

# City of Quincy Retirement System December 31, 2023

# Performance Update

**MEKETA.COM** 



Agenda

# Agenda

- **1.** Executive Summary
  - December Market Overview
  - Manager Highlights
- 2. Performance Update as of December 31, 2023
- 3. Disclaimer, Glossary & Notes

# **Executive Summary**



# **Economic and Market Update**

Data as of December 31, 2023



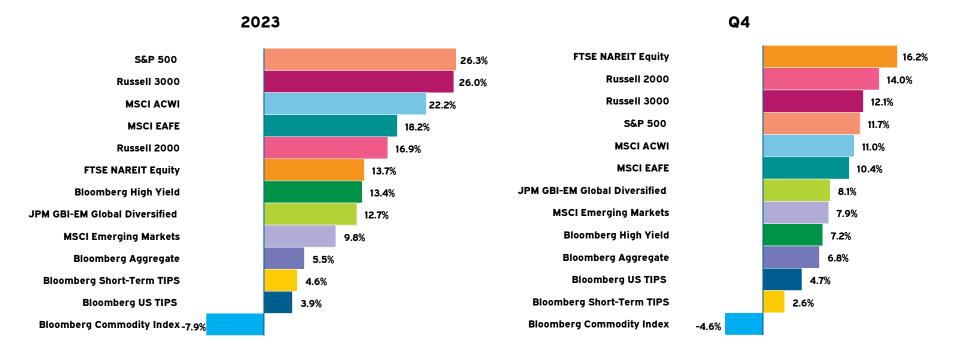
#### Commentary

 $\rightarrow$  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.

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#### **Economic and Market Update**



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

- → 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>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of December 31, 2023.



	December	Q4	1 YR	3 YR	5 YR	10 YR
Domestic Equity	(%)	(%)	(%)	(%)	(%)	(%)
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

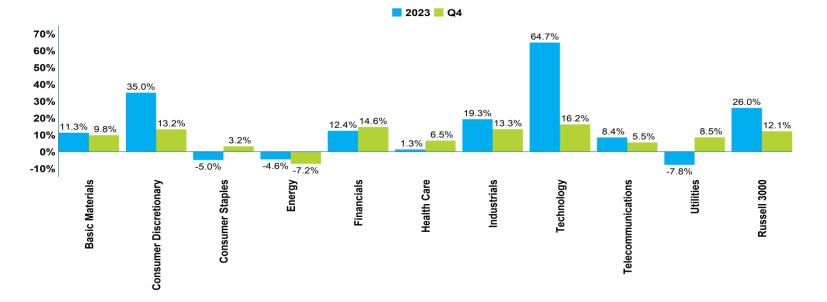
#### Domestic Equity Returns<sup>1</sup>

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.

- $\rightarrow$  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.
- $\rightarrow$  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>&</sup>lt;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>

- $\rightarrow$  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%).
- $\rightarrow$  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>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of December 31, 2023.

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 Returns<sup>1</sup>

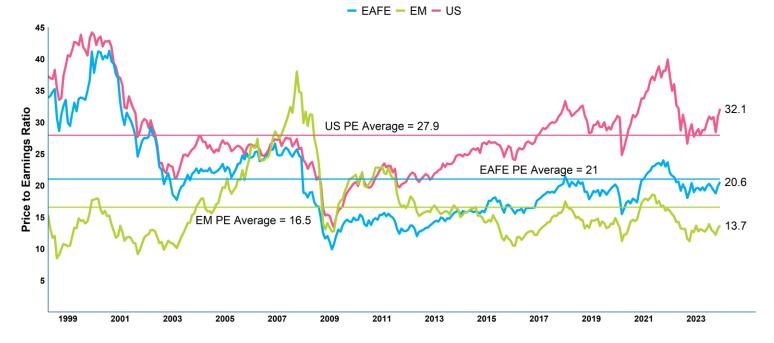
Foreign Equity: Developed international equities (MSCI EAFE) gained 5.3% in December and 10.4% in the fourth quarter bringing calendar year results to 18.2%. Emerging market equities (MSCI EM) rose 3.9% in December, 7.9% for the quarter, and 9.8% for the year.

- → 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>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of December 31, 2023.







- → 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 the their long-term average, while emerging markets remained well below their average.

<sup>&</sup>lt;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.

							Current	
Fixed Income	December (%)	<b>Q4</b> (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	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

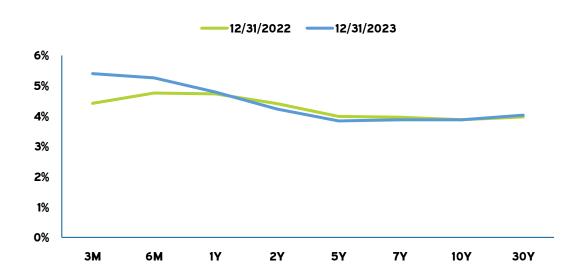
#### Fixed Income Returns<sup>1</sup>

#### 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>&</sup>lt;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.





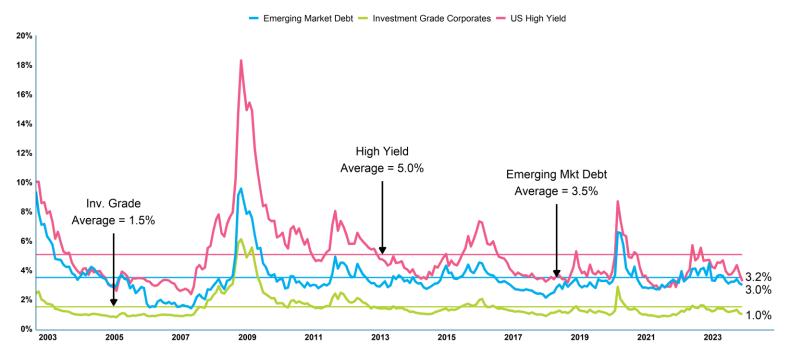
#### US Yield Curve<sup>1</sup>

- → 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>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of December 31, 2023.



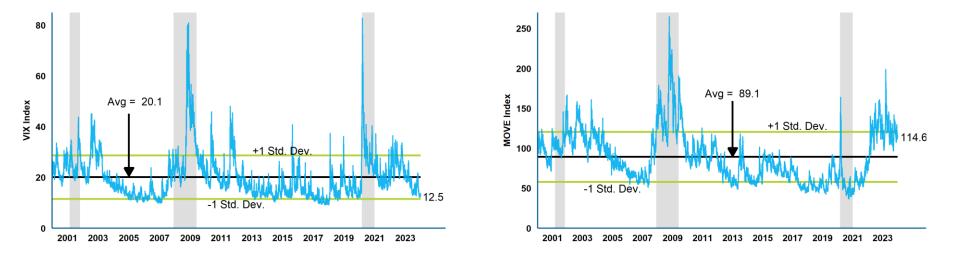
#### Credit Spreads vs. US Treasury Bonds<sup>1</sup>



- → 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>&</sup>lt;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.



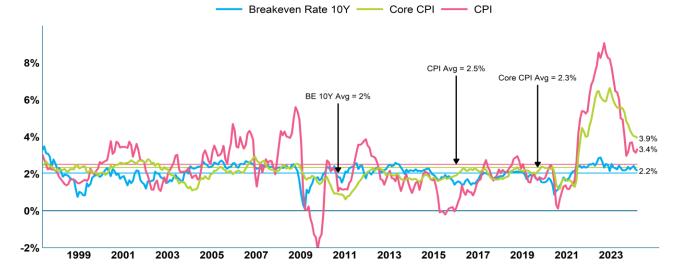


#### Equity and Fixed Income Volatility<sup>1</sup>

- → 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>&</sup>lt;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.



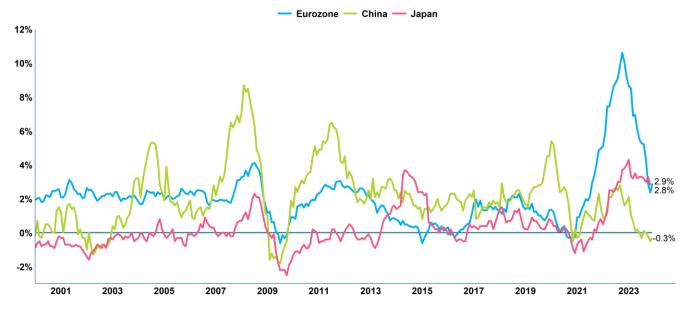


#### US Ten-Year Breakeven Inflation and CPI<sup>1</sup>

- → 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>&</sup>lt;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.



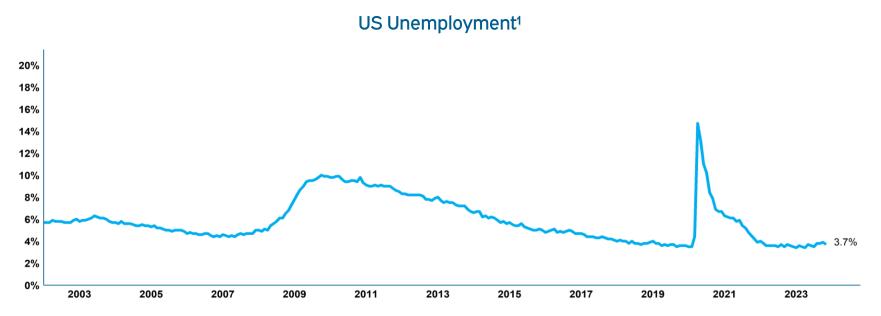


# Global Inflation (CPI Trailing Twelve Months)<sup>1</sup>

- $\rightarrow$  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.
- $\rightarrow$  Inflation in Japan remains near levels not seen in almost a decade, driven by food and home related items.

<sup>&</sup>lt;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.

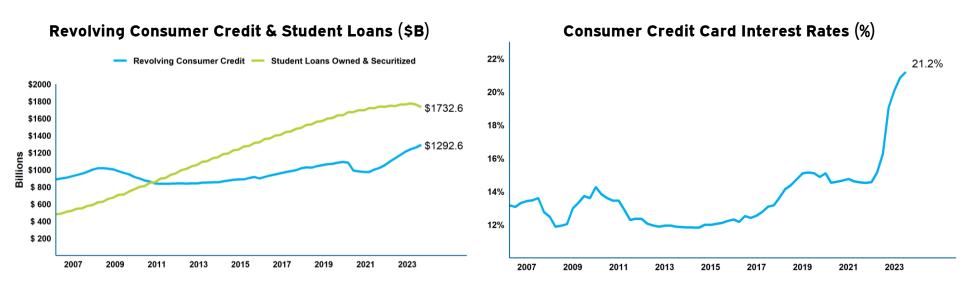




- → Overall, the US labor market remains healthy with the unemployment rate relatively low, wage growth now positive in real terms, and initial claims for unemployment staying subdued.
- → In December, US unemployment remained unchanged (3.7%) and came in slightly below expectations of an increase to 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.
- $\rightarrow$  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%).
- $\rightarrow$  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.



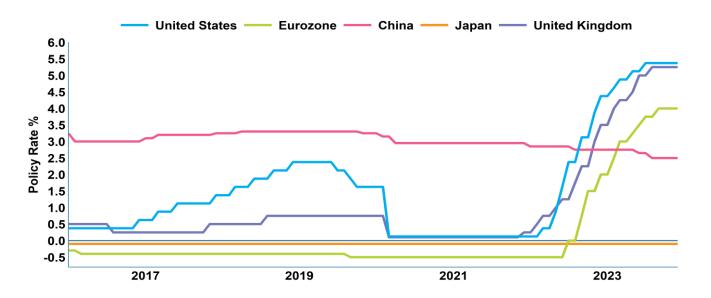


#### US Consumer Under Stress?<sup>1</sup>

- → 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>&</sup>lt;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>

- $\rightarrow$  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>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of December 2023.





- $\rightarrow$  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.
- $\rightarrow$  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>&</sup>lt;sup>1</sup> Source: Bloomberg. Data as of December 31, 2023.



#### Summary

#### Key Trends:

- $\rightarrow$  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.
- $\rightarrow$  Recent, heightened tensions in Israel could add to overall uncertainty and drive safe haven flows.



# Manager Highlights



**Manager Highlights** 

#### Loomis Sayles High Yield

- $\rightarrow$  Loomis outperformed its benchmark by 0.5% in the month of December, posting a return of 4.2% vs the benchmark's 3.7%.
  - Outperformance was driven primarily by security selection while yield curve positioning contributed markedly throughout the month. High yield credit, convertibles, and equity sectors were the top contributors.
  - On an absolute and excess basis, high yield credit positively contributed to performance as the sector generated the greatest returns within the strategy. Security selection was the major driver in this sector. Exposure across the communications and consumer non cyclical names modestly aided excess return with the securities issued by CSC Holdings, Dish DBS, and Bausch Health Cos having the best performance in this sector.
- $\rightarrow$  Since inception, Loomis has returned 4.8%, trailing the benchmark's return of 5.5%, net of fees, over that period.

#### **Brown Small Cap Fundamental Value**

- → Brown underperformed its benchmark by 2.9% in December, posting a return of 9.5% vs. the benchmark's 12.4%. 4Q Commentary:
  - Our greatest underperformance was in communication services. Both of our home internet/cable companies were detractors for the quarter. While both Cable One (CABO) and WideOpenWest (WOW) face a challenging operating environment, we believe WideOpenWest, in particular, has been less adept at navigating the challenges and their results have suffered, correspondingly. Financials and health care were also sources of negative performance. In both, we were underweighted which hurt relative performance.



#### **Manager Highlights**

→ Since inception, Brown has returned 8.6%, slightly lagging the Russell 2000 Value index by 0.2%, net of fees over that period.

#### Axiom International Small Cap Equity

 $\rightarrow$  Axiom underperformed its benchmark by 2.5% in the month of December, posting a return of 4.5% vs the benchmark's 7.0%.

4Q Commentary:

- The largest relative detracting sector for the quarter was consumer discretionary, with Japanese names like footwear maker Asics and character goods and theme park company Sanrio underperforming.
- Consumer staples also detracted for the same reasons with Japanese names Rohto, a skincare and eyecare company, and Kotobuki, a confectionary maker relatively weak. Information technology also detracted due to Taiwanese electric vehicle and AI semiconductor testing company Chroma on project delays in China and Shibaura Mechatronics, a Japanese semiconductor equipment company, on general negative China sentiment.

 $\rightarrow$  Since inception, Axiom has returned 7.0%, trailing the benchmark's return of 9.4%, net of fees, over that period.

Performance Update As of December 31, 2023



	Allocation vs. Targets	and Policy		
	Current Balance	Current Allocation	Policy	Policy Range
US Equity	\$199,741,612	24%	24%	19% - 29%
Developed Market Equity	\$94,997,670	11%	13%	8% - 18%
Emerging Market Equity	\$66,458,895	8%	8%	4% - 12%
Investment Grade Bonds	\$70,978,703	8%	5%	2% - 8%
Long-Term Government Bonds	\$25,931,400	3%	7%	2% - 12%
TIPS	\$28,753,402	3%	4%	1% - 7%
Emerging Market Bonds			2%	0% - 4%
High Yield Bonds	\$42,129,736	5%	6%	3% - 9%
Bank Loans	\$9,130,382	1%	2%	0% - 4%
Private Equity	\$132,155,586	16%	14%	9% - 19%
Real Estate	\$79,191,007	9%	10%	5% - 15%
Natural Resources	\$17,061,523	2%	3%	0% - 6%
Infrastructure	\$13,354,733	2%	2%	0% - 5%
Opportunistic	\$38,144,775	5%	0%	0% - 5%
Balanced Assets	\$14,950,160	2%		-
Cash	\$4,111,226	0%	0%	0% - 5%
Total	\$837,090,812	100%	100%	
	Current Balance	Current Allocation	Policy	Policy Range
Total Equity Including PE	\$493,098,744	59%	59%	
Total Fixed Income	\$176,923,623	21%	26%	
Real Assets	\$109,607,263	13%	15%	
Other	\$57,206,161	7%	O%	



#### Total Retirement System | As of December 31, 2023

Asset Class Performance Summary													
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date		
Total Retirement System (gross)	837,090,812	100.0	3.0	6.0	10.9	5.3	9.2	7.0	6.6	8.2	Jan-89		
Total Retirement System			3.0	6.0	10.7	5.1	9.0	6.7	6.3	7.8			
Domestic Equity Assets	199,741,612	23.9	5.7	12.0	22.9	9.1	14.1	10.8	9.3	10.0	Jul-93		
Russell 3000			5.3	12.1	26.0	8.5	15.2	11.5	9.7	10.1	Jul-93		
International Developed Market Equity Assets	94,997,670	11.3	5.4	9.8	17.0	2.2	7.2	3.8	5.2	4.9	Feb-98		
MSCI EAFE			5.3	10.4	18.2	4.0	8.2	4.3	5.6	4.8	Feb-98		
International Emerging Market Equity Assets	66,458,895	7.9	3.4	8.3	16.2	-1.2	8.7	5.0	-	6.2	Sep-08		
MSCI Emerging Markets			3.9	7.9	9.8	-5.1	3.7	2.7	6.8	2.9	Sep-08		
Investment Grade Bond Assets	70,978,703	8.5	4.7	7.8	5.0	-4.9	0.1	1.3	2.9	4.1	Jul-93		
Bloomberg US Aggregate TR			3.8	6.8	5.5	-3.3	1.1	1.8	3.2	4.4	Jul-93		
Long-Term Government Bond Assets	25,931,400	3.1	5.1	8.2	4.8	-5.0	1.3			1.8	Dec-15		
PRIT Core Fixed Income			5.2	8.6	5.2	-4.9	1.4	2.7	3.6	1.8	Dec-15		
TIPS Assets	28,753,402	3.4	2.5	4.5	3.9	-1.1	3.1	2.4		3.5	Mar-07		
Bloomberg US TIPS TR			2.7	4.7	3.9	-1.0	3.2	2.4	3.6	3.5	Mar-07		
High Yield Bond Assets	42,129,736	5.0	3.4	6.2	12.0	2.2	5.6	4.1	5.9	5.6	Apr-07		
Bloomberg US High Yield TR			3.7	7.2	13.4	2.0	5.4	4.6	6.6	6.2	Apr-07		
Bank Loan Assets	9,130,382	1.1	1.9	3.6	15.1	5.7	5.6			4.1	Aug-14		
Credit Suisse Leveraged Loans			1.6	2.9	13.0	5.6	5.6	4.4	4.7	4.4	Aug-14		
Total Real Estate	79,191,007	9.5	-3.3	-3.3	-9.9	3.5	3.0	6.4			Jan-89		
NCREIF ODCE			-4.8	-4.8	-12.0	4.9	4.2	7.3	7.2	6.9	Jan-89		

Some asset classes may show skewed performance relative to month over month changes in market value, this is due to PRIM General Allocation funds having their performance user entered while their market values are estimated using PRIM's current asset allocation.



	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
Private Equity Assets	132,155,586	15.8									
Natural Resources Assets	17,061,523	2.0									
Infrastructure Assets	13,354,733	1.6								-	
Opportunistic Assets	38,144,775	4.6								-	
Balanced Assets (PRIT General Allocation Fund)	14,950,160	1.8	3.0	6.2	11.4	6.0	9.3	7.6	7.5	8.3	Apr-90
60% Wilshire 5000 & 40% Barclays Aggregate			4.7	10.0	17.6	4.1	9.9	7.9	7.4	8.6	Apr-90
Cash	4,111,226	0.5									



Trailing Net Performance													
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date	
Total Retirement System (gross)	837,090,812	100.0		3.0	6.0	10.9	5.3	9.2	7.0	6.6	8.2	Jan-89	
Total Retirement System				3.0	6.0	10.7	5.1	9.0	6.7	6.3	7.8		
Domestic Equity Assets	199,741,612	23.9	23.9	5.7	12.0	22.9	9.1	14.1	10.8	9.3	10.0	Jul-93	
Russell 3000				5.3	12.1	26.0	8.5	15.2	11.5	9.7	10.1	Jul-93	
RhumbLine Russell 1000 Growth Index	28,804,630	3.4	14.4	4.4	14.2	42.6	8.9	19.5	14.8		11.8	Jun-05	
Russell 1000 Growth				4.4	14.2	42.7	8.9	19.5	14.9	11.3	11.9	Jun-05	
Large Growth MStar MF Rank				53	44	32	12	5	4		15	Jun-05	
Large Growth MStar MF Median				4.5	14.0	39.5	5.6	16.2	12.5	10.2	10.7	Jun-05	
RhumbLine Russell 1000 Value Index	29,302,776	3.5	14.7	5.5	9.5	11.4	8.8	10.9	8.4		7.6	Jun-05	
Russell 1000 Value				5.5	9.5	11.5	8.9	10.9	8.4	8.0	7.7	Jun-05	
Large Value MStar MF Rank				43	54	53	77	71	63		65	Jun-05	
Large Value MStar MF Median				5.4	9.6	11.7	10.3	11.8	8.7	8.1	8.0	Jun-05	
Rhumbline QSI Index	34,500,683	4.1	17.3	5.9	12.4	17.4	8.6	13.2	11.0		11.5	Aug-13	
QSI Index				5.9	12.5	17.4	8.6	13.3	11.1	9.9	11.6	Aug-13	
Russell 3000				5.3	12.1	26.0	8.5	15.2	11.5	9.7	12.1	Aug-13	
Large Cap MStar MF Rank				18	35	66	52	64	47		50	Aug-13	
Large Cap MStar MF Median				4.8	11.7	23.5	8.7	14.4	10.6	9.4	11.4	Aug-13	
Brown Small Cap Fundamental Value	19,255,753	2.3	9.6	9.5	12.6	16.3	11.8	10.6		-	8.6	Jul-16	
Russell 2000 Value				12.4	15.3	14.6	7.9	10.0	6.8	7.7	8.8	Jul-16	
Small Value MStar MF Rank				79	50	52	36	73			74	Jul-16	
Small Value MStar MF Median				10.6	12.5	16.4	10.4	11.8	<i>7.3</i>	8.3	9.5	Jul-16	
PRIT General Allocation Domestic Equity	87,877,770	10.5	44.0	5.4	11.8	25.0				-	1.0	Jan-22	
PRIT Domestic Equity Benchmark				5.3	12.2	25.5					1.0	Jan-22	



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
International Developed Market Equity Assets	94,997,670	11.3	11.3	5.4	9.8	17.0	2.2	7.2	3.8	5.2	4.9	Feb-98
MSCI EAFE				5.3	10.4	18.2	4.0	8.2	4.3	5.6	4.8	Feb-98
SSgA MSCI EAFE Index	44,368,337	5.3	46.7	5.3	10.4	18.5	4.3	8.5	4.6		5.7	Oct-09
MSCI EAFE				5.3	10.4	18.2	4.0	8.2	4.3	5.6	5.4	Oct-09
Foreign MStar MF Rank				47	46	28	27	35	38		54	Oct-09
Foreign MStar MF Median				5.2	10.1	16.4	2.2	8.0	4.2	5.9	5.8	Oct-09
Axiom International Small Cap Equity	11,248,424	1.3	11.8	4.5	7.1	8.9	-7.0				7.0	May-20
S&P Developed Ex-U.S. SmallCap				7.0	10.8	14.1	-0.8	6.7	4.7	7.3	9.4	May-20
MSCI EAFE Small Cap				7.3	11.1	13.2	-0.7	6.6	4.8	7.1	9.1	May-20
PRIT General Allocation Int. Equity	39,380,910	4.7	41.5	5.8	10.0	17.7					-1.1	Jan-22
Custom MSCI World Ex-US IMI Net Divs				5.7	10.5	17.2				- 1	-0.4	Jan-22
International Emerging Market Equity Assets	66,458,895	7.9	7.9	3.4	8.3	16.2	-1.2	8.7	5.0		6.2	Sep-08
MSCI Emerging Markets				3.9	7.9	9.8	-5.1	3.7	2.7	6.8	2.9	Sep-08
Driehaus Emerging Markets Growth	38,892,575	4.6	58.5	2.8	8.2	12.3	-4.5				5.6	Mar-19
MSCI Emerging Markets				3.9	7.9	9.8	-5.1	<i>3</i> .7	2.7	6.8	2.0	Mar-19
Diversified Emerging Mkts MStar MF Rank				88	40	41	42				22	Mar-19
Diversified Emerging Mkts MStar MF Median				3.8	7.8	11.2	-5.5	4.5	2.7	6.7	2.7	Mar-19
PRIT General Allocation EME	16,044,074	1.9	24.1	4.6	8.6	17.5					-2.2	Jan-22
Custom MSCI Emerging Market IMI Net Divs				4.0	8.1	11.1					-5.5	Jan-22
Cedar Street Emerging Markets Value Fund	11,522,246	1.4	17.3									Jan-24
MSCI Emerging Markets Value NR USD				5.4	8.1	14.2	0.0	3.4	1.9	7.0		Jan-24



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
Investment Grade Bond Assets	70,978,703	8.5	8.5	4.7	7.8	5.0	-4.9	0.1	1.3	2.9	4.1	Jul-93
Bloomberg US Aggregate TR				3.8	6.8	5.5	-3.3	1.1	1.8	<i>3.2</i>	4.4	Jul-93
SSgA U.S. Aggregate Bond Index-NL	21,387,928	2.6	30.1	3.7	6.7	5.7	-3.3	1.1	1.8		3.1	Apr-04
Bloomberg US Aggregate TR				3.8	6.8	5.5	-3.3	1.1	1.8	3.2	3.1	Apr-04
Intermediate Core Bond MStar MF Rank				61	50	62	51	66	56		66	Apr-04
Intermediate Core Bond MStar MF Median				3.8	6.7	5.8	-3.3	1.3	1.9	3.3	3.2	Apr-04
PRIT General Allocation Core FI	49,590,775	5.9	69.9	5.1	8.2	4.8					-7.5	Jan-22
PRIT Core Fixed Income				5.2	8.6	5.2	-4.9	1.4	2.7	3.6	-7.3	Jan-22
Long-Term Government Bond Assets	25,931,400	3.1	3.1	5.1	8.2	4.8	-5.0	1.3			1.8	Dec-15
PRIT Core Fixed Income				5.2	8.6	5.2	-4.9	1.4	2.7	3.6	1.8	Dec-15
PRIT Core Fixed Income	25,931,400	3.1	100.0	5.1	8.2	4.8	-5.0	1.3			1.8	Dec-15
PRIT Core Fixed Income				5.2	8.6	5.2	-4.9	1.4	2.7	3.6	1.8	Dec-15
TIPS Assets	28,753,402	3.4	3.4	2.5	4.5	3.9	-1.1	3.1	2.4		3.5	Mar-07
Bloomberg US TIPS TR				2.7	4.7	3.9	-1.0	3.2	2.4	3.6	3.5	Mar-07
SSgA TIPS Index	28,753,402	3.4	100.0	2.5	4.5	3.9	-1.1	3.1	2.4		3.5	Mar-07
Bloomberg US TIPS TR				2.7	4.7	3.9	-1.0	3.2	2.4	3.6	3.5	Mar-07
Inflation-Protected Bond MStar MF Rank				42	46	51	56	53	22		25	Mar-07
Inflation-Protected Bond MStar MF Median				2.5	4.4	3.9	-0.9	3.1	2.1	3.4	3.3	Mar-07



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
High Yield Bond Assets	42,129,736	5.0	5.0	3.4	6.2	12.0	2.2	5.6	4.1	5.9	5.6	Apr-07
Bloomberg US High Yield TR				3.7	7.2	13.4	2.0	5.4	4.6	6.6	6.2	Apr-07
Loomis Sayles High Yield Conservative	12,585,961	1.5	29.9	4.2	6.2	10.4	-0.1	4.1	3.7		4.8	Feb-12
Bloomberg US High Yield TR				<i>3</i> .7	7.2	13.4	2.0	5.4	4.6	6.6	5.5	Feb-12
High Yield Bond MStar MF Rank				2	64	88	99	88	72		63	Feb-12
High Yield Bond MStar MF Median				3.5	6.4	12.5	2.1	4.9	4.0	5.8	5.0	Feb-12
Columbia High Yield	12,770,425	1.5	30.3	3.4	7.3	13.1	2.2	5.8			4.7	Dec-16
Bloomberg US High Yield TR				<i>3</i> .7	7.2	13.4	2.0	5.4	4.6	6.6	4.8	Dec-16
High Yield Bond MStar MF Rank				55	11	25	44	16			29	Dec-16
High Yield Bond MStar MF Median				3.5	6.4	12.5	2.1	4.9	4.0	5.8	4.3	Dec-16
PRIT General Allocation Value Added FI	16,773,350	2.0	39.8	2.8	5.4	12.4					3.1	Jan-22
PRIT Public Value-Added Fixed Income				2.9	5.4	12.4	2.4	4.4	3.2	5.3	1.8	Jan-22
Bank Loan Assets	9,130,382	1.1	1.1	1.9	3.6	15.1	5.7	5.6			4.1	Aug-14
Credit Suisse Leveraged Loans				1.6	2.9	13.0	5.6	5.6	4.4	4.7	4.4	Aug-14
Beach Point Loan Fund	9,130,382	1.1	100.0	1.9	3.6	15.1	5.7	5.6			4.1	Aug-14
Credit Suisse Leveraged Loans				1.6	2.9	13.0	5.6	5.6	4.4	4.7	4.4	Aug-14
Bank Loan MStar MF Rank				10	9	1	14	11			17	Aug-14
Bank Loan MStar MF Median				1.6	2.9	12.2	4.7	4.9	3.7	4.2	3.8	Aug-14



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
Total Real Estate	79,191,007	9.5	9.5	-3.3	-3.3	-9.9	3.5	3.0	6.4			Jan-89
NCREIF ODCE				-4.8	-4.8	-12.0	4.9	4.2	7.3	7.2	6.9	Jan-89
UBS Trumbull Property Income Fund	10,250,769	1.2	12.9	-2.0	-2.0	-8.1	3.0	2.8	5.3	6.5	6.9	Jan-89
NCREIF ODCE (net)				-5.0	-5.0	-12.7	4.0	3.4	6.3	6.3	5.9	Jan-89
UBS Trumbull Property Fund	2,307,561	0.3	2.9	-4.1	-4.1	-15.7	-1.8	-2.7	2.4	4.6	5.7	Jan-89
NCREIF ODCE (net)				-5.0	-5.0	-12.7	4.0	3.4	6.3	6.3	5.9	Jan-89
JPMCB Strategic Property Fund	9,670,899	1.2	12.2	-4.5	-7.4	-14.3	2.9	2.9			2.9	Jan-19
NCREIF ODCE (net)				-5.0	-5.0	-12.7	4.0	3.4	6.3	6.3	3.4	Jan-19
AEW Partners VII	414,676	0.0	0.5									
Rockwood X	4,718,800	0.6	6.0									
Torchlight Debt Opportunity Fund VI	3,735,149	0.4	4.7									
TerraCap Partners IV (Institutional), L.P.	4,387,099	0.5	5.5									
Rockwood Capital Real Estate Partners Fund XI, L.P.	6,148,335	0.7	7.8									
PRIT General Allocation Real Estate	37,557,719	4.5	47.4	-3.2	-2.4	-5.8					1.2	Jan-22
PRIT Real Estate Benchmark				-1.1	-0.7	-10.9					2.7	Jan-22



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
Private Equity Assets	132,155,586	15.8	15.8									
Adams Street Partners 2010	5,072,749	0.6	3.8									
Goldman Sachs Private Equity Partners 2005	370,229	0.0	0.3									
North American Strategic Partners 2006	28,181	0.0	0.0									
Brookfield Capital Partners IV	2,457,994	0.3	1.9									
PRIT Vintage Year 2001	60,363	0.0	0.0									
PRIT Vintage Year 2002	1,753	0.0	0.0									
Ridgemont Equity Partners II	3,003,795	0.4	2.3									
ΤΑ ΧΙΙ	2,984,698	0.4	2.3									
LLR Equity Partners V	7,247,695	0.9	5.5									
Wellspring Capital Partners VI	6,771,533	0.8	5.1									
Trilantic Capital Partners VI	5,547,488	0.7	4.2									
Brookfield Capital Partners V, L.P.	5,246,399	0.6	4.0									
FS Equity Partners VIII L.P.	6,451,963	0.8	4.9									
Ridgemont Equity Partners III	7,936,920	0.9	6.0									
Searchlight Capital III	4,608,146	0.6	3.5									
Charlesbank Technology Opportunities Fund	8,747,887	1.0	6.6									
LLR Equity Partners VI, L.P	3,264,686	0.4	2.5									
PRIT General Allocation Private Equity State Street PE Index (SSPEI) All PE Excluding PD	62,353,107	7.4	47.2	0.1 -0.1	1.3 <i>-0.1</i>	9.8 5.0				-	2.3 1.4	Jan-22 <i>Jan-22</i>



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
Natural Resources Assets	17,061,523	2.0	2.0									
Hancock Timberland IX	3,887,008	0.5	22.8									
PRIT General Allocation Timberland NCREIF Timberland	11,668,418	1.4	68.4	5.8 <i>4.3</i>	6.2 <i>4.3</i>	9.5 <i>9.5</i>	 10.5	 6.6	 5.8	 7.1	5.2 11.2	Jan-22 <i>Jan-22</i>
Oppenheimer Natural Resources	1,506,097	0.2	8.8									
Infrastructure Assets	13,354,733	1.6	1.6									
IFM Global Infrastructure (U.S.), L.P. <i>CPI+5%</i>	8,878,228	1.1	66.5	1.7 0.3	2.7 0.9	8.4 <i>8.5</i>	11.2 10.9	10.2 <i>9.3</i>	 7.9	 7.7	10.3 <i>9.0</i>	Oct-18 <i>Oct-18</i>
Global Infrastructure Partners IV	4,476,505	0.5	33.5									
Opportunistic Assets	38,144,775	4.6	4.6									
HarbourVest Co-Investment Fund V, L.P.	4,691,918	0.6	12.3									
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	5,011,089	0.6	13.1									
PRIT General Allocation Hedge Funds	28,441,768	3.4	74.6	2.8	5.1	10.6					4.2	Jan-22
HFRI FOF Composite Index				2.3	3.4	6.4	2.1	5.1	3.2	3.3	0.2	Jan-22
Balanced Assets (PRIT General Allocation Fund)	14,950,160	1.8	1.8	3.0	6.2	11.4	6.0	9.3	7.6	7.5	8.3	Apr-90
60% Wilshire 5000 & 40% Barclays Aggregate				4.7	10.0	17.6	4.1	9.9	7.9	7.4	8.6	Apr-90
PRIT General Allocation	14,950,160	1.8	100.0	3.0	6.2	11.4	6.0	9.3	7.6	7.5	8.3	Apr-90
60% Wilshire 5000 & 40% Barclays Aggregate				4.7	10.0	17.6	4.1	9.9	7.9	7.4	8.6	Apr-90
Cash	4,111,226	0.5	0.5									
Cash Account 91 Day T-Bills	3,593,968	0.4	87.4	0.5	1.4	5.0	2.1	1.8	1.2	1.4	1.4	Jan-02
PRIM Cash Account	517,258	0.1	12.6									



Cash Flow Summary									
	Beginning Market Value	Contributions	Withdrawals	Net Investment Change	Ending Market Value	Month Return			
Acadian Emerging Markets Small Cap	\$11,119,831	\$0	-\$11,267,227	\$147,396					
Adams Street Partners 2010	\$5,300,362	\$0	\$0	-\$227,613	\$5,072,749	-4.29%			
AEW Partners VII	\$426,436	\$0	\$0	-\$11,760	\$414,676	-2.76%			
Axiom International Small Cap Equity	\$10,760,943	\$0	-\$7,499	\$494,979	\$11,248,424	4.53%			
Beach Point Loan Fund	\$8,957,161	\$0	-\$3,804	\$177,026	\$9,130,382	1.93%			
Brookfield Capital Partners IV	\$2,670,704	\$0	-\$181,495	-\$31,215	\$2,457,994	-1.17%			
Brookfield Capital Partners V, L.P.	\$5,143,012	\$0	-\$33,866	\$137,253	\$5,246,399	2.67%			
Brown Small Cap Fundamental Value	\$17,567,655	\$0	-\$17,651	\$1,705,749	\$19,255,753	9.51%			
Cash Account	\$3,504,390	\$89,578	\$0	\$0	\$3,593,968	0.00%			
Cedar Street Emerging Markets Value Fund	\$0	\$11,267,227	\$0	\$255,019	\$11,522,246				
Charlesbank Technology Opportunities Fund	\$8,036,726	\$0	\$0	\$711,161	\$8,747,887	8.85%			
Columbia High Yield	\$12,348,168	\$0	-\$4,363	\$426,620	\$12,770,425	3.42%			
Driehaus Emerging Markets Growth	\$37,818,560	\$0	\$0	\$1,074,015	\$38,892,575	2.84%			
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	\$4,766,089	\$245,000	\$0	\$0	\$5,011,089	0.00%			
FS Equity Partners VIII L.P.	\$6,494,531	\$49,605	\$0	-\$92,173	\$6,451,963	-1.42%			
Global Infrastructure Partners IV	\$4,373,217	\$0	\$0	\$103,288	\$4,476,505	2.36%			
Goldman Sachs Private Equity Partners 2005	\$433,997	\$0	-\$63,768	\$0	\$370,229	0.00%			
Hancock Timberland IX	\$3,918,403	\$0	\$0	-\$31,395	\$3,887,008	-0.80%			
HarbourVest Co-Investment Fund V, L.P.	\$4,793,411	\$0	\$0	-\$101,493	\$4,691,918	-2.12%			
IFM Global Infrastructure (U.S.), L.P.	\$8,726,381	\$0	\$0	\$151,847	\$8,878,228	1.74%			
JPMCB Strategic Property Fund	\$10,124,525	\$0	\$0	-\$453,626	\$9,670,899	-4.48%			
LLR Equity Partners V	\$6,899,112	\$0	\$0	\$348,583	\$7,247,695	5.05%			
LLR Equity Partners VI, L.P	\$3,190,596	\$0	\$0	\$74,090	\$3,264,686	2.32%			
Loomis Sayles High Yield Conservative	\$12,078,719	\$0	-\$4,720	\$511,963	\$12,585,961	4.16%			



	Beginning Market Value	Contributions	Withdrawals	Net Investment Change	Ending Market Value	Month Return
North American Strategic Partners 2006	\$28,181	\$0	\$0	\$0	\$28,181	0.00%
Oppenheimer Natural Resources	\$1,506,097	\$0	\$0	\$0	\$1,506,097	0.00%
PRIM Cash Account	\$3,020,627	\$1,979,373	-\$4,500,000	\$17,258	\$517,258	0.59%
PRIT Core Fixed Income	\$24,672,126	\$0	-\$2,377	\$1,261,652	\$25,931,400	5.10%
PRIT General Allocation	\$14,946,457	\$0	-\$1,979,374	\$1,983,077	\$14,950,160	3.00%
PRIT General Allocation Core FI	\$47,330,446	\$0	\$0	\$2,260,329	\$49,590,775	5.10%
PRIT General Allocation Domestic Equity	\$83,628,984	\$0	\$0	\$4,248,786	\$87,877,770	5.40%
PRIT General Allocation EME	\$15,658,193	\$0	\$0	\$385,881	\$16,044,074	4.61%
PRIT General Allocation Hedge Funds	\$27,401,837	\$0	\$0	\$1,039,931	\$28,441,768	2.83%
PRIT General Allocation Int. Equity	\$37,366,142	\$0	\$0	\$2,014,768	\$39,380,910	5.82%
PRIT General Allocation Private Equity	\$62,988,639	\$0	\$0	-\$635,532	\$62,353,107	0.12%
PRIT General Allocation Real Estate	\$39,145,482	\$0	\$0	-\$1,587,763	\$37,557,719	-3.19%
PRIT General Allocation Timberland	\$11,031,909	\$0	\$0	\$636,509	\$11,668,418	5.77%
PRIT General Allocation Value Added FI	\$16,369,929	\$0	\$0	\$403,422	\$16,773,350	2.80%
PRIT Vintage Year 2001	\$60,135	\$1	\$0	\$227	\$60,363	0.38%
PRIT Vintage Year 2002	\$1,745	\$0	\$0	\$7	\$1,753	0.42%
Rhumbline QSI Index	\$32,593,843	\$0	-\$2,013	\$1,908,852	\$34,500,683	5.85%
RhumbLine Russell 1000 Growth Index	\$27,584,914	\$0	-\$1,620	\$1,221,337	\$28,804,630	4.42%
RhumbLine Russell 1000 Value Index	\$27,768,789	\$0	-\$1,648	\$1,535,635	\$29,302,776	5.52%
Ridgemont Equity Partners II	\$2,948,127	\$156,629	\$0	-\$100,961	\$3,003,795	-3.42%
Ridgemont Equity Partners III	\$8,124,847	\$180,027	\$0	-\$367,953	\$7,936,920	-4.53%
Rockwood Capital Real Estate Partners Fund XI, L.P.	\$6,338,720	\$0	\$0	-\$190,385	\$6,148,335	-3.00%
Rockwood X	\$5,202,463	\$0	\$0	-\$483,663	\$4,718,800	-9.30%
Searchlight Capital III	\$4,296,594	\$476,547	\$0	-\$164,995	\$4,608,146	-3.83%
SSgA MSCI EAFE Index	\$42,126,242	\$0	-\$3,697	\$2,245,792	\$44,368,337	5.31%
SSgA TIPS Index	\$28,041,320	\$0	-\$1,438	\$713,520	\$28,753,402	2.54%



	Beginning Market Value	Contributions	Withdrawals	Net Investment Change	Ending Market Value	Month Return
SSgA U.S. Aggregate Bond Index-NL	\$20,616,205	\$0	-\$1,069	\$772,792	\$21,387,928	3.74%
ΤΑ ΧΙΙ	\$3,052,104	\$0	\$0	-\$67,406	\$2,984,698	-2.21%
TerraCap Partners IV (Institutional), L.P.	\$4,398,602	\$0	\$0	-\$11,503	\$4,387,099	-0.26%
Torchlight Debt Opportunity Fund VI	\$3,729,783	\$0	\$0	\$5,366	\$3,735,149	0.14%
Trilantic Capital Partners VI	\$5,591,842	\$0	\$0	-\$44,354	\$5,547,488	-0.79%
UBS Trumbull Property Fund	\$2,459,221	\$0	-\$55,629	-\$96,031	\$2,307,561	-4.14%
UBS Trumbull Property Income Fund	\$10,460,140	\$0	-\$25,099	-\$184,271	\$10,250,769	-2.00%
Wellspring Capital Partners VI	\$6,702,776	\$73,691	\$0	-\$4,934	\$6,771,533	-0.07%
Total	\$816,646,386	\$14,517,678	-\$18,158,358	\$24,085,105	\$837,090,812	



#### Real Estate and PE Managers

#### Private Market Managers' Performance Overview<sup>1</sup>

	<b>Charle and</b>	Vintage	Commitment Amount	%	Median Peer	Quartile	Net	Net
Managers	Strategy	Year	(\$mm)	Called	IRR	Rank	IRR	Multiple
Real Estate Managers								
AEW Partners VII	Opportunistic	2013	5.0	93%	13.0	4	10.4%	NA
Rockwood X	Value-Added	2016	10.0	94%	17.6	4	3.5%	1.1x
Torchlight Debt Opportunity Fund VI	Opportunistic	2017	5.0	100%	16.1	3	8.1%	1.3x
TerraCap Partners IV	Value-Added	2017	5.0	100%	15.4	4	9.9%	NA
Rockwood XI	Value-Added	2019	8.0	68%	11.6	3	6.7%	1.1x
Private Equity Managers								
Adams Street Partners	Fund of Funds	2010	10.0	90%	12.5	2	14.4	2.2x
Goldman Sachs PE Partners	Fund of Funds	2005	10.0	100%	7.2	NA	NA	NA
North American Strategic Partners	Fund of Funds	2006	9.1	96%	6.4	NA	NA	NA
PRIT Vintage Year 2001	Fund of Funds	2001	2.5	NA	10.0	NA	NA	NA
PRIT Vintage Year 2002	Fund of Funds	2002	0.5	NA	7.9	NA	NA	NA
Brookfield Capital Partners IV	Buyout	2015	4.0	95%	21.0	1	40.9%	2.5x
LLR Equity Partners V	Buyout	2017	5.0	84%	21.0	3	19.6%	1.8x
Ridgemont Equity Partners II	Buyout	2015	6.0	76%	21.0	3	18.8%	2.0x

<sup>&</sup>lt;sup>1</sup>As of 6/30/2023.

<sup>2</sup> NM indicates that a fund is early in its investment period; therefore, the return is not yet meaningful. NA indicates that the relevant data is not available at the time of report generation.



#### **Real Estate and PE Managers**

Managers	Strategy	Vintage Year	Commitment Amount (\$mm)	% Called	Median Peer IRR	Quartile Rank	Net IRR	Net Multiple
ΤΑ ΧΙΙ	Growth Equity	2016	4.0	99%	19.2	2	36.4%	3.0x
Wellspring VI	Buyout	2017	5.0	89%	21.0	3	19.2%	1.6x
Trilantic Capital Partners VI	Buyout	2018	5.0	89%	22.7	4	14.9%	1.4x
Brookfield Capital Partners V	Buyout	2019	4.0	88%	21.1	3	16.7%	1.4x
FS Equity Partners VIII	Buyout	2019	5.0	81%	21.1	2	23.5%	1.6x
Ridgemont Equity Partners III	Buyout	2019	6.0	82%	21.1	1	36.3%	1.8x
Searchlight Capital III	Special Situations	2020	5.0	62%	11.6	NM	NM	1.0x
Charlesbank Technology Opportunities	Buyout	2019	5.0	60%	21.1	1	60.9%	2.3x
LLR Equity Partners VI	Buyout	2020	4.0	78%	13.9	NM	NM	NM
Opportunistic Managers								
HarbourVest Co-Investment Fund V	Opportunistic	2019	4.0	78%	NA	NA	23.0%	1.8x
EnTrustPermal Spec. Opps. Evergreen Fund	Opportunistic	2020	6.0	87%	NM	NM	NM	NM
Infrastructure Managers								
Global Infrastructure Partners IV	Value-Added	2019	5.0	72%				
Natural Resources Managers								
Hancock Timberland	Timber	2008	8.0	100%			0.7%	1.1x
Oppenheimer Natural Resources	Natural Resources	2010	7.0	100%			-2.2%	NA

# Private Market Managers' Performance Overview (con't)<sup>1</sup>

<sup>2</sup>NM indicates that a fund is early in its investment period; therefore, the return is not yet meaningful. NA indicates that the relevant data is not available at the time of report generation.

<sup>&</sup>lt;sup>1</sup>As of 6/30/2023.

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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 is 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%.

5% (discount)=1% pro rata, plus=5 (yrs. to maturity)5.26% (current yield)=

= 6.26% (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.