

# Employees' Retirement System of the City of Norfolk

**Meeting Materials**

**September 20, 2023**

**Fund Evaluation Report**

## Agenda

**1. Economic and Market Update As Of July 31, 2023**

**2. Executive Summary**

**3. Performance Update As Of July 31, 2023**

**4. Appendices**

- Second Quarter 2023 Investment Review
- Disclaimer, Glossary and Notes

# **Economic and Market Update**

**Data as of July 31, 2023**

## Commentary

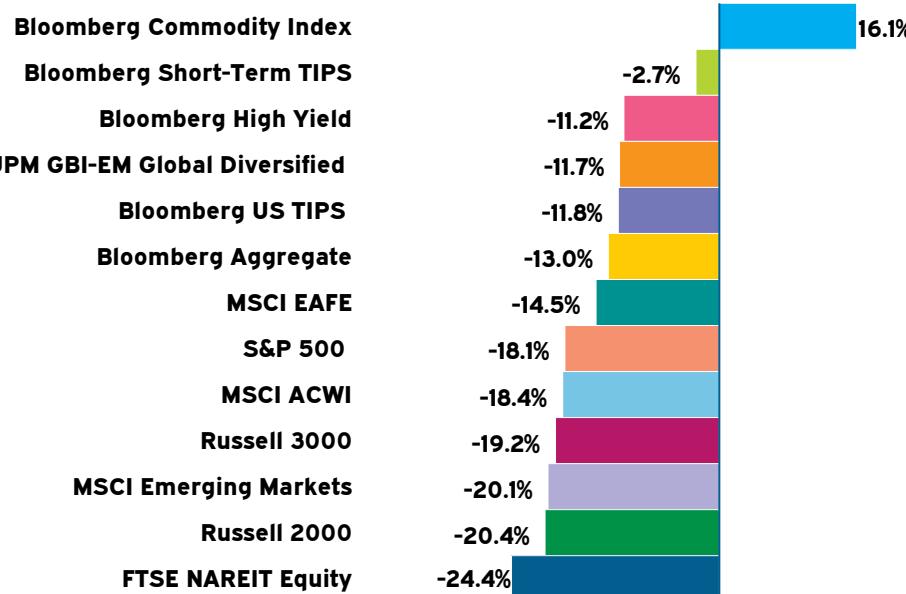
→ Riskier assets continued to gain in July as economic data remained resilient while inflation receded. Except for commodities, most public market asset classes remained positive for the year, with US equities leading the way.

- After a pause in June, the Federal Reserve increased interest rates in July by 0.25% to a range of 5.25% - 5.5%, the highest level in over two decades. Markets are largely expecting that this will be the Fed's final rate increase.
- US equity markets (Russell 3000 index) continued to rise in July (+3.6%), bringing the year-to-date gains to 20.3%. The technology sector remains the key driver of results this year, helped by artificial intelligence optimism.
- Non-US developed equity markets also rose in July (MSCI EAFE +3.2%), but they continue to trail US markets year-to-date (15.3% versus 20.3%).
- Emerging market equities had the strongest results in July, gaining 6.2%, driven by optimism over additional policy support in China. They continue to trail developed market equities year-to-date though, returning 11.4%, due partly to China's weak results for the period.
- Generally, corporate bonds outperformed government bonds for the month on continued risk appetite. Overall, interest rates increased slightly in July, leading to a small decline in the broad US bond market (-0.1%). The index remains positive (+2.0%) year-to-date on declining inflation and expectations for the Fed to end their rate hikes soon.

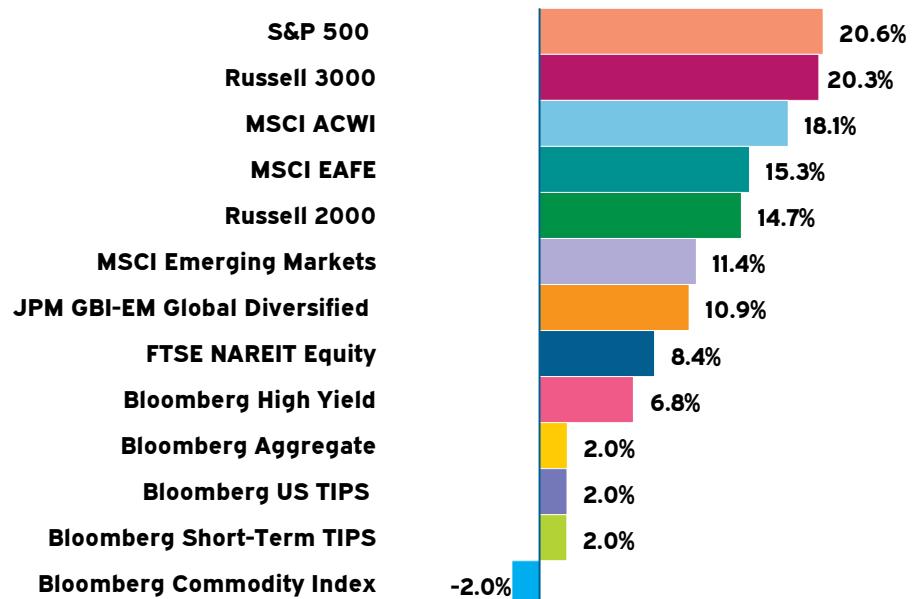
→ This year, the paths of inflation and monetary policy, slowing global growth, and the war in Ukraine will all be key.

### Index Returns<sup>1</sup>

#### 2022



#### YTD



- After a particularly difficult 2022, most public market assets are up thus far in 2023, led by developed market equities.
- Risk sentiment has been supported by expectations that policy tightening could be ending soon, as inflation continues to fall, while growth has remained relatively resilient.

<sup>1</sup> Source: Bloomberg. Data is as of July 31, 2023.

Domestic Equity Returns<sup>1</sup>

Domestic Equity	July (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	3.2	8.7	20.6	13.0	13.7	12.2	12.7
Russell 3000	3.6	8.4	20.3	12.6	13.1	11.4	12.1
Russell 1000	3.4	8.6	20.7	12.9	13.2	11.9	12.4
Russell 1000 Growth	3.4	12.8	33.4	17.3	12.2	15.2	15.5
Russell 1000 Value	3.5	4.1	8.8	8.3	14.1	8.0	9.0
Russell MidCap	4.0	4.8	13.3	8.7	11.8	8.8	10.1
Russell MidCap Growth	3.0	6.2	19.4	13.0	6.0	9.9	11.2
Russell MidCap Value	4.4	3.9	9.8	6.2	14.9	7.2	8.9
Russell 2000	6.1	5.2	14.7	7.9	12.0	5.1	8.2
Russell 2000 Growth	4.7	7.1	18.9	11.6	6.5	4.8	8.5
Russell 2000 Value	7.5	3.2	10.2	3.9	17.5	4.7	7.4

## US Equities: Russell 3000 Index rose 3.6% in July and 20.3% YTD.

- Equity investors continue to express optimism that the Federal Reserve's monetary tightening will not have serious impacts on earnings. Though corporate profits were down compared to a year ago, approximately 80% of S&P 500 companies that reported second quarter results in July exceeded earnings expectations.
- In contrast to the year-to-date trend, value stocks outperformed growth stocks in July, particularly in small cap, driven by outperformance in financials and energy. So far in 2023, growth has significantly outperformed value driven by optimism over artificial intelligence.
- Small cap stocks outperformed large cap stocks in July, but trail for the full year, again due to the strength of the technology sector. The July dynamic was driven partially by the outperformance of small cap banks after regulators announced higher capital requirements for larger banks.

<sup>1</sup> Source: Bloomberg. Data is as of July 31, 2023.

Foreign Equity Returns<sup>1</sup>

Foreign Equity	July (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	4.1	2.4	13.9	13.4	7.1	3.9	4.7
MSCI EAFE	3.2	3.0	15.3	16.8	9.3	4.5	5.2
MSCI EAFE (Local Currency)	1.7	4.3	14.0	13.6	13.0	6.2	7.4
MSCI EAFE Small Cap	4.4	0.6	10.2	7.9	6.1	2.1	6.0
MSCI Emerging Markets	6.2	0.9	11.4	8.3	1.5	1.7	3.5
MSCI Emerging Markets (Local Currency)	5.3	1.7	11.1	8.6	3.0	3.7	6.1
MSCI China	10.8	-9.7	4.7	1.8	-9.9	-2.8	3.7

**Foreign Equity: Developed international equities (MSCI EAFE) rose 3.2% in July bringing the YTD gains to 15.3%. Emerging market equities (MSCI EM) rose 6.2% in July, rising 11.4% YTD.**

- International equities also had strong results in July, led by China and emerging markets more broadly.
- Japanese equities continued their steady rise, especially in the mid- and small-cap sectors. Eurozone and UK equities were broadly supported by falling inflation and solid corporate fundamentals.
- After a disappointing reopening of the economy, China's government announced additional support to stimulate consumption and bolster the real estate sector, leading to double-digit gains for the month (10.8%). India underperformed as higher food costs kept inflation elevated.

<sup>1</sup> Source: Bloomberg. Data is as of July 31, 2023.

### Fixed Income Returns<sup>1</sup>

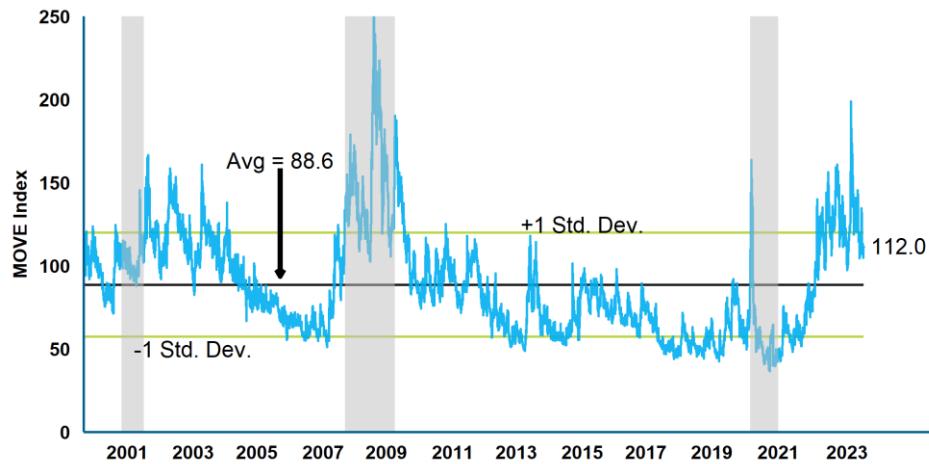
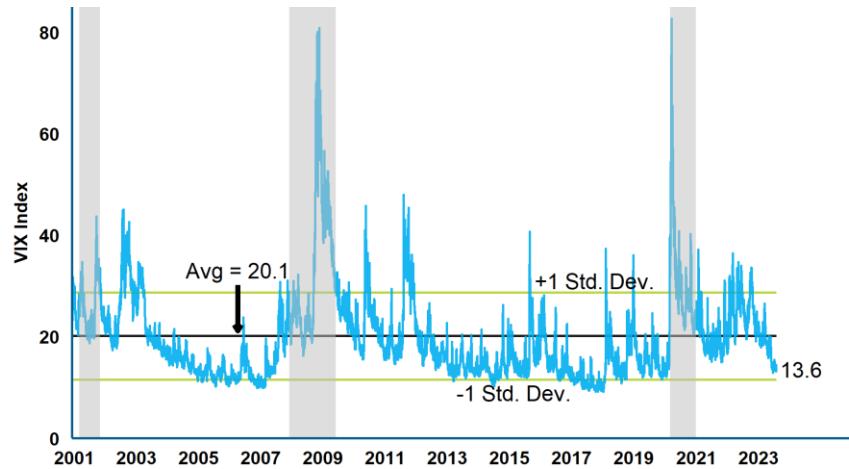
Fixed Income	July (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	0.1	-0.6	2.4	-2.4	-4.0	1.0	1.8	5.2	6.2
Bloomberg Aggregate	-0.1	-0.8	2.0	-3.4	-4.5	0.7	1.5	4.9	6.5
Bloomberg US TIPS	0.1	-1.4	2.0	-5.4	-0.8	2.6	2.0	4.6	6.9
Bloomberg Short-term TIPS	0.5	-0.7	2.0	-1.2	2.3	2.9	1.7	5.3	2.7
Bloomberg High Yield	1.4	1.7	6.8	4.4	2.0	3.4	4.4	8.3	4.0
JPM GBI-EM Global Diversified (USD)	2.9	2.5	10.9	14.3	-1.5	0.5	-0.2	6.5	5.0

**Fixed Income:** The Bloomberg Universal rose 0.1% in July remaining positive YTD (+2.4%), as inflation continues to decline, and yields remain high.

- In July, riskier bonds continued to outperform government bonds on optimism over a potential soft landing of the economy.
- The broad US bond market (Bloomberg Aggregate) declined slightly for the month (-0.1%) while the TIPS index, and the short-term TIPS index both posted small gains. All three indexes now have the same results so far in 2023.
- In the risk-on environment, high yield bonds rose 1.4% for the month, while emerging market bonds were the top performer, up 2.9%. The two asset classes remain the top performers for the year.

<sup>1</sup> Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of July 31, 2023. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.

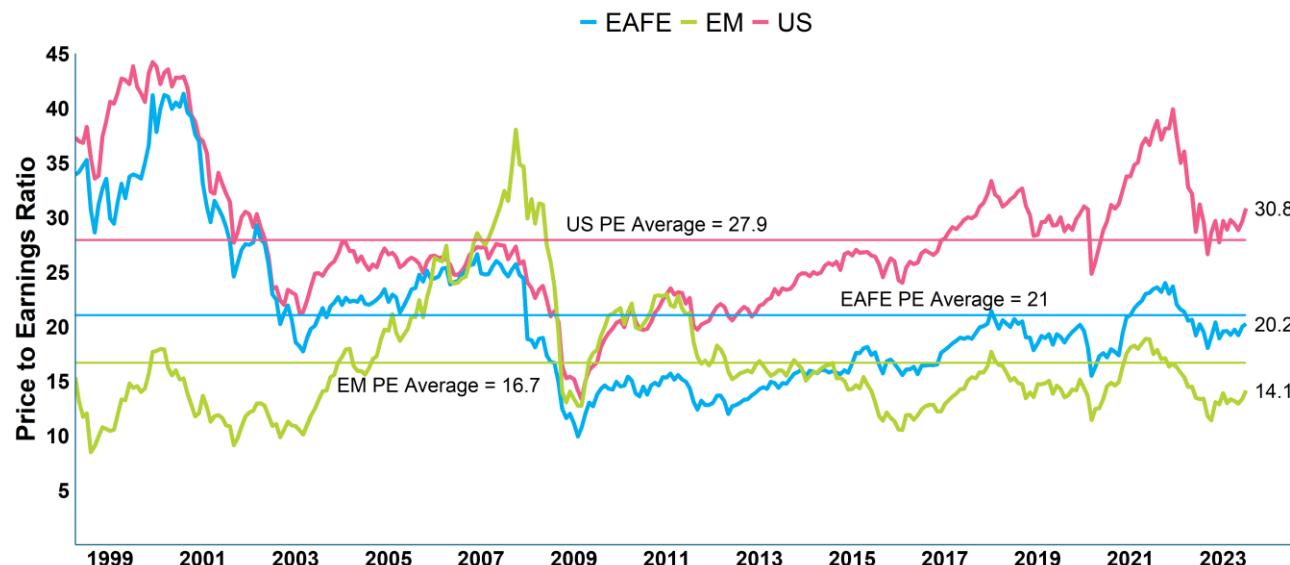
### Equity and Fixed Income Volatility<sup>1</sup>



- Volatility in equities (VIX) remains well below the historical average as investors continue to anticipate the end of the Fed's policy tightening.
- The bond market continues to be volatile after last year's historic losses and due to policy uncertainty and previous issues in the banking sector. The MOVE (fixed income volatility) remains well above (112.0) its long-run average (88.6), but off its recent peak during the heart of the banking crisis.

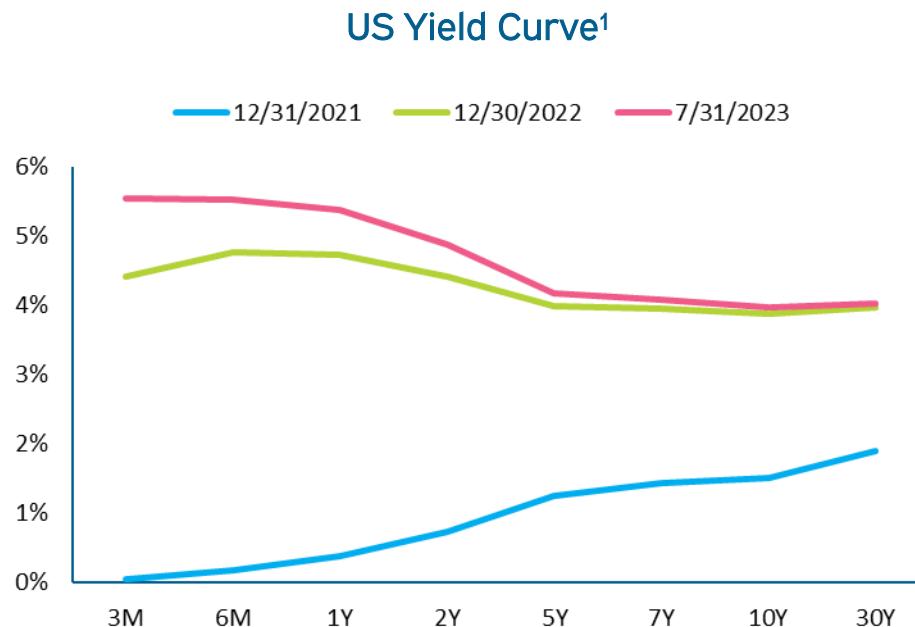
<sup>1</sup> Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of July 2023. The average line indicated is the average of the VIX and MOVE values between January 2000 and July 2023.

### Equity Cyclically Adjusted P/E Ratios<sup>1</sup>



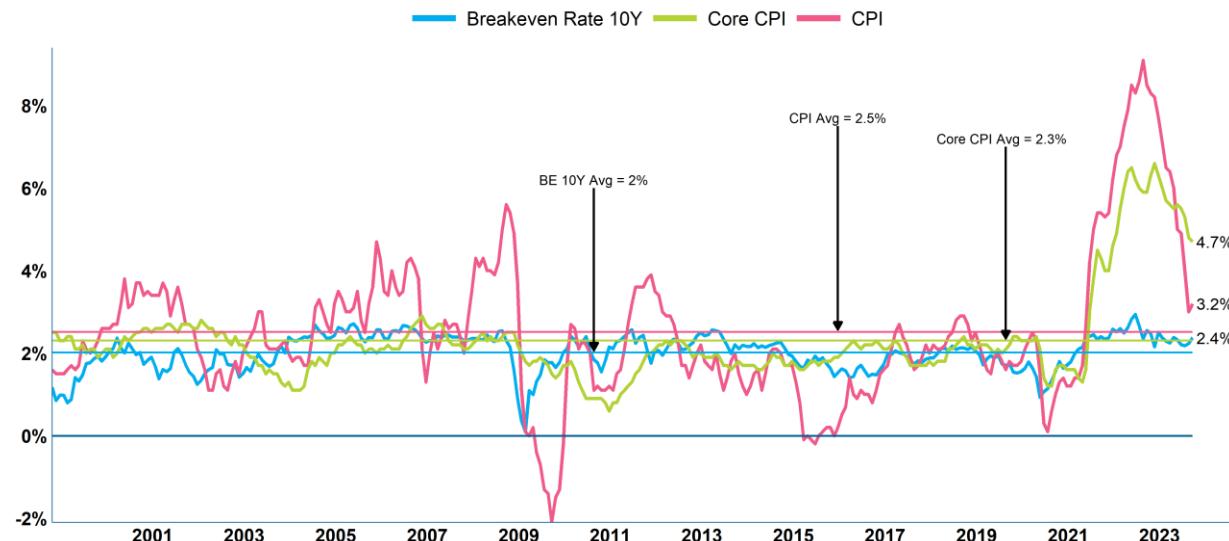
- Given the strong technology-driven rally this year, the US equity price-to-earnings ratio increased above its long-run (21st century) average.
- International developed market valuations are below their own long-term average, with those for emerging markets the lowest and well under the long-term average.

<sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of July 2023. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.



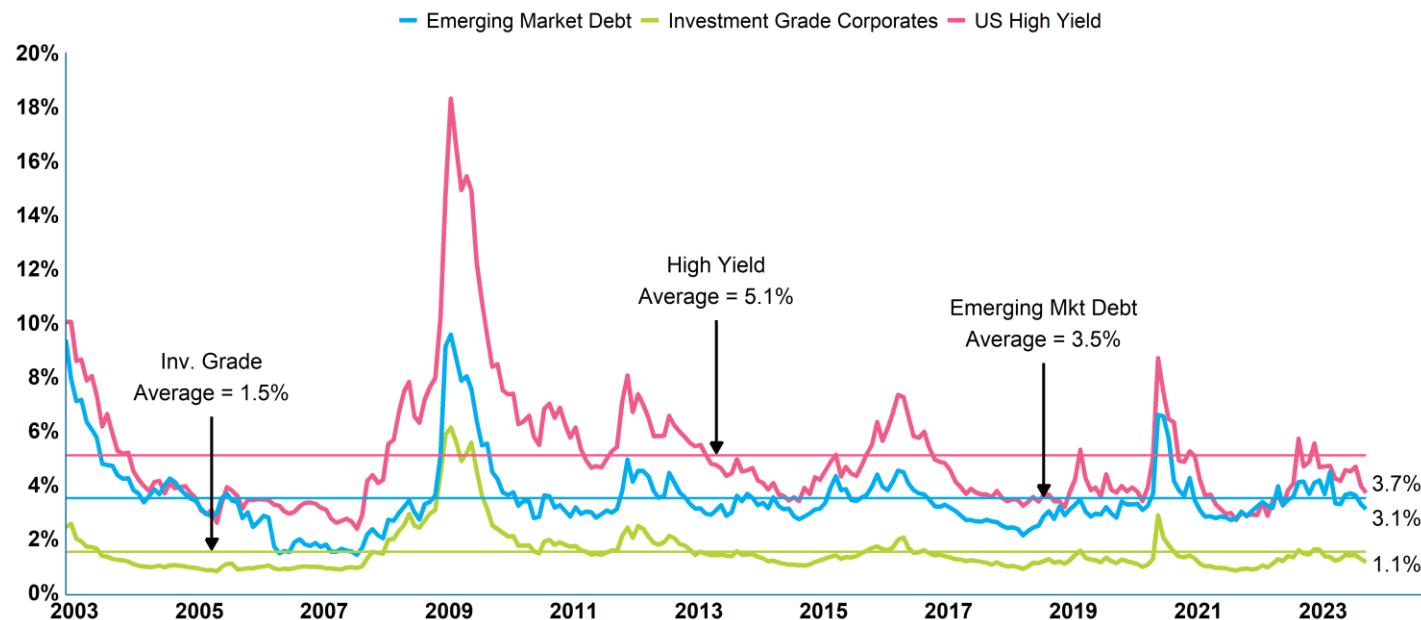
- In July, very short-term interest rates (6-months or less) fell as it appears interest rate hikes might be coming to an end. Longer dated maturities continued to drift higher, as economic data remains resilient. So far in 2023, rates overall remain higher, particularly the policy sensitive front-end of the yield curve.
- The yield curve remains inverted with the spread between two-year and ten-year Treasuries finishing the month at -0.91%. The more closely watched measure (by the Fed) of the three-month and ten-year Treasuries spread also remained inverted at -1.60%. Inversions in the yield curve have often preceded recessions.

<sup>1</sup> Source: Bloomberg. Data is as of July 31, 2023.

Ten-Year Breakeven Inflation and CPI<sup>1</sup>

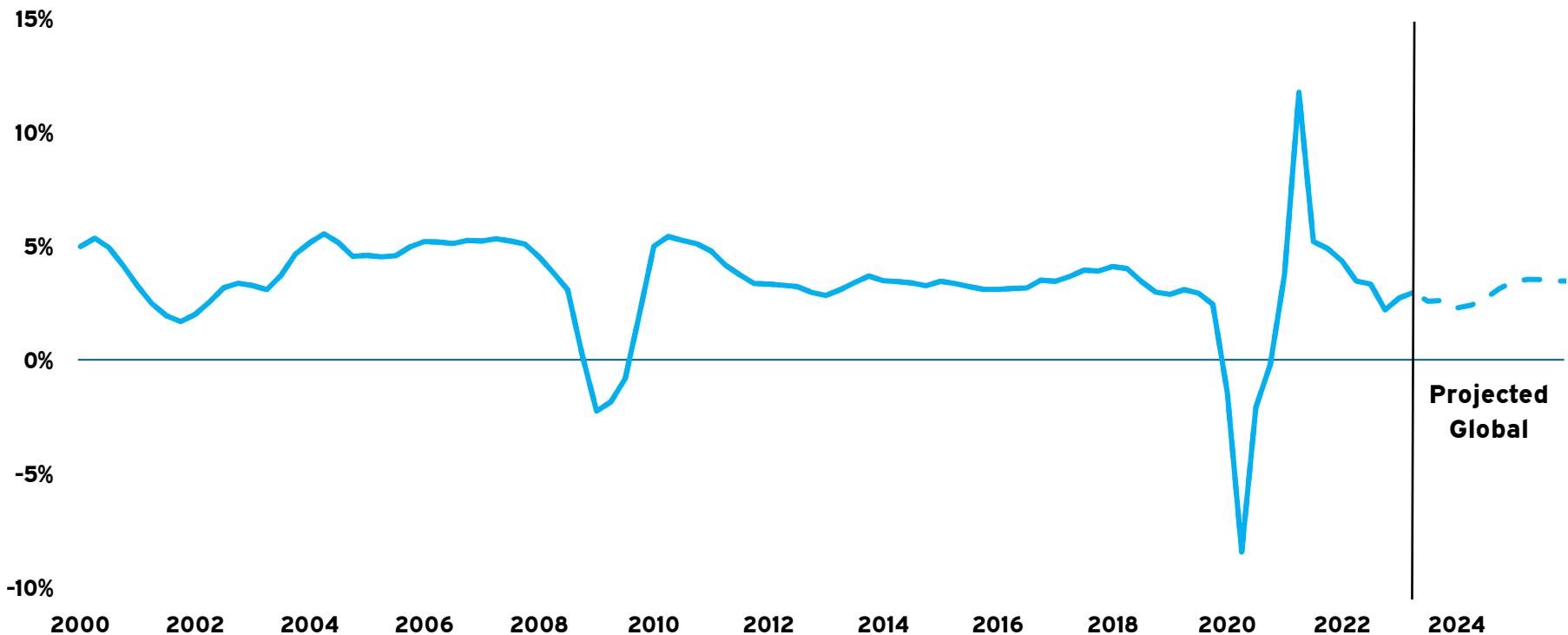
- Declines in inflation while other economic data remains strong has led to optimism over the Federal Reserve potentially achieving a rarely observed soft landing for the economy.
- Year-over-year headline inflation rose slightly in July (3.0% to 3.2%) but came in below expectations. The trend of lower month-over-month price increases continued with the rate staying steady at 0.2%.
- Core inflation – excluding food and energy - fell (4.8% to 4.7%) year-over-year. It remains stubbornly high though driven by shelter costs (+7.7%), particularly owners equivalent rent, and transportation services (+9.0%).
- Inflation expectations (breakevens) remain well below current inflation as investors continue to expect inflation to track back toward the Fed's 2% average target.

<sup>1</sup> Source: Bloomberg. Data is as July 31, 2023. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

Credit Spreads vs. US Treasury Bonds<sup>1</sup>

- Credit markets outperformed government bonds for the month with spreads (the added yield above a comparable maturity Treasury) declining. Risk appetite was strong as growth remains resilient, while inflation continues to decline.
- High yield spreads remain well below the long-term average. Investment grade and emerging market spreads are also below their respective long-term averages, but by smaller margins.

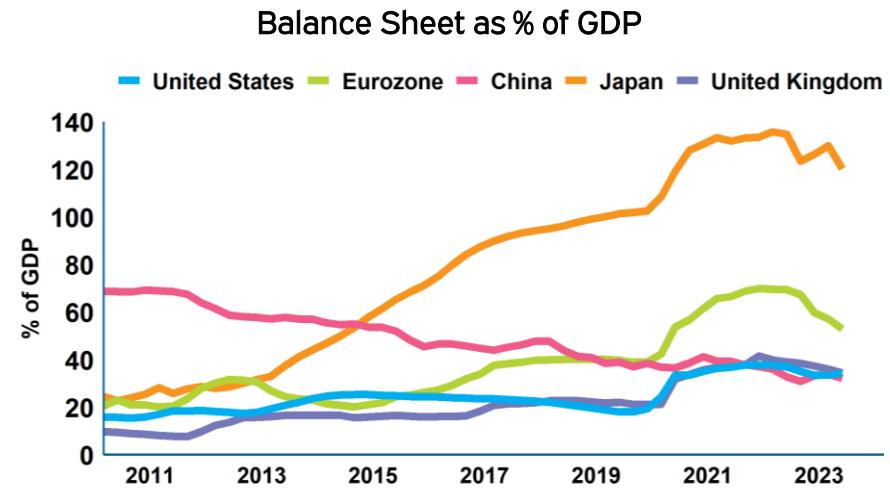
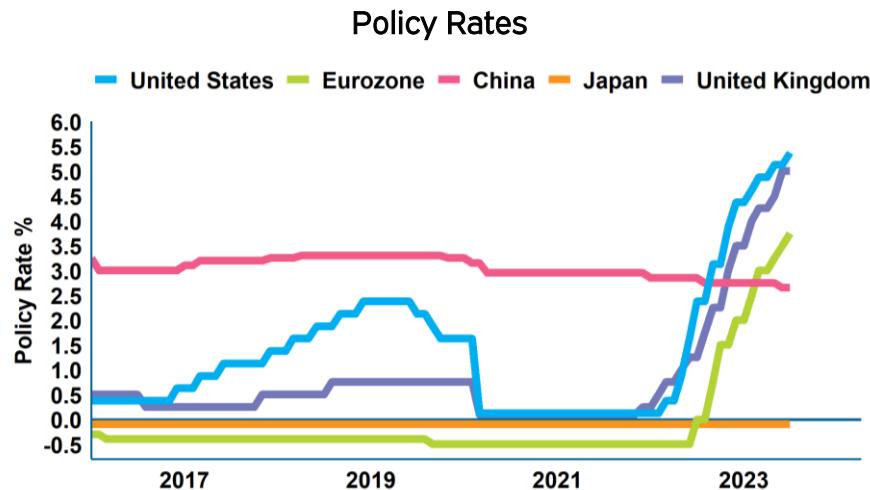
<sup>1</sup> Sources: Bloomberg. Data is as of July 31, 2023. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end, respectively.

Global Real Gross Domestic Product (GDP) Growth<sup>1</sup>

- Global economies are expected to slow this year compared to 2022. The risk of recession remains given policymakers' aggressive tightening, but optimism has started to grow over some central banks potentially navigating a soft landing.
- The delicate balancing act of central banks trying to reduce inflation without dramatically depressing growth will remain key.

<sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, real, % change YoY). Updated July 2023.

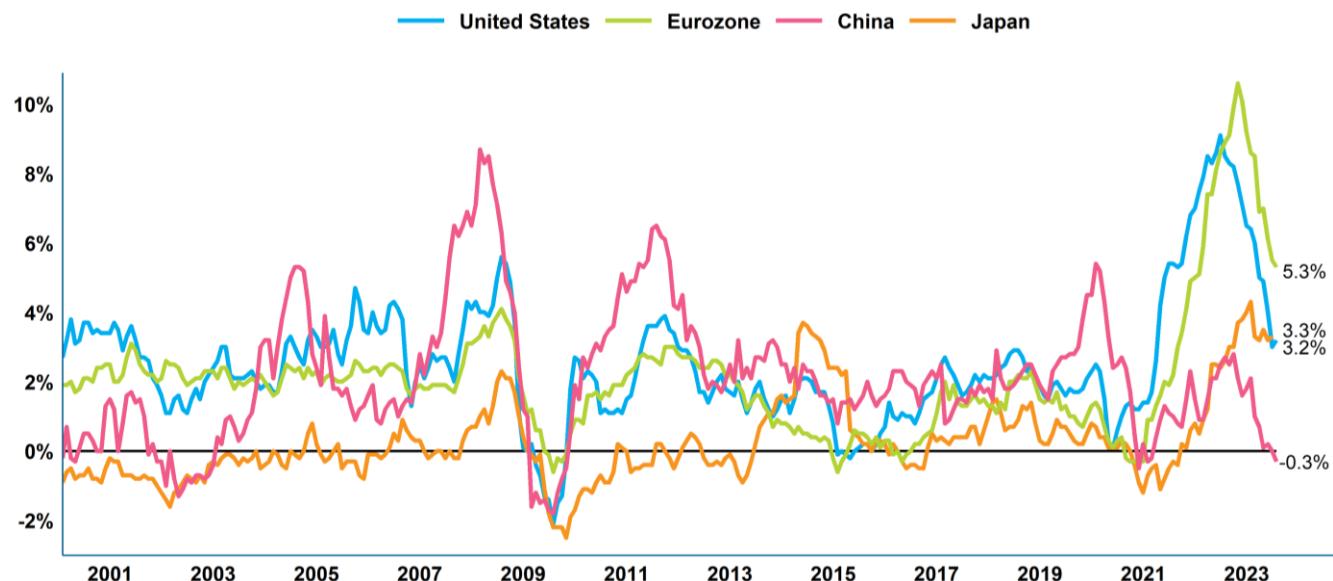
### Central Bank Response<sup>1</sup>



- Slowing inflation and growth have led to expectations for a reduction in the pace of aggressive policy tightening.
- In July the Fed raised rates another 25 basis points to a range of 5.25% to 5.50% with markets largely expecting this to be the last rate increase. After month-end, the FOMC paused its tightening campaign.
- The European Central Bank also increased rates in July, but they remain lower than in the US. In Japan the BOJ surprised markets by announcing they would be more flexible on their 10-year interest rate target.
- The central bank in China has continued to cut interest rates and inject liquidity into the banking system, as weaker than expected economic data appears to indicate a widespread slowdown.
- Looking ahead, risks remain for a policy error as central banks attempt to balance multiple goals, bringing down inflation, maintaining financial stability, and supporting growth.

<sup>1</sup> Source: Bloomberg. Policy rate data is as of July 31, 2023. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of June 30, 2023.

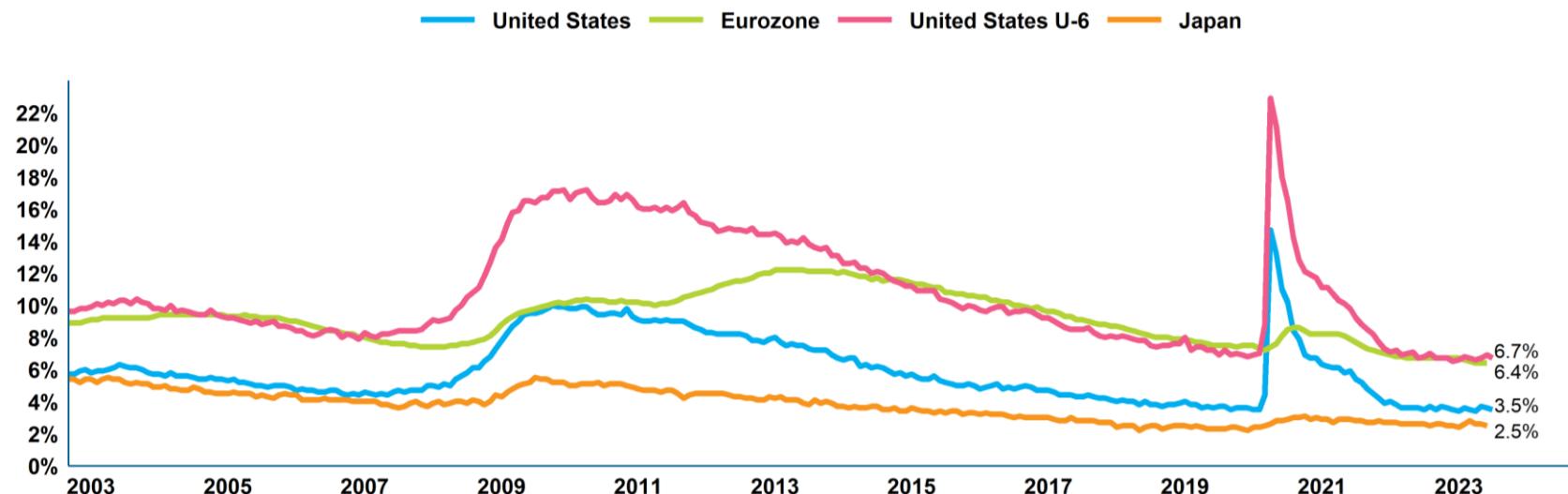
### Inflation (CPI Trailing Twelve Months)<sup>1</sup>



- The inflation picture remains mixed across the major economies.
- In the US, inflation rose slightly in July (3.0% to 3.2%), while eurozone inflation continued to fall (5.5% to 5.3%) a level well off its peak. Despite 2023's significant declines in the US and Europe, inflation levels remain elevated compared to central bank targets.
- Inflation in Japan remains elevated at levels not seen in almost a decade largely driven by food and home related items. In China, deflationary pressures emerged in July due to falling food prices, but this is expected to be temporary as high base effects from last year work their way through.

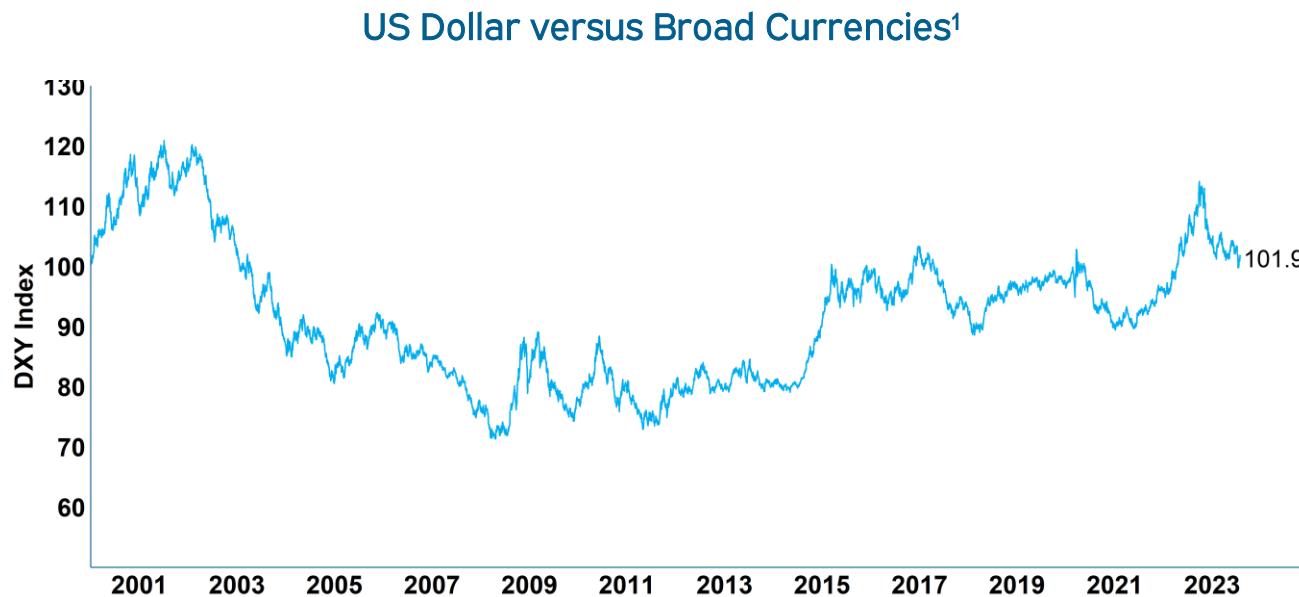
<sup>1</sup> Source: Bloomberg. Data is as July 31, 2023. The most recent Japanese inflation data is as of June 2023.

### Unemployment<sup>1</sup>



- Despite slowing growth and relatively high inflation, the US labor market continues to show signs of resilience (3.5%). Unemployment in the US, which experienced the steepest rise, recently returned to pre-pandemic levels. Broader measures of unemployment (U-6) remain higher at 6.7% but also declined dramatically from their peak.
- The strong labor market and higher wages, although beneficial for workers, motivates the Fed's efforts to fight inflation, potentially leading to higher unemployment.
- Unemployment in Europe has also declined but remains higher than the US, while levels in Japan have been flat through the pandemic given less layoffs.

<sup>1</sup> Source: Bloomberg. Data is as July 31, 2023, for the US. The most recent data for Eurozone and Japanese unemployment is as of June 2023.



- The dollar finished 2022 much higher than it started, due to the increased pace of policy tightening, stronger relative growth, and safe-haven flows.
- Late last year and into early this year, the dollar declined, as weaker economic data and lower inflation led to investors anticipating the end of Fed tightening. Since then, the dollar has largely been range-bound due to competing forces of safe-haven flows and monetary policy expectations.
- For the rest of this year, the track of inflation across economies and the corresponding monetary policies will be key drivers of currency moves.

<sup>1</sup> Source: Bloomberg. Data as of July 31, 2023.

## Summary

### Key Trends:

- The impact of inflation still above policy targets will remain key, with bond market volatility likely to stay high.
- Global monetary policies could diverge in 2023. The risk of policy errors remains elevated as central banks try to reduce persistent inflation while not tipping their economies into recession.
- Growth is expected to slow globally this year, with many economies forecasted to tip into recession. Optimism has been building though that some economies could experience a soft landing. Inflation, monetary policy, and the war will all be key.
- In the US, consumers could feel pressure as certain components of inflation remain high (e.g., shelter), borrowing cost are elevated, and the job market may weaken.
- The key for US equities going forward will be whether earnings can remain resilient if growth continues to slow. Also, the future path of the large technology companies that have driven market gains will be important.
- Equity valuations remain lower in emerging and developed markets, but risks remain, including potential for renewed strength in the US dollar, higher inflation weighing particularly on Europe, and China's sluggish economic reopening and on-going weakness in the real estate sector. Japan's recent hint at potentially tightening monetary policy along with changes in corporate governance in the country could influence relative results.

## Executive Summary

- The month of July saw risk assets (particularly in Emerging Markets) post positive gains, while core fixed income posted a modest decline.
- The below table reflects the latest final valuation data through July 2023.

NERS	July 31, 2023	June 30, 2023	May 31, 2023
Total Fund Balance	\$1.31 Billion	\$1.25 Billion	\$1.22 Billion
Funded Status	85%	81%	79%
NERS Assumed Rate of Return	6.75%	6.75%	6.75%
FYTD Rate of Return	2.0%	8.4%	5.2%
Monthly Rate of Return	2.0%	3.1%	-1.3%
Monthly Gains/Losses	\$26.5 million	\$37.7 million	-\$16.0 million
Monthly Net Cash Flow	\$33.9 million	-\$7.0 million	-\$9.8 million

- The Actuarial Determined Contribution rates for Fiscal Year 2024 are:

- NERS: 20.96%
- VRS: 12.94%

- As of July 31, the System was inside of its target asset allocation ranges for all asset classes. Meketa has completed the transition towards the new policy targets and manager roster during the first half of 2023.
- On July 5, a contribution of \$33.6 million was received by State Street and invested immediately in line with the asset allocation policy. The \$8.7 million Section 115 Trust Fund annual contribution was used for July 2023 expenditures.

## **Performance Update As Of July 31, 2023**

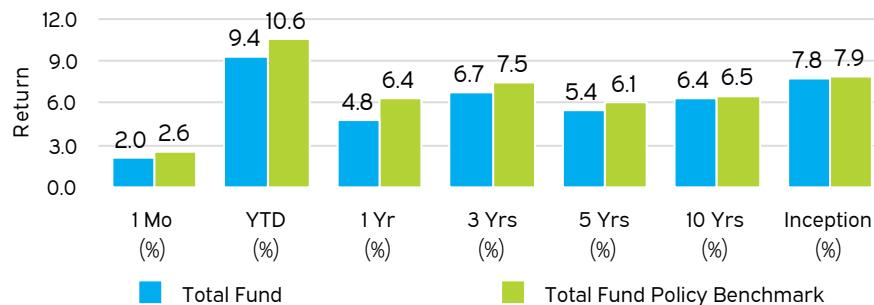
# Employees' Retirement System of the City of Norfolk

Performance Update | As of July 31, 2023

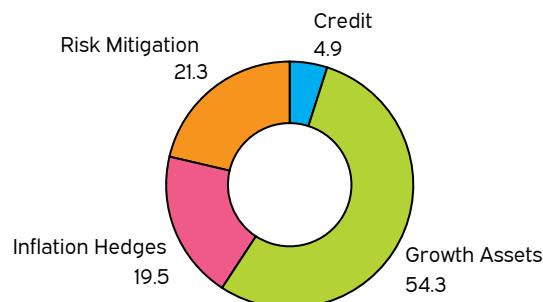
## Portfolio Objective

The Employees' Retirement System of the City of Norfolk is a long-term investor whose objective is to enable the System to provide retirement income for plan participants and beneficiaries. The System's strategy is to generate a return that meets the long-term return objective, while minimizing volatility.

### Return Summary

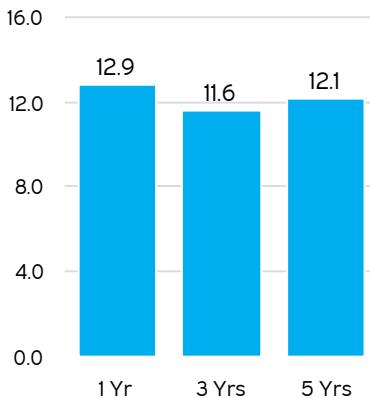


### Current Allocation

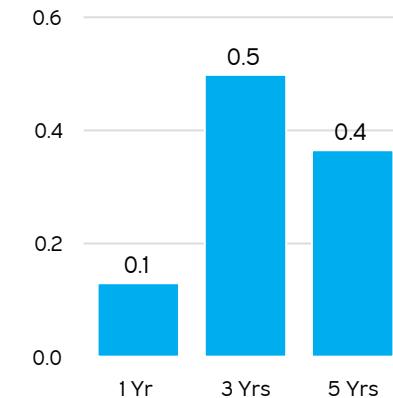


	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Total Fund	2.0	9.4	4.8	6.7	5.4	6.4	7.8	10/01/1990
Total Fund Policy Benchmark	2.6	10.6	6.4	7.5	6.1	6.5	7.9	

### Annualized Standard Deviation



### Sharpe Ratio

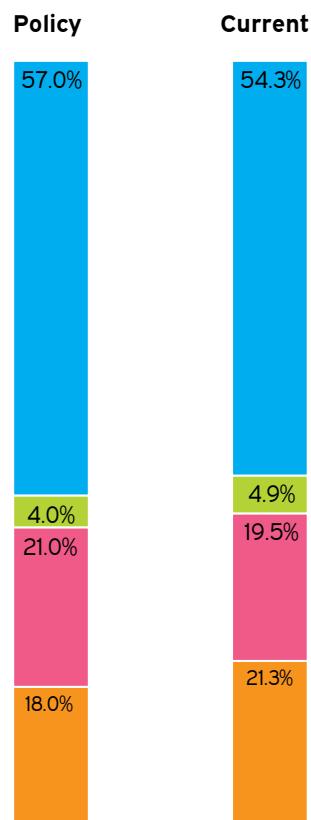


### Summary of Cash Flows

	Last Month	Year-To-Date	One Year
<b>Total Fund</b>			
Beginning Market Value	1,249,395,356	1,204,372,398	1,304,762,878
Net Cash Flow	33,855,256	-11,695,307	-22,252,425
Net Investment Change	26,452,981	117,026,503	27,193,141
Ending Market Value	1,309,703,594	1,309,703,594	1,309,703,594

# Employees' Retirement System of the City of Norfolk

Performance Update | As of July 31, 2023

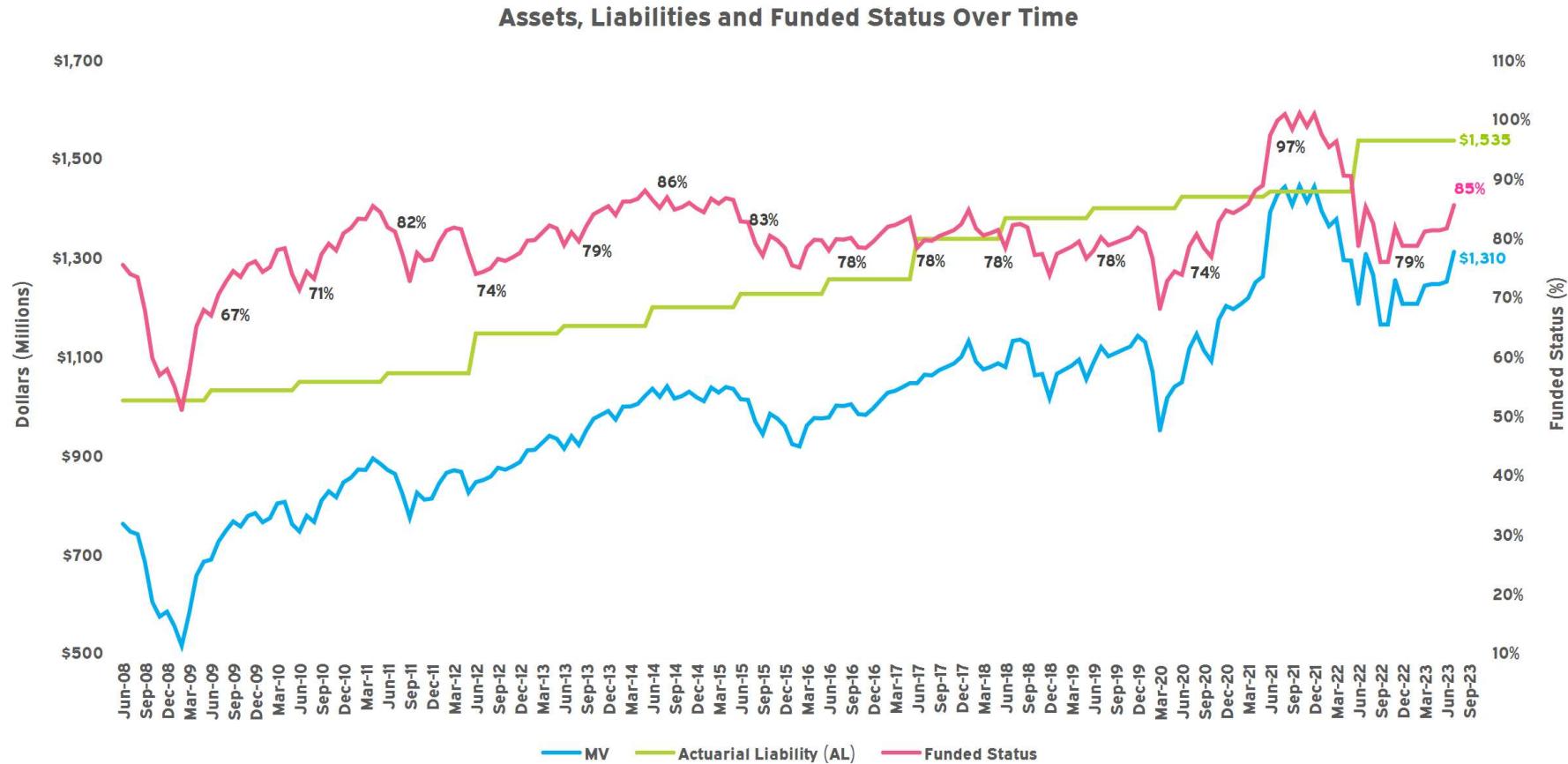


	Allocation vs. Targets and Policy					Within IPS Range?
	Current Balance	Current Allocation	Policy	Policy Range		
<b>Growth Assets</b>	<b>\$711,173,824</b>	<b>54</b>	<b>57</b>	<b>47 - 67</b>	<b>Yes</b>	
Global Equity	\$711,173,824	54	52	42 - 62	Yes	
Private Equity	\$0	0	5	0 - 10	Yes	
<b>Credit</b>	<b>\$64,358,570</b>	<b>5</b>	<b>4</b>	<b>0 - 9</b>	<b>Yes</b>	
High Yield & Bank Loans	\$64,358,570	5	4	0 - 9	Yes	
<b>Inflation Hedges</b>	<b>\$254,821,217</b>	<b>19</b>	<b>21</b>	<b>14 - 28</b>	<b>Yes</b>	
Real Estate	\$90,296,079	7	8	3 - 13	Yes	
Natural Resources & Infrastructure	\$42,666,309	3	5	0 - 10	Yes	
Gold	\$36,851,351	3	3	0 - 6	Yes	
Short-Term TIPS	\$85,000,118	6	5	0 - 10	Yes	
MLPs	\$7,361	0	0	0 - 5	Yes	
<b>Risk Mitigation</b>	<b>\$279,349,983</b>	<b>21</b>	<b>18</b>	<b>11 - 25</b>	<b>Yes</b>	
Investment Grade Fixed Income	\$213,308,451	16	14	7 - 21	Yes	
Hedge Funds	\$63,940,725	5	4	0 - 9	Yes	
Cash	\$2,100,807	0	0	0 - 3	Yes	
<b>Total</b>	<b>\$1,309,703,594</b>	<b>100</b>	<b>100</b>			

- █ Growth Assets
- █ Credit
- █ Inflation Hedges
- █ Risk Mitigation

# Employees' Retirement System of the City of Norfolk

Performance Update | As of July 31, 2023



As of June 30, 2022, Total Plan Actuarial Liability (AL) is \$1.535 billion and the Actuarial Value of assets (AVA) is \$1.292 billion for an Actuarial funded ratio (AVA/AL) of 84%. Using the Market Value of Assets (MVA), the Market Funded Ratio (MV/AL) was approximately 81% in June 2023 and 85% in July 2023.

# Employees' Retirement System of the City of Norfolk

Performance Update | As of July 31, 2023

	Asset Class Performance Summary										
	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
<b>Total Fund</b>	<b>1,309,703,594</b>	<b>100.0</b>	<b>2.0</b>	<b>9.4</b>	<b>4.8</b>	<b>6.7</b>	<b>5.4</b>	<b>6.4</b>	<b>7.8</b>	<b>Oct-90</b>	
Total Fund Policy Benchmark			2.6	10.6	6.4	7.5	6.1	6.5	7.9		
Total Fund Actual Allocation Benchmark			2.5	10.0	--	--	--	--	--		
Total Fund Public Benchmark			2.8	13.4	7.8	5.3	5.7	6.3	7.9		
<b>Growth Assets</b>	<b>711,173,824</b>	<b>54.3</b>	<b>3.3</b>	<b>16.4</b>	--	--	--	--	<b>12.0</b>	<b>Dec-22</b>	
Growth Assets Custom Benchmark			3.6	18.0	--	--	--	--	12.9		
<b>Global Equity</b>	<b>711,173,824</b>	<b>54.3</b>	<b>3.3</b>	<b>16.4</b>	<b>11.6</b>	<b>10.5</b>	<b>8.0</b>	<b>9.0</b>	<b>9.0</b>	<b>Oct-90</b>	
Global Equity Policy Benchmark			3.8	17.6	12.5	10.5	7.9	8.7	9.3		
<b>Credit</b>	<b>64,358,570</b>	<b>4.9</b>	<b>1.4</b>	--	--	--	--	--	<b>3.3</b>	<b>May-23</b>	
Credit Custom Benchmark			1.3	7.3	--	--	--	--	2.8		
<b>High Yield &amp; Bank Loans</b>	<b>64,358,570</b>	<b>4.9</b>	<b>1.4</b>	--	--	--	--	--	<b>3.3</b>	<b>May-23</b>	
High Yield & Bank Loans Custom Benchmark			1.3	7.3	7.0	4.0	3.8	4.3	2.8		
<b>Inflation Hedges</b>	<b>254,821,217</b>	<b>19.5</b>	<b>1.8</b>	<b>-1.4</b>	--	--	--	--	<b>-5.7</b>	<b>Dec-22</b>	
Inflation Hedges Custom Benchmark			2.1	-0.2	--	--	--	--	-2.7		
<b>Real Estate</b>	<b>90,296,079</b>	<b>6.9</b>	<b>0.4</b>	<b>-5.7</b>	<b>-12.9</b>	<b>2.6</b>	<b>1.9</b>	<b>5.4</b>	<b>6.6</b>	<b>Apr-11</b>	
NCREIF ODCE (Net)			0.0	-6.2	-10.7	7.0	5.6	7.8	8.5		
<b>Natural Resources &amp; Infrastructure</b>	<b>42,666,309</b>	<b>3.3</b>	<b>6.8</b>	--	--	--	--	--	<b>2.9</b>	<b>Apr-23</b>	
S&P Global LargeMidcap Resources & Commodities NR USD			6.8	1.3	9.4	19.8	8.7	5.6	2.8		
<b>Gold</b>	<b>36,851,351</b>	<b>2.8</b>	<b>3.0</b>	--	--	--	--	--	<b>-2.5</b>	<b>Apr-23</b>	
60% Gold (Spot)/ 40% FTSE Gold Mines			2.7	8.0	15.2	--	--	--	-1.5		
<b>Short-Term TIPS</b>	<b>85,000,118</b>	<b>6.5</b>	<b>0.5</b>	--	--	--	--	--	<b>0.7</b>	<b>Mar-23</b>	
Blmbg. U.S. TIPS 0-5 Year			0.5	2.0	-1.2	2.3	2.9	1.7	1.7		
<b>MLPs</b>	<b>7,361</b>	<b>0.0</b>									

See benchmark history page for benchmark detail.

# Employees' Retirement System of the City of Norfolk

Performance Update | As of July 31, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Risk Mitigation</b>	<b>279,349,983</b>	<b>21.3</b>	<b>-0.6</b>	<b>3.0</b>	--	--	--	--	<b>2.5</b>	<b>Dec-22</b>
<i>Risk Mitigation Custom Benchmark</i>			0.1	1.6	--	--	--	--	1.3	
<b>Investment Grade Fixed Income</b>	<b>213,308,451</b>	<b>16.3</b>	<b>-0.6</b>	<b>2.4</b>	<b>-3.0</b>	<b>-4.2</b>	<b>0.8</b>	<b>1.7</b>	<b>5.1</b>	<b>Oct-90</b>
<i>Blmbg. U.S. Aggregate Index</i>			-0.1	2.0	-3.4	-4.5	0.7	1.5	5.1	
<b>Intermediate-Term Bonds</b>	<b>163,174,706</b>	<b>12.5</b>	<b>-0.1</b>	<b>2.8</b>	<b>-2.6</b>	<b>-4.1</b>	<b>0.9</b>	<b>1.7</b>	<b>5.2</b>	<b>Oct-90</b>
<i>Blmbg. U.S. Aggregate Index</i>			-0.1	2.0	-3.4	-4.5	0.7	1.5	5.1	
<b>Long-Term Bonds</b>	<b>50,133,746</b>	<b>3.8</b>	<b>-2.2</b>	--	--	--	--	--	<b>0.1</b>	<b>Mar-23</b>
<i>Blmbg. U.S. Treasury: Long</i>			-2.2	1.5	-11.2	-13.9	-1.0	1.8	0.1	
<b>Hedge Funds</b>	<b>63,940,725</b>	<b>4.9</b>	<b>-0.8</b>	--	--	--	--	--	<b>2.8</b>	<b>Apr-23</b>
<i>HFRI Macro (Total) Index</i>			0.7	-0.2	1.1	6.6	5.2	3.2	2.3	
<b>Cash</b>	<b>2,100,807</b>	<b>0.2</b>								

# Employees' Retirement System of the City of Norfolk

Performance Update | As of July 31, 2023

	Trailing Net Performance										
	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
<b>Total Fund</b>	<b>1,309,703,594</b>	<b>100.0</b>	<b>2.0</b>	<b>9.4</b>	<b>4.8</b>	<b>6.7</b>	<b>5.4</b>	<b>6.4</b>	<b>7.8</b>	<b>Oct-90</b>	
Total Fund Policy Benchmark			2.6	10.6	6.4	7.5	6.1	6.5	7.9		
Total Fund Actual Allocation Benchmark			2.5	10.0	--	--	--	--	--		
Total Fund Public Benchmark			2.8	13.4	7.8	5.3	5.7	6.3	7.9		
<b>Growth Assets</b>	<b>711,173,824</b>	<b>54.3</b>	<b>3.3</b>	<b>16.4</b>	--	--	--	--	<b>12.0</b>	<b>Dec-22</b>	
Growth Assets Custom Benchmark			3.6	18.0	--	--	--	--	12.9		
<b>Global Equity</b>	<b>711,173,824</b>	<b>54.3</b>	<b>3.3</b>	<b>16.4</b>	<b>11.6</b>	<b>10.5</b>	<b>8.0</b>	<b>9.0</b>	<b>9.0</b>	<b>Oct-90</b>	
Global Equity Policy Benchmark			3.8	17.6	12.5	10.5	7.9	8.7	9.3		
SSgA MSCI ACWI IMI Index Fund	83,615,869	6.4	3.8	17.8	13.0	10.9	8.3	--	10.3	May-16	
<i>MSCI AC World IMI (Net)</i>			3.8	17.6	12.5	10.5	7.9	8.5	9.8		
SSgA Russell 1000 Growth Index	30,091,356	2.3	3.4	--	--	--	--	--	24.6	Mar-23	
<i>Russell 1000 Growth Index</i>			3.4	33.4	17.3	12.2	15.2	15.5	24.6		
SSgA Russell 1000 Value Index	14,634,171	1.1	3.5	--	--	--	--	--	7.3	Mar-23	
<i>Russell 1000 Value Index</i>			3.5	8.8	8.3	14.1	8.0	9.0	7.2		
SSgA Russell 3000 Index	191,187,182	14.6	3.6	--	--	--	--	--	15.3	Mar-23	
<i>Russell 3000 Index</i>			3.6	20.3	12.6	13.1	11.4	12.1	15.3		
SSgA MSCI EAFE	100,785,938	7.7	3.2	--	--	--	--	--	9.2	Mar-23	
<i>MSCI EAFE (Net)</i>			3.2	15.3	16.8	9.3	4.5	5.2	8.9		
SSgA Emerging Markets Index	41,041,852	3.1	6.0	--	--	--	--	--	10.5	Mar-23	
<i>MSCI Emerging Markets (Net)</i>			6.2	11.4	8.3	1.5	1.7	3.5	10.4		

## Employees' Retirement System of the City of Norfolk

**Performance Update | As of July 31, 2023**

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
ABS China Direct	3,529,663	0.3	7.3	--	--	--	--	--	-0.9	Mar-23
<i>MSCI China (Net)</i>				10.8	4.7	1.8	-9.9	-2.8	3.7	4.5
ABS EM ex China Direct	12,591,733	1.0	5.3	--	--	--	--	--	17.8	Mar-23
<i>MSCI EM ex China</i>				4.3	11.0	8.0	7.1	3.4	3.6	13.2
Kopernik Global All-Cap	29,841,381	2.3	3.9	--	--	--	--	--	3.4	Apr-23
<i>MSCI AC World Index (Net)</i>				3.7	18.1	12.9	10.4	8.2	8.6	10.1
First Eagle Global Equity	103,359,701	7.9	2.5	--	--	--	--	--	7.6	Apr-23
<i>MSCI AC World Index (Net)</i>				3.7	18.1	12.9	10.4	8.2	8.6	10.1
Artisan Global Opportunities	100,494,979	7.7	1.5	--	--	--	--	--	7.8	Apr-23
<i>MSCI AC World Index (Net)</i>				3.7	18.1	12.9	10.4	8.2	8.6	10.1
<b>Credit</b>	<b>64,358,570</b>	<b>4.9</b>	<b>1.4</b>	--	--	--	--	--	<b>3.3</b>	<b>May-23</b>
<i>Credit Custom Benchmark</i>				1.3	7.3	--	--	--	2.8	
<b>High Yield &amp; Bank Loans</b>	<b>64,358,570</b>	<b>4.9</b>	<b>1.4</b>	--	--	--	--	--	<b>3.3</b>	<b>May-23</b>
<i>High Yield &amp; Bank Loans Custom Benchmark</i>				1.3	7.3	7.0	4.0	3.8	4.3	2.8
Sculptor Credit Opportunities Overseas Fund	25,451,154	1.9	0.3	--	--	--	--	--	2.7	May-23
<i>Blmbg. Global High Yield Index</i>				2.0	7.3	8.3	0.5	2.0	3.5	3.4
Brigade High Income Fund	38,907,416	3.0	2.0	--	--	--	--	--	3.8	May-23
<i>60% Barclays U.S. Corporate High Yield &amp; 40% CS Lev Loans</i>				1.3	7.2	6.4	3.6	3.7	4.3	2.7

## Employees' Retirement System of the City of Norfolk

**Performance Update | As of July 31, 2023**

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Inflation Hedges</b>	<b>254,821,217</b>	<b>19.5</b>	<b>1.8</b>	<b>-1.4</b>	--	--	--	--	<b>-5.7</b>	<b>Dec-22</b>
<i>Inflation Hedges Custom Benchmark</i>			2.1	-0.2	--	--	--	--	-2.7	
<b>Real Estate</b>	<b>90,296,079</b>	<b>6.9</b>	<b>0.4</b>	<b>-5.7</b>	<b>-12.9</b>	<b>2.6</b>	<b>1.9</b>	<b>5.4</b>	<b>6.6</b>	<b>Apr-11</b>
<i>NCREIF ODCE (Net)</i>			0.0	-6.2	-10.7	7.0	5.6	7.8	8.5	
JP Morgan Asset Management Strategic Property Fund	51,180,153	3.9	-0.1	-5.1	-11.4	6.1	4.8	7.2	8.3	Apr-11
<i>NCREIF ODCE (Net)</i>			0.0	-6.2	-10.7	7.0	5.6	7.8	8.5	
UBS Trumbull Property Fund	25,342,826	1.9	0.0	-10.6	-15.6	1.8	0.5	4.3	4.8	Dec-11
<i>NCREIF ODCE (Net)</i>			0.0	-6.2	-10.7	7.0	5.6	7.8	8.3	
SSgA US REIT	13,773,099	1.1	2.9	--	--	--	--	--	3.1	Mar-23
<i>Dow Jones U.S. Select REI</i>			2.9	8.9	-6.3	9.0	3.7	6.0	3.2	
<b>Natural Resources &amp; Infrastructure</b>	<b>42,666,309</b>	<b>3.3</b>	<b>6.8</b>	--	--	--	--	--	<b>2.9</b>	<b>Apr-23</b>
<i>S&amp;P Global LargeMidcap Resources &amp; Commodities Ind</i>			6.8	1.3	9.4	19.8	8.7	5.6	2.8	
SSgA S&P Global LargeMidCap Natural Resources Index	42,666,309	3.3	6.8	--	--	--	--	--	2.9	Apr-23
<i>S&amp;P Global LargeMidcap Resources &amp; Commodities Ind</i>			6.8	1.3	9.4	19.8	8.7	5.6	2.8	
<b>Gold</b>	<b>36,851,351</b>	<b>2.8</b>	<b>3.0</b>	--	--	--	--	--	<b>-2.5</b>	<b>Apr-23</b>
<i>60% Gold (Spot)/ 40% FTSE Gold Mines</i>			2.7	8.0	15.2	--	--	--	-1.5	
First Eagle Institutional Gold Fund, LP	36,851,351	2.8	3.0	--	--	--	--	--	-2.5	Apr-23
<i>60% Gold (Spot)/ 40% FTSE Gold Mines</i>			2.7	8.0	15.2	--	--	--	-1.5	
<b>Short-Term TIPS</b>	<b>85,000,118</b>	<b>6.5</b>	<b>0.5</b>	--	--	--	--	--	<b>0.7</b>	<b>Mar-23</b>
<i>Blmbg. U.S. TIPS 0-5 Year</i>			0.5	2.0	-1.2	2.3	2.9	1.7	1.7	
Vanguard Short-Term TIPS Index	85,000,118	6.5	0.5	--	--	--	--	--	-0.2	Apr-23
<i>Blmbg. U.S. TIPS 0-5 Year</i>			0.5	2.0	-1.2	2.3	2.9	1.7	-0.2	

# Employees' Retirement System of the City of Norfolk

Performance Update | As of July 31, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>MLPs</b>	<b>7,361</b>	<b>0.0</b>								
<b>Risk Mitigation</b>	<b>279,349,983</b>	<b>21.3</b>	<b>-0.6</b>	<b>3.0</b>	--	--	--	--	<b>2.5</b>	<b>Dec-22</b>
<i>Risk Mitigation Custom Benchmark</i>			0.1	1.6	--	--	--	--	1.3	
<b>Investment Grade Fixed Income</b>	<b>213,308,451</b>	<b>16.3</b>	<b>-0.6</b>	<b>2.4</b>	<b>-3.0</b>	<b>-4.2</b>	<b>0.8</b>	<b>1.7</b>	<b>5.1</b>	<b>Oct-90</b>
<i>Blmbg. U.S. Aggregate Index</i>			-0.1	2.0	-3.4	-4.5	0.7	1.5	5.1	
<b>Intermediate-Term Bonds</b>	<b>163,174,706</b>	<b>12.5</b>	<b>-0.1</b>	<b>2.8</b>	<b>-2.6</b>	<b>-4.1</b>	<b>0.9</b>	<b>1.7</b>	<b>5.2</b>	<b>Oct-90</b>
<i>Blmbg. U.S. Aggregate Index</i>			-0.1	2.0	-3.4	-4.5	0.7	1.5	5.1	
PIMCO Total Return	2,668,449	0.2								
<i>Blmbg. U.S. Aggregate Index</i>			-0.1	2.0	-3.4	-4.5	0.7	1.5	5.0	
SSgA US Aggregate Bond	67,033,576	5.1	-0.1	2.2	-3.3	-4.4	0.8	1.5	2.5	Jan-09
<i>Blmbg. U.S. Aggregate Index</i>			-0.1	2.0	-3.4	-4.5	0.7	1.5	2.5	
Wellington Core Bond	74,958,944	5.7	<b>0.0</b>	--	--	--	--	--	<b>-1.1</b>	May-23
<i>Blmbg. U.S. Aggregate Index</i>			-0.1	2.0	-3.4	-4.5	0.7	1.5	-1.5	
Brandywine U.S. Fixed Income	18,513,736	1.4	<b>-0.5</b>	--	--	--	--	--	<b>-1.3</b>	Jun-23
<i>Blmbg. U.S. Aggregate Index</i>			-0.1	2.0	-3.4	-4.5	0.7	1.5	-0.4	
<b>Long-Term Bonds</b>	<b>50,133,746</b>	<b>3.8</b>	<b>-2.2</b>	--	--	--	--	--	<b>0.1</b>	<b>Mar-23</b>
<i>Blmbg. U.S. Treasury: Long</i>			-2.2	1.5	-11.2	-13.9	-1.0	1.8	0.1	
SSgA Long US Treasury Index	50,133,746	3.8	-2.2	--	--	--	--	--	0.1	Mar-23
<i>Blmbg. U.S. Treasury: Long</i>			-2.2	1.5	-11.2	-13.9	-1.0	1.8	0.1	

## Employees' Retirement System of the City of Norfolk

**Performance Update | As of July 31, 2023**

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Hedge Funds</b>	<b>63,940,725</b>	<b>4.9</b>	<b>-0.8</b>	--	--	--	--	--	<b>2.8</b>	<b>Apr-23</b>
HFRI Macro (Total) Index			0.7	-0.2	1.1	6.6	5.2	3.2	2.3	
36 South Kohinoor Series (Cayman) Fund	21,325,773	1.6	-0.4	--	--	--	--	--	1.1	Apr-23
CBOE Eurekahedge Long Volatility Hedge Fund Index			-0.9	-5.0	-5.7	-4.1	2.1	-1.1	-3.5	
BH-DG Systematic Trading Master Fund	17,911,875	1.4	-2.2	--	--	--	--	--	7.3	Apr-23
Barclay CTA Index			0.2	0.7	0.5	5.2	4.4	2.6	2.7	
Lombard Odier Bear Convexity	7,867,748	0.6	-1.5	--	--	--	--	--	-1.7	Apr-23
CBOE Eurekahedge Long Volatility Hedge Fund Index			-0.9	-5.0	-5.7	-4.1	2.1	-1.1	-3.5	
Alpstone Global Macro Fund	16,835,328	1.3	0.7	--	--	--	--	--	0.8	May-23
HFRI Macro (Total) Index			0.7	-0.2	1.1	6.6	5.2	3.2	1.5	
<b>Cash</b>	<b>2,100,807</b>	<b>0.2</b>								
Cash	2,100,807	0.2								

# Employees' Retirement System of the City of Norfolk

Performance Update | As of July 31, 2023

Annual Investment Expense Analysis As of July 31, 2023				
	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
<b>Total Fund</b>		<b>\$1,309,703,594</b>	<b>\$3,876,725</b>	<b>0.30</b>
<b>Growth Assets</b>		<b>\$711,173,824</b>	<b>\$1,639,118</b>	<b>0.23</b>
<b>Global Equity</b>		<b>\$711,173,824</b>	<b>\$1,639,118</b>	<b>0.23</b>
SSgA MSCI ACWI IMI Index Fund	0.05 % of Assets	\$83,615,869	\$37,627	0.05
SSgA Russell 1000 Growth Index	0.02 % of Assets	\$30,091,356	\$6,018	0.02
SSgA Russell 1000 Value Index	0.02 % of Assets	\$14,634,171	\$2,927	0.02
SSgA Russell 3000 Index	0.02 % of Assets	\$191,187,182	\$38,237	0.02
SSgA MSCI EAFE	0.04 % of Assets	\$100,785,938	\$40,314	0.04
SSgA Emerging Markets Index	0.08 % of Assets	\$41,041,852	\$32,833	0.08
ABS China Direct	0.65 % of Assets	\$3,529,663	\$22,943	0.65
ABS EM ex China Direct	0.50 % of Assets	\$12,591,733	\$62,959	0.50
Kopernik Global All-Cap	0.75 % of Assets	\$29,841,381	\$223,810	0.75
First Eagle Global Equity	0.55 % of Assets	\$103,359,701	\$568,478	0.55
Artisan Global Opportunities	0.60 % of Assets	\$100,494,979	\$602,970	0.60
<b>Credit</b>		<b>\$64,358,570</b>	<b>\$456,830</b>	<b>0.71</b>
<b>High Yield &amp; Bank Loans</b>		<b>\$64,358,570</b>	<b>\$456,830</b>	<b>0.71</b>
Sculptor Credit Opportunities Overseas Fund	Performance Based 1.00 and 20.00	\$25,451,154	\$254,512	1.00
Brigade High Income Fund	0.52 % of Assets	\$38,907,416	\$202,319	0.52
<b>Inflation Hedges</b>		<b>\$254,821,217</b>	<b>\$938,564</b>	<b>0.37</b>
<b>Real Estate</b>		<b>\$90,296,079</b>	<b>\$696,013</b>	<b>0.77</b>
JP Morgan Asset Management Strategic Property Fund	0.91 % of Assets	\$51,180,153	\$465,739	0.91

## Employees' Retirement System of the City of Norfolk

**Performance Update | As of July 31, 2023**

	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
UBS Trumbull Property Fund	0.96 % of First \$10 M 0.83 % of Next \$15 M 0.81 % of Next \$25 M 0.79 % of Next \$50 M 0.67 % of Next \$150 M 0.60 % of Next \$150 M 0.56 % of Next \$200 M 0.52 % Thereafter	\$25,342,826	\$222,010	0.88
SSgA US REIT	0.06 % of Assets	\$13,773,099	\$8,264	0.06
<b>Natural Resources &amp; Infrastructure</b>		<b>\$42,666,309</b>	<b>\$42,666</b>	<b>0.10</b>
SSgA S&P Global LargeMidCap Natural Resources Index	0.10 % of Assets	\$42,666,309	\$42,666	0.10
<b>Gold</b>		<b>\$36,851,351</b>	<b>\$165,831</b>	<b>0.45</b>
First Eagle Institutional Gold Fund, LP	0.45 % of Assets	\$36,851,351	\$165,831	0.45
<b>Short-Term TIPS</b>		<b>\$85,000,118</b>	<b>\$34,000</b>	<b>0.04</b>
Vanguard Short-Term TIPS Index	0.04 % of Assets	\$85,000,118	\$34,000	0.04
<b>Risk Mitigation</b>		<b>\$279,349,983</b>	<b>\$842,213</b>	<b>0.30</b>
<b>Investment Grade Fixed Income</b>		<b>\$213,308,451</b>	<b>\$176,090</b>	<b>0.08</b>
<b>Intermediate-Term Bonds</b>		<b>\$163,174,706</b>	<b>\$161,050</b>	<b>0.10</b>
SSgA US Aggregate Bond	0.02 % of Assets	\$67,033,576	\$13,407	0.02
Wellington Core Bond	0.12 % of Assets	\$74,958,944	\$89,951	0.12
Brandywine U.S. Fixed Income	0.29 % of Assets	\$18,513,736	\$53,690	0.29

## Employees' Retirement System of the City of Norfolk

**Performance Update | As of July 31, 2023**

	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
<b>Long-Term Bonds</b>		<b>\$50,133,746</b>	<b>\$15,040</b>	<b>0.03</b>
SSgA Long US Treasury Index	0.03 % of Assets	\$50,133,746	\$15,040	0.03
<b>Hedge Funds</b>		<b>\$63,940,725</b>	<b>\$666,123</b>	<b>1.04</b>
36 South Kohinoor Series (Cayman) Fund	Performance Based 1.00 and 20.00	\$21,325,773	\$213,258	1.00
BH-DG Systematic Trading Master Fund	0.93 % of Assets	\$17,911,875	\$166,580	0.93
Lombard Odier Bear Convexity	Performance Based 0.75 and 27.50	\$7,867,748	\$59,008	0.75
Alpstone Global Macro Fund	Performance Based 1.35 and 20.00	\$16,835,328	\$227,277	1.35
<b>Cash</b>		<b>\$2,100,807</b>	-	-
Cash		\$2,100,807	-	-

## Employees' Retirement System of the City of Norfolk

Performance Update | As of July 31, 2023

		Benchmark History	
From Date	To Date		Benchmark
Total Fund			
12/01/2022	Present	14.0% Blmbg. U.S. Aggregate Index, 2.0% Blmbg. U.S. Corp: High Yield Index, 4.0% HFRI Macro (Total) Index, 8.0% NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net), 52.0% MSCI AC World IMI (Net), 5.0% Blmbg. U.S. TIPS 0-5 Year, 5.0% S&P Global LargeMidcap Resources & Commodities Ind, 2.0% Credit Suisse Leveraged Loan Index, 3.0% 60% Gold (Spot)/ 40% FTSE Gold Mines, 5.0% MSCI ACWI + 3% 1Q Lag	
05/01/2016	12/01/2022	30.0% Blmbg. U.S. Aggregate Index, 7.5% NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net), 7.5% Alerian MLP Index, 55.0% MSCI AC World IMI (Net)	
03/01/2016	05/01/2016	33.0% Russell 3000 Index, 30.0% Blmbg. U.S. Aggregate Index, 7.5% NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net), 22.0% MSCI AC World ex USA (Net), 7.5% Alerian MLP Index	
02/01/2013	03/01/2016	33.0% Russell 3000 Index, 35.0% Blmbg. U.S. Aggregate Index, 5.0% NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net), 22.0% MSCI AC World ex USA (Net), 5.0% Alerian MLP Index	
03/01/2011	02/01/2013	36.0% Russell 3000 Index, 35.0% Blmbg. U.S. Aggregate Index, 5.0% NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net), 24.0% MSCI AC World ex USA (Net)	
09/01/2009	03/01/2011	36.0% Russell 3000 Index, 40.0% Blmbg. U.S. Aggregate Index, 24.0% MSCI AC World ex USA (Net)	
06/01/2009	09/01/2009	42.0% Russell 3000 Index, 40.0% Blmbg. U.S. Aggregate Index, 18.0% MSCI AC World ex USA (Net)	
06/01/2006	06/01/2009	42.0% Russell 3000 Index, 40.0% Blmbg. U.S. Aggregate Index, 18.0% MSCI EAFE (Net)	
07/01/2003	06/01/2006	60.0% S&P 500 Index, 40.0% Blmbg. U.S. Aggregate Index	
10/01/2002	07/01/2003	55.0% S&P 500 Index, 45.0% Blmbg. U.S. Aggregate Index	
10/01/1990	10/01/2002	50.0% S&P 500 Index, 50.0% Blmbg. U.S. Aggregate Index	

Total Fund Public benchmark consists of 74% MSCI ACWI IMI / 26% Bloomberg US Aggregate. Historical Varies.

Total Fund Actual Allocation Benchmark reflects the asset classes set forth in the Fund's investment policy statement, weighted for the Fund's actual investments and performance of the indexes referenced above.

# Employees' Retirement System of the City of Norfolk

Performance Update | As of July 31, 2023

		Benchmark History	
From Date	To Date		Benchmark
<b>Growth Assets</b>			
12/01/2022	Present	91.0% MSCI AC World IMI (Net), 9.0% MSCI ACWI + 3% 1Q Lag	
<b>Global Equity</b>			
05/01/2016	Present	100.0% MSCI AC World IMI (Net)	
09/01/2009	05/01/2016	60.0% Russell 3000 Index, 40.0% MSCI AC World ex USA (Net)	
06/01/2009	09/01/2009	70.0% Russell 3000 Index, 30.0% MSCI AC World ex USA (Net)	
01/01/2006	06/01/2009	70.0% Russell 3000 Index, 30.0% MSCI EAFE (Net)	
10/01/1990	01/01/2006	100.0% S&P 500 Index	
<b>Inflation Hedges</b>			
12/01/2022	Present	38.0% NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net), 24.0% Blmbg. U.S. TIPS 1-5 Year Index, 24.0% S&P Global LargeMidcap Resources & Commodities Ind, 14.0% 60% Gold (Spot)/ 40% FTSE Gold Mines	
<b>Risk Mitigation</b>			
12/01/2022	Present	78.0% Blmbg. U.S. Aggregate Index, 22.0% HFRI Macro (Total) Index	

## Appendices

## **Second Quarter 2023 Investment Review**

#### Portfolio Objective

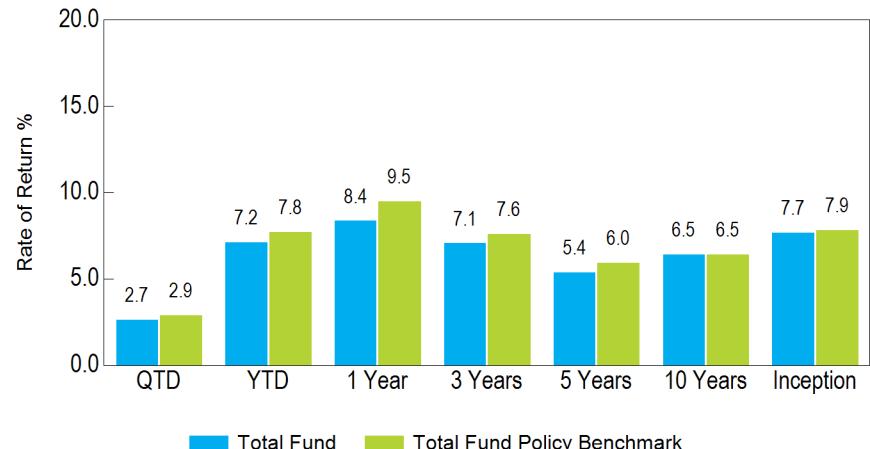
The Employees' Retirement System of the City of Norfolk is a long-term investor whose objective is to enable the System to provide retirement income for plan participants and beneficiaries. The System's strategy is generate a return that meets the long-term return objective, while minimizing volatility.

#### Summary of Cash Flows

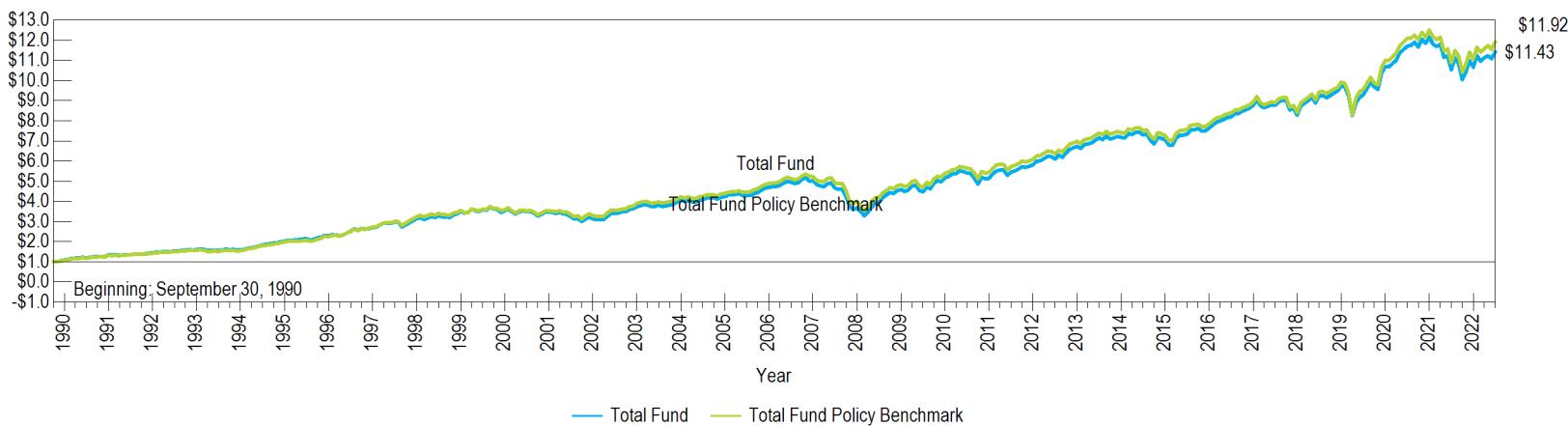
	Quarter-To-Date	Year-To-Date
Beginning Market Value	\$1,241,254,166	\$1,204,372,398
Net Cash Flow	-\$24,847,859	-\$45,550,564
Net Investment Change	\$32,989,050	\$90,573,522
<b>Ending Market Value</b>	<b>\$1,249,395,356</b>	<b>\$1,249,395,356</b>

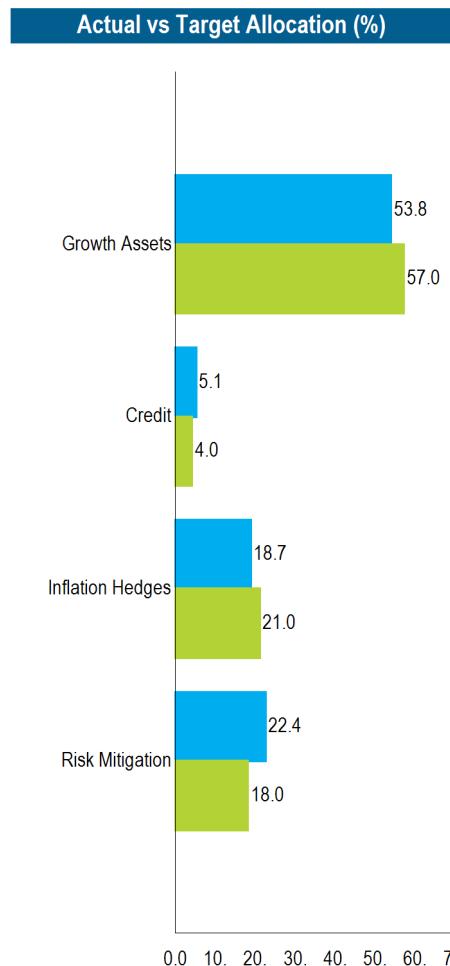
#### Return Summary

Ending June 30, 2023

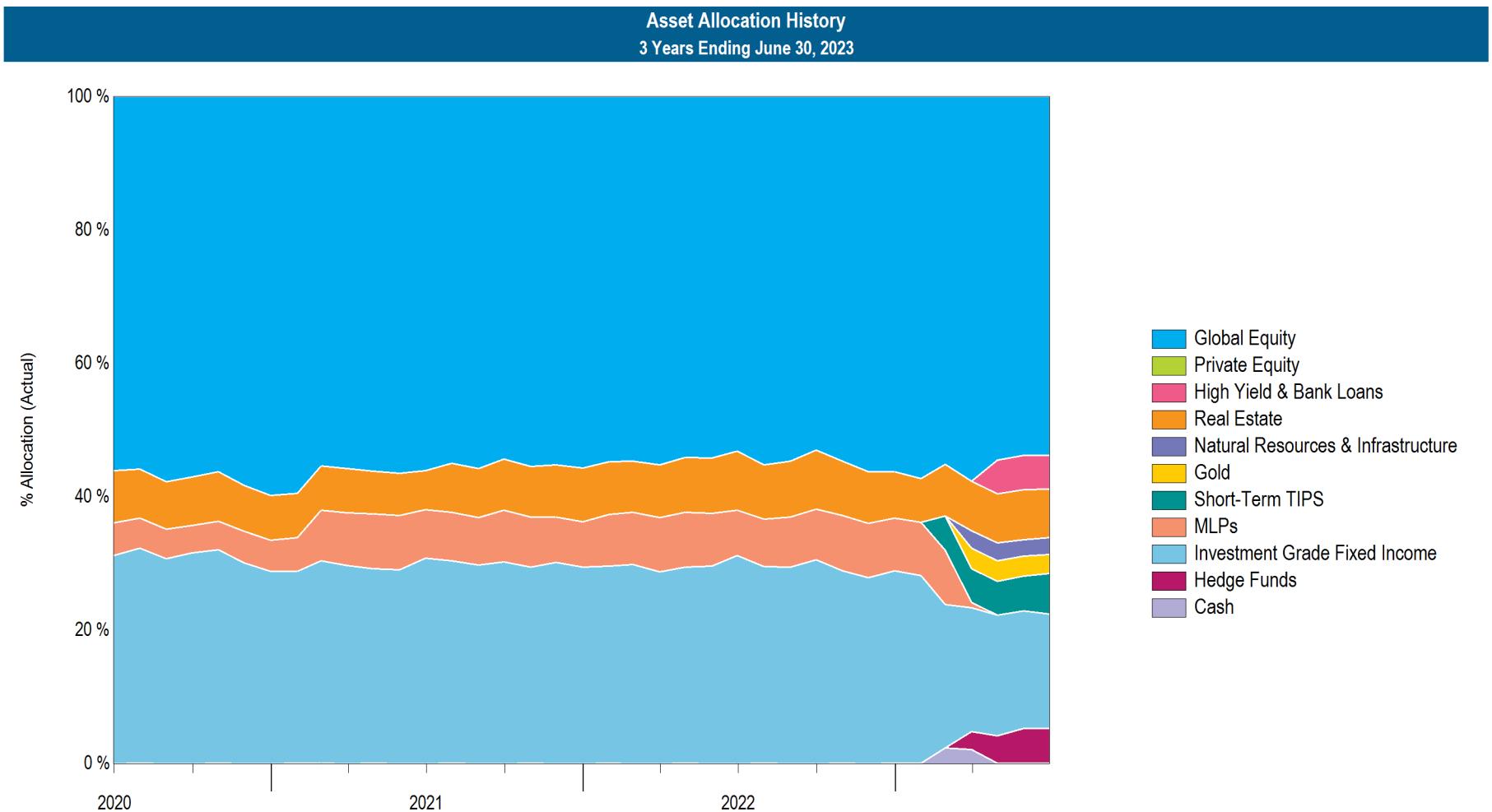


#### Growth of a Dollar Since Inception





		Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
<b>Growth Assets</b>		<b>\$671,956,583</b>	<b>54%</b>	<b>57%</b>	<b>47% - 67%</b>	<b>Yes</b>
Global Equity		\$671,956,583	54%	52%	42% - 62%	Yes
Private Equity		\$0	0%	5%	0% - 10%	Yes
<b>Credit</b>		<b>\$63,501,269</b>	<b>5%</b>	<b>4%</b>	<b>0% - 9%</b>	<b>Yes</b>
High Yield & Bank Loans		\$63,501,269	5%	4%	0% - 9%	Yes
<b>Inflation Hedges</b>		<b>\$233,971,004</b>	<b>19%</b>	<b>21%</b>	<b>14% - 28%</b>	<b>Yes</b>
Real Estate		\$90,643,992	7%	8%	3% - 13%	Yes
Natural Resources & Infrastructure		\$31,502,822	3%	5%	0% - 10%	Yes
Gold		\$35,778,914	3%	3%	0% - 6%	Yes
Short-Term TIPS		\$76,037,951	6%	5%	0% - 10%	Yes
MLPs		\$7,325	0%	0%	0% - 5%	Yes
<b>Risk Mitigation</b>		<b>\$279,966,500</b>	<b>22%</b>	<b>18%</b>	<b>11% - 25%</b>	<b>Yes</b>
Investment Grade Fixed Income		\$214,525,350	17%	14%	7% - 21%	Yes
Hedge Funds		\$64,442,797	5%	4%	0% - 9%	Yes
Cash		\$998,353	0%	0%	0% - 3%	Yes
<b>Total</b>		<b>\$1,249,395,356</b>	<b>100%</b>	<b>100%</b>		



#### Assets, Liabilities and Funded Status Over Time



As of June 30, 2022, Total Plan Actuarial Liability (AL) is \$1.535 billion and the Actuarial Value of assets (AVA) is \$1.292 billion for an Actuarial funded ratio (AVA/AL) of 84%. Using the Market Value of Assets (MVA), the Market Funded Ratio (MV/AL) was approximately 79% in May 2023 and 81% in June 2023.

Asset Class Performance Summary												
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
<b>Total Fund</b>	<b>1,249,395,356</b>	<b>100.0</b>	<b>3.1</b>	<b>2.7</b>	<b>7.2</b>	<b>8.4</b>	<b>7.1</b>	<b>5.4</b>	<b>6.5</b>	<b>7.7</b>	<b>Oct-90</b>	
Total Fund Policy Benchmark			3.3	2.9	7.8	9.5	7.6	6.0	6.5	7.9	Oct-90	
Total Fund Actual Allocation Benchmark			3.1	2.7	7.6	--	--	--	--	--	Oct-90	
Total Fund Public Benchmark			4.2	4.1	10.3	10.5	5.6	5.5	6.4	7.8	Oct-90	
<b>Growth Assets</b>	<b>671,956,583</b>	<b>53.8</b>	<b>5.5</b>	<b>5.7</b>	<b>12.7</b>	--	--	--	--	<b>8.4</b>	<b>Dec-22</b>	
Growth Assets Custom Benchmark			5.6	6.1	13.9	--	--	--	--	8.9	Dec-22	
<b>Global Equity</b>	<b>671,956,583</b>	<b>53.8</b>	<b>5.5</b>	<b>5.7</b>	<b>12.7</b>	<b>15.8</b>	<b>11.2</b>	<b>7.9</b>	<b>9.2</b>	<b>9.0</b>	<b>Oct-90</b>	
Global Equity Policy Benchmark			5.8	5.9	13.2	16.1	11.0	7.6	8.9	9.2	Oct-90	
<b>Credit</b>	<b>63,501,269</b>	<b>5.1</b>	<b>1.3</b>	--	--	--	--	--	--	<b>1.9</b>	<b>May-23</b>	
Credit Custom Benchmark			2.0	2.4	5.9	--	--	--	--	1.4	May-23	
<b>High Yield &amp; Bank Loans</b>	<b>63,501,269</b>	<b>5.1</b>	<b>1.3</b>	--	--	--	--	--	--	<b>1.9</b>	<b>May-23</b>	
High Yield & Bank Loans Custom Benchmark			2.0	2.4	5.9	9.6	4.7	3.7	4.3	1.4	May-23	
<b>Inflation Hedges</b>	<b>233,971,004</b>	<b>18.7</b>	<b>0.1</b>	<b>-2.3</b>	<b>-3.1</b>	--	--	--	--	<b>-7.4</b>	<b>Dec-22</b>	
Inflation Hedges Custom Benchmark			0.0	-2.7	-2.3	--	--	--	--	-4.7	Dec-22	
<b>Real Estate</b>	<b>90,643,992</b>	<b>7.3</b>	<b>-0.5</b>	<b>-1.6</b>	<b>-6.1</b>	<b>-12.1</b>	<b>2.5</b>	<b>1.8</b>	<b>5.4</b>	<b>6.6</b>	<b>Apr-11</b>	
NCREIF ODCE (net)			-2.9	-2.9	-6.2	-10.7	7.1	5.6	7.8	8.5	Apr-11	
<b>Natural Resources &amp; Infrastructure</b>	<b>31,502,822</b>	<b>2.5</b>	<b>6.1</b>	<b>-3.7</b>	--	--	--	--	--	<b>-3.7</b>	<b>Apr-23</b>	
S&P Global LargeMidCap Commodity and Resources NR USD			6.1	-3.8	-5.2	6.2	19.3	7.4	5.1	-3.8	Apr-23	
<b>Gold</b>	<b>35,778,914</b>	<b>2.9</b>	<b>-2.6</b>	<b>-5.4</b>	--	--	--	--	--	<b>-5.4</b>	<b>Apr-23</b>	
60% Gold (Spot)/ 40% FTSE Gold Mines			-2.0	-4.1	5.1	6.6	--	--	--	-4.1	Apr-23	
<b>Short-Term TIPS</b>	<b>76,037,951</b>	<b>6.1</b>	<b>-0.2</b>	<b>-0.7</b>	--	--	--	--	--	<b>0.2</b>	<b>Mar-23</b>	
Bloomberg US Treasury TIPS 0-5 Yr TR			-0.2	-0.7	1.5	0.1	2.3	2.7	1.7	1.2	Mar-23	
<b>MLPs</b>	<b>7,325</b>	<b>0.0</b>										

See benchmark history page for benchmark detail.

## Performance Update | As of June 30, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Risk Mitigation</b>	<b>279,966,500</b>	<b>22.4</b>	<b>0.2</b>	<b>-0.1</b>	<b>3.6</b>	--	--	--	--	<b>3.1</b>	<b>Dec-22</b>
<i>Risk Mitigation Custom Benchmark</i>			0.0	-0.3	1.5	--	--	--	--	1.2	Dec-22
<b>Investment Grade Fixed Income</b>	<b>214,525,350</b>	<b>17.2</b>	<b>-0.2</b>	<b>-1.0</b>	<b>3.0</b>	<b>0.1</b>	<b>-3.5</b>	<b>1.0</b>	<b>1.7</b>	<b>5.2</b>	<b>Oct-90</b>
<i>Bloomberg US Aggregate TR</i>			-0.4	-0.8	2.1	-0.9	-4.0	0.8	1.5	5.1	Oct-90
<b>Intermediate-Term Bonds</b>	<b>163,279,749</b>	<b>13.1</b>	<b>-0.3</b>	<b>-0.6</b>	<b>2.9</b>	<b>0.0</b>	<b>-3.6</b>	<b>0.9</b>	<b>1.7</b>	<b>5.2</b>	<b>Oct-90</b>
<i>Bloomberg US Aggregate TR</i>			-0.4	-0.8	2.1	-0.9	-4.0	0.8	1.5	5.1	Oct-90
<b>Long-Term Bonds</b>	<b>51,245,601</b>	<b>4.1</b>	<b>0.0</b>	<b>-2.3</b>	--	--	--	--	--	<b>2.3</b>	<b>Mar-23</b>
<i>Bloomberg US Treasury Long TR</i>			0.0	-2.3	3.7	-6.8	-12.1	-0.9	1.8	2.3	Mar-23
<b>Hedge Funds</b>	<b>64,442,797</b>	<b>5.2</b>	<b>1.7</b>	<b>3.6</b>	--	--	--	--	--	<b>3.6</b>	<b>Apr-23</b>
<i>HFRI Macro (Total) Index</i>			1.1	1.7	-0.8	-0.4	7.3	5.0	3.1	1.7	Apr-23
<b>Cash</b>	<b>998,353</b>	<b>0.1</b>									

Trailing Net Performance												
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
<b>Total Fund</b>	<b>1,249,395,356</b>	<b>100.0</b>	<b>3.1</b>	<b>2.7</b>	<b>7.2</b>	<b>8.4</b>	<b>7.1</b>	<b>5.4</b>	<b>6.5</b>	<b>7.7</b>	<b>Oct-90</b>	
<i>Total Fund Policy Benchmark</i>			3.3	2.9	7.8	9.5	7.6	6.0	6.5	7.9	Oct-90	
<i>Total Fund Actual Allocation Benchmark</i>			3.1	2.7	7.6	--	--	--	--	--	Oct-90	
<i>Total Fund Public Benchmark</i>			4.2	4.1	10.3	10.5	5.6	5.5	6.4	7.8	Oct-90	
<b>Growth Assets</b>	<b>671,956,583</b>	<b>53.8</b>	<b>5.5</b>	<b>5.7</b>	<b>12.7</b>	--	--	--	--	<b>8.4</b>	<b>Dec-22</b>	
<i>Growth Assets Custom Benchmark</i>			5.6	6.1	13.9	--	--	--	--	8.9	Dec-22	
<b>Global Equity</b>	<b>671,956,583</b>	<b>53.8</b>	<b>5.5</b>	<b>5.7</b>	<b>12.7</b>	<b>15.8</b>	<b>11.2</b>	<b>7.9</b>	<b>9.2</b>	<b>9.0</b>	<b>Oct-90</b>	
<i>Global Equity Policy Benchmark</i>			5.8	5.9	13.2	16.1	11.0	7.6	8.9	9.2	Oct-90	
SSgA MSCI ACWI IMI Index Fund	80,534,783	6.4	5.9	6.0	13.5	16.6	11.4	8.1	--	9.8	May-16	
<i>MSCI ACWI IMI Net USD</i>			5.8	5.9	13.2	16.1	11.0	7.6	8.6	9.4	May-16	
SSgA Russell 1000 Growth Index	29,111,832	2.3	6.8	12.8	--	--	--	--	--	20.5	Mar-23	
<i>Russell 1000 Growth</i>			6.8	12.8	29.0	27.1	13.7	15.1	15.7	20.5	Mar-23	
SSgA Russell 1000 Value Index	14,136,906	1.1	6.6	4.1	--	--	--	--	--	3.6	Mar-23	
<i>Russell 1000 Value</i>			6.6	4.1	5.1	11.5	14.3	8.1	9.2	3.6	Mar-23	
SSgA Russell 3000 Index	168,051,190	13.5	6.8	8.4	--	--	--	--	--	11.3	Mar-23	
<i>Russell 3000</i>			6.8	8.4	16.2	19.0	13.9	11.4	12.3	11.3	Mar-23	
SSgA MSCI EAFE	97,633,829	7.8	4.6	3.2	--	--	--	--	--	5.8	Mar-23	
<i>MSCI EAFE</i>			4.6	3.0	11.7	18.8	8.9	4.4	5.4	5.5	Mar-23	
SSgA Emerging Markets Index	38,727,752	3.1	4.0	0.9	--	--	--	--	--	4.3	Mar-23	
<i>MSCI Emerging Markets</i>			3.8	0.9	4.9	1.7	2.3	0.9	3.0	4.0	Mar-23	
ABS China Direct	3,288,722	0.3	1.9	-8.1	--	--	--	--	--	-7.7	Mar-23	
<i>MSCI China NR USD</i>			4.0	-9.7	-5.5	-16.8	-10.3	-5.3	3.0	-5.6	Mar-23	
ABS EM ex China Direct	11,961,807	1.0	5.5	9.7	--	--	--	--	--	11.9	Mar-23	
<i>MSCI EM ex China</i>			3.7	6.0	6.4	8.5	8.5	3.5	3.2	8.5	Mar-23	
Kopernik Global All-Cap	28,726,467	2.3	0.3	-0.4	--	--	--	--	--	-0.4	Apr-23	
<i>MSCI ACWI</i>			5.8	6.2	13.9	16.5	11.0	8.1	8.8	6.2	Apr-23	

Performance Update | As of June 30, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
First Eagle Global Equity	100,792,992	8.1	6.3	4.9	--	--	--	--	--	4.9	Apr-23
<i>MSCI ACWI</i>			5.8	6.2	13.9	16.5	11.0	8.1	8.8	6.2	Apr-23
Artisan Global Opportunities	98,990,303	7.9	5.0	6.2	--	--	--	--	--	6.2	Apr-23
<i>MSCI ACWI</i>			5.8	6.2	13.9	16.5	11.0	8.1	8.8	6.2	Apr-23
<b>Credit</b>	<b>63,501,269</b>	<b>5.1</b>	<b>1.3</b>	--	--	--	--	--	--	<b>1.9</b>	<b>May-23</b>
<i>Credit Custom Benchmark</i>			2.0	2.4	5.9	--	--	--	--	1.4	May-23
<b>High Yield &amp; Bank Loans</b>	<b>63,501,269</b>	<b>5.1</b>	<b>1.3</b>	--	--	--	--	--	--	<b>1.9</b>	<b>May-23</b>
<i>High Yield &amp; Bank Loans Custom Benchmark</i>			2.0	2.4	5.9	9.6	4.7	3.7	4.3	1.4	May-23
Sculptor Credit Opportunities Overseas Fund	25,363,769	2.0	0.9	--	--	--	--	--	--	2.3	May-23
<i>Bloomberg Global High Yield TR</i>			2.6	2.0	5.2	10.5	1.4	1.9	3.5	1.4	May-23
Brigade High Income Fund	38,137,500	3.1	1.6	--	--	--	--	--	--	1.7	May-23
<i>60% Barclays U.S. Corporate High Yield &amp; 40% CS Lev Loans</i>			1.9	2.3	5.8	9.5	4.4	3.7	4.3	1.3	May-23
<b>Inflation Hedges</b>	<b>233,971,004</b>	<b>18.7</b>	<b>0.1</b>	<b>-2.3</b>	<b>-3.1</b>	--	--	--	--	<b>-7.4</b>	<b>Dec-22</b>
<i>Inflation Hedges Custom Benchmark</i>			0.0	-2.7	-2.3	--	--	--	--	-4.7	Dec-22
<b>Real Estate</b>	<b>90,643,992</b>	<b>7.3</b>	<b>-0.5</b>	<b>-1.6</b>	<b>-6.1</b>	<b>-12.1</b>	<b>2.5</b>	<b>1.8</b>	<b>5.4</b>	<b>6.6</b>	<b>Apr-11</b>
<i>NCREIF ODCE (net)</i>			-2.9	-2.9	-6.2	-10.7	7.1	5.6	7.8	8.5	Apr-11
JP Morgan Asset Management Strategic Property Fund	51,308,111	4.1	-0.3	-1.8	-5.0	-11.3	6.2	4.9	7.3	8.4	Apr-11
<i>NCREIF ODCE (net)</i>			-2.9	-2.9	-6.2	-10.7	7.1	5.6	7.8	8.5	Apr-11
UBS Trumbull Property Fund	25,946,019	2.1	-3.6	-3.6	-10.6	-15.6	1.8	0.5	4.3	4.9	Dec-11
<i>NCREIF ODCE (net)</i>			-2.9	-2.9	-6.2	-10.7	7.1	5.6	7.8	8.4	Dec-11
SSgA US REIT	13,389,862	1.1	5.1	2.9	--	--	--	--	--	0.2	Mar-23
<i>DJ US Select REIT TR USD</i>			5.1	2.9	5.8	-0.7	9.2	3.3	5.8	0.2	Mar-23
<b>Natural Resources &amp; Infrastructure</b>	<b>31,502,822</b>	<b>2.5</b>	<b>6.1</b>	<b>-3.7</b>	--	--	--	--	--	<b>-3.7</b>	<b>Apr-23</b>
<i>S&amp;P Global LargeMidCap Commodity and Resources NR USD</i>			6.1	-3.8	-5.2	6.2	19.3	7.4	5.1	-3.8	Apr-23
SSgA S&P Global LargeMidCap Natural Resources Index	31,502,822	2.5	6.1	-3.7	--	--	--	--	--	-3.7	Apr-23
<i>S&amp;P Global LargeMidCap Commodity and Resources NR USD</i>			6.1	-3.8	-5.2	6.2	19.3	7.4	5.1	-3.8	Apr-23

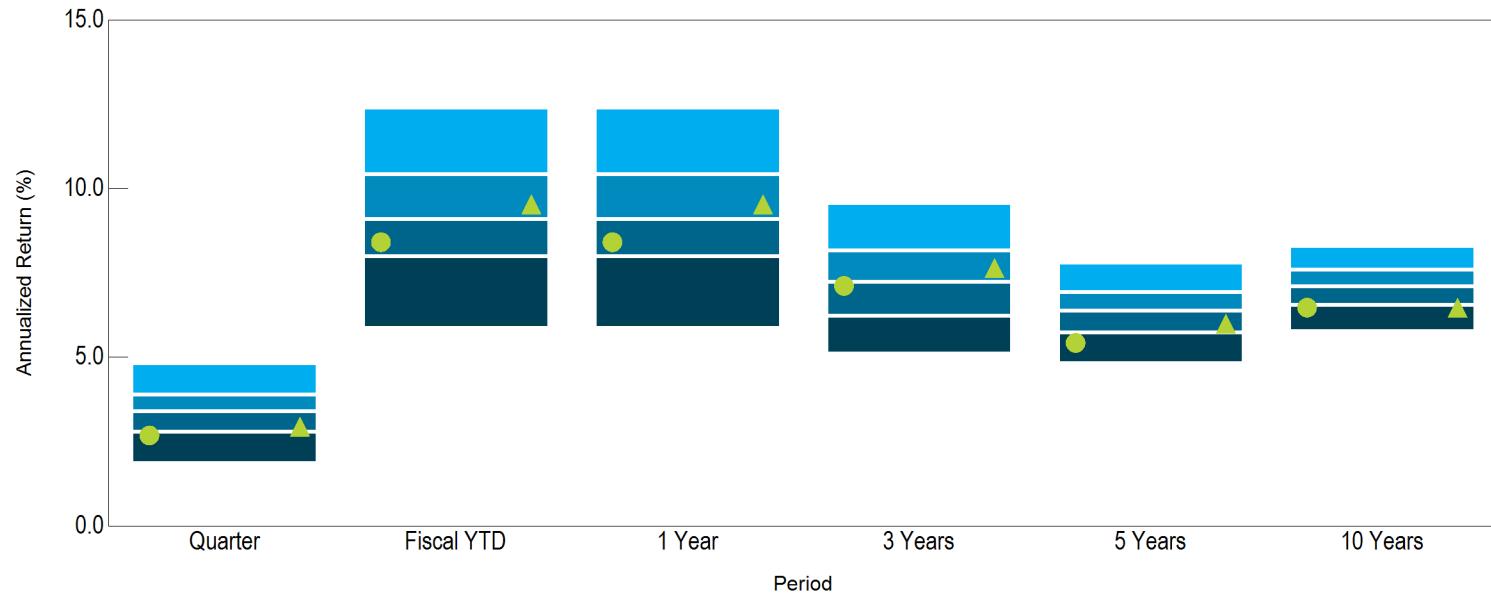
## Performance Update | As of June 30, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Gold</b>	<b>35,778,914</b>	<b>2.9</b>	<b>-2.6</b>	<b>-5.4</b>	--	--	--	--	--	<b>-5.4</b>	<b>Apr-23</b>
60% Gold (Spot)/ 40% FTSE Gold Mines			-2.0	-4.1	5.1	6.6	--	--	--	-4.1	Apr-23
First Eagle Institutional Gold Fund, LP	35,778,914	2.9	-2.6	-5.4	--	--	--	--	--	-5.4	Apr-23
60% Gold (Spot)/ 40% FTSE Gold Mines			-2.0	-4.1	5.1	6.6	--	--	--	-4.1	Apr-23
<b>Short-Term TIPS</b>	<b>76,037,951</b>	<b>6.1</b>	<b>-0.2</b>	<b>-0.7</b>	--	--	--	--	--	<b>0.2</b>	<b>Mar-23</b>
Bloomberg US Treasury TIPS 0-5 Yr TR			-0.2	-0.7	1.5	0.1	2.3	2.7	1.7	1.2	Mar-23
Vanguard Short-Term TIPS Index	76,037,951	6.1	-0.2	-0.7	--	--	--	--	--	-0.7	Apr-23
Bloomberg US Treasury TIPS 0-5 Yr TR			-0.2	-0.7	1.5	0.1	2.3	2.7	1.7	-0.7	Apr-23
<b>MLPs</b>	<b>7,325</b>	<b>0.0</b>									
<b>Risk Mitigation</b>	<b>279,966,500</b>	<b>22.4</b>	<b>0.2</b>	<b>-0.1</b>	<b>3.6</b>	--	--	--	--	<b>3.1</b>	<b>Dec-22</b>
Risk Mitigation Custom Benchmark			0.0	-0.3	1.5	--	--	--	--	1.2	Dec-22
<b>Investment Grade Fixed Income</b>	<b>214,525,350</b>	<b>17.2</b>	<b>-0.2</b>	<b>-1.0</b>	<b>3.0</b>	<b>0.1</b>	<b>-3.5</b>	<b>1.0</b>	<b>1.7</b>	<b>5.2</b>	<b>Oct-90</b>
Bloomberg US Aggregate TR			-0.4	-0.8	2.1	-0.9	-4.0	0.8	1.5	5.1	Oct-90
<b>Intermediate-Term Bonds</b>	<b>163,279,749</b>	<b>13.1</b>	<b>-0.3</b>	<b>-0.6</b>	<b>2.9</b>	<b>0.0</b>	<b>-3.6</b>	<b>0.9</b>	<b>1.7</b>	<b>5.2</b>	<b>Oct-90</b>
Bloomberg US Aggregate TR			-0.4	-0.8	2.1	-0.9	-4.0	0.8	1.5	5.1	Oct-90
PIMCO Total Return	2,626,403	0.2									
SSgA US Aggregate Bond	67,078,173	5.4	-0.4	-0.8	2.3	-0.9	-3.9	0.8	1.5	2.5	Jan-09
Bloomberg US Aggregate TR			-0.4	-0.8	2.1	-0.9	-4.0	0.8	1.5	2.5	Jan-09
Wellington Core Bond	74,963,612	6.0	-0.1	--	--	--	--	--	--	-1.1	May-23
Bloomberg US Aggregate TR			-0.4	-0.8	2.1	-0.9	-4.0	0.8	1.5	-1.4	May-23
Brandywine U.S. Fixed Income	18,611,560	1.5	-0.8	--	--	--	--	--	--	-0.8	Jun-23
Bloomberg US Aggregate TR			-0.4	-0.8	2.1	-0.9	-4.0	0.8	1.5	-0.4	Jun-23
<b>Long-Term Bonds</b>	<b>51,245,601</b>	<b>4.1</b>	<b>0.0</b>	<b>-2.3</b>	--	--	--	--	--	<b>2.3</b>	<b>Mar-23</b>
Bloomberg US Treasury Long TR			0.0	-2.3	3.7	-6.8	-12.1	-0.9	1.8	2.3	Mar-23
SSgA Long US Treasury Index	51,245,601	4.1	0.0	-2.3	--	--	--	--	--	2.3	Mar-23
Bloomberg US Treasury Long TR			0.0	-2.3	3.7	-6.8	-12.1	-0.9	1.8	2.3	Mar-23

**Performance Update | As of June 30, 2023**

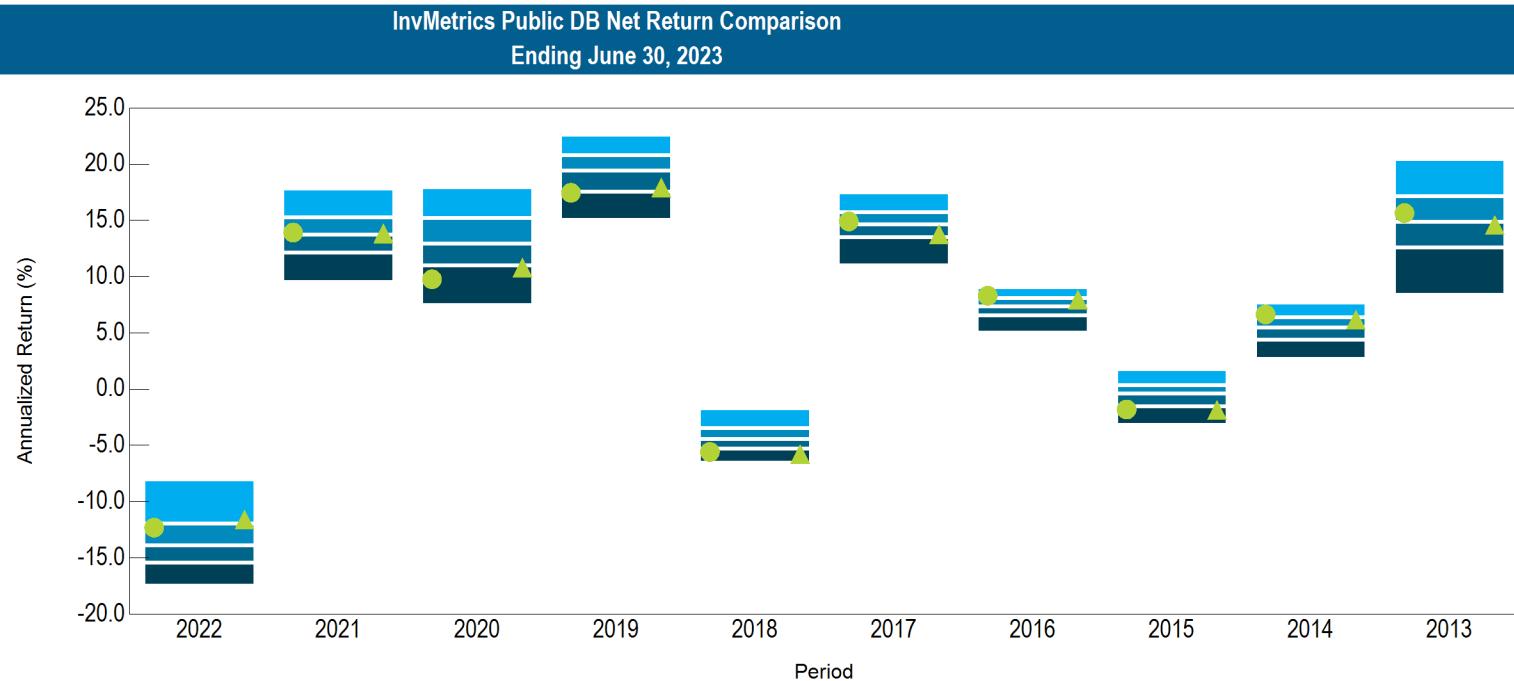
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Hedge Funds</b>											
HFRI Macro (Total) Index			1.7	3.6	--	--	--	--	--	3.6	Apr-23
36 South Kohinoor Series (Cayman) Fund	21,417,297	1.7	0.8	1.5	--	--	--	--	--	1.7	Apr-23
CBOE Eurekahedge Long Volatility Hedge Fund Index			-1.6	-2.7	-4.2	-6.0	-3.5	2.0	-1.2	-2.7	Apr-23
BH-DG Systematic Trading Master Fund	18,319,779	1.5	4.2	9.7	--	--	--	--	--	9.7	Apr-23
Barclay CTA Index TR USD			0.9	2.5	0.5	-0.4	5.8	4.4	2.5	2.5	Apr-23
Lombard Odier Bear Convexity	7,985,782	0.6	-1.8	-0.2	--	--	--	--	--	-0.2	Apr-23
CBOE Eurekahedge Long Volatility Hedge Fund Index			-1.6	-2.7	-4.2	-6.0	-3.5	2.0	-1.2	-2.7	Apr-23
Alpstone Global Macro Fund	16,719,940	1.3	2.0	--	--	--	--	--	--	0.1	May-23
HFRI Macro (Total) Index			1.1	1.7	-0.8	-0.4	7.3	5.0	3.1	0.8	May-23
<b>Cash</b>											
Cash	998,353	0.1									
	998,353	0.1									

InvMetrics Public DB Net Return Comparison  
Ending June 30, 2023



#### Return (Rank)

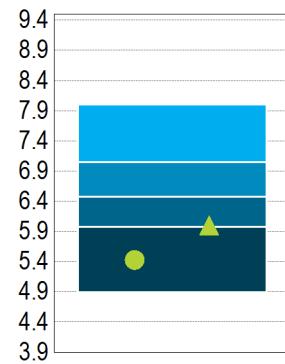
5th Percentile	4.8	12.4	12.4	9.6	7.8	8.3
25th Percentile	3.9	10.4	10.4	8.2	6.9	7.6
Median	3.4	9.1	9.1	7.3	6.4	7.1
75th Percentile	2.8	8.0	8.0	6.3	5.8	6.6
95th Percentile	1.9	5.9	5.9	5.1	4.8	5.8
# of Portfolios	423	416	416	406	393	324
Total Fund	2.7 (79)	8.4 (68)	8.4 (68)	7.1 (57)	5.4 (83)	6.5 (81)
Total Fund Policy Benchmark	2.9 (70)	9.5 (41)	9.5 (41)	7.6 (41)	6.0 (67)	6.5 (81)



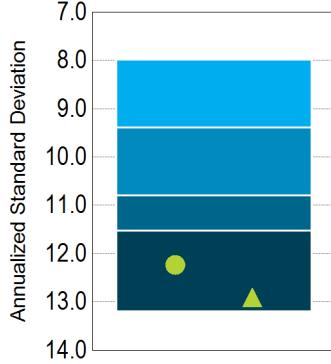
#### Return (Rank)

5th Percentile	-8.0	17.8	17.9	22.6	-1.7	17.5	9.0	1.7	7.7	20.4
25th Percentile	-11.9	15.3	15.3	20.8	-3.4	15.8	8.1	0.4	6.4	17.2
Median	-13.8	13.8	13.0	19.5	-4.4	14.7	7.4	-0.4	5.5	14.9
75th Percentile	-15.4	12.2	11.0	17.6	-5.2	13.6	6.6	-1.5	4.4	12.7
95th Percentile	-17.5	9.6	7.5	15.1	-6.5	11.1	5.0	-3.2	2.7	8.4
# of Portfolios	539	559	596	550	496	269	269	262	210	191
● Total Fund	-12.3 (30)	13.9 (47)	9.8 (87)	17.5 (77)	-5.6 (83)	14.9 (45)	8.3 (23)	-1.8 (81)	6.6 (21)	15.7 (43)
▲ Total Fund Policy Benchmark	-11.6 (21)	13.8 (49)	10.8 (78)	17.9 (72)	-5.8 (88)	13.8 (73)	7.9 (30)	-1.9 (81)	6.2 (32)	14.6 (54)

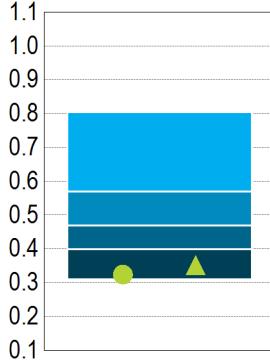
Annualized Return (%)  
Trailing 5 Years



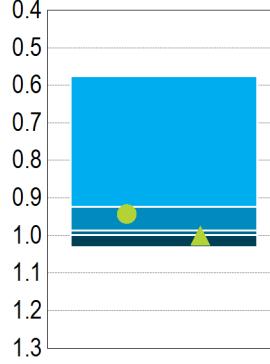
Annualized Standard Deviation  
Trailing 5 Years



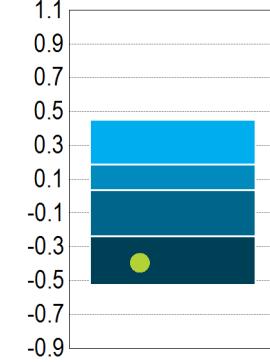
Sharpe Ratio  
Trailing 5 Years



Beta  
Trailing 5 Years



Information Ratio  
Trailing 5 Years



● Total Fund  
Value 5.4  
Rank 83  
▲ Total Fund Policy Benchmark  
Value 6.0  
Rank 75

● Total Fund  
Value 12.2  
Rank 88  
▲ Total Fund Policy Benchmark  
Value 12.9  
Rank 93

● Total Fund  
Value 0.3  
Rank 92  
▲ Total Fund Policy Benchmark  
Value 0.4  
Rank 86

● Total Fund  
Value 0.9  
Rank 29  
▲ Total Fund Policy Benchmark  
Value 1.0  
Rank 80

● Total Fund  
Value -0.4  
Rank 87  
▲ Total Fund Policy Benchmark  
Value --  
Rank --

Universe  
5th %tile 8.0  
25th %tile 7.1  
Median 6.5  
75th %tile 6.0  
95th %tile 4.9

Universe  
5th %tile 8.0  
25th %tile 9.4  
Median 10.8  
75th %tile 11.5  
95th %tile 13.2

Universe  
5th %tile 0.8  
25th %tile 0.6  
Median 0.5  
75th %tile 0.4  
95th %tile 0.3

Universe  
5th %tile 0.6  
25th %tile 0.9  
Median 1.0  
75th %tile 1.0  
95th %tile 1.0

Universe  
5th %tile 0.5  
25th %tile 0.2  
Median 0.0  
75th %tile -0.2  
95th %tile -0.5

**Total Fund | As of June 30, 2023**

Annual Investment Expense Analysis				
As Of June 30, 2023				
Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
<b>Growth Assets</b>		\$671,956,583	\$1,593,474	0.24%
<b>Global Equity</b>		\$671,956,583	\$1,593,474	0.24%
SSgA MSCI ACWI IMI Index Fund	0.05% of Assets	\$80,534,783	\$36,241	0.05%
SSgA Russell 1000 Growth Index	0.02% of Assets	\$29,111,832	\$5,822	0.02%
SSgA Russell 1000 Value Index	0.02% of Assets	\$14,136,906	\$2,827	0.02%
SSgA Russell 3000 Index	0.02% of Assets	\$168,051,190	\$33,610	0.02%
SSgA MSCI EAFE	0.04% of Assets	\$97,633,829	\$39,054	0.04%
SSgA Emerging Markets Index	0.08% of Assets	\$38,727,752	\$30,982	0.08%
ABS China Direct	0.65% of Assets	\$3,288,722	\$21,377	0.65%
ABS EM ex China Direct	0.50% of Assets	\$11,961,807	\$59,809	0.50%
Kopernik Global All-Cap	0.75% of Assets	\$28,726,467	\$215,449	0.75%
First Eagle Global Equity	0.55% of Assets	\$100,792,992	\$554,361	0.55%
Artisan Global Opportunities	0.60% of Assets	\$98,990,303	\$593,942	0.60%
<b>Credit</b>		\$63,501,269	\$451,953	0.71%
<b>High Yield &amp; Bank Loans</b>		\$63,501,269	\$451,953	0.71%
Sculptor Credit Opportunities Overseas Fund	Performance-based 1.00 and 20.00	\$25,363,769	\$253,638	1.00%
Brigade High Income Fund	0.52% of Assets	\$38,137,500	\$198,315	0.52%
<b>Inflation Hedges</b>		\$233,971,004	\$927,404	0.40%
<b>Real Estate</b>		\$90,643,992	\$704,481	0.78%
JP Morgan Asset Management Strategic Property Fund	0.91% of Assets	\$51,308,111	\$466,904	0.91%
	0.96% of First 10.0 Mil, 0.83% of Next 15.0 Mil, 0.81% of Next 25.0 Mil, 0.79% of Next 50.0 Mil, 0.67% of Next 150.0 Mil, 0.60% of Next 150.0 Mil, 0.56% of Next 200.0 Mil, 0.52% Thereafter			
UBS Trumbull Property Fund		\$25,946,019	\$226,865	0.87%
SSgA US REIT	0.08% of Assets	\$13,389,862	\$10,712	0.08%

**Total Fund | As of June 30, 2023**

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
<b>Natural Resources &amp; Infrastructure</b>		<b>\$31,502,822</b>	<b>\$31,503</b>	<b>0.10%</b>
SSgA S&P Global LargeMidCap Natural Resources Index	0.10% of Assets	\$31,502,822	\$31,503	0.10%
<b>Gold</b>		<b>\$35,778,914</b>	<b>\$161,005</b>	<b>0.45%</b>
First Eagle Institutional Gold Fund, LP	0.45% of Assets	\$35,778,914	\$161,005	0.45%
<b>Short-Term TIPS</b>		<b>\$76,037,951</b>	<b>\$30,415</b>	<b>0.04%</b>
Vanguard Short-Term TIPS Index	0.04% of Assets	\$76,037,951	\$30,415	0.04%
<b>Risk Mitigation</b>		<b>\$279,966,500</b>	<b>\$930,651</b>	<b>0.33%</b>
<b>Investment Grade Fixed Income</b>		<b>\$214,525,350</b>	<b>\$176,659</b>	<b>0.08%</b>
<b>Intermediate-Term Bonds</b>		<b>\$163,279,749</b>	<b>\$161,285</b>	<b>0.10%</b>
PIMCO Total Return	0.15% of Assets	\$2,626,403	\$3,940	0.15%
SSgA US Aggregate Bond	0.02% of Assets	\$67,078,173	\$13,416	0.02%
Wellington Core Bond	0.12% of Assets	\$74,963,612	\$89,956	0.12%
Brandywine U.S. Fixed Income	0.29% of Assets	\$18,611,560	\$53,974	0.29%
<b>Long-Term Bonds</b>		<b>\$51,245,601</b>	<b>\$15,374</b>	<b>0.03%</b>
SSgA Long US Treasury Index	0.03% of Assets	\$51,245,601	\$15,374	0.03%
<b>Hedge Funds</b>		<b>\$64,442,797</b>	<b>\$753,992</b>	<b>1.17%</b>
36 South Kohinoor Series (Cayman) Fund	Performance-based 1.00 and 20.00	\$21,417,297	\$229,978	1.07%
BH-DG Systematic Trading Master Fund	0.93% of Assets	\$18,319,779	\$170,374	0.93%
Lombard Odier Bear Convexity	Performance-based 0.75 and 27.50	\$7,985,782	\$59,893	0.75%
Alpstone Global Macro Fund	Performance-based 1.35 and 20.00	\$16,719,940	\$293,747	1.76%
<b>Cash</b>		<b>\$998,353</b>	<b>\$0</b>	<b>0.00%</b>
Cash		\$998,353		
<b>Total</b>		<b>\$1,249,388,031</b>	<b>\$3,903,482</b>	<b>0.31%</b>

PIMCO Total Return has an additional 15% performance fee on excess performance over the benchmark. Tortoise Capital Advisors has an additional 2.5% performance fee and an 8% hard hurdle.

**Benchmark History**
**As of June 30, 2023**
**Total Fund**

12/1/2022	Present	52% MSCI ACWI IMI Net USD / 5% MSCI ACWI + 3% 1Q Lag / 2% Credit Suisse Leveraged Loans / 2% Bloomberg US High Yield TR / 5% Bloomberg US Treasury TIPS 0-5 Yr TR / 3% 60% Gold (Spot) / 40% FTSE Gold Mines / 5% S&P Global LargeMidCap Commodity and Resources NR USD / 8% NCREIF ODCE (net) / 14% Bloomberg US Aggregate TR / 4% HFRI Macro (Total) Index
5/1/2016	11/30/2022	55% MSCI ACWI IMI Net USD / 30% Bloomberg US Aggregate TR / 7.5% NCREIF ODCE (net) / 7.5% Alerian MLP TR USD
3/1/2016	4/30/2016	33% Russell 3000 / 30% Bloomberg US Aggregate TR / 22% MSCI ACWI ex USA / 7.5% NCREIF ODCE (net) / 7.5% Alerian MLP TR USD
2/1/2013	2/29/2016	33% Russell 3000 / 35% Bloomberg US Aggregate TR / 22% MSCI ACWI ex USA / 5% NCREIF ODCE (net) / 5% Alerian MLP TR USD
3/1/2011	1/31/2013	36% Russell 3000 / 35% Bloomberg US Aggregate TR / 24% MSCI ACWI ex USA / 5% NCREIF ODCE (net)
9/1/2009	2/28/2011	36% Russell 3000 / 40% Bloomberg US Aggregate TR / 24% MSCI ACWI ex USA
6/1/2009	8/31/2009	42% Russell 3000 / 40% Bloomberg US Aggregate TR / 18% MSCI ACWI ex USA
6/1/2006	5/31/2009	42% Russell 3000 / 40% Bloomberg US Aggregate TR / 18% MSCI EAFE
7/1/2003	5/31/2006	60% S&P 500 / 40% Bloomberg US Aggregate TR
10/1/2002	6/30/2003	55% S&P 500 / 45% Bloomberg US Aggregate TR
10/1/1990	9/30/2002	50% S&P 500 / 50% Bloomberg US Aggregate TR

**Benchmark History**
**As of June 30, 2023**
**Growth Assets**

12/1/2022	Present	91% MSCI ACWI IMI Net USD / 9% MSCI ACWI + 3% 1Q Lag
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Total Fund Public Benchmark consists of 74% MSCI ACWI IMI / 26% Bloomberg US Aggreagte. Historical Varies.

Total Fund Actual Allocation Benchmark reflects the asset classes set fourth in the Fund's investment policy statement, weighted for the Fund's actual investments and performance of the indexes referenced above.

**Benchmark History****As of June 30, 2023****Global Equity**

5/1/2016	Present	MSCI ACWI IMI Net USD
9/1/2009	4/30/2016	60% Russell 3000 / 40% MSCI ACWI ex USA
6/1/2009	8/31/2009	70% Russell 3000 / 30% MSCI ACWI ex USA
1/1/2006	5/31/2009	70% Russell 3000 / 30% MSCI EAFE
10/1/1990	12/31/2005	S&P 500

**Benchmark History****As of June 30, 2023****Inflation Hedges**

12/1/2022	Present	24% Bloomberg US TIPS 1-5 Yr TR / 14% 60% Gold (Spot) / 40% FTSE Gold Mines / 24% S&P Global LargeMidCap Commodity and Resources NR USD / 38% NCREIF ODCE (net)
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**Benchmark History****As of June 30, 2023****Risk Mitigation**

12/1/2022	Present	78% Bloomberg US Aggregate TR / 22% HFRI Macro (Total) Index
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## **Disclaimer, Glossary, and Notes**

WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

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**Credit Risk:** Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security.)

**Duration:** Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

**Information Ratio:** This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

**Jensen's Alpha:** A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. Portfolio Return- [Risk Free Rate+Beta\*(market return-Risk Free Rate)].

**Market Capitalization:** For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

**Market Weighted:** Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

**Maturity:** The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

**Prepayment Risk:** The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

**Price-Book Value (P/B) Ratio:** The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

**Price-Earnings (P/E) Ratio:** A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about its future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

**Quality Rating:** The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

**Sharpe Ratio:** A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

**STIF Account:** Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

**Standard Deviation:** A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

**Style:** The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

**Tracking Error:** A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.

**Yield to Maturity:** The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a "basis book." For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{5\% \text{ (discount)}}{5 \text{ (yrs. to maturity)}} = \frac{1\% \text{ pro rata, plus}}{5.26\% \text{ (current yield)}} = 6.26\% \text{ (yield to maturity)}$$

**Yield to Worst:** The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call, or sinking fund, are used by the issuer.

**NCREIF Property Index (NPI):** Measures unleveraged investment performance of a very large pool of individual commercial real estate properties acquired in the private market by tax-exempt institutional investors for investment purposes only. The NPI index is capitalization-weighted for a quarterly time series composite total rate of return.

**NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE):** Measures the investment performance of 28 open-end commingled funds pursuing a core investment strategy that reflects funds' leverage and cash positions. The NFI-ODCE index is equal-weighted and is reported gross and net of fees for a quarterly time series composite total rate of return.

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.

The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.