

# City of Quincy Retirement System

May 31, 2023

Interim Update

## Agenda

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

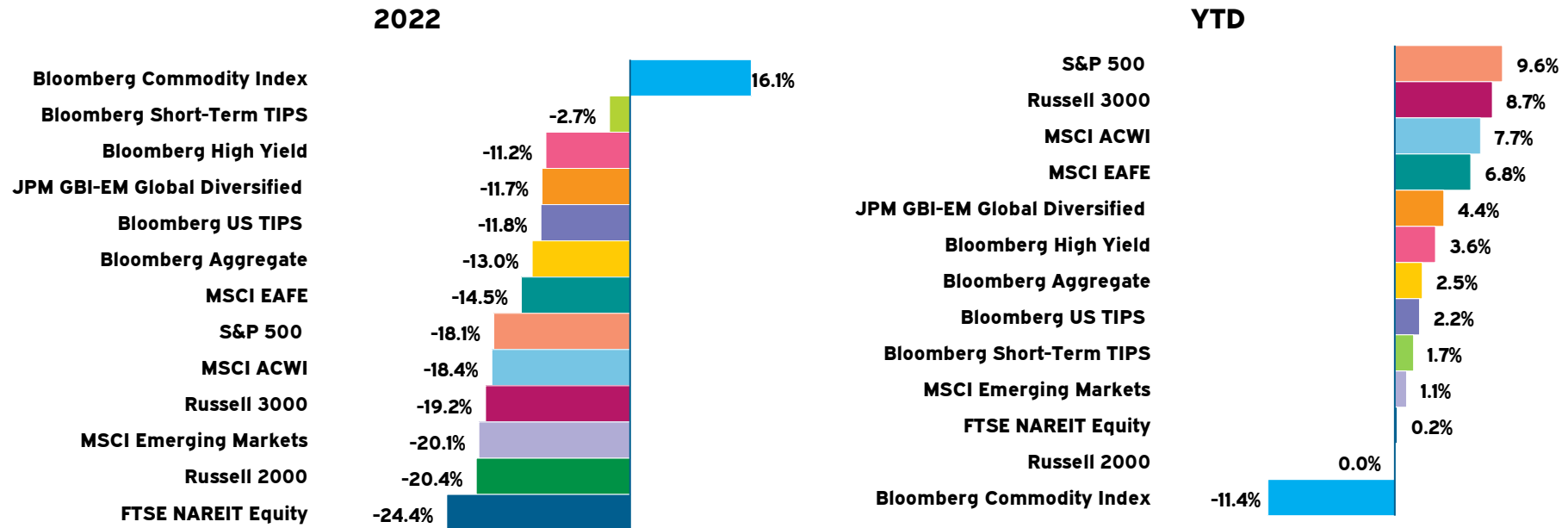
## **Executive Summary**

**Economic and Market Update**  
Data as of May 31, 2023

### Commentary

- Asset returns were mixed in May with US stocks posting modest gains, while non-US equity markets and fixed income declined. Except for commodities, most public market asset classes remain up for the year.
- Debt ceiling issues continued to hang over the markets in May particularly weighing on short-term interest rates. Shortly after the end of the month a deal was reached.
  - In May, the Fed increased interest rates for the tenth time, to a range of 5.0% - 5.25%. They decided to hold rates steady at the June meeting but hinted that further rate hikes could come at upcoming meetings.
  - US equity markets (Russell 3000) rose in May (+0.4%) adding to YTD gains (+8.7%). Some of the largest technology names drove positive results. Growth stocks continued to outpace value stocks, particularly in the large cap space.
  - Non-US developed equity markets declined in May (MSCI EAFE -4.2%) falling behind US equities in 2023 (+6.8% versus +8.7%). A strengthening US dollar weighed on results, as declines in local currency terms were better, at -1.6%.
  - Emerging market equities fell in May (-1.7%) driven by declines in China (-8.4%). They significantly trail developed market equities YTD returning +1.1%, due partly to higher US-China tensions.
  - Rates generally rose in May leading to bond markets declining, with the broad US bond market (Bloomberg Aggregate) falling 1.1% for the month. It remains positive (+2.5%) year-to-date, though, on declining inflation and expectations for the Fed to end their rate hikes soon.
- This year, the paths of inflation and monetary policy, slowing global growth and the war in Ukraine will all be key.

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



→ After a particularly difficult 2022, most public market assets are up thus far in 2023, building on gains from the fourth quarter of last year.

→ Risk sentiment has been supported by expectations that policy tightening could be ending soon, as inflation continues to fall, and growth has slowed.

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

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

Domestic Equity	May (%)	Q1 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	0.4	7.5	9.6	2.9	12.9	11.0	12.0
Russell 3000	0.4	7.2	8.7	2.0	12.2	10.1	11.4
Russell 1000	0.5	7.5	9.3	2.4	12.4	10.6	11.7
Russell 1000 Growth	4.6	14.4	20.8	9.5	12.8	13.8	14.8
Russell 1000 Value	-3.9	1.0	-1.4	-4.5	11.6	6.8	8.4
Russell MidCap	-2.8	4.1	0.6	-4.5	10.2	6.9	9.3
Russell MidCap Growth	0.1	9.1	7.6	5.8	5.8	8.2	10.6
Russell MidCap Value	-4.4	1.3	-3.2	-9.5	12.3	5.2	8.0
Russell 2000	-0.9	2.7	0.0	-4.7	9.2	2.7	7.4
Russell 2000 Growth	0.0	6.1	4.9	2.7	4.6	2.7	7.9
Russell 2000 Value	-2.0	-0.7	-5.0	-11.5	13.6	2.1	6.4

#### US Equities: Russell 3000 Index rose 0.4% in May and 8.7% YTD.

- US stocks rose slightly in May, as equity investors navigated Fed policy expectations and the debt ceiling debate, bringing year-to-date gains just shy of 9.0%.
- There was wide disparity in equity sector returns for the month, with artificial intelligence optimism fueling large gains in the technology sector and concerns over potentially weaker demand weighing on energy and materials.
- Large cap stocks continue to outperform small cap stocks. This dynamic has been driven by the heavily weighted growth names in the large cap index. Growth stocks also continue to outperform value stocks, which, in the small cap space, has been led by the outperformance of semiconductor-related stocks.

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

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

Foreign Equity	May (%)	Q1 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-3.6	6.9	4.8	-1.4	7.2	2.2	3.8
MSCI EAFE	-4.2	8.5	6.8	3.1	8.5	3.2	4.6
MSCI EAFE (Local Currency)	-1.6	7.5	8.2	6.2	11.4	5.6	6.9
MSCI EAFE Small Cap	-4.2	4.9	2.6	-4.7	5.2	0.3	5.5
MSCI Emerging Markets	-1.7	4.0	1.1	-8.5	3.5	-0.7	1.9
MSCI Emerging Markets (Local Currency)	-1.0	3.8	2.0	-4.7	4.9	1.8	4.8
MSCI China	-8.4	4.7	-9.1	-14.7	-8.8	-7.0	1.9

**Foreign Equity: Developed international equities (MSCI EAFE) fell 4.2% in May bringing the YTD results down to +6.8%. Emerging market equities (MSCI EM) also declined 1.7% for the month, dropping the YTD results to +1.1%.**

- As US equities rose in May, non-US equities fell. This led to developed markets (MSCI EAFE) now trailing US equities for the year (6.8% versus 8.7%) and the gap between US and emerging market equities (MSCI Emerging Markets) widening (2.6% versus 8.7%).
- Euro and UK equity markets were weak after both the ECB and the Bank of England delivered rate hikes in May and continued to signal further tightening. Equities in Japan continued strong though, as investors remain optimistic that Japan may finally emerge from decades of stagflation. A strengthening US dollar also depressed results in developed market equities.
- China continued to weigh on emerging market equities, declining 8.4% in May, as the recovery showed signs of slowing and economic data came in weak including retail sales, industrial production, and exports.

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



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

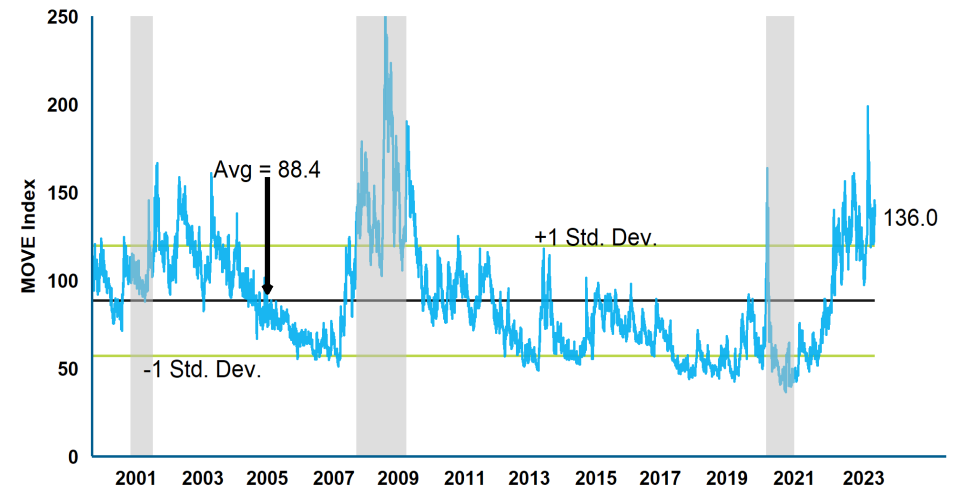
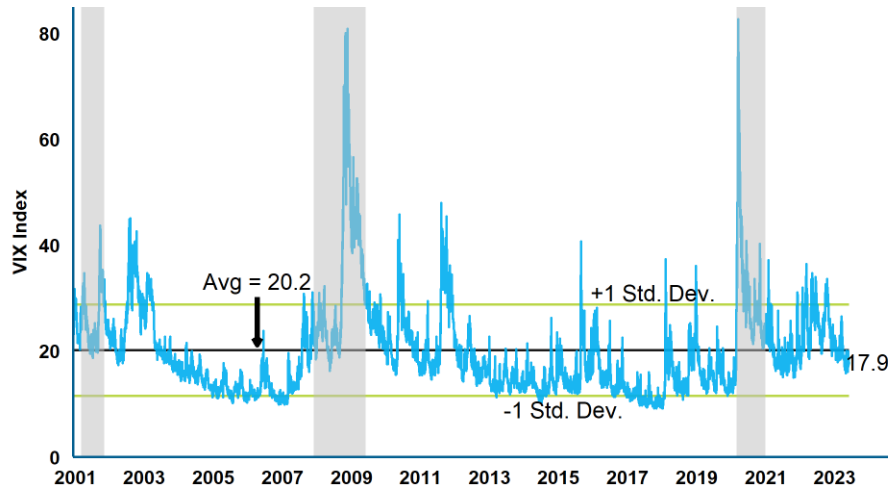
Fixed Income	May (%)	Q1 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-1.0	2.9	2.5	-1.9	-3.1	1.0	1.6	5.0	6.3
Bloomberg Aggregate	-1.1	3.0	2.5	-2.1	-3.6	0.8	1.4	4.6	6.5
Bloomberg US TIPS	-1.2	3.3	2.2	-4.2	0.4	2.6	1.7	4.3	6.9
Bloomberg Short-term TIPS	-0.7	2.2	1.7	-1.2	2.7	2.8	1.6	4.9	2.6
Bloomberg High Yield	-0.9	3.6	3.6	0.0	2.9	3.1	4.0	8.8	4.1
JPM GBI-EM Global Diversified (USD)	-1.6	5.2	4.4	3.1	-2.3	-0.9	-1.3	6.9	5.0

**Fixed Income: The Bloomberg Universal declined 1.0% in May as global sovereign debt yields generally rose. Bonds retained a positive start to the year (+2.5% YTD) though as inflation continues to decline.**

- Market uncertainty resumed in May, leading to fixed income declines as the debt ceiling deadline loomed and better-than-expected employment data pushed up policy rate expectations.
- The TIPS index and the short-term TIPS index posted negative returns for the month with the short-term TIPS index outperforming the overall US bond market (Bloomberg Aggregate) and the broader TIPS index slightly trailing.
- High yield bonds (-0.9%) sold off in May but also outperformed the broad US bond market (Bloomberg Aggregate). Emerging market bonds (-1.6%) were the worst performers for the month.

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

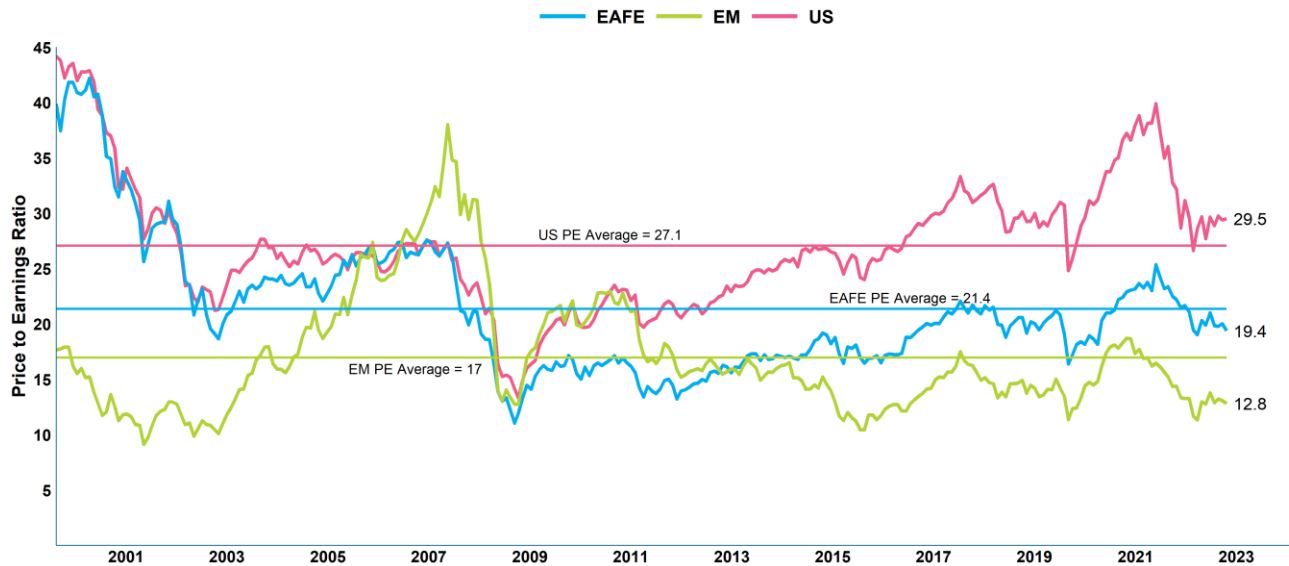
### Equity and Fixed Income Volatility<sup>1</sup>



- Volatility in equities (VIX) rose slightly in May but remains low as investors continue to anticipate the end of the Fed's policy tightening.
- In comparison, the bond market remains on edge after last year's historic losses and continued volatility in interest rates this year due to policy uncertainty and issues in the banking sector. The MOVE (fixed income volatility) remains well above (136.0) its long-run average (88.4), but off its recent peak during the heart of the banking crises.

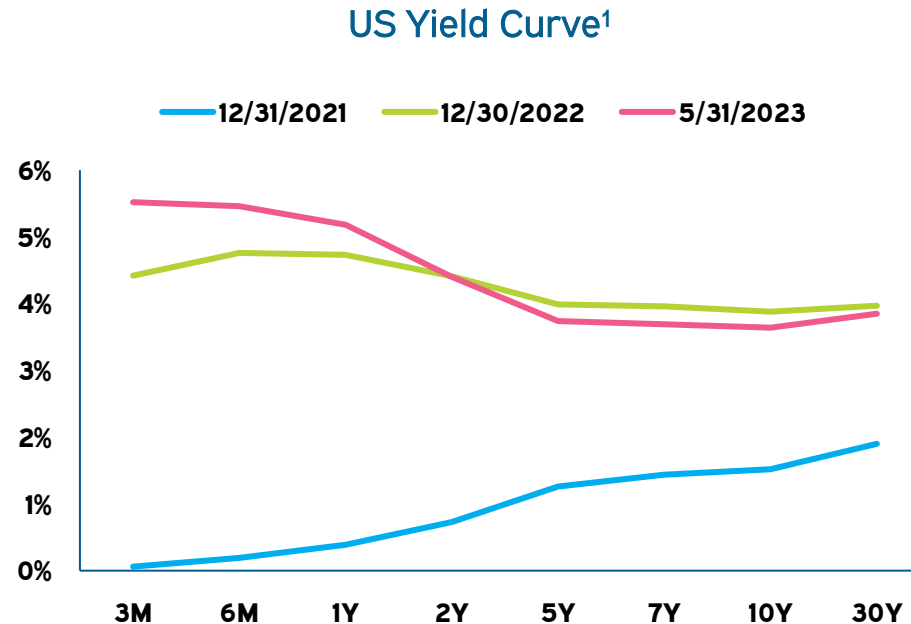
<sup>1</sup> Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of May 2023. The average line indicated is the average of the VIX and MOVE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

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



- After its dramatic decline last year the US equity price-to-earnings ratio remains above its long-run (21st century) average.
- International developed market valuations are below their own long-term average, with those for emerging markets the lowest and well under the long-term average.

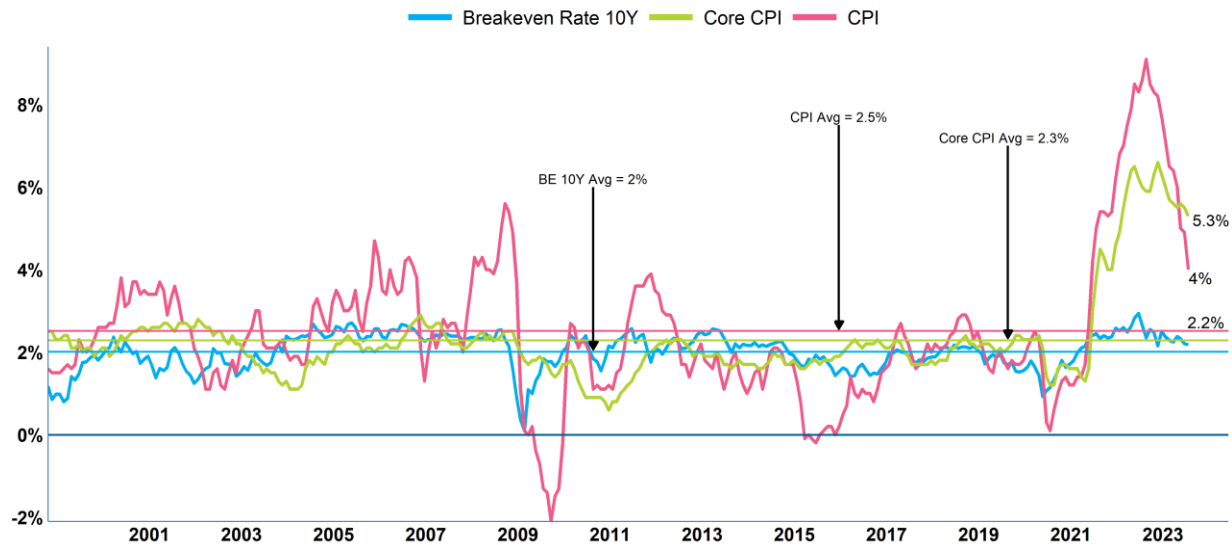
<sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly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



- Interest rates have declined this year for longer-dated maturities given ongoing improvements in inflation-related risks and signs policy makers are nearing their terminal policy rate for this cycle. Shorter-dated yields have increased though, driven by debt ceiling concerns.
- During May, interest rates rose across the yield curve particularly at the very front-end (< 3 months) as the debt ceiling debate continued. Maturities from two years out also drifted higher as market participants considered the possibility of additional policy rate increases as economic data remains strong.
- The yield curve remains inverted with the spread between two-year and ten-year Treasuries finishing the month at -0.75%. The more closely watched measure (by the Fed) of the three-month and ten-year Treasuries spread also remained inverted at -1.76%. Inversions in the yield curve have often preceded recessions.

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

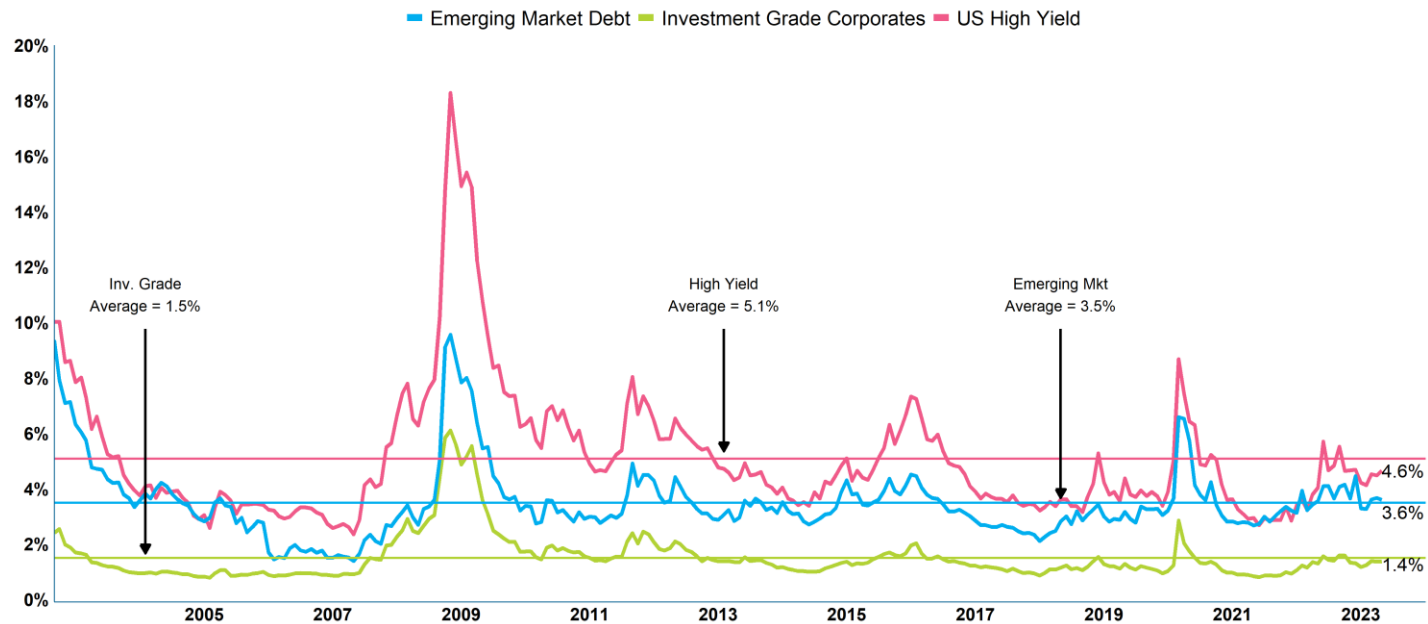
**Ten-Year Breakeven Inflation and CPI<sup>1</sup>**



- Headline inflation continued to decline in May, with the year-over-year reading falling from 4.9% to 4.0% and coming in slightly below estimates. The month-over-month rate of price increases also fell (0.1% versus 0.4%), with food prices ticking up slightly (0.2%) and energy prices declining (-3.6%).
- Core inflation – excluding food and energy - fell (5.5% to 5.3%), coming in slightly above forecasts. It remains stubbornly high driven by shelter costs.
- Inflation expectations (breakevens) remain well below current inflation as investors continue to expect inflation to track back toward the Fed’s 2% average target.

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

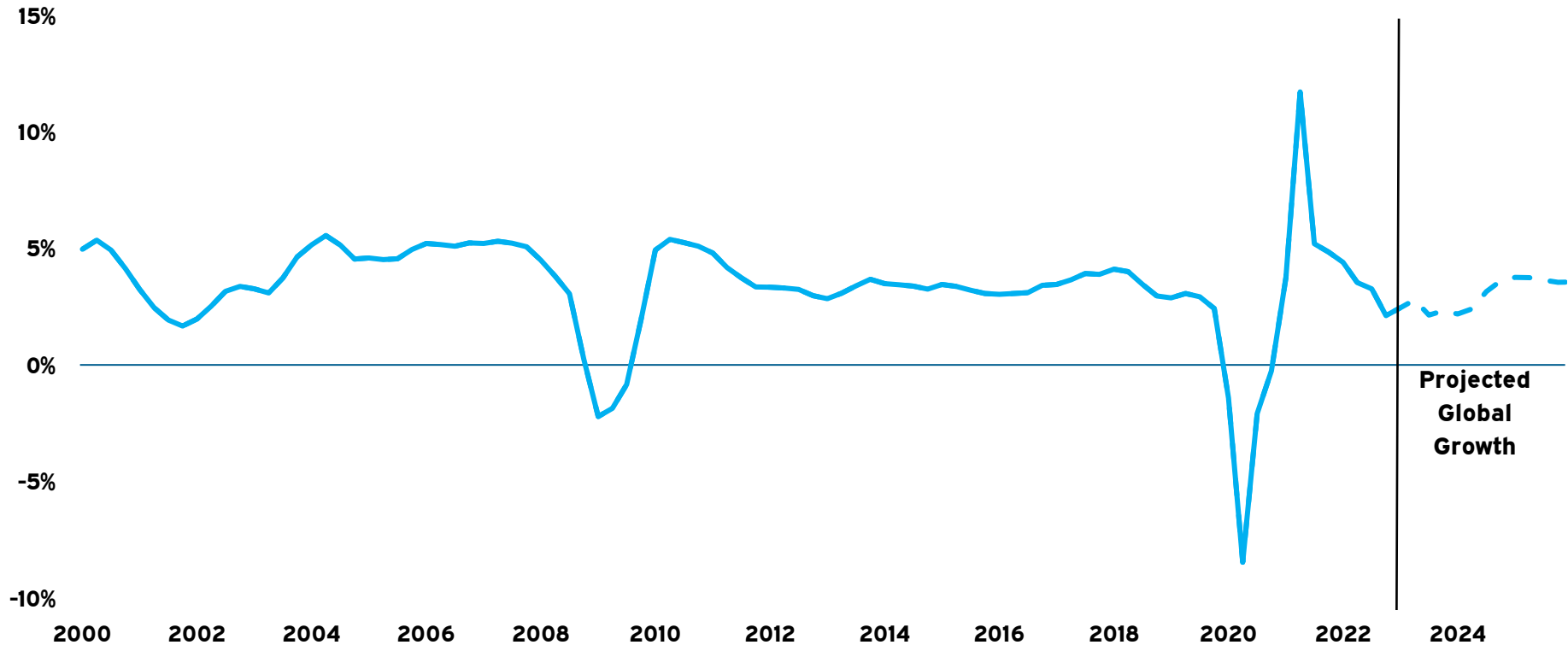
**Credit Spreads vs. US Treasury Bonds<sup>1</sup>**



- Spreads (the added yield above a comparable maturity Treasury) were relatively stable in May as government and corporate bonds both declined.
- High yield spreads remain below their long-term average. Investment grade spreads and emerging market spreads are narrower than high yield spreads and close to their respective long-term averages.

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

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

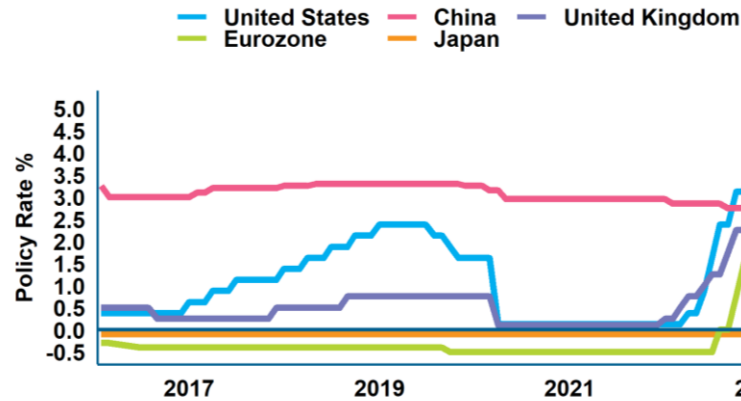


- Global economies are expected to slow this year compared to 2022, with risks of recession as the impacts of policymakers’ aggressive tightening to fight inflation flow through economies.
- The delicate balancing act of central banks trying to reduce inflation without dramatically depressing growth will remain key.

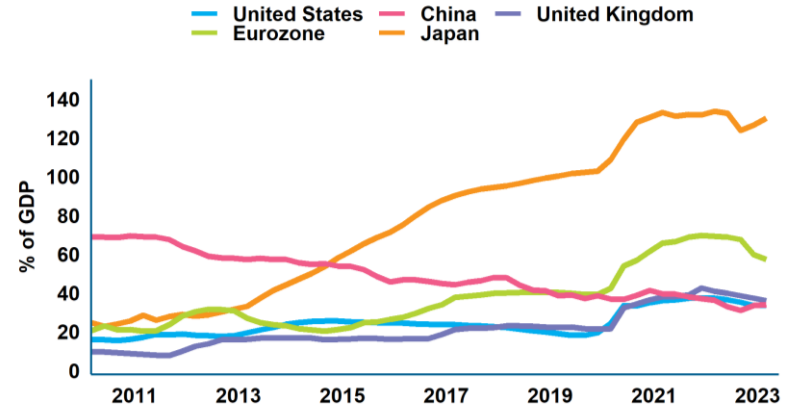
<sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, real, % change YoY). Updated May 2023.

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

#### Policy Rates



#### Balance Sheet as % of GDP

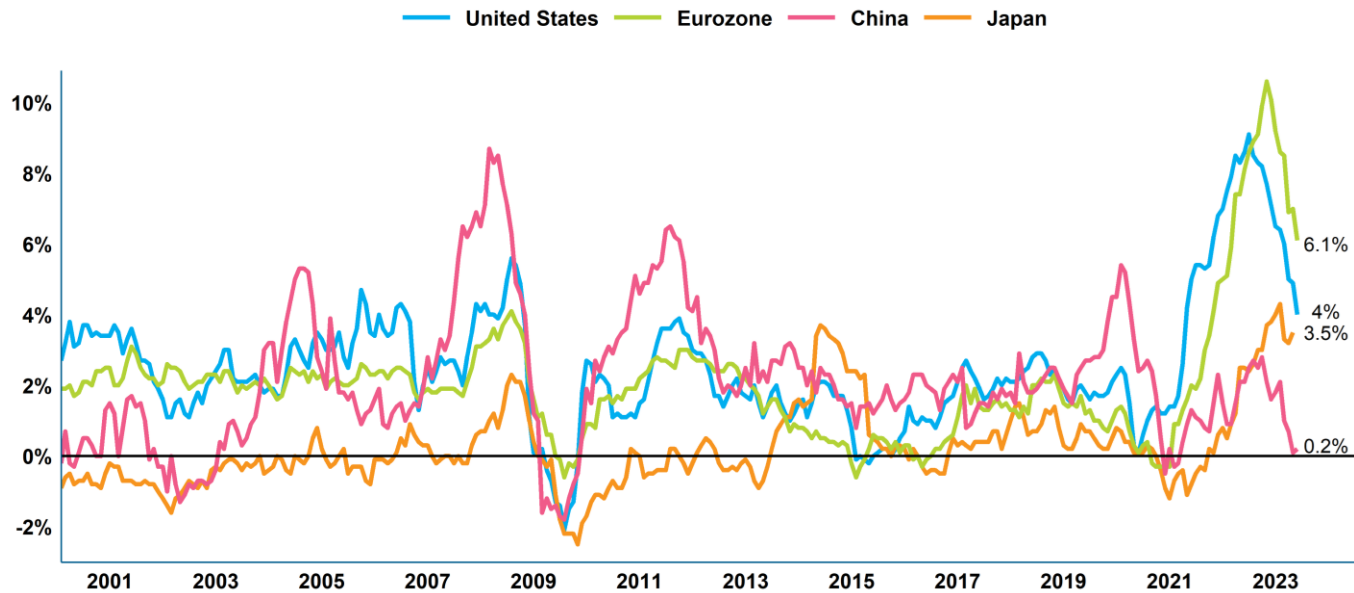


- In 2022, many central banks aggressively reduced pandemic-era policy support in the face of high inflation, with the US taking the most aggressive approach. Slowing inflation and growth have led to expectations for reductions in policy tightening going forward.
- The Fed remained committed to fighting inflation despite pressures in the banking sector, raising rates another 25 basis points to a range of 5.0% to 5.25% at its May meeting. After month-end, the FOMC paused its tightening campaign but hinted that one or two additional rate hikes could come later this year.
- In China, the central bank has continued to cut interest rates and inject liquidity into the banking system, as weaker than expected economic data appears to indicate a widespread slowdown.
- Looking ahead, the risk remains for a policy error as central banks attempt to balance multiple goals, bringing down inflation, maintaining financial stability, and supporting growth.

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



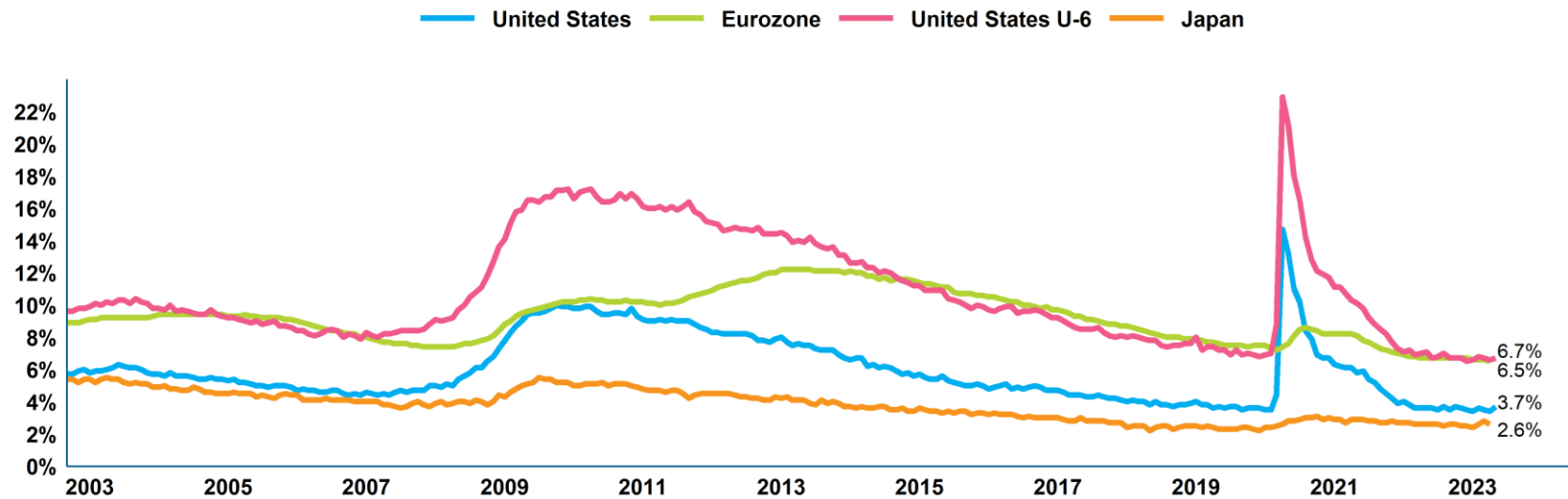
**Inflation (CPI Trailing Twelve Months)<sup>1</sup>**



- Inflation pressures continued to decline globally due to the easing of supply chain issues from the pandemic, declining energy prices, and tighter monetary policy.
- In the US, inflation fell to 4.0% at month-end, while eurozone inflation also fell (6.1% from 7.0%) a level well off its peak. Despite 2023's significant declines in the US and Europe, inflation levels remain elevated compared to central bank targets.
- Inflation remains lower in China and Japan. In Japan inflation reaccelerated in April. In China, inflation levels were only slightly above 0% at month-end as the reopening of their economy has led to an uneven economic recovery.

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

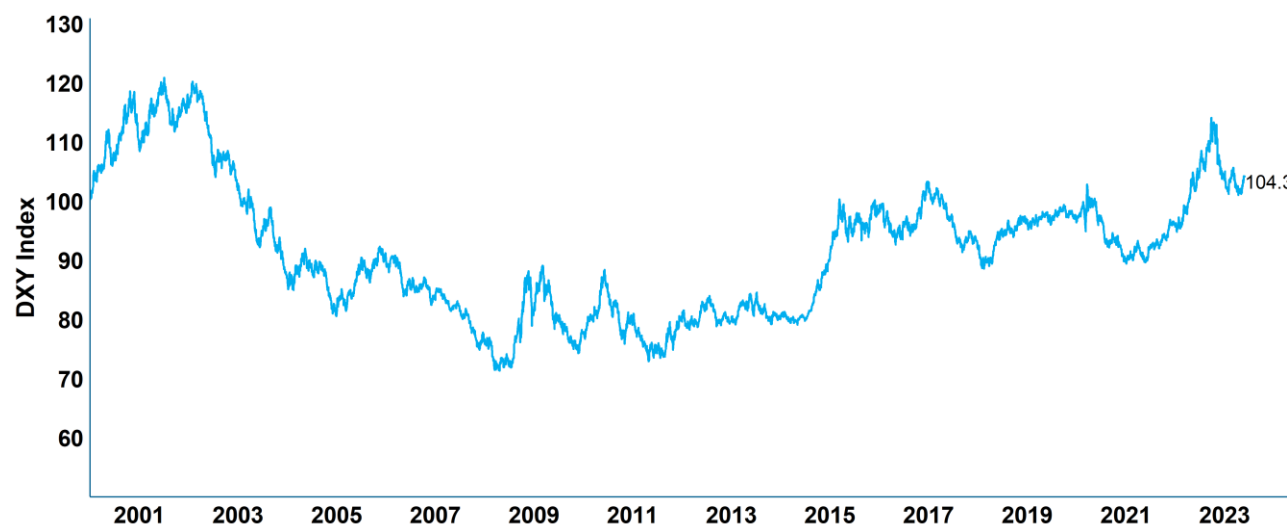
### Unemployment<sup>1</sup>



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

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

### US Dollar versus Broad Currencies<sup>1</sup>



- The dollar finished 2022 much higher than it started, due to the increased pace of policy tightening, stronger relative growth, and safe-haven flows.
- Late last year and into this year, the dollar declined, as weaker economic data and lower inflation led to investors anticipating the end of Fed tightening. In May, we did see a slight strengthening in the dollar though.
- This year, the track of inflation across economies and the corresponding monetary policies will be key drivers of currency moves.

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

## Summary

### Key Trends:

- The impacts of still relatively high inflation will remain key, with bond market volatility likely to stay high.
- Recent issues related to the banking sector seem to have subsided for now but are a reminder that there is a delicate balance for central banks to continue to fight inflation but also to try to maintain financial stability.
- Global monetary policies could diverge in 2023. The risk of policy errors remains elevated as central banks try to reduce persistent inflation while not tipping their economies into recession.
- Growth is expected to slow globally this year, with many economies forecast to tip into recession. Inflation, monetary policy, and the war will all be key.
- In the US, consumers could feel pressure as certain components of inflation remain high (e.g., shelter), borrowing cost are elevated, and the job market may weaken.
- The key for US equities going forward will be whether earnings can remain resilient if growth continues to slow.
- Equity valuations remain lower in both emerging and developed markets, but risks remain, including potential continued strength in the US dollar, higher inflation weighing particularly on Europe, and China's sluggish economic reopening and on-going weakness in the real estate sector.

## Manager Highlights

### Brown Small Cap Fundamental Value

- Brown lagged its benchmark by 0.7% in May, posting a return of -2.7% vs the benchmark's -2.0%.
- The portfolio's underweight to healthcare was a detractor to performance when compared to the Russell 2000 Value index since healthcare performed relatively well during May.
  - Similar to Q1, value stocks trailed their growth counterparts during the month.
  - Stock selection within our consumer discretionary and information technology holdings added to performance but was offset by some media holdings within the communication services sector.
- Since inception, Brown has returned 6.2%, trailing the Russell 2000 Value index by 0.4%, net of fees, over that period.

### Loomis Sayles High Yield

- Loomis underperformed its benchmark by 0.6% in May, posting a return of -1.5% vs the benchmark's -0.9%.
- Underperformance was driven primarily by security selection while sector allocation weighed on performance slightly throughout the month. High yield credit, emerging market credit, and equity sectors were the main detractors.
  - The allocation to high yield credit limited performance for the month. On an absolute basis, performance in the sector had the greatest negative impact in the strategy. Exposure to securities issued by CSC Holdings detracted the most from performance.
  - Our overweight exposure within emerging market credit, particularly in Dutch names and exposure to equity detracted from performance for the month.
- Since inception, Loomis has returned 4.3%, lagging the benchmark by 0.7%, net of fees, over that period.

### Axiom International Small Cap Equity

→ Axiom beat its benchmark in May, returning -3.4% vs. the benchmark -4.4%.

- Real estate and materials sectors were the largest relative contributors for the one-month period.
- Key contributors in Europe ex UK were Dutch semiconductor equipment maker ASM International, on improving sentiment towards semiconductor names after Nvidia's positive comments on AI, Italian auto parts company Brembo on positive news on auto recovery, and CTS Eventim, a Germany based European ticketing and live entertainment company.

→ Since inception, Axiom has returned 6.6%, trailing the benchmark's 7.7% return, net of fees, over that period

### Acadian Emerging Markets Small Cap

→ Acadian outperformed its benchmark by 0.3% in May, posting a return of 1.4% vs the benchmark's 1.1%.

- Key sources of positive active return included a combination of stock selection and an overweight position in Taiwan, stock selection in China, and a combination of stock selection and an underweight position in South Africa.
- From a sector perspective, key sources of positive active return included a combination of stock selection and an overweight position in information technology, a combination of stock selection and an underweight position in health care, and a combination of stock selection and an underweight position in consumer staples.

→ Since inception, Acadian has returned 6.4%, well outpacing the benchmark's 3.3% return, net of fees, over that period.

**Interim Update  
As of May 31, 2023**



Allocation vs. Targets and Policy				
	Current Balance	Current Allocation	Policy	Policy Range
US Equity	\$178,884,116	22%	24%	19% - 29%
Developed Market Equity	\$94,175,011	12%	13%	8% - 18%
Emerging Market Equity	\$60,269,256	8%	12%	7% - 17%
Investment Grade Bonds	\$71,184,083	9%	5%	2% - 8%
Long-Term Government Bonds	\$25,475,433	3%	7%	2% - 12%
TIPS	\$15,921,007	2%	4%	1% - 7%
Emerging Market Bonds	--	--	2%	0% - 4%
High Yield Bonds	\$39,619,690	5%	6%	3% - 9%
Bank Loans	\$8,308,394	1%	2%	0% - 4%
Private Equity	\$132,968,739	17%	10%	5% - 15%
Real Estate	\$84,770,693	11%	10%	5% - 15%
Natural Resources	\$17,440,005	2%	3%	0% - 6%
Infrastructure	\$12,495,635	2%	2%	0% - 5%
Opportunistic	\$36,007,576	4%	0%	0% - 5%
Balanced Assets	\$15,386,511	2%	--	--
Cash	\$7,719,519	1%	0%	0% - 5%
<b>Total</b>	<b>\$800,625,668</b>	<b>100%</b>	<b>100%</b>	
	Current Balance	Current Allocation	Policy	Policy Range
Total Equity Including PE	\$466,297,122	58%	59%	--
Total Fixed Income	\$160,508,607	20%	26%	--
Real Assets	\$114,706,333	14%	15%	--
Other	\$59,113,606	8%	0%	--

Asset Class Performance Summary												
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
<b>Total Retirement System (gross)</b>	<b>800,625,668</b>	<b>100.0</b>	<b>-0.8</b>	<b>-0.2</b>	<b>3.7</b>	<b>-0.3</b>	<b>9.1</b>	<b>6.9</b>	<b>6.9</b>	<b>6.8</b>	<b>8.1</b>	<b>Jan-89</b>
<b>Total Retirement System</b>			<b>-0.8</b>	<b>-0.2</b>	<b>3.6</b>	<b>-0.3</b>	<b>8.9</b>	<b>6.7</b>	<b>6.7</b>	<b>6.6</b>	<b>7.8</b>	
<b>Domestic Equity Assets</b>	<b>178,884,116</b>	<b>22.3</b>	<b>-0.5</b>	<b>0.5</b>	<b>6.2</b>	<b>1.0</b>	<b>12.2</b>	<b>9.2</b>	<b>10.8</b>	<b>9.5</b>	<b>9.7</b>	<b>Jul-93</b>
<i>Russell 3000</i>			<i>0.4</i>	<i>1.5</i>	<i>8.7</i>	<i>2.0</i>	<i>12.2</i>	<i>10.1</i>	<i>11.5</i>	<i>9.8</i>	<i>9.7</i>	<i>Jul-93</i>
<b>International Developed Market Equity Assets</b>	<b>94,175,011</b>	<b>11.8</b>	<b>-4.1</b>	<b>-1.8</b>	<b>6.4</b>	<b>1.3</b>	<b>7.7</b>	<b>1.6</b>	<b>4.1</b>	<b>5.8</b>	<b>4.7</b>	<b>Feb-98</b>
<i>MSCI EAFE</i>			<i>-4.2</i>	<i>-1.5</i>	<i>6.8</i>	<i>3.1</i>	<i>8.5</i>	<i>3.2</i>	<i>4.6</i>	<i>6.4</i>	<i>4.5</i>	<i>Feb-98</i>
<b>International Emerging Market Equity Assets</b>	<b>60,269,256</b>	<b>7.5</b>	<b>-1.2</b>	<b>-1.4</b>	<b>3.0</b>	<b>-6.7</b>	<b>7.3</b>	<b>3.8</b>	<b>3.2</b>	<b>--</b>	<b>5.6</b>	<b>Sep-08</b>
<i>MSCI Emerging Markets</i>			<i>-1.7</i>	<i>-2.8</i>	<i>1.1</i>	<i>-8.5</i>	<i>3.5</i>	<i>-0.7</i>	<i>1.9</i>	<i>8.3</i>	<i>2.4</i>	<i>Sep-08</i>
<b>Investment Grade Bond Assets</b>	<b>71,184,083</b>	<b>8.9</b>	<b>-1.4</b>	<b>-1.1</b>	<b>2.8</b>	<b>-4.1</b>	<b>-5.0</b>	<b>0.0</b>	<b>1.0</b>	<b>2.8</b>	<b>4.1</b>	<b>Jul-93</b>
<i>Bloomberg US Aggregate TR</i>			<i>-1.1</i>	<i>-0.5</i>	<i>2.5</i>	<i>-2.1</i>	<i>-3.6</i>	<i>0.8</i>	<i>1.4</i>	<i>3.0</i>	<i>4.4</i>	<i>Jul-93</i>
<b>Long-Term Government Bond Assets</b>	<b>25,475,433</b>	<b>3.2</b>	<b>-1.6</b>	<b>-1.3</b>	<b>2.9</b>	<b>-4.8</b>	<b>-4.9</b>	<b>1.0</b>	<b>--</b>	<b>--</b>	<b>1.7</b>	<b>Dec-15</b>
<i>PRIT Core Fixed Income</i>			<i>-1.6</i>	<i>-1.3</i>	<i>3.1</i>	<i>-4.6</i>	<i>-4.8</i>	<i>1.1</i>	<i>2.3</i>	<i>3.5</i>	<i>1.7</i>	<i>Dec-15</i>
<b>TIPS Assets</b>	<b>15,921,007</b>	<b>2.0</b>	<b>-1.2</b>	<b>-1.1</b>	<b>2.4</b>	<b>-4.2</b>	<b>0.3</b>	<b>2.6</b>	<b>1.7</b>	<b>--</b>	<b>3.5</b>	<b>Mar-07</b>
<i>Bloomberg US TIPS TR</i>			<i>-1.2</i>	<i>-1.1</i>	<i>2.2</i>	<i>-4.2</i>	<i>0.4</i>	<i>2.6</i>	<i>1.7</i>	<i>3.6</i>	<i>3.5</i>	<i>Mar-07</i>
<b>High Yield Bond Assets</b>	<b>39,619,690</b>	<b>4.9</b>	<b>-0.7</b>	<b>0.0</b>	<b>3.1</b>	<b>0.3</b>	<b>3.3</b>	<b>3.4</b>	<b>3.5</b>	<b>--</b>	<b>5.3</b>	<b>Apr-07</b>
<i>Bloomberg US High Yield TR</i>			<i>-0.9</i>	<i>0.1</i>	<i>3.6</i>	<i>0.0</i>	<i>2.9</i>	<i>3.1</i>	<i>4.0</i>	<i>6.7</i>	<i>5.8</i>	<i>Apr-07</i>
<b>Bank Loan Assets</b>	<b>8,308,394</b>	<b>1.0</b>	<b>-0.1</b>	<b>1.0</b>	<b>4.8</b>	<b>6.0</b>	<b>5.0</b>	<b>3.3</b>	<b>--</b>	<b>--</b>	<b>3.3</b>	<b>Aug-14</b>
<i>Credit Suisse Leveraged Loans</i>			<i>-0.1</i>	<i>0.9</i>	<i>4.0</i>	<i>5.5</i>	<i>5.9</i>	<i>3.6</i>	<i>3.8</i>	<i>4.6</i>	<i>3.7</i>	<i>Aug-14</i>
<b>Total Real Estate</b>	<b>84,770,693</b>	<b>10.6</b>	<b>-0.2</b>	<b>0.0</b>	<b>-2.0</b>	<b>-2.1</b>	<b>6.2</b>	<b>6.0</b>	<b>8.2</b>	<b>--</b>	<b>--</b>	<b>Jan-89</b>
<i>NCREIF ODCE</i>			<i>0.0</i>	<i>0.0</i>	<i>-3.2</i>	<i>-3.1</i>	<i>8.4</i>	<i>7.5</i>	<i>9.5</i>	<i>8.1</i>	<i>7.4</i>	<i>Jan-89</i>

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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
<b>Private Equity Assets</b>	<b>132,968,739</b>	<b>16.6</b>										
<b>Natural Resources Assets</b>	<b>17,440,005</b>	<b>2.2</b>										
<b>Infrastructure Assets</b>	<b>12,495,635</b>	<b>1.6</b>										
<b>Opportunistic Assets</b>	<b>36,007,576</b>	<b>4.5</b>										
<b>Balanced Assets (PRIT General Allocation Fund)</b>	<b>15,386,511</b>	<b>1.9</b>	<b>-0.4</b>	<b>0.3</b>	<b>4.0</b>	<b>-0.6</b>	<b>9.1</b>	<b>7.1</b>	<b>7.8</b>	<b>7.9</b>	<b>8.2</b>	<b>Apr-90</b>
<i>60% Wilshire 5000 &amp; 40% Barclays Aggregate</i>			<i>-0.2</i>	<i>0.7</i>	<i>6.3</i>	<i>0.7</i>	<i>6.1</i>	<i>6.8</i>	<i>7.7</i>	<i>7.4</i>	<i>8.4</i>	<i>Apr-90</i>
<b>Cash</b>	<b>7,719,519</b>	<b>1.0</b>										

	Trailing Net Performance												Inception (%)	Inception Date
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)			
<b>Total Retirement System (gross)</b>	<b>800,625,668</b>	<b>100.0</b>	<b>--</b>	<b>-0.8</b>	<b>-0.2</b>	<b>3.7</b>	<b>-0.3</b>	<b>9.1</b>	<b>6.9</b>	<b>6.9</b>	<b>6.8</b>	<b>8.1</b>	<b>Jan-89</b>	
<b>Total Retirement System</b>				<b>-0.8</b>	<b>-0.2</b>	<b>3.6</b>	<b>-0.3</b>	<b>8.9</b>	<b>6.7</b>	<b>6.7</b>	<b>6.6</b>	<b>7.8</b>		
<b>Domestic Equity Assets</b>	<b>178,884,116</b>	<b>22.3</b>	<b>22.3</b>	<b>-0.5</b>	<b>0.5</b>	<b>6.2</b>	<b>1.0</b>	<b>12.2</b>	<b>9.2</b>	<b>10.8</b>	<b>9.5</b>	<b>9.7</b>	<b>Jul-93</b>	
<i>Russell 3000</i>				<i>0.4</i>	<i>1.5</i>	<i>8.7</i>	<i>2.0</i>	<i>12.2</i>	<i>10.1</i>	<i>11.5</i>	<i>9.8</i>	<i>9.7</i>	<i>Jul-93</i>	
RhumbLine Russell 1000 Growth Index	24,383,874	3.0	13.6	4.6	5.6	20.7	9.5	12.8	13.8	14.7	--	11.2	Jun-05	
<i>Russell 1000 Growth</i>				<i>4.6</i>	<i>5.6</i>	<i>20.8</i>	<i>9.5</i>	<i>12.8</i>	<i>13.8</i>	<i>14.8</i>	<i>11.2</i>	<i>11.3</i>	<i>Jun-05</i>	
RhumbLine Russell 1000 Value Index	25,921,648	3.2	14.5	-3.8	-2.4	-1.4	-4.5	11.6	6.8	8.4	--	7.2	Jun-05	
<i>Russell 1000 Value</i>				<i>-3.9</i>	<i>-2.4</i>	<i>-1.4</i>	<i>-4.5</i>	<i>11.6</i>	<i>6.8</i>	<i>8.4</i>	<i>8.2</i>	<i>7.2</i>	<i>Jun-05</i>	
Rhumbline QSI Index	30,316,148	3.8	16.9	-2.5	-0.9	3.1	-0.8	11.1	9.2	--	--	10.7	Aug-13	
<i>QSI Index</i>				<i>-2.5</i>	<i>-0.9</i>	<i>3.1</i>	<i>-0.8</i>	<i>11.2</i>	<i>9.2</i>	<i>11.2</i>	<i>10.0</i>	<i>10.8</i>	<i>Aug-13</i>	
<i>Russell 3000</i>				<i>0.4</i>	<i>1.5</i>	<i>8.7</i>	<i>2.0</i>	<i>12.2</i>	<i>10.1</i>	<i>11.5</i>	<i>9.8</i>	<i>11.2</i>	<i>Aug-13</i>	
Brown Small Cap Fundamental Value	15,596,239	1.9	8.7	-2.7	-4.4	-5.2	-4.7	13.5	2.9	--	--	6.2	Jul-16	
<i>Russell 2000 Value</i>				<i>-2.0</i>	<i>-4.4</i>	<i>-5.0</i>	<i>-11.5</i>	<i>13.6</i>	<i>2.1</i>	<i>6.4</i>	<i>8.0</i>	<i>6.6</i>	<i>Jul-16</i>	
PRIT General Allocation Domestic Equity	82,666,207	10.3	46.2	0.3	1.4	8.6	2.4	--	--	--	--	-8.2	Jan-22	
<i>PRIT Domestic Equity Benchmark</i>				<i>0.4</i>	<i>1.4</i>	<i>8.3</i>	<i>1.9</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-8.5</i>	<i>Jan-22</i>	
<b>International Developed Market Equity Assets</b>	<b>94,175,011</b>	<b>11.8</b>	<b>11.8</b>	<b>-4.1</b>	<b>-1.8</b>	<b>6.4</b>	<b>1.3</b>	<b>7.7</b>	<b>1.6</b>	<b>4.1</b>	<b>5.8</b>	<b>4.7</b>	<b>Feb-98</b>	
<i>MSCI EAFE</i>				<i>-4.2</i>	<i>-1.5</i>	<i>6.8</i>	<i>3.1</i>	<i>8.5</i>	<i>3.2</i>	<i>4.6</i>	<i>6.4</i>	<i>4.5</i>	<i>Feb-98</i>	
SSgA MSCI EAFE Index	40,063,515	5.0	42.5	-4.1	-1.3	7.1	3.4	8.9	3.6	4.9	--	5.1	Oct-09	
<i>MSCI EAFE</i>				<i>-4.2</i>	<i>-1.5</i>	<i>6.8</i>	<i>3.1</i>	<i>8.5</i>	<i>3.2</i>	<i>4.6</i>	<i>6.4</i>	<i>4.9</i>	<i>Oct-09</i>	
Axiom International Small Cap Equity	10,673,634	1.3	11.3	-3.4	-3.7	3.4	-7.2	2.0	--	--	--	6.6	May-20	
<i>S&amp;P Developed Ex-U.S. SmallCap</i>				<i>-4.4</i>	<i>-3.0</i>	<i>3.4</i>	<i>-4.9</i>	<i>5.6</i>	<i>0.4</i>	<i>5.3</i>	<i>8.4</i>	<i>7.7</i>	<i>May-20</i>	
<i>MSCI EAFE Small Cap</i>				<i>-4.2</i>	<i>-2.2</i>	<i>2.6</i>	<i>-4.7</i>	<i>5.2</i>	<i>0.3</i>	<i>5.5</i>	<i>8.4</i>	<i>7.4</i>	<i>May-20</i>	
PRIT General Allocation Int. Equity	43,437,862	5.4	46.1	-4.3	-1.9	6.5	1.7	--	--	--	--	-8.3	Jan-22	
<i>Custom MSCI World Ex-US IMI Net Divs</i>				<i>-4.3</i>	<i>-1.8</i>	<i>5.7</i>	<i>0.4</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-7.6</i>	<i>Jan-22</i>	

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
<b>International Emerging Market Equity Assets</b>	<b>60,269,256</b>	<b>7.5</b>	<b>7.5</b>	<b>-1.2</b>	<b>-1.4</b>	<b>3.0</b>	<b>-6.7</b>	<b>7.3</b>	<b>3.8</b>	<b>3.2</b>	<b>--</b>	<b>5.6</b>	<b>Sep-08</b>
<i>MSCI Emerging Markets</i>				-1.7	-2.8	1.1	-8.5	3.5	-0.7	1.9	8.3	2.4	Sep-08
Driehaus Emerging Markets Growth	35,233,068	4.4	58.5	-2.0	-2.5	1.7	-8.1	4.6	--	--	--	3.9	Mar-19
<i>MSCI Emerging Markets</i>				-1.7	-2.8	1.1	-8.5	3.5	-0.7	1.9	8.3	0.3	Mar-19
Acadian Emerging Markets Small Cap	9,504,522	1.2	15.8	1.4	3.4	7.2	-3.1	17.1	4.3	--	--	6.4	Jun-14
<i>MSCI Emerging Markets Small Cap</i>				1.1	1.8	5.7	-3.0	15.3	2.6	3.2	9.7	3.3	Jun-14
PRIT General Allocation EME	15,531,667	1.9	25.8	-1.0	-1.4	3.6	-5.5	--	--	--	--	-11.4	Jan-22
<i>Custom MSCI Emerging Market IMI Net Divs</i>				-1.3	-2.3	1.1	-8.5	--	--	--	--	-13.7	Jan-22
<b>Investment Grade Bond Assets</b>	<b>71,184,083</b>	<b>8.9</b>	<b>8.9</b>	<b>-1.4</b>	<b>-1.1</b>	<b>2.8</b>	<b>-4.1</b>	<b>-5.0</b>	<b>0.0</b>	<b>1.0</b>	<b>2.8</b>	<b>4.1</b>	<b>Jul-93</b>
<i>Bloomberg US Aggregate TR</i>				-1.1	-0.5	2.5	-2.1	-3.6	0.8	1.4	3.0	4.4	Jul-93
SSgA U.S. Aggregate Bond Index-NL	20,778,744	2.6	29.2	-1.1	-0.5	2.7	-2.1	-3.6	0.8	1.4	--	3.0	Apr-04
<i>Bloomberg US Aggregate TR</i>				-1.1	-0.5	2.5	-2.1	-3.6	0.8	1.4	3.0	3.0	Apr-04
PRIT General Allocation Core FI	50,405,339	6.3	70.8	-1.6	-1.3	2.9	-4.8	--	--	--	--	-11.6	Jan-22
<i>PRIT Core Fixed Income</i>				-1.6	-1.3	3.1	-4.6	-4.8	1.1	2.3	3.5	-11.4	Jan-22
<b>Long-Term Government Bond Assets</b>	<b>25,475,433</b>	<b>3.2</b>	<b>3.2</b>	<b>-1.6</b>	<b>-1.3</b>	<b>2.9</b>	<b>-4.8</b>	<b>-4.9</b>	<b>1.0</b>	<b>--</b>	<b>--</b>	<b>1.7</b>	<b>Dec-15</b>
<i>PRIT Core Fixed Income</i>				-1.6	-1.3	3.1	-4.6	-4.8	1.1	2.3	3.5	1.7	Dec-15
PRIT Core Fixed Income	25,475,433	3.2	100.0	-1.6	-1.3	2.9	-4.8	-4.9	1.0	--	--	1.7	Dec-15
<i>PRIT Core Fixed Income</i>				-1.6	-1.3	3.1	-4.6	-4.8	1.1	2.3	3.5	1.7	Dec-15
<b>TIPS Assets</b>	<b>15,921,007</b>	<b>2.0</b>	<b>2.0</b>	<b>-1.2</b>	<b>-1.1</b>	<b>2.4</b>	<b>-4.2</b>	<b>0.3</b>	<b>2.6</b>	<b>1.7</b>	<b>--</b>	<b>3.5</b>	<b>Mar-07</b>
<i>Bloomberg US TIPS TR</i>				-1.2	-1.1	2.2	-4.2	0.4	2.6	1.7	3.6	3.5	Mar-07
SSgA TIPS Index	15,921,007	2.0	100.0	-1.2	-1.1	2.4	-4.2	0.3	2.6	1.7	--	3.5	Mar-07
<i>Bloomberg US TIPS TR</i>				-1.2	-1.1	2.2	-4.2	0.4	2.6	1.7	3.6	3.5	Mar-07

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
<b>High Yield Bond Assets</b>	<b>39,619,690</b>	<b>4.9</b>	<b>4.9</b>	<b>-0.7</b>	<b>0.0</b>	<b>3.1</b>	<b>0.3</b>	<b>3.3</b>	<b>3.4</b>	<b>3.5</b>	<b>--</b>	<b>5.3</b>	<b>Apr-07</b>
<i>Bloomberg US High Yield TR</i>				-0.9	0.1	3.6	0.0	2.9	3.1	4.0	6.7	5.8	Apr-07
Loomis Sayles High Yield Conservative	11,544,302	1.4	29.1	-1.5	-1.1	1.5	-2.7	1.4	1.9	3.0	--	4.3	Feb-12
<i>Bloomberg US High Yield TR</i>				-0.9	0.1	3.6	0.0	2.9	3.1	4.0	6.7	5.0	Feb-12
Columbia High Yield	11,709,076	1.5	29.6	-0.9	0.0	3.7	0.5	2.8	3.6	--	--	3.7	Dec-16
<i>Bloomberg US High Yield TR</i>				-0.9	0.1	3.6	0.0	2.9	3.1	4.0	6.7	3.8	Dec-16
PRIT General Allocation Value Added FI	16,366,312	2.0	41.3	0.1	0.9	3.7	2.3	--	--	--	--	-1.3	Jan-22
<i>PRIT Public Value-Added Fixed Income</i>				-0.3	0.4	3.6	2.8	3.3	2.3	2.2	5.4	-3.2	Jan-22
<b>Bank Loan Assets</b>	<b>8,308,394</b>	<b>1.0</b>	<b>1.0</b>	<b>-0.1</b>	<b>1.0</b>	<b>4.8</b>	<b>6.0</b>	<b>5.0</b>	<b>3.3</b>	<b>--</b>	<b>--</b>	<b>3.3</b>	<b>Aug-14</b>
<i>Credit Suisse Leveraged Loans</i>				-0.1	0.9	4.0	5.5	5.9	3.6	3.8	4.6	3.7	Aug-14
Beach Point Loan Fund	8,308,394	1.0	100.0	-0.1	1.0	4.8	6.0	5.0	3.3	--	--	3.3	Aug-14
<i>Credit Suisse Leveraged Loans</i>				-0.1	0.9	4.0	5.5	5.9	3.6	3.8	4.6	3.7	Aug-14

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

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
<b>Total Real Estate</b>	<b>84,770,693</b>	<b>10.6</b>	<b>10.6</b>	<b>-0.2</b>	<b>0.0</b>	<b>-2.0</b>	<b>-2.1</b>	<b>6.2</b>	<b>6.0</b>	<b>8.2</b>	<b>--</b>	<b>--</b>	<b>Jan-89</b>
<i>NCREIF ODCE</i>				<i>0.0</i>	<i>0.0</i>	<i>-3.2</i>	<i>-3.1</i>	<i>8.4</i>	<i>7.5</i>	<i>9.5</i>	<i>8.1</i>	<i>7.4</i>	<i>Jan-89</i>
UBS Trumbull Property Income Fund	10,912,024	1.4	12.9	0.0	0.0	-2.2	-2.7	5.1	5.1	6.7	7.1	7.2	Jan-89
<i>NCREIF ODCE (net)</i>				<i>0.0</i>	<i>0.0</i>	<i>-3.4</i>	<i>-3.9</i>	<i>7.5</i>	<i>6.6</i>	<i>8.5</i>	<i>7.1</i>	<i>6.3</i>	<i>Jan-89</i>
UBS Trumbull Property Fund	2,672,098	0.3	3.2	0.0	0.0	-7.2	-15.8	-0.4	0.0	4.2	5.5	6.0	Jan-89
<i>NCREIF ODCE (net)</i>				<i>0.0</i>	<i>0.0</i>	<i>-3.4</i>	<i>-3.9</i>	<i>7.5</i>	<i>6.6</i>	<i>8.5</i>	<i>7.1</i>	<i>6.3</i>	<i>Jan-89</i>
JPMCB Strategic Property Fund	10,862,997	1.4	12.8	-1.0	-1.3	-4.3	-8.7	6.7	--	--	--	6.0	Jan-19
<i>NCREIF ODCE (net)</i>				<i>0.0</i>	<i>0.0</i>	<i>-3.4</i>	<i>-3.9</i>	<i>7.5</i>	<i>6.6</i>	<i>8.5</i>	<i>7.1</i>	<i>6.2</i>	<i>Jan-19</i>
AEW Partners VII	449,065	0.1	0.5										
Rockwood X	6,257,550	0.8	7.4										
Torchlight Debt Opportunity Fund VI	3,679,287	0.5	4.3										
TerraCap Partners IV (Institutional), L.P.	4,586,956	0.6	5.4										
Rockwood Capital Real Estate Partners Fund XI, L.P.	6,194,948	0.8	7.3										
PRIT General Allocation Real Estate	39,155,767	4.9	46.2	-0.1	0.4	-1.0	0.4	--	--	--	--	5.3	Jan-22
<i>PRIT Real Estate Benchmark</i>				<i>-0.4</i>	<i>-0.3</i>	<i>-4.6</i>	<i>8.5</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>8.9</i>	<i>Jan-22</i>

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
<b>Private Equity Assets</b>	<b>132,968,739</b>	<b>16.6</b>	<b>16.6</b>										
Adams Street Partners 2010	5,589,344	0.7	4.2										
Goldman Sachs Private Equity Partners 2005	459,043	0.1	0.3										
North American Strategic Partners 2006	28,181	0.0	0.0										
Brookfield Capital Partners IV	3,767,811	0.5	2.8										
PRIT Vintage Year 2001	62,266	0.0	0.0										
PRIT Vintage Year 2002	9,985	0.0	0.0										
Ridgemont Equity Partners II	6,189,254	0.8	4.7										
TA XII	3,052,668	0.4	2.3										
LLR Equity Partners V	6,700,541	0.8	5.0										
Wellspring Capital Partners VI	6,403,291	0.8	4.8										
Trilantic Capital Partners VI	5,919,769	0.7	4.5										
Brookfield Capital Partners V, L.P.	4,329,688	0.5	3.3										
FS Equity Partners VIII L.P.	6,402,330	0.8	4.8										
Ridgemont Equity Partners III	8,577,864	1.1	6.5										
Searchlight Capital III	4,379,487	0.5	3.3										
Charlesbank Technology Opportunities Fund	6,518,142	0.8	4.9										
LLR Equity Partners VI, L.P.	2,670,143	0.3	2.0										
PRIT General Allocation Private Equity	61,908,933	7.7	46.6	1.8	1.7	4.0	-2.6	--	--	--	--	-0.7	Jan-22
<i>State Street PE Index (SSPEI) All PE Excluding PD</i>				0.0	0.0	1.3	-6.1	--	--	--	--	-0.6	Jan-22



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
<b>Natural Resources Assets</b>	<b>17,440,005</b>	<b>2.2</b>	<b>2.2</b>										
Hancock Timberland IX	3,924,183	0.5	22.5										
PRIT General Allocation Timberland <i>NCREIF Timberland</i>	11,685,039	1.5	67.0	-0.3 0.0	-0.3 0.0	0.2 1.7	-0.1 11.3	-- 8.1	-- 5.5	-- 5.8	-- 7.0	0.9 10.3	Jan-22 Jan-22
Oppenheimer Natural Resources	1,830,783	0.2	10.5										
<b>Infrastructure Assets</b>	<b>12,495,635</b>	<b>1.6</b>	<b>1.6</b>										
IFM Global Infrastructure (U.S.), L.P. <i>CPI+5%</i>	8,465,273	1.1	67.7	-0.5 0.7	-0.1 1.6	2.4 4.6	9.4 9.2	11.6 11.1	-- 9.0	-- 7.8	-- 7.7	10.3 9.3	Oct-18 Oct-18
Global Infrastructure Partners IV	4,030,362	0.5	32.3										
<b>Opportunistic Assets</b>	<b>36,007,576</b>	<b>4.5</b>	<b>4.5</b>										
HarbourVest Co-Investment Fund V, L.P.	4,786,715	0.6	13.3										
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	4,875,090	0.6	13.5										
PRIT General Allocation Hedge Funds <i>HFRI FOF Composite Index</i>	26,345,771	3.3	73.2	0.3 0.0	0.6 0.3	2.3 1.0	1.2 1.1	-- 5.2	-- 2.9	-- 3.1	-- 3.4	0.3 -3.3	Jan-22 Jan-22
<b>Balanced Assets (PRIT General Allocation Fund)</b>	<b>15,386,511</b>	<b>1.9</b>	<b>1.9</b>	<b>-0.4</b>	<b>0.3</b>	<b>4.0</b>	<b>-0.6</b>	<b>9.1</b>	<b>7.1</b>	<b>7.8</b>	<b>7.9</b>	<b>8.2</b>	<b>Apr-90</b>
<i>60% Wilshire 5000 &amp; 40% Barclays Aggregate</i>				-0.2	0.7	6.3	0.7	6.1	6.8	7.7	7.4	8.4	Apr-90
PRIT General Allocation <i>60% Wilshire 5000 &amp; 40% Barclays Aggregate</i>	15,386,511	1.9	100.0	-0.4 -0.2	0.3 0.7	4.0 6.3	-0.6 0.7	9.1 6.1	7.1 6.8	7.8 7.7	7.9 7.4	8.2 8.4	Apr-90 Apr-90
<b>Cash</b>	<b>7,719,519</b>	<b>1.0</b>	<b>1.0</b>										
Cash Account <i>91 Day T-Bills</i>	6,700,319	0.8	86.8	0.4	0.7	1.8	3.1	1.1	1.4	0.9	1.3	1.3	Jan-02
PRIM Cash Account	1,019,200	0.1	13.2										

Cash Flow Summary

	Beginning Market Value	Contributions	Withdrawals	Net Investment Change	Ending Market Value	Month Return
Acadian Emerging Markets Small Cap	\$9,364,962	\$0	-\$9,901	\$149,461	\$9,504,522	1.38%
Adams Street Partners 2010	\$5,589,344	\$0	\$0	\$0	\$5,589,344	0.00%
AEW Partners VII	\$449,065	\$0	\$0	\$0	\$449,065	0.00%
Axiom International Small Cap Equity	\$11,051,976	\$0	-\$7,116	-\$371,227	\$10,673,634	-3.42%
Beach Point Loan Fund	\$8,315,549	\$0	-\$3,462	-\$3,693	\$8,308,394	-0.09%
Brookfield Capital Partners IV	\$3,767,811	\$0	\$0	\$0	\$3,767,811	0.00%
Brookfield Capital Partners V, L.P.	\$4,329,688	\$0	\$0	\$0	\$4,329,688	0.00%
Brown Small Cap Fundamental Value	\$16,011,379	\$0	-\$14,297	-\$400,843	\$15,596,239	-2.68%
Cash Account	\$7,011,762	\$0	-\$311,443	\$0	\$6,700,319	0.00%
Charlesbank Technology Opportunities Fund	\$6,518,142	\$0	\$0	\$0	\$6,518,142	0.00%
Columbia High Yield	\$11,811,787	\$0	-\$4,001	-\$98,711	\$11,709,076	-0.87%
Driehaus Emerging Markets Growth	\$35,950,233	\$0	\$0	-\$717,165	\$35,233,068	-1.99%
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	\$4,875,090	\$0	\$0	\$0	\$4,875,090	0.00%
FS Equity Partners VIII L.P.	\$6,402,330	\$0	\$0	\$0	\$6,402,330	0.00%
Global Infrastructure Partners IV	\$4,030,362	\$0	\$0	\$0	\$4,030,362	0.00%
Goldman Sachs Private Equity Partners 2005	\$459,043	\$0	\$0	\$0	\$459,043	0.00%
Hancock Timberland IX	\$3,924,183	\$0	\$0	\$0	\$3,924,183	0.00%
HarbourVest Co-Investment Fund V, L.P.	\$4,786,715	\$0	\$0	\$0	\$4,786,715	0.00%
IFM Global Infrastructure (U.S.), L.P.	\$8,510,833	\$0	\$0	-\$45,560	\$8,465,273	-0.54%
JPMCB Strategic Property Fund	\$10,977,398	\$0	\$0	-\$114,401	\$10,862,997	-1.04%
LLR Equity Partners V	\$6,700,541	\$0	\$0	\$0	\$6,700,541	0.00%
LLR Equity Partners VI, L.P	\$2,670,143	\$0	\$0	\$0	\$2,670,143	0.00%
Loomis Sayles High Yield Conservative	\$11,716,402	\$0	-\$4,329	-\$167,771	\$11,544,302	-1.51%
North American Strategic Partners 2006	\$28,181	\$0	\$0	\$0	\$28,181	0.00%

Total Retirement System | As of May 31, 2023

	Beginning Market Value	Contributions	Withdrawals	Net Investment Change	Ending Market Value	Month Return
Oppenheimer Natural Resources	\$1,830,783	\$0	\$0	\$0	\$1,830,783	0.00%
PRIM Cash Account	\$2,016,749	\$2,983,252	-\$4,000,000	\$19,200	\$1,019,200	0.97%
PRIT Core Fixed Income	\$25,887,098	\$0	-\$2,335	-\$409,329	\$25,475,433	-1.59%
PRIT General Allocation	\$16,176,241	\$0	-\$2,983,253	\$2,193,523	\$15,386,511	-0.40%
PRIT General Allocation Core FI	\$51,911,029	\$0	\$0	-\$1,505,690	\$50,405,339	-1.59%
PRIT General Allocation Domestic Equity	\$82,756,180	\$0	\$0	-\$89,973	\$82,666,207	0.33%
PRIT General Allocation EME	\$16,065,949	\$0	\$0	-\$534,282	\$15,531,667	-0.97%
PRIT General Allocation Hedge Funds	\$26,874,619	\$0	\$0	-\$528,848	\$26,345,771	0.27%
PRIT General Allocation Int. Equity	\$45,918,467	\$0	\$0	-\$2,480,605	\$43,437,862	-4.28%
PRIT General Allocation Private Equity	\$60,771,198	\$0	\$0	\$1,137,735	\$61,908,933	1.82%
PRIT General Allocation Real Estate	\$38,822,979	\$0	\$0	\$332,788	\$39,155,767	-0.06%
PRIT General Allocation Timberland	\$11,801,303	\$0	\$0	-\$116,264	\$11,685,039	-0.27%
PRIT General Allocation Value Added FI	\$16,543,883	\$0	\$0	-\$177,571	\$16,366,312	0.08%
PRIT Vintage Year 2001	\$62,938	\$1	\$0	-\$674	\$62,266	-1.07%
PRIT Vintage Year 2002	\$10,035	\$0	\$0	-\$51	\$9,985	-0.50%
Rhumblin QSI Index	\$31,092,309	\$0	-\$1,768	-\$774,393	\$30,316,148	-2.50%
Rhumblin Russell 1000 Growth Index	\$23,320,311	\$0	-\$1,372	\$1,064,935	\$24,383,874	4.56%
Rhumblin Russell 1000 Value Index	\$26,959,455	\$0	-\$1,458	-\$1,036,349	\$25,921,648	-3.85%
Ridgemont Equity Partners II	\$6,189,254	\$0	\$0	\$0	\$6,189,254	0.00%
Ridgemont Equity Partners III	\$8,577,864	\$0	\$0	\$0	\$8,577,864	0.00%
Rockwood Capital Real Estate Partners Fund XI, L.P.	\$6,194,948	\$0	\$0	\$0	\$6,194,948	0.00%
Rockwood X	\$6,121,187	\$136,364	\$0	\$0	\$6,257,550	0.00%
Searchlight Capital III	\$4,379,487	\$0	\$0	\$0	\$4,379,487	0.00%
SSgA MSCI EAFE Index	\$41,794,344	\$0	-\$3,339	-\$1,727,490	\$40,063,515	-4.14%
SSgA TIPS Index	\$16,112,514	\$0	-\$796	-\$190,711	\$15,921,007	-1.19%

Total Retirement System | As of May 31, 2023

	Beginning Market Value	Contributions	Withdrawals	Net Investment Change	Ending Market Value	Month Return
SSgA U.S. Aggregate Bond Index-NL	\$21,005,760	\$0	-\$1,039	-\$225,977	\$20,778,744	-1.08%
TA XII	\$3,052,668	\$0	\$0	\$0	\$3,052,668	0.00%
TerraCap Partners IV (Institutional), L.P.	\$4,586,956	\$0	\$0	\$0	\$4,586,956	0.00%
Torchlight Debt Opportunity Fund VI	\$3,679,287	\$0	\$0	\$0	\$3,679,287	0.00%
Trilantic Capital Partners VI	\$5,919,769	\$0	\$0	\$0	\$5,919,769	0.00%
UBS Trumbull Property Fund	\$2,672,098	\$0	\$0	\$0	\$2,672,098	0.00%
UBS Trumbull Property Income Fund	\$10,912,024	\$0	\$0	\$0	\$10,912,024	0.00%
Wellspring Capital Partners VI	\$6,403,291	\$0	\$0	\$0	\$6,403,291	0.00%
<b>Total</b>	<b>\$811,675,896</b>	<b>\$3,119,617</b>	<b>-\$7,349,907</b>	<b>-\$6,819,938</b>	<b>\$800,625,668</b>	<b>--</b>

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

Managers	Strategy	Vintage Year	Commitment Amount (\$mm)	% called	Median Peer IRR	Quartile Rank	Net IRR	Net Multiple
<b>Real Estate Managers</b>								
AEW Partners VII	Opportunistic	2013	5.0	93%	11.2	3	10.5%	NA
Rockwood X	Value-Added	2016	10.0	94%	18.8	4	8.6%	1.3x
Torchlight Debt Opportunity Fund VI	Opportunistic	2017	5.0	100%	10.7	3	8.4%	1.3x
TerraCap Partners IV	Value-Added	2017	5.0	100%	15.5	3	12.0%	NA
Rockwood XI	Value-Added	2019	8.0	71%	13.6	2	16.5%	1.3x
<b>Private Equity Managers</b>								
Adams Street Partners	Fund of Funds	2010	10.0	94%	16.9	3	14.7	2.4x
Goldman Sachs PE Partners	Fund of Funds	2005	10.0	100%	7.0	NA	NA	NA
North American Strategic Partners	Fund of Funds	2006	9.1	88%	6.5	NA	NA	NA
PRIT Vintage Year 2001	Fund of Funds	2001	2.5	NA	8.6	NA	NA	NA
PRIT Vintage Year 2002	Fund of Funds	2002	0.5	NA	10.4	NA	NA	NA
Brookfield Capital Partners IV	Buyout	2015	4.0	100%	20.5	1	41.8%	2.5x
LLR Equity Partners V	Buyout	2017	5.0	97%	21.3	3	20.7%	1.7x
Ridgemont Equity Partners II	Buyout	2015	6.0	97%	20.5	2	21.5%	2.1x

<sup>1</sup> As of 12/31/2022.

<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.

Private Market Managers' Performance Overview (continued)<sup>1</sup>

Managers	Strategy	Vintage Year	Commitment Amount (\$mm)	% called	Median Peer IRR	Quartile Rank	Net IRR	Net Multiple
TA XII	Growth Equity	2016	4.0	100%	19.7	1	37.4%	3.0x
Wellspring VI	Buyout	2017	5.0	97%	21.3	3	22.5%	1.6x
Trilantic Capital Partners VI	Buyout	2018	5.0	88%	21.7	3	17.9%	1.4x
Brookfield Capital Partners V	Buyout	2019	4.0	92%	19.9	3	15.0%	1.3x
FS Equity Partners VIII	Buyout	2019	5.0	71%	19.9	2	30.0%	1.7x
Ridgemont Equity Partners III	Buyout	2019	6.0	99%	19.9	1	45.8%	1.9x
Searchlight Capital III	Special Situations	2020	5.0	66%	21.0	1	35.2%	1.7x
Charlesbank Technology Opportunities	Buyout	2019	5.0	71%	19.9	1	72.6%	2.1x
LLR Equity Partners VI	Buyout	2020	4.0	66%	14.9	NM	NM	NM
<b>Opportunistic Managers</b>								
HarbourVest Co-Investment Fund V	Opportunistic	2019	4.0	78%	NA	NA	27.4%	1.8x
EnTrustPermal Spec. Opps. Evergreen Fund	Opportunistic	2020	6.0	87%	NM	NM	NM	NM
<b>Infrastructure Managers</b>								
Global Infrastructure Partners IV	Value-Added	2019	5.0	72%	--	--	--	--
<b>Natural Resources Managers</b>								
Hancock Timberland	Timber	2008	8.0	100%	--	--	-1.2%	1.1x
Oppenheimer Natural Resources	Natural Resources	2010	7.0	100%	--	--	-2.2%	0.7x

<sup>1</sup> As of 12/31/2022.

<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.

## **Disclaimer, Glossary, and Notes**

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.



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

**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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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.