

# Employees' Retirement System of the City of Norfolk

Performance Update  
As of December 31, 2023

Fund Evaluation Report

## Agenda

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  - Global Equity Portfolio Change: New Manager-Fidelity Small Cap Index
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## **Economic and Market Update**

Data as of December 31, 2023

### Commentary

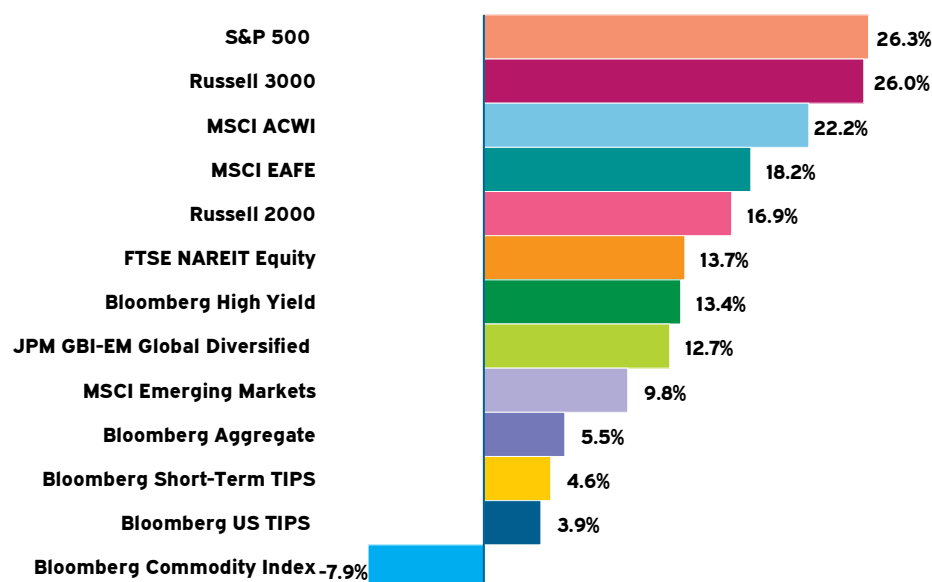
→ Most markets rallied in the fourth quarter in anticipation that policy rates cuts were ahead in 2024.

- Major central banks have largely paused interest rates hikes. Markets are now largely expecting the FOMC to maintain interest rates at the current levels and begin cutting rates as soon as Q1 2024.
- Inflation rose in December in the US and Europe, but both finished the year much lower than where they started. China remained in deflationary territory (-0.3%) at year-end.
- US equity markets (Russell 3000 index) posted strong gains for the quarter (12.1%), raising full year results to +26.0%. Most sectors rallied, with more defensive sectors lagging.
- Non-US developed equity markets also rallied in the fourth quarter (MSCI EAFE 10.4%), with the weakening of the US dollar contributing meaningfully (10.4% versus 5.0% ex-US dollar influence). The performance difference between US and international developed equities for the year remained wide (26.0% versus 18.2%).
- Emerging market equities were up 7.9% in the fourth quarter and 9.8% for calendar 2023 but trailed developed markets due to lagging returns in China (-4.2% Q4/-11.2% one-year). Emerging market equities ex-China returned 20% in 2023.
- Interest rates generally fell in the fourth quarter, particularly for longer-dated maturities. The broad US bond market rallied (6.8%) for the quarter, lifting 2023 returns into positive territory (5.5%).

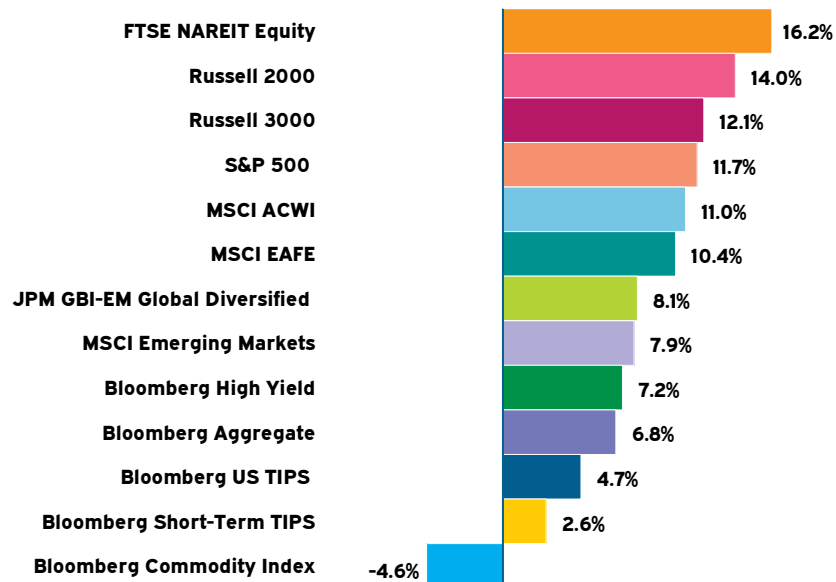
→ Looking to 2024, the paths of inflation and monetary policy, China's economic disorder and slowing economic growth, and the wars in Ukraine and Israel, will be key.

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

#### 2023



#### Q4



- After a tough start to the quarter on lingering fears that the Federal Reserve might keep interest rates “higher for longer”, markets rallied in November and December. Economic data generally coming in below expectations sparked expectations that the Federal Reserve might really be done raising policy rates for this cycle.
- Strong results for the quarter built on gains for the year with all asset classes finishing in positive territory in 2023, except commodities.

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

### Domestic Equity Returns<sup>1</sup>

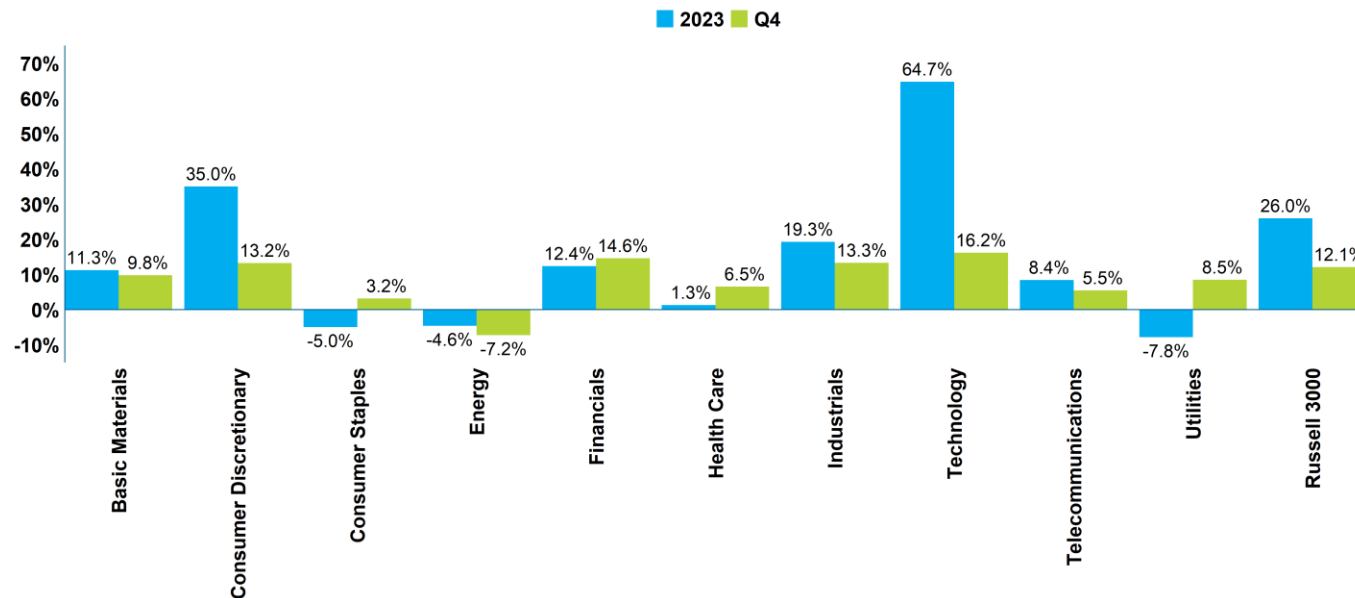
Domestic Equity	December (%)	Q4 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	4.5	11.7	26.3	10.0	15.7	12.0
Russell 3000	5.3	12.1	26.0	8.6	15.2	11.5
Russell 1000	4.9	12.0	26.5	9.0	15.5	11.8
Russell 1000 Growth	4.4	14.2	42.7	8.9	19.5	14.9
Russell 1000 Value	5.5	9.5	11.5	8.9	10.9	8.4
Russell MidCap	7.7	12.8	17.2	5.9	12.7	9.4
Russell MidCap Growth	7.6	14.5	25.9	1.3	13.8	10.6
Russell MidCap Value	7.8	12.1	12.7	8.4	11.2	8.3
Russell 2000	12.2	14.0	16.9	2.2	10.0	7.2
Russell 2000 Growth	12.0	12.7	18.7	-3.5	9.2	7.2
Russell 2000 Value	12.4	15.3	14.6	8.0	10.0	6.8

**US Equities: The Russell 3000 rallied 5.3% in December, bringing fourth quarter results to +12.1%. US stocks were up 26.0% in 2023.**

- US equities had a strong final quarter of the year, driven by expectations that rate cuts may be ahead in 2024.
- Small cap stocks outperformed their large cap peers for the quarter while growth outpaced value with the exception of small cap. Large cap stocks outperformed small cap stocks by a wide margin for the calendar year and growth outpaced value across market caps.
- Calendar year results were clearly driven by large cap technology stocks. Within the S&P 500 index, the “Magnificent 7” stocks generated more than 50% of the total gains.

<sup>1</sup> Source: Bloomberg. Data is as of December 31, 2023. Magnificent Seven stocks include: Apple, Microsoft, Alphabet, Amazon, Nvidia, Tesla, and Meta.

### Russell 3000 Sector Returns<sup>1</sup>



- All sectors posted gains for the fourth quarter, except for energy (-7.2%) given oil's recent declines. Technology (+16.2%) led the way for the quarter followed by financials (+14.6%).
- In 2023, technology (+64.7%) and consumer discretionary (+35.0%) sectors had the best results, helped respectively by artificial intelligence optimism and a healthy US consumer. Traditionally defensive sectors like utilities (-7.8%) and consumer staples (-5.0%) trailed.

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

### Foreign Equity Returns<sup>1</sup>

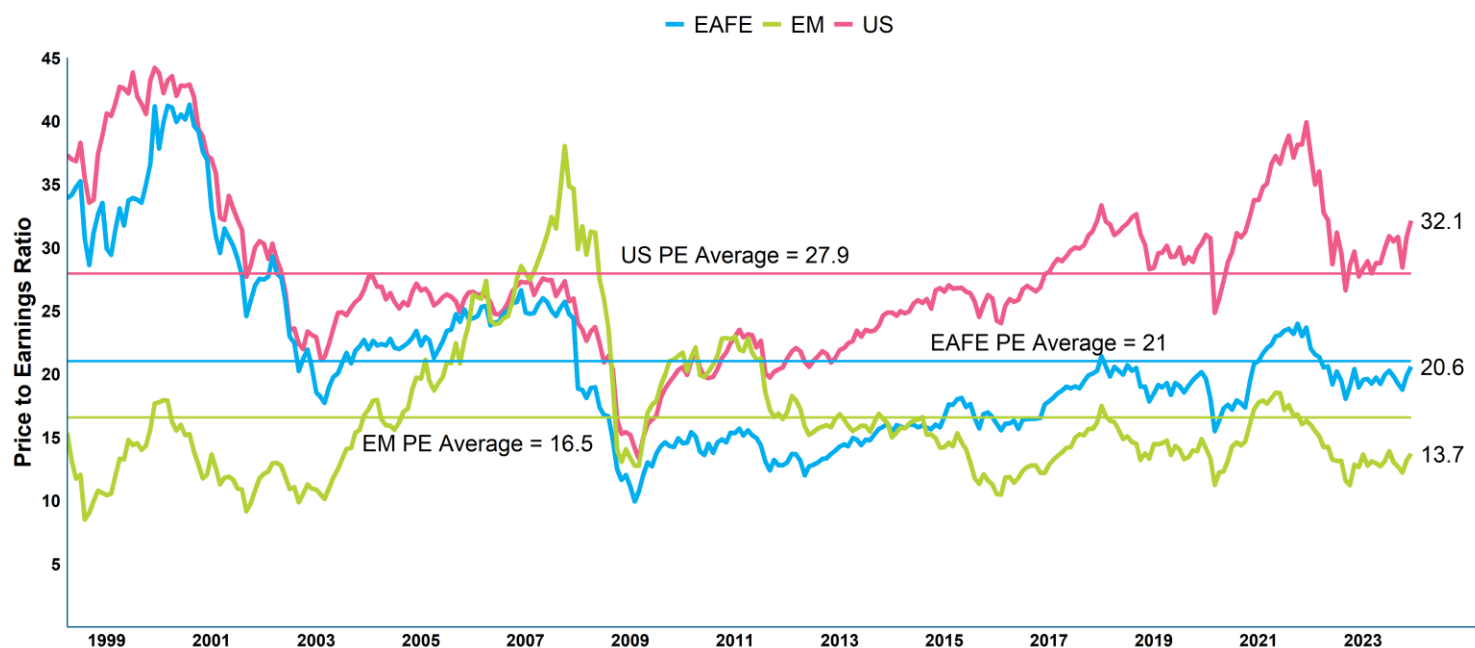
Foreign Equity	December (%)	Q4 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	5.0	9.8	15.6	1.5	7.1	3.8
MSCI EAFE	5.3	10.4	18.2	4.0	8.2	4.3
MSCI EAFE (Local Currency)	2.9	5.0	16.2	8.7	9.5	6.6
MSCI EAFE Small Cap	7.3	11.1	13.2	-0.7	6.6	4.8
MSCI Emerging Markets	3.9	7.9	9.8	-5.1	3.7	2.7
MSCI Emerging Markets (Local Currency)	3.1	5.6	9.9	-2.5	5.4	5.2
MSCI China	-2.4	-4.2	-11.2	-18.5	-2.8	0.9

**Foreign Equity:** Developed international equities (MSCI EAFE) gained 5.3% in December and 10.4% in the fourth quarter bringing calendar year results to 18.2%. Emerging market equities (MSCI EM) rose 3.9% in December, 7.9% for the quarter, and 9.8% for the year.

- Optimism around lower inflation and potentially peaking and declining policy rates drove gains in the UK and Europe. Japan had weaker results for the quarter as concerns over a strengthening yen weighed on returns in December. Overall weakness in the US dollar also contributed to quarterly and full year results across developed markets.
- Emerging markets also experienced strong performance in the fourth quarter but trailed developed markets. China weighed on relative results for the quarter and year, declining 4.2% and 11.2%, respectively. Slowing growth, issues in the property sector, and on-going tensions with the US all weighed on results.

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

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



- Given the strong technology-driven rally last year, the US equity price-to-earnings ratio increased above its 21st century average. Fourth quarter gains brought valuations to their highest level for the year.
- International market valuations also increased in the fourth quarter, but remain below the US. In the case of developed markets, valuations finished the year close to their long-term average, while emerging markets remained well below their 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: Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of December 2023. The average line is the long-term average of the US, EM, and EAFE PE values from April 1998 to the recent month-end respectively.

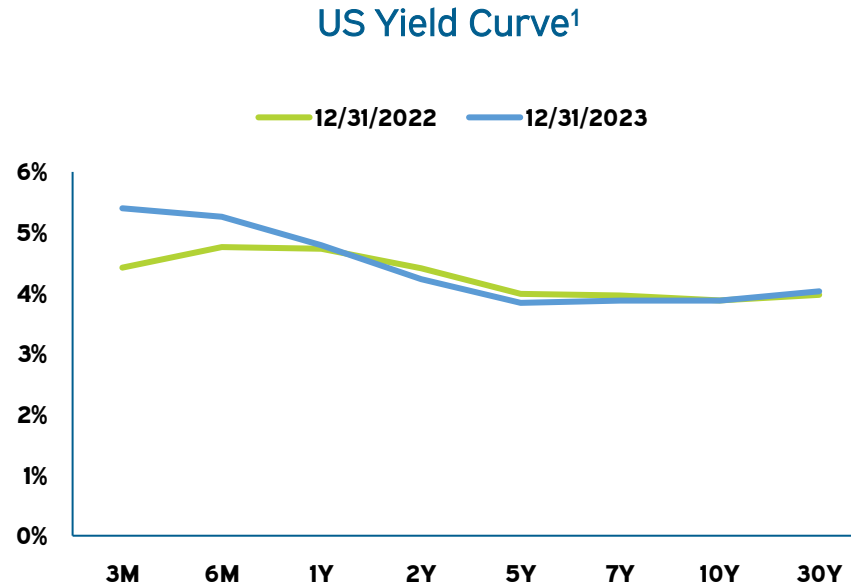
### Fixed Income Returns<sup>1</sup>

Fixed Income	December (%)	Q4 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	3.8	6.8	6.2	-3.0	1.4	2.1	4.8	6.1
Bloomberg Aggregate	3.8	6.8	5.5	-3.3	1.1	1.8	4.5	6.3
Bloomberg US TIPS	2.7	4.7	3.9	-1.0	3.2	2.4	4.2	6.7
Bloomberg Short-term TIPS	1.1	2.6	4.6	2.3	3.4	2.0	4.5	2.4
Bloomberg High Yield	3.7	7.2	13.4	2.0	5.4	4.6	7.6	3.8
JPM GBI-EM Global Diversified (USD)	3.2	8.1	12.7	-3.2	1.1	0.1	6.5	5.0

**Fixed Income: The Bloomberg Universal index rose 3.8% in December, 6.8% for the quarter, and 6.2% for the year.**

- Policy rate expectations swung from pessimism to optimism in November and December. Signs of the labor market cooling and improving inflation led investors to bring forward expectations for interest rate cuts to early 2024, leading to one of the best quarterly results in over twenty years.
- The broad US bond market (Bloomberg Aggregate) rallied 6.8% for the quarter, lifting full-year performance into positive territory (+5.5%). The broader TIPS index rose 4.7% for the quarter and 3.9% for the year, while the less interest-rate-sensitive short-term TIPS index rose 2.6% and 4.6% over the same periods.
- High yield bonds rallied on better risk sentiment (+7.2%), as did emerging market bonds (+8.1%). Both asset classes produced double-digit results last year.

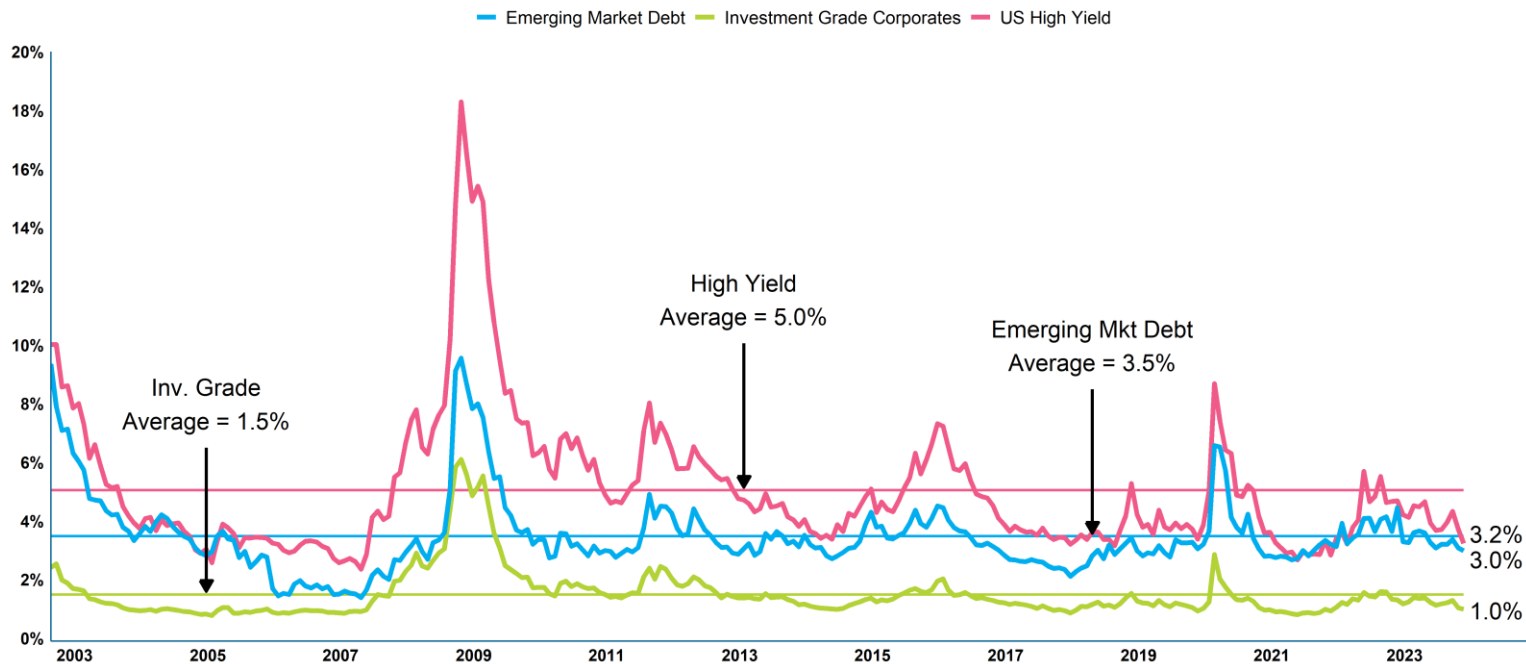
<sup>1</sup> Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of December 31, 2023. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.



- The more policy sensitive short-term maturities were higher this year while longer-term maturities finished the year where they started.
- Still, rates declined sharply over the quarter, particularly at the longer end of the yield curve on continued easing of inflation-related risks and speculation that the Federal Reserve is done with their policy rate increases for this cycle.
- For the quarter, two-year Treasury yields fell from 5.05% to 4.24% while ten-year Treasury yields declined from 4.56% to 3.88%.
- The yield curve remained inverted at year-end despite a recent flattening trend. The spread between the 2-year and 10-year Treasury was -0.37% at the end of December.

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

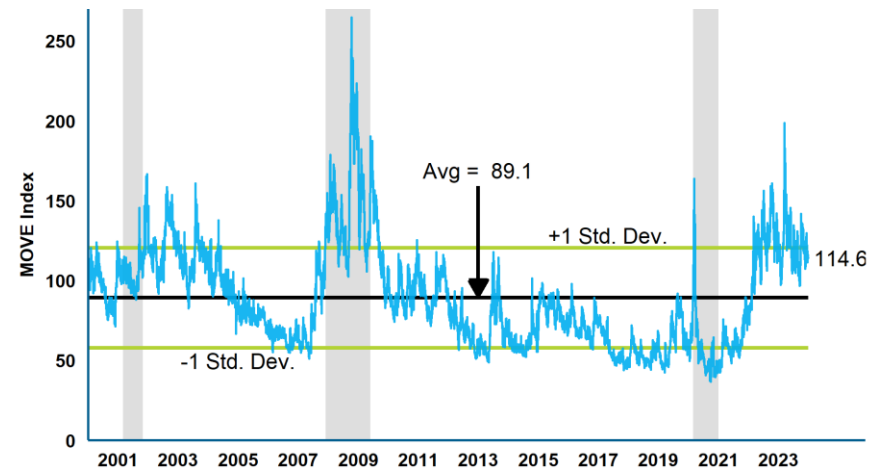
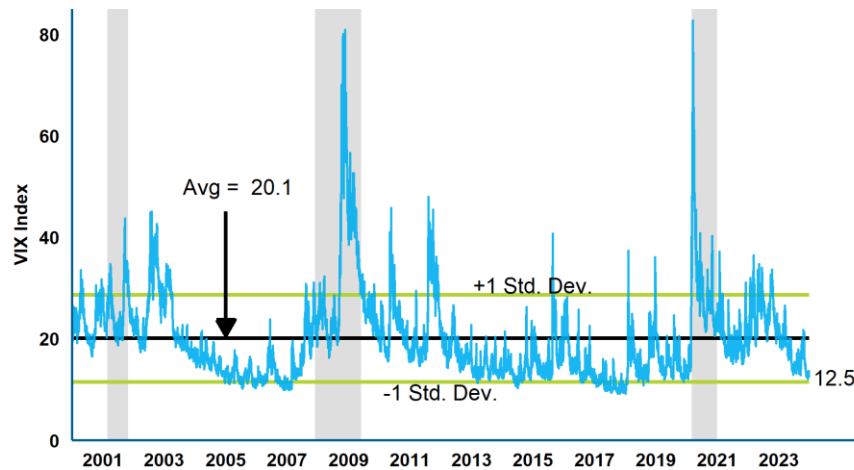
## Credit Spreads vs. US Treasury Bonds<sup>1</sup>



- Expectations of peaking policy rates and the corresponding increase in risk appetite benefited credit in the fourth quarter with spreads (the added yield above a comparable maturity Treasury) narrowing. All spreads remain below their respective long run averages.
- High yield spreads continue to be the furthest below their long-term average given the overall risk appetite last year and lower duration. Investment-grade corporate 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 December 31, 2023. Average lines denote the average of the investment grade, high yield, and emerging market spread values from September 2002 to the recent month-end, respectively.

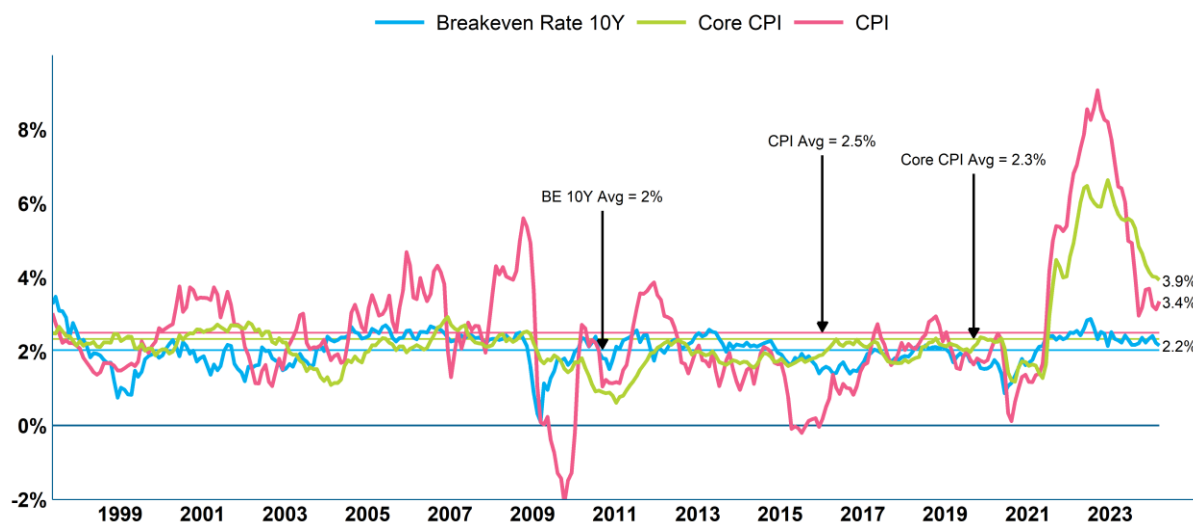
### Equity and Fixed Income Volatility<sup>1</sup>



- Volatility in equities (VIX) finished the year close to its lows, remaining well below the long-term average as the focus shifted to peaking policy rates and the potential for a soft landing.
- Volatility in the bond market (MOVE) remained elevated to close out 2023 and is well above its long-run average (89.1). The bond market remained on edge for most of 2024 largely driven by uncertainty about the ultimate path of monetary policy.

<sup>1</sup> Equity Volatility – Source: FRED. 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 December 2023. The average line indicated is the average of the VIX and MOVE values between January 2000 and December 2023.

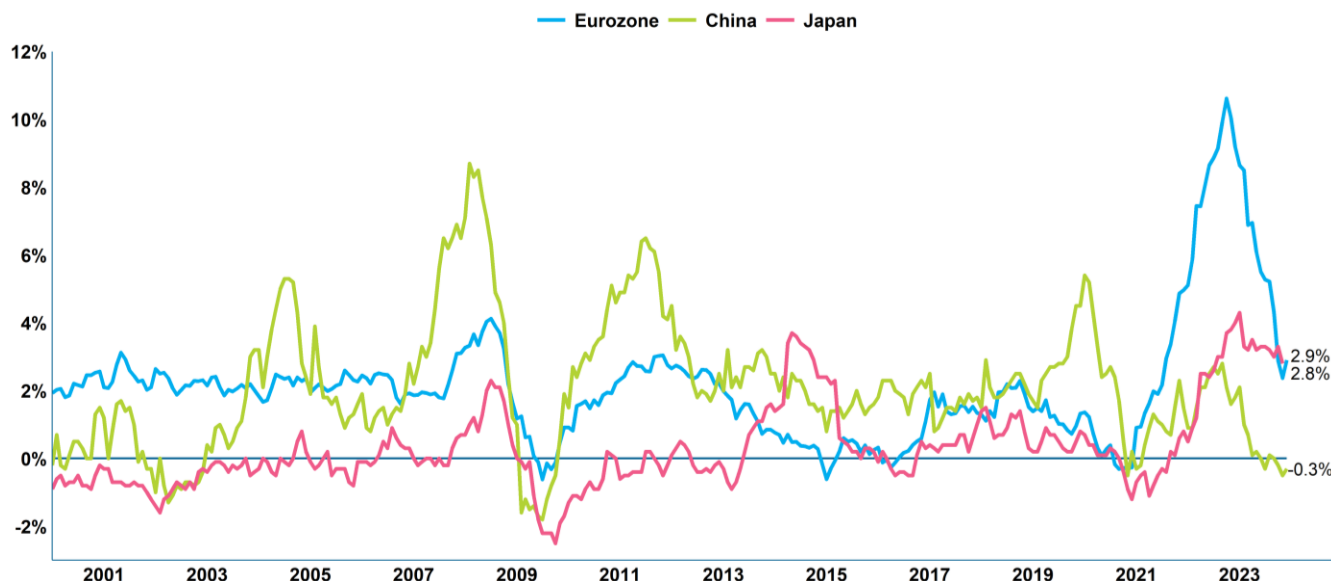
### US Ten-Year Breakeven Inflation and CPI<sup>1</sup>



- Year-over-year headline inflation rose from 3.1% to 3.4% in December, coming in above expectations of 3.2%. An increase in shelter (+6.2%) drove results, with food also increasing from a year prior (+2.7%) and energy prices falling (-2.0%). Month-over-month inflation came in at 0.3%, above expectations of 0.2% and the prior reading of 0.1%.
- Core inflation - excluding food and energy - declined in December (3.9% versus 4.0%) year-over-year, with shelter costs again driving the total core index increase.
- Inflation expectations (breakevens) have remained relatively stable despite the recent significant volatility in inflation.

<sup>1</sup> Source: FRED. Data is as December 2023. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

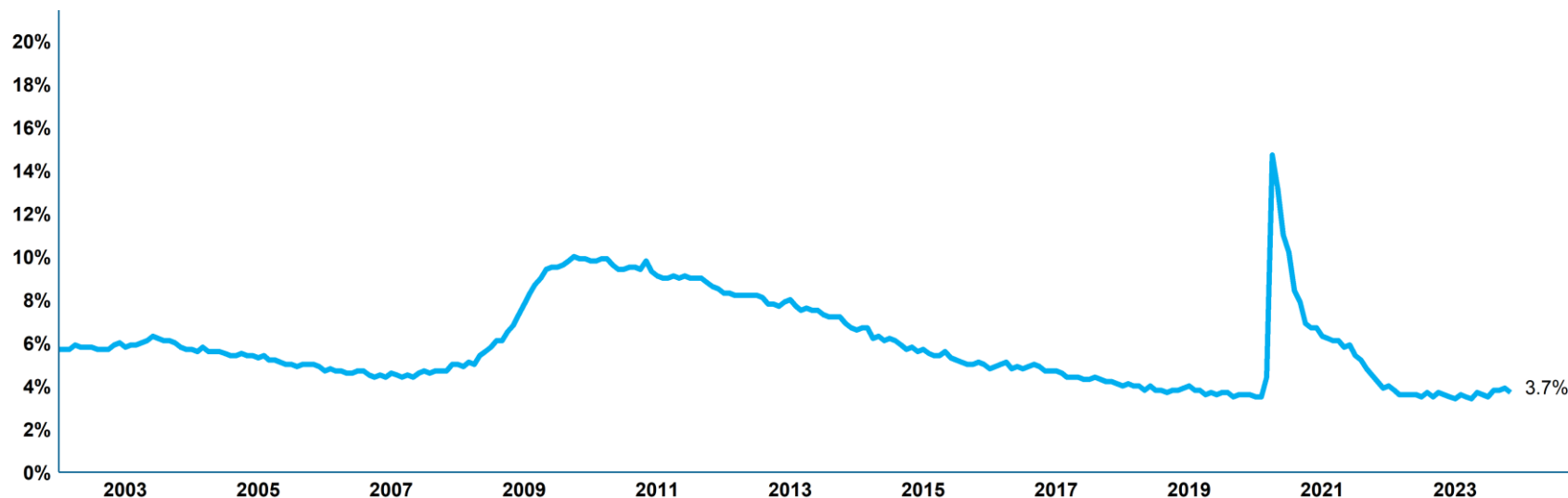
### Global Inflation (CPI Trailing Twelve Months)<sup>1</sup>



- Outside the US, inflation is also falling across major economies with China slipping into deflation.
- In the eurozone, inflation experienced a dramatic decline last year. Despite a small increase in December (2.9% versus 2.4%) it finished the year below the 3.4% year-over-year reading in the US.
- Inflation in Japan remains near levels not seen in almost a decade, driven by food and home related items.

<sup>1</sup> Source: FRED for United States CPI and Eurozone CPI. Source: Bloomberg for Japan CPI, China CPI, and Eurozone December flash estimate. Data is as December 31, 2023, except Japan which is as of November 30, 2023.

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

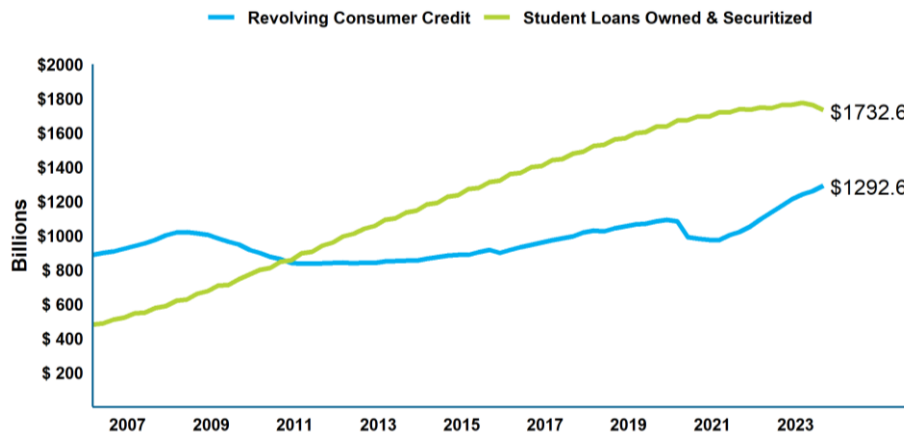


- Overall, the US labor market remains healthy with the unemployment rate relatively low, wage growth now positive in real terms, and initial claims for unemployment staying subdued.
- In December, US unemployment remained unchanged (3.7%) and came in slightly below expectations of an increase to 3.8%. The number of jobs added did come in above expectations (216k versus 175k) though with the most jobs added in the government, leisure and hospitality, and health care sectors.
- The labor force participation remained relatively stable at 62.5%, well off the lows of the pandemic (60.1%) but not back to pre-pandemic levels (63.3%).
- The pace of hourly wage growth has declined from its peak of close to 6.0% finishing 2023 at 4.1% yoy. Wage growth remains positive in real terms though.

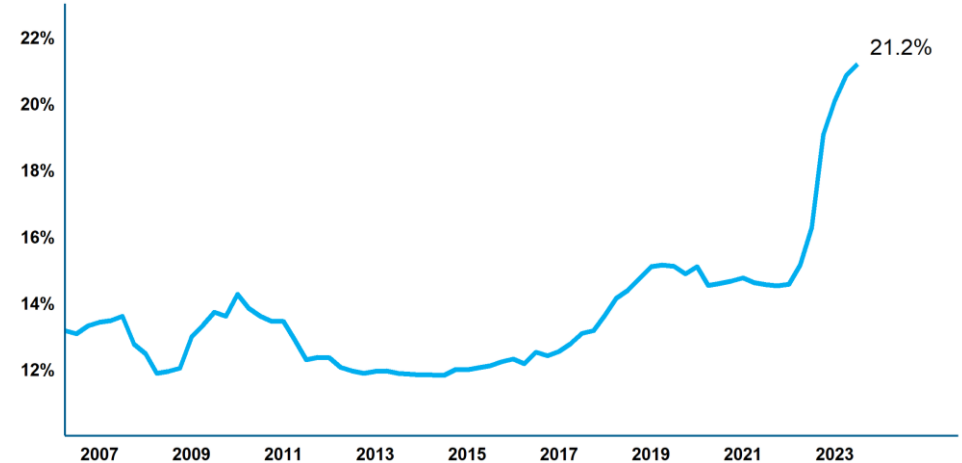
Source: FRED. Data is as December 31, 2023.

### US Consumer Under Stress?<sup>1</sup>

**Revolving Consumer Credit & Student Loans (\$B)**



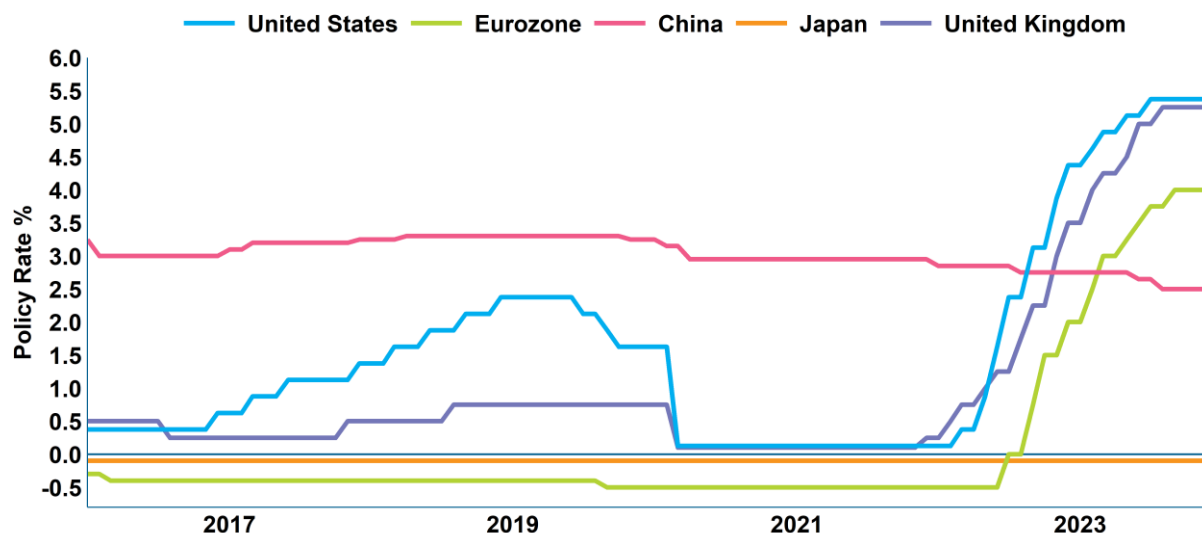
**Consumer Credit Card Interest Rates (%)**



- Despite the strong labor market and higher wages, pressures have started to build on the US consumer. This is an important consideration as consumer spending has been a key driver of economic growth.
- Revolving consumer credit surged to new highs in 2023 even as credit card interest rates hit levels not seen before (the prior peak was around 19% in the 1980s).
- The return of student loan repayments after a three-year pandemic-related reprieve could add to pressures on consumers' budgets. This might be partially mitigated by recently initiated repayment and forgiveness programs.
- As we look ahead, the strength of the US consumer will remain key as this sector makes up most of the domestic economy (GDP).

<sup>1</sup> Source: FRED. Data is as of September 30, 2023. Revolving Consumer Credit data is seasonally adjusted to remove distortions during the holiday season.

### Policy Rates<sup>1</sup>



- Slowing inflation and growth have led to expectations for a reduction in the pace of aggressive policy tightening.
- The Fed has been on hold since July 2023 when it raised rates to a range of 5.25%-5.50%. Markets are pricing in six rate cuts next year given the track of economic data and recent comments from the Fed, while the Fed itself is only predicting three. How this discrepancy is resolved will be key this year.
- The European and UK central banks also recently paused their rate increases on slowing inflation. In Japan, the BoJ has further relaxed its yield curve control on the 10-year bond, and expectations for further policy normalization are rising.
- The central bank in China has maintained interest rates at record low levels and continues to inject liquidity into the banking system, as weaker than expected economic data appears to indicate a widespread slowdown.

<sup>1</sup> Source: Bloomberg. Data is as of December 2023.

### US Dollar vs. Broad Currencies<sup>1</sup>



- The US dollar declined around 5% in the fourth quarter as generally weaker economic data led investors to anticipate the end of FOMC tightening and interest rate cuts in 2024.
- Overall, the dollar finished the year only slightly below where it started but it was a volatile year for the US currency as expectations related to monetary policy evolved.

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

## Summary

### Key Trends:

- The impact of inflation still above policy targets will remain important, with bond market volatility likely to stay high.
- Global monetary policies could diverge going forward. The risk of policy errors remains elevated as central banks try to further reduce inflation toward targets while not tipping their economies into recession. In the case of the US the resolution of the disparity between market expectations for the path of interest rates versus the Fed's dot plot will be key.
- Global growth is expected to slow next year, with some economies forecasted to tip into recession. However, optimism has been building that certain economies could experience soft landings. Inflation, monetary policy, and geopolitical issues will remain key in 2024.
- US consumers could feel pressure as certain components of inflation (e.g., shelter), remain high, borrowing costs are elevated, and the job market may weaken.
- A focus for US equities going forward, will be whether earnings can remain resilient if growth continues to slow. Also, the future paths 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 the potential for China's economic slowdown and on-going weakness in the real estate sector could spill over into key trading partners' economies. Japan's recent hint at potentially tightening monetary policy along with changes in corporate governance in the country could influence relative results.
- Recent, heightened tensions in Israel could add to overall uncertainty and drive safe haven flows.

## **Executive Summary**

→ The month of December 2023 saw continuing optimism that the Federal Reserve would begin cutting interest rates in the first half of 2024. As a result both stocks and bonds continued their strong performance from November.

→ The below table reflects the latest estimated valuation data through December 2023.

NERS	December 31, 2023	November 30, 2023	October 31, 2023
Total Fund Balance	\$1.30 Billion	\$1.26 Billion	\$1.20 Billion
Funded Status	85%	82%	78%
NERS Assumed Rate of Return	6.75%	6.75%	6.75%
FYTD Rate of Return	4.3%	0.5%	-4.9%
12 Months Trailing Rate of Return	11.8%	4.5%	4.2%
Monthly Rate of Return	3.7%	5.8%	-2.1%
Monthly Gains/Losses	\$46.4 million	\$68.9 million	-\$26.4 million
Monthly Net Cash Flow	-\$7.3 million	-\$8.5 million	-\$8.0 million

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

- NERS: 20.96%
- VRS: 12.94%

→ As of December 31, the System was inside of its target asset allocation ranges for all asset classes.

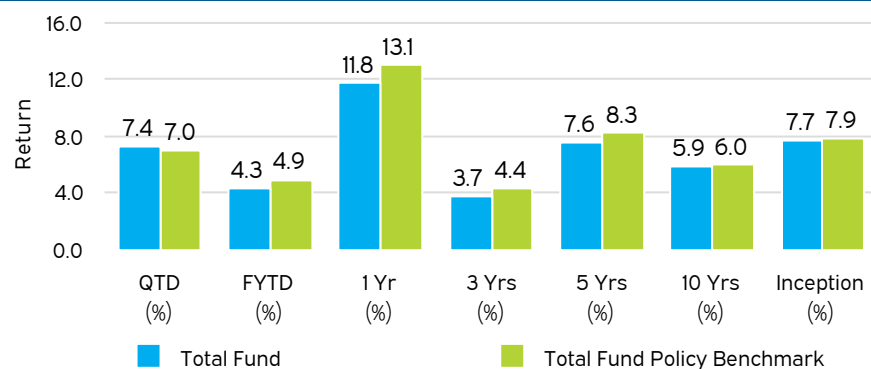
→ Following the end of the quarter, two new managers were funded. This report includes an overview of those strategies.

## **Performance Update As Of December 2023**

#### Portfolio Objective

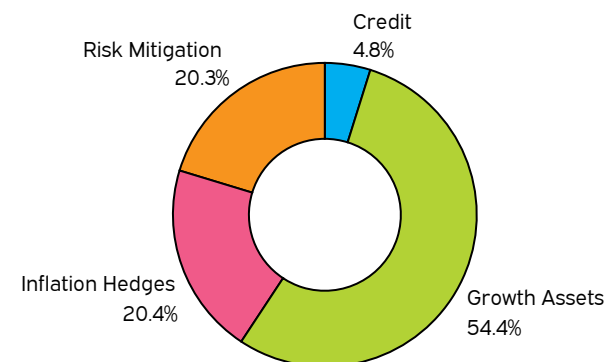
The Employees' Retirement System of the City of Norfolk is a long-term investor whose objective is to enable the System to provide retirement income for plan participants and beneficiaries. The System's strategy is generate a return that meets the long-term return objective, while minimizing volatility.

#### Return Summary



	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Total Fund	7.4	4.3	11.8	3.7	7.6	5.9	7.7	10/01/1990
Total Fund Policy Benchmark	7.0	4.9	13.1	4.4	8.3	6.0	7.9	

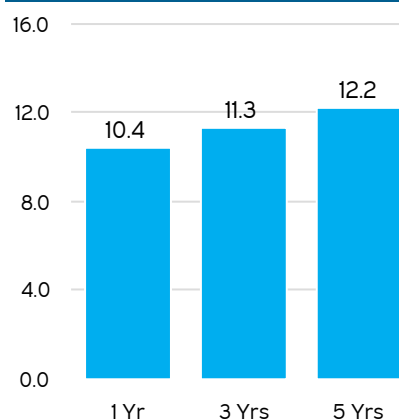
#### Current Allocation



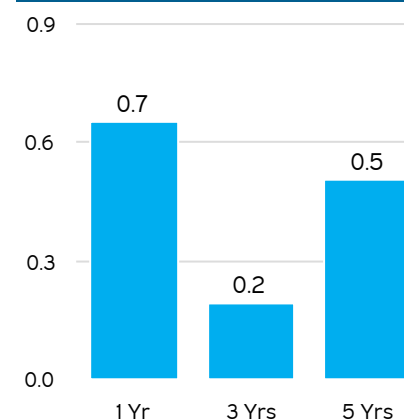
#### Summary of Cash Flows

	Quarter-To-Date	Year-To-Date
<b>Total Fund</b>		
Beginning Market Value	1,231,245,196	1,204,372,398
Net Cash Flow	-24,386,931	-51,598,944
Net Investment Change	88,951,840	143,036,652
Ending Market Value	1,295,810,106	1,295,810,106

#### Annualized Standard Deviation

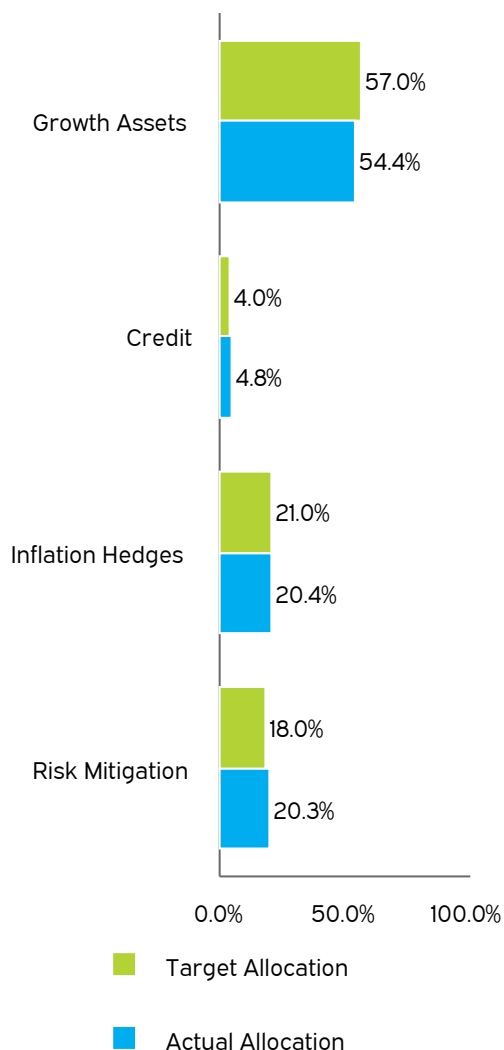


#### Sharpe Ratio



Performance Update | As of December 31, 2023

### Actual vs. Target Allocation

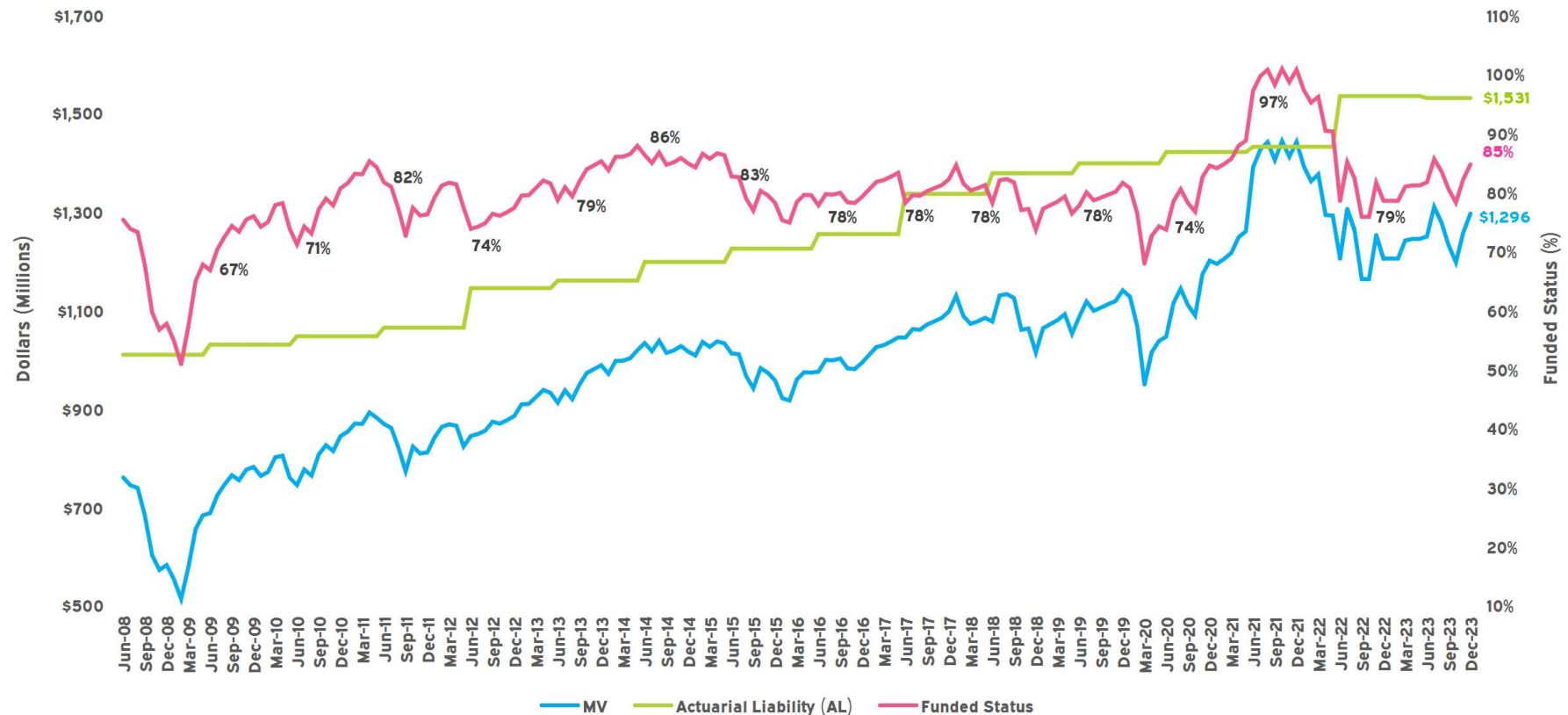


### Allocation vs. Targets and Policy

	Current Balance	Current Allocation (%)	Policy (%)	Policy Range (%)	Within IPS Range?
<b>Growth Assets</b>	<b>\$705,356,719</b>	<b>54.4</b>	<b>57.0</b>	<b>47.0 - 67.0</b>	<b>Yes</b>
Global Equity	\$705,012,500	54.4	52.0	42.0 - 62.0	Yes
Private Equity	\$344,220	0.0	5.0	0.0 - 10.0	Yes
<b>Credit</b>	<b>\$62,708,647</b>	<b>4.8</b>	<b>4.0</b>	<b>0.0 - 9.0</b>	<b>Yes</b>
High Yield & Bank Loans	\$62,708,647	4.8	4.0	0.0 - 9.0	Yes
<b>Inflation Hedges</b>	<b>\$264,877,153</b>	<b>20.4</b>	<b>21.0</b>	<b>14.0 - 28.0</b>	<b>Yes</b>
Real Estate	\$95,753,186	7.4	8.0	3.0 - 13.0	Yes
Natural Resources & Infrastructure	\$65,005,115	5.0	5.0	0.0 - 10.0	Yes
Gold	\$37,814,605	2.9	3.0	0.0 - 6.0	Yes
Short-Term TIPS	\$66,304,246	5.1	5.0	0.0 - 10.0	Yes
<b>Risk Mitigation</b>	<b>\$262,867,587</b>	<b>20.3</b>	<b>18.0</b>	<b>11.0 - 25.0</b>	<b>Yes</b>
Investment Grade Fixed Income	\$181,578,572	14.0	14.0	7.0 - 21.0	Yes
Hedge Funds	\$63,804,429	4.9	4.0	0.0 - 9.0	Yes
Cash	\$17,484,586	1.3	0.0	0.0 - 3.0	Yes
<b>Total</b>	<b>\$1,295,810,106</b>	<b>100.0</b>	<b>100.0</b>		

Cash balance includes a pending contribution to Fidelity Small Cap Index that occurred in January.

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



As of June 30, 2023, Total Plan Actuarial Liability (AL) is \$1.531 billion and the Actuarial Value of assets (AVA) is \$1.294 billion for an Actuarial funded ratio (AVA/AL) of 85%. Using the Market Value of Assets (MVA), the Market Funded Ratio (MV/AL) was approximately 82% in November 2023 and 85% in December 2023.

Asset Class Performance Summary										
	Market Value (\$)	% of Portfolio	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund</b>	<b>1,295,810,106</b>	<b>100.0</b>	<b>7.4</b>	<b>4.3</b>	<b>11.8</b>	<b>3.7</b>	<b>7.6</b>	<b>5.9</b>	<b>7.7</b>	<b>Oct-90</b>
Total Fund Policy Benchmark			7.0	4.9	13.1	4.4	8.3	6.0	7.9	
Total Fund Actual Allocation Benchmark			7.6	5.0	12.9	--	--	--	--	
Total Fund Public Benchmark			10.0	6.4	17.3	2.7	8.1	6.0	8.0	
<b>Growth Assets</b>	<b>705,356,719</b>	<b>54.4</b>	<b>10.4</b>	<b>6.6</b>	<b>20.2</b>	--	--	--	<b>14.3</b>	<b>Dec-22</b>
Growth Assets Custom Benchmark			9.9	7.2	22.1	--	--	--	15.4	
<b>Global Equity</b>	<b>705,012,500</b>	<b>54.4</b>	<b>10.4</b>	<b>6.6</b>	<b>20.2</b>	<b>5.3</b>	<b>11.6</b>	<b>8.2</b>	<b>9.0</b>	<b>Oct-90</b>
Global Equity Policy Benchmark			11.1	7.4	21.6	5.5	11.5	8.0	9.3	
<b>Private Equity</b>	<b>344,220</b>	<b>0.0</b>								
<b>Credit</b>	<b>62,708,647</b>	<b>4.8</b>	<b>3.7</b>	<b>6.2</b>	--	--	--	--	<b>8.2</b>	<b>May-23</b>
Credit Custom Benchmark			5.0	7.0	13.3	--	--	--	8.6	
<b>High Yield &amp; Bank Loans</b>	<b>62,708,647</b>	<b>4.8</b>	<b>3.7</b>	<b>6.2</b>	--	--	--	--	<b>8.2</b>	<b>May-23</b>
High Yield & Bank Loans Custom Benchmark			5.0	7.0	13.3	3.9	5.5	4.5	8.6	
<b>Inflation Hedges</b>	<b>264,877,153</b>	<b>20.4</b>	<b>1.9</b>	<b>0.4</b>	<b>-2.8</b>	--	--	--	<b>-6.5</b>	<b>Dec-22</b>
Inflation Hedges Custom Benchmark			1.1	0.0	-2.3	--	--	--	-4.4	
<b>Real Estate</b>	<b>95,753,186</b>	<b>7.4</b>	<b>-2.2</b>	<b>-5.6</b>	<b>-11.3</b>	<b>0.7</b>	<b>0.0</b>	<b>4.2</b>	<b>5.9</b>	<b>Apr-11</b>
NCREIF ODCE (Net)			-5.0	-7.0	-12.7	4.0	3.3	6.3	7.6	
<b>Natural Resources &amp; Infrastructure</b>	<b>65,005,115</b>	<b>5.0</b>	<b>1.4</b>	<b>4.4</b>	--	--	--	--	<b>0.5</b>	<b>Apr-23</b>
S&P Global LargeMidcap Resources & Commodities NR USD			0.8	3.8	-1.6	12.5	10.9	4.4	-0.2	
<b>Gold</b>	<b>37,814,605</b>	<b>2.9</b>	<b>11.9</b>	<b>5.7</b>	--	--	--	--	<b>0.0</b>	<b>Apr-23</b>
60% Gold (Spot)/ 40% FTSE Gold Mines			15.3	6.8	12.2	--	--	--	2.4	
<b>Short-Term TIPS</b>	<b>66,304,246</b>	<b>5.1</b>	<b>2.5</b>	<b>3.0</b>	--	--	--	--	<b>3.2</b>	<b>Mar-23</b>
Blmbg. U.S. TIPS 0-5 Year			2.6	3.0	4.6	2.3	3.4	2.0	4.3	

See benchmark history page for benchmark detail.

## Performance Update | As of December 31, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Risk Mitigation</b>	<b>262,867,587</b>	<b>20.3</b>	<b>5.9</b>	<b>1.7</b>	<b>5.4</b>	--	--	--	<b>4.5</b>	<b>Dec-22</b>
<i>Risk Mitigation Custom Benchmark</i>			5.1	2.8	4.3	--	--	--	3.7	
<b>Investment Grade Fixed Income</b>	<b>181,578,572</b>	<b>14.0</b>	<b>8.5</b>	<b>2.6</b>	<b>5.7</b>	<b>-3.2</b>	<b>1.2</b>	<b>1.9</b>	<b>5.2</b>	<b>Oct-90</b>
<i>Blmbg. U.S. Aggregate Index</i>			6.8	3.4	5.5	-3.3	1.1	1.8	5.1	
<b>Intermediate-Term Bonds</b>	<b>130,769,238</b>	<b>10.1</b>	<b>7.2</b>	<b>3.5</b>	<b>6.5</b>	<b>-3.0</b>	<b>1.3</b>	<b>2.0</b>	<b>5.2</b>	<b>Oct-90</b>
<i>Blmbg. U.S. Aggregate Index</i>			6.8	3.4	5.5	-3.3	1.1	1.8	5.1	
<b>Long-Term Bonds</b>	<b>50,809,335</b>	<b>3.9</b>	<b>12.5</b>	<b>-0.9</b>	--	--	--	--	<b>1.4</b>	<b>Mar-23</b>
<i>Blmbg. U.S. Treasury: Long</i>			12.7	-0.6	3.1	-11.4	-1.2	2.3	1.7	
<b>Hedge Funds</b>	<b>63,804,429</b>	<b>4.9</b>	<b>-1.7</b>	<b>-1.0</b>	--	--	--	--	<b>2.6</b>	<b>Apr-23</b>
<i>HFRI Macro (Total) Index</i>			-0.8	0.5	-0.3	5.4	5.6	3.1	2.2	
<b>Cash</b>	<b>17,484,586</b>	<b>1.3</b>								

Trailing Net Performance										
	Market Value (\$)	% of Portfolio	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund</b>	<b>1,295,810,106</b>	<b>100.0</b>	<b>7.4</b>	<b>4.3</b>	<b>11.8</b>	<b>3.7</b>	<b>7.6</b>	<b>5.9</b>	<b>7.7</b>	<b>Oct-90</b>
Total Fund Policy Benchmark			7.0	4.9	13.1	4.4	8.3	6.0	7.9	
Total Fund Actual Allocation Benchmark			7.6	5.0	12.9	--	--	--	--	
Total Fund Public Benchmark			10.0	6.4	17.3	2.7	8.1	6.0	8.0	
<b>Growth Assets</b>	<b>705,356,719</b>	<b>54.4</b>	<b>10.4</b>	<b>6.6</b>	<b>20.2</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>14.3</b>	<b>Dec-22</b>
Growth Assets Custom Benchmark			9.9	7.2	22.1	--	--	--	15.4	
<b>Global Equity</b>	<b>705,012,500</b>	<b>54.4</b>	<b>10.4</b>	<b>6.6</b>	<b>20.2</b>	<b>5.3</b>	<b>11.6</b>	<b>8.2</b>	<b>9.0</b>	<b>Oct-90</b>
Global Equity Policy Benchmark			11.1	7.4	21.6	5.5	11.5	8.0	9.3	
SSgA MSCI ACWI IMI Index Fund	73,450,757	5.7	11.2	7.4	21.9	5.8	11.9	--	10.2	May-16
MSCI AC World IMI (Net)			11.1	7.4	21.6	5.5	11.5	7.8	9.8	
SSgA Russell 1000 Growth Index	32,204,662	2.5	14.2	10.6	--	--	--	--	33.3	Mar-23
Russell 1000 Growth Index			14.2	10.6	42.7	8.9	19.5	14.9	33.3	
SSgA Russell 1000 Value Index	14,990,802	1.2	9.5	6.0	--	--	--	--	9.9	Mar-23
Russell 1000 Value Index			9.5	6.0	11.5	8.9	10.9	8.4	9.8	
SSgA Russell 3000 Index	199,669,581	15.4	12.1	8.5	--	--	--	--	20.7	Mar-23
Russell 3000 Index			12.1	8.4	26.0	8.5	15.2	11.5	20.7	
SSgA MSCI EAFE	79,609,396	6.1	10.4	5.9	--	--	--	--	12.0	Mar-23
MSCI EAFE (Net)			10.4	5.9	18.2	4.0	8.2	4.3	11.7	
SSgA Emerging Markets Index	35,017,512	2.7	7.7	4.2	--	--	--	--	8.7	Mar-23
MSCI Emerging Markets (Net)			7.9	4.7	9.8	-5.1	3.7	2.7	8.8	
ABS China Direct	7,913,822	0.6	-5.2	-8.2	--	--	--	--	-15.2	Mar-23
MSCI China (Net)			-4.2	-6.1	-11.2	-18.4	-2.8	0.9	-11.4	
ABS EM ex China Direct	20,909,811	1.6	10.0	8.5	--	--	--	--	21.5	Mar-23
MSCI EM ex China			13.0	9.3	16.3	1.1	6.2	3.5	18.6	

Performance Update | As of December 31, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Kopernik Global All-Cap	31,705,379	2.4	5.9	10.4	--	--	--	--	9.9	Apr-23
MSCI AC World Index (Net)			11.0	7.3	22.2	5.7	11.7	7.9	13.9	
First Eagle Global Equity	108,681,425	8.4	6.8	2.6	--	--	--	--	7.7	Apr-23
MSCI AC World Index (Net)			11.0	7.3	22.2	5.7	11.7	7.9	13.9	
Artisan Global Opportunities	100,859,352	7.8	13.1	7.0	--	--	--	--	13.7	Apr-23
MSCI AC World Index (Net)			11.0	7.3	22.2	5.7	11.7	7.9	13.9	
<b>Private Equity</b>	<b>344,220</b>	<b>0.0</b>								
NexPhase Capital Fund V, L.P.	115,030	0.0								
Vitruvian Investment Partnership V	229,190	0.0								
<b>Credit</b>	<b>62,708,647</b>	<b>4.8</b>	<b>3.7</b>	<b>6.2</b>	--	--	--	--	<b>8.2</b>	<b>May-23</b>
Credit Custom Benchmark			5.0	7.0	13.3	--	--	--	8.6	
<b>High Yield &amp; Bank Loans</b>	<b>62,708,647</b>	<b>4.8</b>	<b>3.7</b>	<b>6.2</b>	--	--	--	--	<b>8.2</b>	<b>May-23</b>
High Yield & Bank Loans Custom Benchmark			5.0	7.0	13.3	3.9	5.5	4.5	8.6	
Sculptor Credit Opportunities Overseas Fund	25,502,932	2.0	1.4	2.9	--	--	--	--	5.3	May-23
Blmbg. Global High Yield Index			8.6	8.4	14.0	0.2	3.9	3.6	9.9	
Brigade High Income Fund	37,205,714	2.9	5.3	8.5	--	--	--	--	10.3	May-23
60% Barclays U.S. Corporate High Yield & 40% CS Lev Loans			5.4	7.1	13.3	3.5	5.5	4.6	8.5	

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	Market Value (\$)	% of Portfolio	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Inflation Hedges</b>	<b>264,877,153</b>	<b>20.4</b>	<b>1.9</b>	<b>0.4</b>	<b>-2.8</b>	--	--	--	<b>-6.5</b>	<b>Dec-22</b>
<i>Inflation Hedges Custom Benchmark</i>			1.1	0.0	-2.3	--	--	--	-4.4	
<b>Real Estate</b>	<b>95,753,186</b>	<b>7.4</b>	<b>-2.2</b>	<b>-5.6</b>	<b>-11.3</b>	<b>0.7</b>	<b>0.0</b>	<b>4.2</b>	<b>5.9</b>	<b>Apr-11</b>
<i>NCREIF ODCE (Net)</i>			-5.0	-7.0	-12.7	4.0	3.3	6.3	7.6	
JP Morgan Asset Management Strategic Property Fund	45,815,977	3.5	-7.6	-10.7	-15.1	1.7	1.9	5.3	7.1	Apr-11
<i>NCREIF ODCE (Net)</i>			-5.0	-7.0	-12.7	4.0	3.3	6.3	7.6	
UBS Trumbull Property Fund	23,391,001	1.8	-4.2	-5.8	-15.7	0.7	-1.2	3.2	4.1	Dec-11
<i>NCREIF ODCE (Net)</i>			-5.0	-7.0	-12.7	4.0	3.3	6.3	7.3	
SSgA US REIT	26,546,209	2.0	16.3	7.7	--	--	--	--	7.9	Mar-23
<i>Dow Jones U.S. Select RESI</i>			16.3	7.8	14.0	7.2	6.1	7.0	8.1	
<b>Natural Resources &amp; Infrastructure</b>	<b>65,005,115</b>	<b>5.0</b>	<b>1.4</b>	<b>4.4</b>	--	--	--	--	<b>0.5</b>	<b>Apr-23</b>
<i>S&amp;P Global LargeMidcap Resources &amp; Commodities Ind</i>			0.8	3.8	-1.6	12.5	10.9	4.4	-0.2	
SSgA S&P Global LargeMidCap Natural Resources Index	49,512,907	3.8	0.7	3.7	--	--	--	--	-0.1	Apr-23
<i>S&amp;P Global LargeMidcap Resources &amp; Commodities Ind</i>			0.8	3.8	-1.6	12.5	10.9	4.4	-0.2	
JP Morgan Infrastructure Investments Fund	15,492,208	1.2	3.3	--	--	--	--	--	3.3	Oct-23
<i>DJ Brookfield Listed Public Infrastructure +1%</i>			12.4	3.7	5.6	6.4	8.0	--	12.4	
<b>Gold</b>	<b>37,814,605</b>	<b>2.9</b>	<b>11.9</b>	<b>5.7</b>	--	--	--	--	<b>0.0</b>	<b>Apr-23</b>
<i>60% Gold (Spot)/ 40% FTSE Gold Mines</i>			15.3	6.8	12.2	--	--	--	2.4	
First Eagle Institutional Gold Fund, LP	37,814,605	2.9	11.9	5.7	--	--	--	--	0.0	Apr-23
<i>60% Gold (Spot)/ 40% FTSE Gold Mines</i>			15.3	6.8	12.2	--	--	--	2.4	
<b>Short-Term TIPS</b>	<b>66,304,246</b>	<b>5.1</b>	<b>2.5</b>	<b>3.0</b>	--	--	--	--	<b>3.2</b>	<b>Mar-23</b>
<i>Blmbg. U.S. TIPS 0-5 Year</i>			2.6	3.0	4.6	2.3	3.4	2.0	4.3	
Vanguard Short-Term TIPS Index	66,304,246	5.1	2.5	3.0	--	--	--	--	2.3	Apr-23
<i>Blmbg. U.S. TIPS 0-5 Year</i>			2.6	3.0	4.6	2.3	3.4	2.0	2.3	

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	Market Value (\$)	% of Portfolio	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Risk Mitigation</b>	<b>262,867,587</b>	<b>20.3</b>	<b>5.9</b>	<b>1.7</b>	<b>5.4</b>	--	--	--	<b>4.5</b>	<b>Dec-22</b>
<i>Risk Mitigation Custom Benchmark</i>			5.1	2.8	4.3	--	--	--	3.7	
<b>Investment Grade Fixed Income</b>	<b>181,578,572</b>	<b>14.0</b>	<b>8.5</b>	<b>2.6</b>	<b>5.7</b>	<b>-3.2</b>	<b>1.2</b>	<b>1.9</b>	<b>5.2</b>	<b>Oct-90</b>
<i>Blmbg. U.S. Aggregate Index</i>			6.8	3.4	5.5	-3.3	1.1	1.8	5.1	
<b>Intermediate-Term Bonds</b>	<b>130,769,238</b>	<b>10.1</b>	<b>7.2</b>	<b>3.5</b>	<b>6.5</b>	<b>-3.0</b>	<b>1.3</b>	<b>2.0</b>	<b>5.2</b>	<b>Oct-90</b>
<i>Blmbg. U.S. Aggregate Index</i>			6.8	3.4	5.5	-3.3	1.1	1.8	5.1	
SSgA US Aggregate Bond	37,049,270	2.9	6.7	3.3	5.6	-3.3	1.1	1.8	2.7	Jan-09
<i>Blmbg. U.S. Aggregate Index</i>			6.8	3.4	5.5	-3.3	1.1	1.8	2.7	
Wellington Core Bond	75,491,847	5.8	7.2	3.8	--	--	--	--	2.6	May-23
<i>Blmbg. U.S. Aggregate Index</i>			6.8	3.4	5.5	-3.3	1.1	1.8	1.9	
Brandywine U.S. Fixed Income	18,228,121	1.4	8.7	2.7	--	--	--	--	1.9	Jun-23
<i>Blmbg. U.S. Aggregate Index</i>			6.8	3.4	5.5	-3.3	1.1	1.8	3.0	
<b>Long-Term Bonds</b>	<b>50,809,335</b>	<b>3.9</b>	<b>12.5</b>	<b>-0.9</b>	--	--	--	--	<b>1.4</b>	<b>Mar-23</b>
<i>Blmbg. U.S. Treasury: Long</i>			12.7	-0.6	3.1	-11.4	-1.2	2.3	1.7	
SSgA Long US Treasury Index	50,809,335	3.9	12.5	-0.9	--	--	--	--	1.4	Mar-23
<i>Blmbg. U.S. Treasury: Long</i>			12.7	-0.6	3.1	-11.4	-1.2	2.3	1.7	

## Performance Update | As of December 31, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Hedge Funds</b>	<b>63,804,429</b>	<b>4.9</b>	<b>-1.7</b>	<b>-1.0</b>	--	--	--	--	<b>2.6</b>	<b>Apr-23</b>
HFRI Macro (Total) Index			-0.8	0.5	-0.3	5.4	5.6	3.1	2.2	
36 South Kohinoor Series (Cayman) Fund	21,253,600	1.6	-3.1	-0.8	--	--	--	--	0.7	Apr-23
CBOE EurekaHedge Long Volatility Hedge Fund Index			-3.5	-1.9	-6.1	-3.0	0.4	-1.1	-4.6	
BH-DG Systematic Trading Master Fund	17,701,876	1.4	-1.1	-3.4	--	--	--	--	6.0	Apr-23
Barclay CTA Index			-1.5	-0.8	-0.3	3.9	4.5	2.4	1.7	
Lombard Odier Bear Convexity	7,610,076	0.6	-4.5	-4.7	--	--	--	--	-4.9	Apr-23
CBOE EurekaHedge Long Volatility Hedge Fund Index			-3.5	-1.9	-6.1	-3.0	0.4	-1.1	-4.6	
Alpstone Global Macro Fund	17,238,877	1.3	1.0	3.1	--	--	--	--	3.2	May-23
HFRI Macro (Total) Index			-0.8	0.5	-0.3	5.4	5.6	3.1	1.3	
<b>Cash</b>	<b>17,484,586</b>	<b>1.3</b>								
Cash	17,484,586	1.3								

Fiscal Year Performance						
	FYTD	Fiscal Year 2023	Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019
<b>Total Fund</b>	<b>4.3</b>	<b>8.4</b>	<b>-10.0</b>	<b>25.9</b>	<b>0.6</b>	<b>5.3</b>
<i>Total Fund Policy Benchmark</i>	<i>4.9</i>	<i>9.5</i>	<i>-10.0</i>	<i>26.5</i>	<i>1.3</i>	<i>5.9</i>
<i>Total Fund Actual Allocation Benchmark</i>	<i>5.1</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>
<i>Total Fund Public Benchmark</i>	<i>6.4</i>	<i>10.5</i>	<i>-14.1</i>	<i>24.1</i>	<i>4.6</i>	<i>6.2</i>
<b>Growth Assets</b>	<b>6.6</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>Growth Assets Custom Benchmark</i>	<i>7.2</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>
<b>Global Equity</b>	<b>6.6</b>	<b>15.8</b>	<b>-16.2</b>	<b>41.6</b>	<b>1.6</b>	<b>5.0</b>
<i>Global Equity Policy Benchmark</i>	<i>7.4</i>	<i>16.1</i>	<i>-16.5</i>	<i>40.9</i>	<i>1.2</i>	<i>4.6</i>
SSgA MSCI ACWI IMI Index Fund	7.4	16.6	-16.2	41.6	1.6	5.0
<i>MSCI AC World IMI (Net)</i>	<i>7.4</i>	<i>16.1</i>	<i>-16.5</i>	<i>40.9</i>	<i>1.2</i>	<i>4.6</i>
SSgA Russell 1000 Growth Index	10.6	--	--	--	--	--
<i>Russell 1000 Growth Index</i>	<i>10.6</i>	<i>27.1</i>	<i>-18.8</i>	<i>42.5</i>	<i>23.3</i>	<i>11.6</i>
SSgA Russell 1000 Value Index	6.0	--	--	--	--	--
<i>Russell 1000 Value Index</i>	<i>6.0</i>	<i>11.5</i>	<i>-6.8</i>	<i>43.7</i>	<i>-8.8</i>	<i>8.5</i>
SSgA Russell 3000 Index	8.5	--	--	--	--	--
<i>Russell 3000 Index</i>	<i>8.4</i>	<i>19.0</i>	<i>-13.9</i>	<i>44.2</i>	<i>6.5</i>	<i>9.0</i>
SSgA MSCI EAFE	5.9	--	--	--	--	--
<i>MSCI EAFE (Net)</i>	<i>5.9</i>	<i>18.8</i>	<i>-17.8</i>	<i>32.4</i>	<i>-5.1</i>	<i>1.1</i>
SSgA Emerging Markets Index	4.2	--	--	--	--	--
<i>MSCI Emerging Markets (Net)</i>	<i>4.7</i>	<i>1.7</i>	<i>-25.3</i>	<i>40.9</i>	<i>-3.4</i>	<i>1.2</i>
ABS China Direct	-8.2	--	--	--	--	--
<i>MSCI China (Net)</i>	<i>-6.1</i>	<i>-16.8</i>	<i>-31.8</i>	<i>27.4</i>	<i>13.1</i>	<i>-6.7</i>
ABS EM ex China Direct	8.5	--	--	--	--	--
<i>MSCI EM ex China</i>	<i>9.3</i>	<i>8.5</i>	<i>-21.5</i>	<i>50.2</i>	<i>-11.8</i>	<i>5.1</i>
Kopernik Global All-Cap	10.4	--	--	--	--	--
<i>MSCI AC World Index (Net)</i>	<i>7.3</i>	<i>16.5</i>	<i>-15.8</i>	<i>39.3</i>	<i>2.1</i>	<i>5.7</i>
First Eagle Global Equity	2.6	--	--	--	--	--
<i>MSCI AC World Index (Net)</i>	<i>7.3</i>	<i>16.5</i>	<i>-15.8</i>	<i>39.3</i>	<i>2.1</i>	<i>5.7</i>

Performance Update | As of December 31, 2023

	FYTD	Fiscal Year 2023	Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019
Artisan Global Opportunities	7.0	--	--	--	--	--
<i>MSCI AC World Index (Net)</i>	<i>7.3</i>	<i>16.5</i>	<i>-15.8</i>	<i>39.3</i>	<i>2.1</i>	<i>5.7</i>
<b>Private Equity</b>						
NexPhase Capital Fund V, L.P.						
Vitruvian Investment Partnership V						
<b>Credit</b>	<b>6.2</b>	--	--	--	--	--
<i>Credit Custom Benchmark</i>	<i>7.0</i>	--	--	--	--	--
<b>High Yield &amp; Bank Loans</b>	<b>6.2</b>	--	--	--	--	--
<i>High Yield &amp; Bank Loans Custom Benchmark</i>	<i>7.0</i>	<i>9.6</i>	<i>-7.8</i>	<i>13.5</i>	<i>-1.1</i>	<i>5.8</i>
Sculptor Credit Opportunities Overseas Fund	2.9	--	--	--	--	--
<i>Blmbg. Global High Yield Index</i>	<i>8.4</i>	<i>10.5</i>	<i>-17.8</i>	<i>14.6</i>	<i>-2.0</i>	<i>7.8</i>
Brigade High Income Fund	8.5	--	--	--	--	--
<i>60% Barclays U.S. Corporate High Yield &amp; 40% CS Lev Loans</i>	<i>7.1</i>	<i>9.5</i>	<i>-8.8</i>	<i>13.9</i>	<i>-0.9</i>	<i>6.1</i>
<b>Inflation Hedges</b>	<b>0.4</b>	--	--	--	--	--
<i>Inflation Hedges Custom Benchmark</i>	<i>0.0</i>	--	--	--	--	--
<b>Real Estate</b>	<b>-5.6</b>	<b>-12.1</b>	<b>18.1</b>	<b>3.7</b>	<b>-0.3</b>	<b>1.9</b>
<i>NCREIF ODCE (Net)</i>	<i>-7.0</i>	<i>-10.7</i>	<i>28.3</i>	<i>7.1</i>	<i>1.3</i>	<i>5.5</i>
JP Morgan Asset Management Strategic Property Fund	-10.7	-11.3	27.5	6.1	1.2	4.6
<i>NCREIF ODCE (Net)</i>	<i>-7.0</i>	<i>-10.7</i>	<i>28.3</i>	<i>7.1</i>	<i>1.3</i>	<i>5.5</i>
UBS Trumbull Property Fund	-5.8	-15.6	23.5	1.1	-1.9	-0.8
<i>NCREIF ODCE (Net)</i>	<i>-7.0</i>	<i>-10.7</i>	<i>28.3</i>	<i>7.1</i>	<i>1.3</i>	<i>5.5</i>
SSgA US REIT	7.7	--	--	--	--	--
<i>Dow Jones U.S. Select RESI</i>	<i>7.8</i>	<i>-0.8</i>	<i>-6.4</i>	<i>40.0</i>	<i>-17.7</i>	<i>9.8</i>
<b>Natural Resources &amp; Infrastructure</b>	<b>4.4</b>	--	--	--	--	--
<i>S&amp;P Global LargeMidcap Resources &amp; Commodities Ind</i>	<i>3.8</i>	<i>6.2</i>	<i>9.5</i>	<i>46.1</i>	<i>-16.7</i>	<i>0.8</i>
SSgA S&P Global LargeMidCap Natural Resources Index	3.7	--	--	--	--	--
<i>S&amp;P Global LargeMidcap Resources &amp; Commodities Ind</i>	<i>3.8</i>	<i>6.2</i>	<i>9.5</i>	<i>46.1</i>	<i>-16.7</i>	<i>0.8</i>
JP Morgan Infrastructure Investments Fund	--	--	--	--	--	--
<i>DJ Brookfield Listed Public Infrastructure +1%</i>	<i>3.7</i>	<i>-0.4</i>	<i>3.1</i>	<i>19.8</i>	<i>-5.0</i>	<i>13.9</i>

### Performance Update | As of December 31, 2023

	FYTD	Fiscal Year 2023	Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019
<b>Gold</b>	<b>5.7</b>	--	--	--	--	--
60% Gold (Spot)/ 40% FTSE Gold Mines	6.8	6.6	-6.8	--	--	--
First Eagle Institutional Gold Fund, LP	5.7	--	--	--	--	--
60% Gold (Spot)/ 40% FTSE Gold Mines	6.8	6.6	-6.8	--	--	--
<b>Short-Term TIPS</b>	<b>3.0</b>	--	--	--	--	--
Blmbg. U.S. TIPS 0-5 Year	3.0	0.1	1.1	6.0	3.4	3.2
Vanguard Short-Term TIPS Index	3.0	--	--	--	--	--
Blmbg. U.S. TIPS 0-5 Year	3.0	0.1	1.1	6.0	3.4	3.2
<b>Risk Mitigation</b>	<b>1.7</b>	--	--	--	--	--
Risk Mitigation Custom Benchmark	2.8	--	--	--	--	--
<b>Investment Grade Fixed Income</b>	<b>2.6</b>	<b>0.1</b>	<b>-10.5</b>	<b>0.2</b>	<b>8.6</b>	<b>7.6</b>
Blmbg. U.S. Aggregate Index	3.4	-0.9	-10.3	-0.3	8.7	7.9
<b>Intermediate-Term Bonds</b>	<b>3.5</b>	<b>0.0</b>	<b>-10.5</b>	<b>0.2</b>	<b>8.6</b>	<b>7.6</b>
Blmbg. U.S. Aggregate Index	3.4	-0.9	-10.3	-0.3	8.7	7.9
SSgA US Aggregate Bond	3.3	-0.9	-10.3	-0.3	8.8	7.9
Blmbg. U.S. Aggregate Index	3.4	-0.9	-10.3	-0.3	8.7	7.9
Wellington Core Bond	3.8	--	--	--	--	--
Blmbg. U.S. Aggregate Index	3.4	-0.9	-10.3	-0.3	8.7	7.9
Brandywine U.S. Fixed Income	2.7	--	--	--	--	--
Blmbg. U.S. Aggregate Index	3.4	-0.9	-10.3	-0.3	8.7	7.9
<b>Long-Term Bonds</b>	<b>-0.9</b>	--	--	--	--	--
Blmbg. U.S. Treasury: Long	-0.6	-6.8	-18.5	-10.6	25.4	12.3
SSgA Long US Treasury Index	-0.9	--	--	--	--	--
Blmbg. U.S. Treasury: Long	-0.6	-6.8	-18.5	-10.6	25.4	12.3
<b>Hedge Funds</b>	<b>-1.0</b>	--	--	--	--	--
HFRI Macro (Total) Index	0.5	-0.4	7.9	15.0	0.8	2.4
36 South Kohinoor Series (Cayman) Fund	-0.8	--	--	--	--	--
CBOE Eurekahedge Long Volatility Hedge Fund Index	-1.9	-6.1	6.0	-9.7	25.1	-2.2
BH-DG Systematic Trading Master Fund	-3.4	--	--	--	--	--
Barclay CTA Index	-0.8	-0.4	8.9	9.2	1.5	3.2

## Performance Update | As of December 31, 2023

	FYTD	Fiscal Year 2023	Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019
Lombard Odier Bear Convexity	-4.7	--	--	--	--	--
<i>CBOE Eurekahedge Long Volatility Hedge Fund Index</i>	<i>-1.9</i>	<i>-6.1</i>	<i>6.0</i>	<i>-9.7</i>	<i>25.1</i>	<i>-2.2</i>
Alpstone Global Macro Fund	3.1	--	--	--	--	--
<i>HFRI Macro (Total) Index</i>	<i>0.5</i>	<i>-0.4</i>	<i>7.9</i>	<i>15.0</i>	<i>0.8</i>	<i>2.4</i>
<b>Cash</b>						

	Risk Return Statistics	
	3 Yrs (%)	5 Yrs (%)
	Total Fund	Total Fund
<b>RETURN SUMMARY STATISTICS</b>		
Maximum Return	5.8	8.3
Minimum Return	-7.3	-10.5
Return	3.7	7.6
Excess Return	2.2	6.2
Excess Performance	-0.7	-0.7
<b>RISK SUMMARY STATISTICS</b>		
Beta	1.0	0.9
Up Capture	98.7	96.4
Down Capture	102.8	99.6
<b>RISK/RETURN SUMMARY STATISTICS</b>		
Standard Deviation	11.3	12.2
Sortino Ratio	0.3	0.7
Alpha	-0.7	-0.3
Sharpe Ratio	0.2	0.5
Excess Risk	11.3	12.3
Tracking Error	0.9	1.5
Information Ratio	-0.7	-0.5
<b>CORRELATION STATISTICS</b>		
R-Squared	1.0	1.0
Actual Correlation	1.0	1.0

Statistics Summary 3 Years Ending December 31, 2023						
	Return	Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Total Fund	3.7	11.3	-0.7	1.0	0.2	0.9
Total Fund Policy Benchmark	4.4	11.1	-	1.0	0.3	0.0
Growth Assets	-	-	-	-	-	-
Growth Assets Custom Benchmark	-	-	-	-	-	-
Global Equity	5.3	16.1	-0.3	1.0	0.3	0.7
Global Equity Policy Benchmark	5.5	16.4	-	1.0	0.3	0.0
SSgA MSCI ACWI IMI Index Fund	5.8	16.4	3.8	1.0	0.3	0.1
MSCI AC World IMI (Net)	5.5	16.4	-	1.0	0.3	0.0
SSgA Russell 1000 Growth Index	-	-	-	-	-	-
Russell 1000 Growth Index	8.9	20.5	-	1.0	0.4	0.0
SSgA Russell 1000 Value Index	-	-	-	-	-	-
Russell 1000 Value Index	8.9	16.5	-	1.0	0.5	0.0
SSgA Russell 3000 Index	-	-	-	-	-	-
Russell 3000 Index	8.5	17.5	-	1.0	0.4	0.0
SSgA MSCI EAFE	-	-	-	-	-	-
MSCI EAFE (Net)	4.0	16.6	-	1.0	0.2	0.0
SSgA Emerging Markets Index	-	-	-	-	-	-
MSCI Emerging Markets (Net)	-5.1	17.1	-	1.0	-0.3	0.0
ABS China Direct	-	-	-	-	-	-
MSCI China (Net)	-18.4	29.2	-	1.0	-0.6	0.0

	Return	Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
ABS EM ex China Direct	-	-	-	-	-	-
MSCI EM ex China	1.1	17.0	-	1.0	0.0	0.0
Kopernik Global All-Cap	-	-	-	-	-	-
MSCI AC World Index (Net)	5.7	16.3	-	1.0	0.3	0.0
First Eagle Global Equity	-	-	-	-	-	-
MSCI AC World Index (Net)	5.7	16.3	-	1.0	0.3	0.0
Artisan Global Opportunities	-	-	-	-	-	-
MSCI AC World Index (Net)	5.7	16.3	-	1.0	0.3	0.0
Credit	-	-	-	-	-	-
Credit Custom Benchmark	-	-	-	-	-	-
High Yield & Bank Loans	-	-	-	-	-	-
High Yield & Bank Loans Custom Benchmark	3.9	5.5	-	1.0	0.3	0.0
Sculptor Credit Opportunities Overseas Fund	-	-	-	-	-	-
Blmbg. Global High Yield Index	0.2	9.4	-	1.0	-0.2	0.0
Brigade High Income Fund	-	-	-	-	-	-
60% Barclays U.S. Corporate High Yield & 40% CS Lev Loans	3.5	6.0	-	1.0	0.3	0.0
Inflation Hedges	-	-	-	-	-	-
Inflation Hedges Custom Benchmark	-	-	-	-	-	-
Real Estate	0.7	6.1	-0.6	0.5	-0.2	5.8
NCREIF ODCE (Net)	4.0	9.3	-	1.0	0.2	0.0
JP Morgan Asset Management Strategic Property Fund	1.7	6.3	-0.3	0.4	0.0	7.0
NCREIF ODCE (Net)	4.0	9.3	-	1.0	0.2	0.0

## Performance Update | As of December 31, 2023

	Return	Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
UBS Trumbull Property Fund	0.7	9.1	-1.2	0.9	-0.1	2.8
NCREIF ODCE (Net)	4.0	9.3	-	1.0	0.2	0.0
SSgA US REIT	-	-	-	-	-	-
Dow Jones U.S. Select RESI	7.2	21.5	-	1.0	0.3	0.0
Natural Resources & Infrastructure	-	-	-	-	-	-
S&P Global LargeMidcap Resources & Commodities Ind	12.5	19.7	-	1.0	0.6	0.0
SSgA S&P Global LargeMidCap Natural Resources Index	-	-	-	-	-	-
S&P Global LargeMidcap Resources & Commodities Ind	12.5	19.7	-	1.0	0.6	0.0
JP Morgan Infrastructure Investments Fund	-	-	-	-	-	-
DJ Brookfield Listed Public Infrastructure +1%	6.4	17.0	-	1.0	0.3	0.0
Gold	-	-	-	-	-	-
60% Gold (Spot)/ 40% FTSE Gold Mines	-	-	-	-	-	-
First Eagle Institutional Gold Fund, LP	-	-	-	-	-	-
60% Gold (Spot)/ 40% FTSE Gold Mines	-	-	-	-	-	-
Short-Term TIPS	-	-	-	-	-	-
Blmbg. U.S. TIPS 0-5 Year	2.3	3.2	-	1.0	0.1	0.0
Vanguard Short-Term TIPS Index	-	-	-	-	-	-
Blmbg. U.S. TIPS 0-5 Year	2.3	3.2	-	1.0	0.1	0.0
Risk Mitigation	-	-	-	-	-	-
Risk Mitigation Custom Benchmark	-	-	-	-	-	-
Investment Grade Fixed Income	-3.2	8.1	0.1	1.1	-0.6	1.6
Blmbg. U.S. Aggregate Index	-3.3	7.1	-	1.0	-0.7	0.0

## Performance Update | As of December 31, 2023

	Return	Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Intermediate-Term Bonds	-3.0	7.4	0.6	1.0	-0.7	0.6
Blmbg. U.S. Aggregate Index	-3.3	7.1	-	1.0	-0.7	0.0
SSgA US Aggregate Bond	-3.3	7.2	-0.2	1.0	-0.8	0.2
Blmbg. U.S. Aggregate Index	-3.3	7.1	-	1.0	-0.7	0.0
Wellington Core Bond	-	-	-	-	-	-
Blmbg. U.S. Aggregate Index	-3.3	7.1	-	1.0	-0.7	0.0
Brandywine U.S. Fixed Income	-	-	-	-	-	-
Blmbg. U.S. Aggregate Index	-3.3	7.1	-	1.0	-0.7	0.0
Long-Term Bonds	-	-	-	-	-	-
Blmbg. U.S. Treasury: Long	-11.4	15.7	-	1.0	-0.8	0.0
SSgA Long US Treasury Index	-	-	-	-	-	-
Blmbg. U.S. Treasury: Long	-11.4	15.7	-	1.0	-0.8	0.0
Hedge Funds	-	-	-	-	-	-
HFRI Macro (Total) Index	5.4	5.0	-	1.0	0.6	0.0
36 South Kohinoor Series (Cayman) Fund	-	-	-	-	-	-
CBOE Eurekahedge Long Volatility Hedge Fund Index	-3.0	6.2	-	1.0	-0.8	0.0
BH-DG Systematic Trading Master Fund	-	-	-	-	-	-
Barclay CTA Index	3.9	3.9	-	1.0	0.4	0.0
Lombard Odier Bear Convexity	-	-	-	-	-	-
CBOE Eurekahedge Long Volatility Hedge Fund Index	-3.0	6.2	-	1.0	-0.8	0.0
Alpstone Global Macro Fund	-	-	-	-	-	-
HFRI Macro (Total) Index	5.4	5.0	-	1.0	0.6	0.0

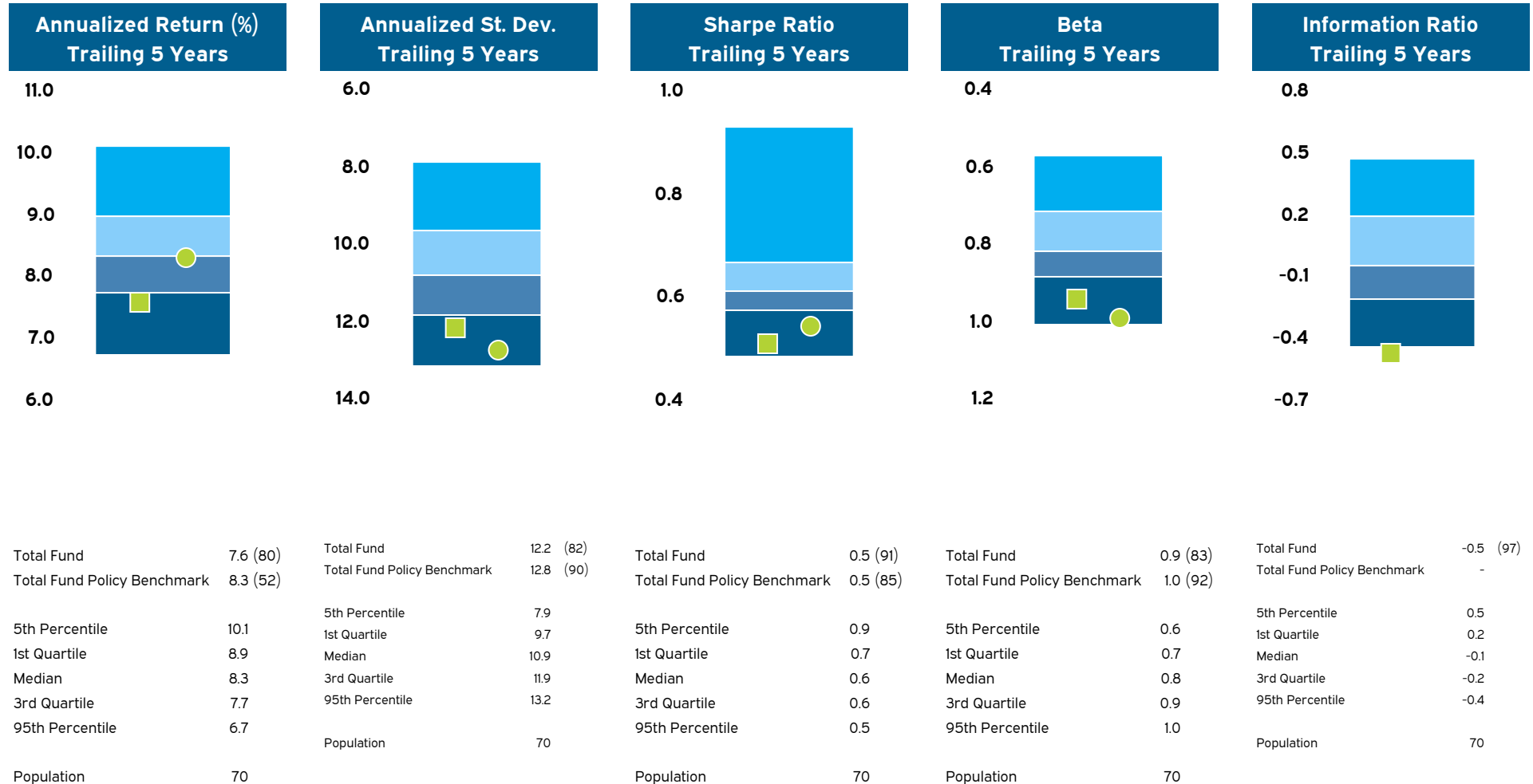
### Cash Flow Summary

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
SSgA MSCI ACWI IMI Index Fund	66,051,257	-	7,399,500	73,450,757
SSgA Russell 1000 Growth Index	28,197,238	-	4,007,423	32,204,662
SSgA Russell 1000 Value Index	13,690,412	-	1,300,390	14,990,802
SSgA Russell 3000 Index	171,125,042	7,500,000	21,044,540	199,669,581
SSgA MSCI EAFE	93,634,791	-22,500,000	8,474,605	79,609,396
SSgA Emerging Markets Index	37,467,213	-5,000,000	2,550,299	35,017,512
ABS China Direct	3,186,363	5,000,000	-272,541	7,913,822
ABS EM ex China Direct	11,799,923	7,500,000	1,609,888	20,909,811
Kopernik Global All-Cap	29,945,905	-	1,759,474	31,705,379
First Eagle Global Equity	96,858,259	5,000,000	6,823,166	108,681,425
Artisan Global Opportunities	93,695,002	-5,000,000	12,164,350	100,859,352
NexPhase Capital Fund V, L.P.	-	115,030	-	115,030
Vitruvian Investment Partnership V	-	229,190	-	229,190
Sculptor Credit Opportunities Overseas Fund	25,731,229	-599,566	371,270	25,502,932
Brigade High Income Fund	39,279,292	-4,000,000	1,926,423	37,205,714
JP Morgan Asset Management Strategic Property Fund	49,597,497	-117,508	-3,664,013	45,815,977
UBS Trumbull Property Fund	24,928,322	-511,462	-1,025,858	23,391,001
SSgA US REIT	12,396,637	12,000,000	2,149,572	26,546,209
SSgA S&P Global LargeMidCap Natural Resources Index	41,125,879	8,000,000	387,028	49,512,907
JP Morgan Infrastructure Investments Fund	-	15,000,000	492,208	15,492,208
First Eagle Institutional Gold Fund, LP	33,778,551	-	4,036,055	37,814,605
Vanguard Short-Term TIPS Index	72,649,252	-8,000,000	1,654,994	66,304,246
Harvest MLP	-	-	-	-
Tortoise Capital Advisors	-	-	-	-
PIMCO Total Return	-	-	-	-

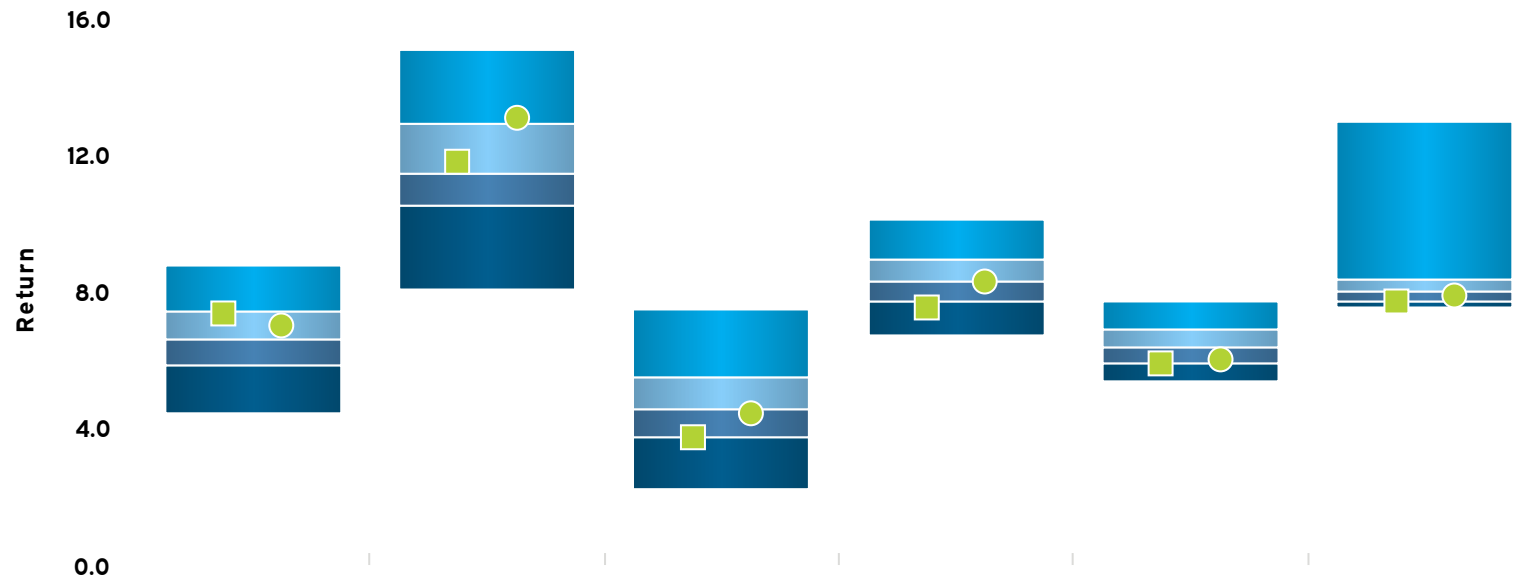
## Performance Update | Quarter To Date

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
SSgA US Aggregate Bond	61,351,045	-28,100,000	3,798,226	37,049,270
Wellington Core Bond	78,473,166	-8,650,000	5,668,681	75,491,847
Brandywine U.S. Fixed Income	19,539,161	-3,000,000	1,688,960	18,228,121
SSgA Long US Treasury Index	45,176,831	-	5,632,504	50,809,335
36 South Kohinoor Series (Cayman) Fund	21,939,096	-	-685,496	21,253,600
BH-DG Systematic Trading Master Fund	17,898,072	-	-196,196	17,701,876
Lombard Odier Bear Convexity	7,969,585	-	-359,509	7,610,076
Alpstone Global Macro Fund	17,069,716	-	169,161	17,238,877
Cash	16,690,463	747,386	46,736	17,484,586
<b>Total</b>	<b>1,231,245,196</b>	<b>-24,386,931</b>	<b>88,951,840</b>	<b>1,295,810,106</b>

Performance Update | As of December 31, 2023



### InvMetrics All Public DB Plans > \$1B



	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception
■ Total Fund	7.4 (27)	11.8 (45)	3.7 (76)	7.6 (80)	5.9 (76)	7.7 (71)
● Total Fund Policy Benchmark	7.0 (37)	13.1 (19)	4.4 (54)	8.3 (52)	6.0 (65)	7.9 (61)
5th Percentile	8.8	15.0	7.5	10.1	7.7	13.0
1st Quartile	7.4	12.9	5.5	8.9	6.9	8.3
Median	6.6	11.4	4.5	8.3	6.3	8.0
3rd Quartile	5.8	10.5	3.8	7.7	5.9	7.7
95th Percentile	4.4	8.1	2.2	6.7	5.4	7.5
Population	95	86	74	70	64	15

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

Annual Investment Expense Analysis As of December 31, 2023				
	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
<b>Growth Assets</b>		<b>\$705,356,719</b>	<b>\$1,745,622</b>	<b>0.25</b>
<b>Global Equity</b>		<b>\$705,012,500</b>	<b>\$1,738,967</b>	<b>0.25</b>
SSgA MSCI ACWI IMI Index Fund	0.05 % of Assets	\$73,450,757	\$33,053	0.05
SSgA Russell 1000 Growth Index	0.02 % of Assets	\$32,204,662	\$6,441	0.02
SSgA Russell 1000 Value Index	0.02 % of Assets	\$14,990,802	\$2,998	0.02
SSgA Russell 3000 Index	0.02 % of Assets	\$199,669,581	\$39,934	0.02
SSgA MSCI EAFE	0.04 % of Assets	\$79,609,396	\$31,844	0.04
SSgA Emerging Markets Index	0.08 % of Assets	\$35,017,512	\$28,014	0.08
ABS China Direct	0.65 % of Assets	\$7,913,822	\$51,440	0.65
ABS EM ex China Direct	0.50 % of Assets	\$20,909,811	\$104,549	0.50
Kopernik Global All-Cap	0.75 % of Assets	\$31,705,379	\$237,790	0.75
First Eagle Global Equity	0.55 % of Assets	\$108,681,425	\$597,748	0.55
Artisan Global Opportunities	0.60 % of Assets	\$100,859,352	\$605,156	0.60
<b>Private Equity</b>		<b>\$344,220</b>	<b>\$6,655</b>	<b>1.93</b>
NexPhase Capital Fund V, L.P.	2.00 % of Assets	\$115,030	\$2,301	2.00
Vitruvian Investment Partnership V	1.90 % of Assets	\$229,190	\$4,355	1.90
<b>Credit</b>		<b>\$62,708,647</b>	<b>\$448,499</b>	<b>0.72</b>
<b>High Yield &amp; Bank Loans</b>		<b>\$62,708,647</b>	<b>\$448,499</b>	<b>0.72</b>
Sculptor Credit Opportunities Overseas Fund	Performance Based 1.00 and 20.00	\$25,502,932	\$255,029	1.00
Brigade High Income Fund	0.52 % of Assets	\$37,205,714	\$193,470	0.52
<b>Inflation Hedges</b>		<b>\$264,877,153</b>	<b>\$1,032,205</b>	<b>0.39</b>
<b>Real Estate</b>		<b>\$95,753,186</b>	<b>\$638,829</b>	<b>0.67</b>
JP Morgan Asset Management Strategic Property Fund	0.91 % of Assets	\$45,815,977	\$416,925	0.91

	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	\$23,391,001	\$205,976	0.88
SSgA US REIT	0.06 % of Assets	\$26,546,209	\$15,928	0.06
<b>Natural Resources &amp; Infrastructure</b>		<b>\$65,005,115</b>	<b>\$196,689</b>	<b>0.30</b>
SSgA S&P Global LargeMidCap Natural Resources Index	0.10 % of Assets	\$49,512,907	\$49,513	0.10
JP Morgan Infrastructure Investments Fund	0.95 % of Assets	\$15,492,208	\$147,176	0.95
<b>Gold</b>		<b>\$37,814,605</b>	<b>\$170,166</b>	<b>0.45</b>
First Eagle Institutional Gold Fund, LP	0.45 % of Assets	\$37,814,605	\$170,166	0.45
<b>Short-Term TIPS</b>		<b>\$66,304,246</b>	<b>\$26,522</b>	<b>0.04</b>
Vanguard Short-Term TIPS Index	0.04 % of Assets	\$66,304,246	\$26,522	0.04
<b>Risk Mitigation</b>		<b>\$262,867,587</b>	<b>\$833,068</b>	<b>0.32</b>
<b>Investment Grade Fixed Income</b>		<b>\$181,578,572</b>	<b>\$166,104</b>	<b>0.09</b>
<b>Intermediate-Term Bonds</b>		<b>\$130,769,238</b>	<b>\$150,862</b>	<b>0.12</b>
SSgA US Aggregate Bond	0.02 % of Assets	\$37,049,270	\$7,410	0.02
Wellington Core Bond	0.12 % of Assets	\$75,491,847	\$90,590	0.12
Brandywine U.S. Fixed Income	0.29 % of Assets	\$18,228,121	\$52,862	0.29

Performance Update | As of December 31, 2023

	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
<b>Long-Term Bonds</b>		<b>\$50,809,335</b>	<b>\$15,243</b>	<b>0.03</b>
SSgA Long US Treasury Index	0.03 % of Assets	\$50,809,335	\$15,243	0.03
<b>Hedge Funds</b>		<b>\$63,804,429</b>	<b>\$666,964</b>	<b>1.05</b>
36 South Kohinoor Series (Cayman) Fund	Performance Based 1.00 and 20.00	\$21,253,600	\$212,536	1.00
BH-DG Systematic Trading Master Fund	0.93 % of Assets	\$17,701,876	\$164,627	0.93
Lombard Odier Bear Convexity	Performance Based 0.75 and 27.50	\$7,610,076	\$57,076	0.75
Alpstone Global Macro Fund	Performance Based 1.35 and 20.00	\$17,238,877	\$232,725	1.35
<b>Cash</b>		<b>\$17,484,586</b>	<b>-</b>	<b>-</b>
Cash		\$17,484,586	-	-
<b>Total Fund</b>		<b>\$1,295,810,106</b>	<b>\$4,059,395</b>	<b>0.31</b>

Fund	2023 Monthly Management Fees Paid (\$)												FYTD	CYTD
	January	Feb	March	April	May	June	July	August	September	October	November	December		
SSgA MSCI ACWI IMI Index Fund	70,976	0	66,626	0	0	41,553	6,297	0	9,472	0	0	8,159	23,928	203,083
SSgA Russell 1000 Growth Index	0	0	0	0	0	408	0	0	1,231	0	0	1,468	2,700	3,108
SSgA Russell 1000 Value Index	0	0	0	0	0	395	0	0	686	0	0	709	1,396	1,791
SSgA Russell 3000 Index	0	0	0	0	0	6,014	0	0	8,195	0	0	9,033	17,228	23,241
SSgA MSCI EAFE	0	0	0	0	0	5,983	0	0	10,264	0	0	9,712	19,975	25,958
SSgA Emerging Markets Index	0	0	0	0	0	4,385	0	0	7,599	0	0	7,801	15,400	19,785
ABS China Direct	0	0	1,930	1,939	1,924	1,748	1,781	1,912	1,775	1,726	1,645	4,379	13,218	20,759
ABS EM ex China Direct	0	0	4,453	4,545	4,597	4,724	4,984	5,247	5,054	4,917	4,686	8,240	33,128	51,448
Kopernik Global All-Cap*	0	0	22,051	21,752	21,891	21,250	22,810	22,757	22,152	23,156	22,409	24,235	137,520	224,465
First Eagle Global Equity	0	0	32,680	45,021	43,463	46,216	47,393	46,153	44,411	42,935	46,683	49,835	277,410	444,790
Artisan Global Opportunities*	0	0	49,734	49,364	50,319	49,495	50,247	49,336	46,848	44,981	44,981	50,430	286,823	485,736
NexPhase Capital Fund V	0	0	0	0	0	0	0	0	0	0	115,030	0	115,030	115,030
Vitruvian Investment Partnership V	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sculptor Credit Opportunities Overseas Fund	0	0	0	20,604	21,291	20,604	21,522	21,522	20,828	21,909	21,202	21,909	128,891	191,391
Brigade High Income Fund*	0	0	0	16,250	16,266	16,526	16,860	17,080	17,021	16,807	15,612	16,122	99,502	148,545
JP Morgan Strategic Property Fund	136,444	0	0	129,344	0	0	118,977	0	0	117,505	0	0	236,482	502,271
UBS Trumbull Property Fund	0	0	59,931	0	0	57,107	0	0	54,378	0	0	52,428	106,806	223,844
SSgA US REIT	0	0	0	0	0	1,098	0	0	2,615	0	0	1,975	4,590	5,688
SSgA S&P Global LargeMidCap NR Index	0	0	0	0	0	717	0	0	7,848	0	0	10,390	18,238	18,955
JP Morgan Infrastructure Investments Fund	0	0	0	0	0	0	0	0	0	0	0	33,085	33,085	33,085
First Eagle Institutional Gold Fund, LP	0	0	3,325	14,434	14,372	13,407	13,950	13,509	12,912	13,362	13,430	12,912	80,076	125,614
Vanguard Short-Term TIPS Index*	0	0	2,115	2,119	2,105	2,535	2,833	2,837	2,422	2,163	2,186	2,210	14,652	23,525
Harvest MLP	0	92,755	0	86,980	0	0	0	0	0	0	0	0	0	179,735
Tortoise Capital Advisors	148,249	147,510	8,814	0	0	0	0	0	0	0	0	0	0	304,574
PIMCO Total Return	0	0	78,555	0	0	0	0	2,987	0	0	0	0	2,987	81,543
SSgA US Aggregate Bond	9,422	0	7,528	0	0	5,717	1,082	0	3,739	0	0	3,316	8,137	30,804
Wellington Core Bond*	0	0	0	8,843	8,757	8,746	8,745	9,397	9,155	8,995	9,448	8,807	54,548	80,893
Brandywine U.S. Fixed Income	0	0	0	0	0	4,436	0	0	14,166	0	0	8,258	22,424	26,860
SSgA Long US Treasury Index	0	0	0	0	0	1,601	0	0	3,881	0	0	3,881	7,762	9,363
36 South Kohinoor Series (Cayman) Fund	0	0	0	7,257	7,314	17,921	17,826	18,105	18,465	18,695	17,925	17,750	108,766	141,258
BH-DG Systematic Trading Master Fund	0	0	0	12,021	14,508	13,747	14,231	13,892	13,220	14,513	13,114	13,220	82,191	122,467
Lombard Odier Bear Convexity	0	0	0	5,025	5,107	4,994	4,920	4,969	4,984	4,963	4,859	4,759	29,455	44,582
Alpstone Global Macro	0	0	0	0	18,446	18,837	18,999	18,957	19,329	19,205	19,238	19,567	115,295	152,577
<b>Total</b>	<b>365,092</b>	<b>240,265</b>	<b>337,742</b>	<b>425,500</b>	<b>230,362</b>	<b>370,164</b>	<b>373,459</b>	<b>248,660</b>	<b>362,649</b>	<b>355,831</b>	<b>352,449</b>	<b>404,594</b>	<b>2,097,643</b>	<b>4,066,768</b>
<b>Custodial Fee</b>	<b>0</b>	<b>21,413</b>	<b>10,569</b>	<b>10,733</b>	<b>8,683</b>	<b>3,597</b>	<b>2,797</b>	<b>4,248</b>	<b>2,716</b>	<b>7,202</b>	<b>0</b>	<b>2,552</b>	<b>19,516</b>	<b>74,512</b>

\*In some instances, NERS is invested in a pooled vehicle so a separate fee isn't charged at the Plan level. The fee is reflected in the NAV. Estimated based on management fee and market value.

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 fourth in the Fund's investment policy statement, weighted for the Fund's actual investments and performance of the indexes referenced above.

Benchmark History		
From Date	To Date	Benchmark
Growth Assets		
12/01/2022	Present	91.0% MSCI AC World IMI (Net), 9.0% MSCI ACWI + 3% 1Q Lag
Global Equity		
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
Inflation Hedges		
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
Risk Mitigation		
12/01/2022	Present	78.0% Blmbg. U.S. Aggregate Index, 22.0% HFRI Macro (Total) Index

## Current Issues

## Global Equity Portfolio Change New Manager J. Stern & Co.

#### Background and Rationale

- After the strong performance of Large Cap Growth stocks in 2023, Meketa considered the opportunity to seek out asset managers who could provide a higher tracking error and focus on global growth securities. We also sought out firms with smaller assets under management products. In working with our team, we evaluated seven managers in detail and reduced that list to two for additional evaluation and analysis.
- After a thorough due diligence process, we determined J. Stern & Company World Stars (J. Stern or World Stars) was an appropriate manager. J. Stern, founded in 2012, has a strong capability in Global Growth stock selection.
- We anticipate J. Stern to have periods of deviation from the benchmark. We anticipate, over long periods, that this manager will provide additional excess return relative to the MSCI ACWI.
- J. Stern was willing to work with us on their pricing as well, providing a 50% discount relative to their baseline pricing and 25% relative to the founders share class.
- J. Stearn will replace the SSgA ACWI IMI Index in the Global Equity manager lineup.

### J Stern & Co World Stars Global Equity Overview and Terms

Firm Location		Strategy Type/Style	
London, UK		Growth	
Firm Inception		Strategy Inception	
2012		February 2024	
Assets Managed (as of 9/30/2023)		Strategy Assets <sup>2</sup>	
\$1.1 billion <sup>1</sup>		\$ -	
Portfolio Manager		Fee Schedule	
Chris Rossbach		0.45% management fee	
Vehicle Type		Liquidity	
Limited Partnership		Daily	
Role within the Global Equity		Expected Excess Return	
Active Core Manager		1.0% - 1.5% <sup>3</sup>	
		Expected Tracking Error	
		12.0% - 15.0%	

## Organization

- J Stern & Co. is an investment partnership, based in London with offices in Zurich and New York City, and co- founded by Jerome Stern and Chris Rossbach in 2012.
- J Stern builds on a 200-year-old banking heritage of the Stern Family. The family sold its last family bank, Banque Stern in Paris, to what is now UBS in 1988. Jerome Stern led the succession of a single-family office from one generation to another and founded J. Stern in 2012 to manage the family assets.

<sup>1</sup> Source: eVestment

<sup>2</sup> Source: eVestment Strategy assets focused on World Stars are equal to \$870 million as of 9/30/2023. Meketa, alongside the family office of J. Stern, are serving as “founders” of this new Delaware Limited Partnership.

<sup>3</sup> Expectations are relative to the preferred benchmark MSCI ACWI IMI.

**Investment Team**

Name	Role	Years at Firm	Total Years' Experience
Christopher Rossbach	Portfolio Manager	11	29
Katerina Kosmopoulou	Deputy Portfolio Manager	11	22
Zhixin Shu	Senior Analyst	9	26
Giles Tulloch	Senior Analyst	9	14

- The investment team is led by CIO Christopher Rossbach. Mr. Rossbach launched his career at Lazard Freres in New York. In 1999 he moved to London and began work as an analyst at Perry Capital. Mr. Rossbach went on to progressively more senior roles at other large hedge funds in London, including the head of Magnetars European operations.
- Mr. Rossbach is supported by three senior personnel: Deputy PM Katerina Kosmopoulou, Senior Analyst Zhixin Shu, and Senior Analyst Giles Tulloch.
- The World Stars product maintains an Investment Committee of Mr. Rossbach and Mr. Stern. The Committee must reach consensus on

#### Investment Philosophy and Process

- The team seeks to invest in “quality” companies, defined by several characteristics: strong competitive positioning, a growing industry, competent management, and financial strength.
- J. Stern evaluates the portfolio through a functional framework (as well as traditional sectors). The framework segments the portfolio across four themes: Digital Transformation, Consumer, Healthcare & Life Sciences and Industrials and Infrastructure.
- Mr. Rossbach oversees the research process, beginning with an annual screening process. The process uses standard metrics (e.g. market capitalization, ROIC, revenue and earnings per share growth) as inputs alongside the firm’s senior leader’s qualitative judgment. The result is an active list of opportunities around 300 securities with a goal of reducing that list to about 50 companies (referenced at J. Stern as their Approval List).
- The fundamental analysis conducted by the team culminates in a research note on each company covering its financials, business model, sources of competitive advantage, and growth prospects. Additionally, a separate ESG report is completed with a specific focus on the companies’ strategic focus and/or resources allocated to ESG. The team’s approach to ESG is focused on risks and opportunities rather than a framework based on exclusion. The strategy is Article 8 compliant under SFDR.
- The Investment Committee (Mr. Rossbach and Mr. Stern) must reach consensus in order for a stock to be added to the approved list. Mr. Rossbach is responsible for portfolio construction with an individual position limit of 10%.

### Performance Summary (As of December 31, 2023)

	J. Stern World Stars	MSCI ACWI IMI	MSCI ACWI IMI Growth
<b>Trailing Periods:</b>			
1-Year	24.3	20.2	23.4
3-Year	4.7	6.9	3.6
5-Year	6.8	6.1	7.8
10-Year	8.8	7.4	9.2
<b>Since Inception Statistics</b>			
Return	9.5	8.4	10.0
Standard Deviation	15.0	14.5	15.4
Tracking Error (MSCI ACWI IMI)	5.8	-	4.0
Beta (MSCI ACWI IMI)	1.0	-	0.9

Fee Structure and Liquidity

Management Fee:	0.45%
Operating Costs:	Capped at 0.10%
Total Expenses:	0.55%
Liquidity:	Daily
Vehicle Type:	Delaware Limited Partnership

→ The J. Stern fee is strong relative to other global equity offerings.

**Global Equity Portfolio Change**  
**New Manager: Fidelity Small Cap Index**

#### Summary

- In January Meketa made the decision to move the Pension Fund to a neutral position for both core fixed income and global equities.
- This decision was based on recent monetary policy commentary and expectations that policy tightening has likely reached its peak for this cycle. The directive was also designed to slightly reduce the duration of the fixed income portfolio.
- This decision was facilitated by redeeming 1% of the Pension Fund from core fixed income and investing those proceeds into the Fidelity Small Cap Index.
  - Redemptions came from Brandywine, Wellington, and the SSgA US Aggregate Bond Index. Meketa also used some of the proceeds from the aforementioned redemptions to add to REITs and Natural Resources.
  - The Fidelity Small Cap Index is a passive, daily liquid mutual fund with a 0.025% expense ratio.

## Appendix

## Corporate Update | 4Q.2023



## Corporate Update



**7**  
Offices



**235+**  
Employees



**245+**  
Clients



**\$1.8T**  
Assets Under Advisement



**\$200B**  
Assets in Alternative Investments



**98%**  
Client Retention Rate



**5:1**  
Client | Consultant Ratio

Meketa  
Investment Group  
is proud to work  
for over 15 million  
American families  
everyday!

## UPCOMING EVENTS



**Q4 Investment Perspectives Webcast**  
April 2024



**Emerging and Diverse Manager Research Day**  
April 2024

Client and employee counts as of December 31, 2023; assets as of September 30, 2023.  
Client retention rate is one minus the number of clients lost divided by the number of clients at prior year-end.

### THOUGHT LEADERSHIP



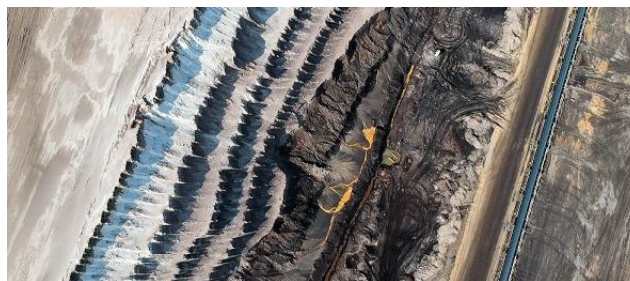
#### Read our December Connectives “Navigating US China Tensions with Dynamic Portfolio Levers”

Sifting through economic, financial, and political factors is proving to be increasingly challenging for institutional investors as sentiment toward China continues to turn negative in western governments.

While some US investors have decided to actively underweight or even exit China altogether, others are seeking dynamic portfolio and manager solutions.

Read more here:

<https://meketa.com/news/meketa-connectives-navigating-us-china-tensions-with-dynamic-portfolio-levers/>



#### Read our recent white paper “Opportunities in Critical Minerals”

The push toward net-zero emissions has expedited the need for green energy and technology. At the forefront of this green energy boom are critical minerals, the essential inputs to all types of green technologies, especially electric vehicles (“EVs”) and EV batteries.

This research note provides an overview of critical minerals, their uses, current market size, as well as describes the unique opportunity that critical minerals may provide for investors.

Read more here:

<https://meketa.com/leadership/the-opportunity-in-critical-minerals/>



#### Watch our recent webinar “Mission Driven Investing Manager Research Day Roundtable”

As part of Meketa’s first Public and Private Markets Mission Driven Investing Manager Research Day, we hosted a one-hour roundtable discussion with a panel of institutional investors speaking about their experiences with mission driven investing. The panel includes perspectives from investors who invest broadly in mission-driven investments, as well as specifically for economic development in a particular state or region and as informed by religious values. Discussion topics include impact and return goals, mission related investment structures, best practices in manager due diligence and other areas relevant for the mission driven investor.

Read more here:

<https://meketa.com/leadership/december-2023-mission-driven-investing-manager-research-day-roundtable/>

### MEKETA VALUES CULTURE

Whether looking for new team members or getting to know our current fellow team mates better, Meketa values the people we work with.



### MEKETA IN THE NEWS

#### **Pensions&Investments** **Asset owners lean on consultants to be educated about ESG**

By Palash Ghosh | 11.20.23

[Read full article here](#)

Meketa assists clients in understanding different approaches to sustainability, including focusing on integrating material sustainability financial risks and opportunities, seeking investments that also offer impact on a given environmental or social themes, and investing in products for socially responsible ends that do not include a performance expectation to meet or exceed a market beta, said [Sarah Bernstein](#), head of sustainability. “Some pension funds have specific requests, for

example how to respond to ESG and/or anti-ESG legislation; provide analysis on options to address climate risks and opportunities; or address diversity, equity and inclusion concerns,” she added.

One area that is seeing a lot of interest from investors is opportunities around the energy transition. [Lisa Bacon](#), managing principal, private markets consultant and infrastructure program lead at Meketa, said deploying capital into renewables and related infrastructure has been going on for a number of years even before “energy transition” and “decarbonization” became common terms.

In fact, “as both governmental entities and corporates in the U.S. and abroad have established more ambitious goals for reducing greenhouse gases and reaching net-zero carbon emissions, demand for private capital to support investments in assets and companies that will help meet these goals has also increased,” Bacon said. “Opportunities have also arisen in the natural resources sector involving alternative fuels, metals and minerals for batteries and electric chargers, and other sustainable inputs and activities.” Bacon added that Meketa and its clients want to be investing in the areas “where economic activity is increasing and where growth potential supports attractive risk-adjusted returns.”

#### **Impact of higher rates top of mind for institutions**

By Palash Ghosh | 11.20.23

[Read full article here](#)

Aside from rising interest rates, noted Frank Benham, director of research at [Meketa](#), his firm’s clients are also concerned about the potential for an economic hard landing, as well as both political and economic risks in China.

Regarding China, Amy Hsiang, director of public markets manager research at Meketa, said clients are interested in learning more about emerging markets. “Whether or not

translates to actually increasing allocations to emerging markets, only time will tell,” Hsiang said. “We have not seen clients actively avoid China.”

“Clients are increasing exposure to select alternatives like private credit and private equity. This needs to be balanced with an understanding of each clients’ liquidity needs to ensure the portfolio can deliver on all commitments through a market cycle.” John A. Haggerty, director of private market investments at Meketa, noted that in times of uncertainty and market volatility, the issue of placing value on alternative assets naturally receives more scrutiny. “Private market performance lags public market performance in both up markets and down markets,” he said. “So, the gaps have been greater in recent years with the stock market swings, negative in 2022 and positive for much of 2023.”

#### **FUNDfire**

#### **Corporate Pensions at ‘Inflection Point’ as Funded Statuses Improve**

By Bridget Hickey 11.28.23

[Read full article here](#)

Corporate pension sponsors are at an “inflection point” when it comes to deciding about the future of their plans, said Jonathan Camp, a managing principal at investment consultant Meketa.

Companies may choose to hedge their liabilities or transfer risk. Almost 90% of corporate pension respondents to a recent survey by MetLife said they were interested in completely divesting all their defined benefit plan liabilities.

However, the news earlier this month that International Business Machines, better known as IBM, is reopening its defined benefit pension as a cash balance plan has sparked a conversation within the industry about whether other companies will follow suit.

Companies that are over-funded may opt to follow in IBM’s stead, Camp suggested. He added that one client, (unnamed), re-opened its pension plan more than a year ago.

“The benefit of just keeping your frozen pension plan on your books is that it’s very easy to open it back up in a different form in the future, versus if you terminate your plan,” he said. “It will be interesting to see, if now that we have this first mover publicly, if other companies think to themselves, ‘well, you know, I can do that too’.”

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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.  $\text{Portfolio Return} - [\text{Risk Free Rate} + \text{Beta} \times (\text{market return} - \text{Risk Free Rate})]$ .

**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%.

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

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

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