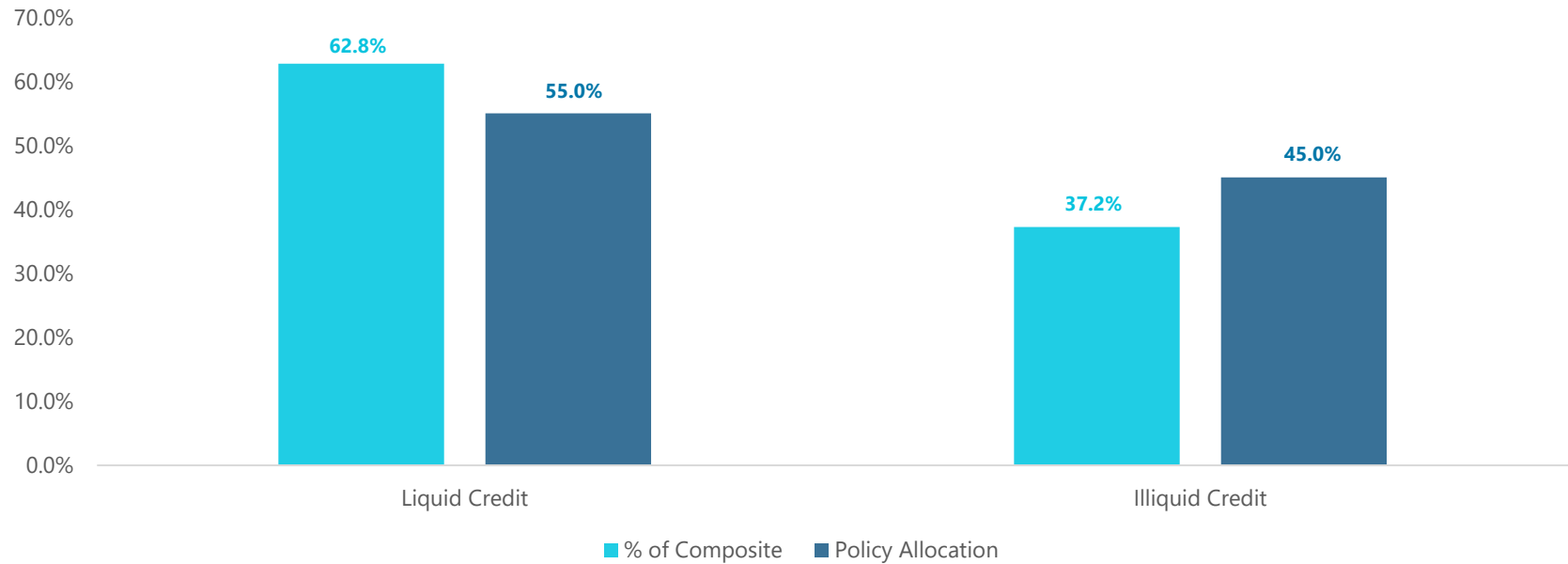
## Exposure



# Asset Allocation

for the quarter ended December 31, 2021

## Actual vs. Policy

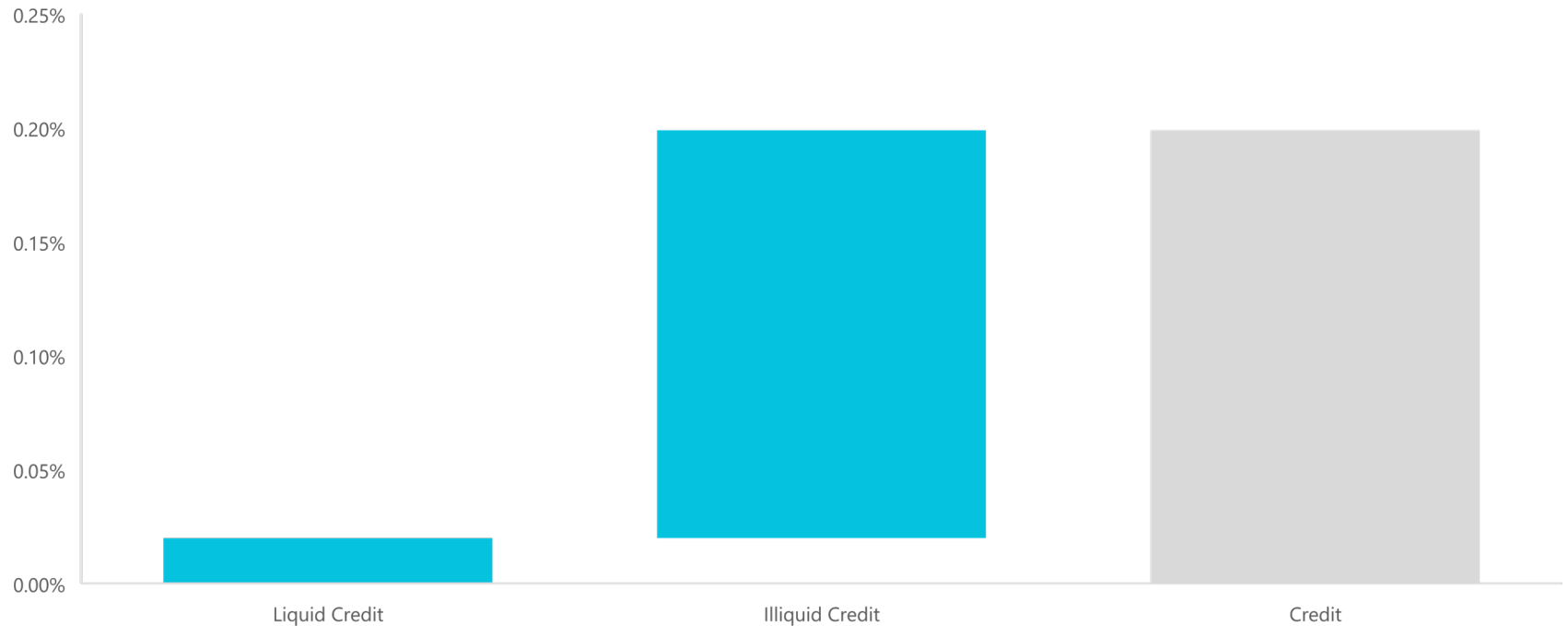


	Ending Market Value (mm)	% of Composite	Policy Allocation	Over / Under (%)	Over / Under (mm)
<b>Credit</b>	<b>8,193</b>	<b>100.0%</b>	<b>100.0%</b>		
Liquid Credit	5,142	62.8%	55.0%	7.8%	636
Illiquid Credit	3,051	37.2%	45.0%	-7.8%	-636

# Contribution to Return

for the quarter ended December 31, 2021

## QTD Contribution to Return

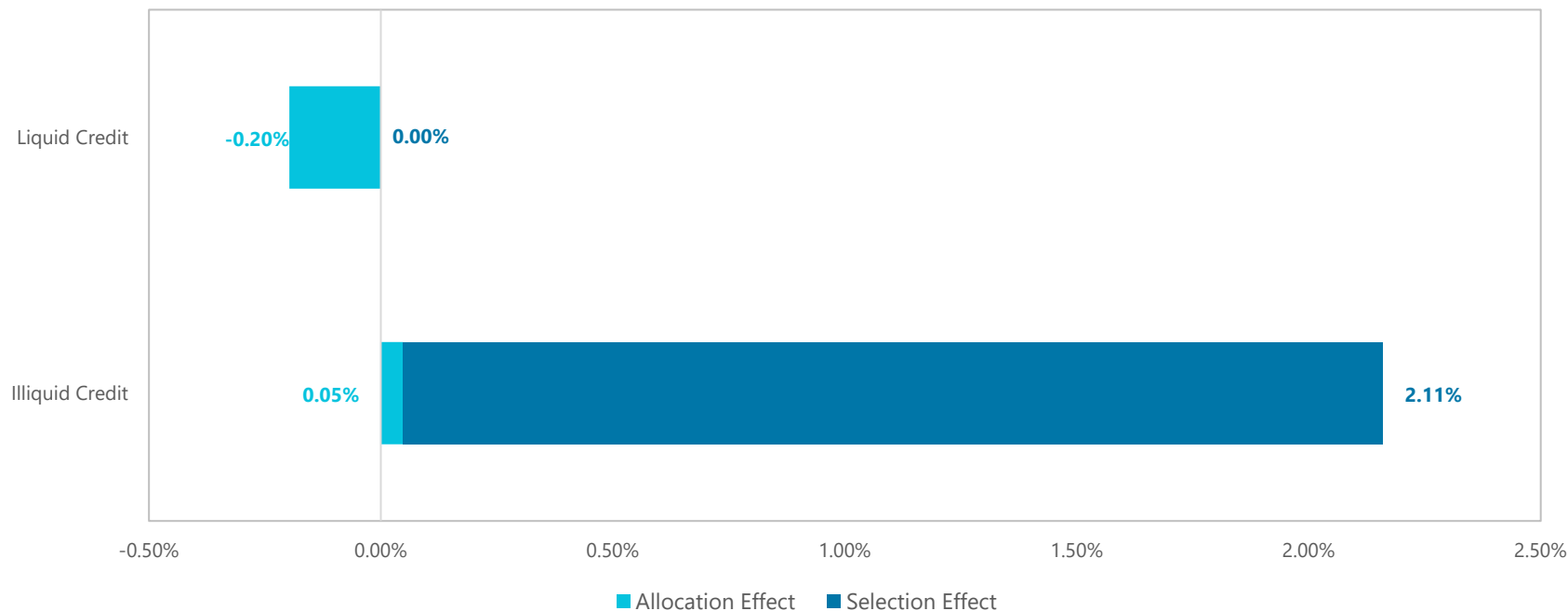


Functional Category		Contributors		Detractors	
Liquid Credit	0.02%	BEACH POINT - FUND III	0.05%	ASHMORE INVESTMENT MANAGEMENT	-0.02%
Illiquid Credit	0.18%	MAGNETAR	0.05%	ABERDEEN ASSET MANAGEMENT	-0.01%
Credit	0.20%	NAPIER PARK	0.02%	GROSVENOR OPCRD 2 HFOF	0.00%

# Return Attribution

for the quarter ended December 31, 2021

## QTD Performance Attribution<sup>1</sup>



	Ending Market Value (mm)	% of Composite	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
<b>Credit</b>	<b>8,193</b>	<b>100.0%</b>	<b>100.0%</b>	<b>1.8%</b>	<b>-0.1%</b>	<b>-0.15%</b>	<b>2.11%</b>	<b>1.86%</b>
Liquid Credit	5,142	62.8%	55.0%	0.3%	0.4%	-0.20%	0.00%	-0.03%
Illiquid Credit	3,051	37.2%	45.0%	4.5%	-0.6%	0.05%	2.11%	1.89%

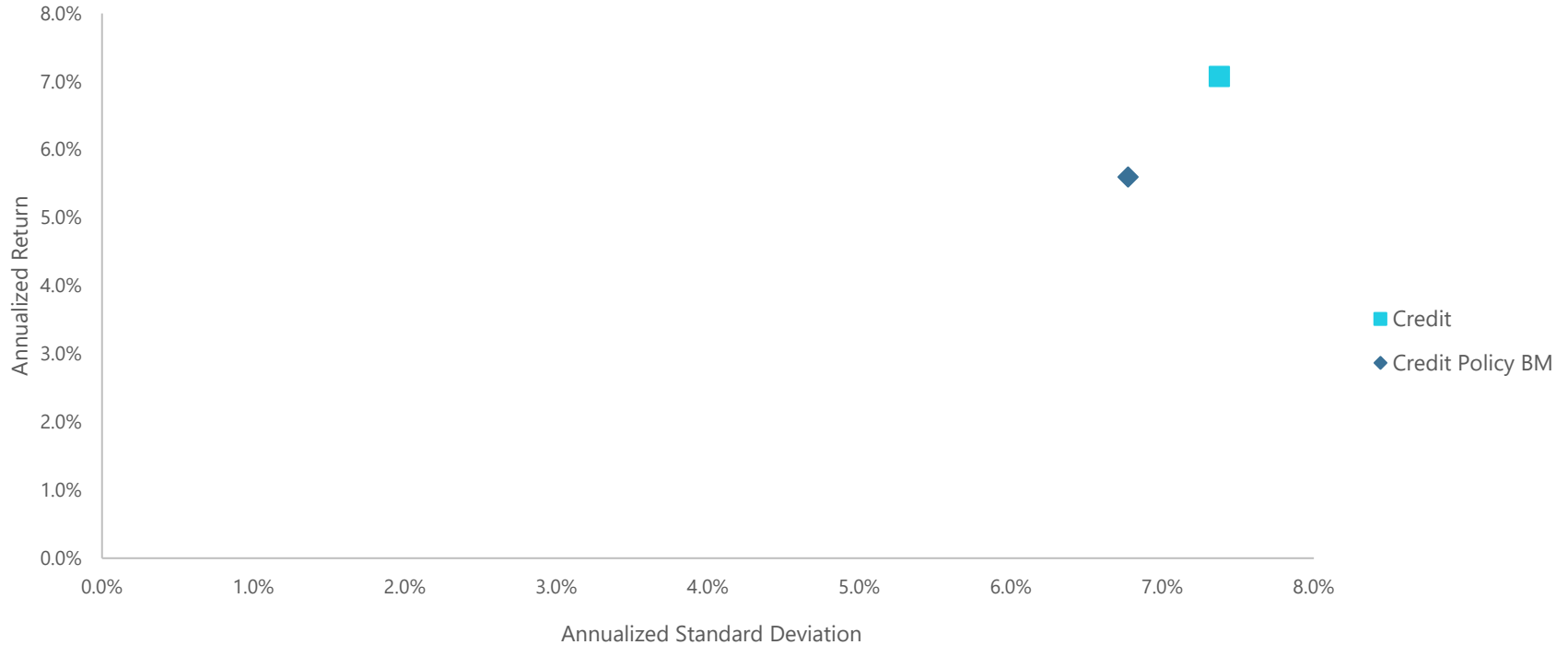
1. Total Value Add includes Interaction Effect.



# Risk vs. Return

for the quarter ended December 31, 2021

## Since Inception (Annualized)<sup>1</sup>



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
<b>Credit</b>	<b>7.1%</b>	<b>7.4%</b>				
Credit Policy BM	5.6%	6.8%	0.88	0.57	1.01	3.0%

1. Composite risk statistics are relative to the policy benchmark.

# Performance Detail

for the quarter ended December 31, 2021



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
<b>CREDIT</b>	<b>100.0%</b>	<b>8,193</b>	<b>7,985</b>	<b>1.8%</b>	<b>9.6%</b>	<b>9.6%</b>	--	--	--	<b>7.1%</b>
Credit Policy BM				-0.1%	2.6%	2.6%	--	--	--	5.6%
<b>LIQUID CREDIT</b>	<b>62.8%</b>	<b>5,142</b>	<b>5,819</b>	<b>0.3%</b>	--	--	--	--	--	<b>0.3%</b>
Liquid Credit Policy BM				0.4%	--	--	--	--	--	0.4%
ABERDEEN ASSET MANAGEMENT	5.4%	443	451	-1.7%	-3.5%	-3.5%	5.3%	--	--	2.8%
ASHMORE INVESTMENT MANAGEMENT	5.1%	414	426	-2.9%	-5.3%	-5.3%	2.1%	--	--	1.3%
BAIN CAPITAL CREDIT	5.1%	421	418	0.9%	7.2%	7.2%	6.4%	5.1%	--	4.1%
BEACH POINT	3.9%	317	316	0.5%	4.6%	4.6%	8.2%	6.1%	--	6.0%
BlackRock HY ETF	7.9%	650	744	0.9%	4.5%	4.5%	--	--	--	5.4%
BRIGADE CAP MGMT	8.7%	710	704	0.8%	12.0%	12.0%	8.6%	6.2%	6.9%	7.3%
CREDIT SUISSE BANK LOANS	14.1%	1,159	1,150	0.8%	4.8%	4.8%	--	--	--	10.3%
CRESCENT CAPITAL	6.3%	520	516	0.7%	7.1%	7.1%	7.3%	5.7%	--	4.2%
PINEBRIDGE INVESTMENTS	6.2%	508	503	0.9%	--	--	--	--	--	0.9%
<b>ILLIQUID CREDIT</b>	<b>37.2%</b>	<b>3,051</b>	<b>2,166</b>	<b>4.5%</b>	<b>23.8%</b>	<b>23.8%</b>	--	--	--	<b>13.2%</b>
Illiquid Credit Policy BM				-0.6%	0.6%	0.6%	--	--	--	7.3%
BEACH POINT FUND II	0.2%	14	15	--	--	--	--	--	--	--
BEACH POINT FUND III	2.6%	216	188	21.7%	42.5%	42.5%	19.7%	--	--	15.5%
GROSVENOR OPCRD 2 HFOF	0.5%	39	45	1.9%	16.0%	16.0%	2.9%	4.1%	--	5.5%
MAGNETAR CREDIT FUND	8.5%	693	525	6.2%	42.0%	42.0%	--	--	--	33.9%
NAPIER PARK	10.3%	847	741	1.8%	16.6%	16.6%	--	--	--	28.5%
PIMCO TAC OPPTS FUNDS	3.6%	291	278	4.8%	18.4%	18.4%	9.9%	--	--	9.3%
PRIVATE EQUITY - CREDIT	2.7%	225	216	3.7%	54.5%	54.5%	14.0%	--	--	14.0%
REAL ESTATE - CREDIT	1.5%	125	157	4.9%	9.9%	9.9%	9.0%	9.0%	8.9%	8.8%
TENNENBAUM CAPITAL	7.3%	602	591	1.8%	9.9%	9.9%	7.3%	7.7%	--	7.3%

# Liquid Credit Risk Summary

for the quarter ended December 31, 2021

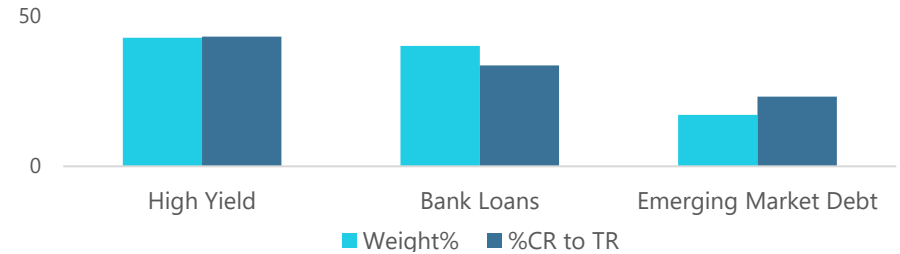
## Risk Summary

	Value
<b>Total Risk</b>	<b>5.37</b>
Benchmark Risk	5.00
Active Risk	0.69
Portfolio Beta	1.07
Cont. to Eff. Duration	3.14
Convexity	0.15
Yield to Worst (%)	5.17
OAS to Swap (bp)	353

## Risk Decomposition

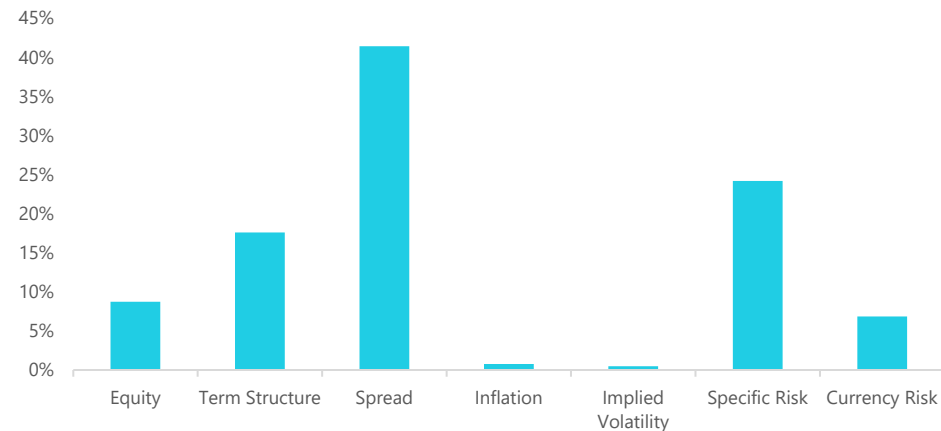
Risk Source	Portfolio		Active	
	Risk Contribution	%Risk	Risk Contribution	%Risk
<b>Total Risk</b>	<b>5.37</b>	<b>100.00</b>	<b>0.69</b>	<b>100.00</b>
Local Market Risk	5.12	95.41	0.64	93.15
Common Factor Risk	5.09	94.90	0.48	68.98
Specific Risk	0.03	0.51	0.17	24.17
Currency Risk	0.25	4.59	0.05	6.85

## Contribution to Risk



	Mkt Value (mm)	Weight%	Total Risk	Risk Contribution	%CR to TR
<b>Liquid Credit</b>	<b>5,013</b>	<b>100.00</b>	<b>5.37</b>	<b>5.37</b>	<b>100.00</b>
High Yield	2,145	42.80	5.59	2.32	43.18
Bank Loans	2,009	40.09	5.03	1.80	33.61
Emerging Market Debt	858	17.12	8.53	1.25	23.20

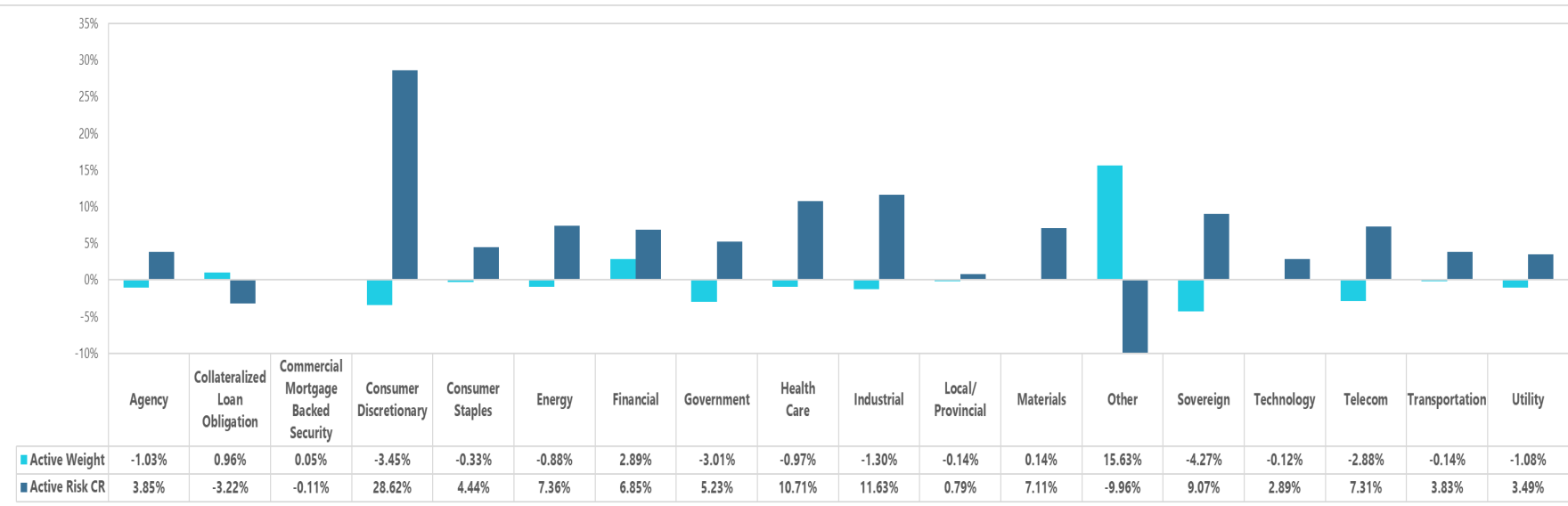
## Active Risk from Common Factors



# Liquid Credit Risk Summary

for the quarter ended December 31, 2021

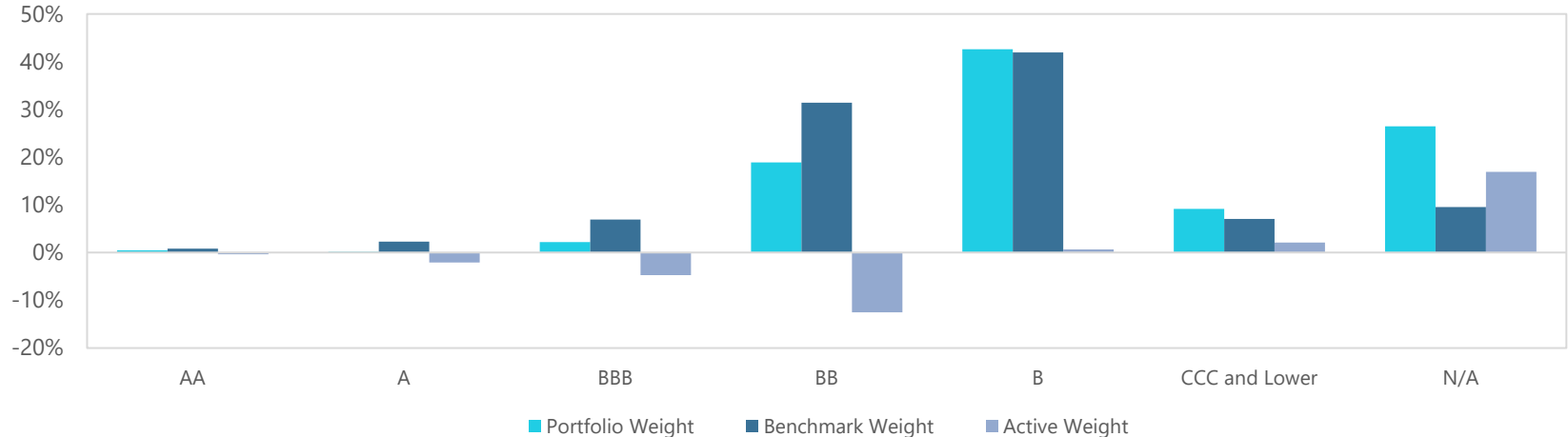
## Portfolio Allocation By Bond Sector



# Liquid Credit Risk Summary

for the quarter ended December 31, 2021

## Portfolio Allocation By Moody's Rating



Rating	Weight%			Total Risk	Active Risk CR	% of Active TR	CR to Effective Duration
	Portfolio	Benchmark	Active				
<b>Credit</b>	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>	<b>5.37</b>	<b>0.69</b>	<b>100.00</b>	<b>3.14</b>
AAA	0.00%	0.00%	0.00%	1.20	0.00	0.00	0.00
AA	0.48%	0.84%	-0.36%	10.01	0.01	0.5%	0.07
A	0.19%	2.28%	-2.09%	10.66	0.05	-0.6%	0.03
BBB	2.19%	6.91%	-4.72%	5.45	0.05	-9.7%	0.13
BB	18.89%	31.41%	-12.52%	5.28	0.26	-7.1%	0.81
B	42.63%	41.96%	0.67%	6.23	0.30	46.1%	0.91
CCC and Lower	9.17%	7.06%	2.11%	7.97	0.08	18.7%	0.21
N/A	26.46%	9.54%	16.92%	4.18	-0.05	52.1%	0.98

# Credit – High Yield Beach Point

for the quarter ended December 31, 2021

## 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: March 2014

## Portfolio Characteristics

	Portfolio	Benchmark
No. of Issues	252.0	--
Effective Duration	3.3	3.9
Convexity	-0.4	-0.2
Coupon Rate	5.3	5.7
Yield to Maturity	5.4	4.8
Current Yield	5.2	5.5
Rating – Moody's	B-2	B-1
Rating – S & P	B	BB-

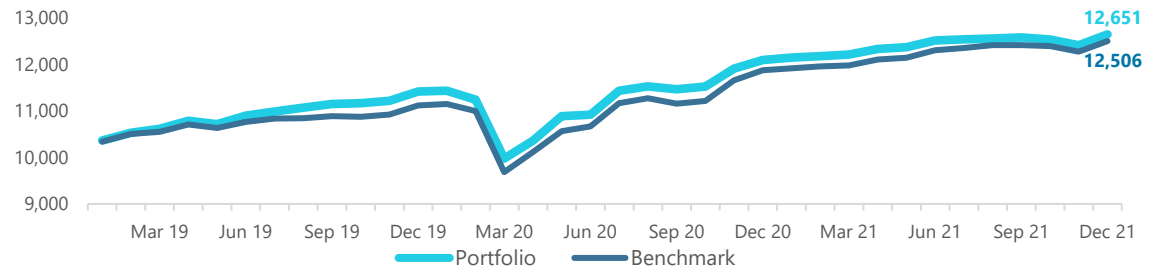
## Top Holdings (% of assets)

AMERICAN GREETINGS CORP	1.8%
SANDSTONE PEAK LTD.	1.5%
COMPASS GROUP DIVERSIFIE	1.5%
DEALER TIRE LLC/DT ISSR	1.4%
MPH ACQUISITION HOLDINGS	1.3%
<b>Top 5 Holdings</b>	<b>7.5%</b>

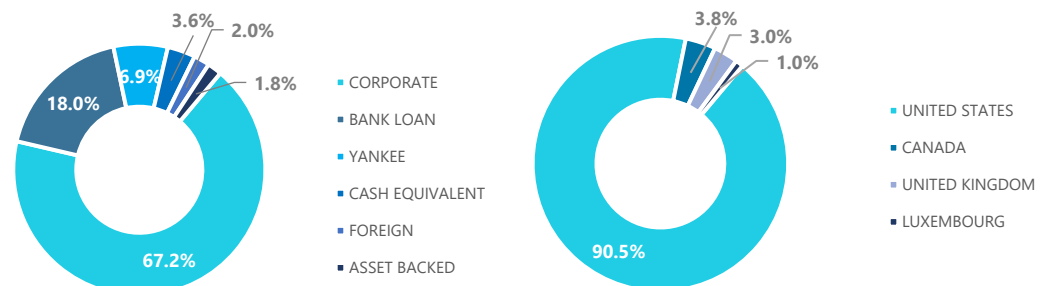
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)		QTD	1 Year	3 Year	5 Year		
<b>BEACH POINT</b>	<b>317.3</b>		<b>0.5%</b>	<b>4.6%</b>	<b>8.2%</b>	<b>6.1%</b>		
BEACHPOINT CUSTOM BM			0.7%	5.3%	7.7%	5.7%		
Credit Policy BM			-0.1%	2.6%	--	--		
Universe data: U.S. Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>BEACH POINT</b>	<b>0.7%</b>	<b>39</b>	<b>5.0%</b>	<b>32</b>	<b>8.7%</b>	<b>27</b>	<b>6.7%</b>	<b>24</b>
Median	0.1%		0.0%		5.5%		4.2%	

## Growth of \$10,000



## Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.

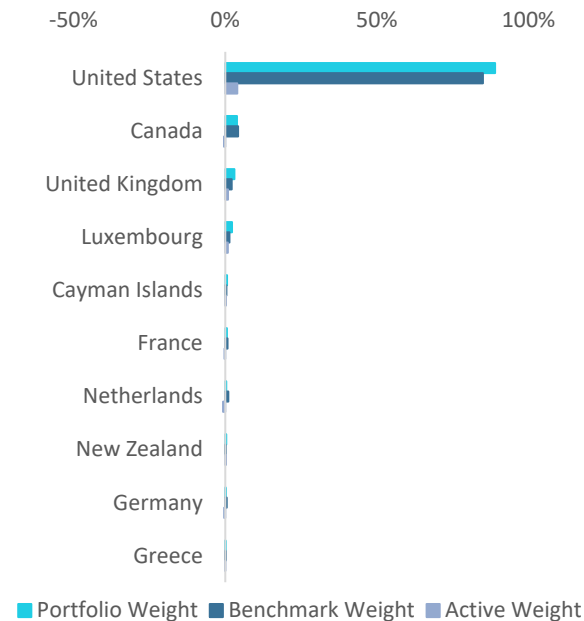
# Credit Risk Analysis – Liquid Credit Beach Point

for the quarter ended December 31, 2021

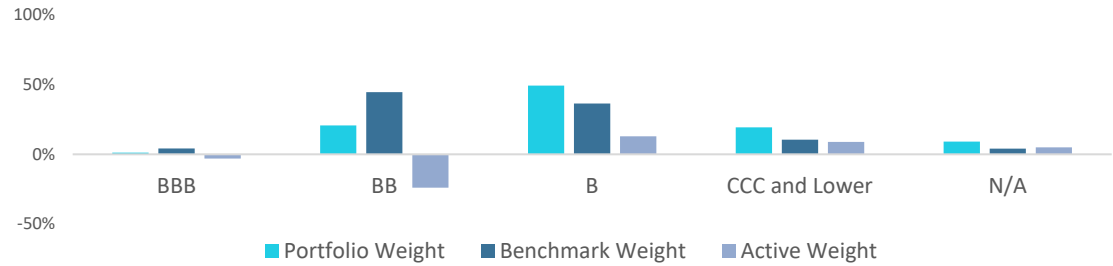
## Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>6.16</b>
Benchmark Risk	4.49
Active Risk	2.09
Portfolio Beta	1.33
Cont. to Eff. Duration	3.53
Yield to Worst (%)	4.97
OAS to Swap (bp)	363

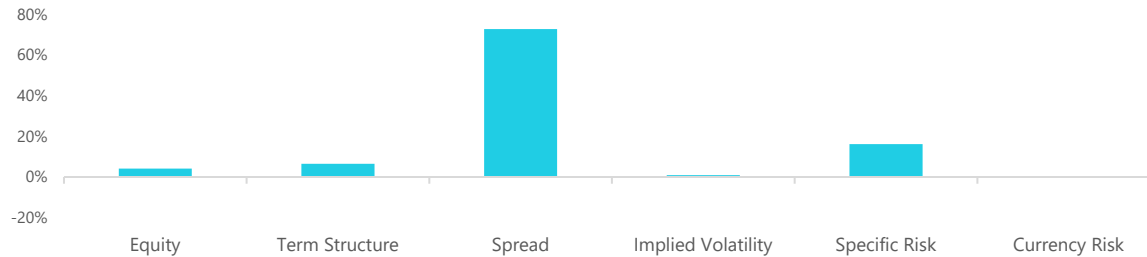
## Top Countries by Weight%



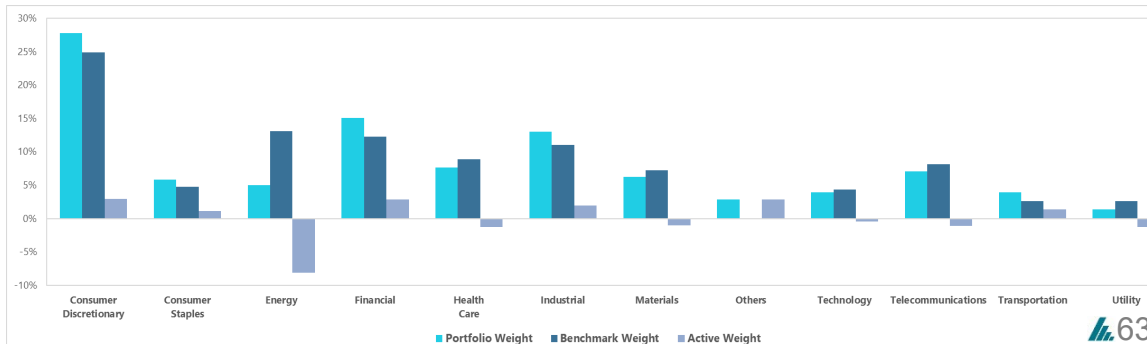
## Allocation by Moody's Rating



## Active Risk from Common Factors



## Portfolio Risk by Bond Sector



# Credit – High Yield Brigade Capital

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## 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	329.0	--
Effective Duration	2.6	3.9
Convexity	-0.2	-0.2
Coupon Rate	6.6	5.7
Yield to Maturity	7.3	4.8
Current Yield	6.6	5.5
Rating – Moody's	B-2	B-1
Rating – S & P	B	BB-

## Top Holdings (% of assets)

CORNERSTONE CHEMICAL CO	1.7%
SYNERSE HLDGS INC	1.3%
RAIN CII CARBON LLC/CII	1.2%
MASHANTUCKET	1.2%
BAFFINLAND IRON CORP/LP	1.1%
<b>Top 5 Holdings</b>	<b>6.5%</b>

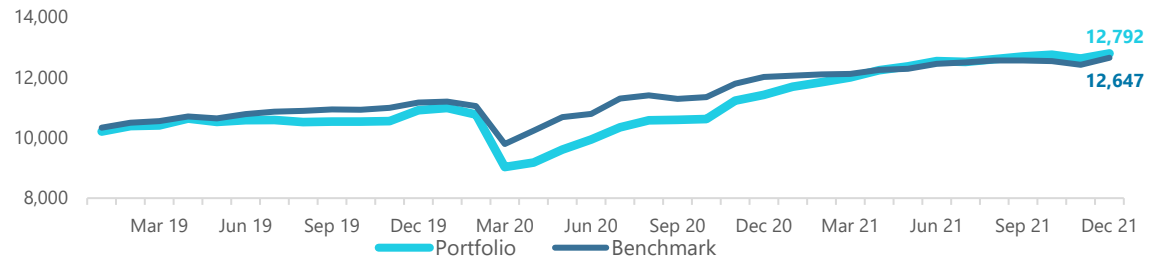
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>BRIGADE CAP MGMT</b>	<b>709.5</b>	<b>0.8%</b>	<b>12.0%</b>	<b>8.6%</b>	<b>6.2%</b>
Brigade Custom Index		0.7%	5.3%	8.1%	5.9%
Credit Policy BM		-0.1%	2.6%	--	--

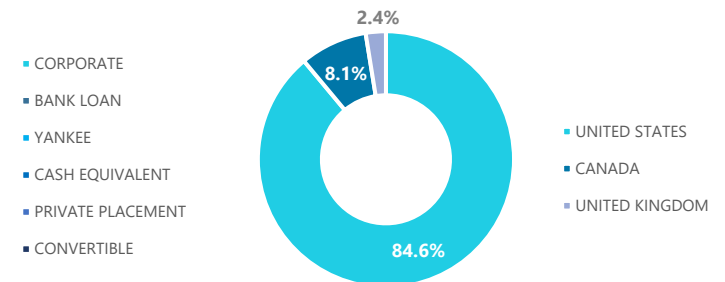
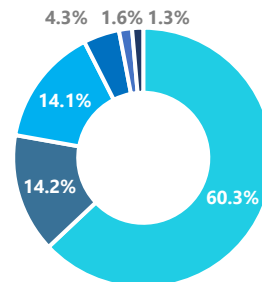
  

Universe data: U.S. Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>BRIGADE CAP MGMT</b>	<b>0.9%</b>	<b>35</b>	<b>12.4%</b>	<b>19</b>	<b>9.2%</b>	<b>26</b>	<b>6.9%</b>	<b>23</b>
Median	0.1%		0.0%		5.5%		4.2%	

## Growth of \$10,000



## Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.



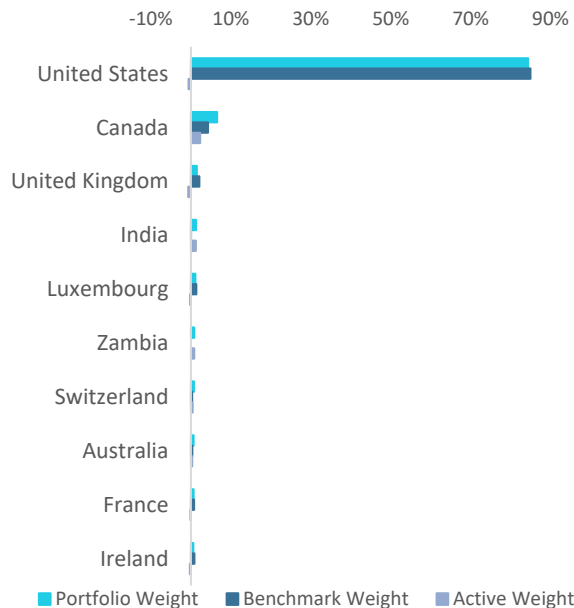
# Credit Risk Analysis – Liquid Credit Brigade Capital

for the quarter ended December 31, 2021

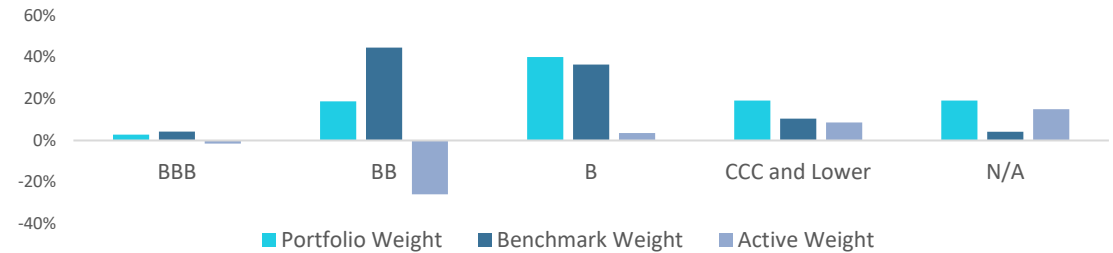
## Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>6.02</b>
Benchmark Risk	4.49
Active Risk	2.13
Portfolio Beta	1.28
Cont. to Eff. Duration	2.81
Yield to Worst (%)	6.19
OAS to Swap (bp)	466

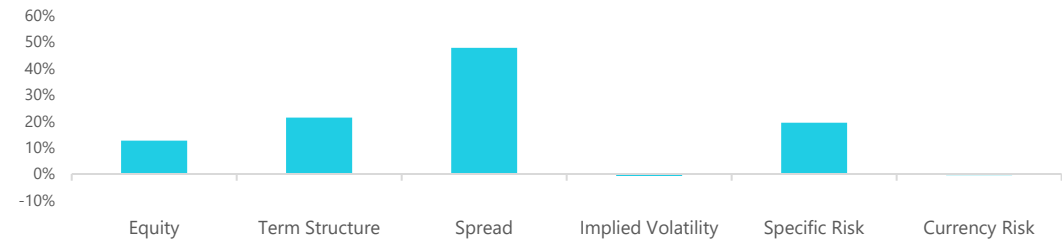
## Top Countries by Weight%



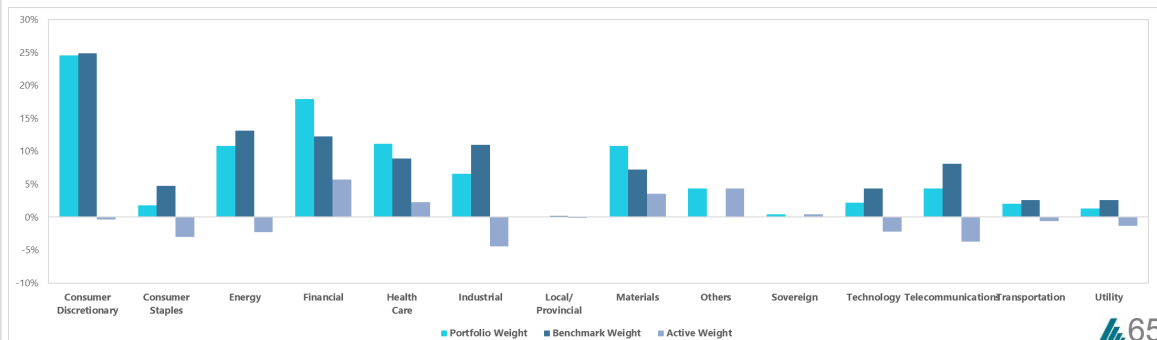
## Allocation by Moody's Rating



## Active Risk from Common Factors



## Portfolio Risk by Bond Sector



# Credit – Emerging Market Debt Pinebridge

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Strategy

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

Inception Date: August 2021

## Risk Statistics (since inception)

Standard Deviation	1.4%
Benchmark Standard Deviation	1.2%
Sharpe Ratio	0.16
Information Ratio	0.83
Beta	1.14
Tracking Error	0.2%

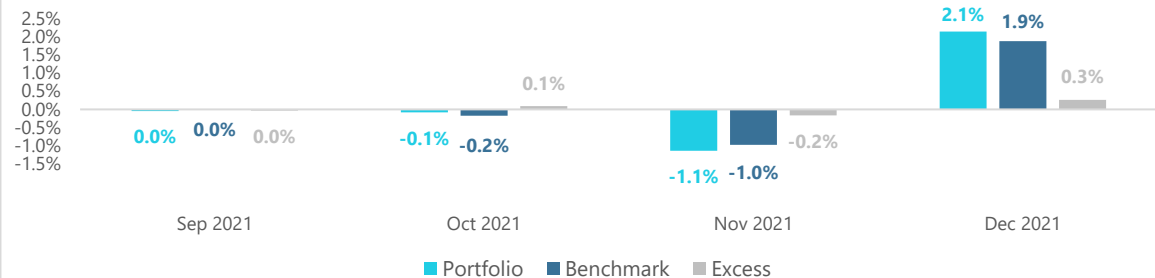
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>PINEBRIDGE INVESTMENTS</b>	<b>507.6</b>	<b>0.9%</b>	--	--	--
BBG BARC US Corp HY Idx		0.7%	--	--	--
Credit Policy BM		-0.1%	--	--	--

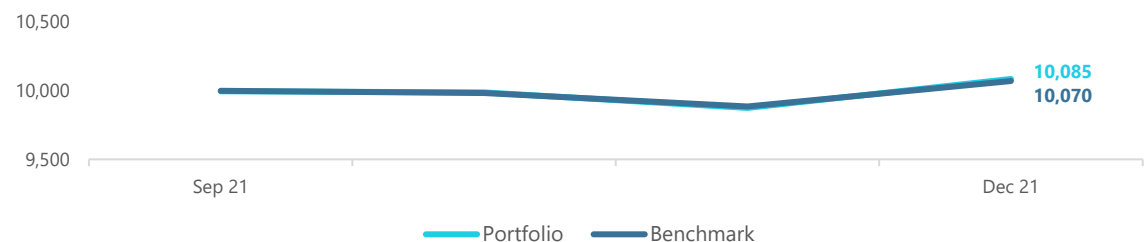
  

Universe data: U.S. Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>PINEBRIDGE INVESTMENTS</b>	<b>1.0%</b>	<b>28</b>	--	--	--	--	--	--
Median	0.0%		--		--		--	

## Monthly Returns



## Growth of \$10,000



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

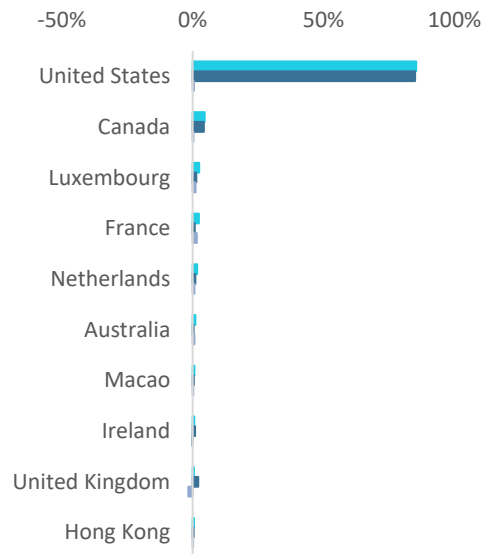
# Credit Risk Analysis – Liquid Credit Pinebridge

for the quarter ended December 31, 2021

## Portfolio Risk Summary

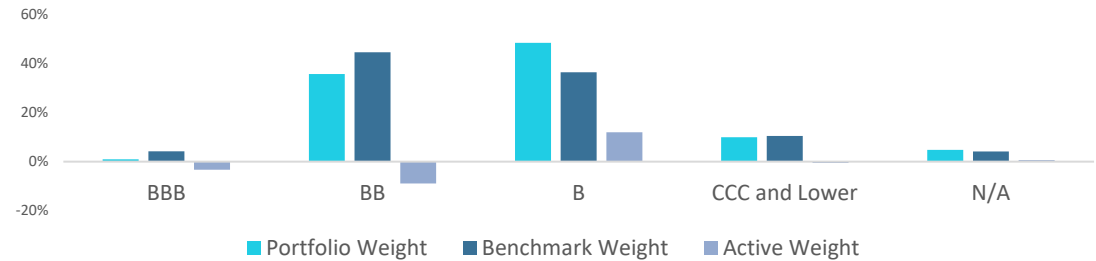
	Value
<b>Total Risk</b>	<b>5.79</b>
Benchmark Risk	4.49
Active Risk	1.45
Portfolio Beta	1.28
Cont. to Eff. Duration	4.37
Yield to Worst (%)	4.74
OAS to Swap (bp)	310

## Top Countries by Weight%

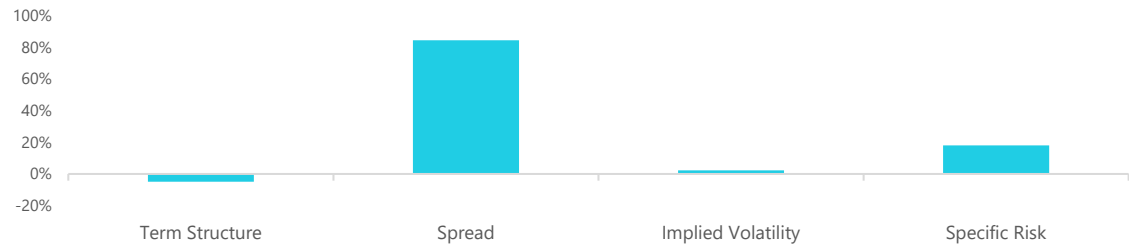


■ Portfolio Weight ■ Benchmark Weight ■ Active Weight

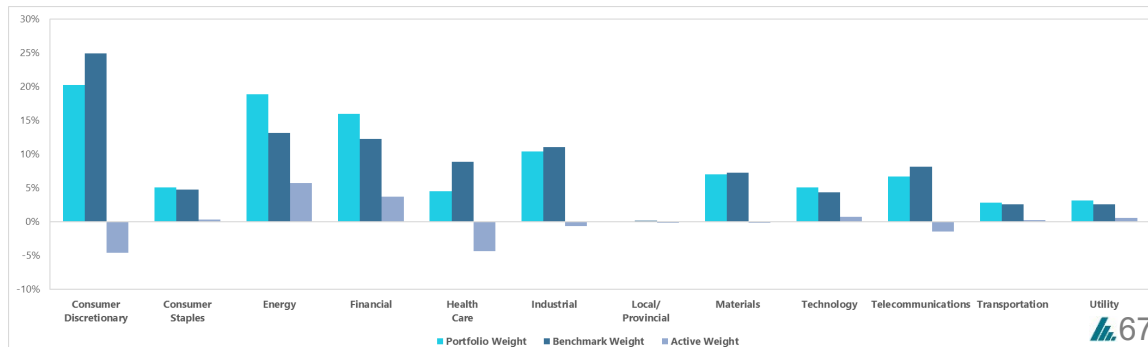
## Allocation by Moody's Rating



## Active Risk from Common Factors



## Portfolio Risk by Bond Sector



■ Portfolio Weight ■ Benchmark Weight ■ Active Weight

# Credit – Bank Loans

## Bain Capital

for the quarter ended December 31, 2021

### 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	556.0	--
Effective Duration	0.5	3.9
Convexity	0.0	-0.2
Coupon Rate	3.1	5.7
Yield to Maturity	3.8	4.8
Current Yield	3.0	5.5
Rating – Moody's	B-2	B-1
Rating – S & P	B	BB-

### Top Holdings (% of assets)

NAVICURE INC	0.7%
CHAMBER BIDCO LIMITED	0.6%
CST BUYER COMPANY	0.6%
GAINWELL ACQUISITION CORP.	0.6%
TEI HOLDINGS INC	0.6%
<b>Top 5 Holdings</b>	<b>3.1%</b>

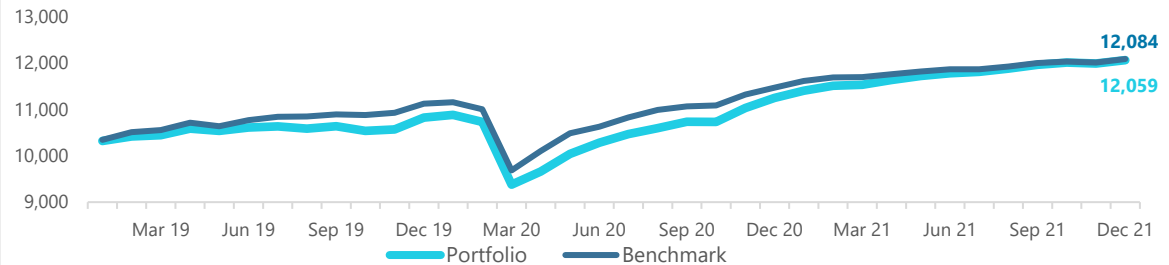
### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>BAIN CAPITAL CREDIT</b>	<b>421.4</b>	<b>0.9%</b>	<b>7.2%</b>	<b>6.4%</b>	<b>5.1%</b>
Bank Loans Custom Index		0.7%	5.4%	6.5%	4.9%
Credit Policy BM		-0.1%	2.6%	--	--

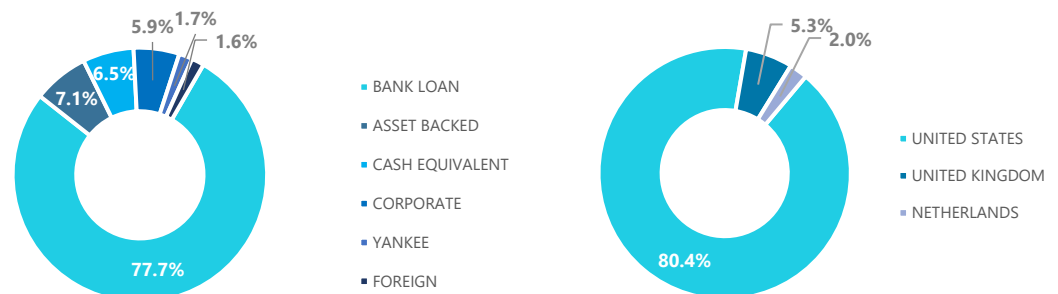
  

Universe data: U.S. Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>BAIN CAPITAL CREDIT</b>	<b>1.0%</b>	<b>34</b>	<b>7.8%</b>	<b>24</b>	<b>7.1%</b>	<b>37</b>	<b>5.8%</b>	<b>29</b>
Median	0.1%		0.0%		5.5%		4.2%	

### Growth of \$10,000



### Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
 2. Charts display top exposures only and may not add up to 100%.

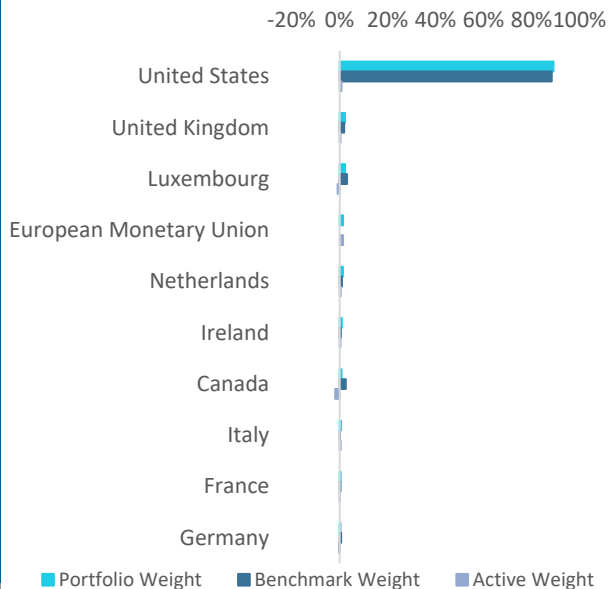
# Credit Risk Analysis – Liquid Credit Bain Capital

for the quarter ended December 31, 2021

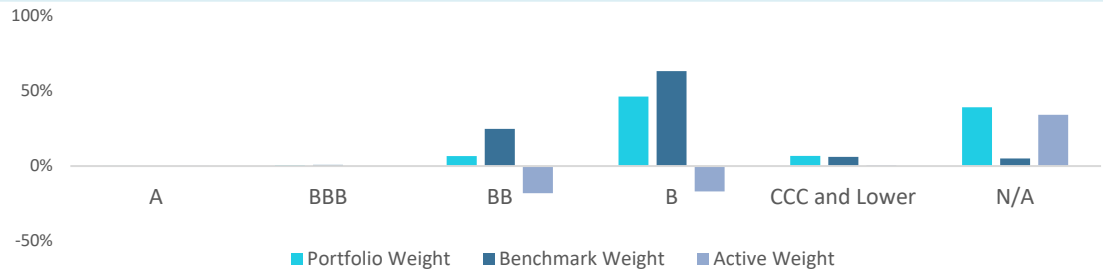
## Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>4.10</b>
Benchmark Risk	5.87
Active Risk	1.98
Portfolio Beta	0.69
Cont. to Eff. Duration	0.96
Yield to Worst (%)	4.82
OAS to Swap (bp)	400

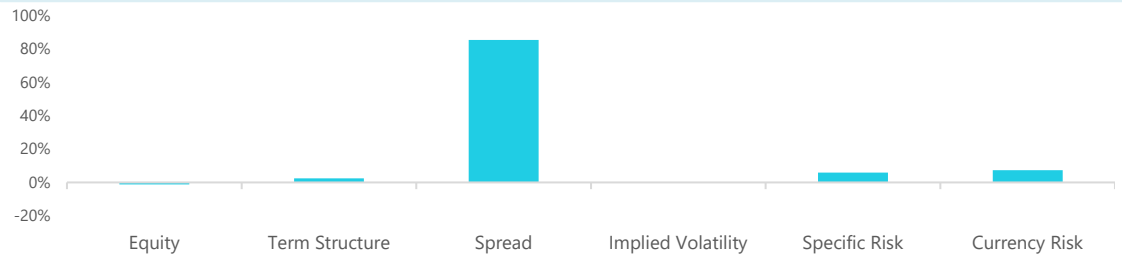
## Top Countries by Weight%



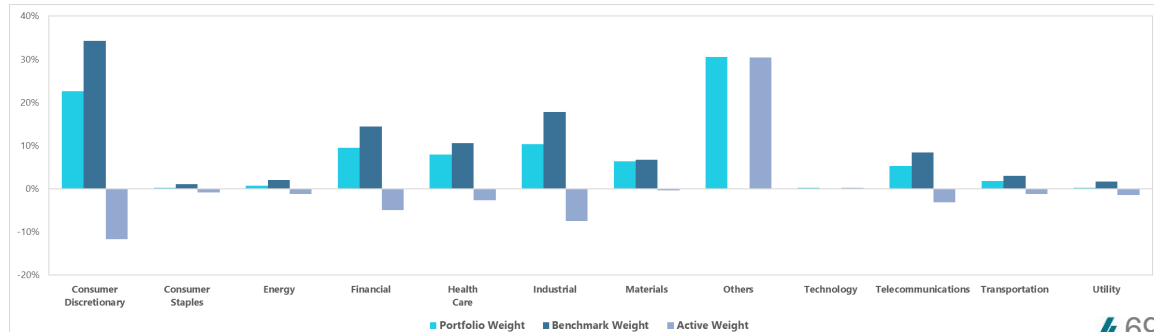
## Allocation by Moody's Rating



## Active Risk from Common Factors



## Portfolio Risk by Bond Sector



# Credit – Bank Loans

## Credit Suisse

for the quarter ended December 31, 2021

### 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	490.0	--
Effective Duration	0.2	3.9
Convexity	0.0	-0.2
Coupon Rate	3.1	5.7
Yield to Maturity	4.2	4.8
Current Yield	3.1	5.5
Rating – Moody's	B-2	B-1
Rating – S & P	B	BB-

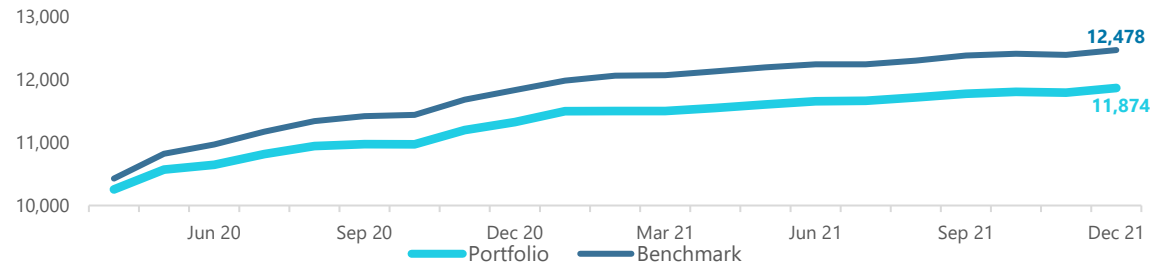
### Top Holdings (% of assets)

FINASTRA USA, INC.	1.0%
WILLIAM MORRIS ENDEAVOR ENTMT	0.7%
NFP CORP	0.7%
PERATON CORP	0.7%
PRINCE MINERALS INC	0.7%
<b>Top 5 Holdings</b>	<b>3.7%</b>

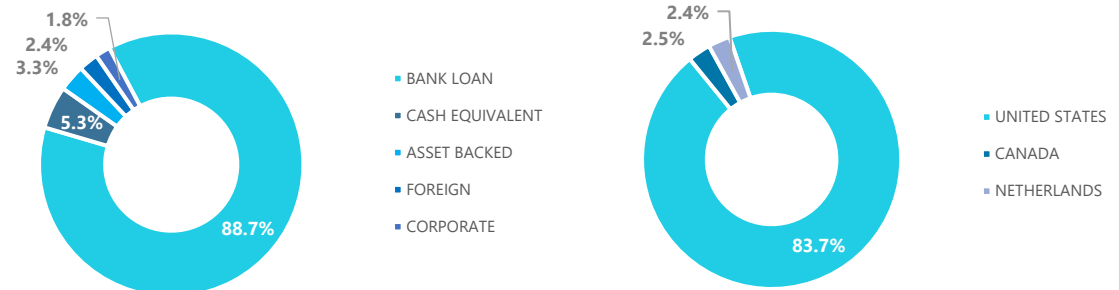
### Performance (net)<sup>1</sup>

	Ending Market Value (mm)			QTD	1 Year	3 Year	5 Year	
<b>Credit Suisse Bank Loans</b>	<b>1,158.7</b>			<b>0.8%</b>	<b>4.8%</b>	--	--	
CS Leveraged Loan Index				0.7%	5.4%	--	--	
Credit Policy BM				-0.1%	2.6%	--	--	
Universe data: U.S. Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>Credit Suisse Bank Loans</b>	<b>0.9%</b>	<b>36</b>	<b>5.0%</b>	<b>32</b>	--	--	--	--
Median	0.1%		0.0%		--	--	--	

### Growth of \$10,000



### Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.

# Credit Risk Analysis – Liquid Credit

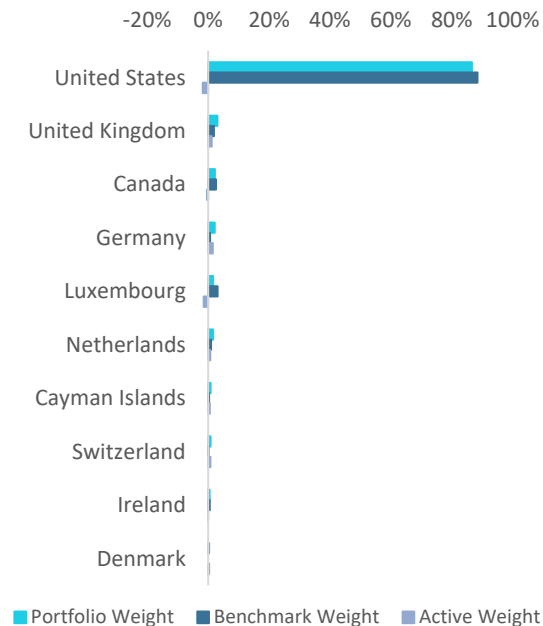
## Credit Suisse

for the quarter ended December 31, 2021

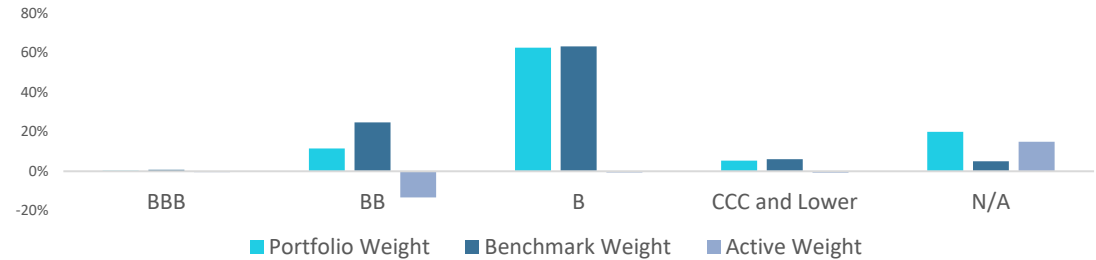
### Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>4.70</b>
Benchmark Risk	5.87
Active Risk	1.38
Portfolio Beta	0.79
Cont. to Eff. Duration	0.94
Yield to Worst (%)	3.62
OAS to Swap (bp)	366

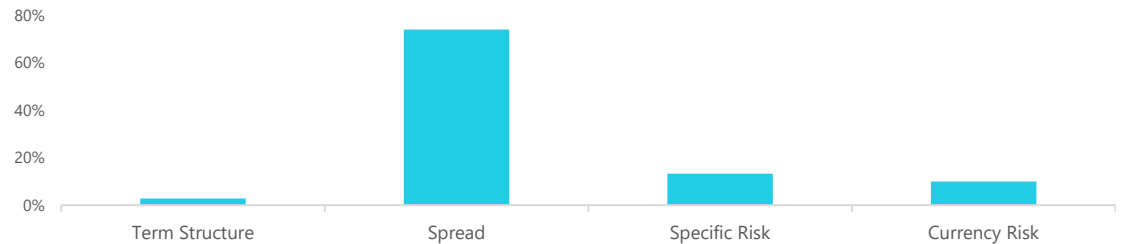
### Top Countries by Weight%



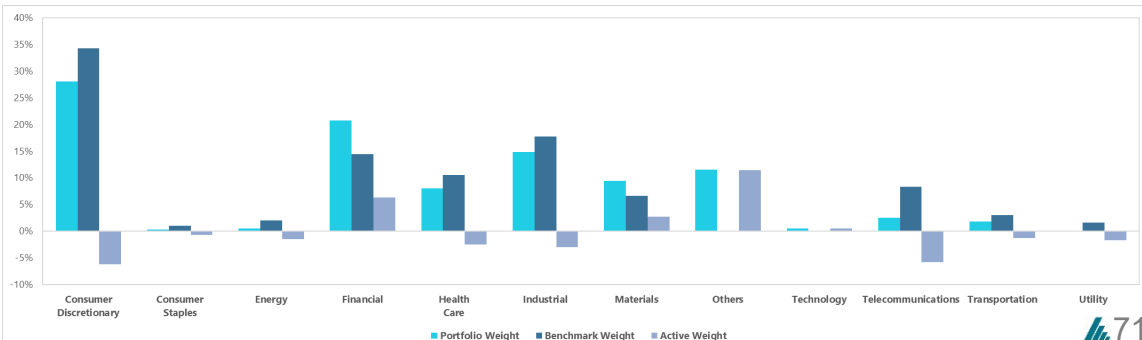
### Allocation by Moody's Rating



### Active Risk from Common Factors



### Portfolio Risk by Bond Sector



# Credit – Bank Loans

## Crescent Capital

for the quarter ended December 31, 2021

### 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	141.0	--
Effective Duration	0.7	3.9
Convexity	0.0	-0.2
Coupon Rate	5.0	5.7
Yield to Maturity	5.7	4.8
Current Yield	4.8	5.5
Rating – Moody's	B-2	B-1
Rating – S & P	B-	BB-

### Top Holdings (% of assets)

RUNNER BUYER INC.	1.9%
EVERGREEN ACQCO 1 LP	1.8%
PERATON CORP	1.6%
LERETA LLC	1.6%
EMPIRE TODAY LLC	1.6%
<b>Top 5 Holdings</b>	<b>8.6%</b>

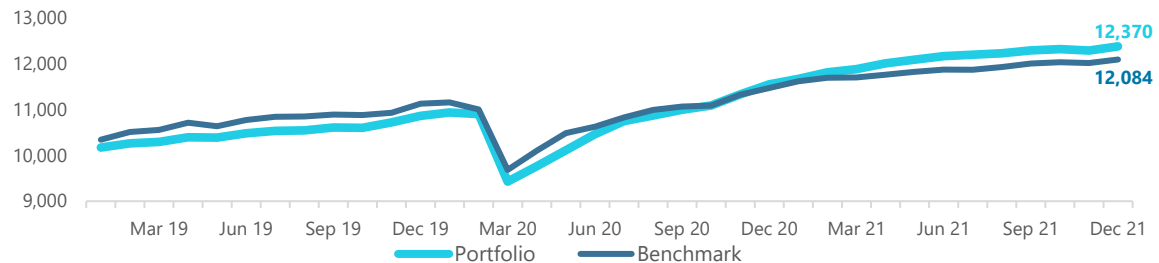
### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>CRESCENT CAPITAL</b>	<b>520.1</b>	<b>0.7%</b>	<b>7.1%</b>	<b>7.3%</b>	<b>5.7%</b>
Bank Loans Custom Index		0.7%	5.4%	6.5%	4.9%
Credit Policy BM		-0.1%	2.6%	--	--

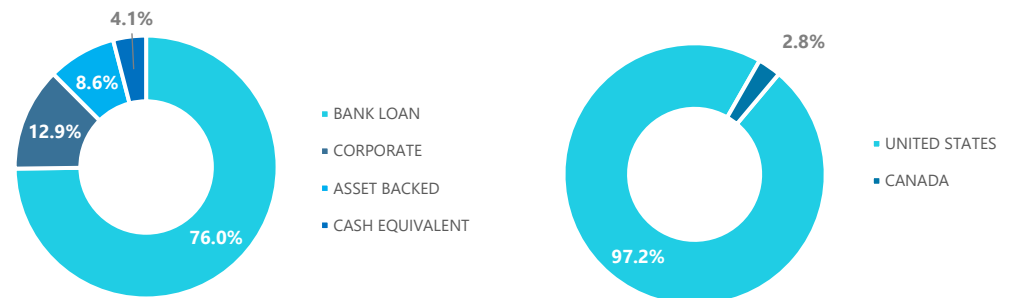
  

Universe data: U.S. Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>CRESCENT CAPITAL</b>	<b>0.8%</b>	<b>37</b>	<b>7.6%</b>	<b>25</b>	<b>7.9%</b>	<b>33</b>	<b>6.3%</b>	<b>26</b>
Median	0.1%		0.0%		5.5%		4.2%	

### Growth of \$10,000



### Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
 2. Charts display top exposures only and may not add up to 100%.



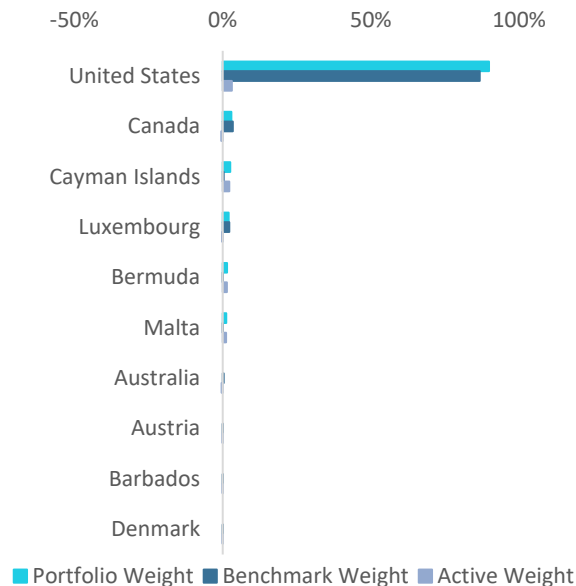
# Credit Risk Analysis – Liquid Credit Crescent Capital

for the quarter ended December 31, 2021

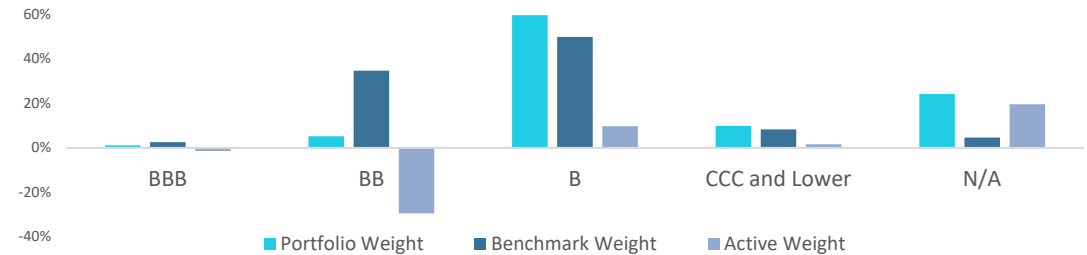
## Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>6.72</b>
Benchmark Risk	4.80
Active Risk	2.57
Portfolio Beta	1.34
Cont. to Eff. Duration	1.42
Yield to Worst (%)	5.37
OAS to Swap (bp)	460

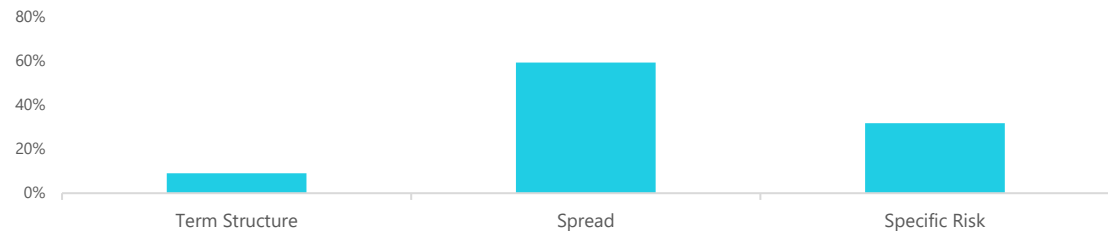
## Top Countries by Weight%



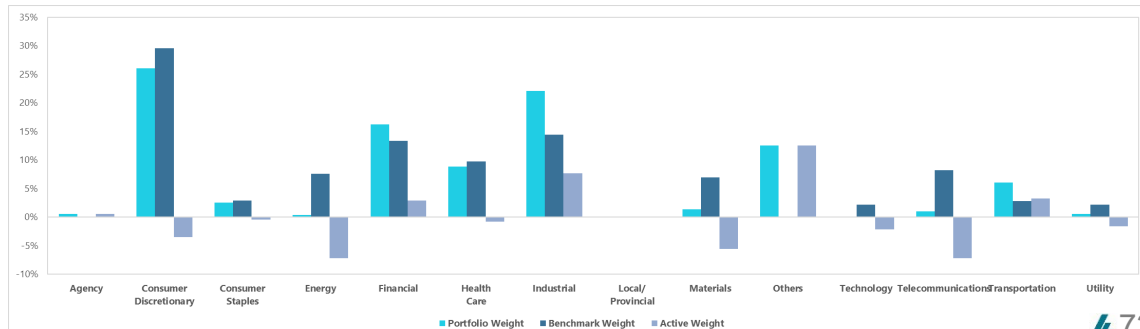
## Allocation by Moody's Rating



## Active Risk from Common Factors



## Portfolio Risk by Bond Sector



# Credit – Emerging Market Debt

## Aberdeen Asset Management

for the quarter ended December 31, 2021



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	10.6%
Benchmark Standard Deviation	8.6%
Sharpe Ratio	0.19
Information Ratio	-0.28
Beta	1.21
Tracking Error	2.5%

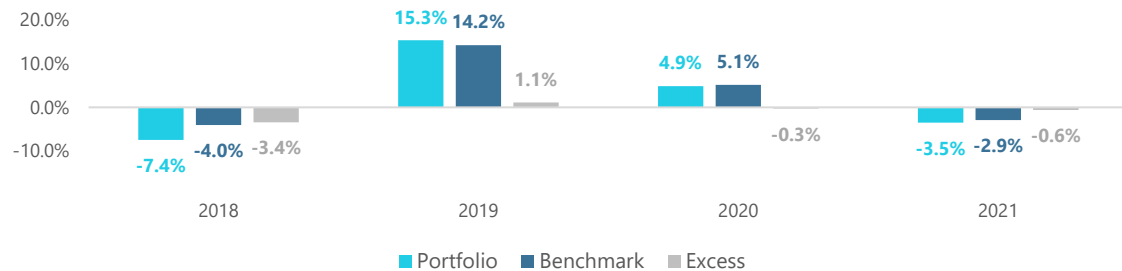
### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>ABERDEEN ASSET MANAGEMENT</b>	<b>443.3</b>	<b>-1.7%</b>	<b>-3.5%</b>	<b>5.3%</b>	<b>--</b>
EMD Custom		-1.0%	-2.9%	5.3%	--
Credit Policy BM		-0.1%	2.6%	--	--

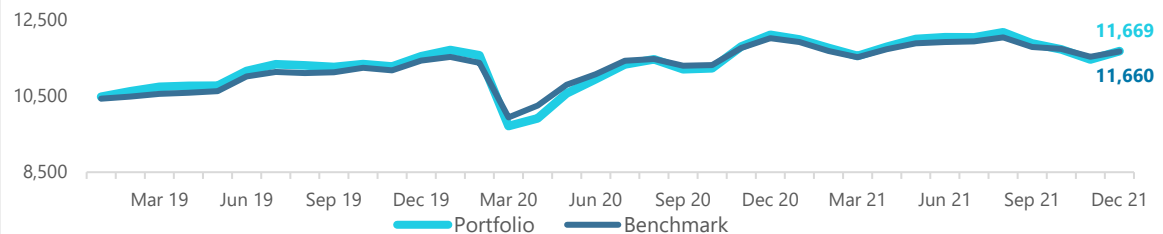
  

Universe data: U.S. Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>ABERDEEN ASSET MANAGEMENT</b>	<b>-1.6%</b>	<b>95</b>	<b>-3.1%</b>	<b>93</b>	<b>5.7%</b>	<b>48</b>	<b>--</b>	<b>--</b>
Median	0.1%		0.0%		5.5%		--	--

### Calendar Year Returns



### Growth of \$10,000



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

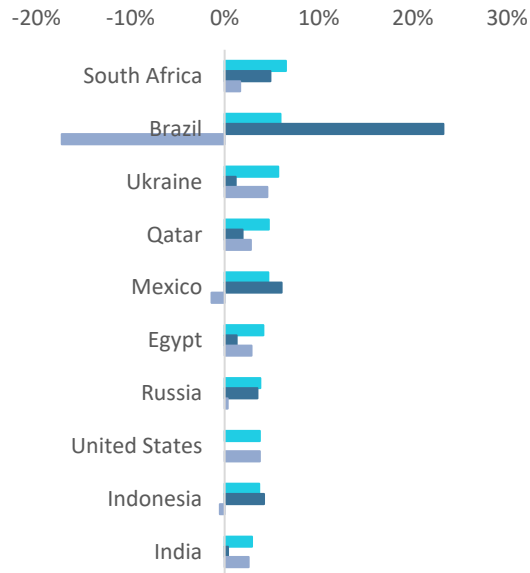
# Credit Risk Analysis – Liquid Credit Aberdeen Asset Management

for the quarter ended December 31, 2021

## Portfolio Risk Summary

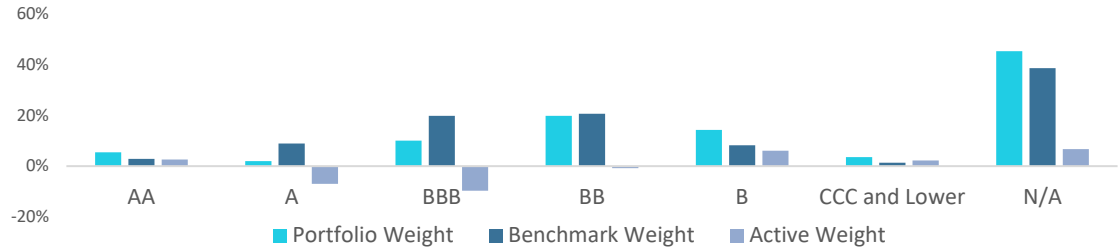
	Value
<b>Total Risk</b>	<b>10.54</b>
Benchmark Risk	9.42
Active Risk	4.15
Portfolio Beta	1.03
Cont. to Eff. Duration	6.63
Yield to Worst (%)	6.46
OAS to Swap (bp)	347

## Top Countries by Weight%

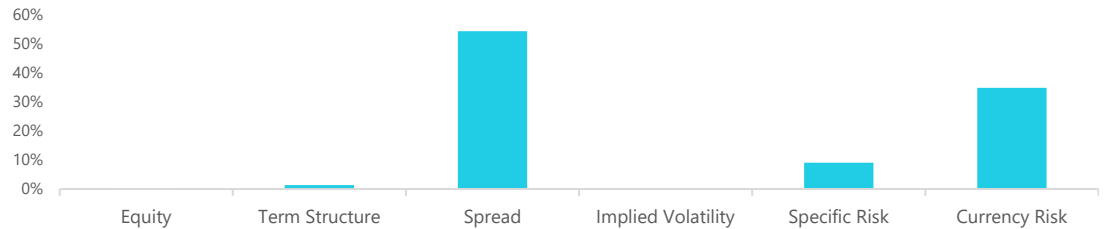


■ Portfolio Weight ■ Benchmark Weight ■ Active Weight

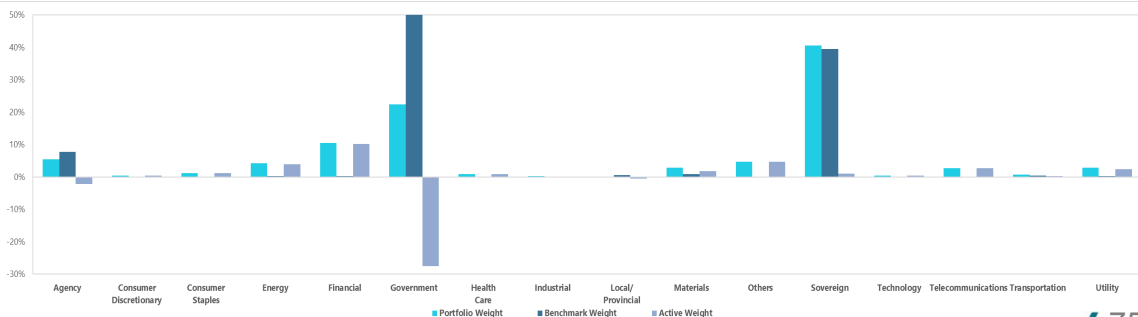
## Allocation by Moody's Rating



## Active Risk from Common Factors



## Portfolio Risk by Bond Sector



# Credit – Emerging Market Debt Ashmore

for the quarter ended December 31, 2021



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	12.8%
Benchmark Standard Deviation	8.6%
Sharpe Ratio	0.08
Information Ratio	-0.41
Beta	1.46
Tracking Error	4.7%

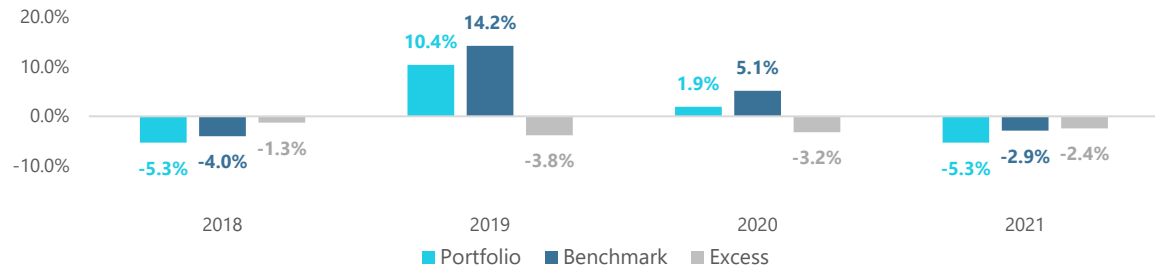
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>ASHMORE INVESTMENT MANAGEMENT</b>	<b>414.2</b>	<b>-2.9%</b>	<b>-5.3%</b>	<b>2.1%</b>	<b>--</b>
EMD Custom		-1.0%	-2.9%	5.3%	--
Credit Policy BM		-0.1%	2.6%	--	--

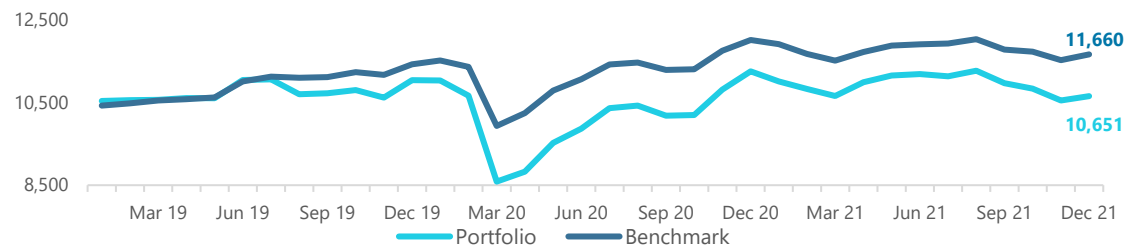
  

Universe data: U.S. Fixed Income Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>ASHMORE INVESTMENT MANAGEMENT</b>	<b>-2.8%</b>	<b>97</b>	<b>-4.8%</b>	<b>95</b>	<b>2.8%</b>	<b>77</b>	<b>--</b>	<b>--</b>
Median	0.1%		0.0%		5.5%		--	

## 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 December 31, 2021

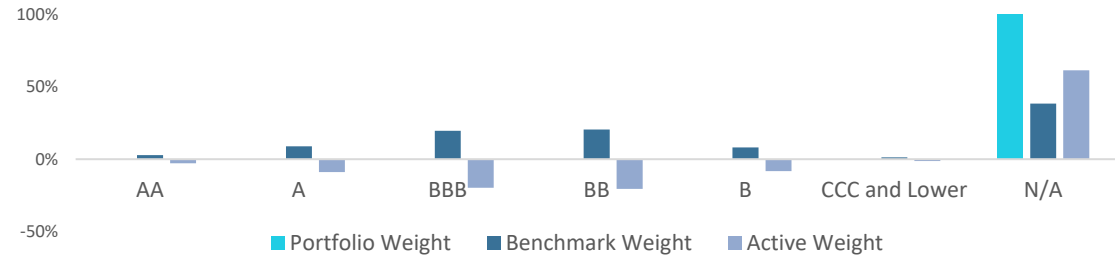
## Portfolio Risk Summary

	Value
<b>Total Risk</b>	<b>7.61</b>
Benchmark Risk	9.42
Active Risk	4.90
Portfolio Beta	0.69
Cont. to Eff. Duration	6.46
Yield to Worst (%)	0.00
OAS to Swap (bp)	-127

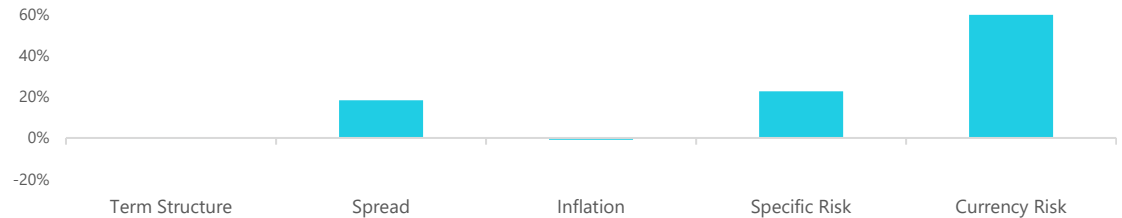
## Top Countries by Weight%



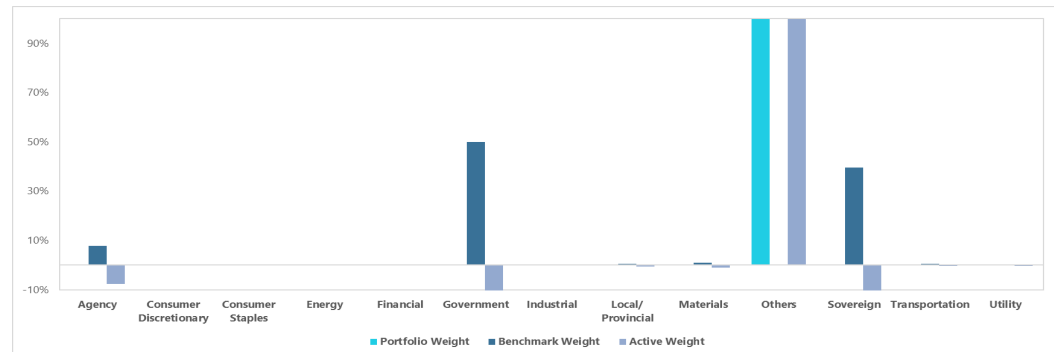
## Allocation by Moody's Rating



## Active Risk from Common Factors



## Portfolio Risk by Bond Sector

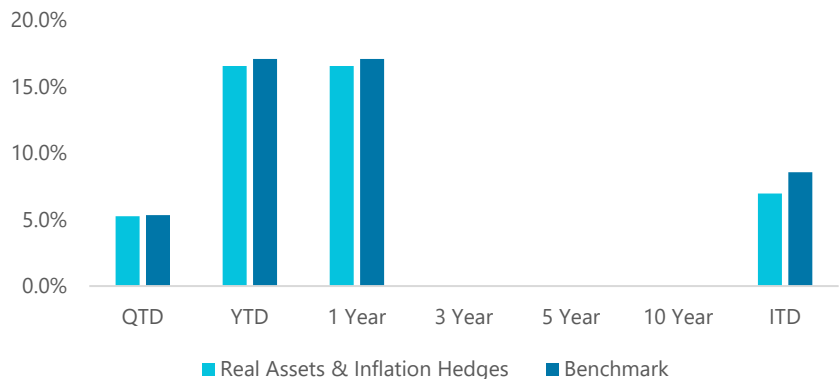


# real assets & inflation hedges

# Summary

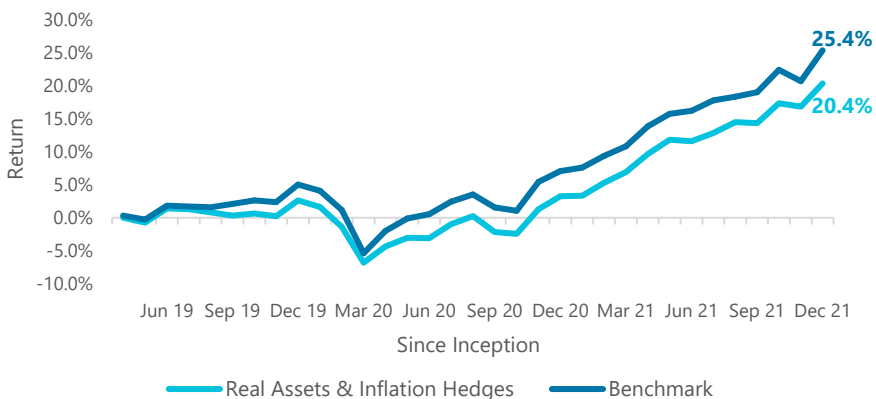
for the quarter ended December 31, 2021

## Performance (net)



	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>Real Assets &amp; Inflation Hedges</b>	<b>5.3%</b>	<b>16.6%</b>	<b>16.6%</b>	--	--	--	<b>7.0%</b>
Benchmark	5.3%	17.1%	17.1%	--	--	--	8.6%
Excess	-0.1%	-0.5%	-0.5%	--	--	--	-1.6%

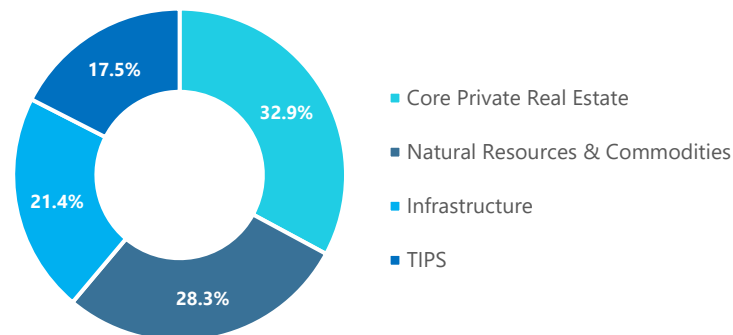
## Cumulative Return



## Functional Category

	QTD	FYTD	1 Year	3 Year
<b>Core Private Real Estate</b>	<b>6.1%</b>	<b>10.4%</b>	<b>12.5%</b>	<b>4.4%</b>
Core Private Real Estate Policy BM	6.4%	10.5%	14.1%	6.6%
Excess	-0.3%	-0.1%	-1.6%	-2.2%
<b>Natural Resources &amp; Commodities</b>	<b>3.5%</b>	<b>6.5%</b>	<b>27.7%</b>	<b>11.0%</b>
Natural Resources & Comm Policy BM	4.2%	7.1%	28.4%	11.9%
Excess	-0.7%	-0.7%	-0.8%	-1.0%
<b>Infrastructure</b>	<b>8.3%</b>	<b>8.1%</b>	<b>21.3%</b>	--
DJ Brookfield Global Infrastr Comp TR	6.9%	5.6%	21.4%	--
Excess	1.4%	2.4%	-0.1%	--
<b>TIPS</b>	<b>2.5%</b>	<b>4.1%</b>	<b>5.8%</b>	--
BBG BARC US Tsy TIPS Idx	2.4%	4.2%	6.0%	--
Excess	0.1%	-0.1%	-0.1%	--

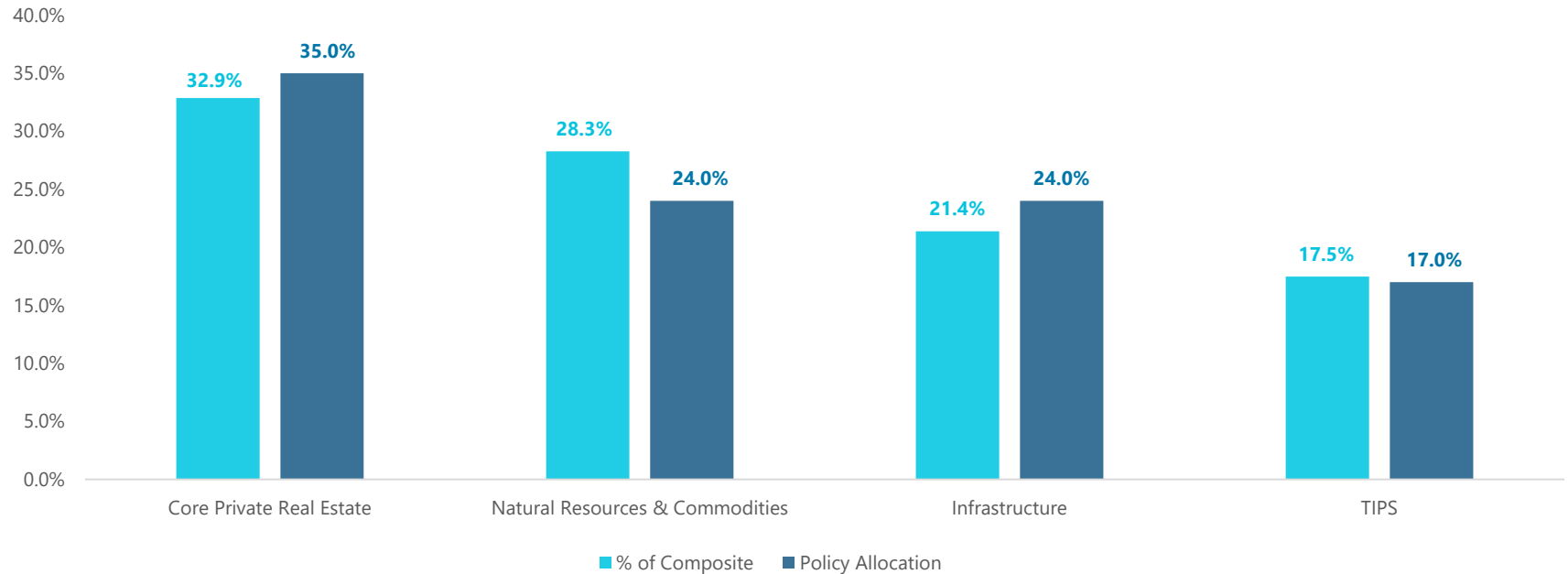
## Exposure



# Asset Allocation

for the quarter ended December 31, 2021

## Actual vs. Policy



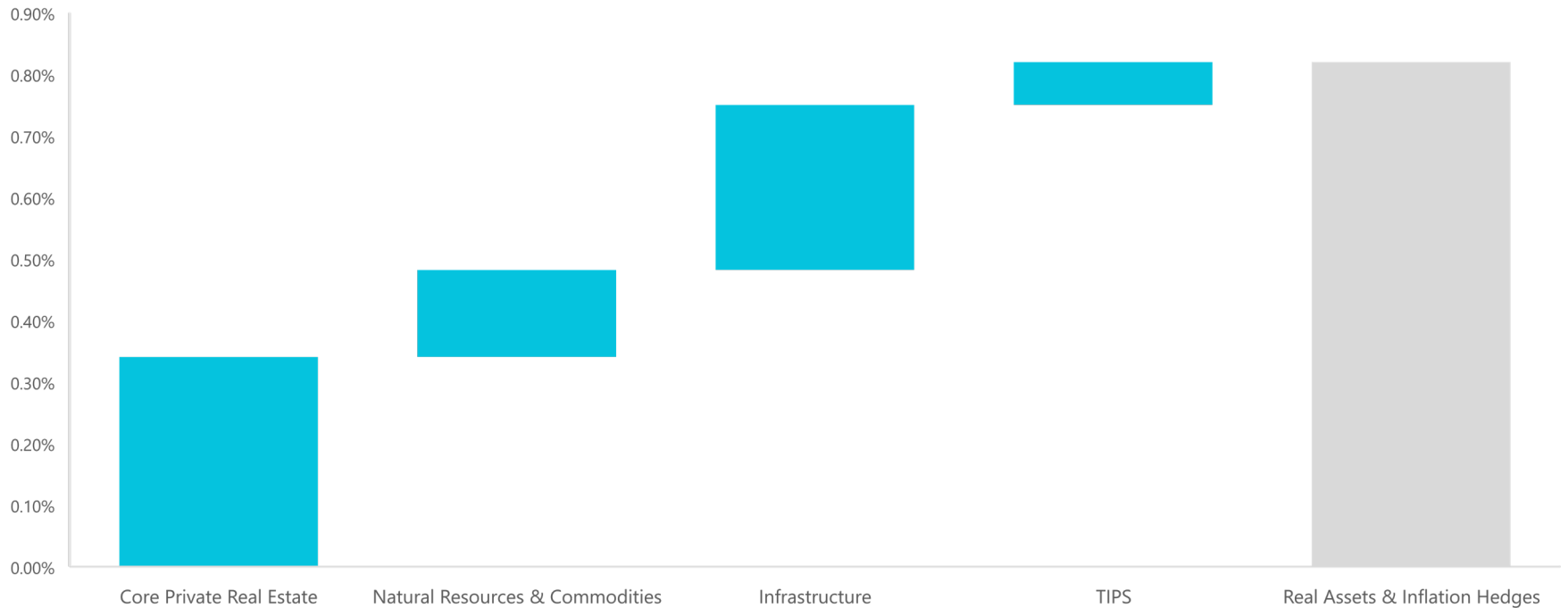
	Ending Market Value (mm)	% of Composite	Policy Allocation	Over / Under (%)	Over / Under (mm)
<b>Real Assets &amp; Inflation Hedges</b>	<b>12,075</b>	<b>100.0%</b>	<b>100.0%</b>		
Core Private Real Estate	3,969	32.9%	35.0%	-2.1%	-258
Natural Resources & Commodities	3,413	28.3%	24.0%	4.3%	515
Infrastructure	2,582	21.4%	24.0%	-2.6%	-316
TIPS	2,111	17.5%	17.0%	0.5%	59



# Contribution to Return

for the quarter ended December 31, 2021

## QTD Contribution to Return



Functional Category	Contributors	Detractors
Core Private Real Estate	0.34% LACERA RE - REAL ASSETS	0.34% CREDIT SUISSE COMMODITY 0.00%
Natural Resources & Commodities	0.14% DWS INFRASTRUCTURE	0.27% PIMCO COMMODITY PLUS 0.00%
Infrastructure	0.27% DWS Natural Resources	0.15% GRAIN COMMUNICATIONS OPPORTUI 0.00%
TIPS	0.07% BLACKROCK TIPS	0.07% PAN-EUROPEAN INFRASTRUCTURE FU 0.00%
Real Assets & Inflation Hedges	0.82% LACERA PE - REAL ASSETS	0.01% GRAIN SPECTRUM HOLDINGS III 0.00%

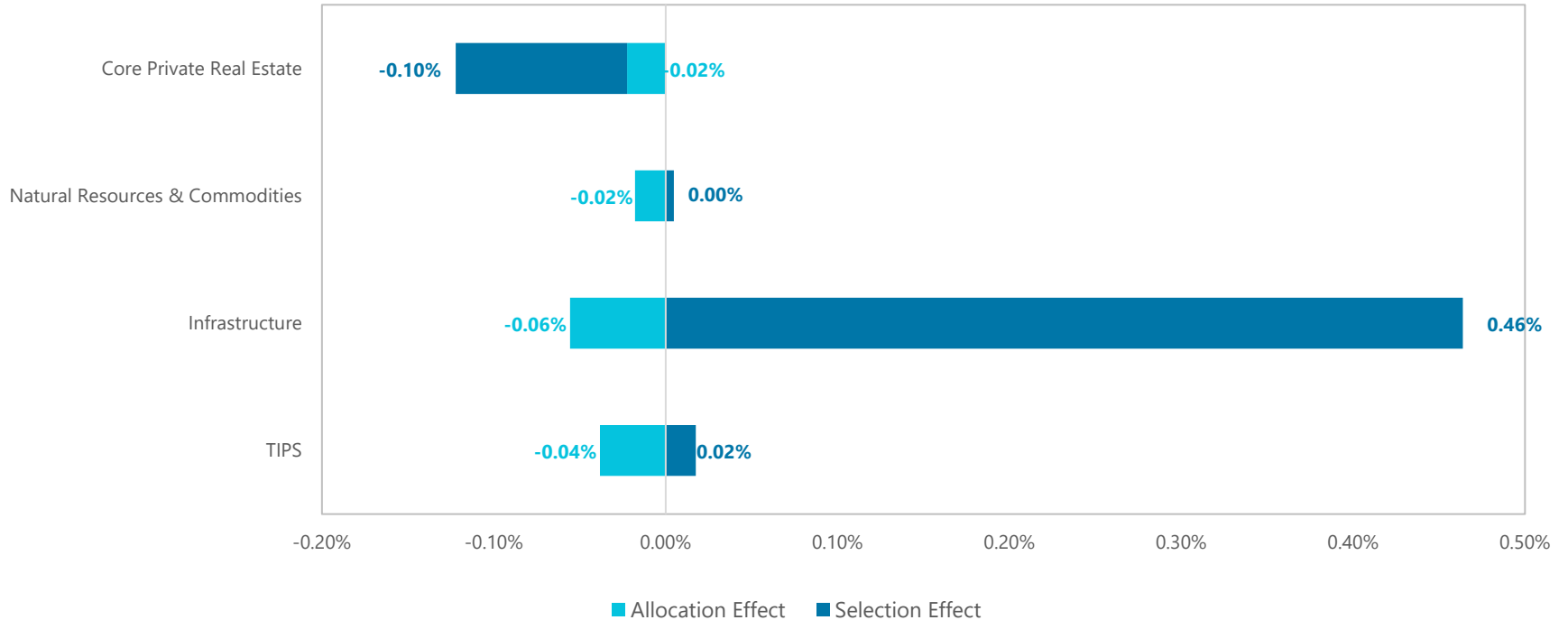
# Return Attribution

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## QTD Performance Attribution<sup>1</sup>



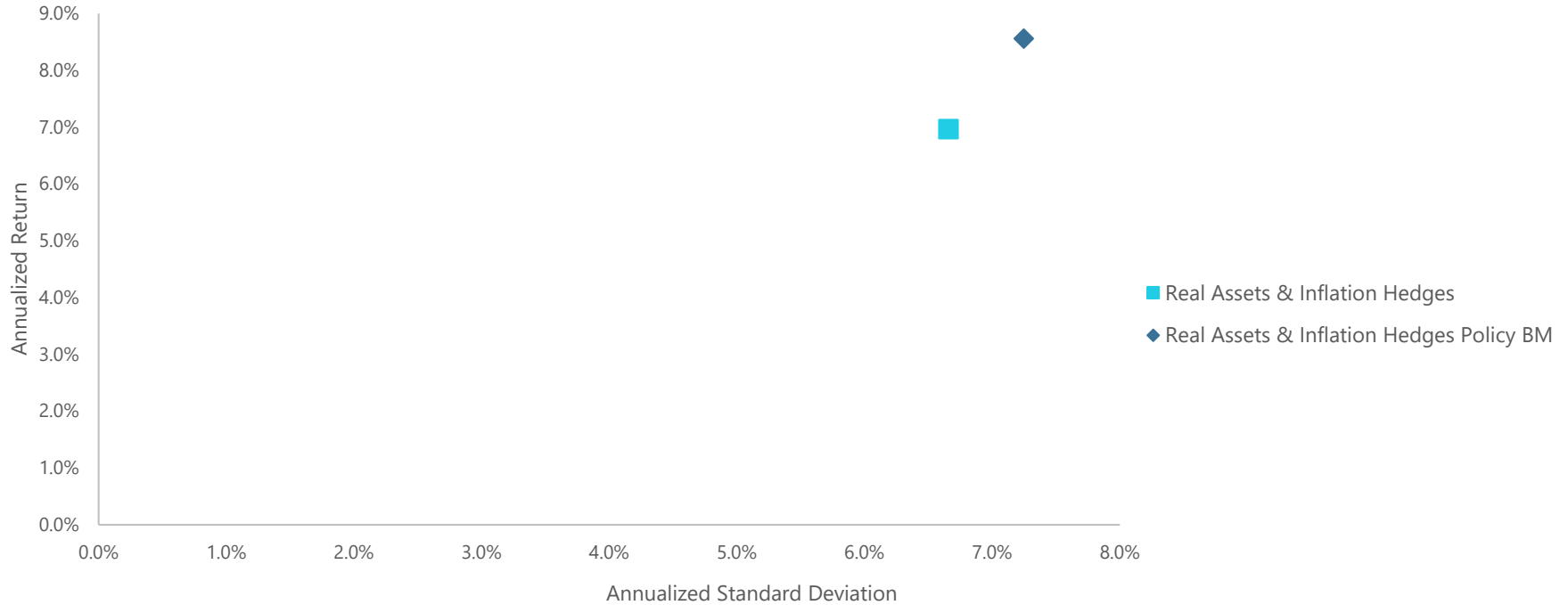
	Ending Market Value (mm)	% of Composite	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
<b>Real Assets &amp; Inflation Hedges</b>	<b>12,075</b>	<b>100.0%</b>	<b>100.0%</b>	<b>5.3%</b>	<b>5.3%</b>	<b>-0.13%</b>	<b>0.39%</b>	<b>-0.09%</b>
Core Private Real Estate	3,969	32.9%	35.0%	6.1%	6.4%	-0.02%	-0.10%	-0.10%
Natural Resources & Commodities	3,413	28.3%	24.0%	3.5%	4.2%	-0.02%	0.00%	-0.24%
Infrastructure	2,582	21.4%	24.0%	8.3%	6.9%	-0.06%	0.46%	0.27%
TIPS	2,111	17.5%	17.0%	2.5%	2.4%	-0.04%	0.02%	-0.02%

1. Total Value Add includes Interaction Effect.

# Risk vs. Return

for the quarter ended December 31, 2021

## Since Inception (Annualized)<sup>1</sup>



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
<b>Real Assets &amp; Inflation Hedges</b>	<b>7.0%</b>	<b>6.7%</b>				
Real Assets & Inflation Hedges Policy BM	8.6%	7.2%	0.94	(0.77)	0.91	1.9%

1. Composite risk statistics are relative to the policy benchmark.

# Performance Detail

for the quarter ended December 31, 2021



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
<b>REAL ASSETS &amp; INFLATION HEDGES</b>	<b>100.0%</b>	<b>12,075</b>	<b>11,870</b>	<b>5.3%</b>	<b>16.6%</b>	<b>16.6%</b>	--	--	--	<b>7.0%</b>
Real Assets & Inflation Hedges Policy BM				5.3%	17.1%	17.1%	--	--	--	8.6%
<b>CORE PRIVATE REAL ESTATE</b>	<b>32.9%</b>	<b>3,969</b>	<b>4,480</b>	<b>6.1%</b>	<b>12.5%</b>	<b>12.5%</b>	<b>4.4%</b>	<b>5.7%</b>	<b>7.5%</b>	<b>7.0%</b>
Core Private Real Estate Policy BM				6.4%	14.1%	14.1%	6.6%	7.1%	9.4%	6.8%
<b>NATURAL RESOURCES &amp; COMMODITIES</b>	<b>28.3%</b>	<b>3,413</b>	<b>3,031</b>	<b>3.5%</b>	<b>27.7%</b>	<b>27.7%</b>	<b>11.0%</b>	<b>4.7%</b>	<b>-1.7%</b>	<b>-1.7%</b>
Natural Resources & Comm Policy BM				4.2%	28.4%	28.4%	11.9%	4.8%	-2.3%	-2.6%
CREDIT SUISSE COMMODITY	3.8%	462	535	-0.8%	27.9%	27.9%	11.0%	4.1%	-2.3%	-3.6%
DWS NATURAL RESOURCES	11.8%	1,427	1,317	8.0%	27.8%	27.8%	--	--	--	15.0%
NEUBERGER BERMAN/GRESHAM	3.7%	447	514	-1.8%	26.9%	26.9%	9.6%	4.4%	-2.0%	-1.7%
ORION MINE FINANCE FUND III	0.6%	77	55	2.5%	--	--	--	--	--	2.5%
ORION MINING ROYALTY FUND I	0.1%	13	11	11.2%	--	--	--	--	--	11.2%
PIMCO COMMODITY	3.8%	456	528	-0.7%	28.8%	28.8%	10.9%	4.8%	-1.3%	-1.6%
PRIVATE EQUITY - REAL ASSETS	0.6%	78	72	8.9%	9.8%	9.8%	-14.4%	--	--	-14.4%
TIAA-CREF GLOBAL AGRICULTURE I	1.6%	188	0	--	--	--	--	--	--	0.0%
TIAA-CREF GLOBAL AGRICULTURE II	2.2%	265	0	--	--	--	--	--	--	0.0%
<b>INFRASTRUCTURE</b>	<b>21.4%</b>	<b>2,582</b>	<b>2,298</b>	<b>8.3%</b>	<b>21.3%</b>	<b>21.3%</b>	--	--	--	<b>12.3%</b>
DJ Brookfield Global Infrastr Comp TR				6.9%	21.4%	21.4%	--	--	--	8.0%
ANTIN MID CAP	0.1%	14	0	--	--	--	--	--	--	0.3%
AXIUM INFRASTRUCTURE	0.0%	0	0	--	--	--	--	--	--	0.0%
AXIUM INFRASTRUCTURE CANADA	0.0%	0	0	--	--	--	--	--	--	1.3%
DIF INFRASTRUCTURE VI	0.4%	53	15	5.8%	--	--	--	--	--	28.7%
DWS INFRASTRUCTURE	19.9%	2,403	2,213	8.8%	22.4%	22.4%	--	--	--	12.7%
GRAIN COMMUNICATIONS OPPORTUNITY III	0.2%	23	10	-4.2%	--	--	--	--	--	--
GRAIN SPECTRUM HOLDINGS III	0.4%	47	46	-0.1%	-1.6%	--	--	--	--	-1.6%
PAN-EUROPEAN INFRASTRUCTURE FUND III	0.3%	41	14	-1.0%	-4.3%	--	--	--	--	-0.3%
<b>TIPS</b>										
BLACKROCK TIPS	<b>17.5%</b>	<b>2,111</b>	<b>2,061</b>	<b>2.5%</b>	<b>5.8%</b>	<b>5.8%</b>	--	--	--	<b>8.0%</b>
Bloomberg U.S. Treasury: U.S. TIPS				2.4%	6.0%	6.0%	--	--	--	8.1%

# Real Assets & Inflation Hedges

## Natural Resources & Commodities

### Credit Suisse

for the quarter ended December 31, 2021

#### 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: March 2011

#### Risk Statistics (since inception)

Standard Deviation	14.6%
Benchmark Standard Deviation	14.9%
Sharpe Ratio	0.30
Information Ratio	0.73
Beta	0.98
Tracking Error	0.9%

#### Top Holdings (% of assets)

GOLD 100 OZ FUTR FEB22	11.4%
US TREASURY FRN	9.0%
FEDERAL FARM CREDIT BANK	8.8%
NATURAL GAS FUTR MAR22	8.7%
WTI CRUDE FUTURE MAR22	7.8%
<b>Top 5 Holdings</b>	<b>45.7%</b>

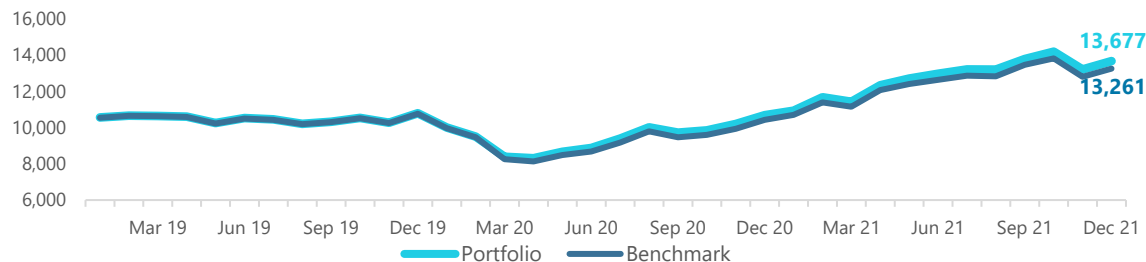
#### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>CREDIT SUISSE COMMODITY</b>	<b>461.6</b>	<b>-0.8%</b>	<b>27.9%</b>	<b>11.0%</b>	<b>4.1%</b>
Bloomberg Commodity Index Total Return		-1.6%	27.1%	9.9%	3.7%
Real Assets & Inflation Hedges Policy BM		5.3%	17.1%	--	--

Universe data: Commodities Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>CREDIT SUISSE COMMODITY</b>	<b>-0.8%</b>	<b>75</b>	<b>28.3%</b>	<b>30</b>	<b>11.3%</b>	<b>58</b>	<b>4.3%</b>	<b>84</b>
Median	2.1%		16.9%		12.9%		9.1%	

#### Growth of \$10,000



#### Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
 2. Charts display top exposures only and may not add up to 100%.

# Real Assets & Inflation Hedges

## Natural Resources & Commodities

### DWS

for the quarter ended December 31, 2021

#### 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	23.8%
Benchmark Standard Deviation	24.3%
Sharpe Ratio	0.68
Information Ratio	-0.11
Beta	0.96
Tracking Error	4.3%

#### Top Holdings (% of assets)

CORTEVA INC	6.3%
FREEMPORT MCMORAN INC	5.4%
UPM KYMMENE OYJ	4.3%
TOTALENERGIES SE	4.2%
BUNGE LTD	4.2%
<b>Top 5 Holdings</b>	<b>24.5%</b>

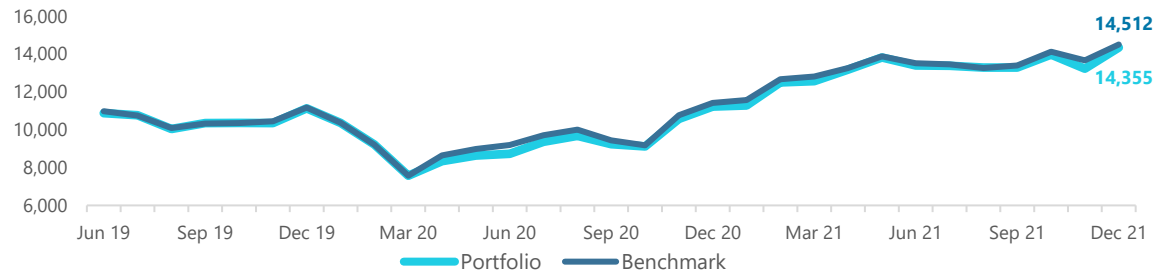
#### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>DWS Natural Resources</b>	<b>1,427.4</b>	<b>8.0%</b>	<b>27.8%</b>	--	--
S&P Glb LargeMidCap Commod & Resources		8.3%	27.0%	--	--
Real Assets & Inflation Hedges Policy BM		5.3%	17.1%	--	--

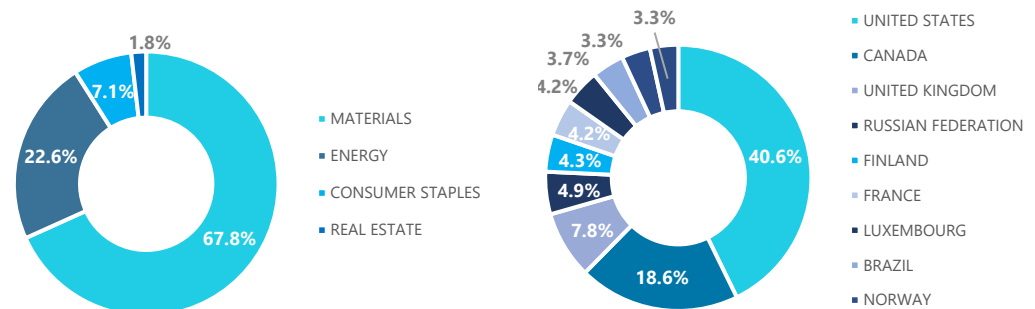
  

Universe data: Commodities Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>DWS Natural Resources</b>	<b>8.0%</b>	<b>19</b>	<b>28.0%</b>	<b>30</b>	--	--	--	--
Median	2.1%		16.9%		--	--	--	--

#### Growth of \$10,000



#### Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.

# Real Assets & Inflation Hedges

## Natural Resources & Commodities

### Neuberger Berman / Gresham

for the quarter ended December 31, 2021

### 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	18.2%
Benchmark Standard Deviation	16.7%
Sharpe Ratio	0.04
Information Ratio	0.14
Beta	1.05
Tracking Error	5.0%

### Top Holdings (% of assets)

GOLD 100 OZ FUTR FEB22	11.0%
NATURAL GAS FUTR MAR22	9.1%
WTI CRUDE FUTURE MAR22	6.9%
BRENT CRUDE FUTR MAR22	5.7%
TREASURY BILL	5.0%

**Top 5 Holdings** **37.6%**

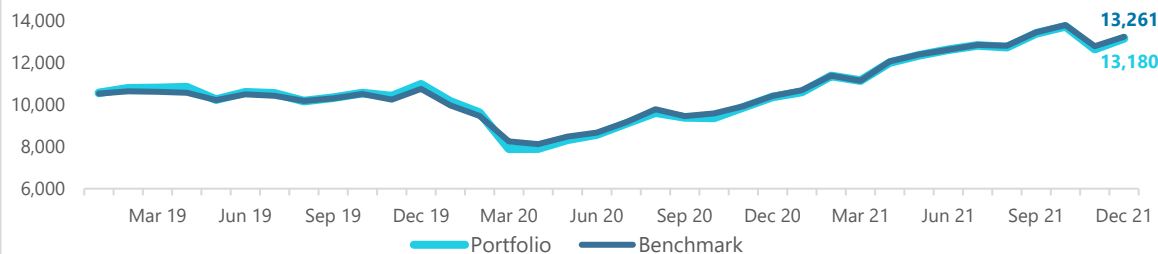
### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>NEUBERGER BERMAN/GRESHAM</b>	<b>446.7</b>	<b>-1.8%</b>	<b>26.9%</b>	<b>9.6%</b>	<b>4.4%</b>
Bloomberg Commodity Index Total Return		-1.6%	27.1%	9.9%	3.7%
Real Assets & Inflation Hedges Policy BM		5.3%	17.1%	--	--

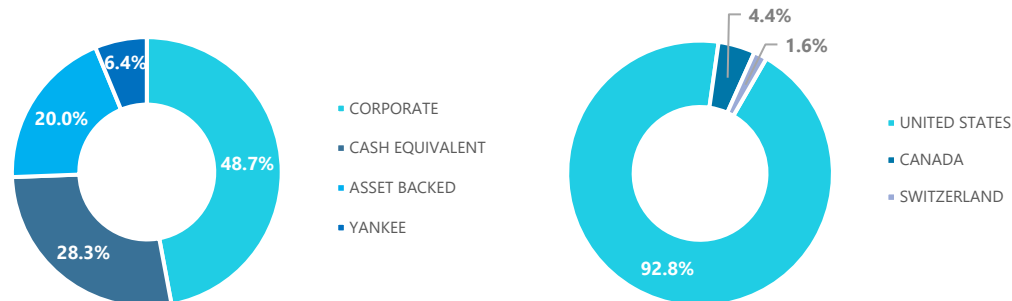
  

Universe data: Commodities Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>NEUBERGER BERMAN/GRESHAM</b>	<b>-1.7%</b>	<b>82</b>	<b>27.4%</b>	<b>31</b>	<b>10.1%</b>	<b>65</b>	<b>4.8%</b>	<b>83</b>
Median	2.1%		16.9%		12.9%		9.1%	

### Growth of \$10,000



### Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.

# Real Assets & Inflation Hedges

## Natural Resources & Commodities

### PIMCO

for the quarter ended December 31, 2021

#### 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	17.9%
Benchmark Standard Deviation	16.7%
Sharpe Ratio	-0.04
Information Ratio	0.52
Beta	1.06
Tracking Error	2.6%

#### Top Holdings (% of assets)

US 10YR NOTE	5.3%
US 5YR NOTE	2.1%
TSY INFL IX N/B	1.9%
FNMA TBA 30 YR 3.5	1.8%
LOW SU GASOIL G JUN22	1.5%
<b>Top 5 Holdings</b>	<b>12.6%</b>

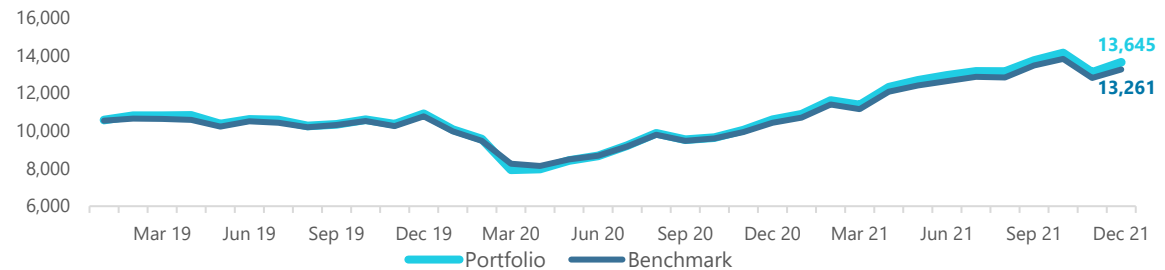
#### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>PIMCO COMMODITY PLUS</b>	<b>456.1</b>	<b>-0.7%</b>	<b>28.8%</b>	<b>10.9%</b>	<b>4.8%</b>
Bloomberg Commodity Index Total Return		-1.6%	27.1%	9.9%	3.7%
Real Assets & Inflation Hedges Policy BM		5.3%	17.1%	--	--

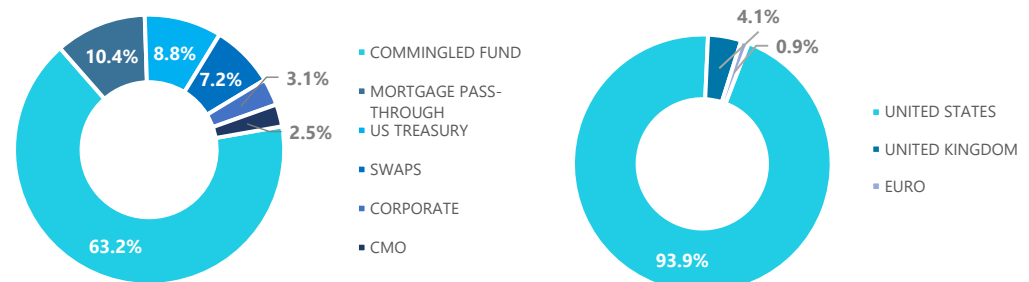
  

Universe data: Commodities Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>PIMCO COMMODITY PLUS</b>	<b>-0.6%</b>	<b>72</b>	<b>29.3%</b>	<b>29</b>	<b>11.3%</b>	<b>58</b>	<b>5.2%</b>	<b>83</b>
Median	2.1%		16.9%		12.9%		9.1%	

#### Growth of \$10,000



#### Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.



# Real Assets & Inflation Hedges

## Infrastructure

### DWS

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

#### 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)	47,164.0	45,841.0
No. Of Issues	45.0	--
Dividend Yield	2.1	3.1
Return on Equity	14.9	12.9
Price to Sales	7.6	7.1
Price to Book	4.4	4.6
PE Ratio	78.9	42.7

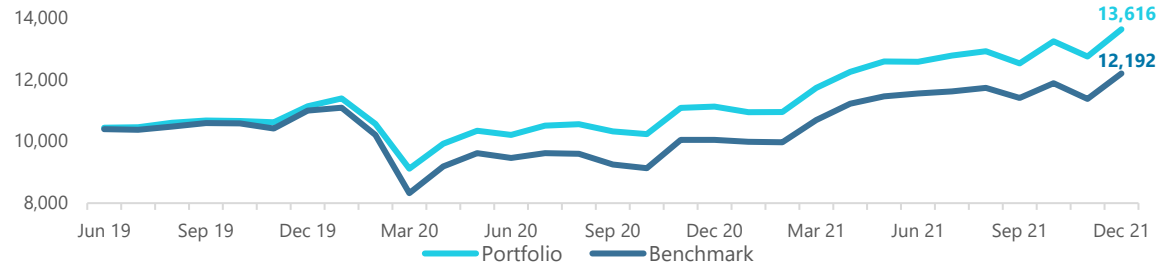
#### Top Holdings (% of assets)

AMERICAN TOWER CORP	6.9%
SEMPRA ENERGY	4.7%
SBA COMMUNICATIONS CORP	4.4%
NATIONAL GRID PLC	4.3%
AMERICAN WATER WORKS CO INC	4.2%
<b>Top 5 Holdings</b>	<b>24.4%</b>

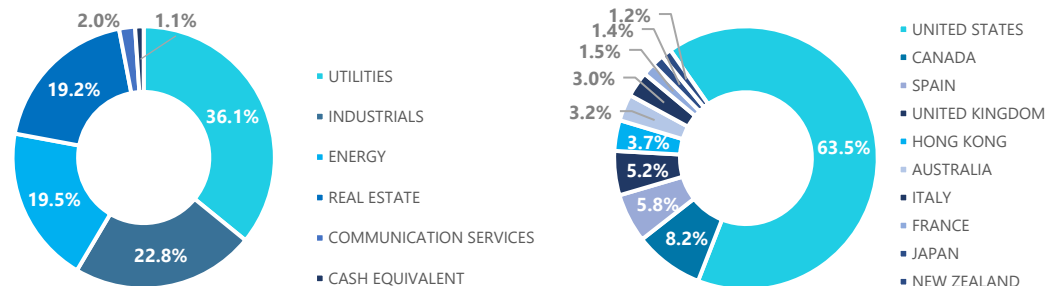
#### Performance (net)<sup>1</sup>

	Ending Market Value (mm)				QTD	1 Year	3 Year	5 Year
<b>DWS INFRASTRUCTURE</b>	<b>2,402.5</b>				<b>8.8%</b>	<b>22.4%</b>	--	--
DJ Brookfield Global Infrastr Comp TR					6.9%	21.4%	--	--
Real Assets & Inflation Hedges Policy BM					5.3%	17.1%	--	--
Universe data: Infrastructure	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>DWS INFRASTRUCTURE</b>	<b>8.9%</b>	--	<b>22.7%</b>	--	--	--	--	--
Median	--	--	--	--	--	--	--	--

#### Growth of \$10,000



#### Top Exposures (% of assets)<sup>2</sup>



1. Universe data for infrastructure is unavailable.  
2. Charts display top exposures only and may not add up to 100%.

# Real Assets & Inflation Hedges

TIPS

BlackRock

for the quarter ended December 31, 2021

## Strategy

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

Inception Date: May 2019

## Risk Statistics (since inception)

Standard Deviation	4.1%
Benchmark Standard Deviation	4.0%
Sharpe Ratio	1.70
Information Ratio	-0.20
Beta	1.02
Tracking Error	0.5%

## Top Holdings (% of assets)

TSY INFL IX N/B	4.3%
TSY INFL IX N/B	4.2%
TSY INFL IX N/B	4.0%
TSY INFL IX N/B	3.8%
TSY INFL IX N/B	3.8%
<b>Top 5 Holdings</b>	<b>20.0%</b>

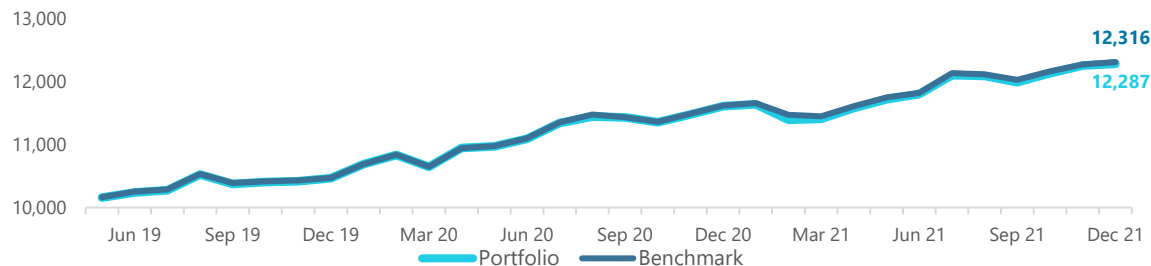
## Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>BLACKROCK TIPS</b>	<b>2,111.4</b>	<b>2.5%</b>	<b>5.8%</b>	--	--
Bloomberg U.S. Treasury: U.S. TIPS		2.4%	6.0%	--	--
Real Assets & Inflation Hedges Policy BM		5.3%	17.1%	--	--

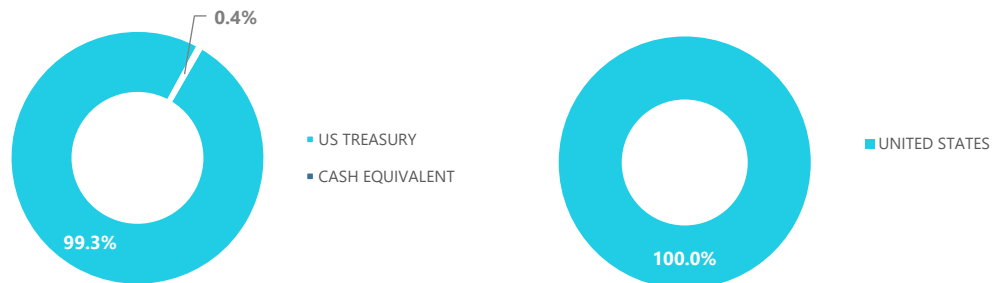
  

Universe data: Inflation Linked Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>BLACKROCK TIPS</b>	<b>2.5%</b>	--	<b>5.8%</b>	--	--	--	--	--
Median	--		--		--		--	

## Growth of \$10,000



## Top Exposures (% of assets)<sup>2</sup>



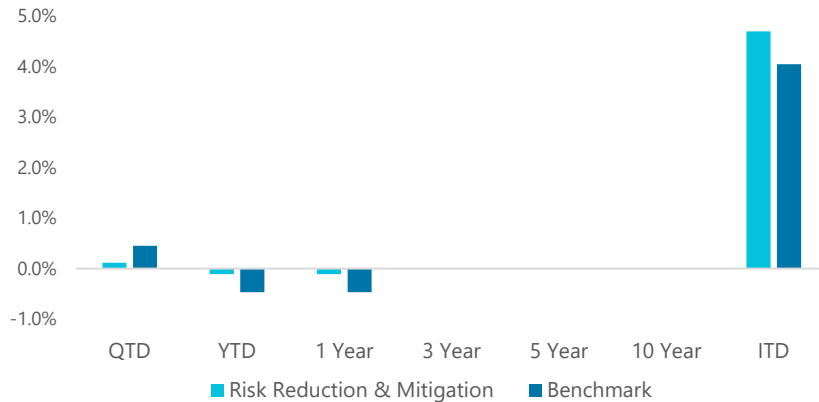
1. Universe data for TIPS is unavailable.  
 2. Charts display top exposures only and may not add up to 100%.

# risk reduction & mitigation

# Summary

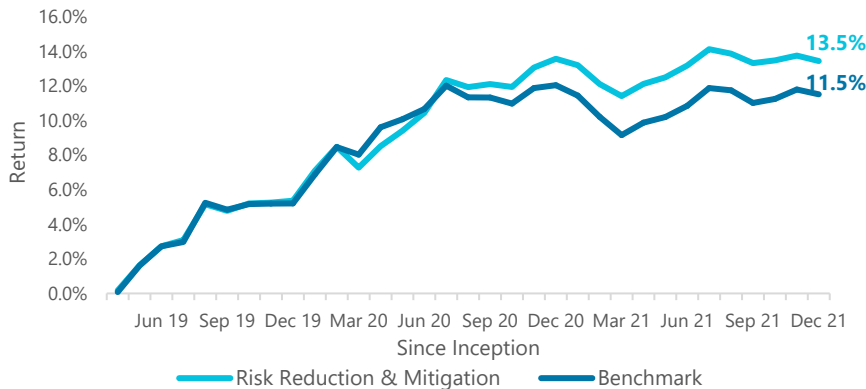
for the quarter ended December 31, 2021

## Performance (net)



	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>Risk Reduction &amp; Mitigation</b>	<b>0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>	--	--	--	<b>4.7%</b>
Benchmark	0.5%	-0.5%	-0.5%	--	--	--	4.0%
Excess	-0.3%	0.4%	0.4%	--	--	--	0.6%

## Cumulative Return

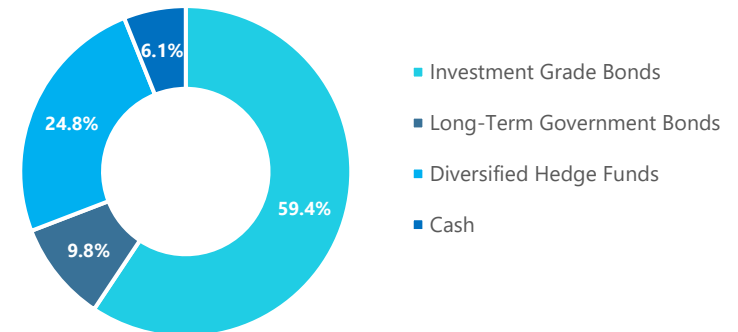


## Functional Category<sup>1</sup>

	QTD	FYTD	1 Year	3 Year
<b>Investment Grade Bonds</b>	<b>-0.3%</b>	<b>-0.2%</b>	<b>-1.8%</b>	<b>5.1%</b>
BBG BC Aggregate Bond Index	0.0%	0.1%	-1.5%	4.8%
Excess	-0.3%	-0.3%	-0.2%	0.3%
<b>Long-Term Government Bonds</b>	--	--	--	--
Bloomberg U.S. Treasury: Long	--	--	--	--
Excess	--	--	--	--
<b>Diversified Hedge Funds</b>	<b>0.9%</b>	<b>1.0%</b>	<b>8.5%</b>	--
Diversified Hedge Funds Policy BM	0.6%	1.3%	2.6%	--
Excess	0.3%	-0.3%	6.0%	--
<b>Cash</b>	<b>0.3%</b>	<b>0.6%</b>	<b>0.9%</b>	<b>1.5%</b>
Cash Policy BM	0.0%	0.0%	0.0%	1.0%
Excess	0.3%	0.5%	0.8%	0.5%

1. Diversified Hedge Funds returns are net of all fees and expenses.

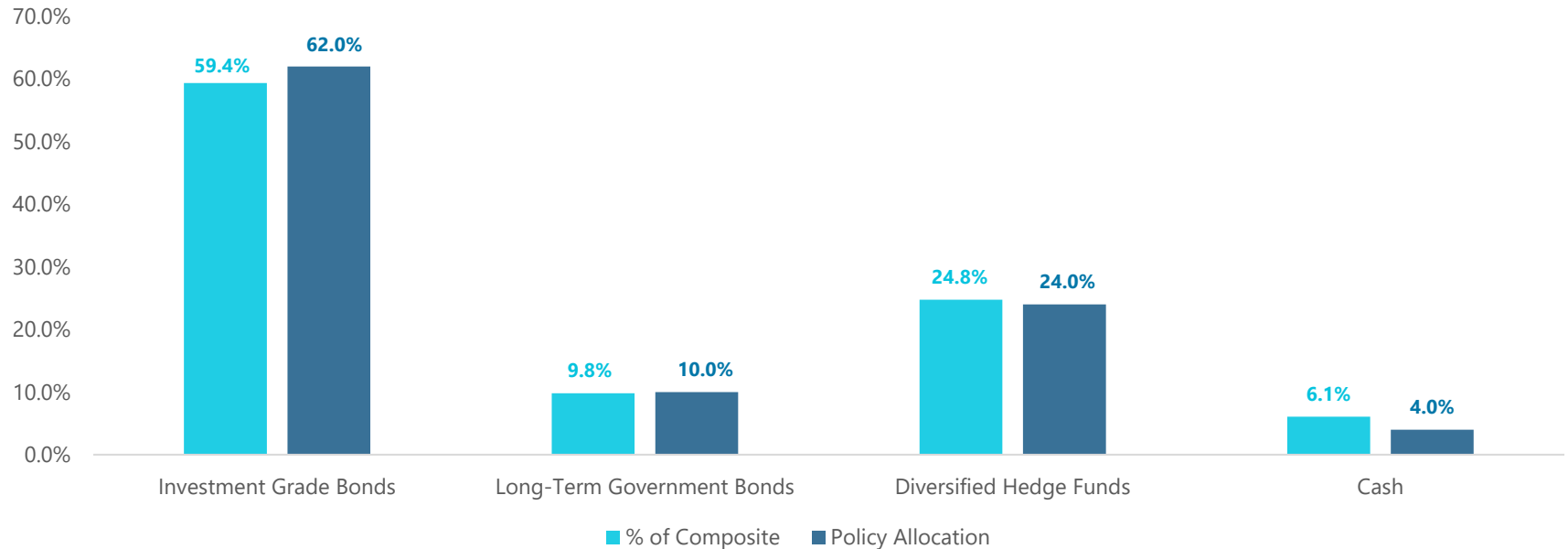
## Exposure



# Asset Allocation

for the quarter ended December 31, 2021

## Actual vs. Policy

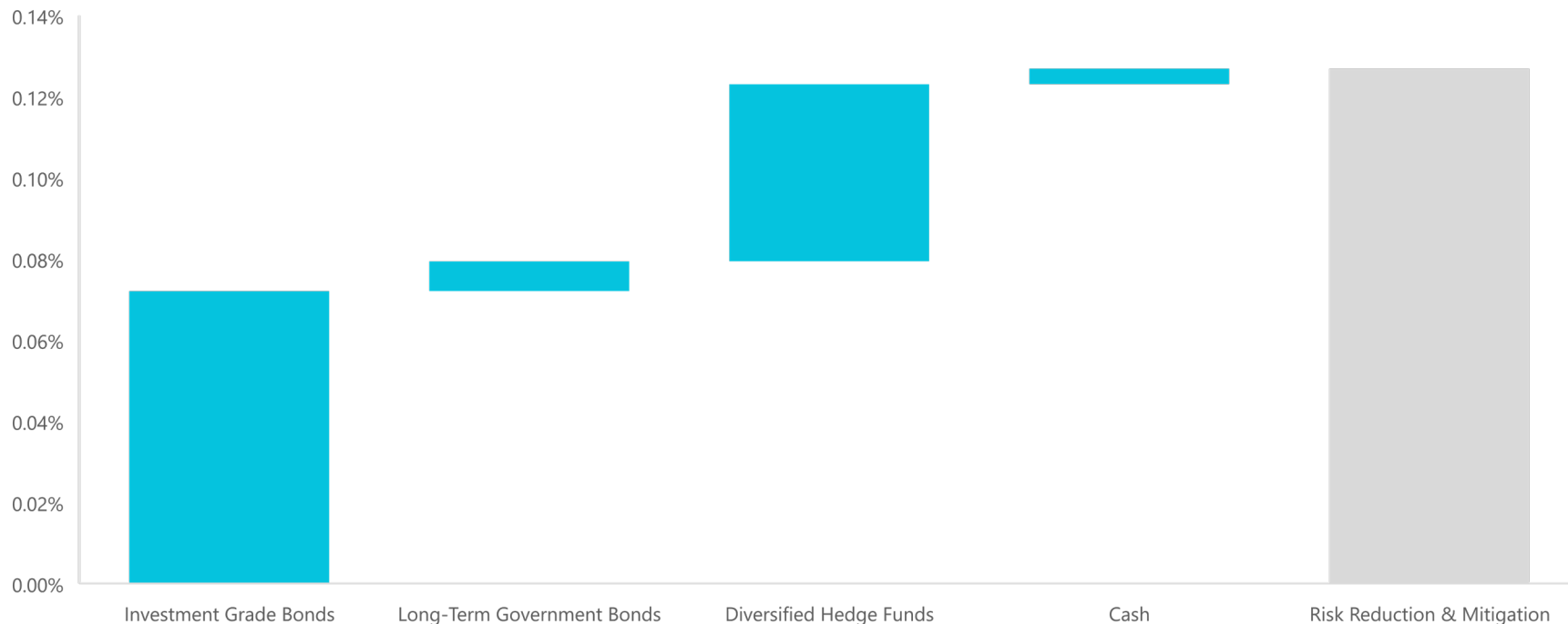


	Ending Market Value (mm)	% of Composite	Policy Allocation	Over / Under (%)	Over / Under (mm)
<b>Risk Reduction &amp; Mitigation</b>	<b>15,485</b>	<b>100.0%</b>	<b>100.0%</b>		
Investment Grade Bonds	9,191	59.4%	62.0%	-2.6%	-410
Long-Term Government Bonds	1,520	9.8%	10.0%	-0.2%	-29
Diversified Hedge Funds	3,835	24.8%	24.0%	0.8%	118
Cash	940	6.1%	4.0%	2.1%	321

# Contribution to Return

for the quarter ended December 31, 2021

## QTD Contribution to Return



Functional Category	Contributors	Detractors
Investment Grade Bonds	0.07% BTC US DEBT INDEX FUND	0.11% TRUTINO 0.00%
Long-Term Government Bonds	0.01% HBK MULTI-STRATEGY	0.02% POLAR 0.00%
Diversified Hedge Funds	0.04% HUDSON BAY FUND	0.01% PUGH CAPITAL MGMT 0.00%
Cash	0.00% CAXTON GLOBAL INVESTMENTS	0.01% WELLS CAPITAL 0.00%
Risk Reduction & Mitigation	0.13% LONG US TREASURY TRANSITION	0.01% SPARTA 0.00%

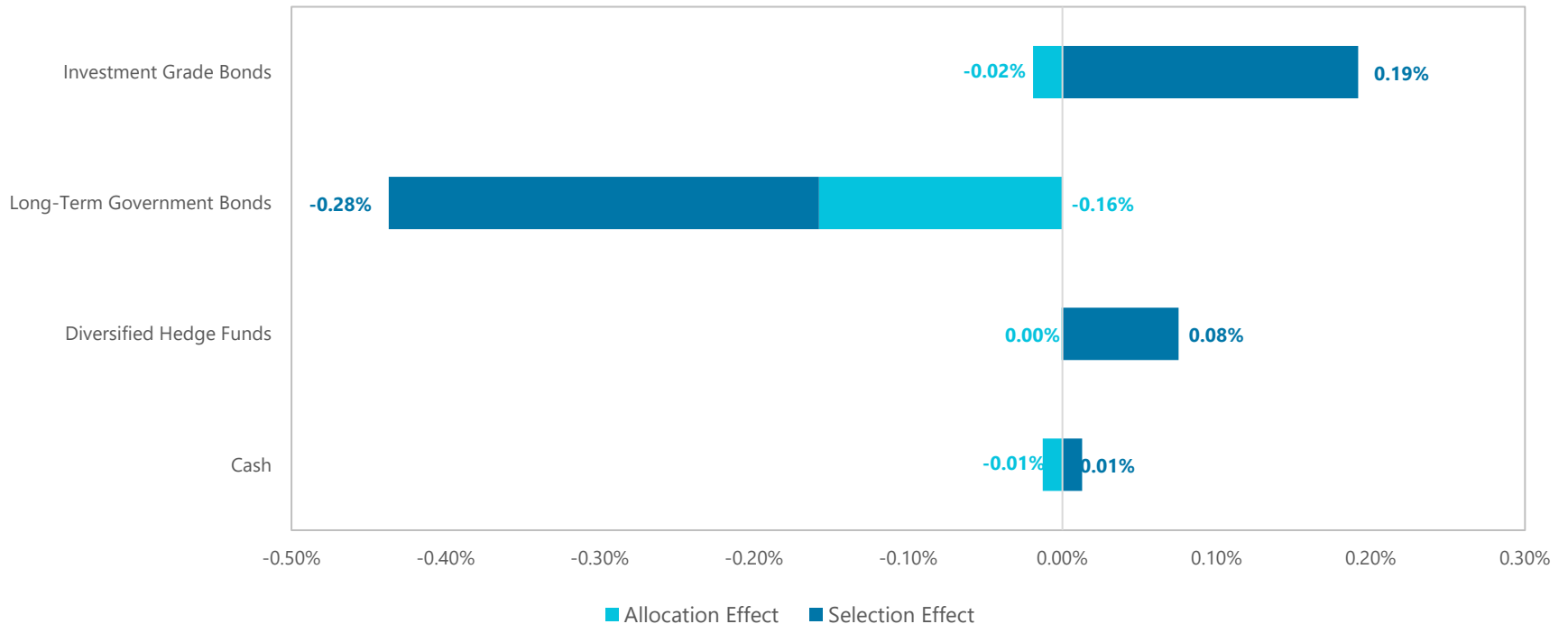
# Return Attribution

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## QTD Performance Attribution<sup>1</sup>



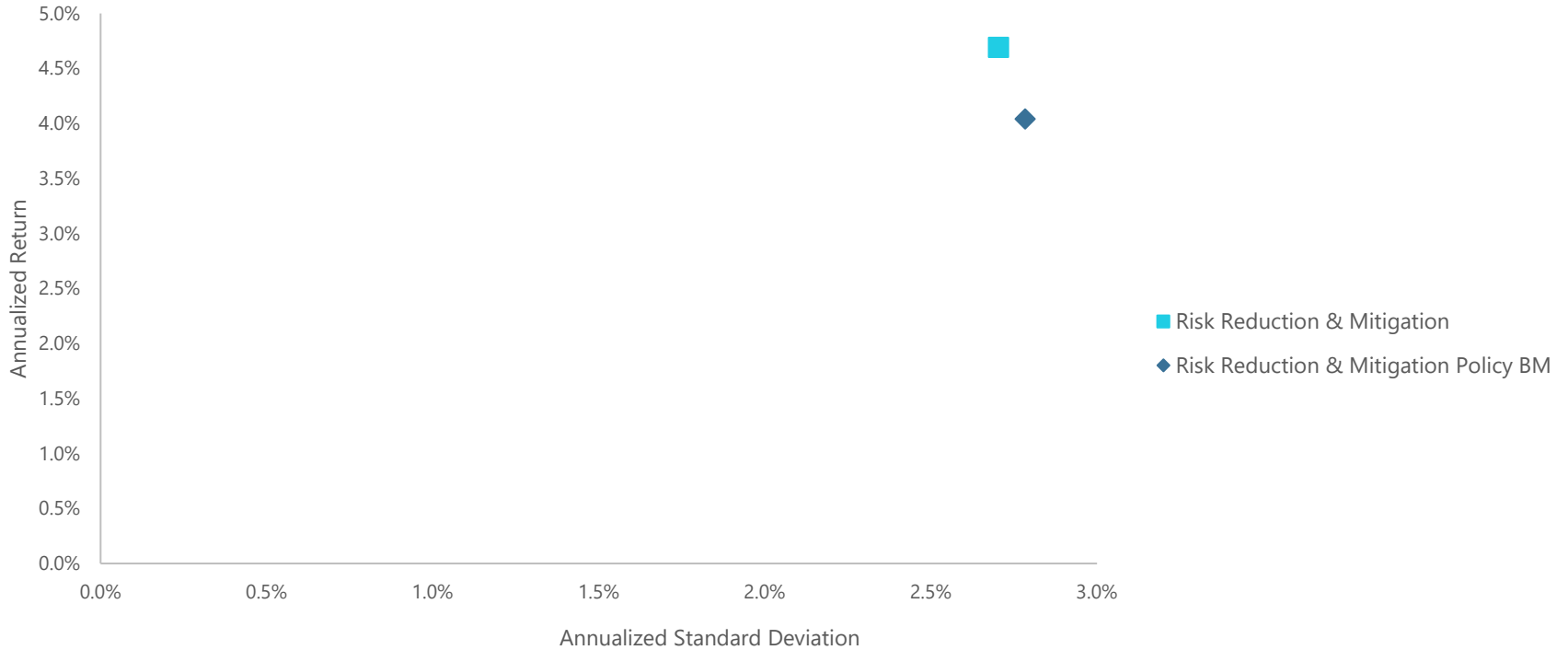
	Ending Market Value (mm)	% of Composite	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
<b>Risk Reduction &amp; Mitigation</b>	<b>15,485</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.1%</b>	<b>0.5%</b>	<b>-0.19%</b>	<b>0.00%</b>	<b>-0.35%</b>
Investment Grade Bonds	9,191	59.4%	62.0%	-0.3%	0.0%	-0.02%	0.19%	-0.15%
Long-Term Government Bonds	1,520	9.8%	10.0%	0.3%	3.1%	-0.16%	-0.28%	-0.21%
Diversified Hedge Funds	3,835	24.8%	24.0%	0.9%	0.6%	0.00%	0.08%	0.07%
Cash	940	6.1%	4.0%	0.3%	0.0%	-0.01%	0.01%	0.00%

1. Total Value Add includes Interaction Effect.

# Risk vs. Return

for the quarter ended December 31, 2021

## Since Inception (Annualized)<sup>1</sup>



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
<b>Risk Reduction &amp; Mitigation</b>	<b>4.7%</b>	<b>2.7%</b>				
Risk Reduction & Mitigation Policy BM	4.0%	2.8%	1.40	0.81	0.96	0.8%

1. Composite risk statistics are relative to the policy benchmark.



# Performance Detail

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Annualized Net Returns<sup>1</sup>

	% of Composite	Ending Market Value (mm)	Prior Quarter Ending MV (mm)	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>RISK REDUCTION &amp; MITIGATION</b>	<b>100.0%</b>	<b>15,485</b>	<b>14,947</b>	<b>0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>	--	--	--	<b>4.7%</b>
<i>Risk Reduction &amp; Mitigation Policy BM</i>				0.5%	-0.5%	-0.5%	--	--	--	4.0%
<b>INVESTMENT GRADE BONDS</b>	<b>59.4%</b>	<b>9,191</b>	<b>10,897</b>	<b>-0.3%</b>	<b>-1.8%</b>	<b>-1.8%</b>	<b>5.1%</b>	<b>4.0%</b>	<b>3.6%</b>	<b>5.9%</b>
<i>BBG BARC Agg</i>				0.0%	-1.5%	-1.5%	4.8%	3.6%	2.9%	5.4%
BTC US DEBT INDEX FUND	38.1%	5,894	7,398	-0.1%	-1.6%	-1.6%	4.8%	3.6%	3.0%	4.6%
MHLP	0.1%	13	14	1.2%	5.4%	5.4%	5.3%	7.7%	5.3%	5.4%
PUGH CAPITAL MGMT	7.6%	1,181	1,182	-0.1%	-1.6%	-1.6%	5.1%	3.7%	3.1%	4.3%
WELLS CAPITAL	13.6%	2,103	2,303	0.0%	-1.4%	-1.4%	5.5%	4.0%	3.5%	4.8%
<b>LONG-TERM GOVERNMENT BONDS</b>	<b>9.8%</b>	<b>1,520</b>	<b>0</b>	--	--	--	--	--	--	<b>0.3%</b>
<i>Bloomberg U.S. Treasury: Long</i>				--	--	--	--	--	--	-1.1%
LONG US TREASURY TRANSITION	9.8%	1,520	0	--	--	--	--	--	--	0.3%
<b>DIVERSIFIED HEDGE FUNDS</b>	<b>24.8%</b>	<b>3,835</b>	<b>3,098</b>	<b>0.9%</b>	<b>8.5%</b>	<b>8.5%</b>	--	--	--	<b>7.0%</b>
<i>Diversified Hedge Funds Policy BM</i>				0.6%	2.6%	2.6%	--	--	--	3.4%
AM ASIA STRATEGIES FUND	1.1%	176	123	2.0%	--	--	--	--	--	0.0%
BREVEN HOWARD MASTER FUND	3.5%	549	397	0.3%	--	--	--	--	--	-1.2%
CAPULA GRV	3.4%	526	525	0.1%	1.6%	1.6%	5.0%	--	--	4.9%
CAXTON GLOBAL INVESTMENTS	1.3%	206	199	3.6%	--	--	--	--	--	3.2%
DK INSTITUTIONAL PARTNER	3.2%	492	342	0.2%	8.7%	8.7%	7.3%	--	--	6.3%
GROSVENOR HFOF	0.4%	60	73	1.9%	19.1%	19.1%	9.7%	7.0%	5.3%	5.2%
GSAM HFOF	0.0%	1	1	--	--	--	--	--	--	--
HBK MULTI-STRATEGY	3.6%	556	344	2.5%	9.7%	9.7%	6.6%	--	--	5.9%
HUDSON BAY	4.1%	631	474	1.4%	17.7%	17.7%	--	--	--	16.1%
POLAR	3.0%	462	464	-0.3%	8.7%	8.7%	--	--	--	16.4%
STABLE ASSET MANAGEMENT	1.1%	175	155	0.1%	--	--	--	--	--	0.1%
<b>CASH</b>	<b>6.1%</b>	<b>940</b>	<b>952</b>	<b>0.3%</b>	<b>0.9%</b>	<b>0.9%</b>	<b>1.5%</b>	<b>1.5%</b>	<b>1.0%</b>	<b>1.8%</b>
<i>Cash Policy BM</i>				0.0%	0.0%	0.0%	1.0%	1.1%	0.6%	1.4%

1. Diversified Hedge Funds returns are net of all fees and expenses.

# Risk Reduction & Mitigation

## Investment Grade Bonds

### Pugh Capital

for the quarter ended December 31, 2021



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	232.0	--
Effective Duration	6.5	6.6
Convexity	0.6	0.5
Coupon Rate	2.7	2.5
Yield to Maturity	2.0	1.9
Current Yield	2.5	2.3
Rating – Moody's	AA-3	AA-2
Rating – S & P	AA-	AA-

### Top Holdings (% of assets)

US TREASURY N/B	3.6%
US TREASURY N/B	3.1%
US TREASURY N/B	2.5%
US TREASURY N/B	2.3%
US TREASURY N/B	1.8%

**Top 5 Holdings** **13.3%**

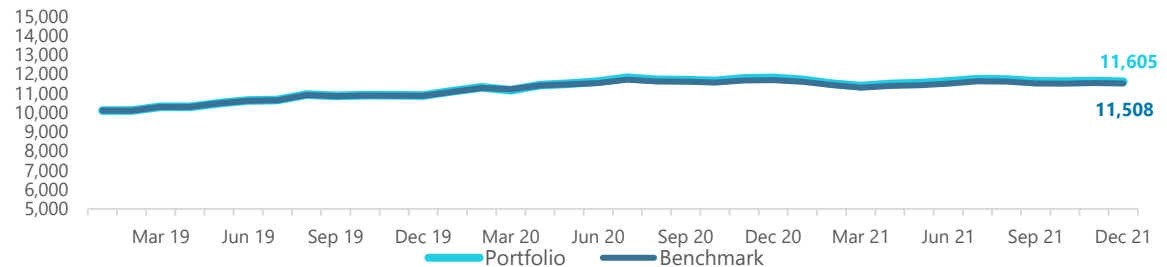
### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>PUGH CAPITAL MGMT</b>	<b>1,181.1</b>	<b>-0.1%</b>	<b>-1.6%</b>	<b>5.1%</b>	<b>3.7%</b>
BBG BARC Agg		0.0%	-1.5%	4.8%	3.6%
Risk Reduction & Mitigation Policy BM		0.5%	-0.5%	--	--

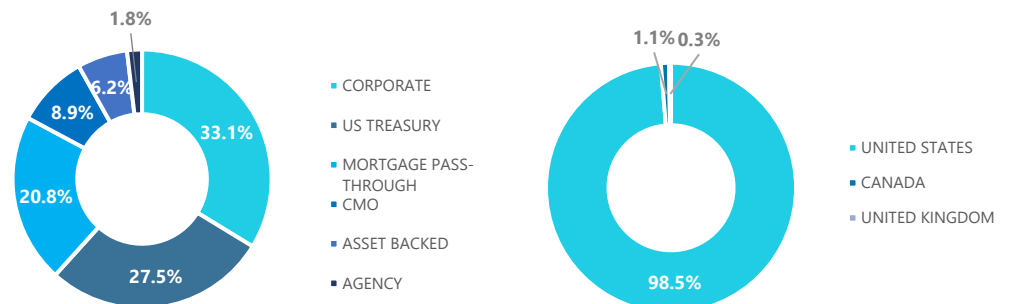
  

Universe data: U.S. Fixed Income Pools	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>PUGH CAPITAL MGMT</b>	<b>-0.1%</b>	<b>53</b>	<b>-1.5%</b>	<b>71</b>	<b>5.2%</b>	<b>55</b>	<b>3.9%</b>	<b>70</b>
Median	0.0%		-0.6%		5.7%		5.0%	

### Growth of \$10,000



### Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
2. Charts display top exposures only and may not add up to 100%.

# Risk Reduction & Mitigation

## Investment Grade Bonds

### Wells Capital

for the quarter ended December 31, 2021

### 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: March 2004

### Portfolio Characteristics

	Portfolio	Benchmark
No. of Issues	804.0	--
Effective Duration	6.4	6.6
Convexity	0.6	0.5
Coupon Rate	2.0	2.5
Yield to Maturity	1.9	1.9
Current Yield	1.9	2.3
Rating – Moody's	AA-2	AA-2
Rating – S & P	AA-	AA-

### Top Holdings (% of assets)

FNMA TBA 30 YR 2.5	3.0%
US TREASURY N/B	2.0%
FNMA TBA 30 YR 2.5	1.9%
US TREASURY N/B	1.8%
FNMA TBA 30 YR 2	1.8%
<b>Top 5 Holdings</b>	<b>10.6%</b>

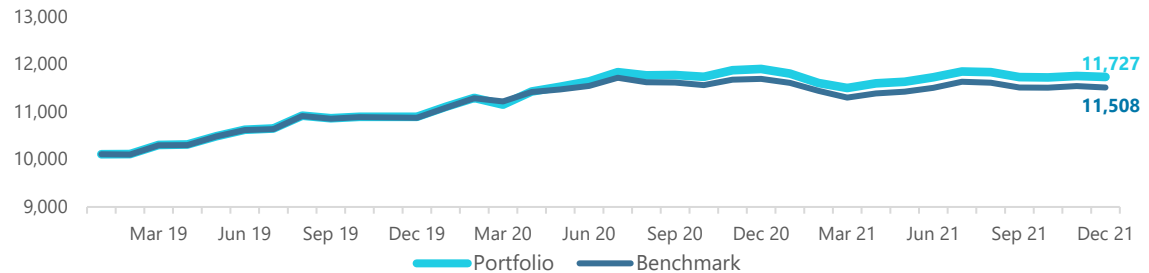
### Performance (net)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>WELLS CAPITAL</b>	<b>2,102.7</b>	<b>0.0%</b>	<b>-1.4%</b>	<b>5.5%</b>	<b>4.0%</b>
BBG BARC Agg		0.0%	-1.5%	4.8%	3.6%
Risk Reduction & Mitigation Policy BM		0.5%	-0.5%	--	--

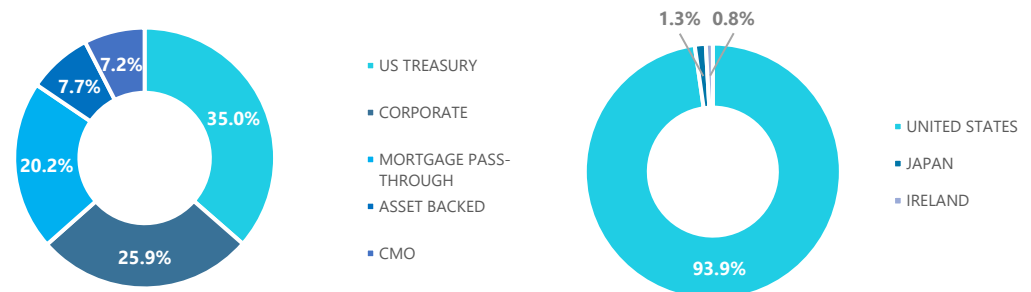
  

Universe data: U.S. Fixed Income Pools	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>WELLS CAPITAL</b>	<b>0.0%</b>	<b>44</b>	<b>-1.3%</b>	<b>67</b>	<b>5.6%</b>	<b>51</b>	<b>4.1%</b>	<b>64</b>
Median	0.0%		-0.6%		5.7%		5.0%	

### Growth of \$10,000



### Top Exposures (% of assets)<sup>2</sup>



1. Universe data is gross-of-fees.  
 2. Charts display top exposures only and may not add up to 100%.

# Risk Reduction & Mitigation

## Diversified Hedge Funds

### AM Asia Strategies Fund

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

#### Strategy

Relative value multi-strategy hedge fund. The strategy deploys capital opportunistically to relative value strategies such as convertible bond arbitrage, credit relative value, capital structure arbitrage, and equity long/short.

Inception Date: June 2021

#### Risk Statistics (since inception)

Standard Deviation	0.9%
Benchmark Standard Deviation	0.0%
Sharpe Ratio	-0.23
Information Ratio	-0.23
Beta	--
Tracking Error	3.2%

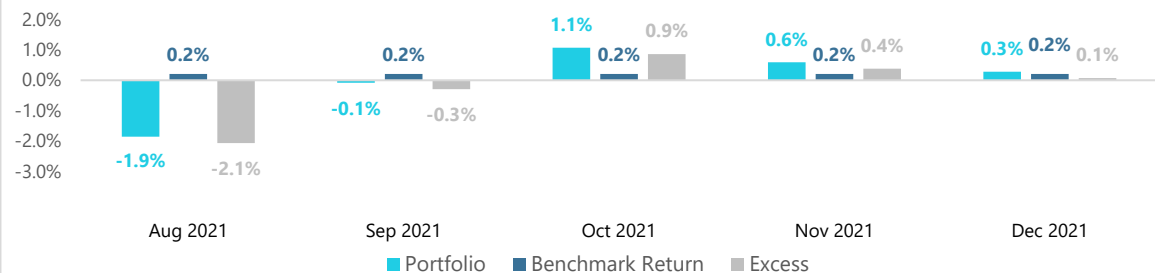
#### Performance (net all)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>AM ASIA STRATEGIES FUND</b>	<b>175.9</b>	<b>2.0%</b>	--	--	--
CUSTOM HEDGE FUND BM		0.6%	--	--	--
Risk Reduction & Mitigation Policy BM		0.5%	--	--	--

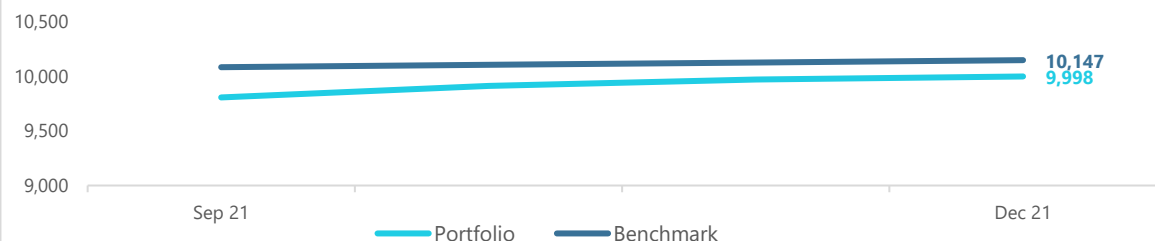
  

Universe data: Hedge Funds	QTD	1 Year	3 Year	5 Year
<b>AM ASIA STRATEGIES FUND</b>	<b>2.0%</b>	<b>32</b>	--	--
Median	0.2%	--	--	--

#### Monthly Returns



#### Growth of \$10,000



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

# Risk Reduction & Mitigation

## Diversified Hedge Funds

Brevan Howard

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

### Strategy

Discretionary global macro fund with multiple portfolio manager teams that focus on both directional and relative value trading strategies.

Inception Date: March 2021

### Risk Statistics (since inception)

Standard Deviation	0.7%
Benchmark Standard Deviation	0.0%
Sharpe Ratio	-0.17
Information Ratio	-5.38
Beta	--
Tracking Error	0.7%

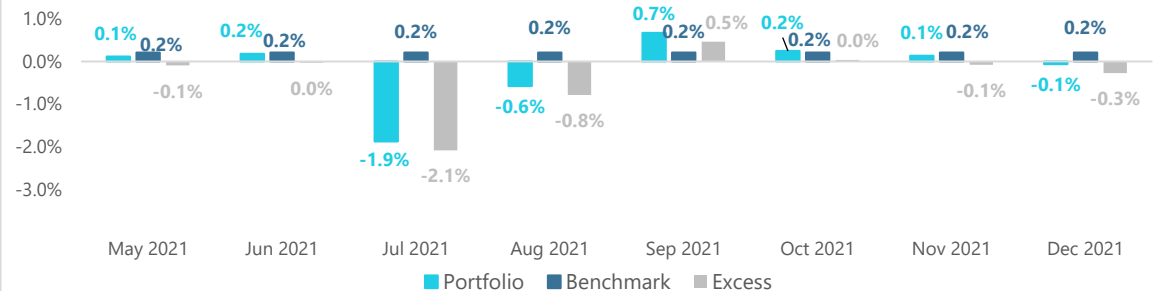
### Performance (net all)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>BREVAN HOWARD MASTER FUND</b>	<b>548.6</b>	<b>0.3%</b>	--	--	--
CUSTOM HEDGE FUND BM		0.6%	--	--	--
Risk Reduction & Mitigation Policy BM		0.5%	--	--	--

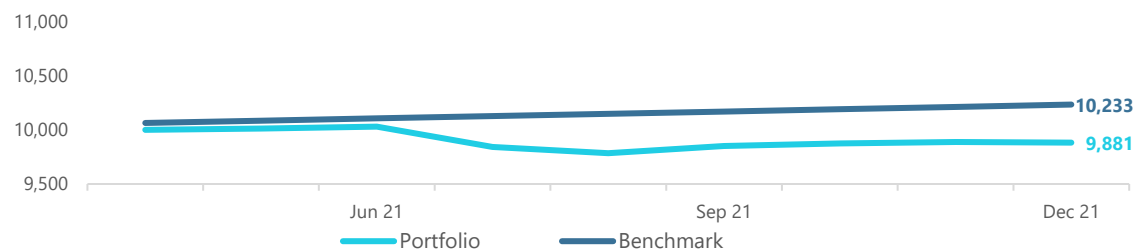
  

Universe data: Hedge Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>BREVAN HOWARD MASTER FUND</b>	<b>0.3%</b>	<b>47</b>	--	--	--	--	--	--
Median	0.2%		--		--		--	

### Monthly Returns



### Growth of \$10,000



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

# Risk Reduction & Mitigation

## Diversified Hedge Funds

### Capula GRV

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

#### Strategy

Global fixed income relative value hedge fund. The strategy seeks to benefit from pricing distortions generally caused by market flows in the government bond, interest rate swap and bond futures markets.

Inception Date: December 2018

#### Risk Statistics (since inception)

Standard Deviation	0.5%
Benchmark Standard Deviation	0.1%
Sharpe Ratio	0.66
Information Ratio	7.67
Beta	--
Tracking Error	0.5%

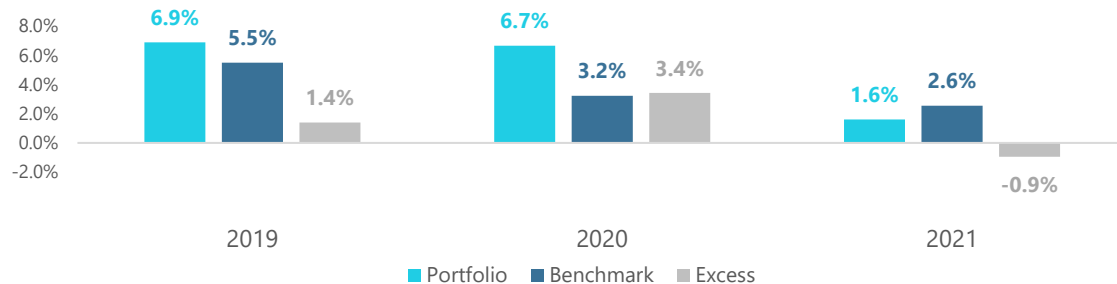
#### Performance (net all)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>CAPULA GRV</b>	<b>526.1</b>	<b>0.1%</b>	<b>1.6%</b>	<b>5.0%</b>	--
CUSTOM HEDGE FUND BM		0.6%	2.6%	3.8%	--
Risk Reduction & Mitigation Policy BM		0.5%	-0.5%	--	--

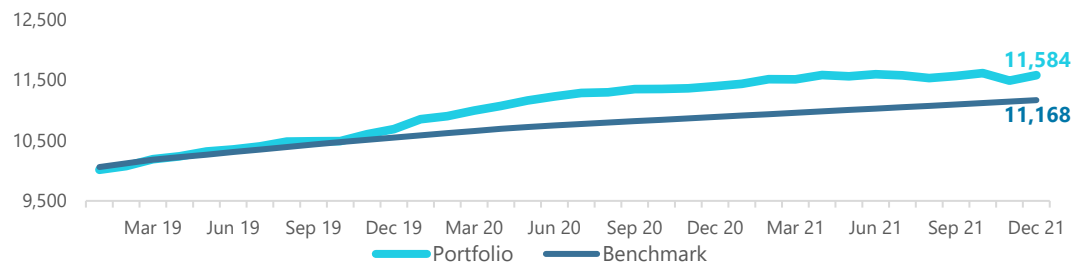
  

Universe data: Hedge Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>CAPULA GRV</b>	<b>0.1%</b>	<b>52</b>	<b>1.6%</b>	<b>72</b>	<b>5.0%</b>	<b>64</b>	--	--
Median	0.2%		7.9%		7.9%		--	

#### Calendar Year Returns



#### Growth of \$10,000



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

# Risk Reduction & Mitigation

## Diversified Hedge Funds

### Caxton

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

#### Strategy

Discretionary global macro fund with multiple portfolio manager teams that focus on both directional and relative value trading strategies.

Inception Date: February 2021

#### Risk Statistics (since inception)

Standard Deviation	1.6%
Benchmark Standard Deviation	0.0%
Sharpe Ratio	0.19
Information Ratio	0.58
Beta	--
Tracking Error	1.6%

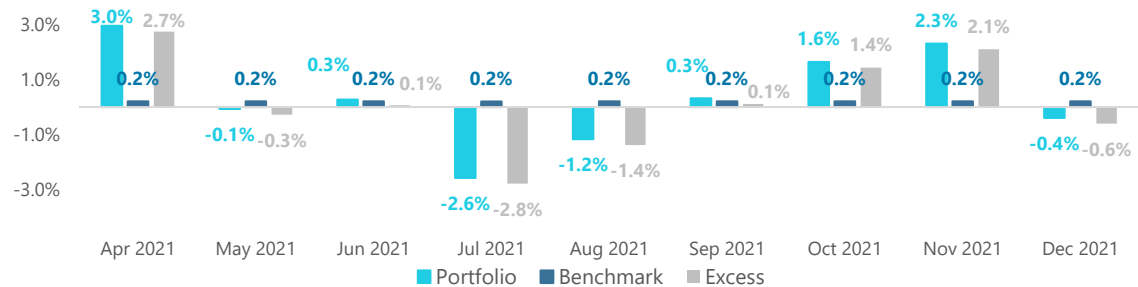
#### Performance (net all)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>CAXTON GLOBAL INVESTMENTS</b>	<b>206.5</b>	<b>3.6%</b>	--	--	--
CUSTOM HEDGE FUND BM		0.6%	--	--	--
Risk Reduction & Mitigation Policy BM		0.5%	--	--	--

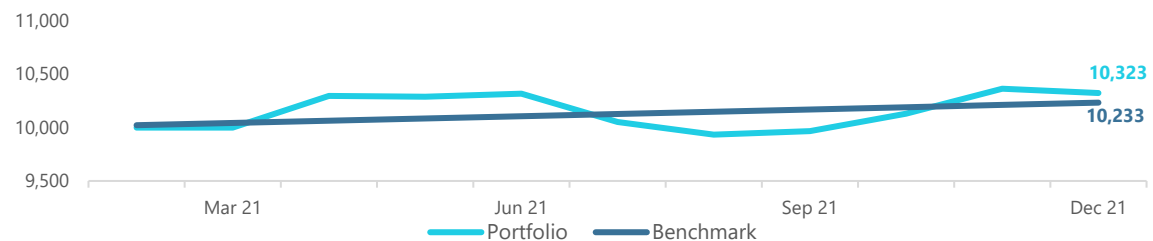
  

Universe data: Hedge Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>CAXTON GLOBAL INVESTMENTS</b>	<b>3.6%</b>	<b>23</b>	--	--	--	--	--	--
Median	0.2%		--		--		--	

#### Monthly Returns



#### Growth of \$10,000



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

# Risk Reduction & Mitigation

## Diversified Hedge Funds

### DK Institutional Partners

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

#### Strategy

Relative value multi-strategy hedge fund. The strategy deploys capital opportunistically to relative value strategies such as convertible bond arbitrage, risk arbitrage, credit relative value, capital structure arbitrage, and equity long/short.

Inception Date: May 2018

#### Risk Statistics (since inception)

Standard Deviation	4.9%
Benchmark Standard Deviation	0.5%
Sharpe Ratio	1.03
Information Ratio	0.39
Beta	--
Tracking Error	5.1%

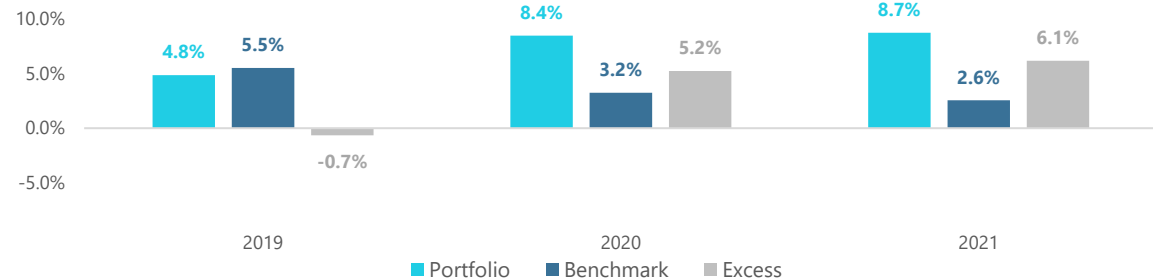
#### Performance (net all)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>DK INSTITUTIONAL PARTNERS</b>	<b>492.5</b>	<b>0.2%</b>	<b>8.7%</b>	<b>7.3%</b>	--
CUSTOM HEDGE FUND BM		0.6%	2.6%	3.8%	--
Risk Reduction & Mitigation Policy BM		0.5%	-0.5%	--	--

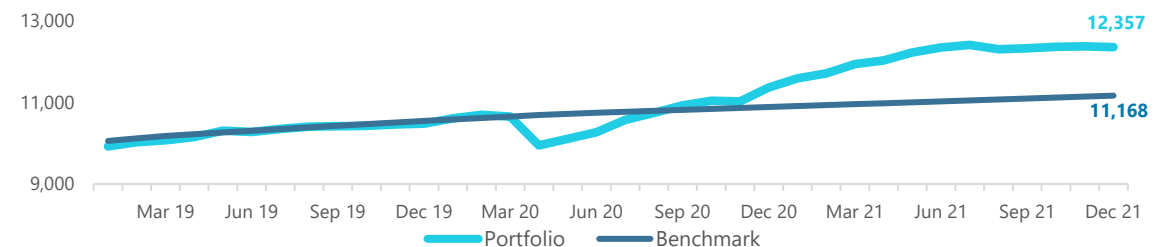
  

Universe data: Hedge Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>DK INSTITUTIONAL PARTNERS</b>	<b>0.2%</b>	<b>50</b>	<b>8.7%</b>	<b>45</b>	<b>7.3%</b>	<b>54</b>	--	--
Median	0.2%		7.9%		7.9%		--	

#### Calendar Year Returns



#### Growth of \$10,000



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



# Risk Reduction & Mitigation

## Diversified Hedge Funds

### HBK Multi-Strategy

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

#### Strategy

Relative value multi-strategy hedge fund. The strategy deploys capital opportunistically to relative value strategies such as convertible bond arbitrage, risk arbitrage, credit relative value, capital structure arbitrage, and equity long/short.

Inception Date: June 2018

#### Risk Statistics (since inception)

Standard Deviation	6.2%
Benchmark Standard Deviation	0.5%
Sharpe Ratio	0.76
Information Ratio	0.24
Beta	--
Tracking Error	6.3%

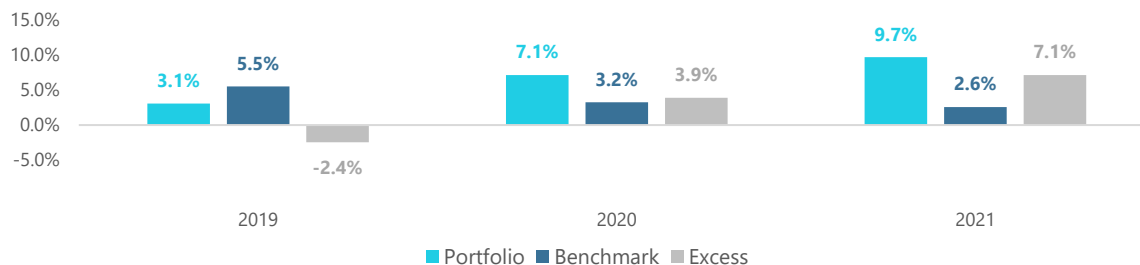
#### Performance (net all)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>HBK MULTI-STRATEGY</b>	<b>556.3</b>	<b>2.5%</b>	<b>9.7%</b>	<b>6.6%</b>	--
CUSTOM HEDGE FUND BM		0.6%	2.6%	3.8%	--
Risk Reduction & Mitigation Policy BM		0.5%	-0.5%	--	--

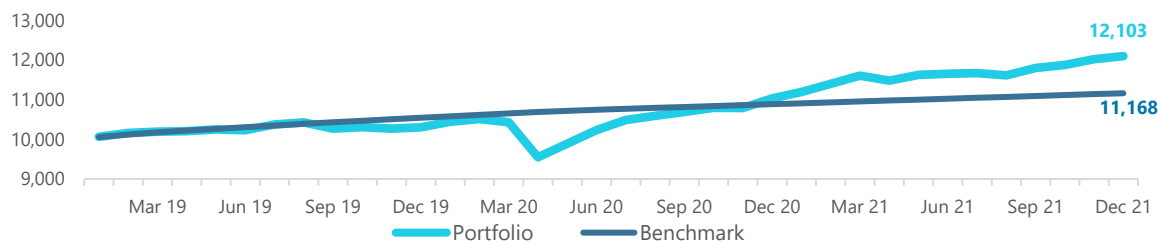
  

Universe data: Hedge Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>HBK MULTI-STRATEGY</b>	<b>2.5%</b>	<b>29</b>	<b>9.7%</b>	<b>42</b>	<b>6.6%</b>	<b>56</b>	--	--
Median	0.2%		7.9%		7.9%		--	

#### Calendar Year Returns



#### Growth of \$10,000



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

# Risk Reduction & Mitigation

## Diversified Hedge Funds

### Hudson Bay Fund

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

#### Strategy

Relative value multi-strategy hedge fund. The strategy deploys capital opportunistically to relative value strategies such as convertible bond arbitrage, risk arbitrage, credit relative value, capital structure arbitrage, and equity long/short.

Inception Date: July 2020

#### Risk Statistics (since inception)

Standard Deviation	5.7%
Benchmark Standard Deviation	0.0%
Sharpe Ratio	0.7
Information Ratio	0.7
Beta	--
Tracking Error	5.7%

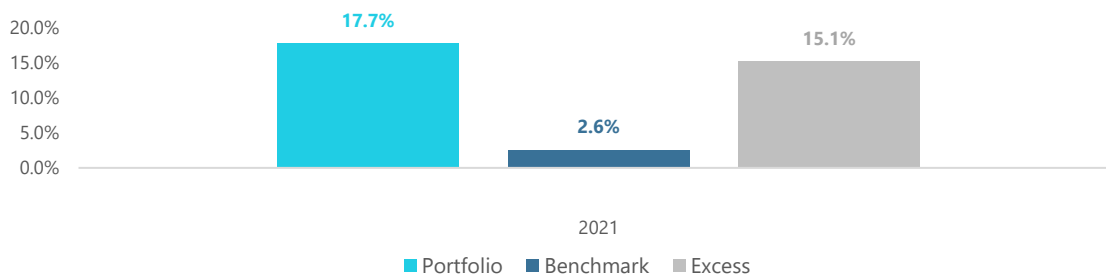
#### Performance (net all)<sup>1</sup>

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>HUDSON BAY FUND</b>	<b>631.2</b>	<b>1.4%</b>	<b>17.7%</b>	--	--
CUSTOM HEDGE FUND BM		0.6%	2.6%	--	--
Risk Reduction & Mitigation Policy BM		0.5%	-0.5%	--	--

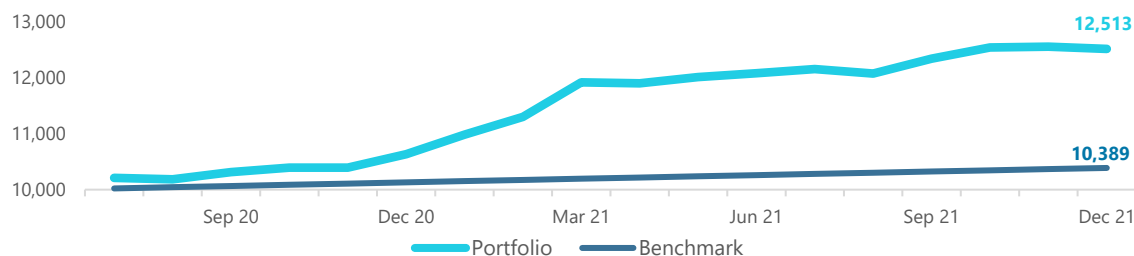
  

Universe data: Hedge Funds	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>HUDSON BAY FUND</b>	<b>1.4%</b>	<b>35</b>	<b>17.7%</b>	<b>26</b>	--	--	--	--
Median	0.2%		7.9%		--	--	--	

#### Calendar Year Returns



#### Growth of \$10,000



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

# private markets

# Summary

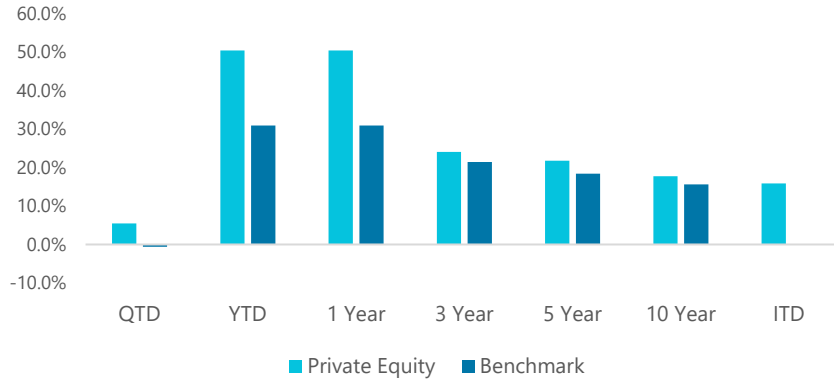
## Private Equity

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

### Performance (net)



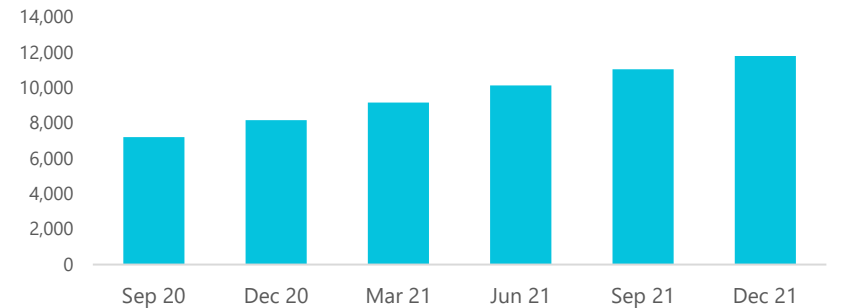
	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>Private Equity</b>	<b>5.4%</b>	<b>50.3%</b>	<b>50.3%</b>	<b>24.0%</b>	<b>21.8%</b>	<b>17.7%</b>	<b>15.8%</b>
Benchmark	-0.6%	30.9%	30.9%	21.4%	18.4%	15.6%	--
Excess	6.0%	19.4%	19.4%	2.6%	3.4%	2.1%	--

### Cumulative Return

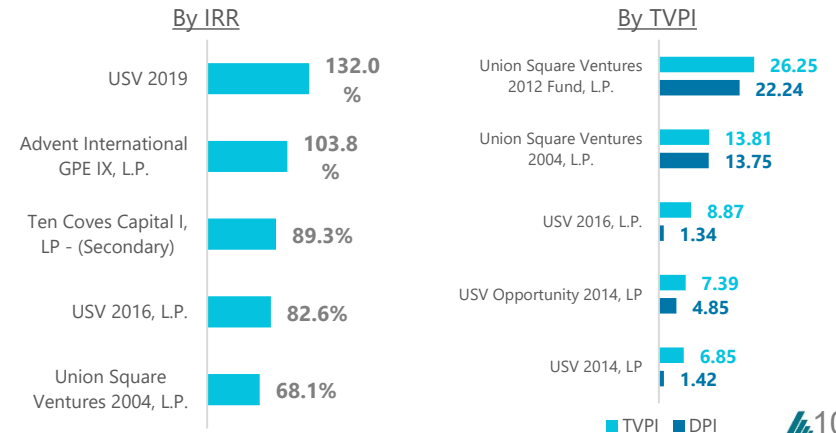


### Asset Growth (mm)

	QTD	1 Year	3 Year
Beginning Market Value	11,037	8,166	6,116
Net Cash Flow	148	-394	25
Gain/Loss	608	4,022	5,652
<b>Ending Market Value</b>	<b>11,793</b>	<b>11,793</b>	<b>11,793</b>



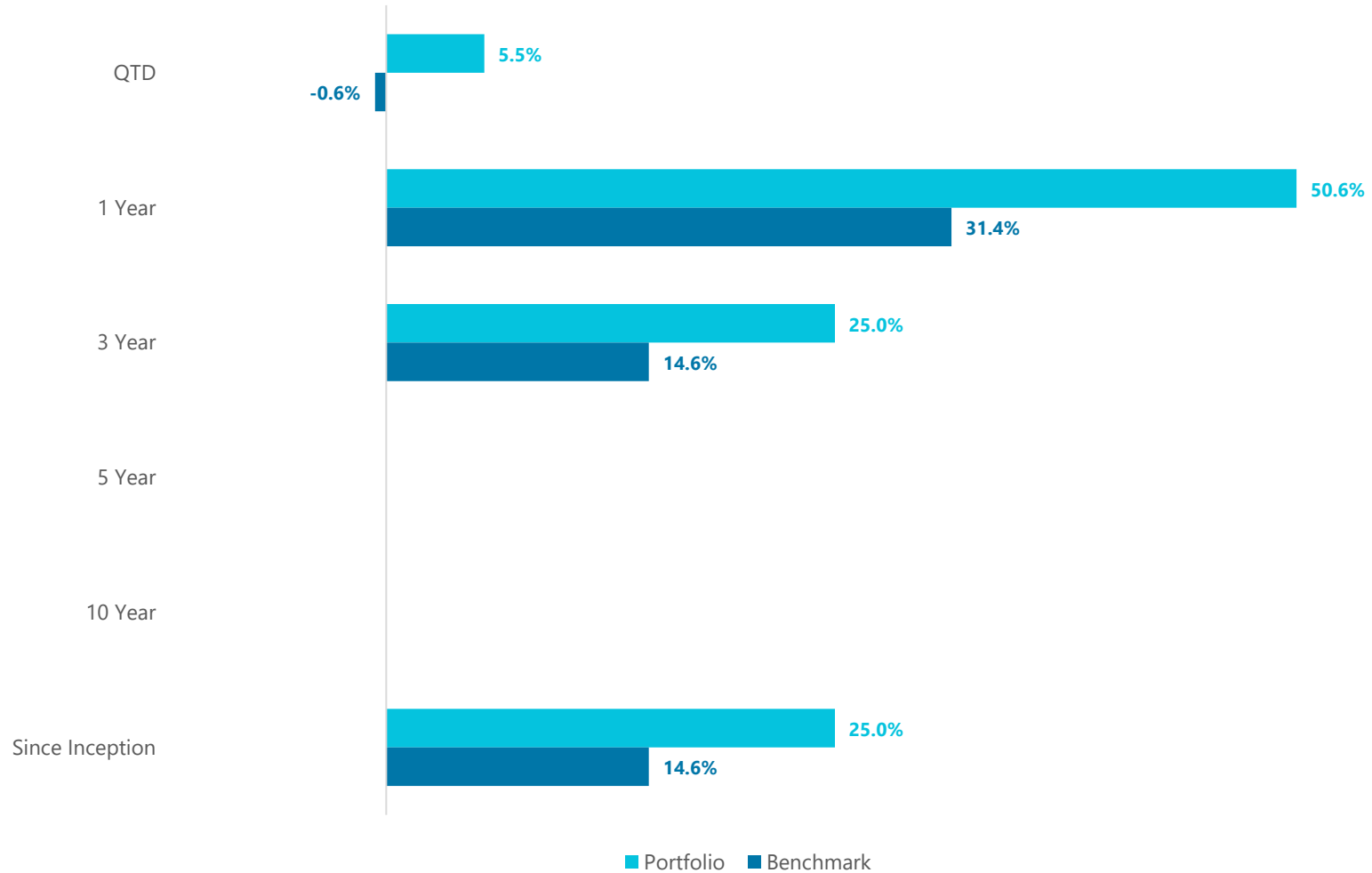
### Top Performing Investments (since inception)



# Historical Returns

Private Equity – Growth  
for the quarter ended December 31, 2021

## Time-Weighted Returns (net)

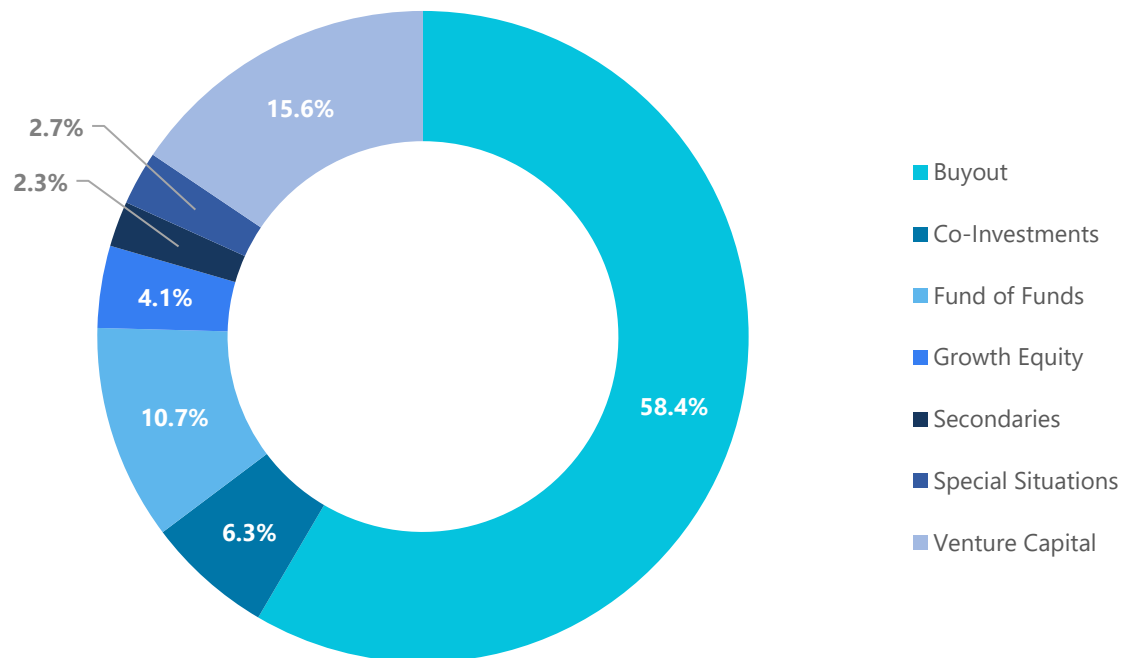


# Performance by Strategy

## Private Equity – Growth

for the quarter ended December 31, 2021

### By Strategy<sup>1,2</sup>



	Number of Investments <sup>2</sup>	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	192	13,196.7	11,651.7	13,255.4	6,769.5	20,024.9	8,373.2	1.14x	1.72x	14.2%	1.53
Co-Investments	10	1,053.5	978.4	846.6	729.7	1,576.3	597.8	0.85x	1.59x	18.2%	1.38
Fund of Funds	12	1,424.5	1,220.4	1,366.8	1,237.3	2,604.1	1,383.7	1.12x	2.13x	14.7%	1.42
Growth Equity	20	1,083.8	996.3	1,423.2	472.1	1,895.3	899.0	1.43x	1.90x	86.9%	1.66
Secondaries	14	465.3	373.4	279.9	261.7	541.6	168.2	0.75x	1.45x	17.7%	1.28
Special Situations	22	1,180.4	947.4	1,007.4	309.8	1,317.2	369.8	1.06x	1.39x	9.1%	1.11
Venture Capital	104	2,170.4	1,843.2	2,467.9	1,803.4	4,271.3	2,428.0	1.34x	2.32x	21.8%	2.01
<b>Total Growth Portfolio</b>	<b>374</b>	<b>20,574.7</b>	<b>18,010.9</b>	<b>20,647.2</b>	<b>11,583.4</b>	<b>32,230.6</b>	<b>14,219.8</b>	<b>1.15x</b>	<b>1.79x</b>	<b>16.6%</b>	<b>1.66</b>

1. Based on best available cash flow adjusted market values.

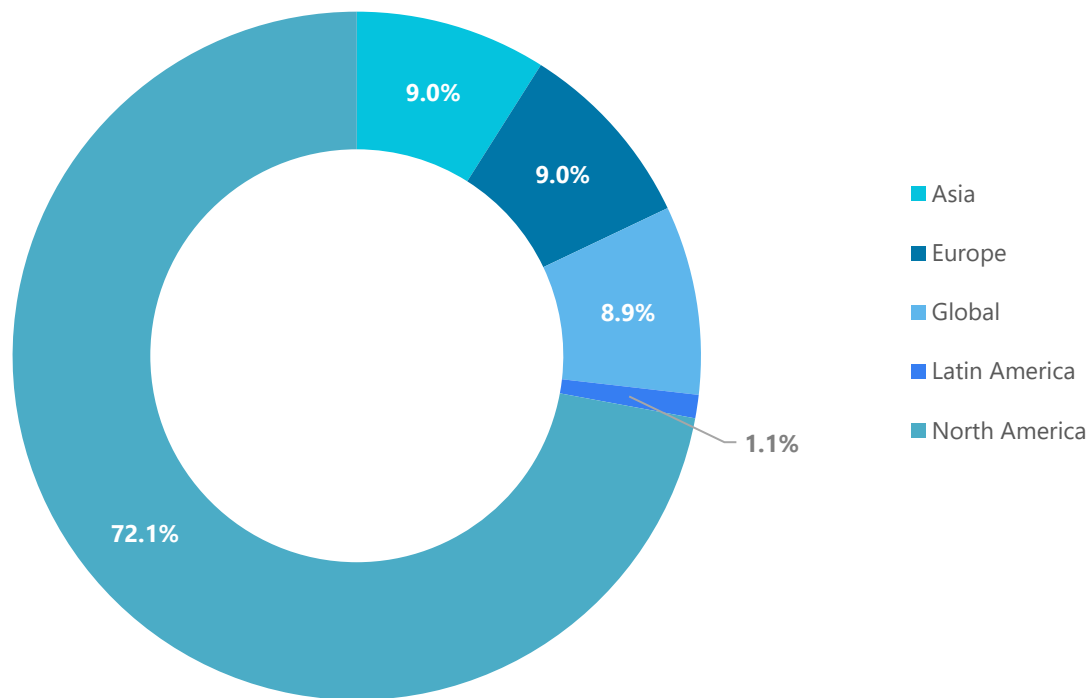
2. Investment counts for Co-Investments and Fund of Funds do not include underlying funds.

# Performance by Geography

## Private Equity – Growth

for the quarter ended December 31, 2021

### By Geography<sup>1,2</sup>



	Number of Investments <sup>2</sup>	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	793.0	649.6	305.6	1,040.4	1,346.0	696.5	0.47x	2.07x	21.6%	1.37
Europe	33	2,462.4	2,005.0	2,137.4	1,037.6	3,175.0	1,170.0	1.07x	1.58x	15.9%	1.32
Global	21	1,479.3	1,077.9	755.3	1,028.0	1,783.3	705.5	0.70x	1.65x	17.6%	1.32
Latin America	2	200.0	155.7	43.7	127.1	170.8	15.1	0.28x	1.10x	4.0%	0.76
North America	304	15,640.1	14,122.8	17,405.1	8,350.3	25,755.5	11,632.7	1.23x	1.82x	16.6%	1.68
<b>Total Growth Portfolio</b>	<b>374</b>	<b>20,574.7</b>	<b>18,010.9</b>	<b>20,647.2</b>	<b>11,583.4</b>	<b>32,230.6</b>	<b>14,219.8</b>	<b>1.15x</b>	<b>1.79x</b>	<b>16.6%</b>	<b>1.66</b>

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 December 31, 2021



Los Angeles County Employees Retirement Association

### By Vintage Year<sup>1,2,3</sup>

	Number of Investments <sup>2</sup>	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	944.0	2.0	945.9	290.7	1.44x	1.44x	7.3%	1.19	2nd
1999	21	364.1	369.7	436.6	0.1	436.7	67.0	1.18x	1.18x	3.4%	0.96	2nd
2000	25	375.7	387.3	575.0	0.2	575.2	187.9	1.48x	1.49x	8.7%	1.07	2nd
2001	15	415.1	442.4	834.2	3.6	837.8	395.4	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	311.6	339.2	700.6	1.2	701.8	362.7	2.07x	2.07x	21.3%	1.60	1st
2004	7	351.2	392.2	744.2	4.1	748.3	356.2	1.90x	1.91x	19.5%	1.58	1st
2005	15	510.8	506.2	1,038.6	2.7	1,041.3	535.1	2.05x	2.06x	13.3%	1.64	1st
2006	28	1,528.5	1,607.0	2,552.4	52.1	2,604.6	997.5	1.59x	1.62x	9.0%	1.25	2nd
2007	11	518.2	461.0	777.1	32.8	809.9	348.9	1.69x	1.76x	11.5%	1.19	N/A
2008	10	649.6	699.9	1,227.0	36.8	1,263.8	563.9	1.75x	1.81x	13.3%	1.21	2nd
2009	0	--	--	--	--	--	--	--	--	--	--	2nd
2010	2	450.0	468.0	622.2	366.9	989.1	521.1	1.33x	2.11x	17.0%	1.40	2nd
2011	7	391.0	412.3	781.8	194.9	976.6	564.3	1.90x	2.37x	19.3%	1.47	2nd
2012	7	435.0	571.3	1,015.1	191.0	1,206.1	634.8	1.78x	2.11x	22.8%	1.69	1st
2013	10	900.3	947.9	985.3	717.0	1,702.4	754.5	1.04x	1.80x	16.0%	1.23	2nd
2014	11	1,254.2	1,355.8	1,282.2	1,336.1	2,618.3	1,262.5	0.95x	1.93x	19.1%	1.32	2nd
2015	10	1,087.0	1,181.1	1,028.3	1,379.3	2,407.5	1,226.5	0.87x	2.04x	23.3%	1.38	2nd
2016	12	1,138.5	1,240.6	719.4	1,518.4	2,237.8	997.2	0.58x	1.80x	21.9%	1.21	2nd
2017	8	594.1	540.6	294.3	773.4	1,067.6	527.1	0.54x	1.97x	28.5%	1.36	2nd
2018	9	1,270.7	950.3	219.6	1,362.0	1,581.7	631.4	0.23x	1.66x	33.2%	1.27	2nd
2019	30	2,495.6	1,772.2	200.6	2,350.4	2,551.0	778.8	0.11x	1.43x	30.6%	1.12	2nd
2020	19	2,062.7	848.7	42.9	919.4	962.3	113.6	0.05x	1.13x	26.4%	1.04	2nd
2021	19	1,331.7	330.2	--	338.9	--	--	0.00x	1.03x	8.3%	0.98	2nd
<b>Total Growth Portfolio</b>	<b>374</b>	<b>20,574.7</b>	<b>18,010.9</b>	<b>20,647.2</b>	<b>11,583.4</b>	<b>32,230.6</b>	<b>14,219.8</b>	<b>1.15x</b>	<b>1.79x</b>	<b>16.6%</b>	<b>1.66</b>	

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. Fund benchmark data provided by Burgiss Private IQ as of the reporting date. 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.

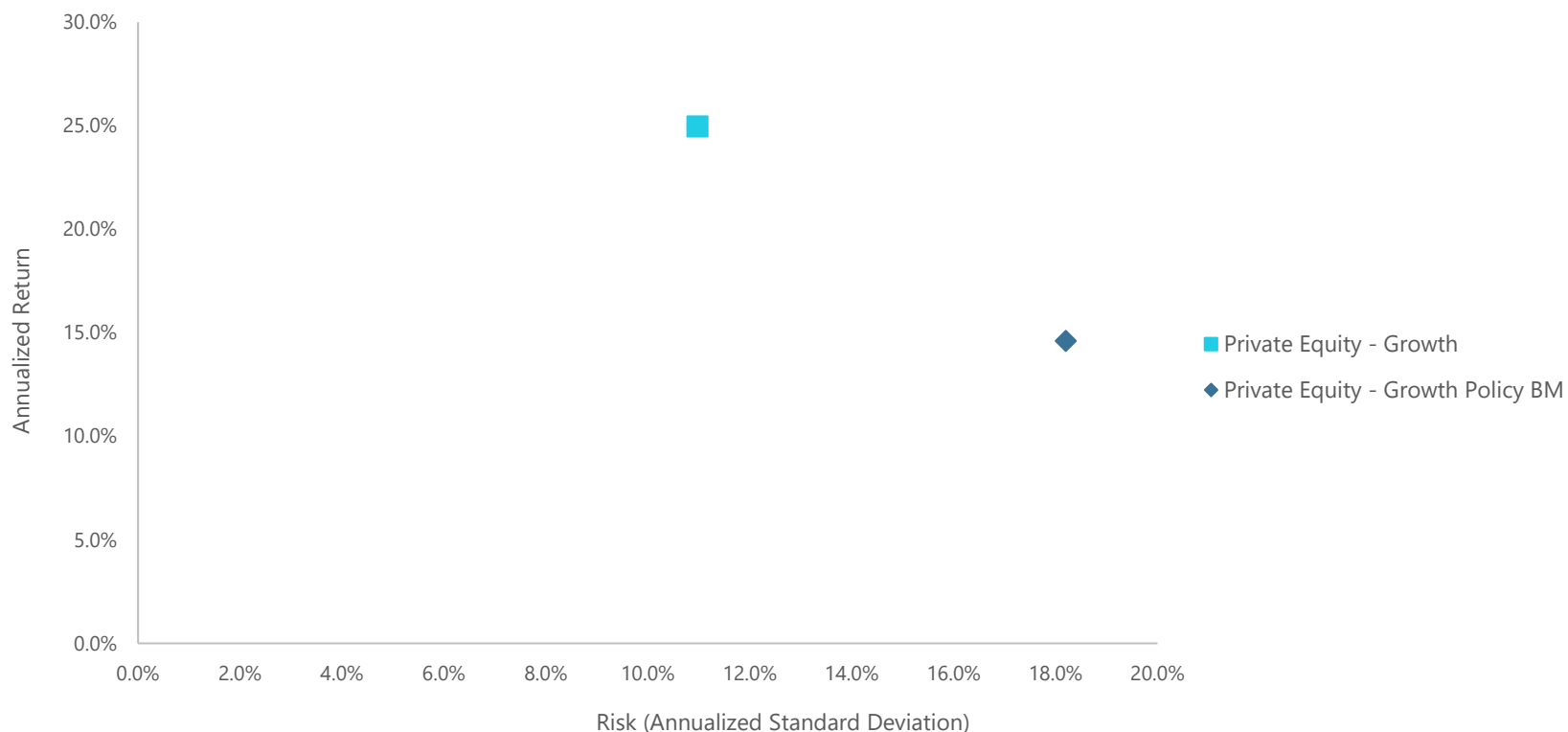


# Risk vs. Return

## Private Equity – Growth

for the quarter ended December 31, 2021

### Since Inception (Annualized)<sup>1</sup>



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
<b>Private Equity - Growth</b>	<b>25.0%</b>	<b>11.0%</b>				
Private Equity - Growth Policy BM	14.6%	18.2%	2.03	0.57	0.18	18.6%

1. Composite risk statistics are relative to the policy benchmark.

# Annual Cash Flow Activity

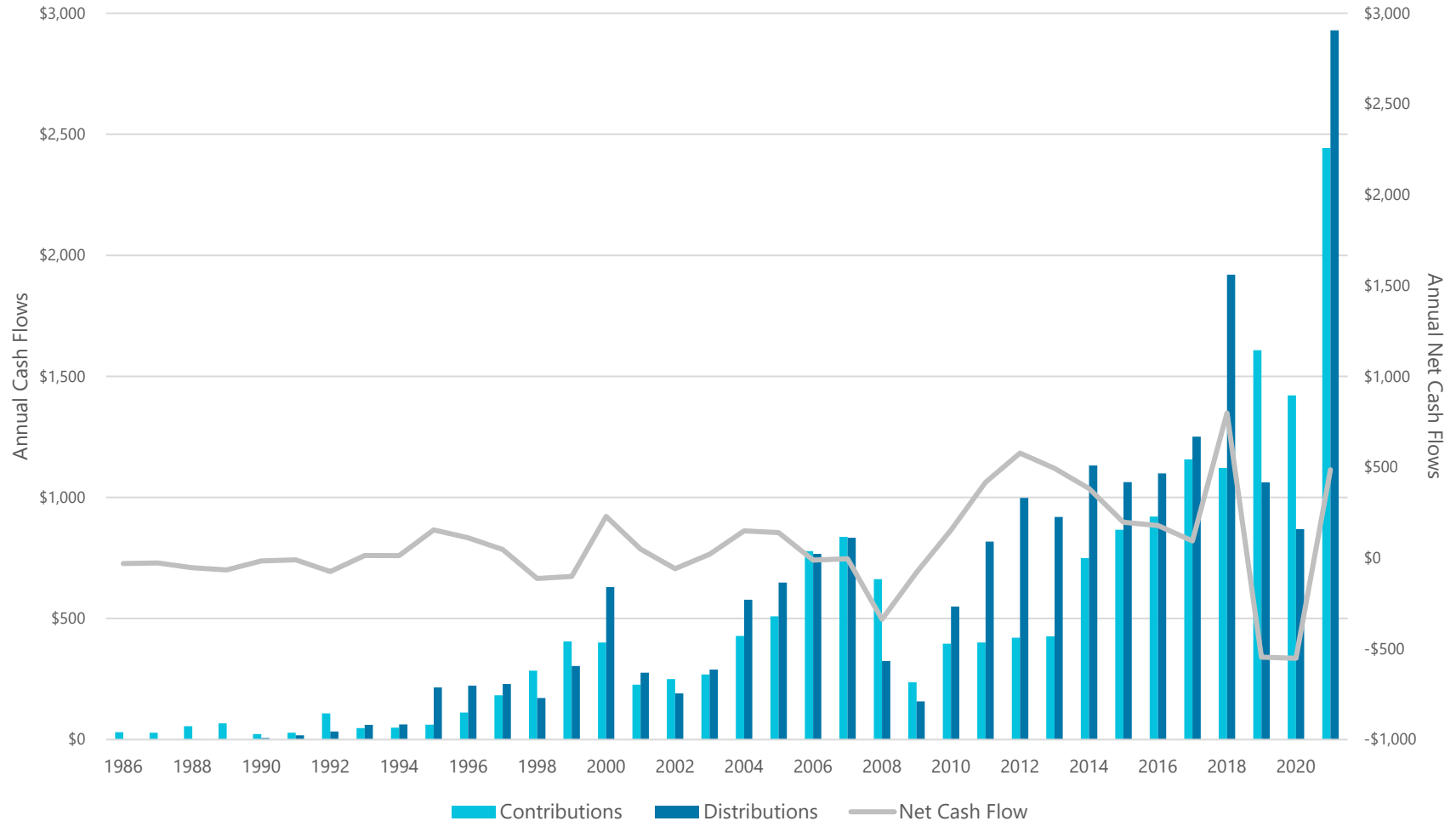
## Private Equity

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

### By Year (mm)



# Summary

## Real Estate

for the quarter ended December 31, 2021



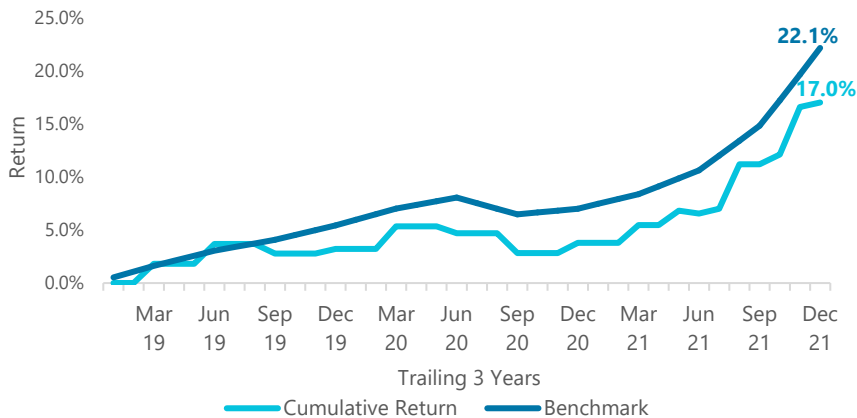
Los Angeles County Employees Retirement Association

### Performance (net)



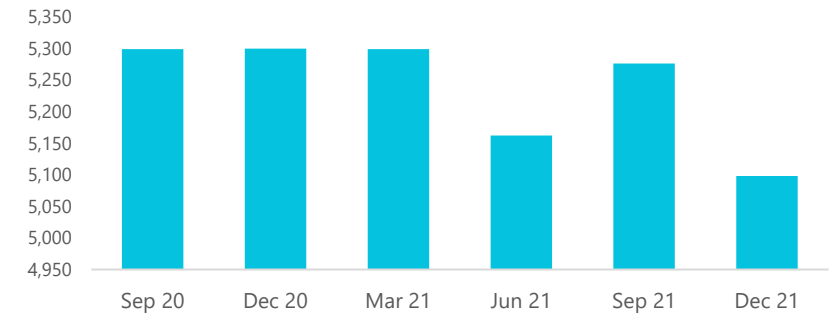
	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>Real Estate</b>	<b>5.2%</b>	<b>12.7%</b>	<b>12.7%</b>	<b>5.4%</b>	<b>6.6%</b>	<b>8.0%</b>	<b>7.7%</b>
Benchmark	6.4%	14.1%	14.1%	6.9%	7.2%	9.4%	--
Excess	-1.1%	-1.4%	-1.4%	-1.5%	-0.6%	-1.4%	--

### Cumulative Return

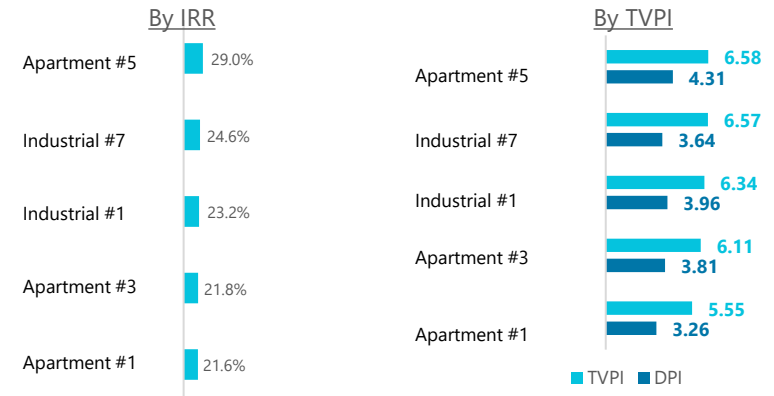


### Asset Growth (mm)

	QTD	1 Year	3 Year
Beginning Market Value	5,277	5,300	6,417
Net Cash Flow	-449	-836	-2,199
Gain/Loss	271	634	880
<b>Ending Market Value</b>	<b>5,098</b>	<b>5,098</b>	<b>5,098</b>



### Top Performing Investments (since inception)<sup>1</sup>



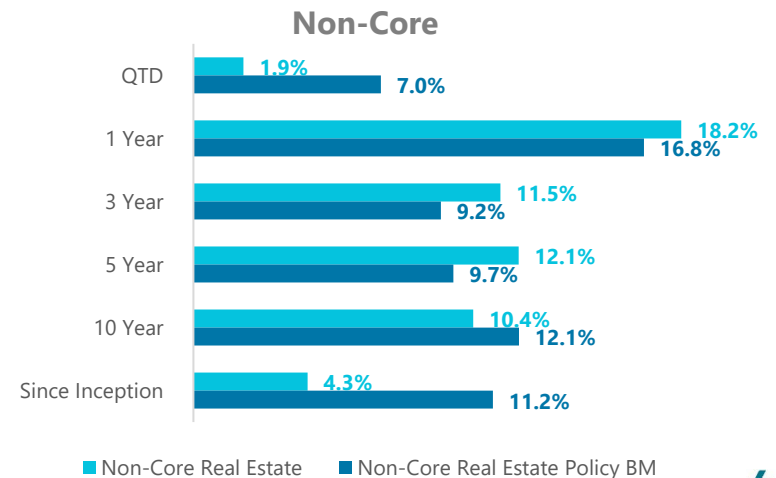
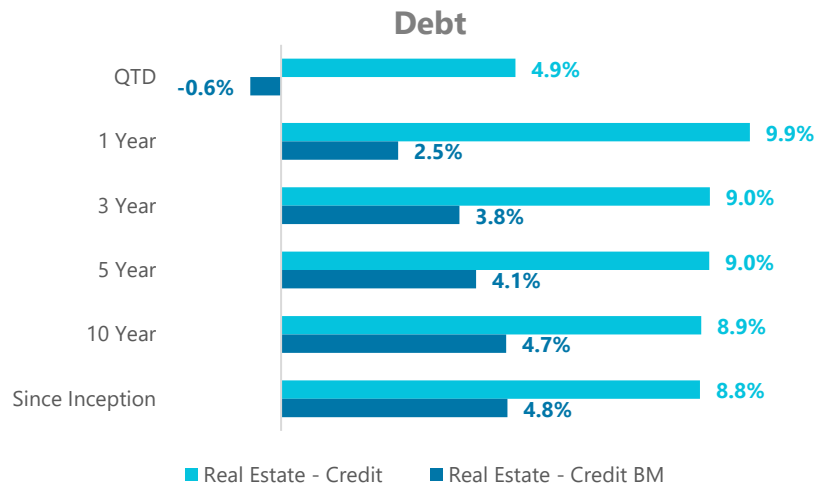
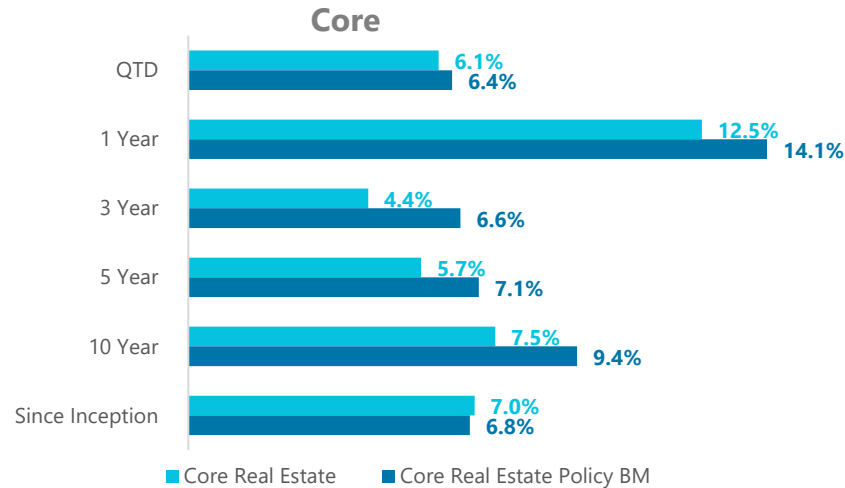
1. Property names removed due to confidentiality reasons.

# Historical Returns

## Real Estate

for the quarter ended December 31, 2021

### Time-Weighted Returns (net)

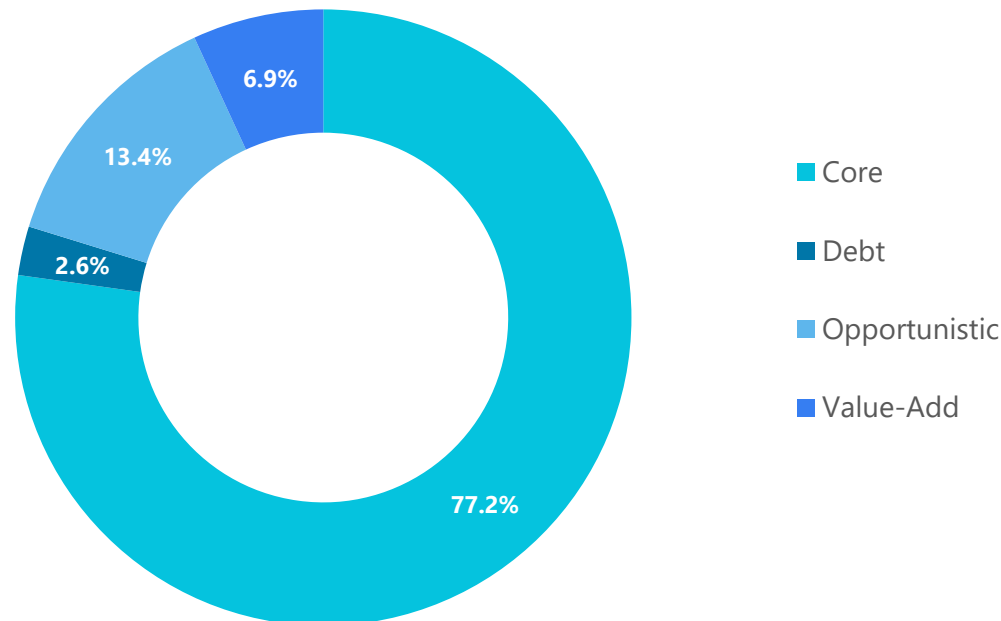


# Performance by Strategy

Real Estate

for the quarter ended December 31, 2021

## By Strategy<sup>1,2</sup>



	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	94	438.7	8,922.3	8,644.4	3,806.8	12,451.1	3,528.8	0.97x	1.40x	8.3%	0.99
Debt	12	0.0	581.2	498.2	126.4	624.6	43.4	0.86x	1.07x	8.5%	1.03
Opportunistic	23	1,012.5	1,308.4	1,045.5	658.8	1,704.3	395.9	0.80x	1.30x	6.9%	0.89
Value-Add	13	480.3	567.8	86.8	338.7	425.5	(142.3)	0.15x	0.75x	-8.0%	0.43
<b>Total Real Estate</b>	<b>142</b>	<b>1,931.5</b>	<b>11,379.7</b>	<b>10,274.9</b>	<b>4,930.7</b>	<b>15,205.5</b>	<b>3,825.8</b>	<b>0.90x</b>	<b>1.34x</b>	<b>7.7%</b>	<b>0.95</b>

1. Based on best available cash flow adjusted market values and includes only active investments.

2. Commitment amounts reflect only commingled fund investments.

# Performance by Property Type

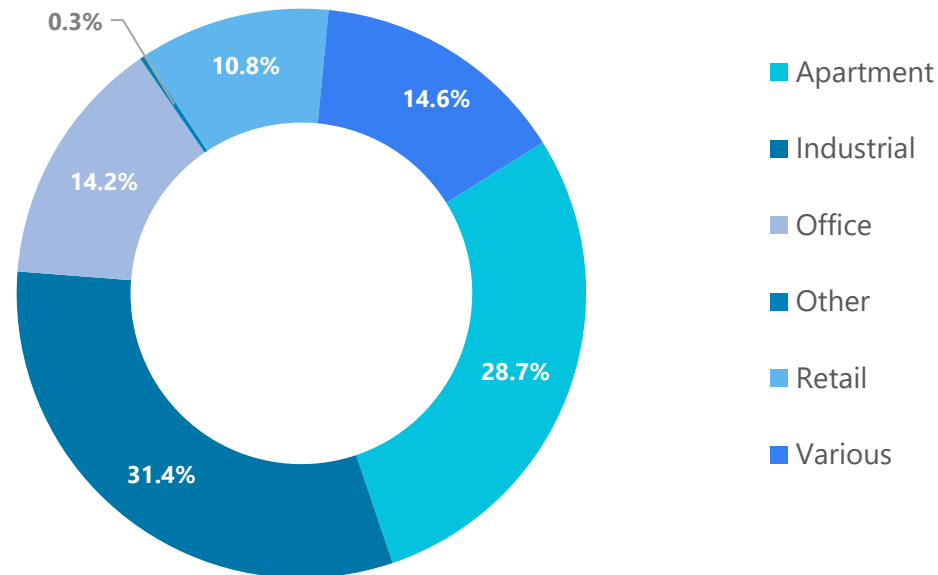
Real Estate

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## By Property Type<sup>1,2,3</sup>



	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	51	384.0	4,086.2	3,946.6	1,414.8	5,361.4	1,275.2	0.97x	1.31x	8.1%	0.94
Industrial	25	238.7	1,762.2	1,357.4	1,549.3	2,906.7	1,144.5	0.77x	1.65x	12.3%	1.28
Office	27	0.0	2,812.7	2,889.3	700.0	3,589.3	776.5	1.03x	1.28x	6.7%	1.04
Other	4	100.0	170.4	182.5	14.8	197.3	26.9	1.07x	1.16x	3.3%	0.73
Retail	17	0.0	1,568.8	1,573.9	532.8	2,106.8	537.9	1.00x	1.34x	7.0%	0.78
Various	18	1,208.8	979.3	325.2	718.9	1,044.1	64.8	0.33x	1.07x	1.5%	0.63
<b>Total Real Estate</b>	<b>142</b>	<b>1,931.5</b>	<b>11,379.7</b>	<b>10,274.9</b>	<b>4,930.7</b>	<b>15,205.5</b>	<b>3,825.8</b>	<b>0.90x</b>	<b>1.34x</b>	<b>7.7%</b>	<b>0.95</b>

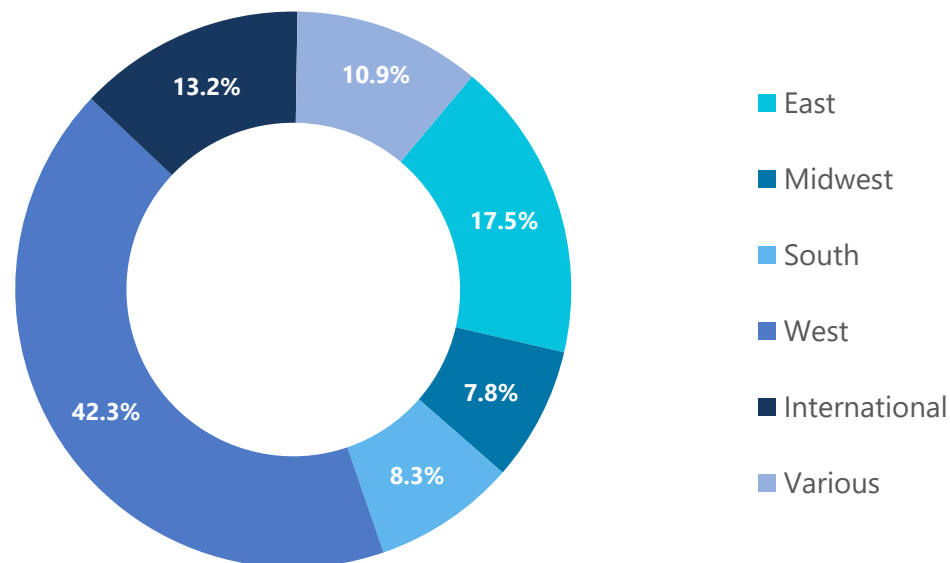
1. Based on best available cash flow adjusted market values and includes only active investments.
2. Commitment amounts reflect only commingled fund investments.
3. Various refers to commingled fund investments with more than one property type; Other refers to hotel.

# Performance by Geography

## Real Estate

for the quarter ended December 31, 2021

### By Geography (US NCREIF)<sup>1,2</sup>



	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	36	0.0	3,584.5	3,654.1	863.8	4,517.9	933.4	1.02x	1.26x	6.82%	0.85
Midwest	13	0.0	675.3	460.6	384.9	845.5	170.2	0.68x	1.25x	5.45%	0.79
South	19	0.0	1,656.2	1,821.6	409.3	2,230.9	574.7	1.10x	1.35x	9.01%	0.93
West	51	384.0	3,990.7	3,660.9	2,085.7	5,746.6	1,755.9	0.92x	1.44x	8.87%	1.18
International	13	740.6	830.0	388.7	651.0	1,039.7	209.7	0.47x	1.25x	5.54%	0.77
Various	10	806.9	643.0	289.0	536.1	825.0	182.0	0.45x	1.28x	5.44%	0.76
<b>Total Real Estate</b>	<b>142</b>	<b>1,931.5</b>	<b>11,379.7</b>	<b>10,274.9</b>	<b>4,930.7</b>	<b>15,205.5</b>	<b>3,825.8</b>	<b>0.90x</b>	<b>1.34x</b>	<b>7.73%</b>	<b>0.95</b>

1. Based on best available cash flow adjusted market values and includes only active investments.

2. Commitment amounts reflect only commingled fund investments.

# Performance by Vintage Year

## Real Estate

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

### By Vintage Year<sup>1,2,3</sup>

	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	292.5	120.5	413.1	163.1	1.17x	1.65x	6.3%	4.37	2nd
1991	3	0.0	32.5	120.2	75.1	195.3	162.8	3.70x	6.01x	12.2%	12.75	4TH
1992	0	0.0	--	--	--	--	--	--	--	--	--	N/A
1993	0	0.0	--	--	--	--	--	--	--	--	--	N/A
1994	1	0.0	15.2	65.7	34.5	100.2	85.0	4.31x	6.58x	12.9%	1.36	3rd
1995	1	0.0	38.9	108.0	74.0	182.0	143.1	2.77x	4.68x	11.7%	1.19	3rd
1996	1	0.0	23.9	38.0	31.1	69.2	45.2	1.59x	2.89x	7.7%	0.76	4TH
1997	1	0.0	18.2	66.3	53.3	119.6	101.4	3.64x	6.57x	15.7%	1.84	1st
1998	2	0.0	367.4	557.0	55.1	612.1	244.7	1.52x	1.67x	8.1%	0.77	3rd
1999	1	0.0	80.9	203.8	0.0	203.8	122.9	2.52x	2.52x	9.6%	0.90	3rd
2000	1	0.0	203.2	275.7	(0.0)	275.7	72.5	1.36x	1.36x	7.9%	0.78	4TH
2001	1	0.0	142.7	74.8	80.6	155.4	12.7	0.52x	1.09x	3.0%	0.59	4TH
2002	0	0.0	--	--	--	--	--	--	--	--	--	N/A
2003	1	0.0	142.6	129.9	72.8	202.7	60.1	0.91x	1.42x	4.6%	0.68	3rd
2004	0	0.0	--	--	--	--	--	--	--	--	--	N/A
2005	1	0.0	116.3	119.6	(0.0)	119.6	3.3	1.03x	1.03x	0.5%	0.64	2nd
2006	0	0.0	--	--	--	--	--	--	--	--	--	N/A
2007	3	40.0	454.3	339.6	67.4	407.0	(47.2)	0.75x	0.90x	-4.8%	0.54	3rd
2008	1	150.0	150.0	93.1	3.4	96.5	(53.4)	0.62x	0.64x	-5.7%	0.34	4TH
2009	1	19.7	22.2	28.2	0.5	28.7	6.5	1.27x	1.29x	8.2%	0.84	3rd
2010	1	100.0	97.1	135.6	17.5	153.1	56.0	1.40x	1.58x	9.3%	0.88	3rd
2011	4	18.2	206.9	114.9	38.7	153.6	(53.3)	0.56x	0.74x	-19.0%	0.31	4TH
2012	5	134.0	733.9	542.6	150.0	692.5	(41.4)	0.74x	0.94x	-1.5%	0.65	4TH
2013	8	100.0	524.1	594.6	168.3	762.9	238.8	1.13x	1.46x	9.0%	0.98	3rd
2014	19	270.6	1,074.8	894.1	641.1	1,535.2	460.4	0.83x	1.43x	8.1%	0.99	3rd
2015	13	0.0	1,394.9	1,198.3	629.4	1,827.7	432.9	0.86x	1.31x	11.7%	1.13	2nd
2016	10	150.0	549.5	350.0	446.6	796.5	247.0	0.64x	1.45x	13.4%	1.09	2nd
2017	15	181.9	1,430.5	881.7	799.0	1,680.7	250.3	0.62x	1.17x	7.3%	0.92	3rd
2018	12	150.0	399.0	195.6	290.4	486.1	87.0	0.49x	1.22x	9.9%	0.95	3rd
2019	30	431.9	2,794.1	2,839.7	984.1	3,823.8	1,029.7	1.02x	1.37x	9.0%	0.96	2nd
2020	3	0.0	77.5	15.3	58.6	73.9	(3.6)	0.20x	0.95x	-2.7%	0.83	3rd
2021	2	185.3	39.4	0.0	38.6	38.6	(0.8)	0.00x	0.98x	-4.4%	0.85	3rd
<b>Total Real Estate</b>	<b>142</b>	<b>1,931.5</b>	<b>11,379.7</b>	<b>10,274.9</b>	<b>4,930.7</b>	<b>15,205.5</b>	<b>3,825.8</b>	<b>0.90x</b>	<b>1.34x</b>	<b>7.7%</b>	<b>0.95</b>	

1. Based on best available cash flow adjusted market values.
2. Commitment amounts reflect only commingled fund investments.
3. Fund benchmark data provided by Burgiss Private IQ as of the reporting date. Quartile rankings exclude IMAs.



# Leverage Exposure

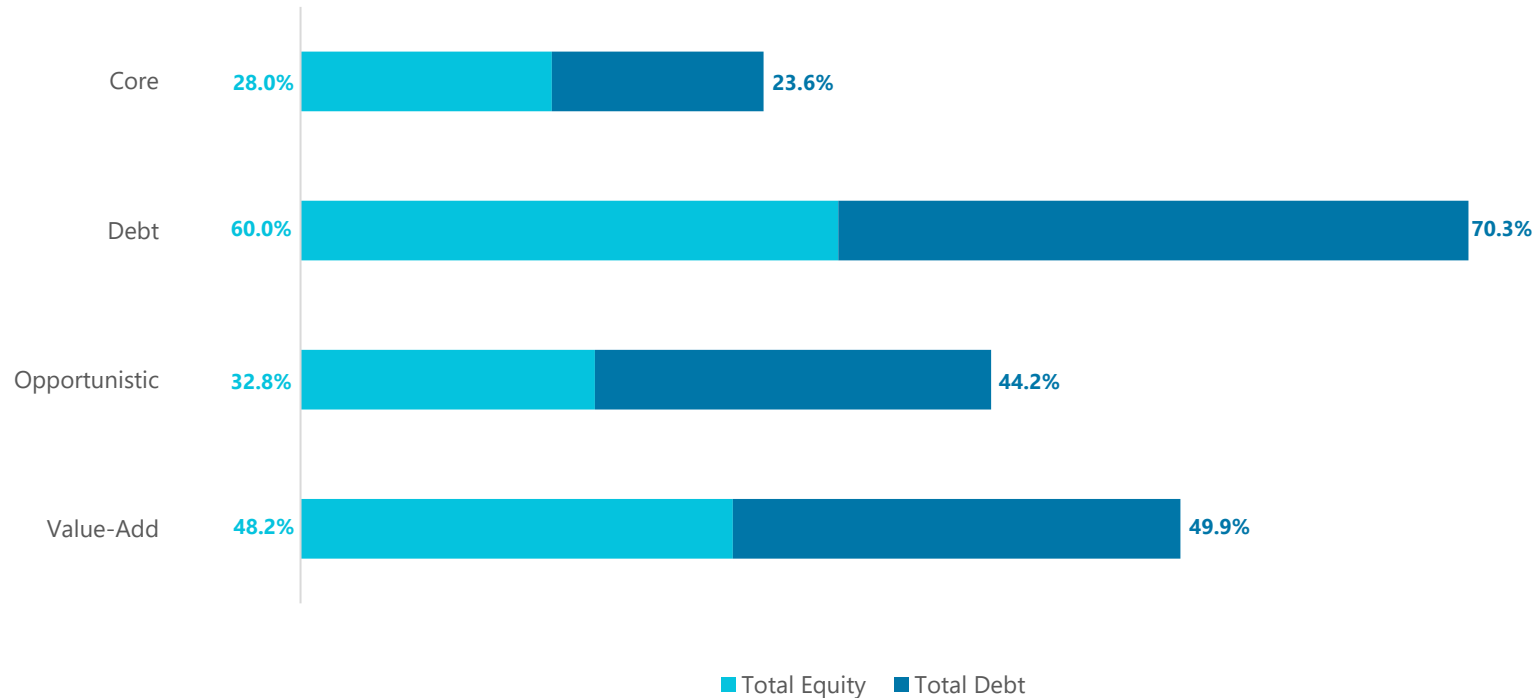
## Real Estate

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

### Leverage Exposure<sup>1,2</sup>



	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	94	438.7	8,922.3	8,574.1	3,877.0	12,451.1	3,528.8	0.96x	1.40x	8.3%	0.99	6,889.0	8,169.3	23.6%	28.0%
Debt	12	0.0	581.2	498.2	126.4	624.6	43.4	0.86x	1.07x	8.5%	1.03	192.0	163.8	70.3%	60.0%
Opportunistic	23	1,012.5	1,308.2	1,046.2	658.8	1,705.1	396.9	0.80x	1.30x	6.9%	0.89	7,457.2	5,539.4	44.2%	32.8%
Value-Add	13	480.3	567.8	86.8	338.7	425.5	(142.3)	0.15x	0.75x	-8.0%	0.43	74,747.3	72,224.5	49.9%	48.2%
<b>Total Real Estate</b>	<b>142</b>	<b>1,931.5</b>	<b>11,379.5</b>	<b>10,205.4</b>	<b>5,000.9</b>	<b>15,206.3</b>	<b>3,826.8</b>	<b>0.90x</b>	<b>1.34x</b>	<b>7.7%</b>	<b>0.95</b>	<b>89,285.5</b>	<b>86,097.0</b>	<b>45.6%</b>	<b>43.9%</b>

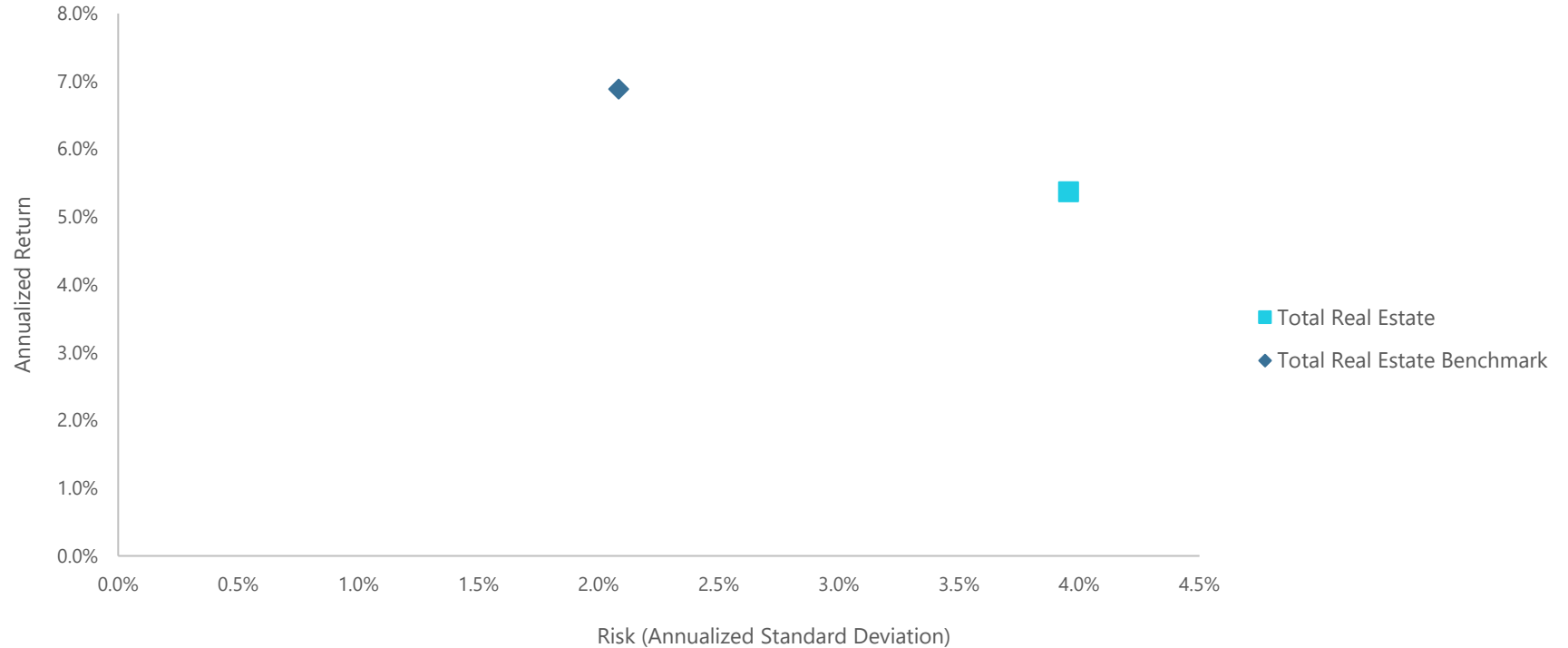
1. Based on best available cash flow adjusted market values and includes only active investments.  
 2. Commitment amounts reflect only commingled fund investments.

# Risk vs. Return

## Real Estate

for the quarter ended December 31, 2021

### 3 Year (Annualized)<sup>1</sup>



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
<b>Total Real Estate</b>	<b>5.4%</b>	<b>4.0%</b>				
Total Real Estate Benchmark	6.9%	2.1%	1.09	(0.45)	0.94	11.8%

1. Composite risk statistics are relative to the policy benchmark.

# Annual Cash Flow Activity

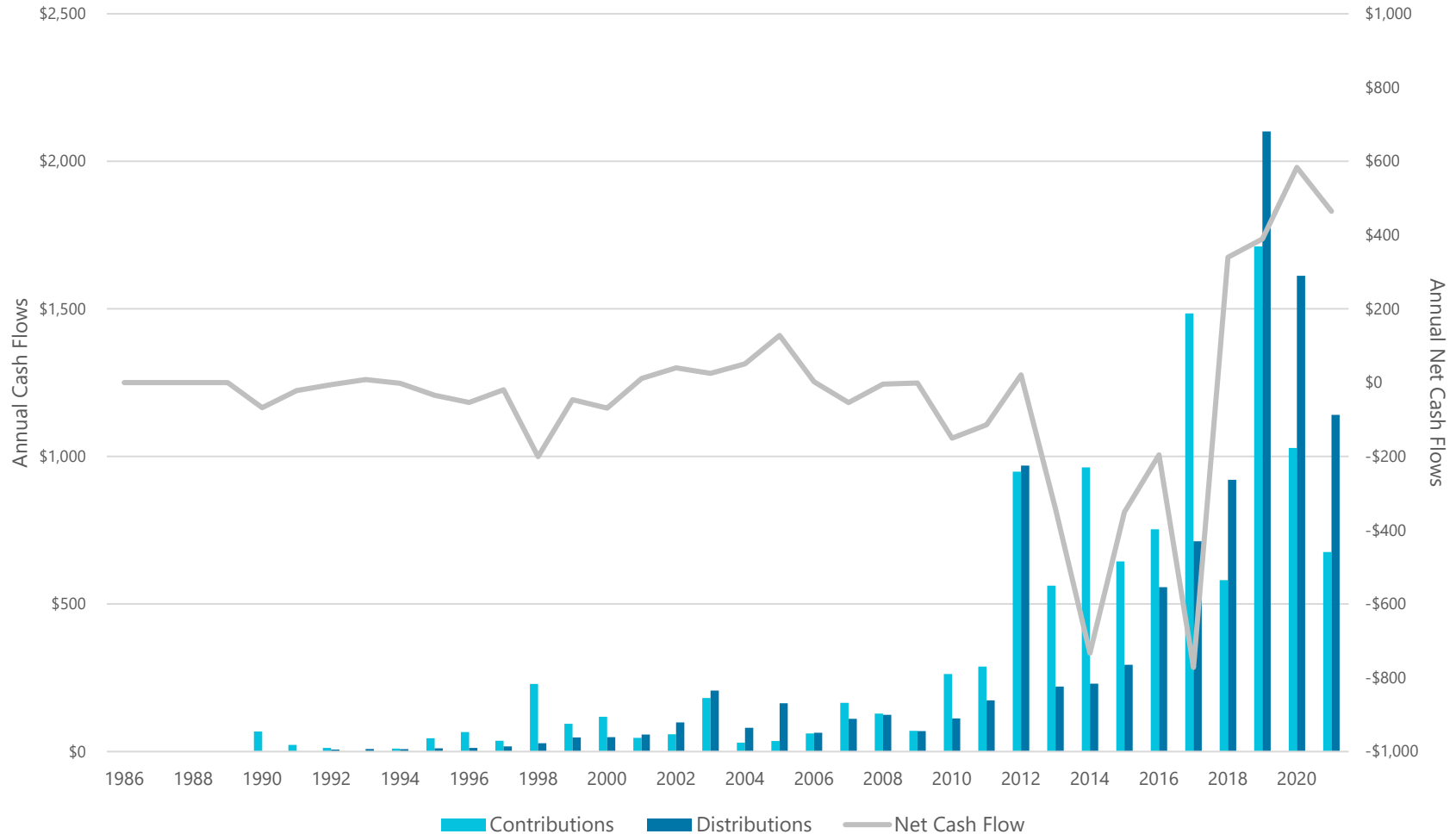
Real Estate

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

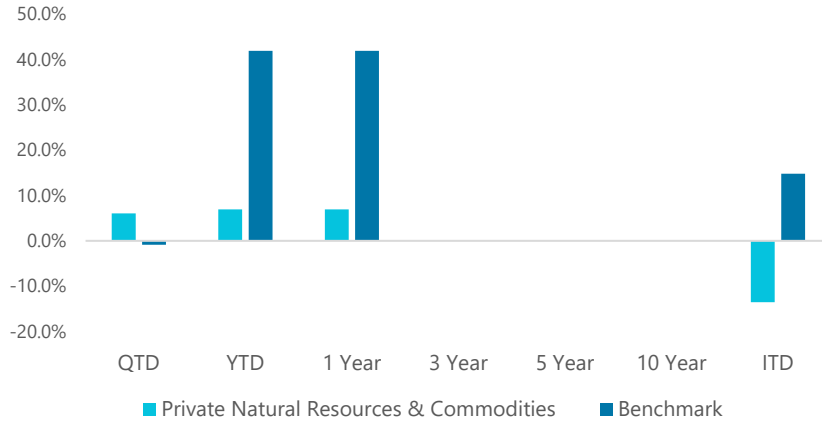
## By Year (mm)



# Summary

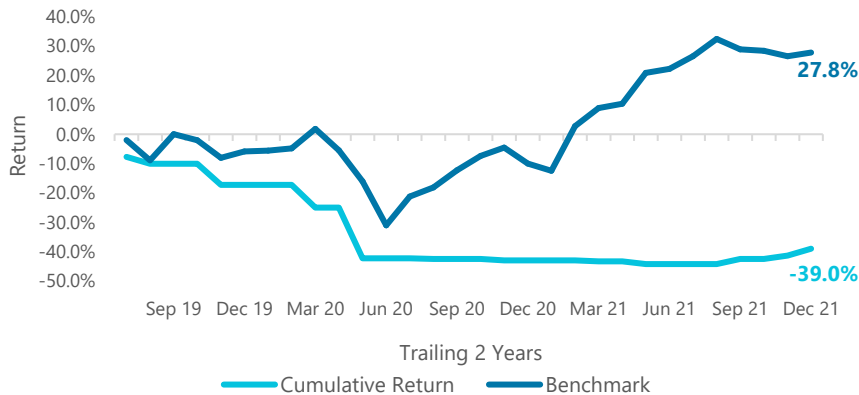
Private Real Assets ex. Real Estate  
for the quarter ended December 31, 2021

## Performance (net)



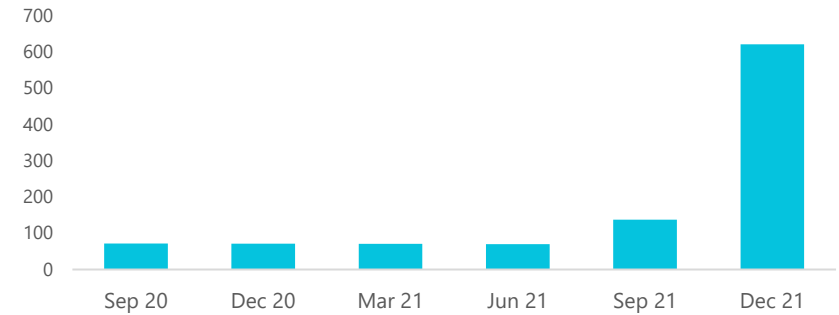
	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
Private Natural Resources & Commodities	6.0%	6.9%	6.9%	--	--	--	-13.6%
Benchmark	-0.9%	41.9%	41.9%	--	--	--	14.8%
Excess	6.9%	-35.0%	-35.0%	--	--	--	-28.4%

## Cumulative Return



## Asset Growth (mm)

	QTD	1 Year	3 Year
Beginning Market Value	138	71	--
Net Cash Flow	474	540	--
Gain/Loss	9	9.9	--
<b>Ending Market Value</b>	<b>621</b>	<b>621</b>	<b>--</b>



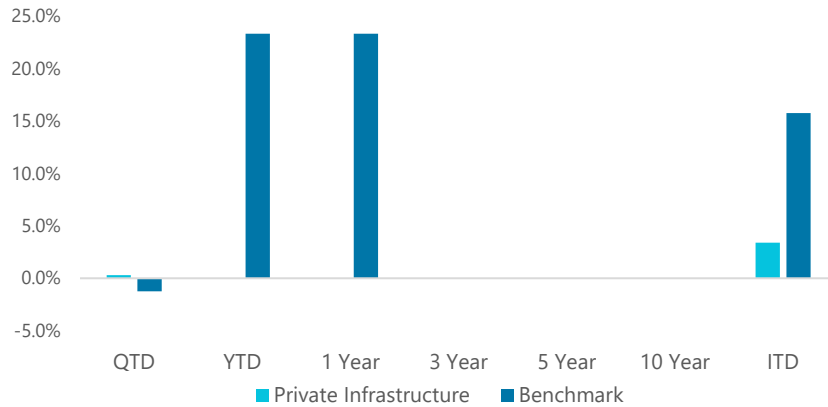
## Top Performing Investments (since inception)



# Summary

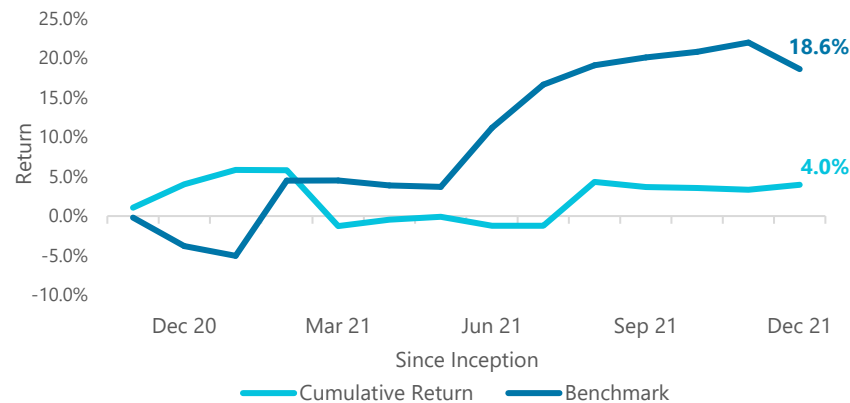
Private Real Assets ex. Real Estate  
for the quarter ended December 31, 2021

## Performance (net)



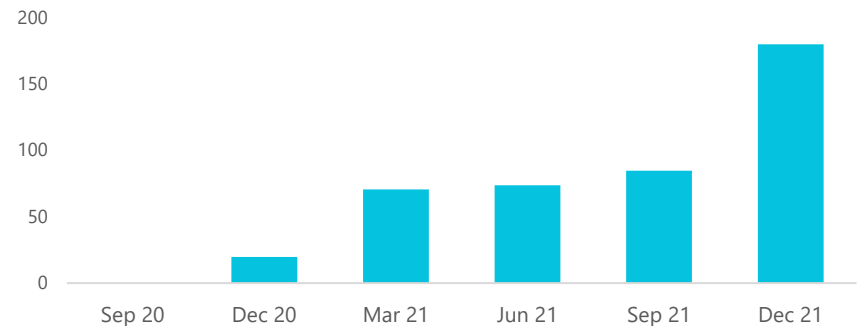
	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>Private Infrastructure</b>	<b>0.3%</b>	<b>-0.1%</b>	<b>-0.1%</b>	--	--	--	<b>3.4%</b>
Benchmark	-1.2%	23.3%	23.3%	--	--	--	15.7%
Excess	1.5%	-23.4%	-23.4%	--	--	--	-12.4%

## Cumulative Return

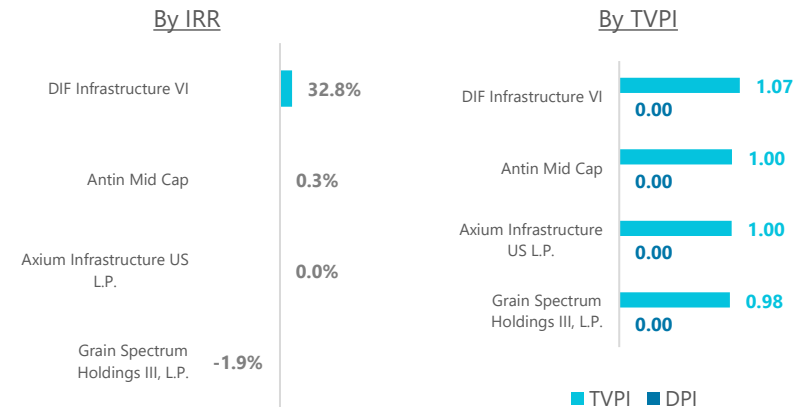


## Asset Growth (mm)

	QTD	1 Year	3 Year
Beginning Market Value	85	20	--
Net Cash Flow	95	160	--
Gain/Loss	0	0	--
<b>Ending Market Value</b>	<b>180</b>	<b>180</b>	<b>--</b>



## Top Performing Investments (since inception)

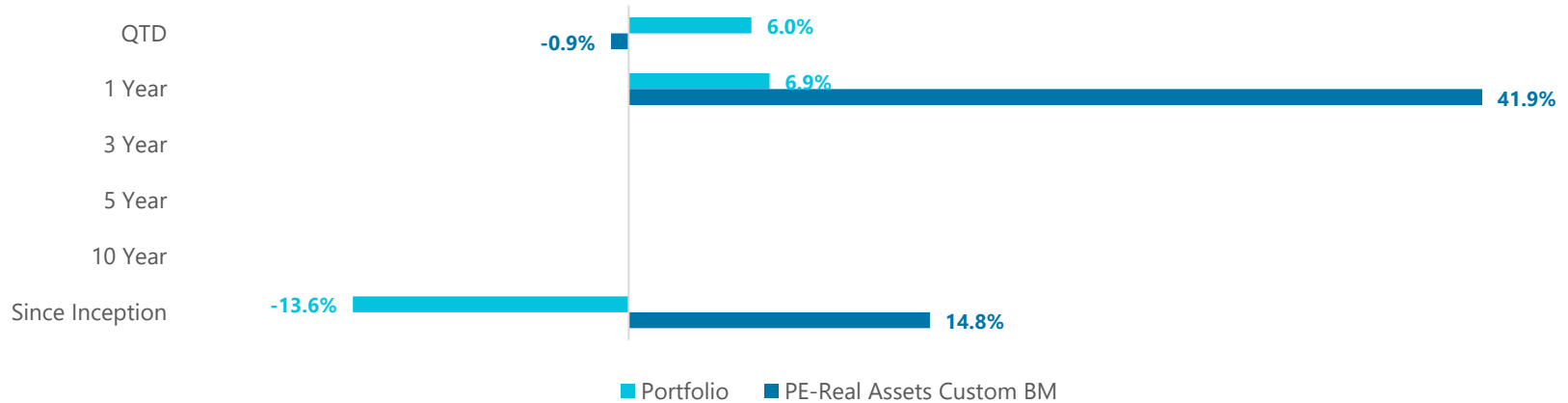


# Historical Returns

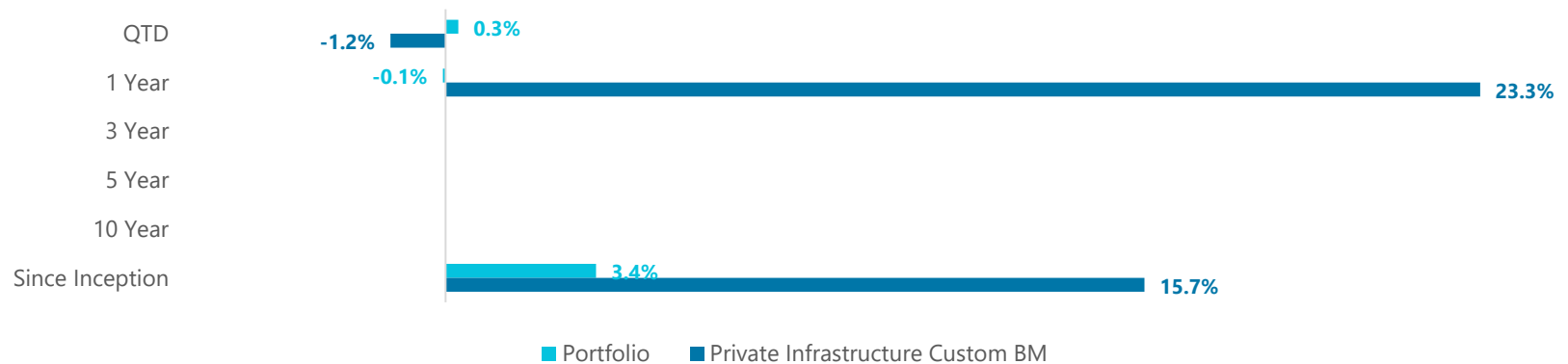
Private Real Assets ex. Real Estate  
for the quarter ended December 31, 2021

## Time-Weighted Returns (net)

### Private Natural Resources & Commodities



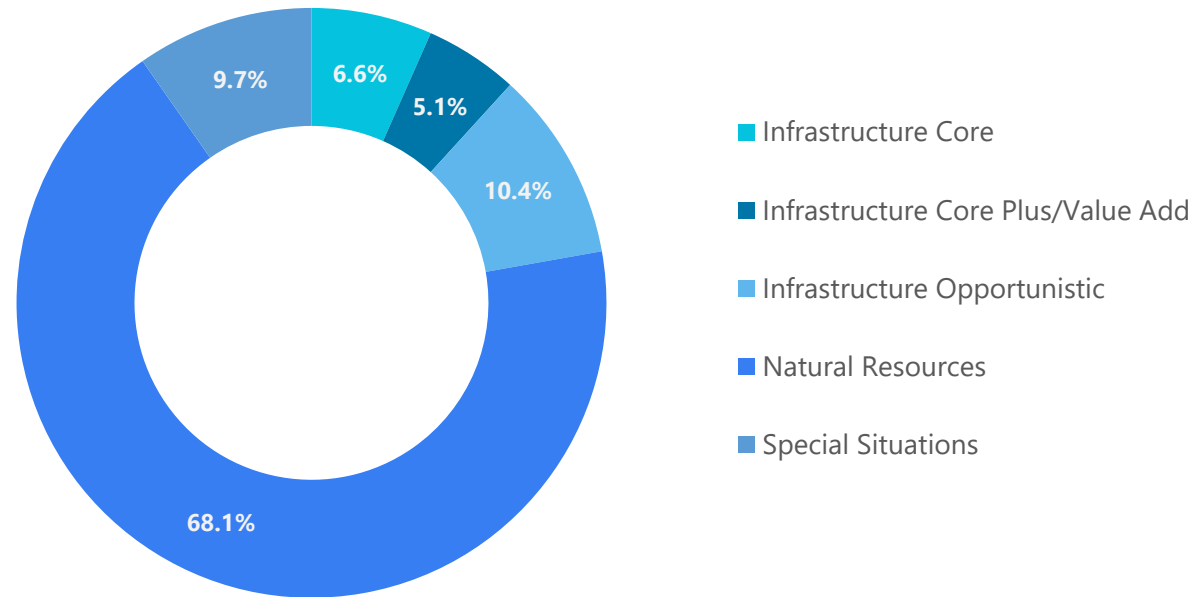
### Private Infrastructure



# Performance by Strategy

Private Real Assets ex. Real Estate  
for the quarter ended December 31, 2021

## By Strategy<sup>1</sup>



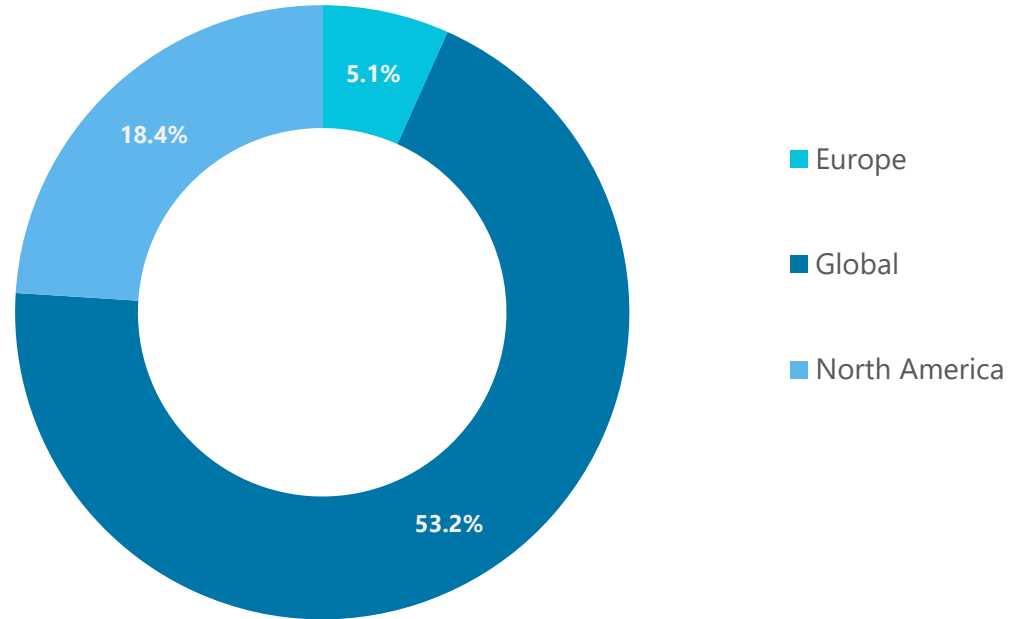
	Number of Investments <sup>2</sup>	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / Loss (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME
Infrastructure Core	1	170.6	49.8	0.0	53.5	53.5	3.6	0.00x	1.07x	32.8%	1.02
Infrastructure Core Plus/Value Add	1	113.7	44.9	2.6	41.5	44.1	(0.9)	0.06x	0.98x	-3.8%	0.85
Infrastructure Opportunistic	3	262.9	86.6	0.0	84.2	84.2	(2.4)	0.00x	0.97x	-5.2%	0.90
Natural Resources	4	850.0	548.2	0.0	549.5	549.5	1.3	0.00x	1.00x	12.8%	1.00
Special Situations	2	200.0	200.9	108.1	78.3	186.4	(14.5)	0.54x	0.93x	-2.9%	0.75
<b>Total Private Real Assets ex. Real Estate</b>	<b>11</b>	<b>1,847.2</b>	<b>930.9</b>	<b>110.7</b>	<b>807.4</b>	<b>918.0</b>	<b>(12.8)</b>	<b>0.12x</b>	<b>0.99x</b>	<b>-0.7%</b>	<b>0.91</b>

1. Based on best available cash flow adjusted market values.

# Performance by Geography

Private Real Assets ex. Real Estate  
for the quarter ended December 31, 2021

## By Geography<sup>1</sup>



	Number of Investments <sup>2</sup>	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
Europe	1	113.7	44.9	2.6	41.5	44.1	(0.9)	0.06x	0.98x	-3.8%	0.85
Global	5	856.0	424.3	0.0	429.3	429.3	5.0	0.00x	1.01x	45.9%	1.01
North America	5	577.5	273.7	108.1	148.7	256.7	(17.0)	0.39x	0.94x	-3.1%	0.77
<b>Total Private Real Assets ex. Real Estate</b>	<b>11</b>	<b>1,847.2</b>	<b>930.9</b>	<b>110.7</b>	<b>807.4</b>	<b>918.0</b>	<b>(12.8)</b>	<b>0.12x</b>	<b>0.99x</b>	<b>-0.7%</b>	<b>0.91</b>

1. Based on best available cash flow adjusted market values.



# Performance by Vintage Year

Private Real Assets ex. Real Estate  
for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## By Vintage Year<sup>1</sup>

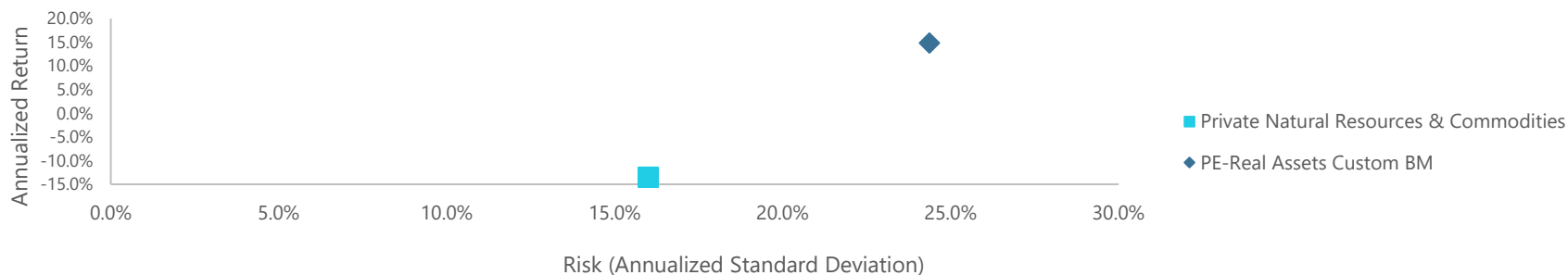
	Number of Investments <sup>2</sup>	Commitments (mm)	Cumulative Contributions (mm)	Cumulative Distributions (mm)	Market Value (mm)	Total Value (mm)	Total Gain / Loss (mm)	Distributed to Paid-In	Total Value to Paid-In	Since Inception Net IRR	Since Inception PME
2004	1	50.0	50.0	91.4	0.0	91.4	41.4	1.83x	1.83x	31.1%	1.40
2014	2	450.0	415.7	16.7	343.1	359.8	(55.9)	0.04x	0.87x	-7.6%	0.75
2020	3	344.3	142.8	2.6	142.3	144.8	2.0	0.02x	1.01x	2.7%	0.92
2021	5	702.9	134.4	0.0	134.0	134.1	(0.3)	0.00x	1.00x	28.1%	1.00
<b>Total Private Real Assets ex. Real Estate</b>	<b>11</b>	<b>1,847.2</b>	<b>930.9</b>	<b>110.7</b>	<b>807.4</b>	<b>918.0</b>	<b>(12.8)</b>	<b>0.12x</b>	<b>0.99x</b>	<b>-0.7%</b>	<b>0.91</b>

1. Based on best available cash flow adjusted market values.

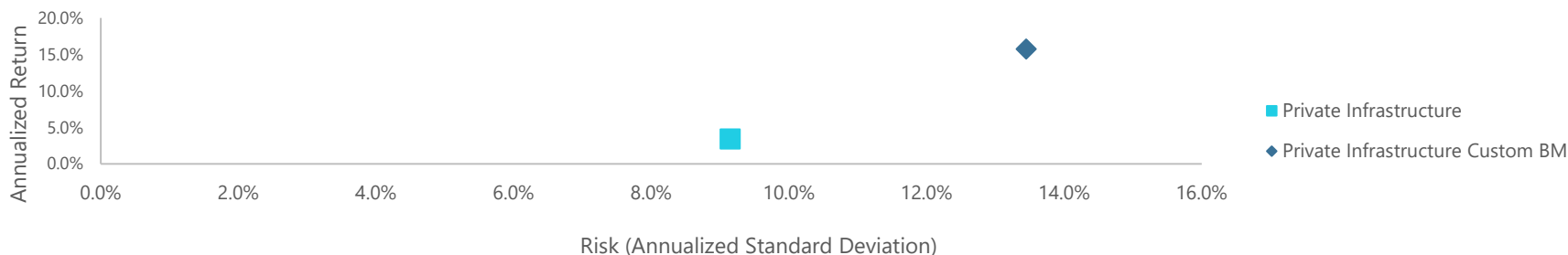
# Risk vs. Return

Private Real Assets ex. Real Estate  
for the quarter ended December 31, 2021

## Since Inception (Annualized)<sup>1</sup>



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
<b>Private Natural Resources &amp; Commodities</b>	<b>-13.6%</b>	<b>16.0%</b>				
PE-Real Assets Custom BM	14.8%	24.4%	(0.87)	(1.12)	0.00	25.3%



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
<b>Private Infrastructure</b>	<b>3.4%</b>	<b>9.1%</b>				
Private Infrastructure Custom BM	15.7%	13.5%	0.40	(0.73)	0.00	16.9%

1. Composite risk statistics are relative to the custom benchmark.

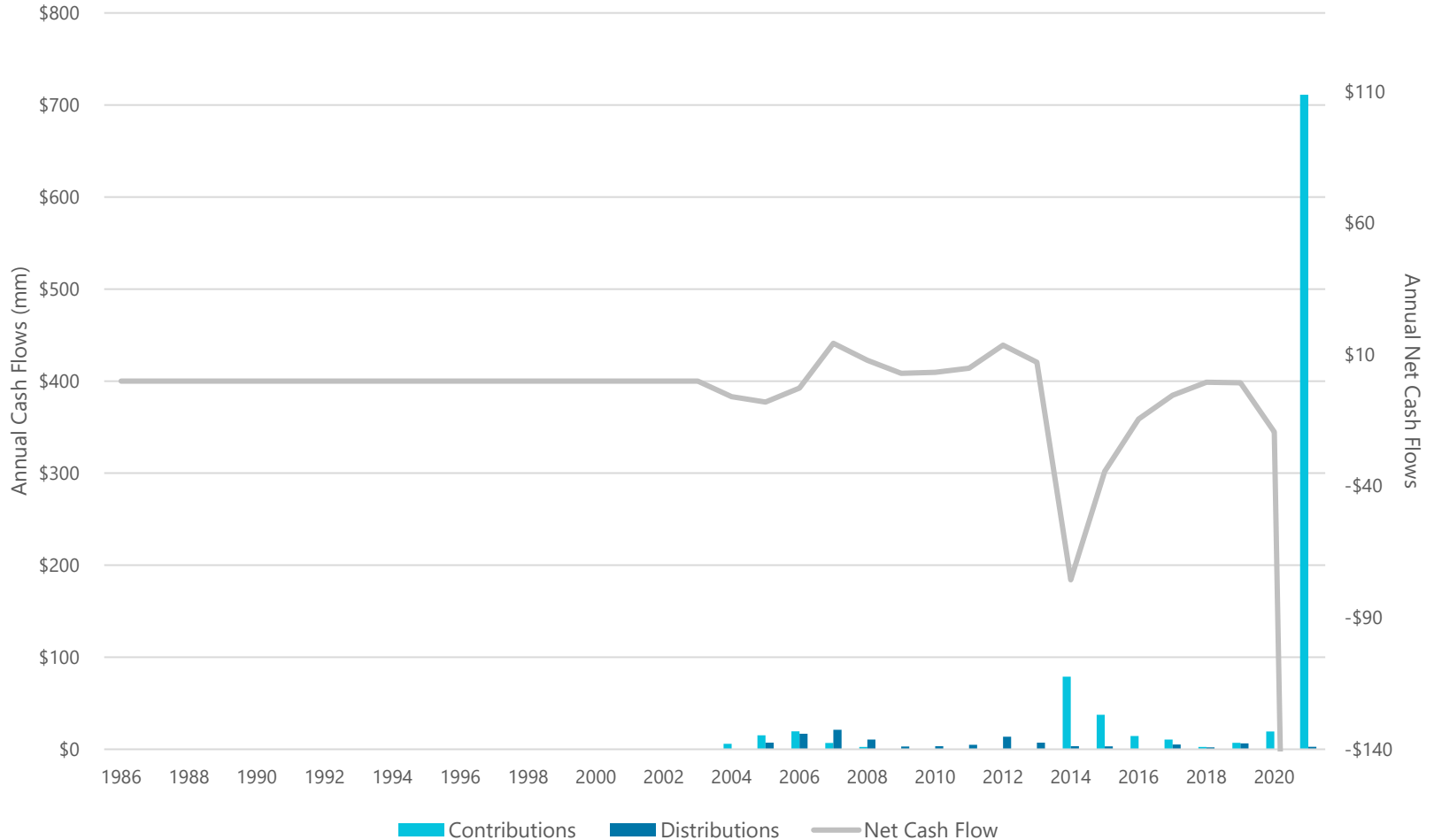
# Annual Cash Flow Activity

Private Real Assets ex. Real Estate  
for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## By Year (mm)



# Summary

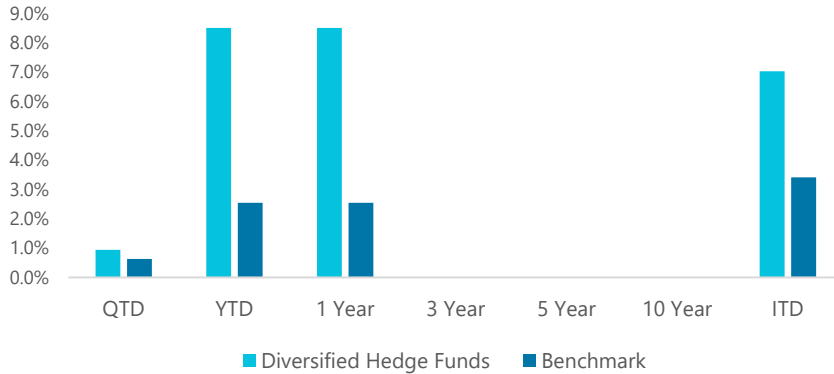
## Diversified Hedge Funds

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

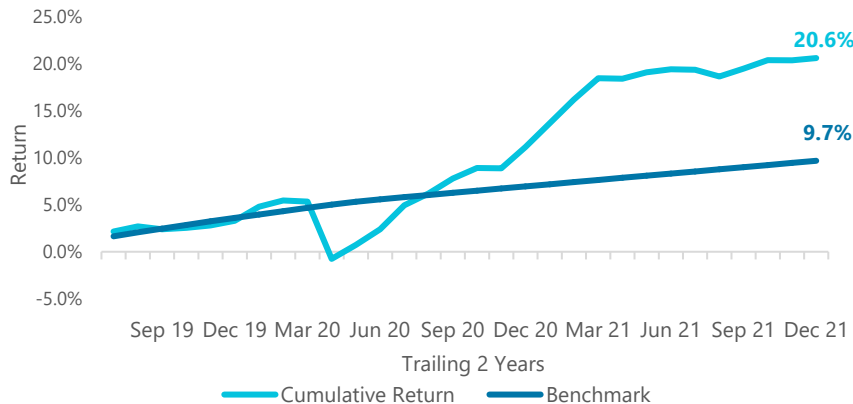
### Performance (net all)<sup>1</sup>



	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>Diversified Hedge Funds</b>	<b>0.9%</b>	<b>8.5%</b>	<b>8.5%</b>	--	--	--	<b>7.0%</b>
Benchmark	0.6%	2.6%	2.6%	--	--	--	3.4%
Excess	0.3%	6.0%	6.0%	--	--	--	3.6%

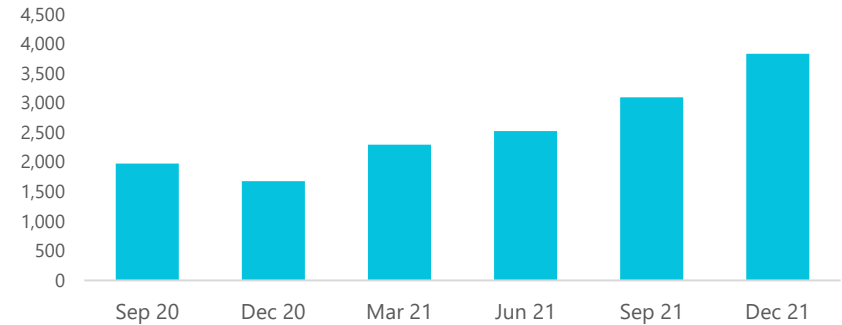
1. Diversified Hedge Funds returns are net of all fees and expenses.

### Cumulative Return

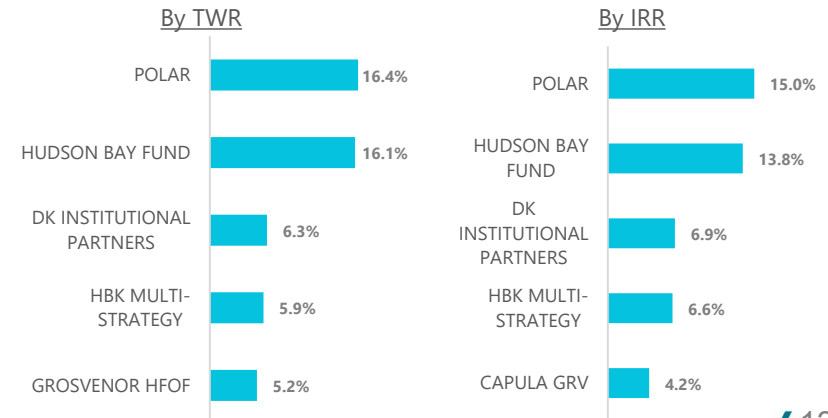


### Asset Growth (mm)

	QTD	1 Year	3 Year
Beginning Market Value	3,098	1,678	--
Net Cash Flow	705	1,983	--
Gain/Loss	32	174	--
<b>Ending Market Value</b>	<b>3,835</b>	<b>3,835</b>	--



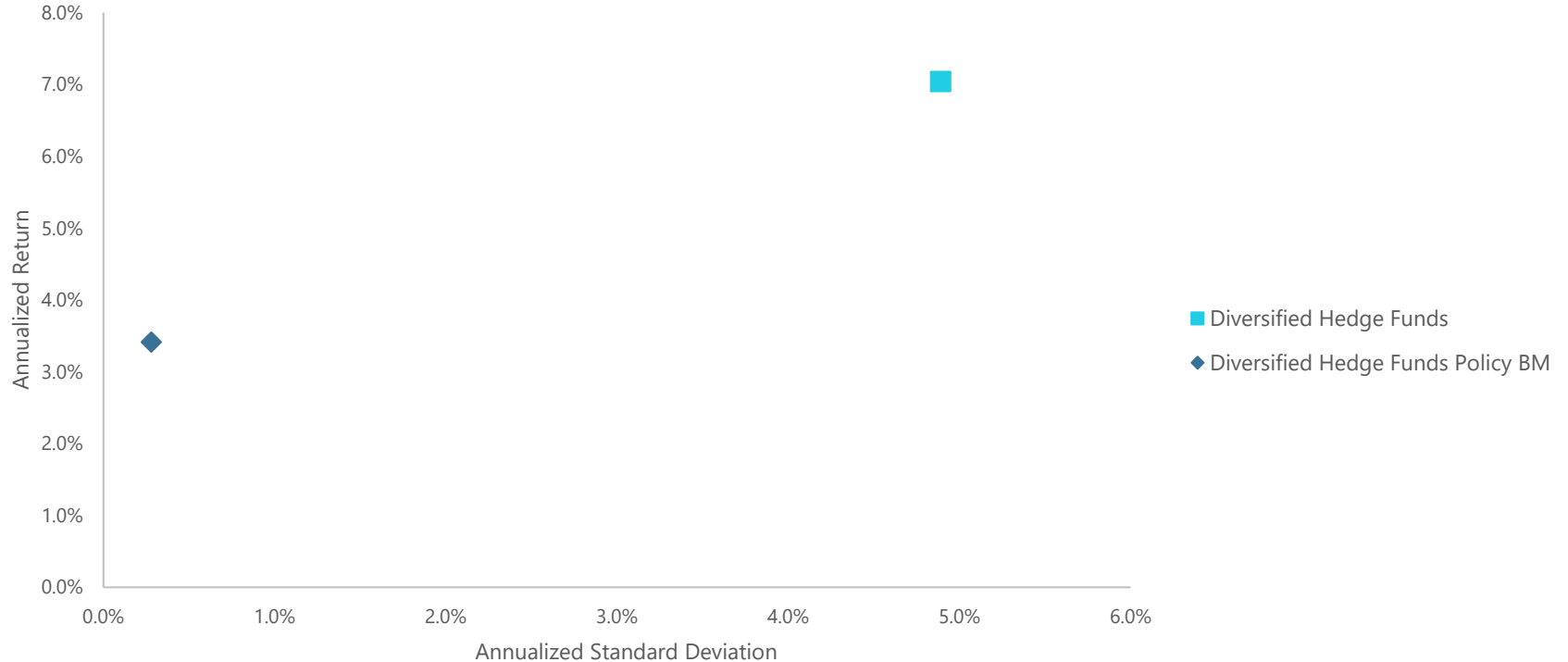
### Top Performing Investments (since inception)



# Risk vs. Return

Diversified Hedge Funds  
for the quarter ended December 31, 2021

## Since Inception (Annualized)<sup>1</sup>



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
<b>Diversified Hedge Funds</b>	<b>7.0%</b>	<b>4.9%</b>				
Diversified Hedge Funds Policy BM	3.4%	0.3%	1.24	0.73	(9.44)	5.0%

1. Composite risk statistics are relative to the policy benchmark.

# Performance Detail

## Diversified Hedge Funds

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

### Annualized Net All Returns<sup>1</sup>

	% of Composite	Ending Market Value (mm)	Prior Quarter Ending MV (mm)	QTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>Diversified Hedge Funds</b>	<b>100.0%</b>	<b>3,835</b>	<b>3,098</b>	<b>0.9%</b>	<b>8.5%</b>	<b>8.5%</b>	--	--	--	<b>7.0%</b>
Diversified Hedge Funds Policy BM				0.6%	2.6%	2.6%	--	--	--	3.4%
<b>LACERA HF DIRECT</b>	<b>93.9%</b>	<b>3,599</b>	<b>2,869</b>	<b>1.0%</b>	<b>8.2%</b>	<b>8.2%</b>	--	--	--	<b>4.8%</b>
Custom Hedge Fund BM				0.6%	2.6%	2.6%	--	--	--	4.3%
AM ASIA STRATEGIES FUND	4.6%	176	123	2.0%	--	--	--	--	--	0.0%
BREVAN HOWARD MASTER FUND	14.3%	549	397	0.3%	--	--	--	--	--	-1.2%
CAPULA GRV	13.7%	526	525	0.1%	1.6%	1.6%	5.0%	--	--	4.9%
CAXTON GLOBAL INVESTMENTS	5.4%	206	199	3.6%	--	--	--	--	--	3.2%
DK INSTITUTIONAL PARTNER	12.8%	492	342	0.2%	8.7%	8.7%	7.3%	--	--	6.3%
HBK MULTI-STRATEGY	14.5%	556	344	2.5%	9.7%	9.7%	6.6%	--	--	5.9%
HUDSON BAY	16.5%	631	474	1.4%	17.7%	17.7%	--	--	--	16.1%
POLAR	12.1%	462	464	-0.3%	8.7%	8.7%	--	--	--	16.4%
<b>HF EMERGING MANAGERS PROGRAM</b>	<b>4.6%</b>	<b>175</b>	<b>155</b>	<b>0.1%</b>	--	--	--	--	--	<b>0.1%</b>
Custom Hedge Fund BM				0.6%	--	--	--	--	--	1.1%
STABLE ASSET MANAGEMENT	4.6%	175	155	0.1%	--	--	--	--	--	0.1%
AMUNDSEN	1.8%	67	65	3.4%	--	--	--	--	--	3.4%
LINEAR B	0.8%	30	30	0.7%	--	--	--	--	--	0.5%
SPARTA	1.3%	50	30	-0.6%	--	--	--	--	--	-0.6%
TRUTINO	0.7%	28	30	-7.2%	--	--	--	--	--	-7.2%

1. Diversified Hedge Funds returns are net of all fees and expenses.

# emerging manager program

# Emerging Manager Program

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Annualized Net Returns

	Ending Market Value (mm)	QTD	1 Year	3 Year	5 Year
<b>GROWTH</b>					
<b>GLOBAL EQUITY</b>					
CORNERCAP	86.6	6.2%	34.3%	21.1%	--
GLOBAL ALPHA	163.2	-0.7%	13.0%	16.1%	--
Global Equity Policy BM		6.1%	18.2%	--	--
<b>PRIVATE EQUITY</b>					
J.P. MORGAN EMERGING MANAGERS PROGRAM	97.1	0.4%	56.5%	30.3%	27.6%
J.P. MORGAN EMERGING MANAGERS PROGRAM II	93.6	1.2%	54.1%	15.2%	33.9%
J.P. MORGAN EMERGING MANAGERS PROGRAM III	117.4	2.0%	70.7%	40.5%	36.9%
J.P. MORGAN EMERGING MANAGERS PROGRAM IV	124.6	0.7%	28.3%	23.2%	--
Total Private Equity Benchmark		-0.6%	30.9%	21.4%	18.4%
<b>NON-CORE PRIVATE REAL ESTATE</b>					
CITYVIEW BAY AREA FUND II	76.3	0.0%	7.2%	2.2%	4.6%
CITYVIEW SOUTHERN CALIFORNIA FUND II	1.4	0.0%	-12.3%	-4.6%	3.8%
CITYVIEW WESTERN FUND I, L.P.	144.5	0.2%	17.3%	11.4%	-38.5%
CVBAF II UNION CITY CO-INVEST	23.1	0.2%	10.5%	-0.1%	1.4%
Non-Core Private Real Estate Policy BM		7.0%	16.8%	9.2%	9.7%
<b>REAL ASSETS &amp; INFLATION HEDGES</b>					
<b>CORE PRIVATE REAL ESTATE</b>					
CITYVIEW CORE I.M.A.	181.2	0.2%	-7.6%	-3.3%	-1.3%
Core Private Real Estate Policy BM		6.4%	14.1%	6.6%	7.1%
<b>RISK REDUCTION &amp; MITIGATION</b>					
<b>HEDGE FUNDS</b>					
STABLE ASSET MANAGEMENT	174.9	0.1%	--	--	--
Hedge Fund Policy BM		0.6%	--	--	--



# risk reports

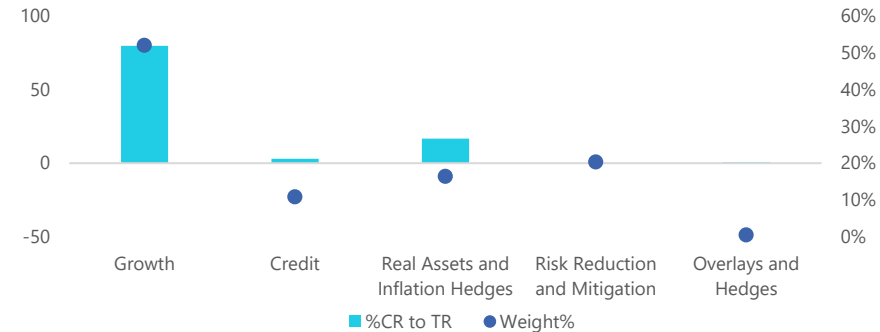
# Summary

for the quarter ended December 31, 2021

## Risk Summary

	Value
<b>Total Risk</b>	<b>11.93</b>
Benchmark Risk	11.49
Active Risk	0.84
Portfolio Beta	1.04
Effective Duration	1.87

## Contribution to Risk

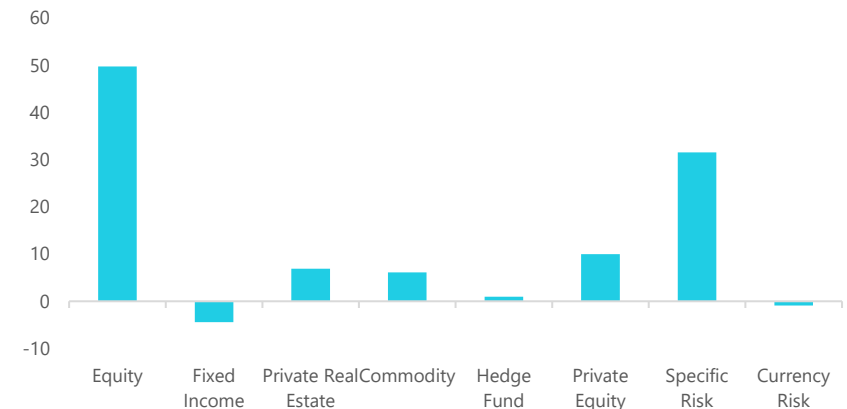


	Mkt Value (mm)	Weight%	Total Risk	Risk Contribution	%CR to TR
<b>Total Fund</b>	<b>74,752</b>	<b>100.0%</b>	<b>11.93</b>	<b>11.93</b>	<b>100.00</b>
Growth	38,839	52.0%	18.43	9.50	79.66
Credit	8,092	10.8%	4.17	0.36	3.00
Real Assets and Inflation Hedges	12,270	16.4%	13.28	1.99	16.70
Risk Reduction and Mitigation	15,185	20.3%	3.53	-0.01	-0.08
Overlays and Hedges	366	0.5%	46.67	0.09	0.72

## Risk Decomposition

Risk Source	Portfolio			Active		
	Risk Contribution	%Risk	Correlation	Risk Contribution	%Risk	Correlation
<b>Total Risk</b>	<b>11.93</b>	<b>100.00</b>	<b>1.00</b>	<b>0.84</b>	<b>100.00</b>	<b>1.00</b>
Local Market Risk	11.49	96.35	1.00	0.85	100.88	0.99
Common Factor Risk	11.46	96.09	1.00	0.58	69.35	0.81
Equity	9.43	79.07	0.97	0.42	49.76	0.70
Fixed Income	0.29	2.40	0.31	-0.04	-4.41	-0.23
Private Real Estate	1.14	9.56	0.68	0.06	6.90	0.34
Commodity	0.18	1.52	0.54	0.05	6.12	0.29
Hedge Fund	0.00	0.00	0.01	0.01	0.98	0.10
Private Equity	0.42	3.55	0.19	0.08	10.01	0.32
Specific Risk	0.03	0.26	0.05	0.26	31.53	0.56
Currency Risk	0.44	3.65	0.50	-0.01	-0.88	-0.06

## Active Risk from Risk Factors



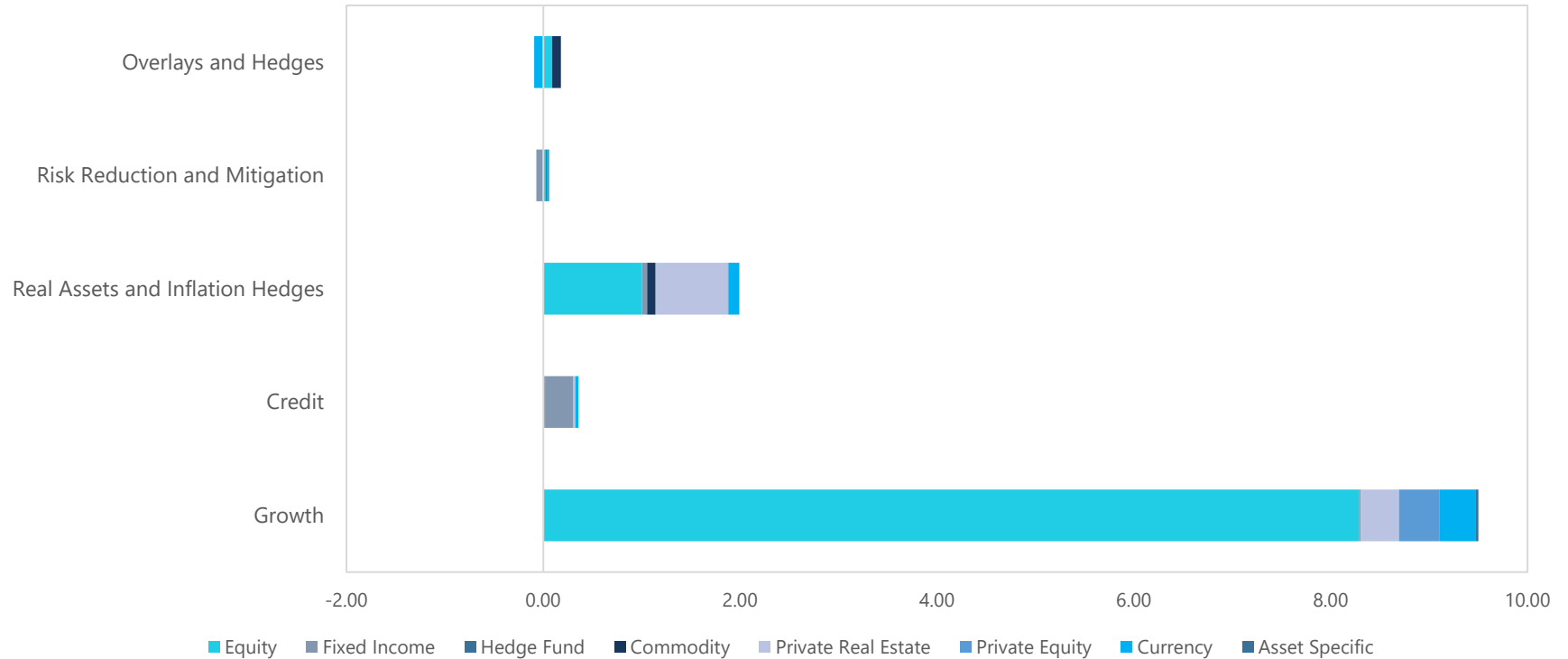
# Risk Contribution Breakdown

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## By Risk Type

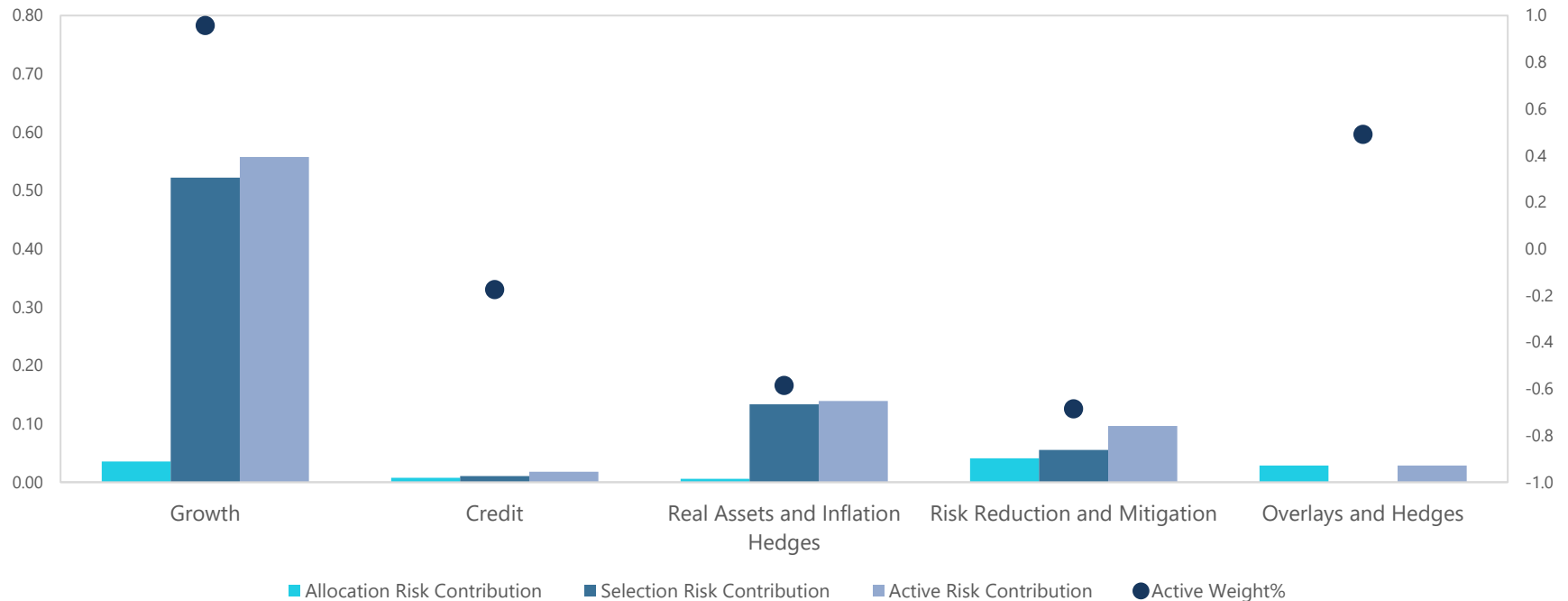


Functional Category	Mkt Value	Weight%	Total Risk	%CR to Total Risk	Port Risk Contribution	Equity	Fixed Income	Hedge Fund	Commodity	Private Real Estate	Private Equity	Currency	Asset Specific	Eff Weight%
<b>Total Fund</b>	<b>74,752</b>	<b>100.0%</b>	<b>11.93</b>	<b>100.00</b>	<b>11.93</b>	<b>9.43</b>	<b>0.29</b>	<b>0.00</b>	<b>0.18</b>	<b>1.14</b>	<b>0.42</b>	<b>0.44</b>	<b>0.03</b>	<b>102.7%</b>
Growth	38,839	52.0%	18.43	79.66	9.50	8.29	0.02	0.00	0.00	0.39	0.41	0.37	0.02	52.1%
Credit	8,092	10.8%	4.17	3.00	0.36	0.02	0.29	0.00	0.00	0.02	0.00	0.03	0.00	10.8%
Real Assets and Inflation Hedges	12,270	16.4%	13.28	16.70	1.99	1.00	0.05	0.00	0.08	0.73	0.01	0.11	0.00	17.4%
Risk Reduction and Mitigation	15,185	20.3%	3.53	-0.08	-0.01	0.03	-0.07	0.00	0.01	0.00	0.00	0.02	0.00	20.3%
Overlays and Hedges	366	0.5%	46.67	0.72	0.09	0.09	0.00	0.00	0.09	0.00	0.00	-0.09	0.00	2.1%

# Allocation Selection

for the quarter ended December 31, 2021

## Active Total Risk

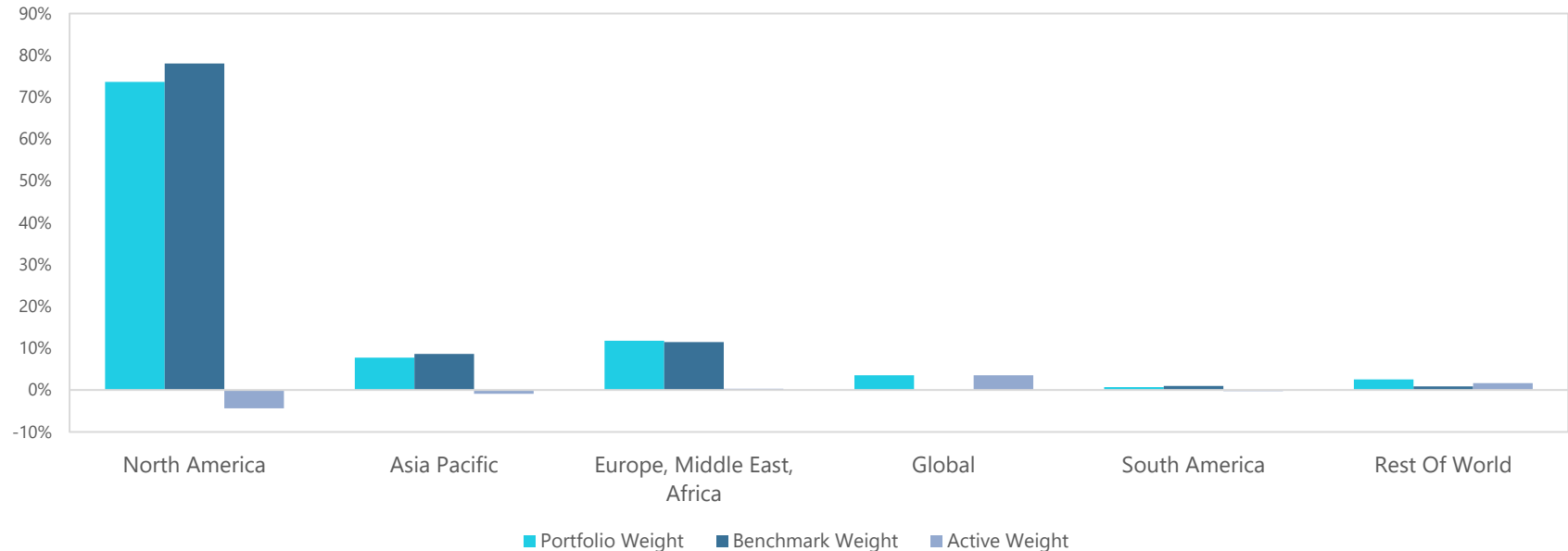


Functional Category	Active Weight%	Allocation			Selection			Active
		Volatility	Correlation	Risk Contribution	Volatility	Correlation	Risk Contribution	Risk Contribution
<b>Active Total Risk</b>				<b>0.12</b>			<b>0.72</b>	<b>0.84</b>
Growth	0.96	6.70	0.55	0.04	1.18	0.85	0.52	0.56
Credit	-0.18	8.30	-0.52	0.01	1.65	0.06	0.01	0.02
Real Assets and Inflation Hedges	-0.59	5.61	-0.17	0.01	1.78	0.46	0.13	0.14
Risk Reduction and Mitigation	-0.69	12.23	-0.49	0.04	0.87	0.31	0.06	0.10
Overlays and Hedges	0.49	-	0.13	0.03	0.00	0.00	0.00	0.03

# Portfolio Allocation

for the quarter ended December 31, 2021

## By Region



Region	Weight%			Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking
	Portfolio	Benchmark	Active				
<b>Total Fund</b>	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>	<b>11.93</b>	<b>0.84</b>	<b>100.00</b>	<b>0.01</b>
North America	73.66%	78.03%	-4.37%	11.73	0.73	87.41	0.01
Asia Pacific	7.75%	8.64%	-0.89%	14.70	0.08	9.58	0.01
Europe, Middle East, Africa	11.79%	11.46%	0.33%	19.39	0.17	19.67	0.03
Global	3.54%	0.00%	3.54%	6.10	-0.11	-13.41	-0.03
South America	0.71%	0.98%	-0.27%	24.77	0.04	4.46	0.00
Rest Of World	2.54%	0.89%	1.65%	5.94	-0.06	-7.71	-0.04

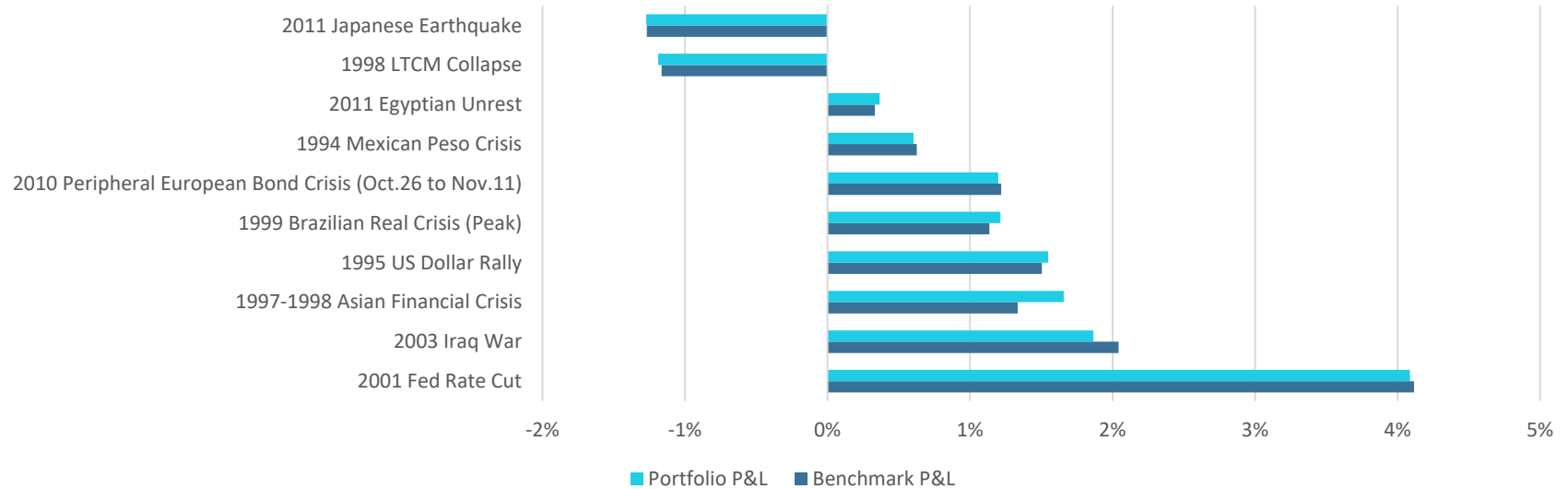
# Stress Tests

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Top 10 Best Stress Scenarios

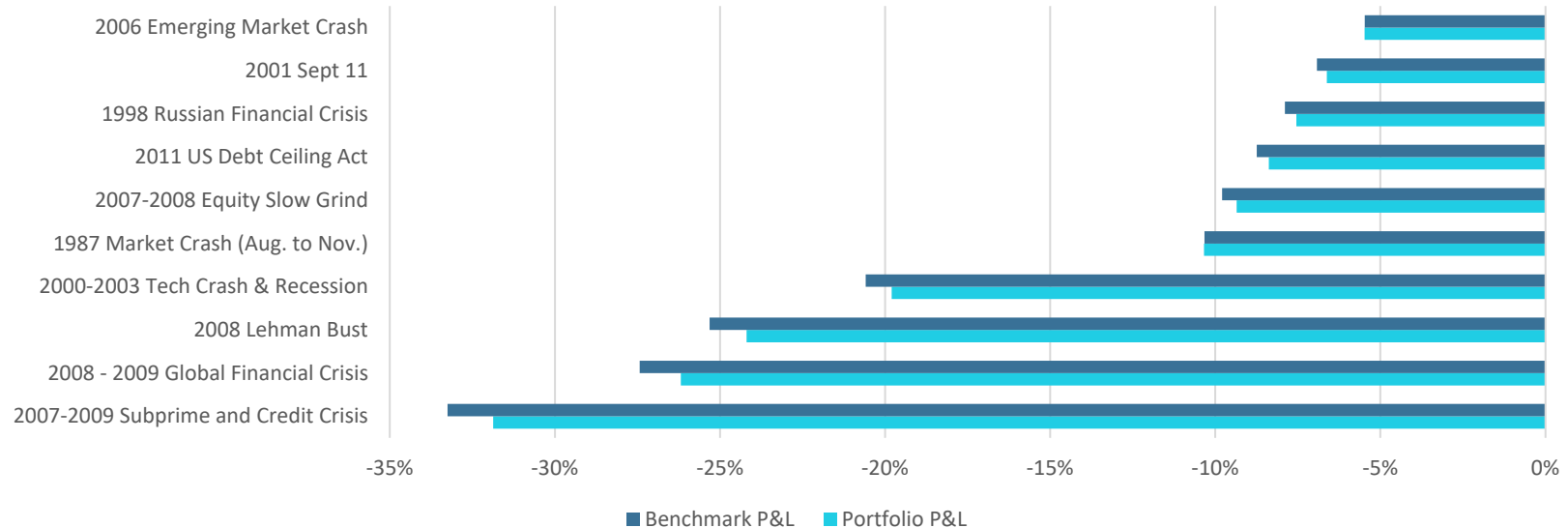


Scenario	Portfolio P&L	Benchmark P&L	Market Change (\$)
2001 Fed Rate Cut	4.09%	4.12%	3,054,699,403
2003 Iraq War	1.87%	2.04%	1,394,117,492
1997-1998 Asian Financial Crisis	1.66%	1.33%	1,239,081,388
1995 US Dollar Rally	1.55%	1.50%	1,157,093,547
1999 Brazilian Real Crisis (Peak)	1.21%	1.14%	906,904,701
2010 Peripheral European Bond Crisis	1.20%	1.22%	895,230,888
1994 Mexican Peso Crisis	0.60%	0.63%	451,546,508
2011 Egyptian Unrest	0.37%	0.33%	273,465,516
1998 LTCM Collapse	-1.19%	-1.16%	(888,384,639)
2011 Japanese Earthquake	-1.27%	-1.27%	(950,795,977)

# Stress Tests

for the quarter ended December 31, 2021

## Top 10 Worst Stress Scenarios



Scenario	Portfolio P&L	Benchmark P&L	Market Change (\$)
2007-2009 Subprime and Credit Crisis	-31.87%	-33.25%	(23,821,346,931)
2008 - 2009 Global Financial Crisis	-26.19%	-27.43%	(19,573,890,669)
2008 Lehman Bust	-24.19%	-25.31%	(18,084,969,086)
2000-2003 Tech Crash & Recession	-19.80%	-20.59%	(14,801,674,578)
1987 Market Crash (Aug. to Nov.)	-10.34%	-10.33%	(7,730,205,537)
2007-2008 Equity Slow Grind	-9.35%	-9.79%	(6,991,539,316)
2011 US Debt Ceiling Act	-8.38%	-8.74%	(6,261,858,907)
1998 Russian Financial Crisis	-7.55%	-7.89%	(5,640,036,103)
2001 Sept 11	-6.62%	-6.92%	(4,950,361,913)
2006 Emerging Market Crash	-5.48%	-5.47%	(4,093,577,998)

# manager scorecards



### PUBLIC MARKETS MANAGER SCORECARD

4th Quarter 2021

			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	Risk-Adjusted Return	ER				
<b>TOTAL FUND</b>			<b>75,580.04</b>					
<b>GROWTH</b>	<b>GLOBAL EQUITY</b>							
	ACADIAN DEVELOPED MARKETS	659.1	0.9%	5	●	S	3	3
	BTC EURO TILTS	764.4	1.0%	5	●	S+	4	3
	CAPITAL GROUP DEVELOPED MARKETS	475.2	0.6%	4	●	S	2	3
	CEVIAN CAPITAL II - ACTIVIST	413.4	0.5%	1	●	S+	4	1
	CORNERCAP US SC - EMP	86.6	0.1%	4	●	S-	1	3
	FRONTIER US SMID GROWTH	312.1	0.4%	3	●	S	2	1
	GENESIS EMERGING MARKETS	636.9	0.8%	3	●	S	3	1
	GLOBAL ALPHA IE SC - EMP	163.2	0.2%	4	●	S	3	3
	JANA JSI FUND V - ACTIVIST	123.5	0.2%	2	●	S-	2	1
	JPMAM STRATEGIC BETA NON-U.S.	644.1	0.9%	* 3	●	S	2	3
	JPMAM STRATEGIC BETA U.S.	4,872.5	6.4%	* 3	●	S	2	3
	LAZARD EMERGING MARKETS	475.2	0.6%	4	●	S	3	3
SSGA MSCI ACWI IMI	16,610.9	22.0%	3	●	S+	—	5	
SYMPHONY FINANCIAL - ACTIVIST	257.8	0.3%	4	●	S	2	3	
SYSTEMATIC US SMALL CAP VALUE	206.9	0.3%	2	●	S-	2	3	
<b>CREDIT</b>	<b>HIGH YIELD</b>							
	BEACH POINT	317.3	0.4%	5	●	S	2	1
	BLACKROCK HY ETF	650.0	0.9%	* 3	●	S	—	5
	BRIGADE CAP MGMT	709.5	0.9%	4	●	S	1	3
	PINEBRIDGE INVESTMENTS	507.6	0.7%	* 3	●	S	+	3
	<b>BANK LOANS</b>							
	BAIN CAPITAL CREDIT	421.4	0.6%	2	●	S	2	1
	CREDIT SUISSE BANK LOANS	1,158.7	1.5%	* 3	●	S	+	5
	CRESCENT CAPITAL	520.1	0.7%	4	●	S	2	1
	<b>EMERGING MARKET DEBT</b>							
ABERDEEN ASSET MANAGEMENT	443.3	0.6%	3	●	S	4	3	
ASHMORE INVESTMENT MANAGEMENT	414.2	0.5%	1	●	S	4	3	
<b>REAL ASSETS &amp; INFLATION HEDGES</b>	<b>NATURAL RESOURCES &amp; COMMODITIES</b>							
	CREDIT SUISSE COMMODITY	461.6	0.6%	3	●	S	1	3
	DWS NATURAL RESOURCES	1,427.4	1.9%	* 3	●	S	2	5
	NEUBERGER BERMAN/GRESHAM	446.7	0.6%	3	●	S	1	1
	PIMCO COMMODITY PLUS	456.1	0.6%	4	●	S-	1	1
	<b>INFRASTRUCTURE</b>							
	DWS INFRASTRUCTURE	2,402.5	3.2%	* 3	●	S	2	5
<b>TIPS</b>								
BLACKROCK TIPS	2,111.4	2.8%	* 3	●	S+	1	5	

			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	Risk-Adjusted Return	ER					
<b>RISK REDUCTION &amp; MITIGATION</b>	<b>INVESTMENT GRADE BONDS</b>								
	BTC US DEBT INDEX FUND	5,893.6	7.8%	4	●	S+	—	A	5
	PUGH CAPITAL MGMT	1,181.1	1.6%	2	●	S	1	A	3
	WELLS CAPITAL	2,102.7	2.8%	5	●	S	4	B	5
	<b>CASH</b>								
SSGA CASH	626.9	0.8%	* 3	●	S+	—	A	5	

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

**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**

4th Quarter 2021

			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					
<b>GLOBAL/LARGE BUYOUT</b>							
Advent International Group	140.3	0.2%	*	S+	3	C	4
Blackstone Management	277.3	0.4%	1	S-	4	C	5
CVC Capital Partners	366.5	0.5%	5	S+	4	A	4
Green Equity Investors	310.6	0.4%	2	S+	3	B	4
Hellman & Friedman	433.5	0.6%	3	S+	3	B	4
MBK	279.9	0.4%	1	S	4	A	2
Silver Lake Partners	608.7	0.8%	5	S+	3	B	5
Thoma Bravo LLC	87.3	0.1%	*	S+	3	B	3
Vista Equity Partners	868.4	1.1%	4	S-	3	A	2
<b>MID-MARKET BUYOUT</b>							
Accel-KKR Capital Partners	80.1	0.1%	*	S	3	A	2
BlackFin Capital Partners	10.0	0.0%	*	S	3	B	2
Carlyle Group	343.1	0.5%	3	S+	4	A	4
Clearlake Capital	451.5	0.6%	5	S+	4	A	4
GHO Capital	-0.9	0.0%	*	S	3	B	2
Gilde Partners	112.3	0.1%	4	S-	2	C	5
Harvest Partners	105.5	0.1%	5	S	1	C	2
Marlin Equity	30.5	0.0%	1	S-	2	C	3
Onex Partners	288.2	0.4%	2	S	4	A	5
PAI	117.9	0.2%	*	S-	2	B	4
Riverside Capital	83.6	0.1%	1	S+	3	A	3
Siris Capital Group	125.5	0.2%	2	S+	3	A	4
Sterling Partners	110.9	0.1%	4	S	3	A	4
STG Partners	14.3	0.0%	*	S	3	A	3
Triton	100.6	0.1%	*	S-	3	C	5
Veritas Capital	-0.3	0.0%	*	S+	3	B	3
Vinci Partners	36.6	0.0%	*	S	4	B	5
Webster Equity Partners	-1.6	0.0%	*	S	3	B	2
Wynnchurch Capital	19.0	0.0%	*	S+	3	B	3
<b>SMALL BUYOUT</b>							
AE Industrial Partners	100.3	0.1%	*	S+	3	A	3
Atlantic Street Capital	39.3	0.1%	*	S	3	A	3
Clarion	14.9	0.0%	*	S	2	C	4
Excellere Partners	120.0	0.2%	5	S-	3	A	3
Incline Equity Partners	36.6	0.0%	3	S	2	C	4
Insignia Capital Partners	138.0	0.2%	4	S	1	B	5
Juggernaut Capital Partners	282.1	0.4%	3	S	3	A	4
Lightyear Capital	216.8	0.3%	5	S	2	A	5
Livingbridge	51.0	0.1%	2	S+	4	A	3
Montefiore Investment	2.8	0.0%	*	S	4	B	4
One Rock Capital Partners	122.5	0.2%	2	S	3	A	4
Palladium Equity Partners	96.1	0.1%	1	S-	4	C	2

PRIVATE EQUITY



Los Angeles County Employees Retirement Association

**PRIVATE MARKETS MANAGER SCORECARD**

4th Quarter 2021

			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					
<b>GROWTH EQUITY</b>							
Australis Partners	89.6	0.1%	1	S	4	B	5
JMI Equity	3.4	0.0%	2	S	3	C	2
RedBird Capital Partners	137.0	0.2%	*	S	4	A	4
Summit Partners	79.6	0.1%	5	S+	3	B	4
TA Associates	81.0	0.1%	*	S+	4	B	4
Technology Crossover Ventures	24.3	0.0%	4	S	2	B	3
<b>VENTURE CAPITAL</b>							
BlueRun Ventures	99.9	0.1%	4	S	2	A	2
Canaan Partners	137.3	0.2%	2	S+	3	A	4
GGV Capital	611.5	0.8%	1	S	3	A	3
Institutional Venture Partners	240.3	0.3%	3	S	1	C	5
Joy Capital	82.8	0.1%	*	S	2	A	4
Lilly Asia Ventures	184.9	0.2%	5	S	4	B	2
Sinovation Ventures	80.9	0.1%	1	S	2	B	2
Storm Ventures LLC	171.7	0.2%	3	S	3	A	4
Union Square	209.5	0.3%	5	S+	1	B	5
<b>SPECIAL SITUATIONS</b>							
Alchemy Partners	27.4	0.0%	*	S	3	B	4
Black Diamond	126.2	0.2%	1	S	3	C	4
Centerbridge	94.9	0.1%	5	S	4	A	2
<b>FUND OF FUNDS</b>							
Gateway	844.6	1.1%	5	S	3	B	4
MS GTB Capital Partners	300.4	0.4%	1	S	4	A	2
J.P. Morgan	460.5	0.6%	3	S+	+	B	4

PRIVATE EQUITY  
(continued)

**PRIVATE MARKETS MANAGER SCORECARD**

4th Quarter 2021

			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					
<b>COMMINGLED FUNDS</b>							
AERMONT Real Estate Fund IV	15.0	0.0%	*	S	4	B	3
AEW Value Investors Asia III	50.9	0.1%	3	S	4	A	4
AG Asia Realty Fund IV	54.7	0.1%	*	S	3	B	3
AG Europe Realty Fund II	56.5	0.1%	4	S	3	B	3
Bain Capital Real Estate Fund I	82.9	0.1%	*	S	2	A	3
Bain Capital Real Estate Fund II	9.1	0.0%	*	S	2	A	3
CapMan Nordic Real Estate Fund II	52.7	0.1%	3	S	3	A	3
CapMan Nordic Real Estate Fund III	14.9	0.0%	*	S	3	A	3
Capri Urban Investors	3.0	0.0%	3	S-	1	C	3
CityView Bay Area Fund II	76.0	0.1%	1	S	2	A	3
CityView Southern California Fund II	1.0	0.0%	2	S	2	A	3
CityView Western Fund I, L.P.	155.0	0.2%	4	S	2	A	3
Core Property Index Fund	111.0	0.1%	*	S	2	B	5
Europa Fund IV	12.2	0.0%	1	S	3	A	2
Heitman Asia-Pacific Property Investors	45.1	0.1%	2	S	4	B	4
Invesco Real Estate Asia Fund	162.2	0.2%	4	S	4	A	5
Prologis European Logistics Fund (PELF)	208.0	0.3%	5	S	4	A	1
RREEF Core Plus Industrial Fund (CPIF)	231.1	0.3%	5	S	3	A	5
Starwood Capital Hospitality Fund	21.4	0.0%	1	S	2	A	3
TPG Real Estate Partners III	35.5	0.0%	*	S	3	A	3
<b>SEPARATE ACCOUNTS</b>							
Cityview Core I.M.A.	194.0	0.3%	1	S	2	A	1
Clarion I.M.A.	362.0	0.5%	4	S	4	A	4
Clarion Takeover Core IMA	340.0	0.4%	*	S	4	A	4
Clarion Takeover Value IMA	58.0	0.1%	*	S	4	A	3
Clarion Takeover Value IMA Vintage 2012	2.0	0.0%	*	S	4	A	4
Heitman I.M.A.	570.0	0.8%	4	S	3	A	4
RREEF Core/High Return I.M.A. III	837.6	1.1%	2	S	3	A	5
RREEF Takeover I.M.A.	733.2	1.0%	*	S	3	A	4
Stockbridge I.M.A.	685.2	0.9%	5	S	3	A	4
Stockbridge High I.M.A. Vintage 2014	89.7	0.1%	3	S	3	A	5
Stockbridge Value I.M.A. Vintage 2014	27.4	0.0%	1	S	3	A	3

REAL ESTATE

## PRIVATE MARKETS MANAGER SCORECARD

4th Quarter 2021

HEDGE FUNDS & ILLIQUID CREDIT

			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					
<b>HEDGE FUNDS</b>							
AM Asia	175.9	0.2%	4	S	2	A	5
Brevan Howard	548.6	0.7%	4	S+	2	B	2
Capula GRV	526.1	0.7%	5	S	1	A	3
Caxton	206.5	0.3%	5	S	3	B	3
DK Institutional Partners	492.5	0.7%	4	S	1	B	3
HBK Multistrategy	556.3	0.7%	4	S	1	A	3
Hudson Bay	631.2	0.8%	5	S	1	B	3
Polar	462.2	0.6%	5	S	2	B	4
Stable	174.9	0.2%	*	S	2	A	5
<b>ILLIQUID CREDIT</b>							
Barings	73.8	0.1%	1	S	3	A	5
Beach Point	532.9	0.7%	5	S+	1	A	3
Glendon	134.3	0.2%	3	S	1	B	2
Magnetar	524.7	0.7%	*	S	2	A	4
Napier Park	741.3	1.0%	*	S	2	A	4
Oaktree	87.9	0.1%	3	S	2	B	2
PIMCO Tac Opps	747.6	1.0%	4	S-	1	B	4
Quadrant	83.2	0.1%	1	S+	1	A	5

**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**

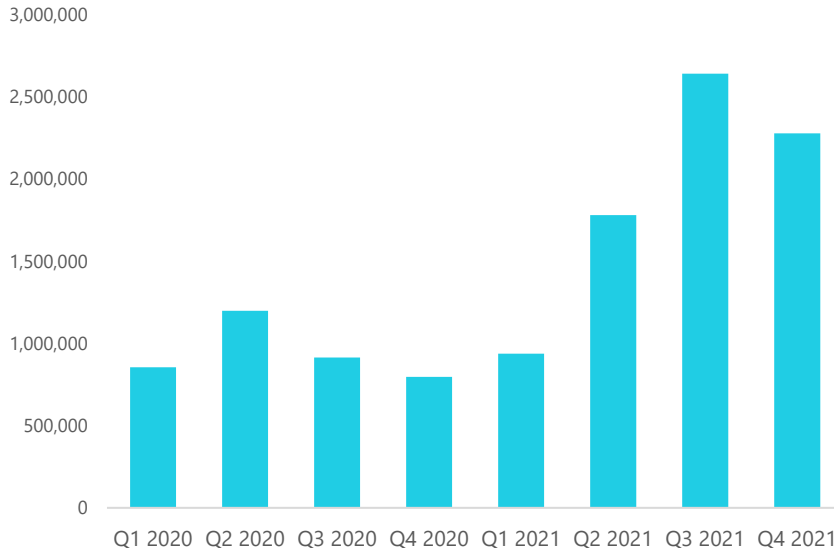
- Compares various fees and terms within each asset category, strategy and/or investment structure

# appendix

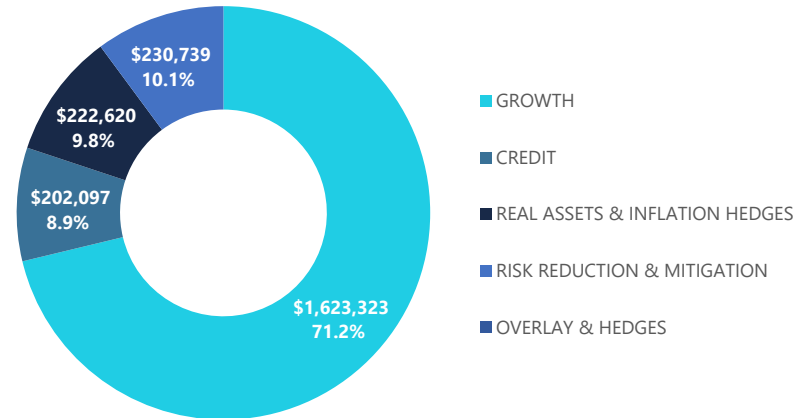
# Summary

Securities Lending Income  
for the quarter ended December 31, 2021

## Earnings by Quarter



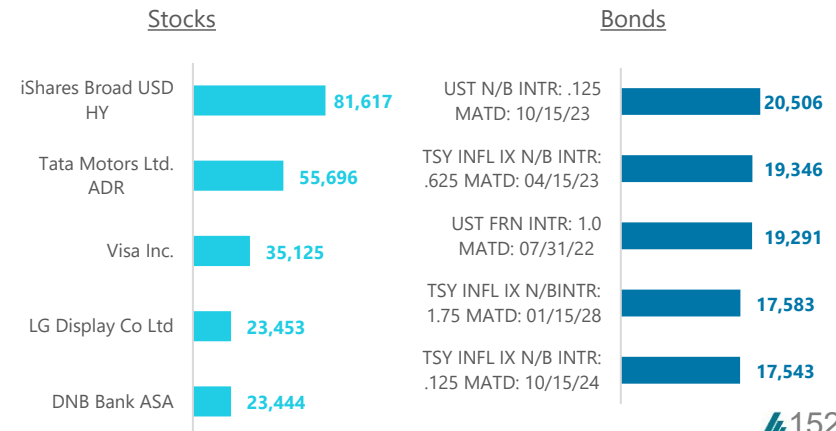
## Earnings by Functional Category



## Top Earning Funds

	% of Total Fund Earnings	Total Earnings	Cash Earnings	Non-Cash Earnings
SSGA MSCI ACWI IMI	53.2%	1,212,296	407,670	804,626
JPMAM STRATEGIC BETA U.S.	7.8%	177,473	53,917	123,556
BLACKROCK TIPS	7.7%	175,072	159,517	15,555
WELLS CAPITAL	7.2%	164,489	119,681	44,808
BlackRock HY ETF	3.6%	81,617	76,634	4,983

## Top Earning Securities





# Public Markets Manager Fees

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Growth

	Average Market Value (\$ mm)	Fees <sup>1</sup>	Annualized Effective Rate (bps)
<b>Active</b>			
Acadian Asset Management	\$645.2	\$596,421	37.0
BTC Europe Alpha Tilts	\$743.4	\$655,865	35.3
Capital Guardian	\$455.1	\$394,633	34.7
Cevian Capital	\$391.4	\$1,077,970	110.2
CornerCap	\$84.3	\$111,038	52.7
Frontier Capital Management	\$306.2	\$574,209	75.0
Genesis Investment Management	\$646.4	\$1,125,082	69.6
Global Alpha	\$162.6	\$291,767	71.8
JANA Partners <sup>2</sup>	\$120.0	\$300,000	100.0
Lazard Asset Management	\$468.8	\$740,723	63.2
Parametric GE Market Cap	\$1,054.5	\$76,997	2.9
Parametric GE Region	\$205.8	\$15,026	2.9
Symphony Financial	\$250.5	\$432,008	69.0
Systematic	\$201.3	\$276,787	55.0
<b>Subtotal:</b>	<b>\$5,735.6</b>	<b>\$6,668,526</b>	<b>46.5</b>
<b>Factor-Based</b>			
JPMAM Strategic Beta Non-US	\$633.7	\$53,244	3.4
JPMAM Strategic Beta US	\$4,908.2	\$412,397	3.4
<b>Subtotal:</b>	<b>\$5,541.9</b>	<b>\$465,641</b>	<b>3.4</b>
<b>Passive</b>			
SSGA MSCI ACWI IMI	\$16,377.5	\$289,860	0.7
<b>Subtotal:</b>	<b>\$16,377.5</b>	<b>\$289,860</b>	<b>0.7</b>

1. Reflects estimated investment management fees only.

2. Based on committed capital of \$120 million.

# Public Markets Manager Fees

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Credit

	Average Market Value (\$ mm)	Fees <sup>1</sup>	Annualized Effective Rate (bps)
<b>Liquid Credit</b>			
Aberdeen Standard Investments	\$441.1	\$411,389	37.3
Ashmore Investment Management	\$414.2	\$507,569	49.0
Bain Capital	\$421.4	\$574,995	54.6
Beach Point Capital	\$314.4	\$353,747	45.0
Brigade Capital Management	\$705.5	\$711,085	40.3
Credit Suisse Bank Loan	\$1,154.2	\$569,398	19.7
Crescent Capital Group	\$518.0	\$599,234	46.3
Pinebridge	\$502.4	\$413,750	32.9
<b>Subtotal:</b>	<b>\$4,471.2</b>	<b>\$4,141,167</b>	<b>37.0</b>
<b>Illiquid Credit</b>			
Beach Point Capital - Fund II	\$14.6	\$117,419	321.7
Beach Point Capital - Fund III	\$209.9	\$352,141	67.1
Tennenbaum Capital Partners	\$598.1	\$1,254,404	83.9
<b>Subtotal:<sup>2</sup></b>	<b>\$2,287.1</b>	<b>\$1,723,964</b>	<b>30.2</b>

1. Reflects estimated investment management fees only.

2. Magnetar and Napier Park market values are included in the subtotal, but the fees are deducted directly from the fund by the manager.

# Public Markets Manager Fees

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Real Assets & Inflation Hedges

	Average Market Value (\$ mm)	Fees <sup>1</sup>	Annualized Effective Rate (bps)
<b>Natural Resources &amp; Commodities</b>			
Credit Suisse	\$462.2	\$299,826	25.9
DWS Natural Resources	\$1,390.9	\$644,647	18.5
Neuberger Berman/Gresham	\$447.6	\$422,368	37.7
PIMCO	\$455.6	\$422,482	37.1
<b>Subtotal:</b>	<b>\$2,756.2</b>	<b>\$1,789,323</b>	<b>26.0</b>
<b>Infrastructure</b>			
DWS Infrastructure	\$2,315.4	\$1,073,165	18.5
<b>Subtotal:</b>	<b>\$2,315.4</b>	<b>\$1,073,165</b>	<b>18.5</b>
<b>Treasury Inflation-Protected Securities</b>			
BlackRock TIPS	\$2,101.3	\$52,963	1.0
<b>Subtotal:</b>	<b>\$2,101.3</b>	<b>\$52,963</b>	<b>1.0</b>

1. Reflects estimated investment management fees only.

# Public Markets Manager Fees

for the quarter ended December 31, 2021

## Risk Reduction & Mitigation

	Average Market Value (\$ mm)	Fees <sup>1</sup>	Annualized Effective Rate (bps)
<b>Investment Grade Bonds</b>			
Pugh Capital Management	\$1,182.2	\$350,191	11.8
Wells Capital Management	\$2,170.3	\$448,785	8.3
<b>Subtotal:<sup>2</sup></b>	<b>\$9,753.2</b>	<b>\$936,109</b>	<b>3.8</b>
<b>Cash</b>			
SSGA Cash	\$742.7	\$74,271	4.0
<b>Subtotal:</b>	<b>\$742.7</b>	<b>\$74,271</b>	<b>4.0</b>

1. Reflects estimated investment management fees only.
2. Includes BTC US Debt Index.

# Public Markets Manager Fees

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Overlays & Hedges

	Average Market Value (\$ mm)	Fees <sup>1</sup>	Annualized Effective Rate (bps)
<b>Overlays</b>			
Parametric Cash Overlay	\$1,400.4	\$102,258	2.9
<b>Subtotal:</b>	<b>\$1,400.4</b>	<b>\$102,258</b>	<b>2.9</b>
<b>Hedges</b>			
50% Developed Markets Currency Hedge	\$7,504.7	\$283,738	1.5
<b>Subtotal:</b>	<b>\$7,504.7</b>	<b>\$283,738</b>	<b>1.5</b>

1. Reflects estimated investment management fees only.

## 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.

### BRIGADE CUSTOM INDEX

*Inception – 3/31/20*  
50% Bloomberg Barclays Ba to B U.S. High Yield / 50% Credit Suisse Leveraged Loan Index  
*4/1/20 – Present*  
Bloomberg Barclays U.S. Corporate High Yield

## C

### CASH POLICY BM

*Inception – 3/31/19*  
FTSE 6-Month U.S. T-Bill Index  
*4/1/19 – Present*  
FTSE 3-Month U.S. T-Bill Index

### CORE PRIVATE REAL ESTATE POLICY BM

*Inception-9/30/21*  
NFI ODCE + 50 bps (3-month lag)  
*10/1/21 – Present*  
NFI ODCE (3-month lag)

### CREDIT POLICY BM

*Inception-9/30/21*  
25% Bloomberg Barclays Ba to B U.S. High Yield / 33% Credit Suisse Leveraged Loan Index / 17% Emerging Markets Debt Custom BM / 25% Illiquid Credit Custom BM  
*10/1/21 – Present*  
*Based on sub-asset market values*  
55% Liquid Credit BM / 45% Illiquid Credit Policy BM

## **CUSTOM HEDGE FUND BM**

*Inception – 3/31/19*

FTSE 3-Month U.S. T-Bill Index + 500 bps  
(1-month lag)

*4/1/19 – Present*

FTSE 3-Month U.S. T-Bill Index + 250 bps  
(1-month lag)

## **D**

### **DIVERSIFIED HEDGE FUNDS POLICY BM**

FTSE 3-Month U.S. T-Bill Index + 250 bps  
(1-month lag)

### **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.

## **E**

### **EAFE CUSTOM INDEX**

*Inception - 6/30/06*

MSCI EAFE (Net)

*6/30/06 – Present*

MSCI EAFE + Canada (Net)

### **EMERGING MARKET DEBT (EMD) POLICY BM**

50% JP Morgan EMBI Global Diversified /  
25% JP Morgan GBI-EM GD / 25% JP  
Morgan CEMBI BD

## **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.

## G

### **GLOBAL EQUITY POLICY BM**

*4/1/2019 – 6/31/2019*

80% MSCI ACWI IMI Net / 20% MSCI  
WORLD IMI ex U.S. (100% Currency  
Hedged)

*7/1/2019 – Present*

MSCI ACWI IMI Net

### **GROWTH POLICY BM**

*Based on sub-asset market values*

67% Global Equity Custom BM / 27%

Private Equity - Growth Custom BM / 6%

Non-Core Private Real Estate Custom BM

## H

### **HIGH YIELD BOND**

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

## I

### **ILLIQUID CREDIT POLICY BM**

*7/1/20188 – 9/30/2021*

Bloomberg Barclays U.S. Aggregate Index  
+ 250 bps (1-month lag)

*10/1/21 – Present*

Liquid Credit BM + 150 bps  
(1-month lag)

### **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.

## L

### **LIQUID CREDIT BM**

40% BBG Barc US Corp HY Index / 40%  
Credit Suisse Leverage Loan Index / 10%  
JPM EMBI Global Diversified Index / 5%  
JPM GBI-EM Global Diversified Index /  
5% JPM CEMBI Broad Diversified Index

## 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.

### **MSCI EM IMI CUSTOM INDEX**

*Inception – 12/31/00*

MSCI EM (Gross)

*12/31/00 – 8/31/08*

MSCI EM (Net)

*8/31/08 – Present*

MSCI EM IMI (Net)

## N

### **NATURAL RESOURCES & COMMODITIES POLICY BM**

*Inception-9/30/21*

50% Bloomberg Commodity Index / 50%  
S&P Global Large MidCap Commodity  
and Resources Index

*10/1/21 – Present*

33% Bloomberg Commodity Index /

67% S&P Global Natural Resources Index

### **NON-CORE PRIVATE REAL ESTATE POLICY BM**

*Inception-9/30/21*

NFI ODCE + 300 bps (3-month lag)

*10/1/21 – Present*

NFI ODCE + 225 bps (3-month lag)

## O

### **OPPORTUNISTIC REAL ESTATE POLICY BM**

NFI ODCE + 300 bps (3-month lag)

## P

### **PRIVATE EQUITY – CREDIT CUSTOM BM**

Bloomberg Barclays U.S. Aggregate +  
250 bps (3-month lag)

### **PRIVATE EQUITY – GROWTH POLICY BM**

MSCI ACWI IMI Net Index + 200 bps  
(3-month lag)

### **PRIVATE EQUITY – REAL ASSETS CUSTOM BM**

S&P Global Large MidCap Commodity  
and Resources Index (3-month lag)

### **PRIVATE INFRASTRUCTURE CUSTOM BM**

*Inception-9/30/21*

Dow Jones Brookfield Global  
Infrastructure Index (3-month lag)

*10/1/21 – Present*

Dow Jones Brookfield Global Composite  
Infrastructure Index (3-month lag)

## R

### **REAL ASSETS & INFLATION HEDGES POLICY BM**

*Based on sub-asset market values*

35% Core Private Real Estate Custom BM  
/ 24% Natural Resources & Commodities  
Custom BM / 24% DJ Brookfield Global  
Composite Infrastructure  
/ 17% Bloomberg Barclays U.S. TSY TIPS

### **RISK REDUCTION & MITIGATION POLICY BM**

*Based on sub-asset market values*

*Inception-9/30/21*

79% Bloomberg Barclays Aggregate  
/ 17% Diversified Hedge Funds Custom  
BM / 4% FTSE 3-month Treasury Bill  
*10/1/21 – Present*

62% Bloomberg Barclays Aggregate /  
24% Diversified Hedge Funds Custom BM  
/ 9% Bloomberg US Treasury: Long / 5%  
FTSE 3-month Treasury Bill

## 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 PRIVATE EQUITY BENCHMARK

*Inception – 3/31/19*

Private Equity Target (Russell 3000 rolling 10 year + 500 bps)

*3/31/19 – Present*

Composite weighted blend of Private Equity-Growth Custom BM, Private Equity-Credit Custom BM, and Private Equity-Real Assets Custom BM

### TOTAL REAL ESTATE BENCHMARK

*Inception – 3/31/19*

Real Estate Target (NCREIF ODCE Net + 40 bps)

*3/31/19 – 9/30/21*

Composite weighted blend of Opportunistic Real Estate Custom BM, NPI Income Lagged, and Core & Value-Added Real Estate Custom BM

*10/1/21 – Present*

Composite weighted blend of Non-Core Private Real Estate BM, NPI Income Lagged, and Core Private Real Estate BM

### 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.

## Y

### **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.

### **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.