



# Chief Investment Officer Monthly Report

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Jonathan Grabel – Chief Investment Officer

Board of Investments Meeting  
March 8, 2023

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# 01 **Market Environment**

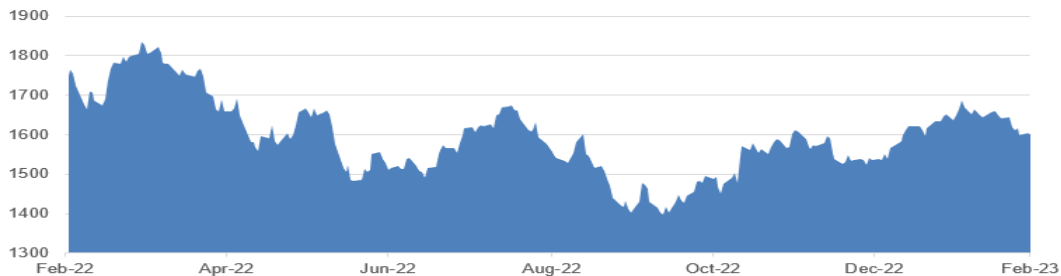
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# Global Market Performance as of February 28, 2023

## MSCI ACWI IMI Index (Global Equity Market)\*

Trailing Returns (%)				Annualized Returns (%)			
1-Month	3-Month	FYTD	YTD	1Y	3Y	5Y	10Y
-2.8	0.4	7.0	4.4	-8.1	8.9	5.7	7.9

### MSCI ACWI IMI Index 1-Year Performance

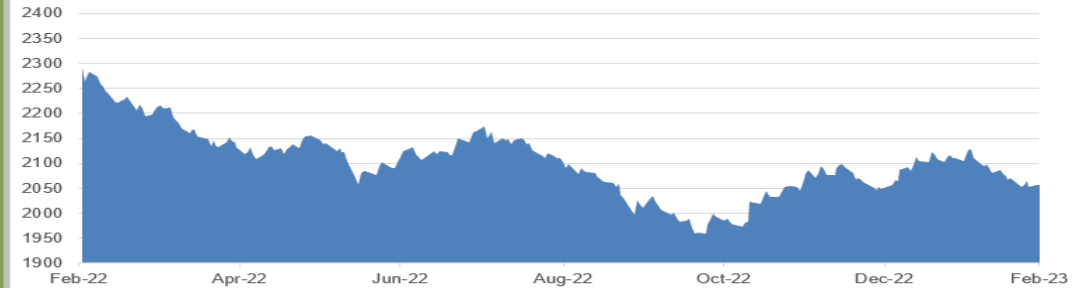


\*Global Equity Policy Benchmark - MSCI ACWI IMI Index

## Barclays U.S. Aggregate Bond Index\*\*

Trailing Returns (%)				Annualized Returns (%)			
1-Month	3-Month	FYTD	YTD	1Y	3Y	5Y	10Y
-2.6	0.0	-2.6	0.4	-9.7	-3.8	0.5	1.1

### Barclays U.S. Aggregate Bond Index 1-Year Performance



\*\*Investment Grade Bonds Policy Benchmark - Barclays U.S. Aggregate Bond Index

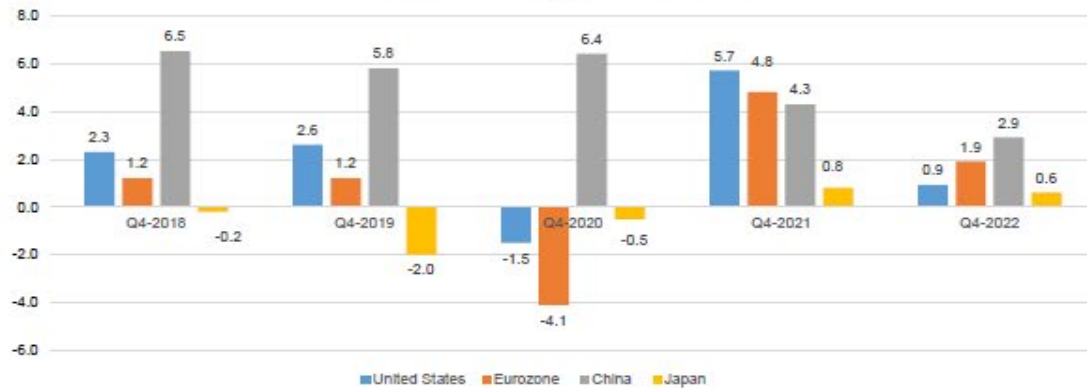
Market	Sub-Category	Index Name	1-Month	3-Month	FYTD	YTD	1 Y	3 Y	5 Y	10 Y
Equity	Global All Cap	MSCI ACWI IMI Total Return	-2.8	0.4	7.0	4.4	-8.1	8.9	5.7	7.9
	U.S. All Cap	Russell 3000 Total Return	-2.3	-1.7	6.9	4.4	-8.1	11.8	9.4	11.9
	U.S. Large Cap	S&P 500 Total Return	-2.4	-2.3	6.1	3.7	-7.7	12.1	9.8	12.2
	U.S. Small Cap	Russell 2000 Total Return	-1.7	0.9	12.1	7.9	-6.0	10.1	6.0	9.1
	Non-U.S. All Cap	MSCI ACWI-ex U.S. IMI Total Return	-3.4	3.7	7.6	4.3	-7.5	5.5	1.6	4.1
	Emerging Markets	MSCI Emerging Markets Total Return	-6.5	-0.5	-2.1	0.9	-15.3	1.0	-1.9	1.5
Private Equity	Private Equity Buyout	Thomson Reuters PE Buyout Index	-7.2	-9.4	4.1	-5.6	-20.5	8.5	5.0	11.5
Fixed Income	U.S. Investment Grade Bonds	Bloomberg U.S. Aggregate Index	-2.6	0.0	-2.6	0.4	-9.7	-3.8	0.5	1.1
	U.S. Corporate High Yield Bonds	Bloomberg U.S. Corporate High Yield Total Return	-1.3	1.8	6.1	2.5	-5.5	1.3	2.9	4.1
	Developed Markets Leveraged Loans	Credit Suisse Leveraged Loan Total Return	0.6	3.6	6.9	3.2	2.3	3.7	3.6	4.0
	U.S. Treasury Inflation Protected Securities	Bloomberg U.S. Treasury TIPS Total Return Index	-1.4	-0.6	-2.8	0.4	-10.4	0.2	2.6	1.2
	U.S. 3 Month Treasury Bill	FTSE 3 Month Treasury Bill	0.3	1.1	2.1	0.7	2.2	0.9	1.3	0.8
Commodity	Commodity Prices Index	Bloomberg Commodity Index Total Return	-4.7	-7.5	-7.0	-5.2	-4.7	15.5	5.3	-1.6
	Natural Resources	S&P Global LargeMidCap Commodity & Resources Index	-6.5	-4.6	11.4	-0.9	1.8	21.7	9.8	4.8
Infrastructure	Global Infrastructure	Dow Jones Brookfield Global Infrastructure Composite Index	-4.5	-2.4	-0.8	1.0	-2.1	4.1	5.2	5.3
Real Estate	U.S. REITs	MSCI U.S. REIT Index	-4.8	-0.1	-0.2	5.3	-11.7	4.2	7.4	6.5

# Key Macro Indicators\*



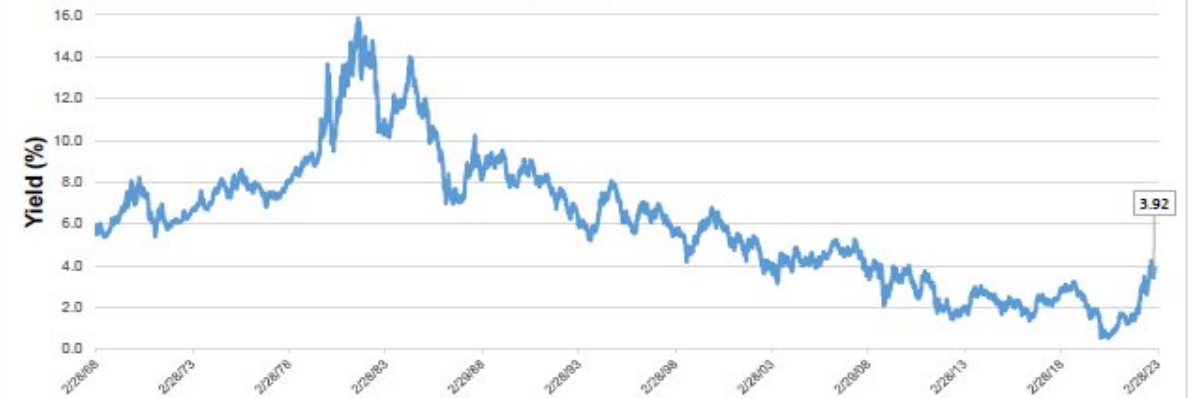
## GDP Growth of Major Economies<sup>1</sup>

### Real GDP Growth YoY (%) - Last Five Years



## 10-Year Treasury Yield<sup>2</sup>

### Historical 10-Year Treasury Yield



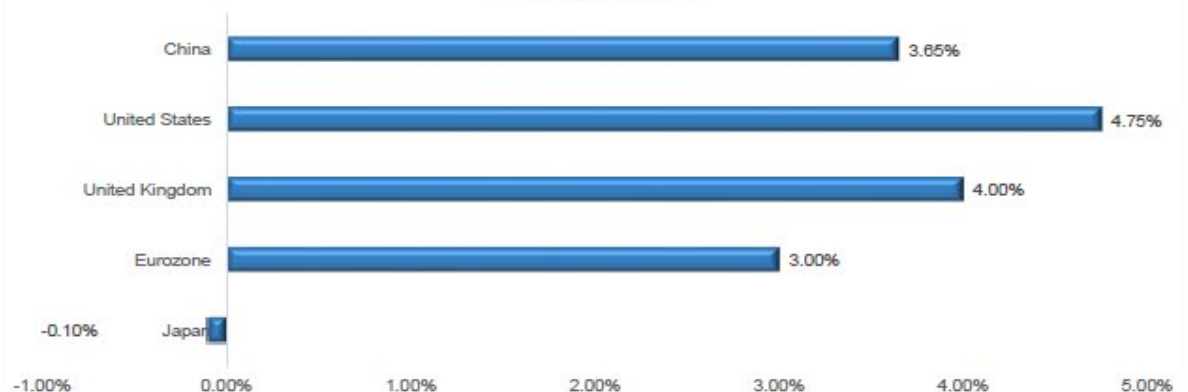
## World Equity Valuation<sup>3</sup>

### Price-to-Earnings - Last Five Years



## Central Bank Rates<sup>4</sup> (as of 2/28/2023)

### Central Bank Rates

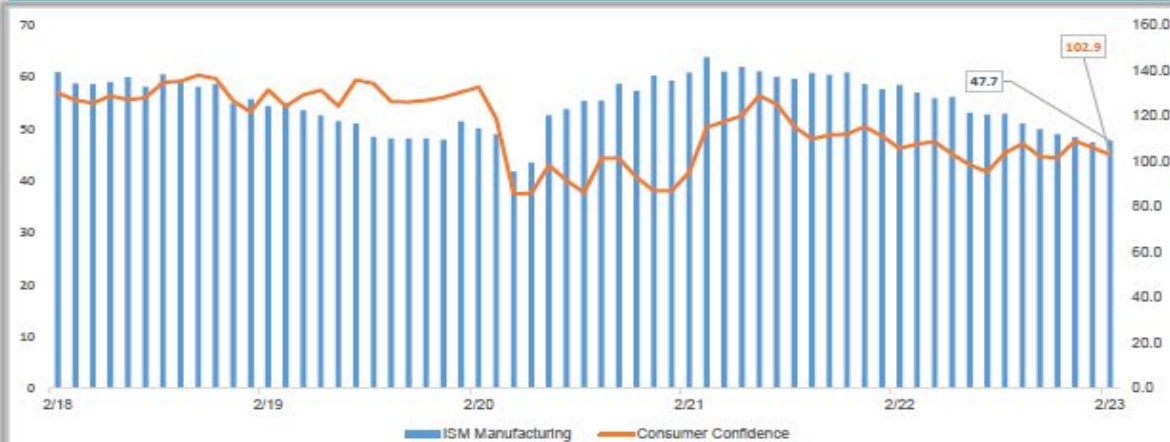


\*The information on the "Key Macro Indicators" charts is the best available data as of 2/28/23 and may not reflect the current market and economic environment

# Key Macro Indicators\*



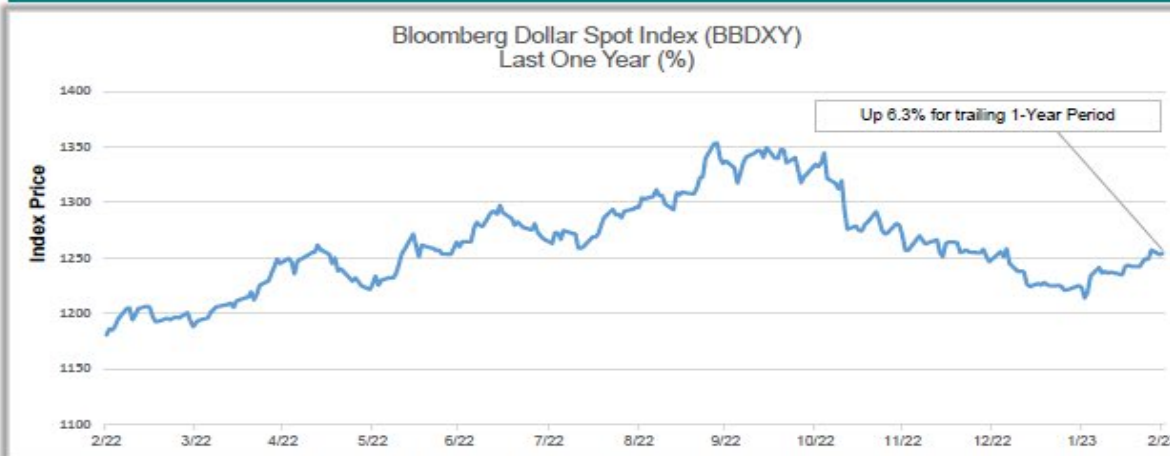
Consumer Confidence & ISM Manufacturing<sup>1</sup>



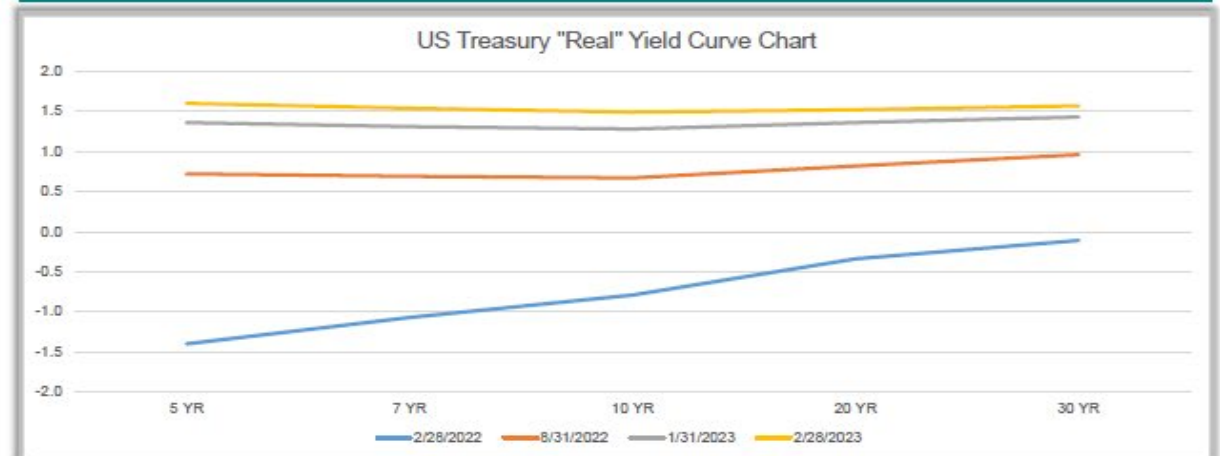
U.S. Inflation, Unemployment, & Labor Force Participation<sup>2</sup>



Performance of US Dollar vs. Leading Global Currencies<sup>3</sup>



U.S. Treasury "Real" Yield Curve<sup>4</sup>



\*The information on the "Key Macro Indicators" charts is the best available data as of 2/28/23 and may not reflect the current market and economic environment



# Market Themes and Notable Items to Watch



## Recent Themes

- Asset markets declined in February across most geographies as economic, inflation, and interest rate uncertainty elevated
- In early February, the Federal Reserve increased its benchmark interest rate by 0.25% to a target range of 4.5% - 4.75%, the highest level since October 2007
- The degree to which inflation is or is not cooling remains integral to the Federal Reserve being able to downshift its pace of interest rate increases
- The U.S. 10-year Treasury yield ended February at 3.92%, after being 3.88% at the end of 2022, 1.52% at the end of 2021 and 0.93% at the end of 2020
- Global equities (MSCI All Country World Investable Market Index) declined 2.8% in February

## What to Watch

- Interest rates and central bank actions
- Economic data and trends
  - Inflation, supply chains, and labor developments
- Macro conditions and geopolitical risks
- Environmental, social, and governance
  - Securities and Exchange Commission shortens settlement from two to one day after trade date, in part to address 2021 meme stock episode
  - Institutional Shareholder Services (ISS) study finds women and people of color represent 20% of board seats at Russell 3000 Index companies, up from less than 13% in 2019



# 02 Portfolio Performance & Risk Updates

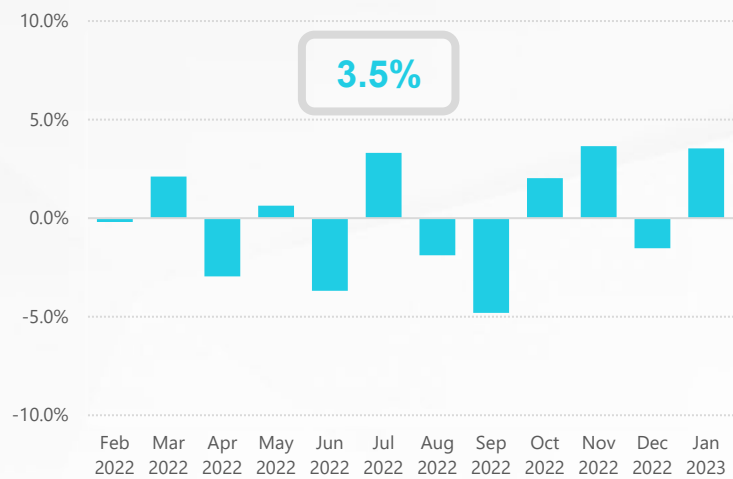
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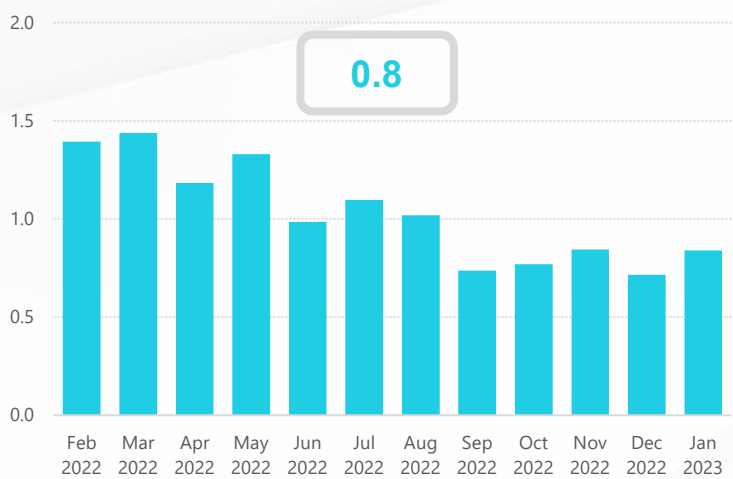
# Total Fund Summary as of January 2023



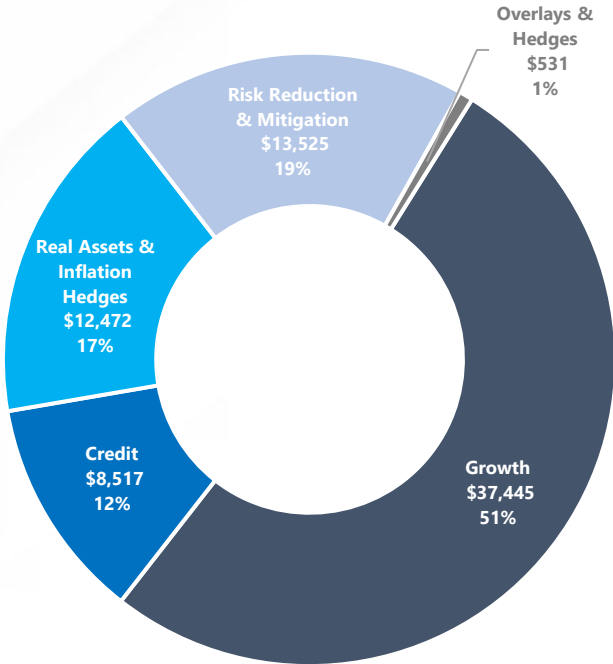
Monthly Return (net)



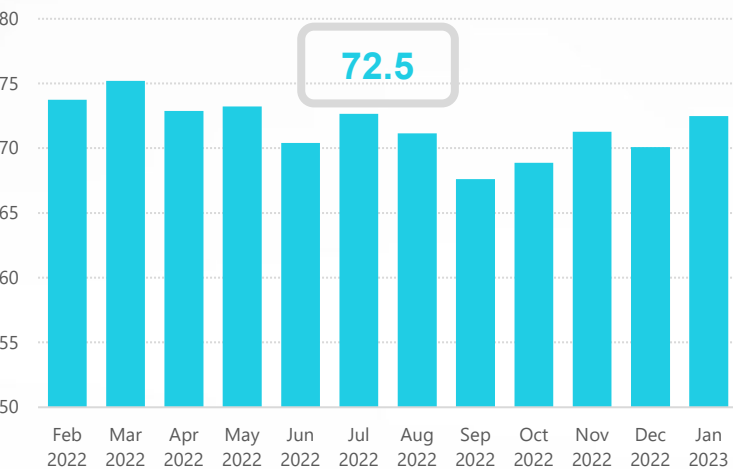
Sharpe Ratio (3-year annualized)



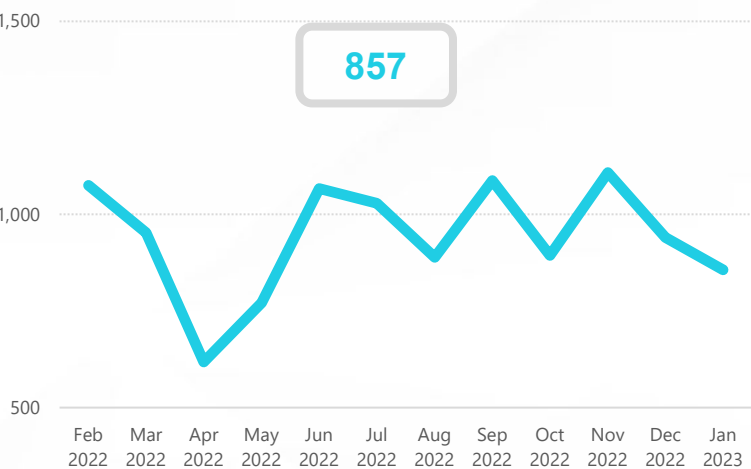
Asset Allocation (\$ millions)



Total Market Value (\$ billions)



Cash (\$ millions)

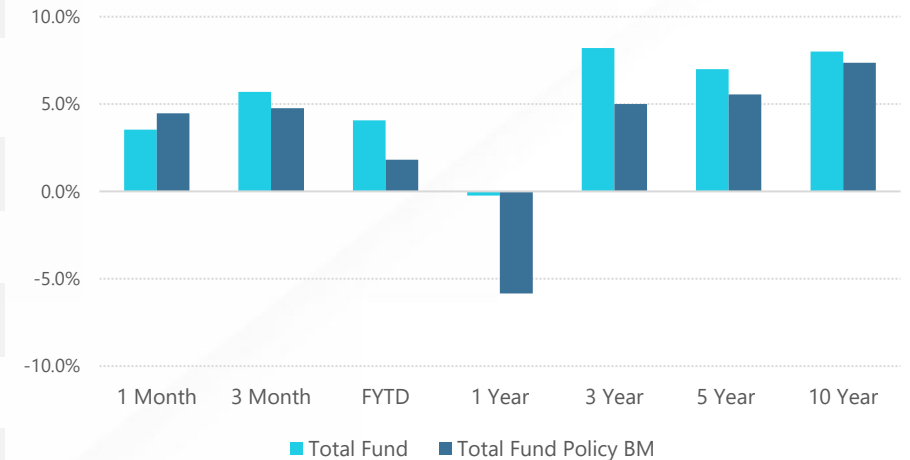


# Historical Net Performance as of January 2023



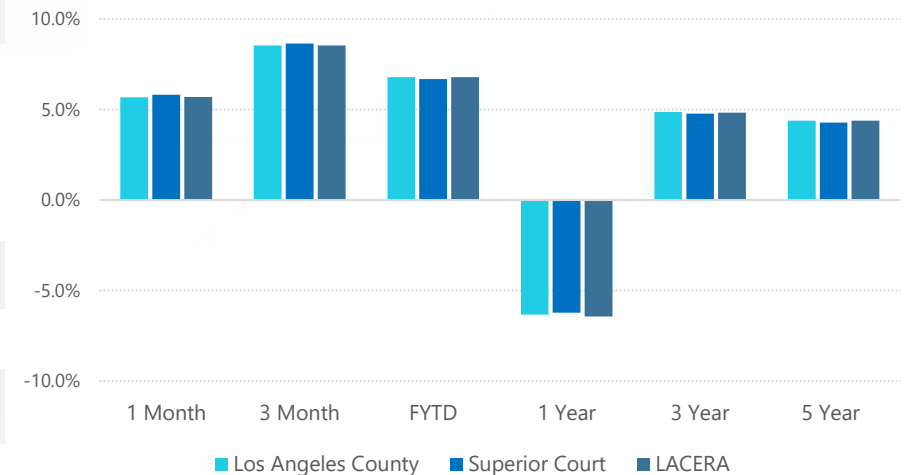
## LACERA Pension Fund

	Market Value (\$ millions)	% of Total Fund	Interim Target	1 Month	3 Month	FYTD	1 Year	3 Year	5 Year	10 Year
<b>Total Fund</b>	<b>72,490</b>	<b>100.0%</b>	<b>100.0%</b>	<b>3.5%</b>	<b>5.7%</b>	<b>4.1%</b>	<b>-0.2%</b>	<b>8.2%</b>	<b>7.0%</b>	<b>8.0%</b>
Total Fund Policy BM				4.5%	4.8%	1.8%	-5.9%	5.0%	5.6%	7.4%
7% Annual Hurdle Rate				0.6%	1.7%	4.0%	7.0%	7.0%	7.0%	7.0%
<b>Growth</b>	<b>37,445</b>	<b>51.7%</b>	<b>53.0%</b>	<b>4.6%</b>	<b>6.9%</b>	<b>5.4%</b>	<b>-2.2%</b>	<b>12.0%</b>		
Growth Policy BM				6.4%	4.2%	1.2%	-10.0%	7.5%		
<b>Credit</b>	<b>8,517</b>	<b>11.7%</b>	<b>11.0%</b>	<b>2.4%</b>	<b>4.4%</b>	<b>4.0%</b>	<b>-2.6%</b>	<b>3.3%</b>		
Credit Policy BM				1.3%	5.1%	2.3%	-6.1%	0.6%		
<b>Real Assets &amp; Inflation Hedges</b>	<b>12,472</b>	<b>17.2%</b>	<b>17.0%</b>	<b>1.6%</b>	<b>4.0%</b>	<b>3.3%</b>	<b>9.2%</b>	<b>9.0%</b>		
Real Assets & Inflation Hedges Policy BM				2.3%	4.5%	4.4%	7.3%	9.4%		
<b>Risk Reduction &amp; Mitigation</b>	<b>13,525</b>	<b>18.7%</b>	<b>19.0%</b>	<b>3.2%</b>	<b>6.0%</b>	<b>0.4%</b>	<b>-5.5%</b>	<b>-0.5%</b>		
Risk Reduction & Mitigation Policy BM				3.0%	6.0%	0.0%	-6.7%	-1.5%		
<b>Overlays &amp; Hedges</b>	<b>531</b>	<b>0.7%</b>		<b>9.2%</b>	<b>-19.4%</b>					

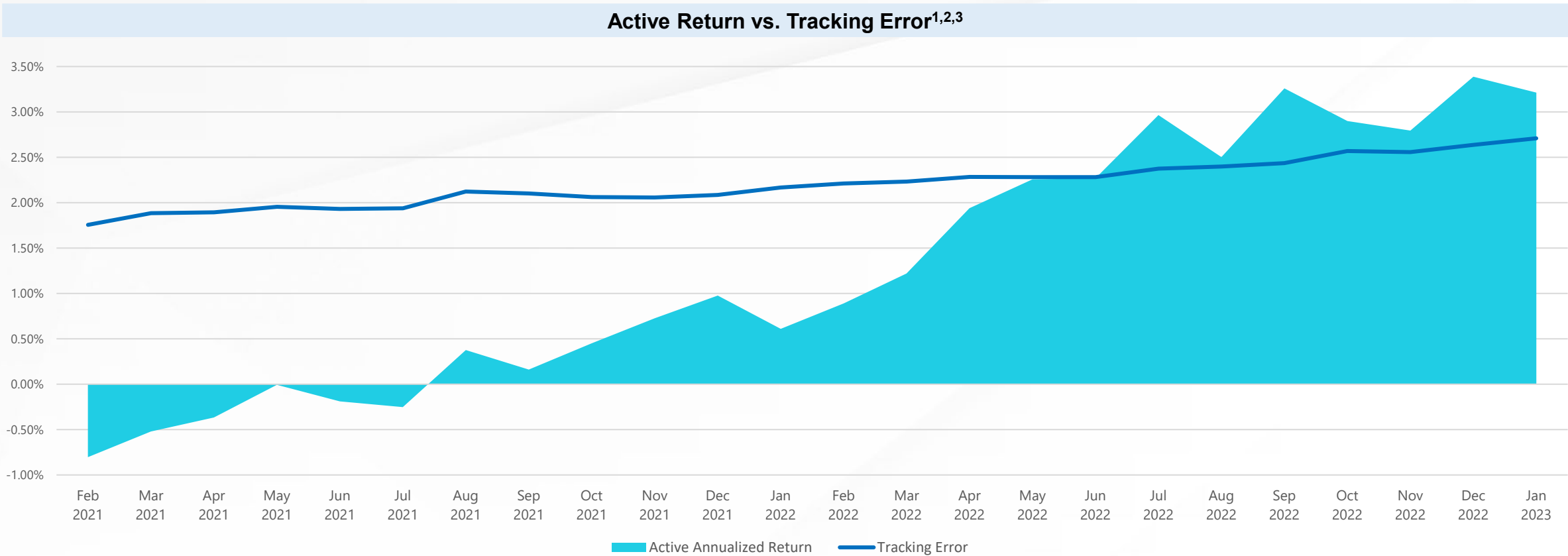


## OPEB Master Trust

	Market Value (\$ millions)	% of Master Trust	Interim Target	1 Month	3 Month	FYTD	1 Year	3 Year	5 Year
<b>OPEB Master Trust</b>	<b>2,791</b>			<b>5.7%</b>	<b>8.5%</b>	<b>6.8%</b>	<b>-6.3%</b>	<b>4.9%</b>	<b>4.4%</b>
Los Angeles County	2,719	97.4%	—	5.7%	8.5%	6.8%	-6.3%	4.9%	4.4%
Superior Court	60	2.1%	—	5.8%	8.6%	6.7%	-6.2%	4.8%	4.3%
LACERA	12	0.4%	—	5.7%	8.5%	6.8%	-6.4%	4.8%	4.4%
<b>LACERA Master OPEB Trust Fund</b>	<b>2,790</b>		<b>100.0%</b>	<b>5.6%</b>	<b>8.5%</b>	<b>6.5%</b>	<b>-6.4%</b>	<b>4.9%</b>	<b>4.4%</b>
OPEB Master Trust Policy Benchmark				5.0%	7.7%	5.7%	-7.2%	4.3%	3.9%
<b>OPEB Growth</b>	<b>1,343</b>	<b>48.1%</b>	<b>47.5%</b>	<b>7.2%</b>	<b>11.0%</b>	<b>10.1%</b>	<b>-7.5%</b>	<b>7.1%</b>	<b>5.6%</b>
OPEB Growth Policy Benchmark				7.3%	10.1%	8.7%	-8.8%	6.4%	5.1%
<b>OPEB Credit</b>	<b>520</b>	<b>18.6%</b>	<b>19.0%</b>	<b>3.2%</b>	<b>6.5%</b>	<b>7.6%</b>	<b>-2.2%</b>	<b>0.7%</b>	--
OPEB Credit Policy Benchmark				2.8%	5.6%	5.9%	-3.8%	0.6%	--
<b>OPEB Real Assets &amp; Inflation Hedges</b>	<b>560</b>	<b>20.1%</b>	<b>20.0%</b>	<b>6.1%</b>	<b>6.5%</b>	<b>1.3%</b>	<b>-6.7%</b>	<b>5.2%</b>	--
OPEB RA & IH Policy Benchmark				2.4%	3.4%	2.8%	-5.8%	5.5%	--
<b>OPEB Risk Reduction &amp; Mitigation</b>	<b>367</b>	<b>13.2%</b>	<b>13.5%</b>	<b>3.4%</b>	<b>6.0%</b>	<b>1.0%</b>	<b>-5.7%</b>	<b>-1.4%</b>	<b>1.4%</b>
OPEB RR & M Policy Benchmark				3.3%	6.6%	-0.5%	-7.2%	-2.0%	1.0%



# Performance Based Risk as of January 2023



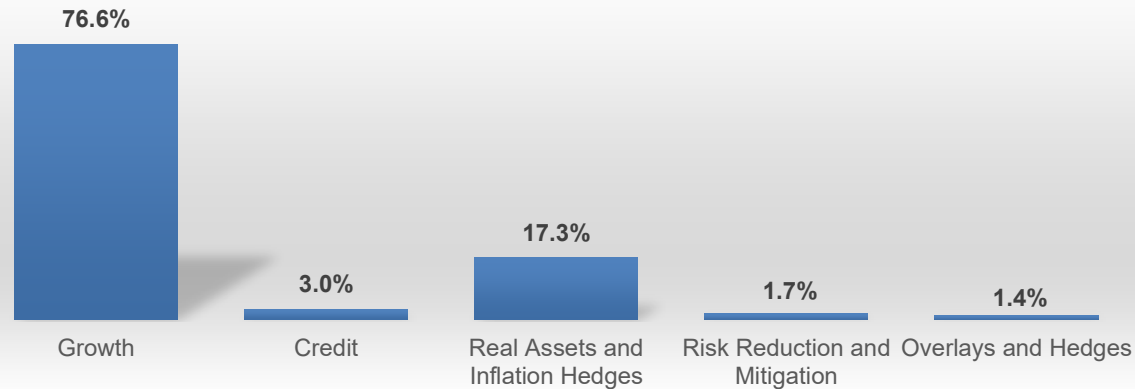
Period Ending	Annualized Return	Annualized Benchmark Return	Annualized Active Return	Tracking Error
Jan 2023	8.2%	5.0%	3.2%	2.7%

<sup>1</sup> Rolling 36 months  
<sup>2</sup> Active return equals the difference in return between a portfolio and its benchmark  
<sup>3</sup> Tracking error (or active risk) measures the volatility of active returns

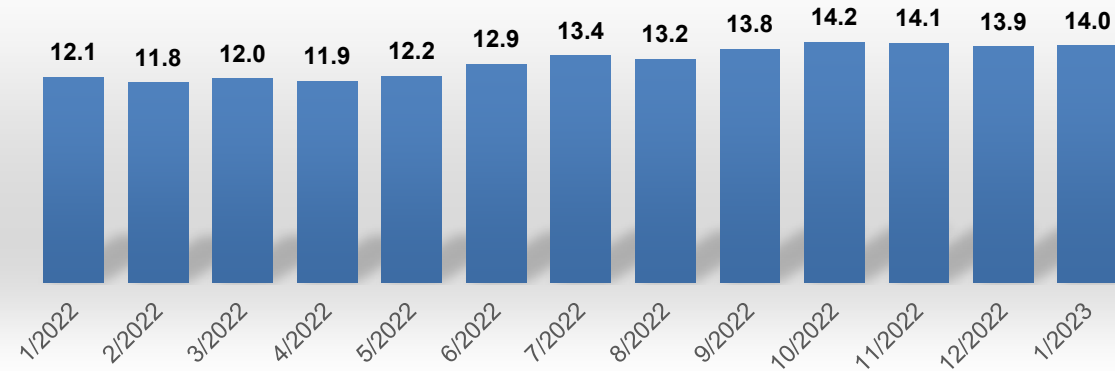
# Total Fund Forecast Risk\* as of January 2023



%Contribution to Total Risk



Total Risk



	%Weight	% Cont. to Total Risk	Standalone Total Risk	Standalone BMK Risk**
<b>Total Fund</b>			<b>14.0</b>	<b>13.2</b>
<b>Growth</b>	<b>51.8%</b>	<b>76.6%</b>	<b>20.9</b>	<b>19.8</b>
Global Equity	33.1%	42.3%	18.7	18.8
Private Equity	17.3%	31.1%	28.6	27.3
Non-Core Private Real Estate	1.4%	3.2%	44.4	19.9
<b>Credit</b>	<b>11.6%</b>	<b>3.0%</b>	<b>4.7</b>	<b>5.7</b>
Liquid Credit	6.3%	2.2%	6.3	5.7
Illiquid Credit	5.3%	0.8%	3.9	5.7
<b>Real Assets &amp; Inflation Hedges</b>	<b>17.5%</b>	<b>17.3%</b>	<b>15.2</b>	<b>14.3</b>
Core Private Real Estate	6.1%	6.9%	22.3	19.9
Natural Resources & Commodities	3.2%	3.3%	18.5	20.4
Infrastructure	5.5%	6.6%	18.2	18.3
TIPS	2.7%	0.6%	6.9	6.7
<b>Risk Reduction and Mitigation</b>	<b>18.5%</b>	<b>1.7%</b>	<b>6.5</b>	<b>6.2</b>
Investment Grade Bonds	7.1%	0.8%	6.5	6.5
Diversified Hedge Funds	5.9%	0.5%	3.9	0.2
Long-Term Government Bonds	4.3%	0.5%	14.9	14.9
Cash	1.2%	0.0%	-	-
<b>Overlays and Hedges</b>	<b>0.7%</b>	<b>1.4%</b>	<b>-</b>	<b>-</b>

\*Implementation of the MSCI Risk Platform is ongoing; reconciliation and refinement of the data is progressing and subject to change. Real estate and private equity data used is as of 9/30/2022

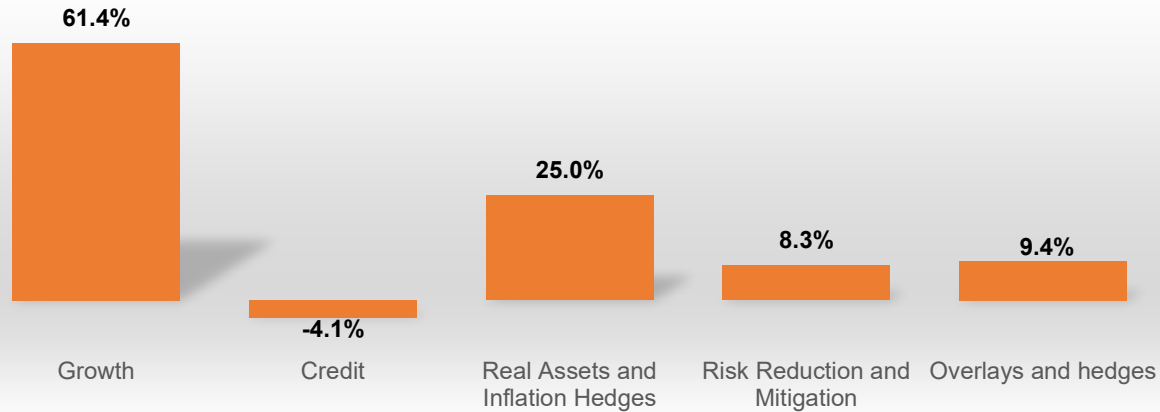
\*\*BMK Risk stands for Benchmark Risk

SOURCE: MSCI BarraOne

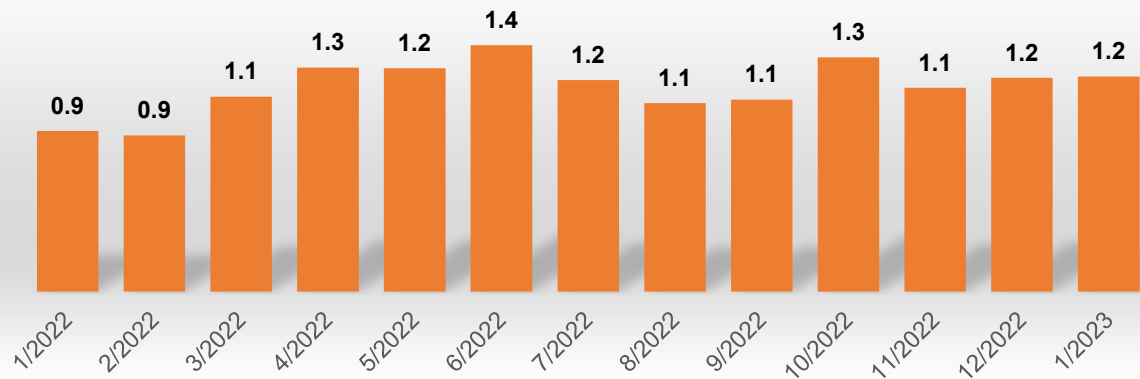
# Total Fund Forecast Active Risk\* as of January 2023



Active Risk Contribution



Active Risk



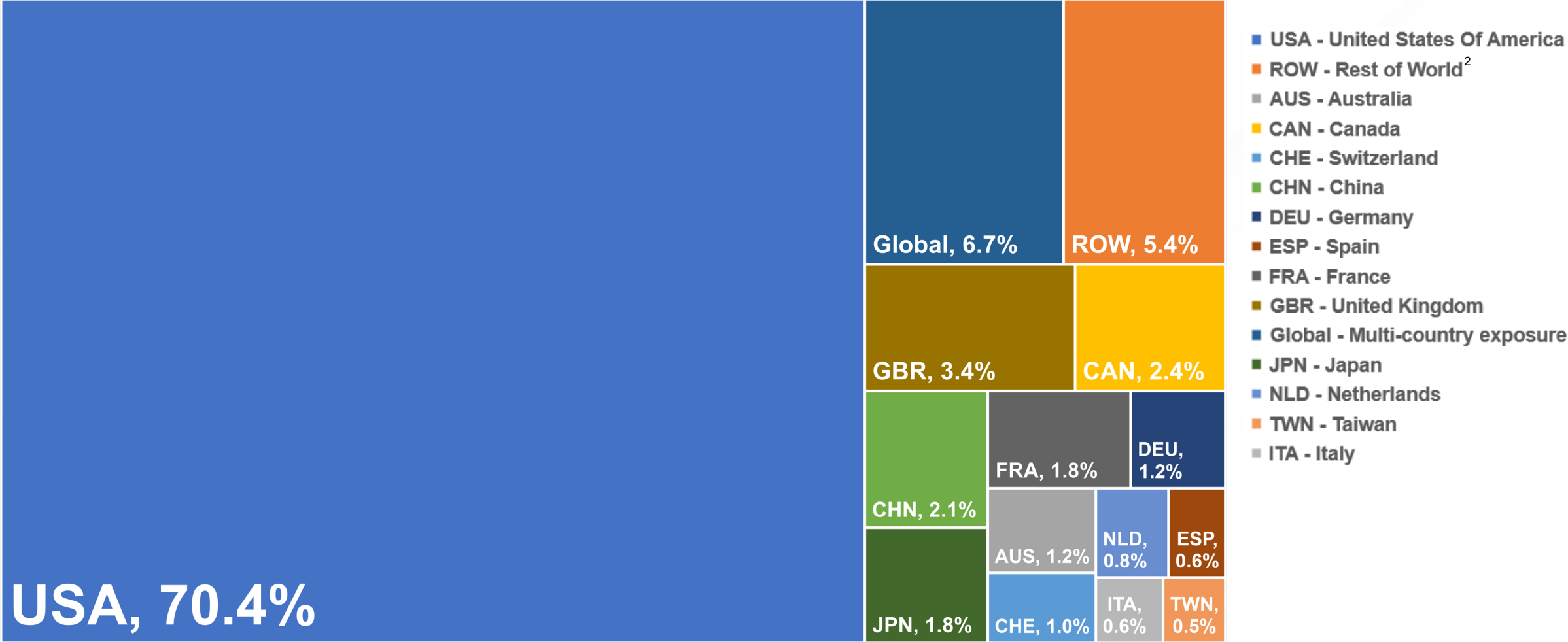
	%Weight	Active Weight%	Active Risk	Active Risk Allocation	Active Risk Selection
<b>Total Fund</b>			<b>1.20</b>	<b>0.05</b>	<b>1.16</b>
<b>Growth</b>	<b>51.8%</b>	<b>-1.21%</b>	<b>0.74</b>	<b>-0.06</b>	<b>0.80</b>
Global Equity	33.1%				
Private Equity	17.3%				
Non-Core Private Real Estate	1.4%				
<b>Credit</b>	<b>11.6%</b>	<b>0.60%</b>	<b>-0.05</b>	<b>-0.04</b>	<b>-0.01</b>
Liquid Credit	6.3%				
Illiquid Credit	5.3%				
<b>Real Assets &amp; Inflation Hedges</b>	<b>17.5%</b>	<b>0.46%</b>	<b>0.30</b>	<b>-0.01</b>	<b>0.31</b>
Core Private Real Estate	6.1%				
Natural Resources & Commodities	3.2%				
Infrastructure	5.5%				
TIPS	2.7%				
<b>Risk Reduction and Mitigation</b>	<b>18.5%</b>	<b>-0.51%</b>	<b>0.10</b>	<b>0.04</b>	<b>0.06</b>
Investment Grade Bonds	7.1%				
Diversified Hedge Funds	5.9%				
Long-Term Government Bonds	4.3%				
Cash	1.2%				
<b>Overlays and Hedges</b>	<b>0.7%</b>	<b>0.66%</b>	<b>0.11</b>	<b>0.11</b>	<b>-</b>

\*Implementation of the MSCI Risk Platform is ongoing; reconciliation and refinement of the data is progressing and subject to change. Real estate and private equity data used is as of 9/30/2022

SOURCE: MSCI BarraOne

# Geographic Exposures by AUM\* - Total Fund

as of January 2023 ex-overlays & hedges

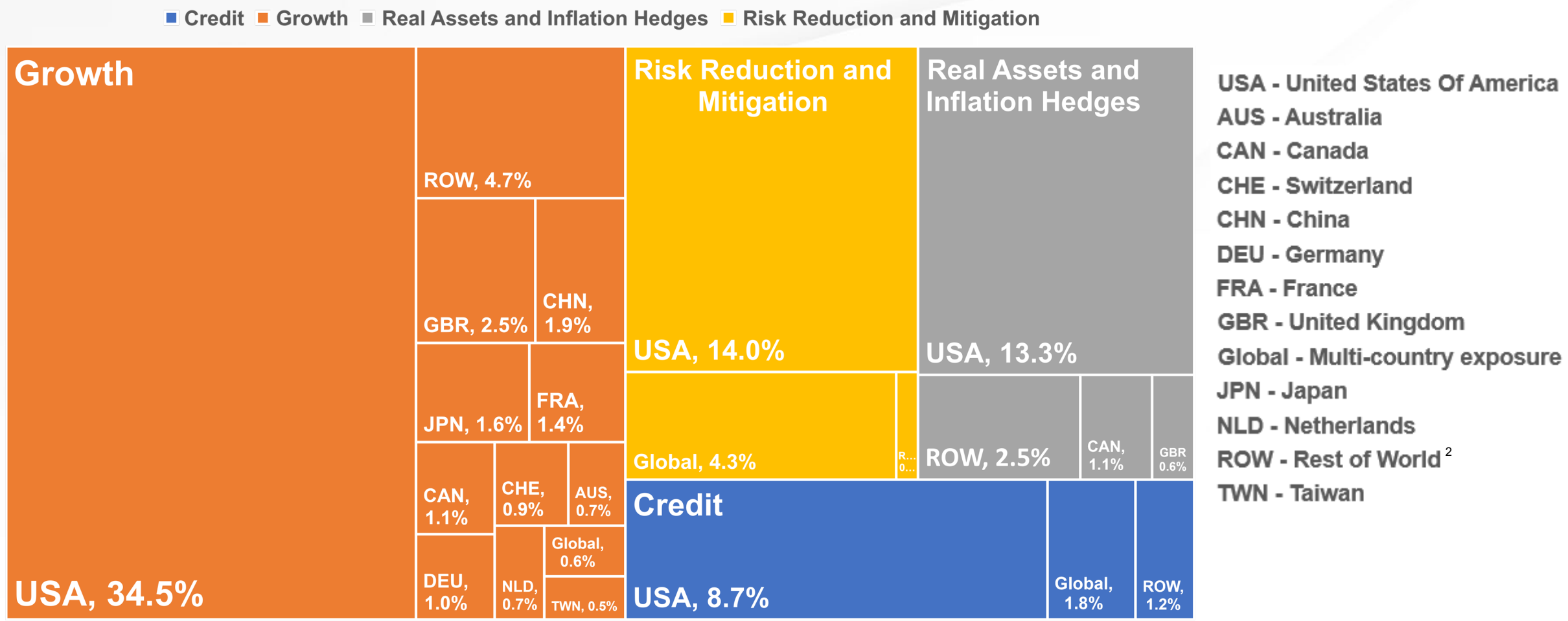


\*AUM = assets under management  
<sup>1</sup> \*Implementation of the MSCI Risk Platform is ongoing; reconciliation and refinement of the data is progressing and subject to change. Real estate and private equity data used is as of 9/30/2022  
<sup>2</sup> "ROW - Rest of World" is sum of countries with weight below 0.5%  
<sup>3</sup> Geographic exposure is based on the domicile country of a given security/asset

SOURCE: MSCI BarraOne



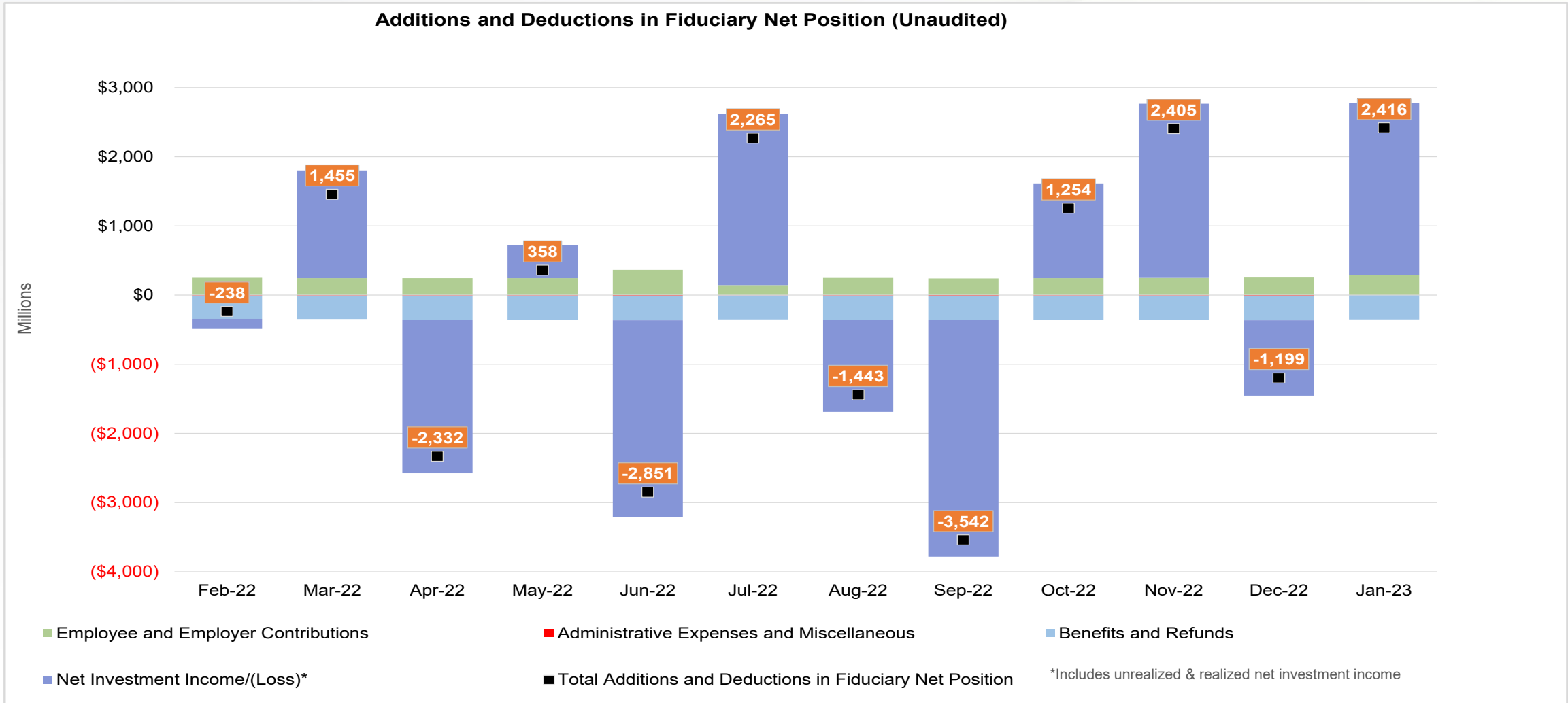
# Geographic Exposures by AUM\* - Asset Categories as of January 2023 ex-overlays & hedges



\*AUM = assets under management  
<sup>1</sup> \*Implementation of the MSCI Risk Platform is ongoing; reconciliation and refinement of the data is progressing and subject to change. Real estate and private equity data used is as of 9/30/2022  
<sup>2</sup> "ROW - Rest of World" is sum of countries with weight below 0.5%  
<sup>3</sup> Geographic exposure is based on the domicile country of a given security/asset

SOURCE: MSCI BarraOne

# Change In Fiduciary Net Position



Fiscal Year	Negative Months	Positive Months	Total Net Position Change \$
FY-21	2	10	\$13.8 billion
FY-22	7	5	(\$2.5 billion)
FY-23	3	4	\$2.2 billion



# 03 Portfolio Structural Updates

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# Portfolio Structural Updates



## Portfolio Movements

### Rebalancing Activity



## Hedges & Overlays

### Monthly Activity

Program	January Return	January Gain/(Loss)	Inception <sup>1</sup> Gain/(Loss)
Currency Hedge <sup>2</sup>	-0.7%	\$52.7 Million	\$1.4 Billion
Cash/Rebalance Overlay <sup>3</sup>	3.9%	\$90.4 Million	\$313.9 Million

<sup>1</sup> Currency and overlay program inception dates are 8/2010 & 7/2019, respectively.  
<sup>2</sup> LACERA's currency hedge program's 1-month return is calculated monthly whereas the monthly gain/loss amount for the same period is the net realized dollar amount at contract settlement over three monthly tranches.  
<sup>3</sup> LACERA's overlay program's 1-month return includes interest earned on the cash that supports the futures contracts.

## Current Search Activity

### Status of Active Searches – Subject to Change

Name	RFP Issued	Due Diligence	BOI Review
Real Assets Emerging Manager Program Search	✓		Anticipated Q3 2023
OPEB Public Markets Passive Investment Management Search	✓		Anticipated Q3 2023



# 04 Key Initiatives & Operational Updates

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# Notable Initiatives and Operational Updates



## Key Initiative Updates

- The 2024 Strategic asset allocation study will begin in the Q3 of this year
- The Investment Division is adhering to the 2023 Work Plan and Strategic Initiatives approved at the January 2023 BOI

## Operational Updates

- Annual contract compliance review is complete
- Operational due diligence review in progress

## Manager/Consultant Updates

No material updates this month

## Team Searches and Vacancies

- Working on launching new searches
  - 1 – Deputy Chief Investment Officer
    - Search in progress
  - 1 – Principal Investment Officer
  - 2 – Senior Investment Officer
    - 1 search in progress
  - 2 – Financial Analyst-III
    - 2 searches in progress
  - 3 – Financial Analyst-II
    - 3 searches in progress
  - 1 – Financial Analyst-I





# 05 Commentary

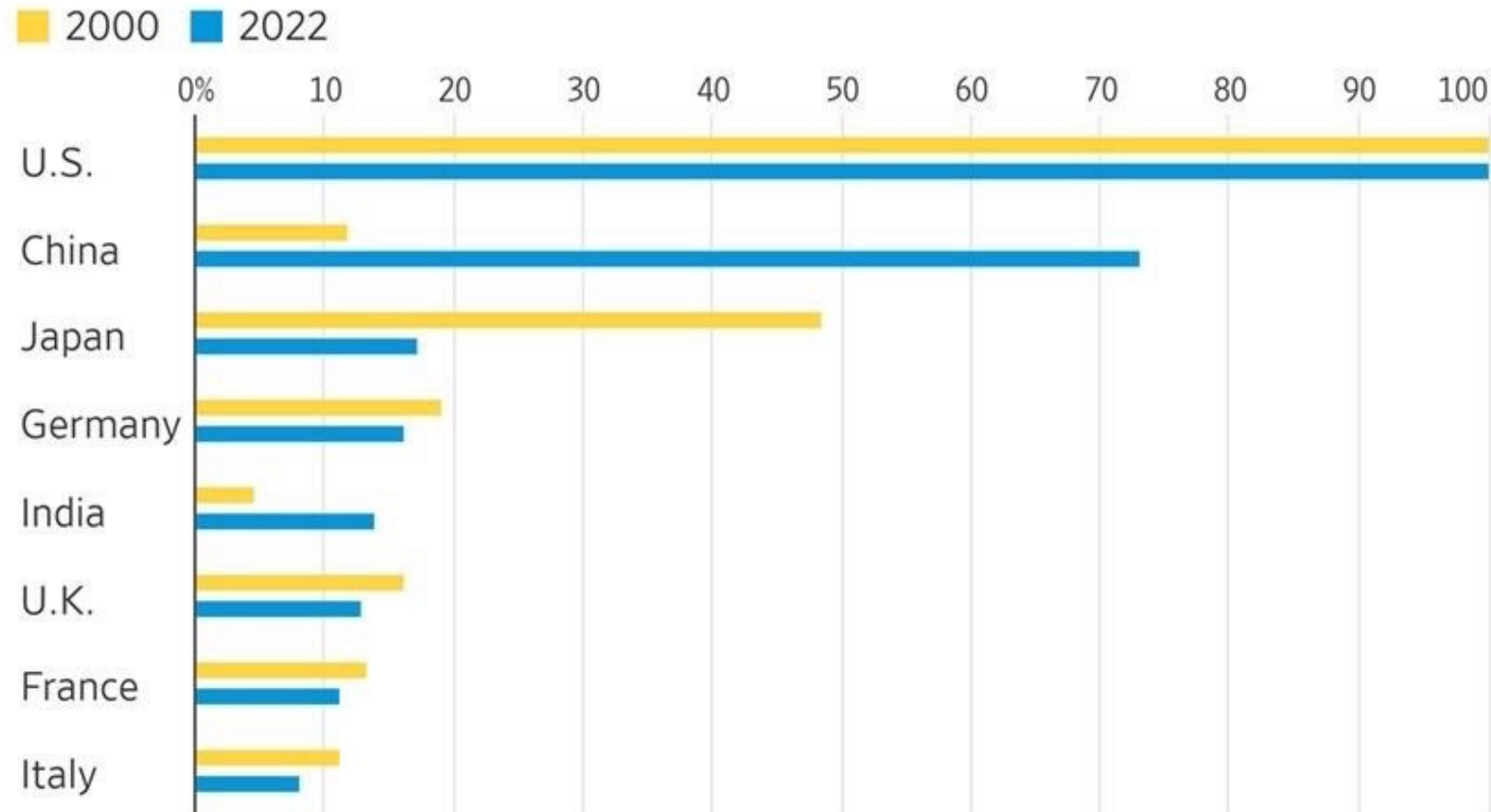
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# Staff Chart of the Month

## Size of Major Economies Relative to the U.S. Over the Past Two Decades



Size of economy relative to U.S.



Source: International Monetary Fund

Via Wall Street Journal

# Staff Chart of the Month

## U.S. Unemployment Rate Hits 53-Year Low

