

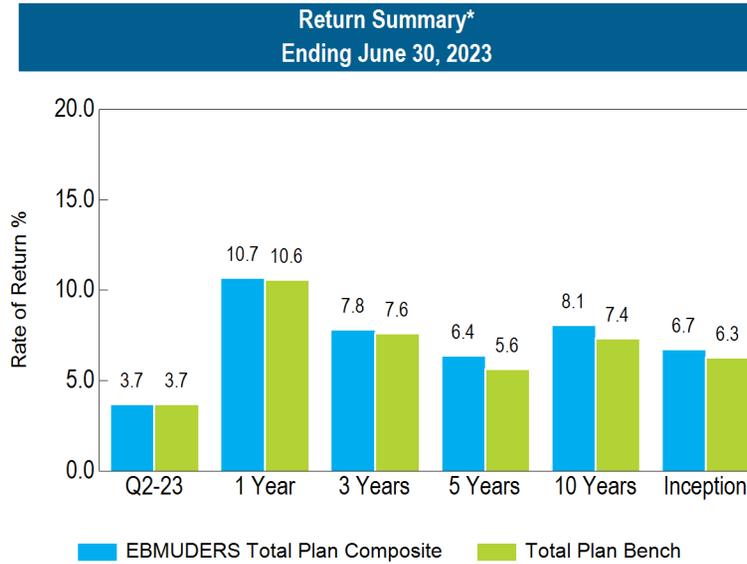
# East Bay Municipal Utility District Employees' Retirement System

September 21, 2023

Q2 2023 Performance Report

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# Introduction



\* Performance is gross of fees.

**Summary of Cash Flows**

	Second Quarter	One Year
Beginning Market Value	\$2,176,371,772	\$2,054,483,509
Net Cash Flow	-\$8,009,491	-\$22,569,772
Capital Appreciation	\$79,642,481	\$216,091,025
Ending Market Value	\$2,248,004,762	\$2,248,004,762

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)
<b>EBMUDERS Total Plan Composite - Gross</b>	<b>3.7</b>	<b>10.7</b>	<b>7.8</b>	<b>6.4</b>	<b>8.1</b>	<b>7.8</b>
<b>EBMUDERS Total Plan Composite - Net</b>	<b>3.7</b>	<b>10.6</b>	<b>7.7</b>	<b>6.2</b>	<b>7.9</b>	<b>--</b>
<i>Total Plan Bench</i>	<i>3.7</i>	<i>10.6</i>	<i>7.6</i>	<i>5.6</i>	<i>7.4</i>	<i>7.5</i>
<i>InvMetrics Public DB &gt; \$1B Gross Median</i>	<i>2.7</i>	<i>7.9</i>	<i>8.6</i>	<i>6.9</i>	<i>7.6</i>	<i>7.4</i>

Historical net returns for the Total Portfolio Aggregate are currently available from 2Q 2011.

InvMetrics Public DB >\$1B Universe includes BNY Mellon Public>\$1B Fund Universe and IM client data.

Performance Summary								
	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)
<b>EBMUDERS Total Plan Composite</b>	<b>2,248,004,762</b>	<b>100.0</b>	<b>3.7</b>	<b>10.7</b>	<b>7.8</b>	<b>6.4</b>	<b>8.1</b>	<b>7.8</b>
<i>Total Plan Bench</i>			<i>3.7</i>	<i>10.6</i>	<i>7.6</i>	<i>5.6</i>	<i>7.4</i>	<i>7.5</i>
<b>US Equity Composite</b>	<b>591,111,797</b>	<b>26.3</b>	<b>8.4</b>	<b>19.0</b>	<b>13.9</b>	<b>11.4</b>	<b>12.6</b>	<b>10.1</b>
<i>Russell 3000 Hybrid</i>			<i>8.4</i>	<i>19.0</i>	<i>13.9</i>	<i>11.4</i>	<i>12.3</i>	<i>10.2</i>
<b>NonUS Equity Composite</b>	<b>545,430,847</b>	<b>24.3</b>	<b>2.4</b>	<b>12.9</b>	<b>7.8</b>	<b>3.6</b>	<b>5.0</b>	<b>7.1</b>
<i>MSCI ACWI xUS (blend)</i>			<i>2.7</i>	<i>13.3</i>	<i>7.7</i>	<i>4.0</i>	<i>5.2</i>	<i>6.9</i>
<b>Covered Calls Composite</b>	<b>459,804,748</b>	<b>20.5</b>	<b>6.0</b>	<b>13.4</b>	<b>10.9</b>	<b>7.9</b>	--	--
<i>CBOE S&amp;P 500 BuyWrite USD</i>			<i>4.3</i>	<i>9.0</i>	<i>10.6</i>	<i>4.6</i>	--	--
<b>Real Estate Composite</b>	<b>121,999,784</b>	<b>5.4</b>	<b>-1.9</b>	<b>-2.4</b>	<b>9.5</b>	<b>7.2</b>	<b>9.1</b>	--
<i>NCREIF NPI Lag</i>			<i>0.4</i>	<i>-0.1</i>	<i>8.7</i>	<i>6.3</i>	<i>7.8</i>	--
<b>Fixed Income Composite</b>	<b>525,355,530</b>	<b>23.4</b>	<b>-0.4</b>	<b>1.5</b>	<b>-1.5</b>	<b>1.8</b>	<b>2.1</b>	<b>3.6</b>
<i>Fixed Income Composite Bench</i>			<i>-0.3</i>	<i>0.9</i>	<i>-1.9</i>	<i>1.4</i>	<i>2.0</i>	<i>3.3</i>
<b>Cash Composite</b>	<b>4,302,055</b>	<b>0.2</b>	<b>1.1</b>	<b>3.4</b>	<b>1.6</b>	<b>1.9</b>	<b>1.2</b>	<b>1.8</b>
<i>FTSE T-Bill 3 Months TR</i>			<i>1.3</i>	<i>3.7</i>	<i>1.3</i>	<i>1.6</i>	<i>1.0</i>	<i>1.3</i>

Benchmark composition and history provided at the end of this report.

# **Economic and Market Update**

Data as of June 30, 2023

### Commentary

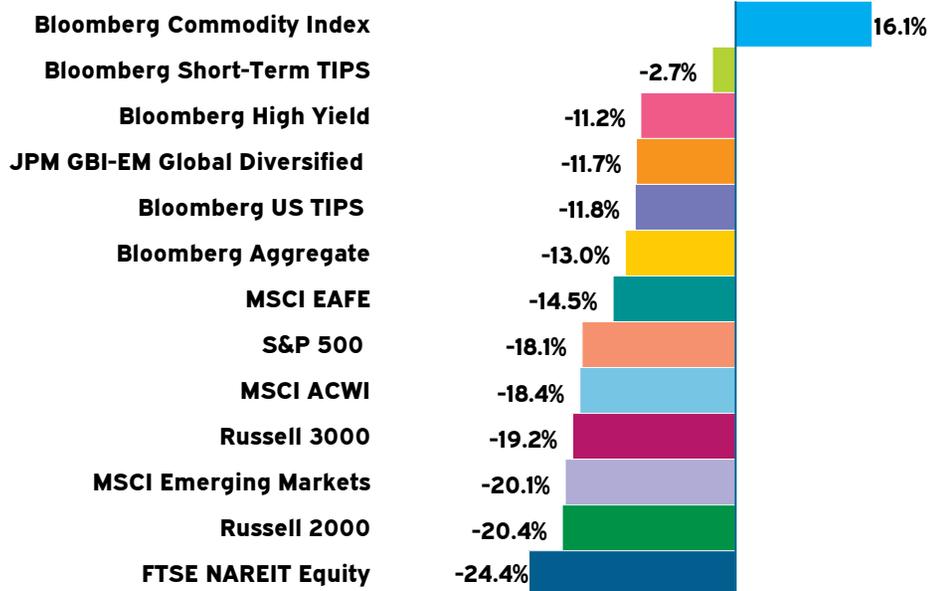
→ Asset returns were positive in June with US and Non-US equities posting gains, while most fixed income sectors sold-off on expectations for further interest rate hikes later this year. Except for commodities, most public market asset classes remain up for the year.

- Although the Fed skipped a rate-hike in June, Fed comments signaled further rate hikes in the 2H 2023; the US economy appears to be resilient supporting domestic demand and low unemployment.
- US equity markets (Russell 3000) rose in June (+6.8%) adding to YTD gains (+16.2%). 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 rose in June (MSCI EAFE 4.6%) falling behind US equities in 2023 (+16.2% versus +11.7%). A strengthening US dollar weighed on returns.
- Emerging market equities rose in June (+3.8%) supported by positive returns in China (+4.0%). They significantly trail developed market equities YTD returning +4.9%, due partly to higher US-China tensions.
- Rates generally rose in June leading to bond markets declining, with the broad US bond market (Bloomberg Aggregate) falling 0.4% for the month. It remains positive (+2.1%) year-to-date, though, on declining inflation and expectations for the Fed to end their rate hikes soon.

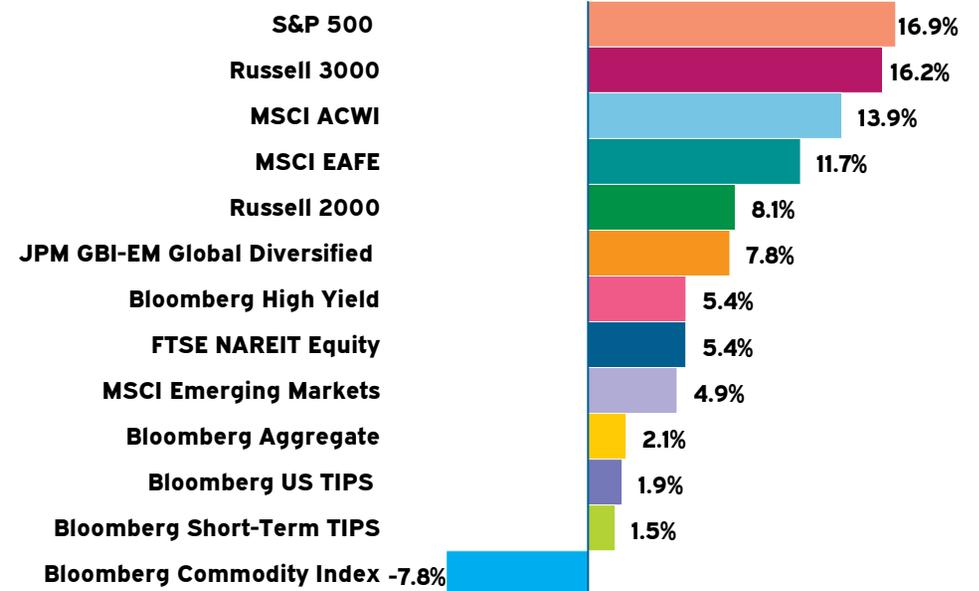
→ This year, the paths of inflation and monetary policy, slowing global growth and the war in Ukraine will all be key.

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

#### 2022



#### YTD



→ 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 June 30, 2023.

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

Domestic Equity	June (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	6.6	8.7	16.9	19.6	14.6	12.3	12.8
Russell 3000	6.8	8.4	16.2	19.0	13.9	11.4	12.3
Russell 1000	6.8	8.6	16.7	19.4	14.1	11.9	12.6
Russell 1000 Growth	6.8	12.8	29.0	27.1	13.7	15.1	15.7
Russell 1000 Value	6.6	4.1	5.1	11.5	14.3	8.1	9.2
Russell MidCap	8.3	4.8	9.0	14.9	12.5	8.4	10.3
Russell MidCap Growth	7.7	6.2	15.9	23.1	7.6	9.7	11.5
Russell MidCap Value	8.7	3.9	5.2	10.5	15.0	6.8	9.0
Russell 2000	8.1	5.2	8.1	12.3	10.8	4.2	8.2
Russell 2000 Growth	8.3	7.1	13.6	18.5	6.1	4.2	8.8
Russell 2000 Value	7.9	3.2	2.5	6.0	15.4	3.5	7.3

#### US Equities: Russell 3000 Index rose 8.4% in the second quarter and 16.2% YTD.

- US stocks rose sharply in the second quarter of 2023. Most of the gains came in the month of June when the Fed kept its target rate unchanged for the first time since early 2022. Investors are expressing optimism that the Fed can tame inflation without widespread disruptions to the equity markets.
- With the exception of energy and utilities, each sector of the Russell 3000 index appreciated during the second quarter. Technology led all sectors and was driven by enthusiasm for growth stocks, particularly those with exposure to artificial intelligence (e.g., NVIDIA).
- Large cap stocks continue to outperform small cap stocks, driven by technology and the underperformance of small cap biotechnology stocks. Growth stocks continue to broadly outperform value stocks.

<sup>1</sup> Source: Bloomberg. Data is as of June 30, 2023.

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

Foreign Equity	June (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	4.5	2.4	9.5	12.7	7.2	3.5	4.7
MSCI EAFE	4.6	3.0	11.7	18.8	8.9	4.4	5.4
MSCI EAFE (Local Currency)	3.6	4.3	12.1	17.5	11.7	6.4	7.7
MSCI EAFE Small Cap	2.9	0.6	5.5	10.2	5.7	1.3	6.2
MSCI Emerging Markets	3.8	0.9	4.9	1.8	2.3	0.9	2.9
MSCI Emerging Markets (Local Currency)	3.4	1.7	5.6	3.3	3.9	3.0	5.7
MSCI China	4.0	-9.7	-5.5	-16.8	-10.3	-5.3	3.0

**Foreign Equity: Developed international equities (MSCI EAFE) rose 3.0% in the second quarter bringing the YTD results to +11.7%. Emerging market equities (MSCI EM) rose 0.9% in the quarter, rising 4.9% YTD.**

- Eurozone and Japan markets continued their strength in June, wrapping up a strong second quarter. In Europe, financials and IT led returns whereas energy and communication services lagged. Enthusiasm for AI helped company fundamentals and prices for semiconductor stocks. Headline inflation was down in June, although core inflation was up slightly month over month. Energy and materials were the main drivers for falling UK equities, along with Bank of England rate hikes. Optimism continues to build for Japanese investors, while the Yen remains weak and Bank of Japan remains dovish.
- Emerging markets were laggards as China equities struggled from weak export demands and rising negative sentiments. Brazil, India and Taiwan are bright spots in EM, the former due to good earnings and macro, the latter from AI and IT strength.

<sup>1</sup> Source: Bloomberg. Data is as of June 30, 2023.

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

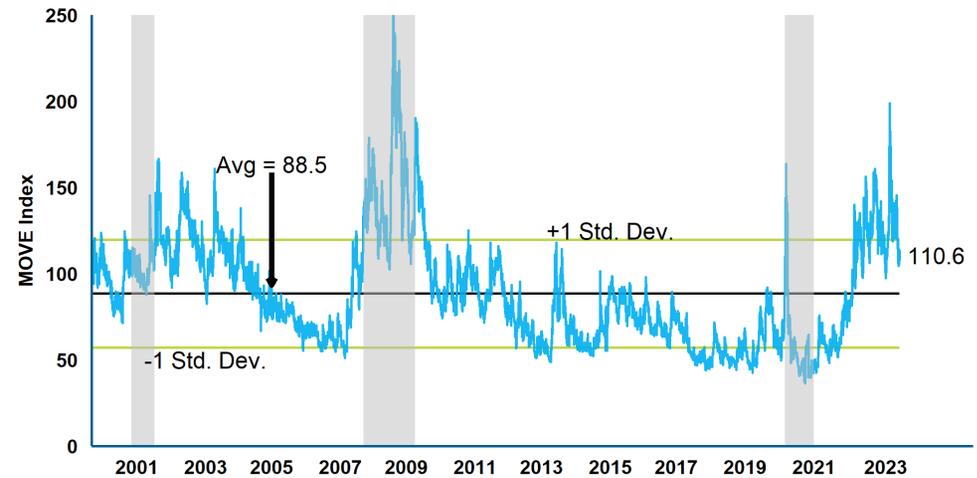
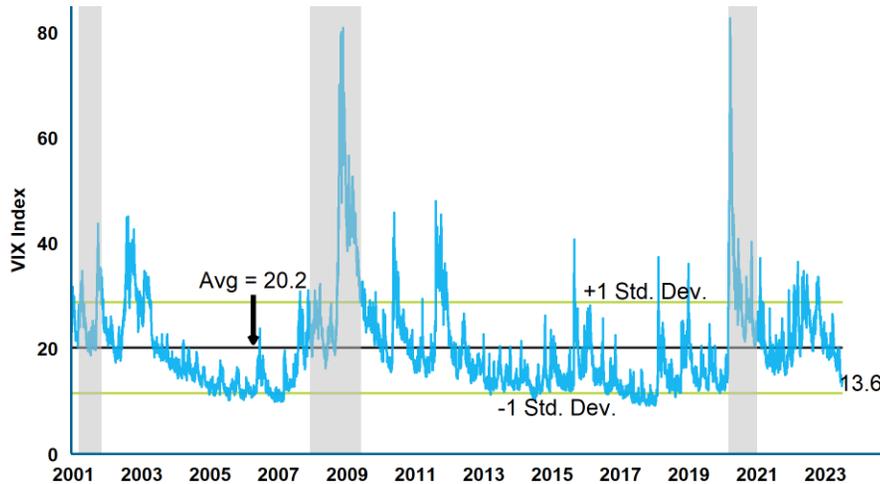
Fixed Income	June (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-0.2	-0.6	2.3	0.0	-3.4	1.0	1.8	5.2	6.3
Bloomberg Aggregate	-0.4	-0.8	2.1	-0.9	-4.0	0.8	1.5	4.8	6.5
Bloomberg US TIPS	-0.3	-1.4	1.9	-1.4	-0.1	2.5	2.1	4.6	6.8
Bloomberg Short-term TIPS	-0.2	-0.7	1.5	0.1	2.3	2.7	1.7	5.3	2.5
Bloomberg High Yield	1.7	1.7	5.4	9.1	3.1	3.4	4.4	8.5	4.1
JPM GBI-EM Global Diversified (USD)	3.3	2.5	7.8	11.4	-1.4	0.3	-0.6	6.6	5.0

**Fixed Income:** The Bloomberg Universal declined 0.6% in the second quarter as global sovereign debt yields generally rose. Bonds retained a positive start to the year (+2.3% YTD) though as inflation continues to decline.

- US Treasury yields generally rose over the month, with 1-year to 10-year maturity sector rising the most due to higher policy expectations.
- The TIPS index and the short-term TIPS index posted negative returns for the month as inflation concerns continued to ease.
- Continued risk appetite drove high yield bond performance (1.7%) and outperformance versus the broad US bond market (Bloomberg Aggregate). Emerging market bonds (3.3%) also performed well on investor risk sentiment.

<sup>1</sup> Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of June 30, 2023. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.

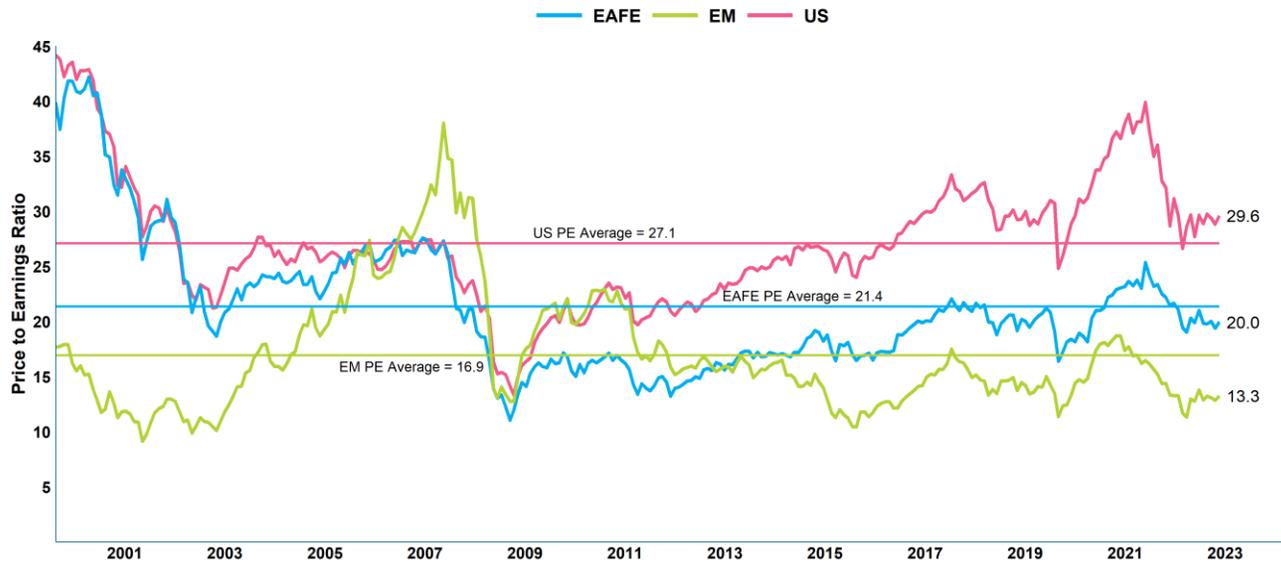
### Equity and Fixed Income Volatility<sup>1</sup>



- Volatility in equities (VIX) declined in June and 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 (110.6) its long-run average (88.4), but off its recent peak during the heart of the banking crisis.

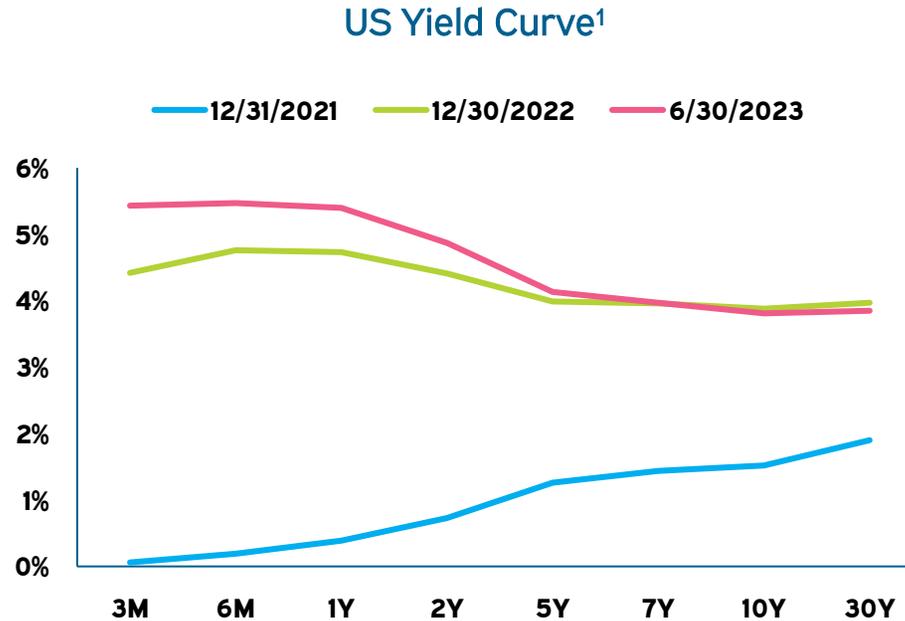
<sup>1</sup> Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of June 2023. The average line indicated is the average of the VIX and MOVE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

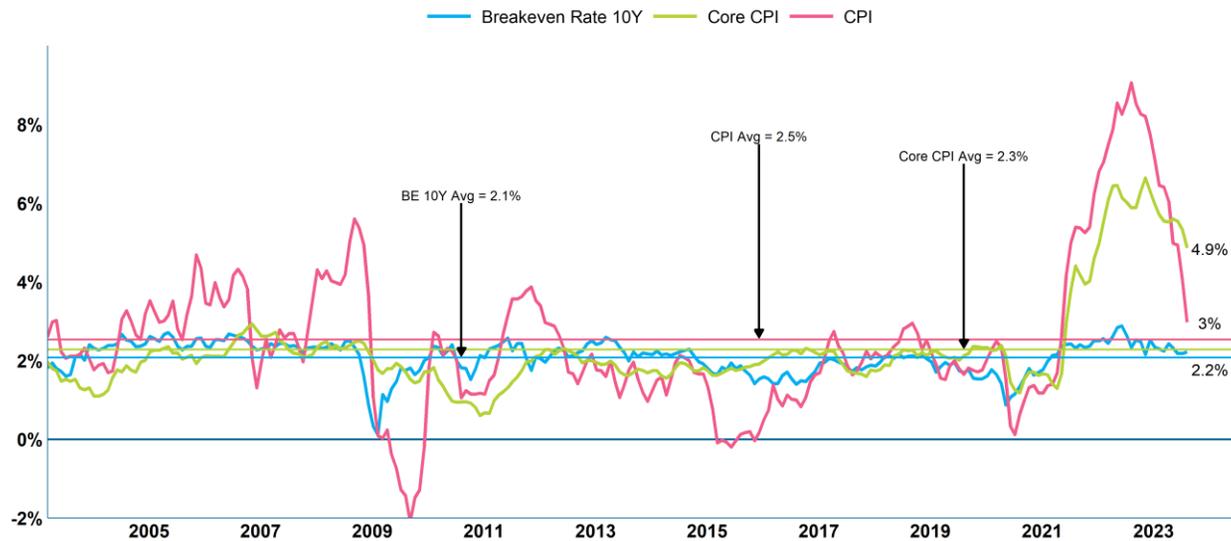
<sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of June 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 started rising again across the curve given policy maker guidance that policy rates are likely to rise further and potentially stay longer at the terminal rate than market participants expect. The rise in rates was particularly acute at the very front-end (< 1 year). Maturities from two years out also drifted higher as market participants considered the possibility of additional policy rate increases as economic data (mainly inflation and labor markets) remains strong.
- The yield curve remains inverted with the spread between two-year and ten-year Treasuries finishing the month at -1.06%. The more closely watched measure (by the Fed) of the three-month and ten-year Treasuries spread also remained inverted at -1.62%. Inversions in the yield curve have often preceded recessions.

<sup>1</sup> Source: Bloomberg. Data is as of June 30, 2023.

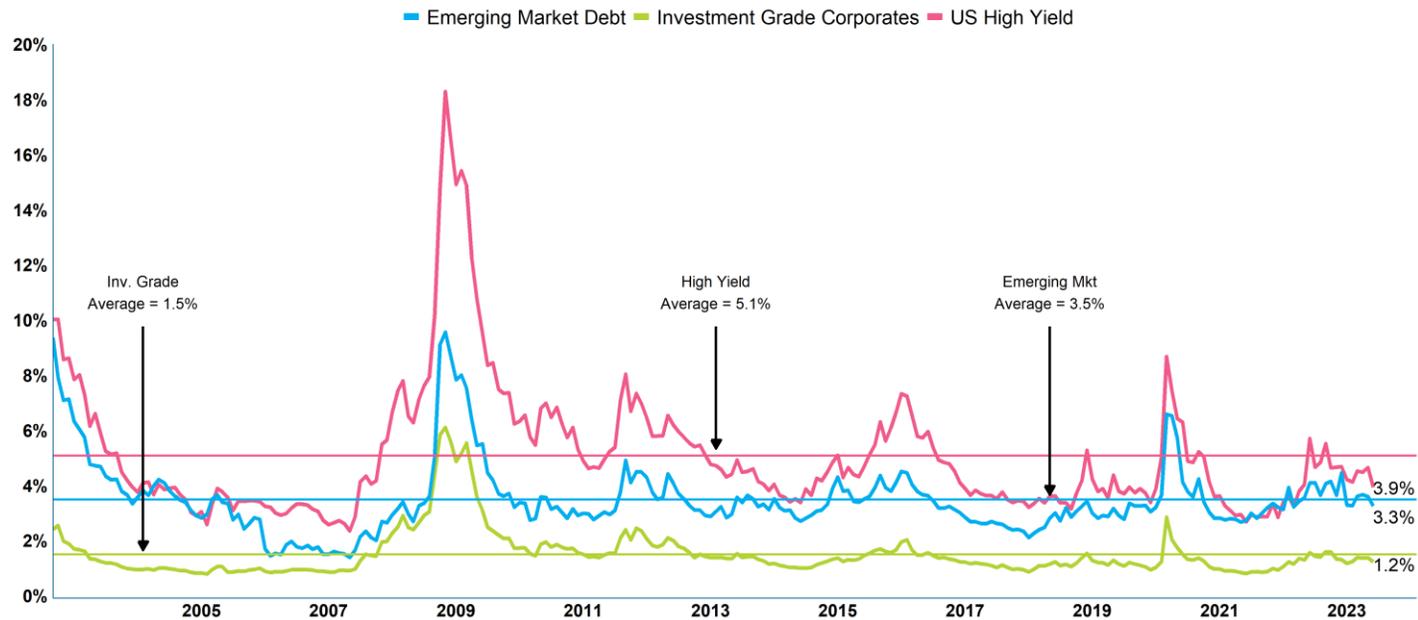
**Ten-Year Breakeven Inflation and CPI<sup>1</sup>**



- Headline inflation continued to decline in June, with the year-over-year reading falling from 4.0% to 3.0% and coming in slightly below estimates. The month-over-month rate of price increases rose slightly (0.2% versus 0.1%), with food prices ticking up slightly (0.1%) and energy prices rose (0.6%).
- Core inflation – excluding food and energy - fell (5.3% to 4.9%), 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 June 30, 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.

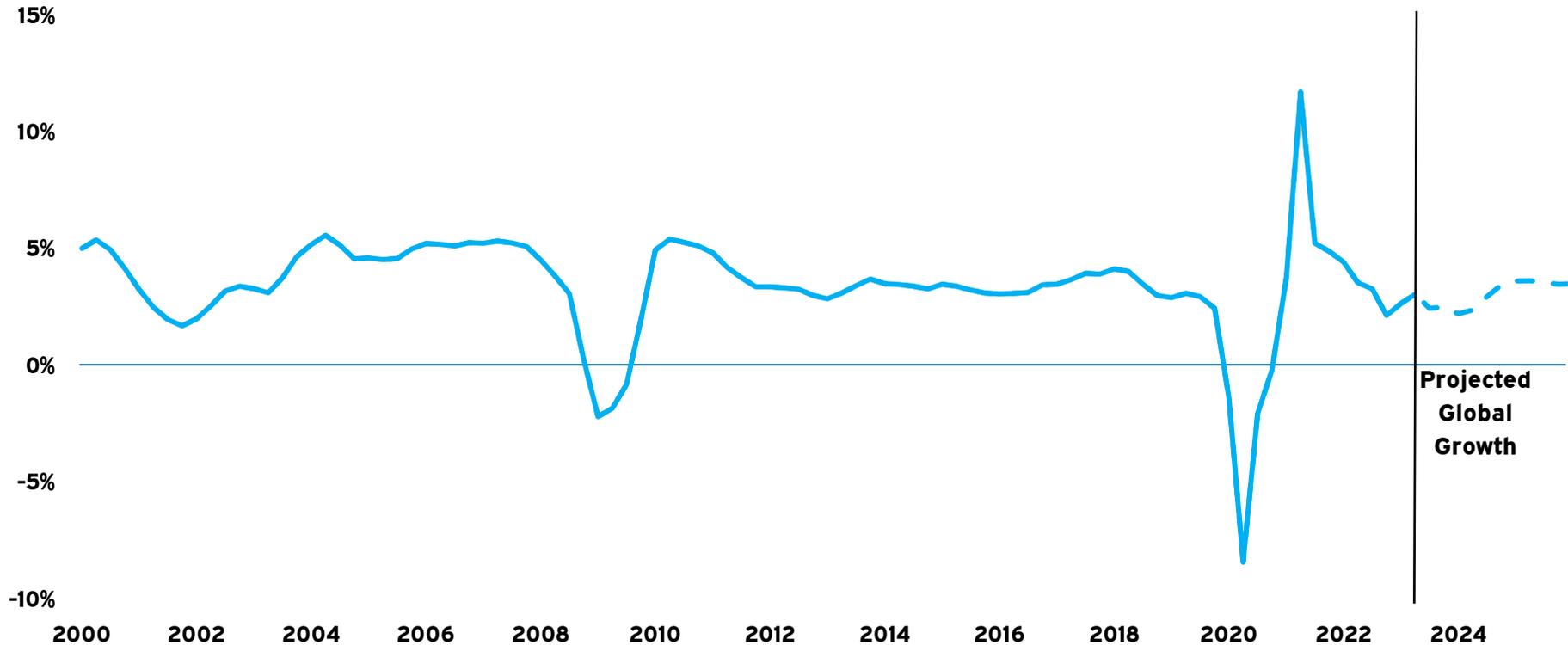
**Credit Spreads vs. US Treasury Bonds<sup>1</sup>**



- Spreads (the added yield above a comparable maturity Treasury) declined in June as risk appetite remained robust for respective credit exposures.
- 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 June 30, 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>**

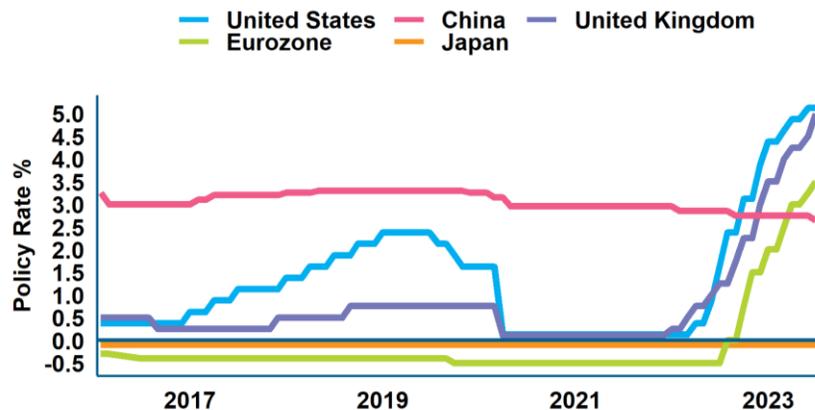


- Global economies are expected to slow this year compared to 2022, with risks of recession as the impacts of policymakers’ aggressive tightening to fight inflation flow through economies.
- The delicate balancing act of central banks trying to reduce inflation without dramatically depressing growth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

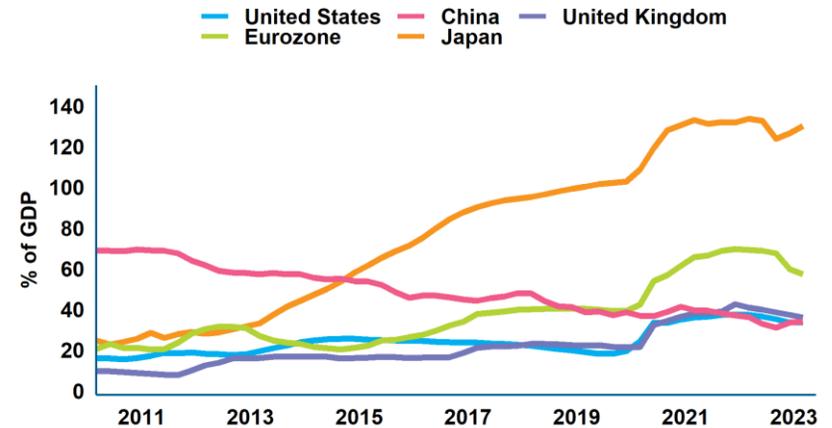
<sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, real, % change YoY). Updated June 2023.

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

#### Policy Rates



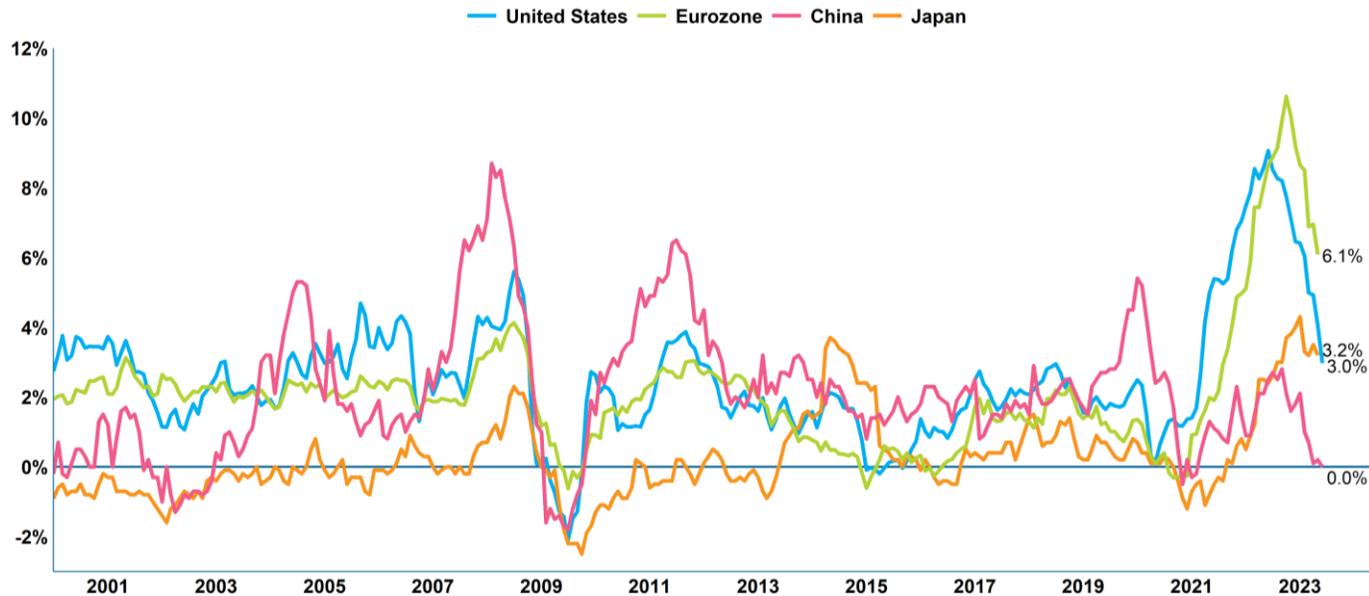
#### Balance Sheet as % of GDP



- 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.
- In May the Fed raised rates another 25 basis points to a range of 5.0% to 5.25%. 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, risks remain for a policy error as central banks attempt to balance multiple goals, bringing down inflation, maintaining financial stability, and supporting growth.

<sup>1</sup> Source: Bloomberg. Policy rate data is as of June 30, 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.

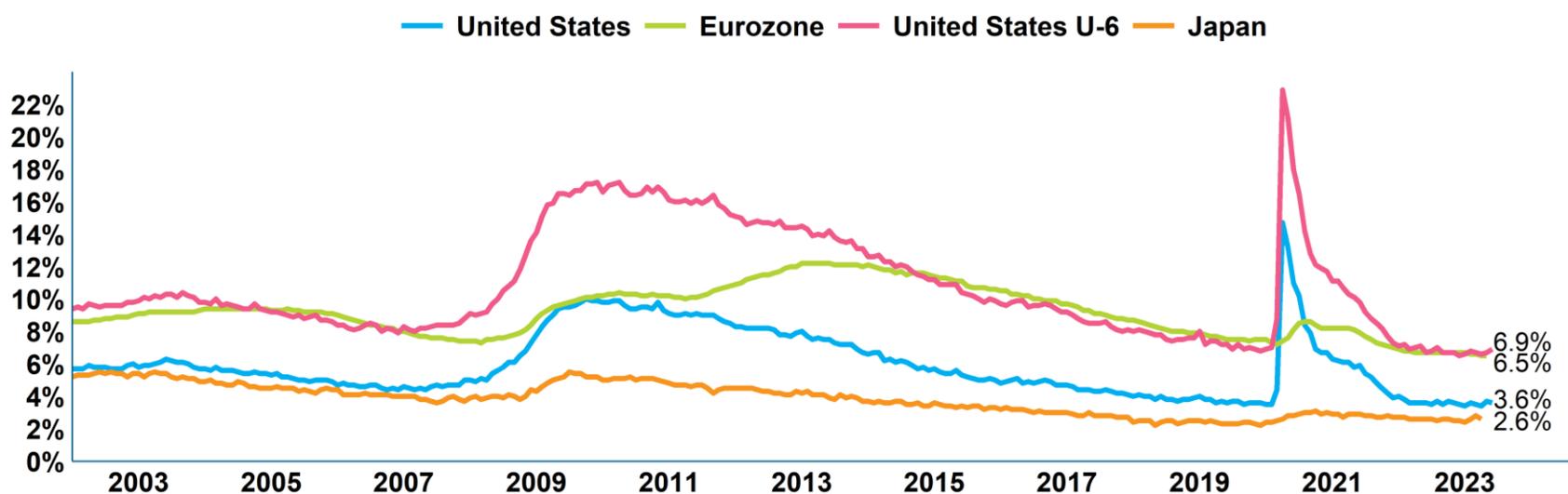
**Inflation (CPI Trailing Twelve Months)<sup>1</sup>**



- 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 3.0% 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 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 June 30, 2023. The most recent Japanese inflation data is as of May 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 6.9% 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 June 30, 2023, for the US. The most recent data for Eurozone and Japanese unemployment is as of May 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 June, we did see a slight decline 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 June 30, 2023.

## Summary

### Key Trends:

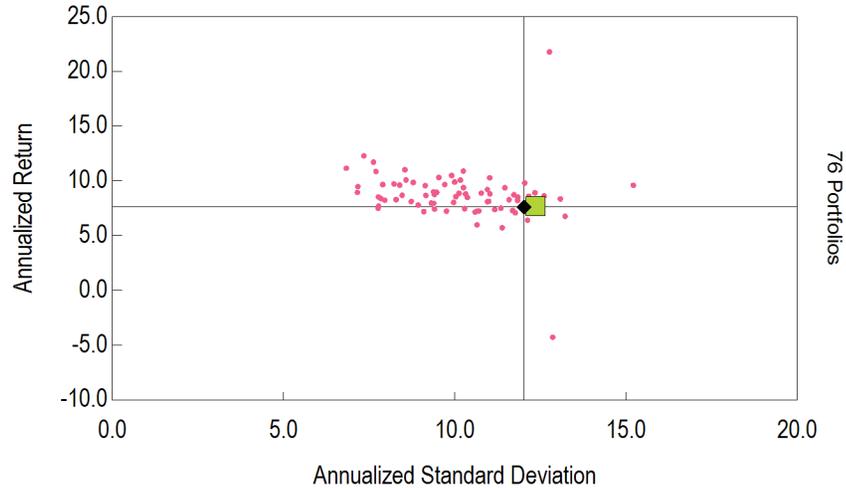
- The impacts of still relatively high inflation will remain key, with bond market volatility likely to stay high.
- Recent issues related to the banking sector seem to have subsided for now but are a reminder that there is a delicate balance for central banks to continue to fight inflation but also 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.

## **EBMUDERS Portfolio Review**

## **Second Quarter Performance Review**

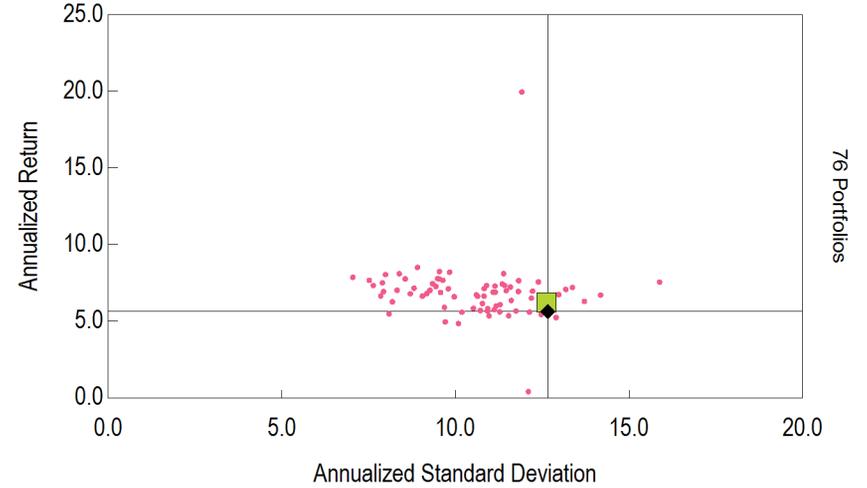
### EBMUDERS Total Plan Composite | As of June 30, 2023

**Annualized Return vs. Annualized Standard Deviation  
3 Years Ending June 30, 2023**



■ EBMUDERS Total Plan Composite    ● InvMetrics Public DB > \$1B Gross  
◆ Total Plan Bench

**Annualized Return vs. Annualized Standard Deviation  
5 Years Ending June 30, 2023**

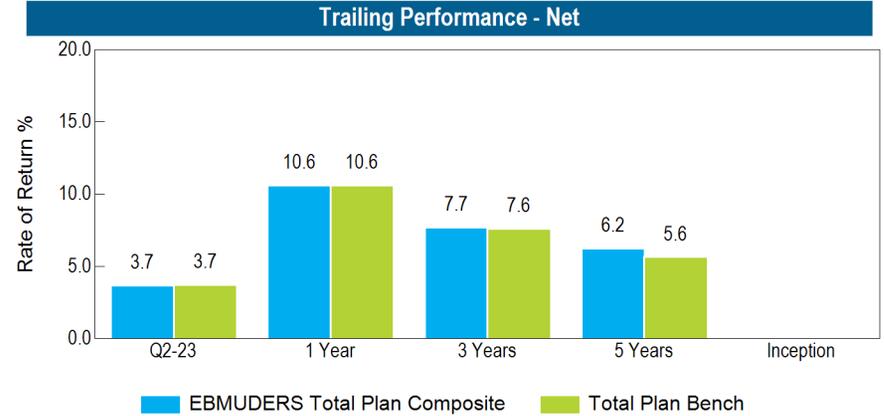
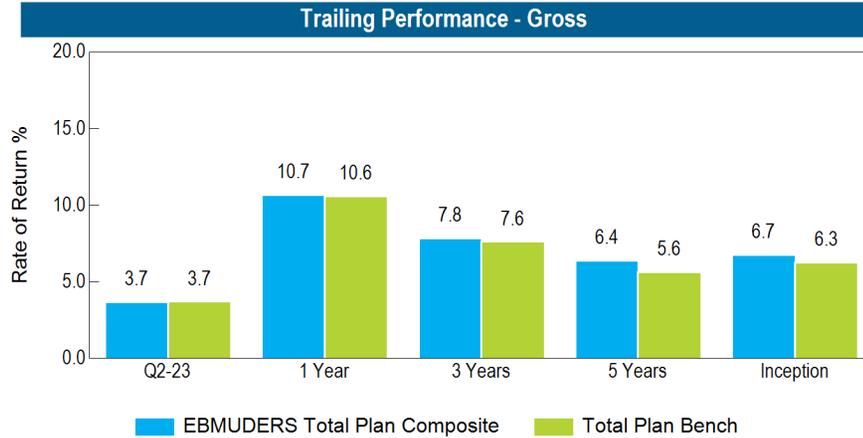


■ EBMUDERS Total Plan Composite    ● InvMetrics Public DB > \$1B Gross  
◆ Total Plan Bench

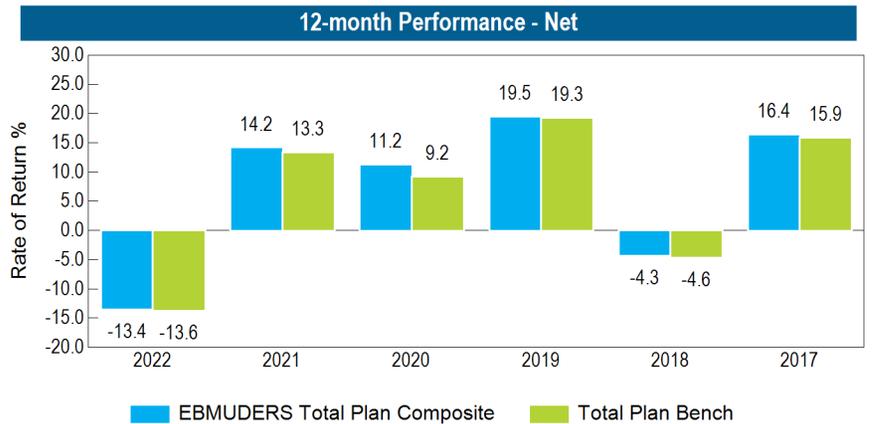
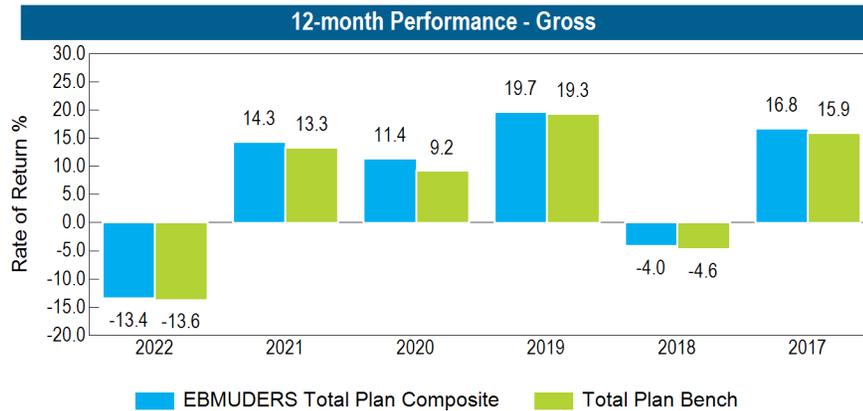
3 Years Ending June 30, 2023			
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
EBMUDERS Total Plan Composite	7.82%	12.36%	0.53
Total Plan Bench	7.60%	12.03%	0.53

5 Years Ending June 30, 2023			
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
EBMUDERS Total Plan Composite	6.37%	12.62%	0.39
Total Plan Bench	5.63%	12.67%	0.33

### EBMUDERS Total Plan Composite | As of June 30, 2023



	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018	2017
<b>EBMUDERS Total Plan Composite - Gross</b>	<b>3.7</b>	<b>10.7</b>	<b>7.8</b>	<b>6.4</b>	<b>8.1</b>	<b>-13.4</b>	<b>14.3</b>	<b>11.4</b>	<b>19.7</b>	<b>-4.0</b>	<b>16.8</b>
<b>EBMUDERS Total Plan Composite - Net</b>	<b>3.7</b>	<b>10.6</b>	<b>7.7</b>	<b>6.2</b>	<b>7.9</b>	<b>-13.4</b>	<b>14.2</b>	<b>11.2</b>	<b>19.5</b>	<b>-4.3</b>	<b>16.4</b>
<i>Total Plan Bench</i>	<i>3.7</i>	<i>10.6</i>	<i>7.6</i>	<i>5.6</i>	<i>7.4</i>	<i>-13.6</i>	<i>13.3</i>	<i>9.2</i>	<i>19.3</i>	<i>-4.6</i>	<i>15.9</i>
<i>InvMetrics Public DB &gt; \$1B Gross Median</i>	<i>2.7</i>	<i>7.9</i>	<i>8.6</i>	<i>6.9</i>	<i>7.6</i>	<i>-11.1</i>	<i>14.9</i>	<i>11.5</i>	<i>16.7</i>	<i>-3.7</i>	<i>16.2</i>

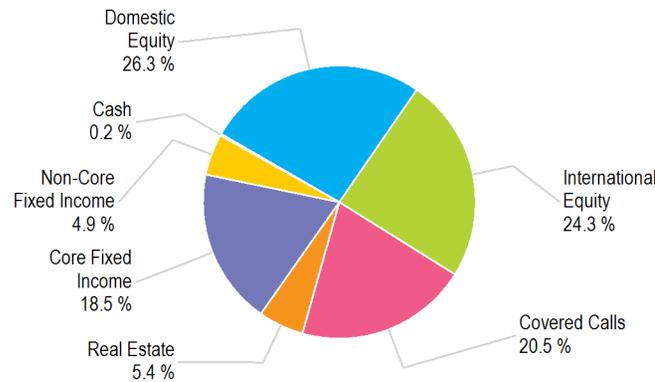


#### Asset Allocation vs. Target

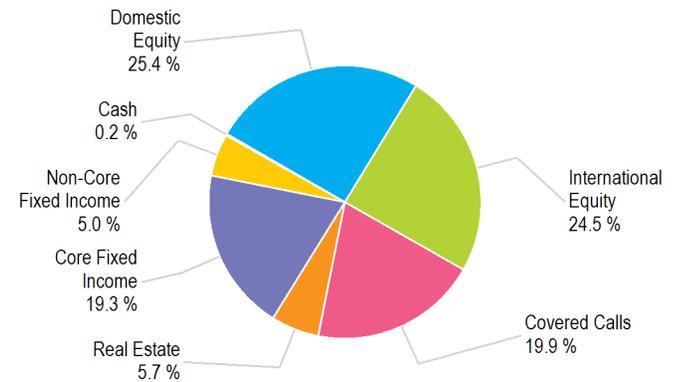
	Current (\$)	Current (%)	Policy (%)	Difference* (%)	Within Range
Domestic Equity	591,111,797	26.3	25.0	1.3	Yes
International Equity	545,430,847	24.3	25.0	-0.7	Yes
Covered Calls	459,804,748	20.5	20.0	0.5	Yes
Real Estate	121,999,784	5.4	5.0	0.4	Yes
Core Fixed Income	415,958,125	18.5	20.0	-1.5	Yes
Non-Core Fixed Income	109,397,405	4.9	5.0	-0.1	Yes
Cash	4,302,056	0.2	0.0	0.2	Yes
<b>Total</b>	<b>2,248,004,762</b>	<b>100.0</b>	<b>100.0</b>		

\*Difference between Policy and Current Allocation

June 30, 2023 : \$2,248,004,762



March 31, 2023 : \$2,176,371,772



Policy rebalancing ranges shown are for non-turbulent market periods. The Plan also has established rebalancing ranges to be in effect during turbulent market periods.

Domestic and International Equity					
	Market Value	QTD	1 Yr	3 Yrs	5 Yrs
<b>US Equity Composite</b>	<b>591,111,797</b>	<b>8.4</b>	<b>19.0</b>	<b>13.9</b>	<b>11.4</b>
<i>Russell 3000 Hybrid</i>		<i>8.4</i>	<i>19.0</i>	<i>13.9</i>	<i>11.4</i>
Northern Trust Russell 3000	590,190,533	8.4	19.0	13.9	11.4
<i>Russell 3000</i>		<i>8.4</i>	<i>19.0</i>	<i>13.9</i>	<i>11.4</i>
<b>NonUS Equity Composite</b>	<b>545,430,847</b>	<b>2.4</b>	<b>12.9</b>	<b>7.8</b>	<b>3.6</b>
<i>MSCI ACWI xUS (blend)</i>		<i>2.7</i>	<i>13.3</i>	<i>7.7</i>	<i>4.0</i>
Northern Trust ACWI ex US	545,430,847	2.4	12.9	7.2	3.7
<i>MSCI ACWI ex USA Gross</i>		<i>2.7</i>	<i>13.3</i>	<i>7.7</i>	<i>4.0</i>

The EBMUDERS Domestic Equity portfolio is currently 100% passively managed.

→ The Northern Trust Russell 3000 fund has performed as expected and has historically tracked the Russell 3000 index.

The EBMUDERS International Equity portfolio is currently 100% passively managed.

→ The Northern Trust ACWI ex US fund has also performed roughly in line with the index. A greater degree of variation is expected in these funds due to Fair Value Adjustment (FVA) which occurs due to mismatches in international market timing.

	Covered Calls				
	Market Value	QTD	1 Yr	3 Yrs	5 Yrs
<b>Covered Calls Composite</b>	<b>459,804,748</b>	<b>6.0</b>	<b>13.4</b>	<b>10.9</b>	<b>7.9</b>
<i>CBOE S&amp;P 500 BuyWrite USD</i>		<i>4.3</i>	<i>9.0</i>	<i>10.6</i>	<i>4.6</i>
Parametric BXM	154,901,290	6.0	12.6	11.5	7.4
<i>CBOE S&amp;P 500 BuyWrite USD</i>		<i>4.3</i>	<i>9.0</i>	<i>10.6</i>	<i>4.6</i>
Parametric Delta Shift	157,336,287	8.5	17.8	14.3	11.4
<i>CBOE S&amp;P 500 BuyWrite USD</i>		<i>4.3</i>	<i>9.0</i>	<i>10.6</i>	<i>4.6</i>
Van Hulzen	147,567,172	3.7	9.7	6.6	4.8
<i>CBOE S&amp;P 500 BuyWrite USD</i>		<i>4.3</i>	<i>9.0</i>	<i>10.6</i>	<i>4.6</i>

Over the latest quarter ending June 30, 2023, covered call strategies in aggregate outperformed the CBOE S&P 500 BuyWrite USD index.

- The Parametric BXM strategy outperformed the CBOE BXM Index over the most recent quarter, returning 6.0% versus the index return of 4.3%. The Buy-Write Portfolio is implemented by writing at-the money options and diversifying option expiration dates which eliminates the path-dependency of the mechanical, passive BXM Index.
- Parametric Delta Shift (+8.5%) outperformed the benchmark (+4.3%) during the second quarter. After a strong quarter, the Delta Shift strategy is now outperforming the benchmark over all longer trailing periods.
- Van Hulzen, underperformed the CBOE BXM Index in the second quarter by 0.6%. The Van Hulzen covered call strategy uses call options with the goal of reducing portfolio volatility and creating incremental income. U.S. growth indices outperformed their value counterparts in the second quarter as sech stocks continued to drive returns. Underperformance from the value oriented strategy can be expected in this market environment.

Fixed Income Composite					
	Market Value	QTD	1 Yr	3 Yrs	5 Yrs
<b>Fixed Income Composite</b>	<b>525,355,530</b>	<b>-0.4</b>	<b>1.5</b>	<b>-1.5</b>	<b>1.8</b>
<i>Fixed Income Composite Bench</i>		<i>-0.3</i>	<i>0.9</i>	<i>-1.9</i>	<i>1.4</i>
CS McKee	208,594,685	-0.3	-0.5	-3.8	0.9
<i>Bloomberg US Aggregate TR</i>		<i>-0.8</i>	<i>-0.9</i>	<i>-4.0</i>	<i>0.8</i>
Garcia Hamilton	207,363,440	-1.3	0.2	-1.9	--
<i>Bloomberg US Aggregate TR</i>		<i>-0.8</i>	<i>-0.9</i>	<i>-4.0</i>	<i>--</i>
MacKay Shields (HY)	56,223,701	1.6	9.1	5.0	--
<i>ICE BofA ML US Corp Cash Pay BB-B 1-5Yr</i>		<i>1.6</i>	<i>8.7</i>	<i>4.0</i>	<i>--</i>
Federated Investment Counseling (Bank Loans)	53,173,703	0.9	6.0	2.8	--
<i>60% CredSuisLevLoan/40% BBStGovCorp</i>		<i>2.3</i>	<i>7.3</i>	<i>4.1</i>	<i>--</i>

Over the latest quarter ending June 30, 2023, the EBMUDERS core (CS McKee and Garcia Hamilton) mandates had mixed relative performance. The portfolio's high yield manager, MacKay Shields, tracked their benchmark while bank loans manager, Federated Investment Counseling underperformed.

- CS McKee returned -0.3% in the most recent quarter versus the Bloomberg US Aggregate Index return of -0.8%. Improving liquidity conditions and positive economic data during the quarter drove returns for investment grade bonds.
- Garcia Hamilton's mandate and benchmark were transitioned to the Bloomberg US Aggregate Index effective January 31, 2023. The portfolio underperformed the Bloomberg US Aggregate index for the quarter. Longer duration versus the benchmark and defensive positioning within credit were drivers of underperformance.
- MacKay Shields tracked the ICE BofAML US Corp Cash Pay BB-B 1-5Yr Index over the quarter.
- Federated Investment Counseling (Bank Loans) underperformed the 60% CredSuisLevLoan/40% BBStGovCorp benchmark over the most recent quarter. Selection within non-investment grade assets detracted from benchmark relative returns as prices fell across distressed bonds and less liquid term loans.

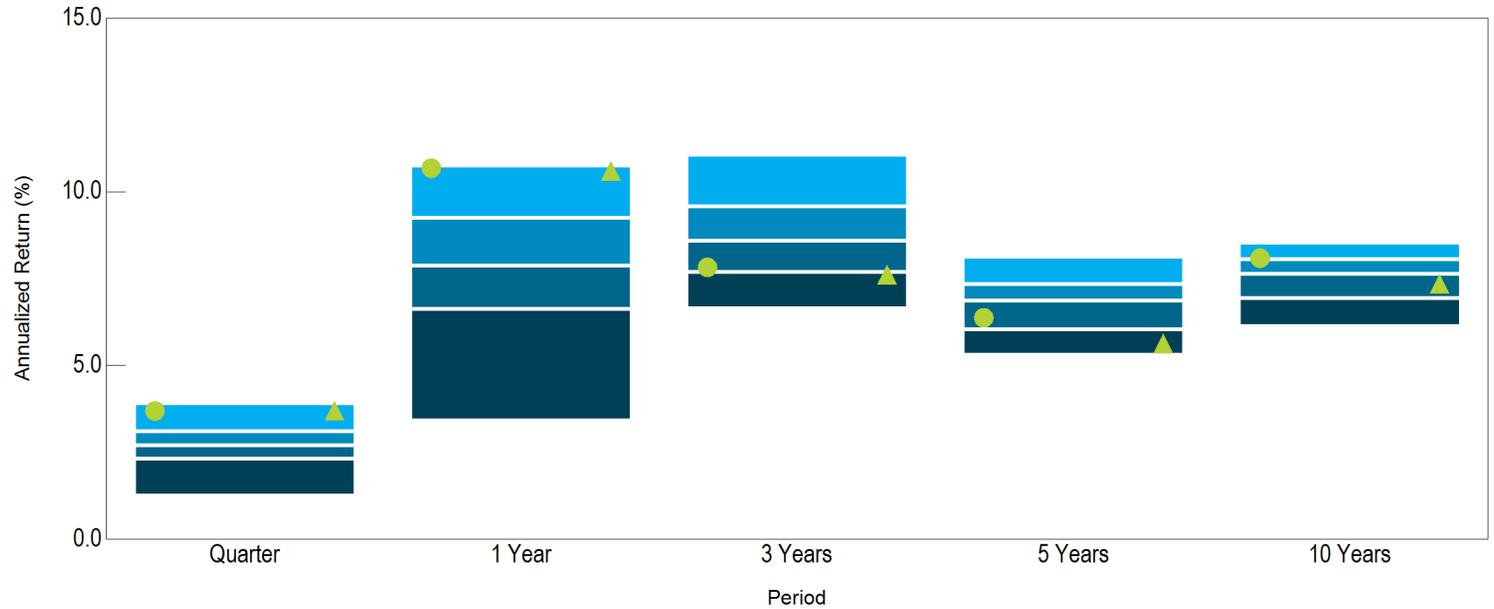
November 2019 to January 2023 Garcia Hamilton benchmark was Bloomberg US Intermediate Gov/Cred. February 2023 to present the benchmark is Bloomberg US Aggregate.

	Real Estate Composite				
	Market Value	QTD	1 Yr	3 Yrs	5 Yrs
<b>Real Estate Composite</b>	<b>121,999,784</b>	<b>-1.9</b>	<b>-2.4</b>	<b>9.5</b>	<b>7.2</b>
<i>NCREIF NPI Lag</i>		<i>0.4</i>	<i>-0.1</i>	<i>8.7</i>	<i>6.3</i>
RREEF America II Lag	62,650,467	-6.3	-4.3	8.5	8.0
<i>NCREIF NPI Mo 1 Qtr Lag</i>		<i>-1.8</i>	<i>-1.5</i>	<i>7.3</i>	<i>6.8</i>
CenterSquare	59,349,318	3.2	-0.4	9.2	5.7
<i>FTSE NAREIT Equity REIT</i>		<i>2.6</i>	<i>-0.1</i>	<i>8.9</i>	<i>4.6</i>

- EBMUDERS Real Estate manager, RREEF II (reported on a one month lag), underperformed its benchmark, the NCREIF Property Index, over the first quarter. During the lagged 12-month period, RREEF America REIT II operations generated an income return of 3.6% before fees. Same store net operating income increased 3.6% since December 2021. Occupancy at the end of the quarter remained steady at 92% overall.
- CenterSquare, EBMUDERS REIT manager, outperformed the FTSE NAREIT Equity REITs Index for the second quarter. Active exposures to Data Centers (+11.6%) and Healthcare (+7.7%) drove benchmark relative performance.

RREEF American II Performance results are lagged one quarter.

InvMetrics Public DB > \$1B Gross Return Comparison  
Ending June 30, 2023

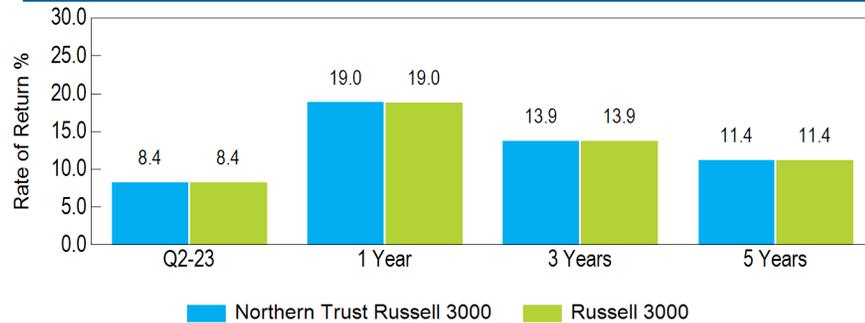


	Return (Rank)		Quarter		1 Year		3 Years		5 Years		10 Years	
5th Percentile		3.9		10.7		11.1		8.1		8.5		
25th Percentile		3.1		9.3		9.6		7.4		8.1		
Median		2.7		7.9		8.6		6.9		7.6		
75th Percentile		2.3		6.6		7.7		6.1		6.9		
95th Percentile		1.3		3.4		6.7		5.3		6.1		
# of Portfolios		79		77		76		76		71		
● EBMUDERS Total Plan Composite	3.7	(10)	10.7	(6)	7.8	(74)	6.4	(70)	8.1	(24)		
▲ Total Plan Bench	3.7	(10)	10.6	(6)	7.6	(77)	5.6	(87)	7.4	(65)		

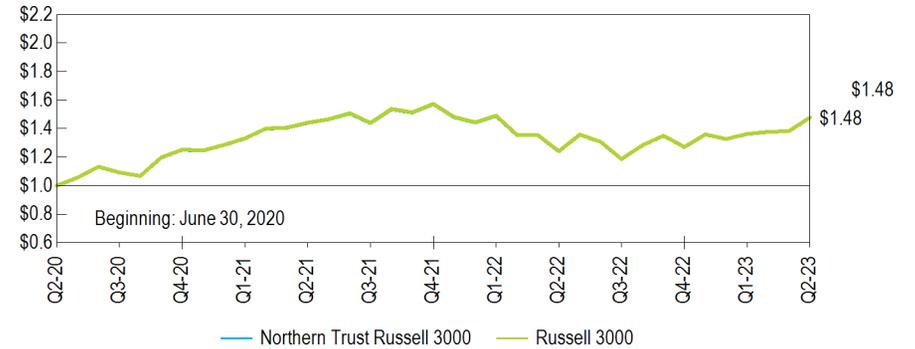
#### 3 Year Statistics Summary

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Northern Trust Russell 3000	0.00%	1.00	-0.37	0.68	0.06%	1.00	99.73%	99.86%
Russell 3000	0.00%	1.00	--	0.68	0.00%	1.00	100.00%	100.00%

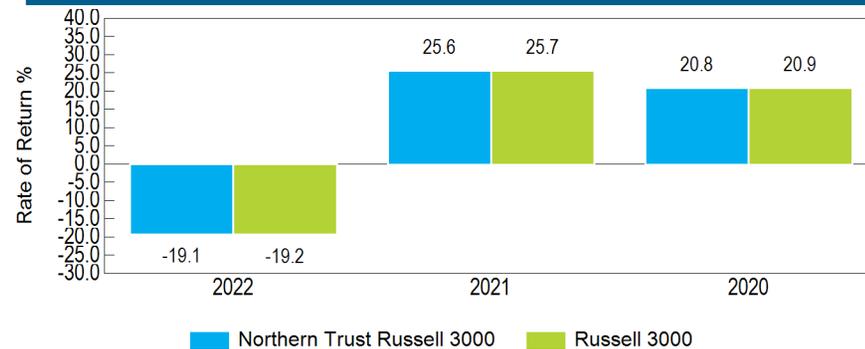
#### Trailing Period Performance



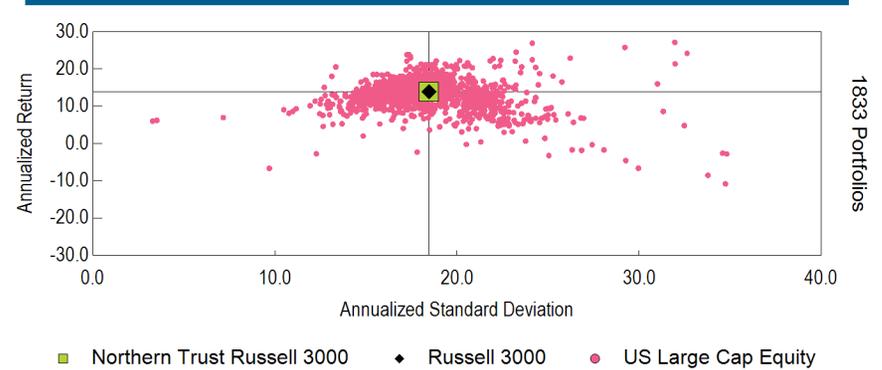
#### Growth of \$1 - 3 Year



#### Calendar Year Performance



#### Risk/Return - 3 Year

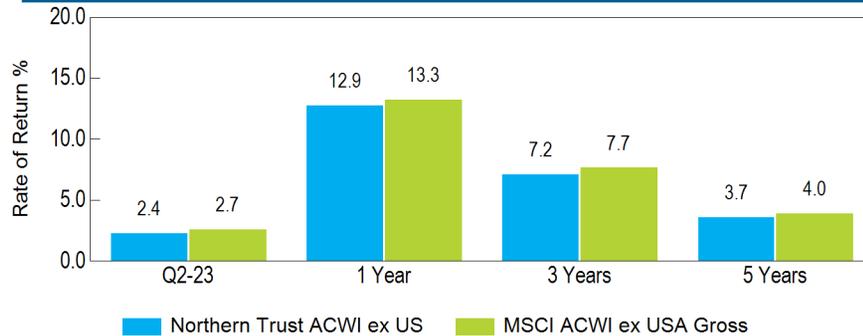


NorthernTrust Russell 3000 has an inception date of June 2018.

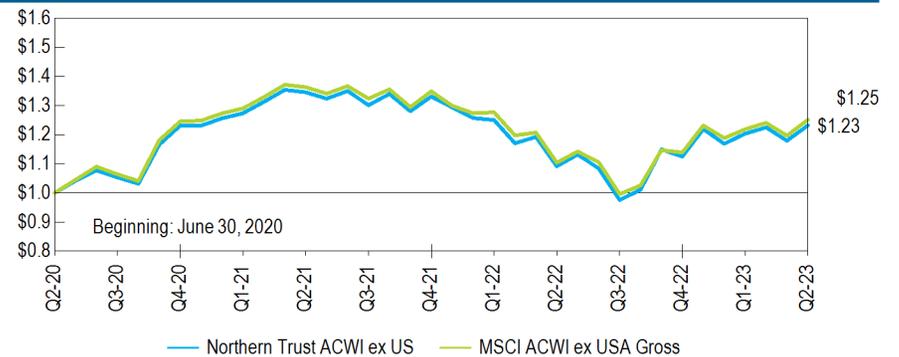
#### 3 Year Statistics Summary

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Northern Trust ACWI ex US	-0.06%	1.03	-0.29	0.33	2.09%	0.99	103.71%	104.71%
MSCI ACWI ex USA Gross	0.00%	1.00	--	0.38	0.00%	1.00	100.00%	100.00%

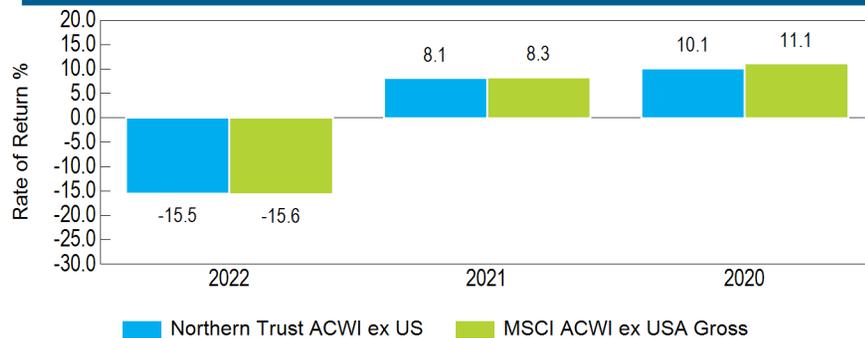
#### Trailing Period Performance



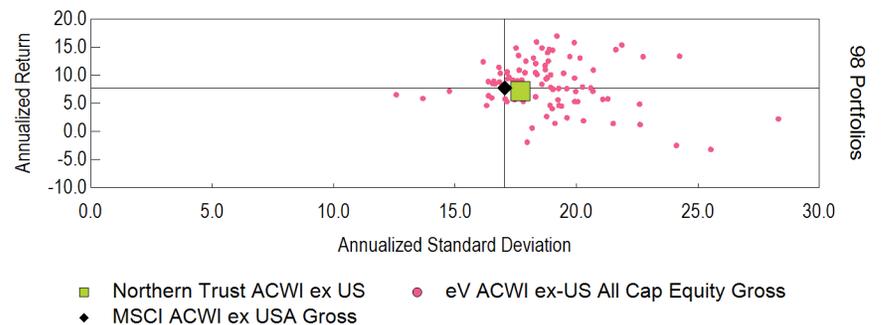
#### Growth of \$1 - 3 Year



#### Calendar Year Performance



#### Risk/Return - 3 Year

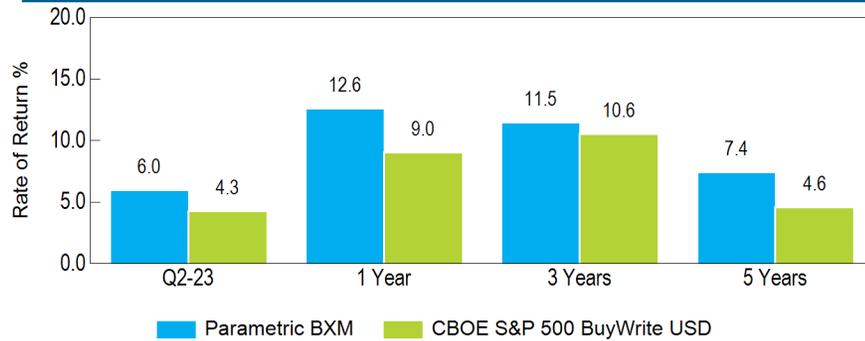


Northern Trust ACWI ex US has an inception date of June 2018

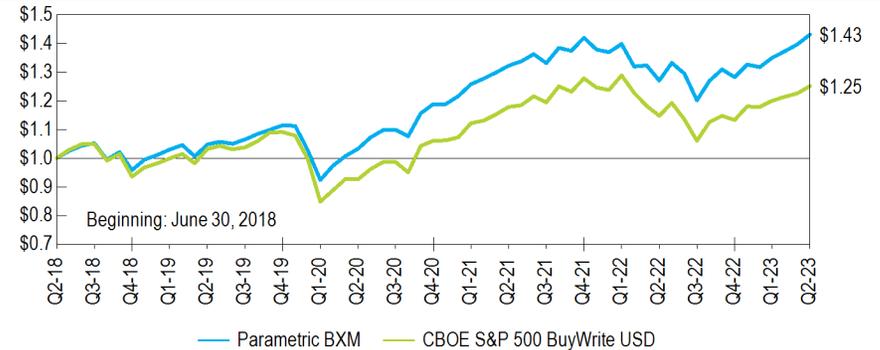
#### 5 Year Statistics Summary

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Parametric BXM	0.27%	0.83	0.63	0.48	4.21%	0.91	97.85%	87.39%
CBOE S&P 500 BuyWrite USD	0.00%	1.00	--	0.23	0.00%	1.00	100.00%	100.00%

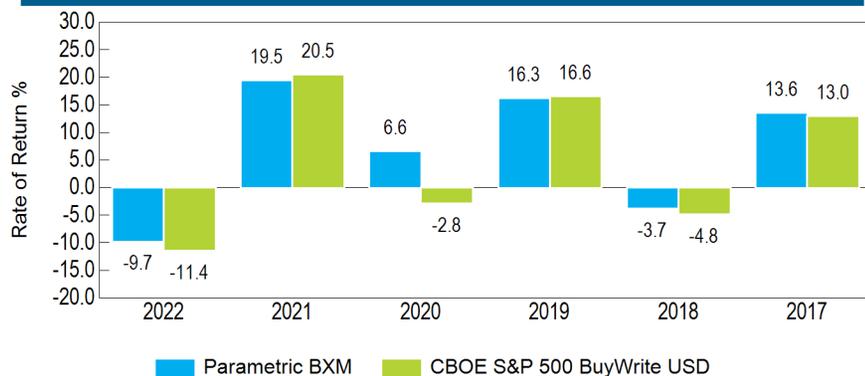
#### Trailing Period Performance



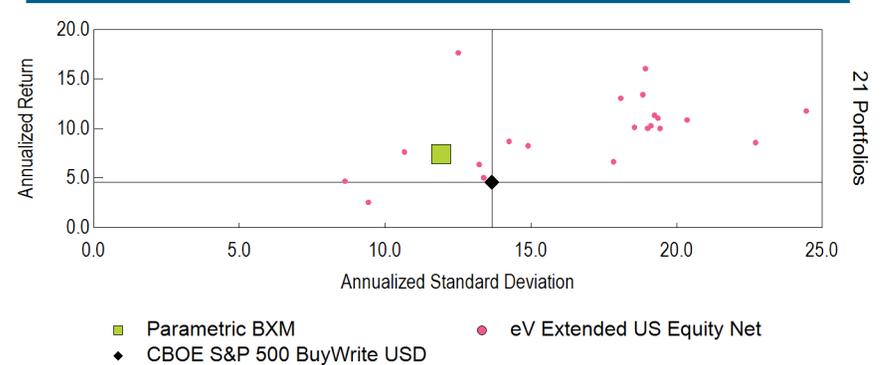
#### Growth of \$1 - 5 Year



#### Calendar Year Performance



#### Risk/Return - 5 Year

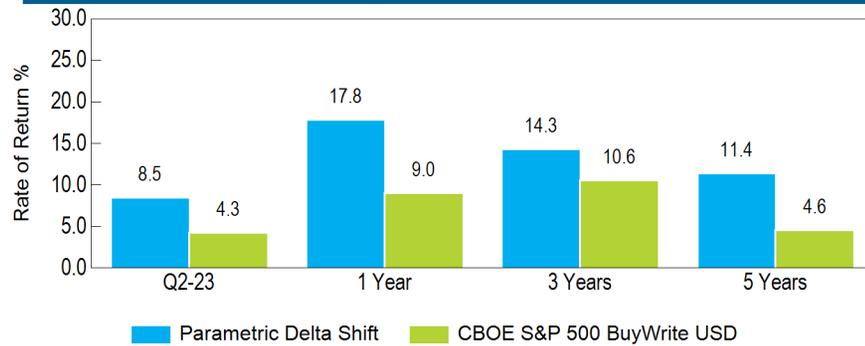


Parametric BXM has an inception date of March 2014.

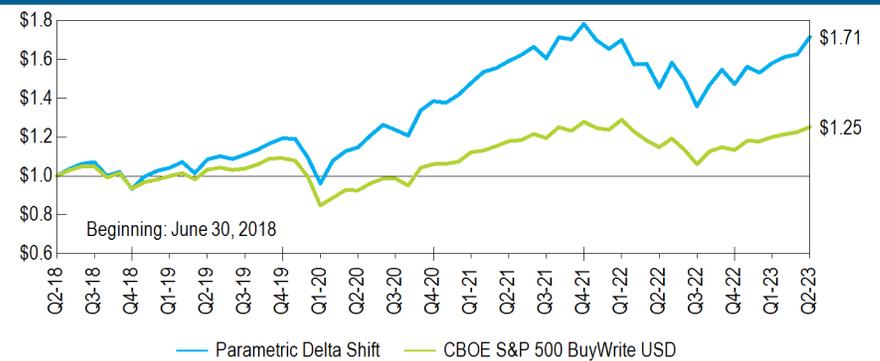
#### 5 Year Statistics Summary

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Parametric Delta Shift	0.47%	1.18	0.89	0.55	7.28%	0.85	198.74%	114.32%
CBOE S&P 500 BuyWrite USD	0.00%	1.00	--	0.23	0.00%	1.00	100.00%	100.00%

#### Trailing Period Performance



#### Growth of \$1 - 5 Year



#### Calendar Year Performance



#### Risk/Return - 5 Year

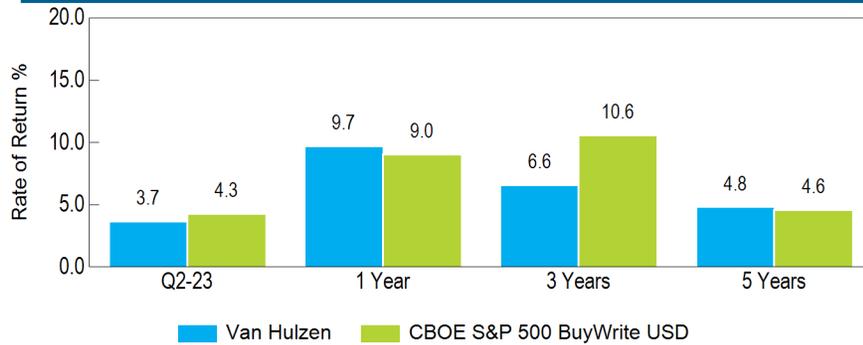


Parametric Delta Shift has an inception date of March 2014.

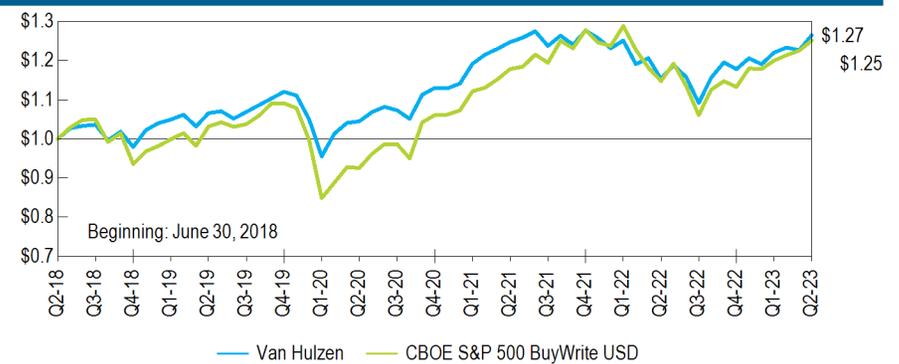
#### 5 Year Statistics Summary

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Van Hulzen	0.10%	0.69	0.00	0.30	5.78%	0.85	72.30%	82.13%
CBOE S&P 500 BuyWrite USD	0.00%	1.00	--	0.23	0.00%	1.00	100.00%	100.00%

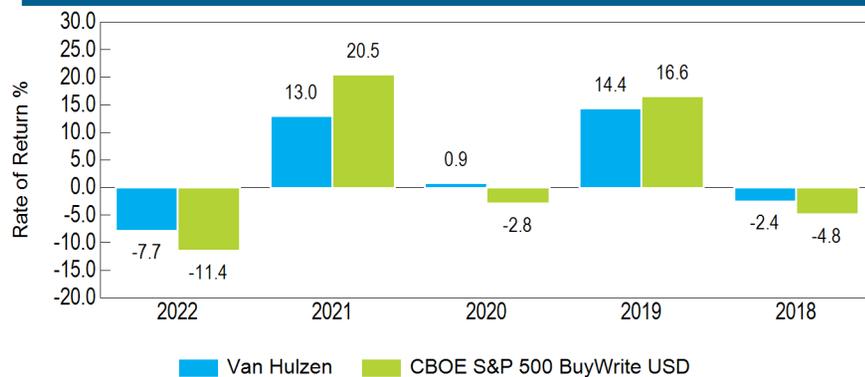
#### Trailing Period Performance



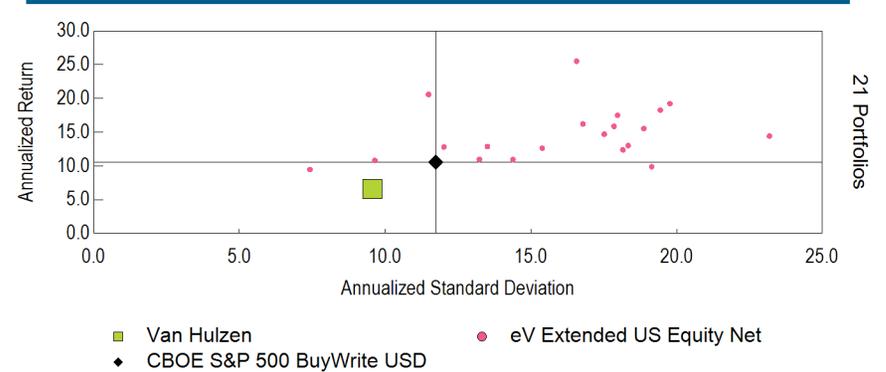
#### Growth of \$1 - 5 Year



#### Calendar Year Performance



#### Risk/Return - 5 Year

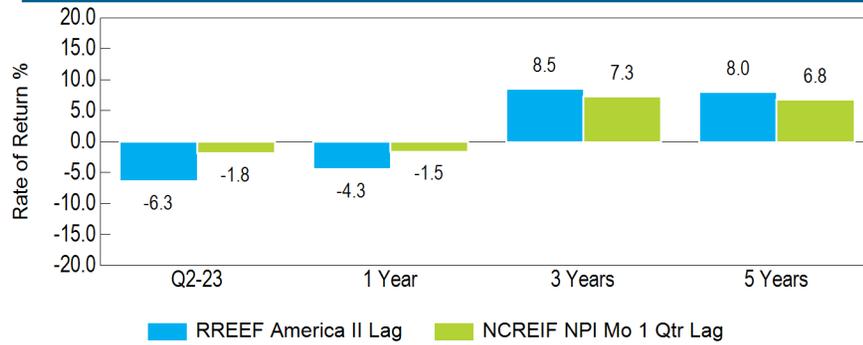


Van Hulzen has an inception date of March 2014.

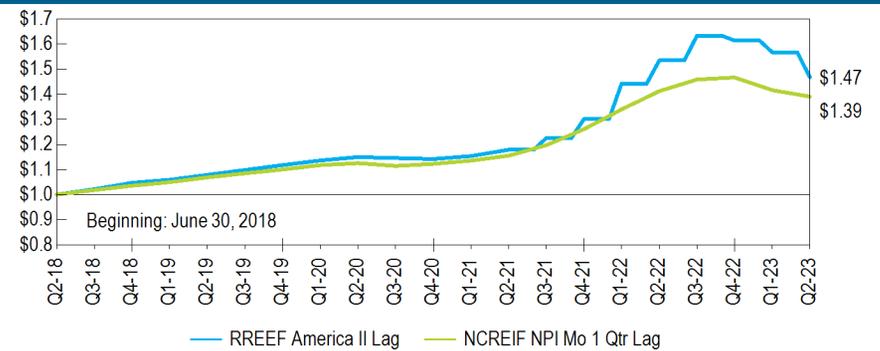
#### 5 Year Statistics Summary

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
RREEF America II Lag	-0.22%	1.46	0.03	0.74	6.57%	0.26	115.29%	159.48%
NCREIF NPI Mo 1 Qtr Lag	0.00%	1.00	--	2.04	0.00%	1.00	100.00%	100.00%

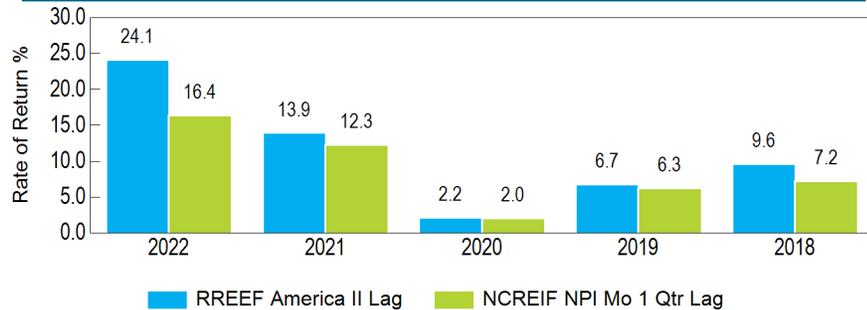
#### Trailing Period Performance



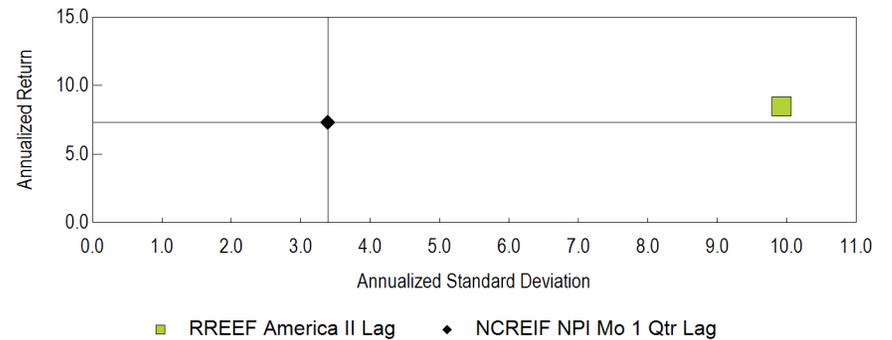
#### Growth of \$1 - 5 Year



#### Calendar Year Performance



#### Risk/Return - 5 Year

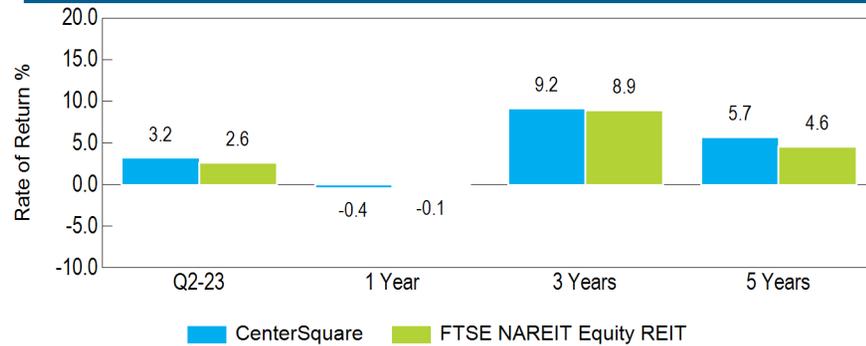


RREEF American II Performance results are lagged one quarter.  
RREEF America II Lag has an inception date of January 2007.

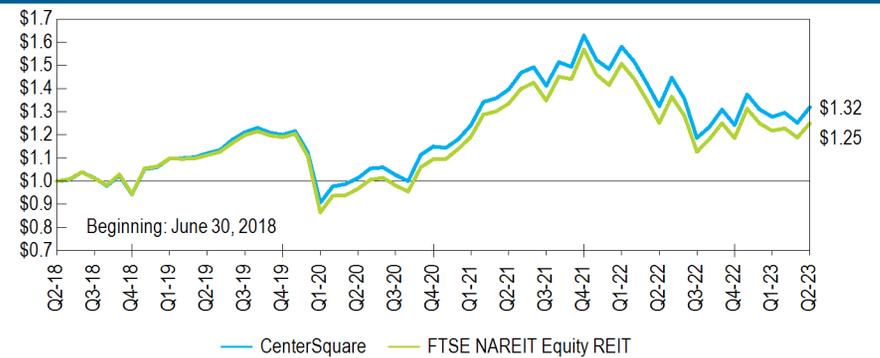
#### 5 Year Statistics Summary

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
CenterSquare	0.07%	0.97	0.52	0.20	1.65%	0.99	99.86%	98.31%
FTSE NAREIT Equity REIT	0.00%	1.00	--	0.15	0.00%	1.00	100.00%	100.00%

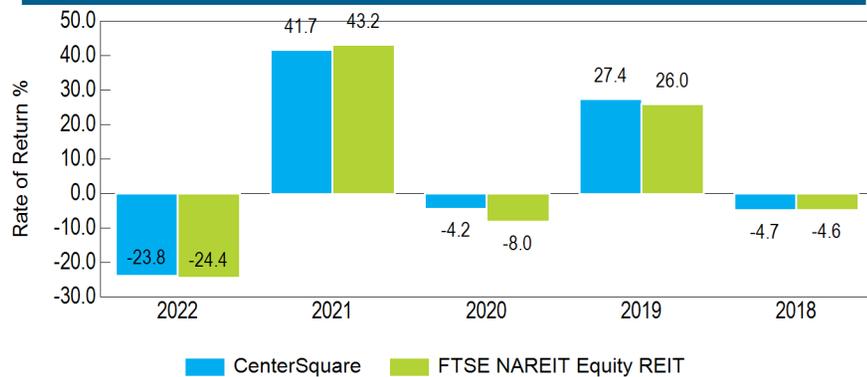
#### Trailing Period Performance



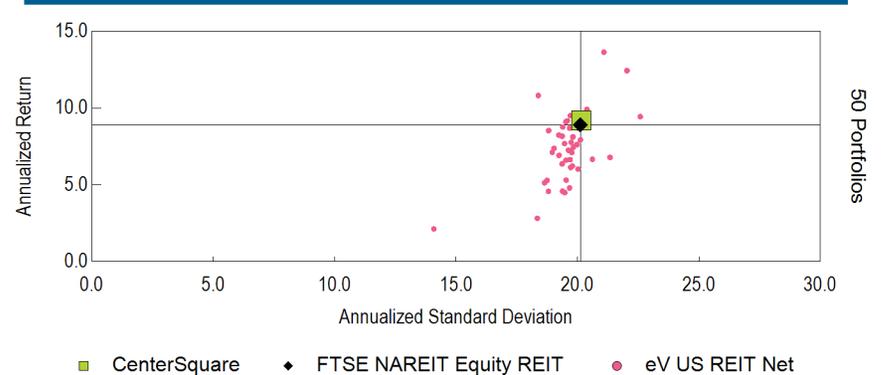
#### Growth of \$1 - 5 Year



#### Calendar Year Performance

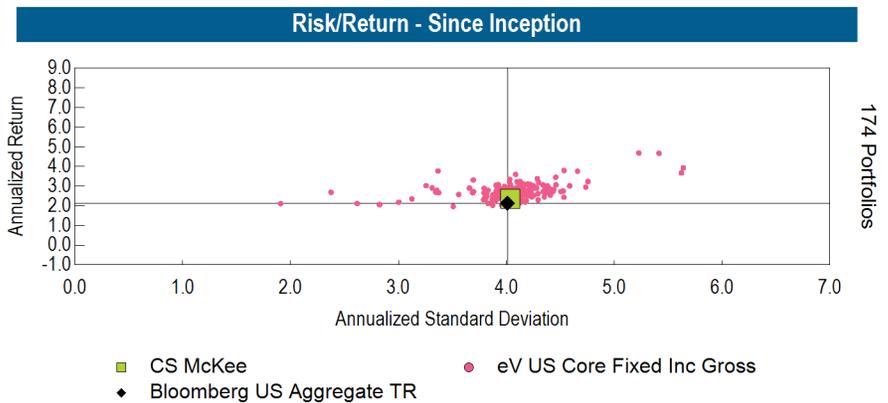
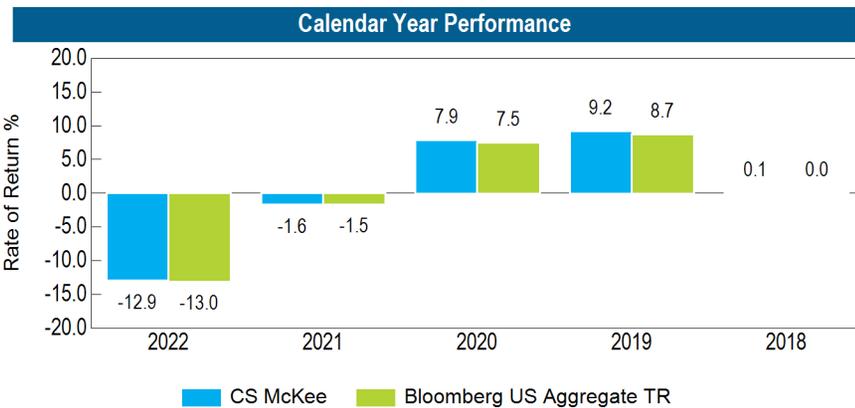
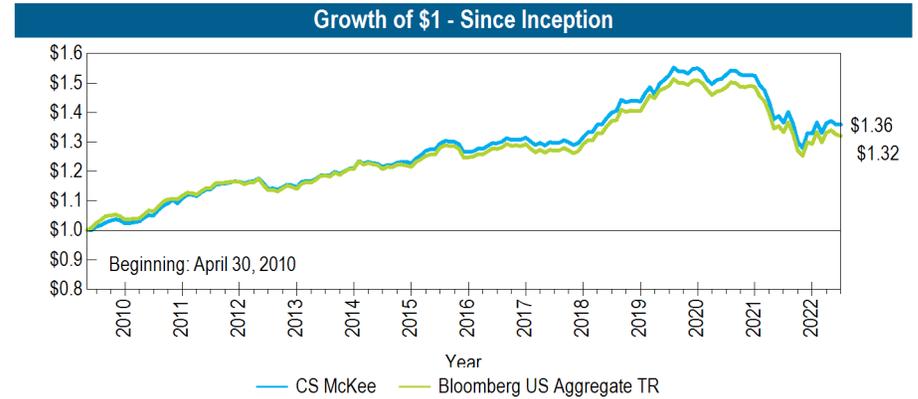
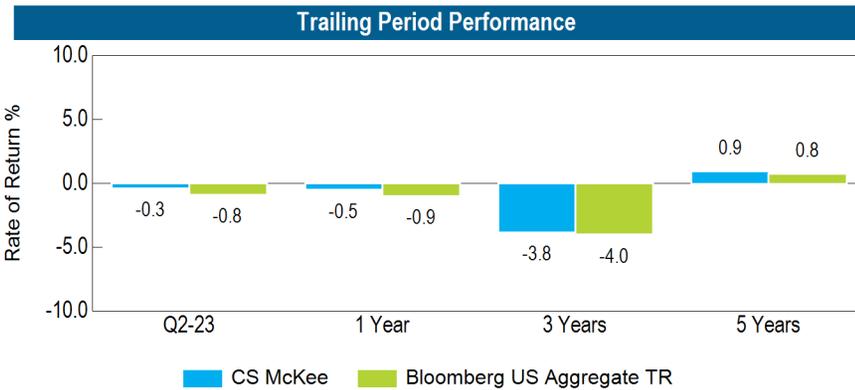


#### Risk/Return - 5 Year



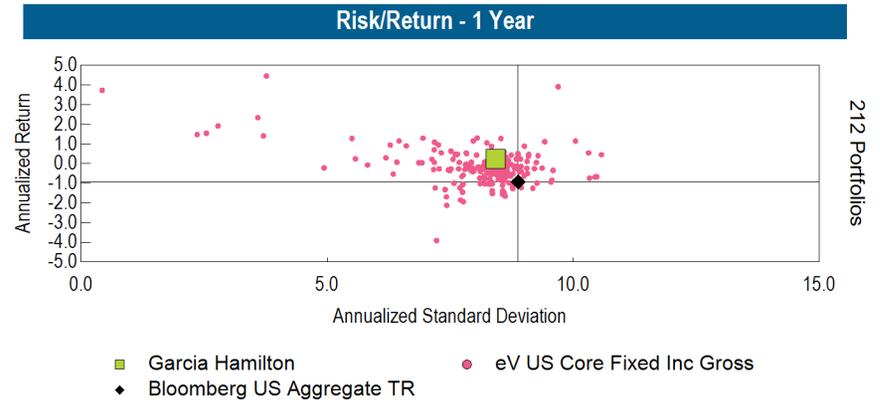
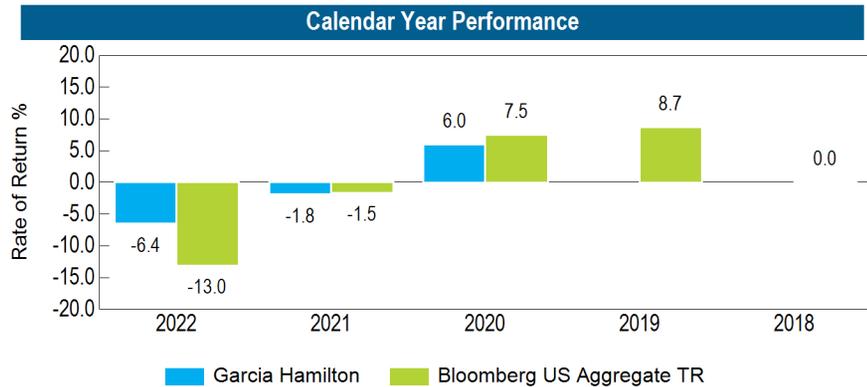
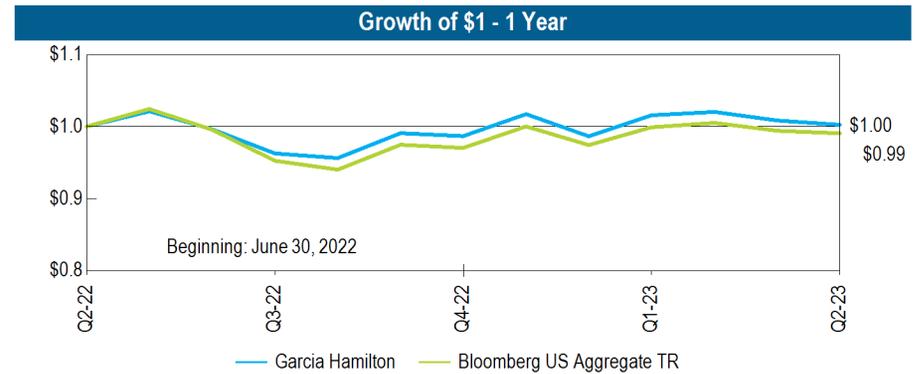
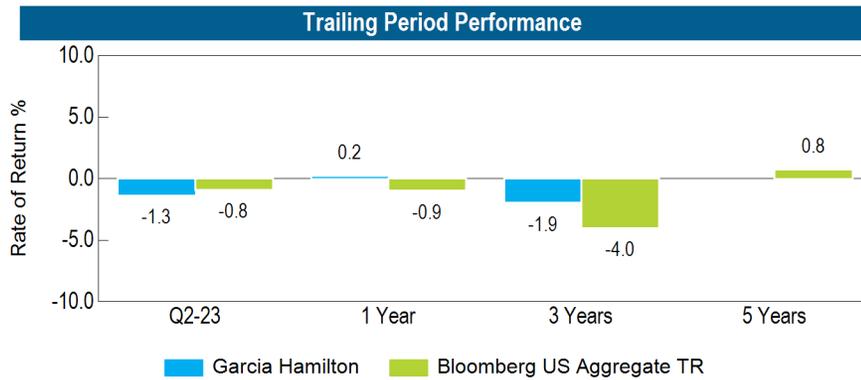
CenterSquare has an inception date of October 2011.

5 Year Statistics Summary									
	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	
CS McKee	0.02%	0.98	0.26	0.40	0.85%	0.96	101.82%	97.32%	
Bloomberg US Aggregate TR	0.00%	1.00	--	0.35	0.00%	1.00	100.00%	100.00%	



CS McKee has an inception date of April 2010.

5 Year Statistics Summary									
	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	
Garcia Hamilton	--	--	--	--	--	--	--	--	--
Bloomberg US Aggregate TR	0.00%	1.00	--	-0.13	0.00%	1.00	100.00%	100.00%	

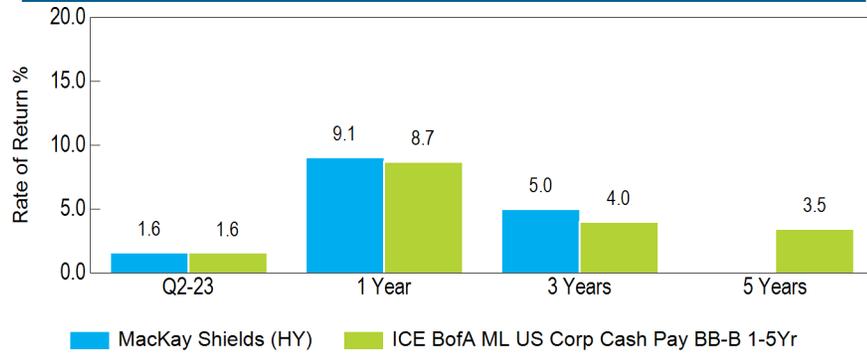


Garcia Hamilton has an inception date of November 2019.  
5 Year risk statistics are not available at this time.

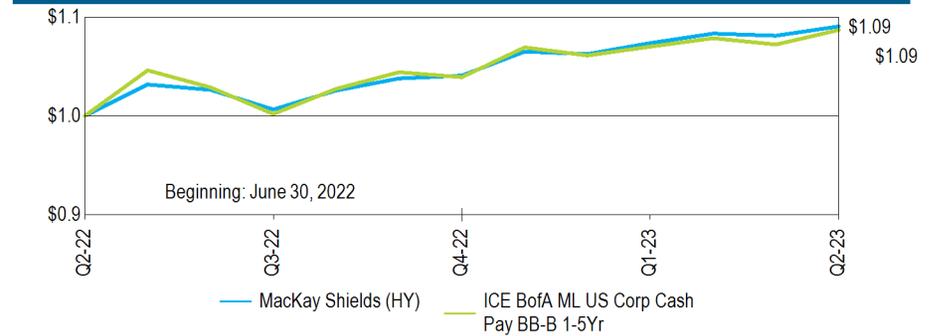
#### 5 Year Statistics Summary

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
MacKay Shields (HY)	--	--	--	--	--	--	--	--
ICE BofA ML US Corp Cash Pay BB-B 1-5Yr	0.00%	1.00	--	0.26	0.00%	1.00	100.00%	100.00%

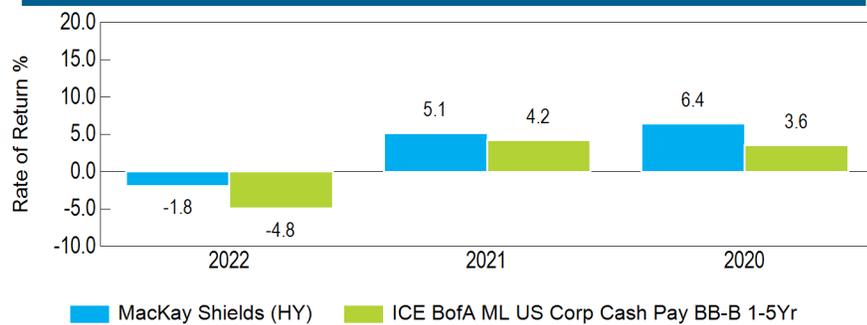
#### Trailing Period Performance



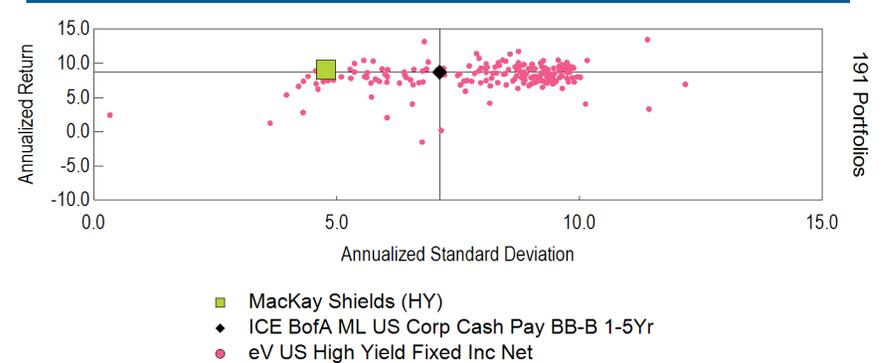
#### Growth of \$1 - 1 Year



#### Calendar Year Performance



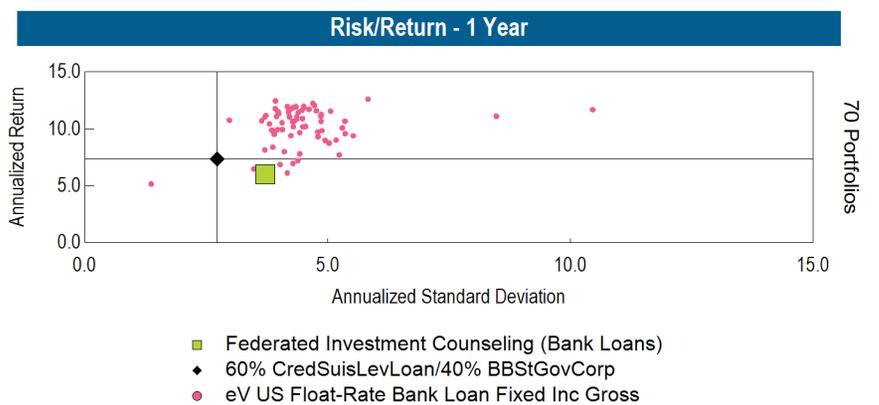
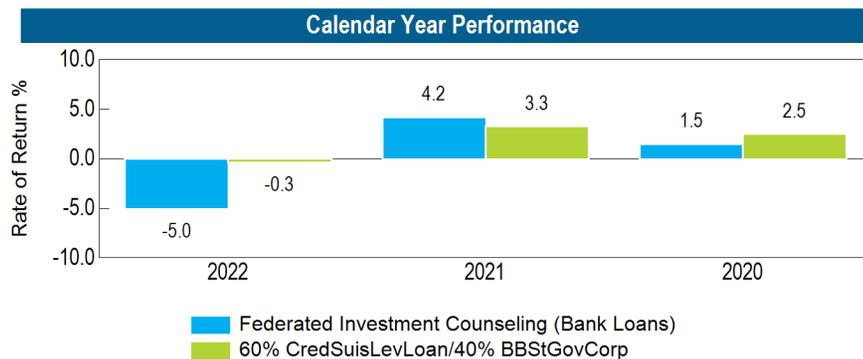
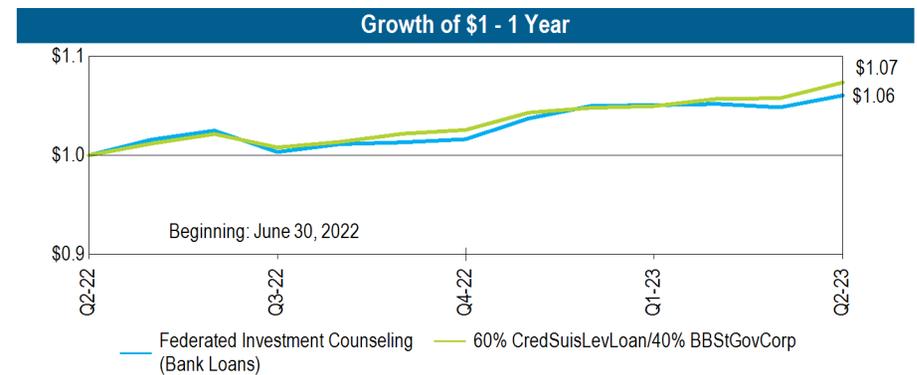
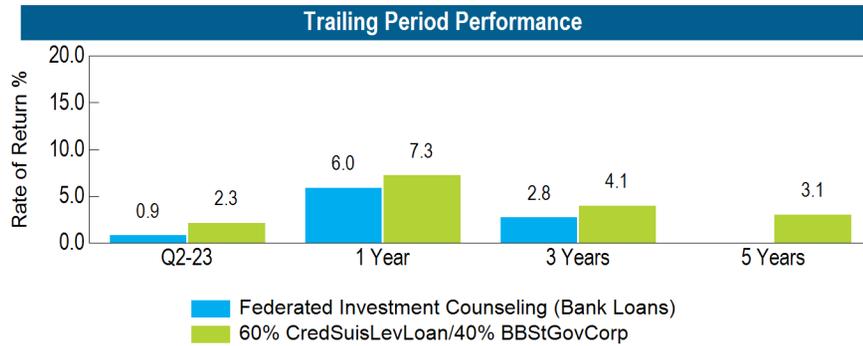
#### Risk/Return - 1 Year



MacKay Shields has an inception date of February 2019.  
5 Year Risk statistics are not available at this time.

#### 5 Year Statistics Summary

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Federated Investment Counseling (Bank Loans)	--	--	--	--	--	--	--	--
60% CredSuisLevLoan/40% BBStGovCorp	0.00%	1.00	--	0.38	0.00%	1.00	100.00%	100.00%



Federated Investment Counseling has an inception date of February 2019.  
5 Year Risk statistics are not available at this time.

## **Manager Watch Screens**

Performance Monitoring Summary

Portfolio	Violation Type (Window) <sup>1</sup>	Date of Initial Violation	Correction Action(s)	Current Status	Current Status		
					Est. Beg. Date of Current Status	Months Since Est. Beg. Date	Performance Since Est. Beg. Date <sup>23</sup>

→ Van Hulzen was removed from watch at the May 18, 2023 Board Meeting.

<sup>1</sup> Defined as: Short-Term (12 months), Medium-Term (36 months), Long-Term (60 months).

<sup>2</sup> Annualized for periods greater than 12 months.

<sup>3</sup> Performance figures not yet available.

### Quantitative Compliance Monitoring per Watch Criteria

#### Active Management Criteria

- Active investment managers are expected to outperform their respective passive benchmarks related to both their asset class and investment style.
- Relative excess performance that falls below the red acceptable threshold stated in the Watch Criteria for six consecutive months may be a trigger for Watch status.

#### Passive Management Criteria

- Passive investment managers are expected to track the performance of their respective passive benchmarks related to both their asset class and their investment style.
- Tracking error is a measure of how closely a portfolio follows the index to which it is benchmarked.
- For short- and medium-term performance monitoring, a portfolio with tracking error that is above the red acceptable threshold stated in the Watch Criteria for six consecutive months may be a trigger for Watch status.
- For long-term performance monitoring, relative excess performance that falls below the red acceptable threshold stated in the Watch Criteria for six consecutive months may be a trigger for Watch status.

#### Quantitative Monitoring Results - Overall Status Summary

	Prior Qtr Status	Current Qtr Status
Northern Trust – R3000	Acceptable	Acceptable
Northern Trust – ACWixUS	N/A	Acceptable
Parametric – BXM	Acceptable	Acceptable
Parametric – Delta Shift	Acceptable	Acceptable
Van Hulzen	Caution	Acceptable
CS McKee	Acceptable	Acceptable
Garcia Hamilton	Acceptable	Acceptable
Mackay Shields – Short Term HY	Acceptable	Acceptable
Federated – Bank Loans	Acceptable	Acceptable
CenterSquare	Acceptable	Acceptable

### Investment Performance Criteria by Asset Class

Asset Class	Short-term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term (60+ months)
Domestic Equity - Passive	Tracking error > 0.30%	Tracking error > 0.25% for 6 consecutive months	Fund annualized return < benchmark annualized return -0.40% for 6 consecutive months
Non-US Equity - Passive	Tracking error > 1.75%	Tracking error > 1.5% for 6 consecutive months	Fund annualized return < benchmark annualized return - 0.50% for 6 consecutive months
Covered Calls - Active	Fund return < benchmark return - 3.5%	Fund annualized return < benchmark annualized return -1.75% for 6 consecutive months	VRR < 0.97 for 6 consecutive months
Covered Calls - Replication	Fund return < benchmark return - 3.5%	Fund annualized return < benchmark annualized return -1.75% for 6 consecutive months	Fund annualized return < benchmark annualized return - 0.40% for 6 consecutive months
Fixed Income - Core – Active	Fund return < benchmark return - 1.5%	Fund annualized return < benchmark annualized return -1.0% for 6 consecutive months	VRR < 0.98 for 6 consecutive months
Fixed Income - Core – Passive	Tracking error > 0.25%	Tracking error > 0.20% for 6 consecutive months	Fund annualized return < benchmark annualized return - 0.30% for 6 consecutive months
Fixed Income - Non-Core	Fund return < benchmark return - 4.5%	Fund annualized return < benchmark annualized return - 2.0% for 6 consecutive months	VRR < 0.97 for 6 consecutive months

All criteria are on an annualized basis.

VRR – Value Relative Ratio – is calculated as: manager cumulative return / benchmark cumulative return.

Manager Performance			
	QTD	1 Yr	3 Yrs
Northern Trust Russell 3000	8.4	19.0	13.9
<i>Russell 3000</i>	<i>8.4</i>	<i>19.0</i>	<i>13.9</i>

### Short-Term Criteria (rolling 12-month periods)

Tracking error > 0.30% for 6 consecutive months

**Current Status:** **Acceptable**

### Medium-Term Criteria (rolling 36-month periods)

Tracking error > 0.25% for 6 consecutive months

**Current Status:** **Acceptable**

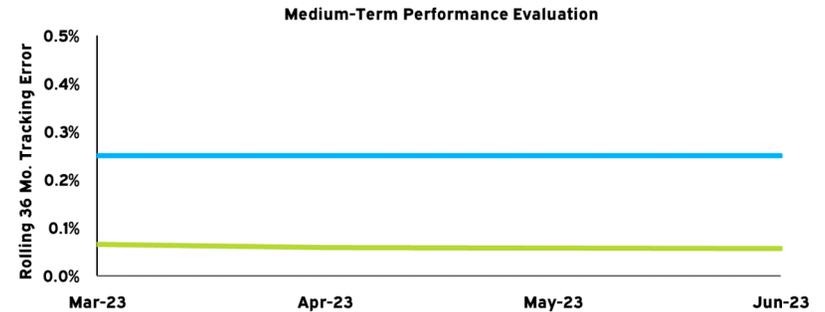
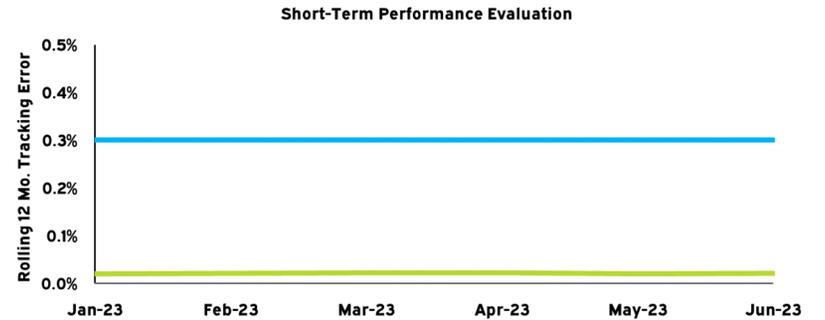
### Long-Term Criteria (60+ months)

Fund annualized return < benchmark annualized return -0.40% for 6 consecutive months

**Current Status:** Not Applicable

**Overall Status:**  
**Acceptable**

— Excess  
— Threshold



Manager Performance			
	QTD	1 Yr	3 Yrs
Northern Trust ACWI ex US	2.4	12.8	7.1
MSCI ACWI ex USA Gross	2.7	13.3	7.7

#### Short-Term Criteria (rolling 12-month periods)

Tracking error > 1.75% for 6 consecutive months

**Current Status: Acceptable**

#### Medium-Term Criteria (rolling 36-month periods)

Tracking error > 1.5% for 6 consecutive months

**Current Status: Acceptable**

#### Long-Term Criteria (60+ months)

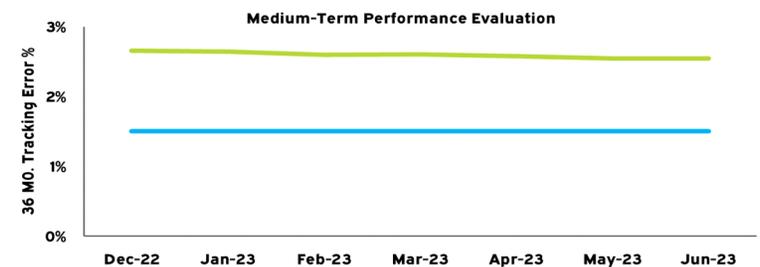
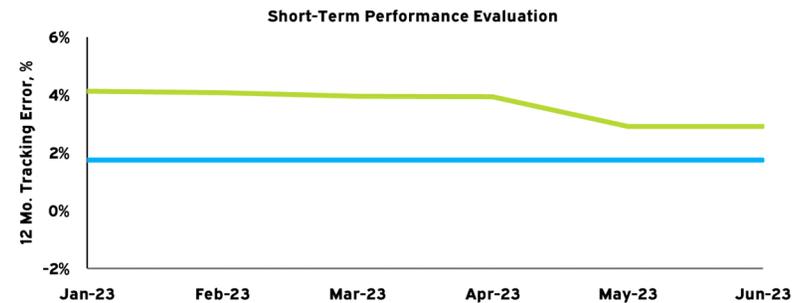
Fund annualized return < benchmark annualized return -0.50% for 6 consecutive months

**Current Status: Not Applicable**

**Overall Status:**

**Acceptable**

Excess  
Threshold



Manager Performance				
	QTD	1 Yr	3 Yrs	5 Yrs
Parametric BXM	5.9	12.5	11.3	7.2
CBOE S&P 500 BuyWrite USD	4.3	9.0	10.6	4.6

#### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -3.5% for 6 consecutive months

**Current Status: Acceptable**

#### Medium-Term Criteria (rolling 36-month periods)

Fund annualized return < benchmark annualized return -1.75% for 6 consecutive months

**Current Status: Acceptable**

#### Long-Term Criteria (60+ months)

VRR < 0.97 for 6 consecutive months

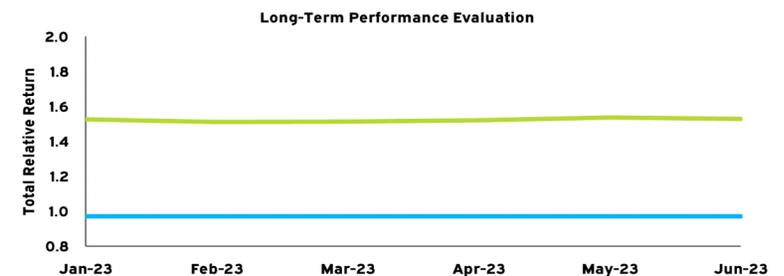
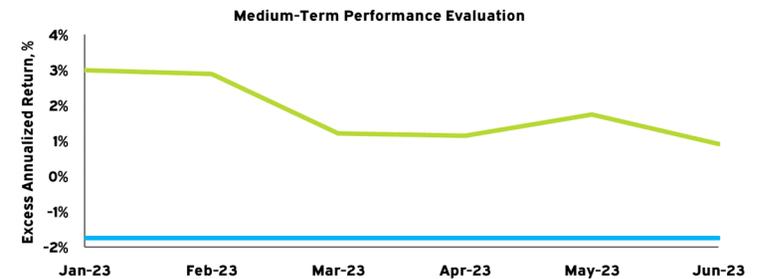
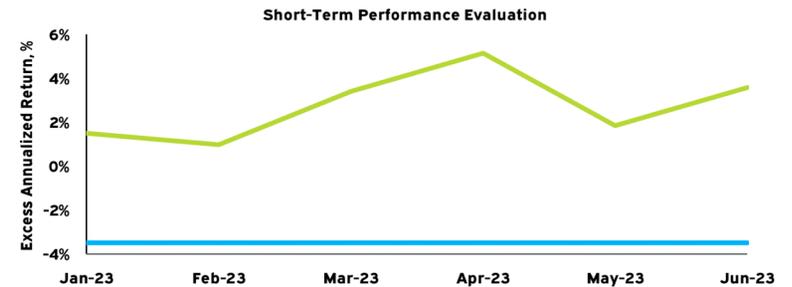
**Current Status: Acceptable**

Parametric is on watch for qualitative reasons.

**Overall Status:**

**Acceptable**

Excess  
Threshold



Manager Performance				
	QTD	1 Yr	3 Yrs	5 Yrs
Parametric Delta Shift	8.4	17.5	14.0	11.1
<i>CBOE S&amp;P 500 BuyWrite USD</i>	4.3	9.0	10.6	4.6

### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -3.5% for 6 consecutive months

**Current Status: Acceptable**

### Medium-Term Criteria (rolling 36-month periods)

Fund annualized return < benchmark annualized return -1.75% for 6 consecutive months

**Current Status: Acceptable**

### Long-Term Criteria (60+ months)

VRR < 0.97 for 6 consecutive months

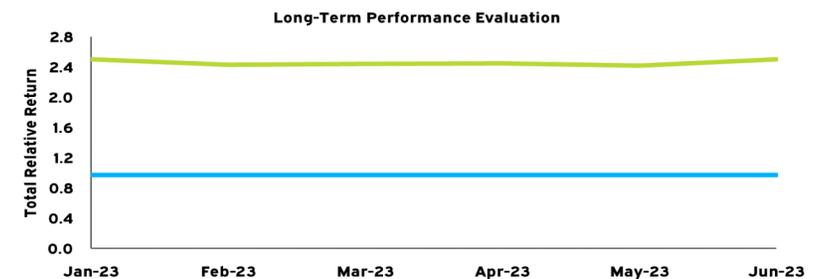
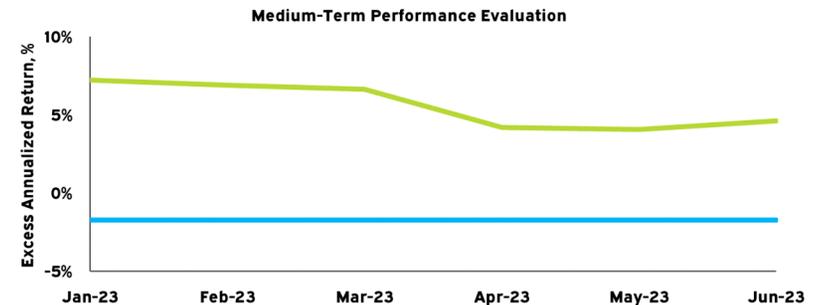
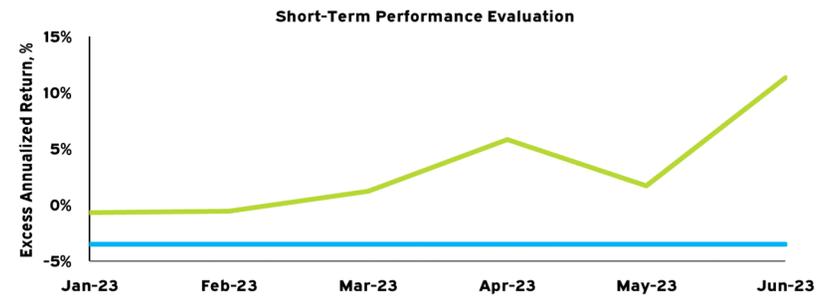
**Current Status: Acceptable**

Parametric is on watch for qualitative reasons.

**Overall Status:**

**Acceptable**

Excess  
Threshold



Manager Performance				
	QTD	1 Yr	3 Yrs	5 Yrs
Van Hulzen	3.7	9.7	6.6	4.8
<i>CBOE S&amp;P 500 BuyWrite USD</i>	4.3	9.0	10.6	4.6

### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -3.5% for 6 consecutive months

**Current Status: Acceptable**

### Medium-Term Criteria (rolling 36-month periods)

Fund annualized return < benchmark annualized return -1.75% for 6 consecutive months

**Current Status: Acceptable**

### Long-Term Criteria (60+ months)

VRR < 0.98 for 6 consecutive months

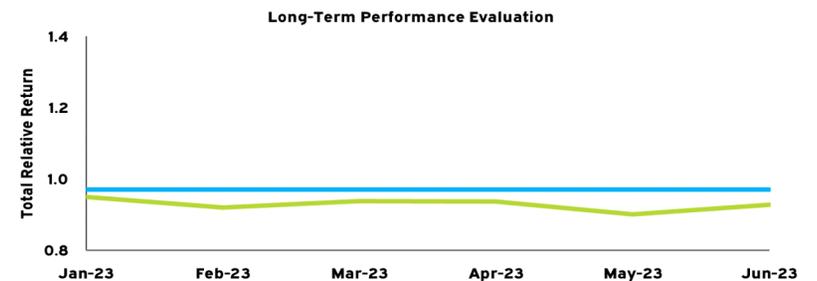
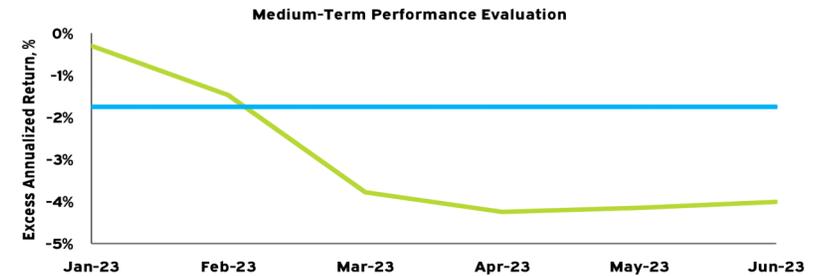
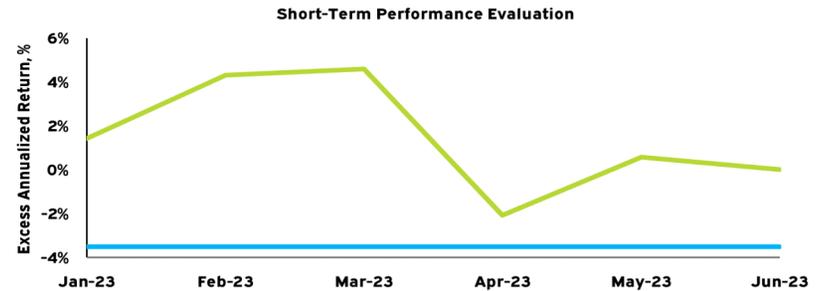
**Current Status: Acceptable**

**Overall Status:**

**Acceptable**

Excess

Threshold



Manager Performance				
	QTD	1 Yr	3 Yrs	5 Yrs
CS McKee	-0.4	-0.6	-4.0	0.8
<i>Bloomberg US Aggregate TR</i>	<i>-0.8</i>	<i>-0.9</i>	<i>-4.0</i>	<i>0.8</i>

### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -1.5% for 6 consecutive months

**Current Status: Acceptable**

### Medium-Term Criteria (rolling 36-month periods)

Fund annualized return < benchmark annualized return -1.0% for 6 consecutive months

**Current Status: Acceptable**

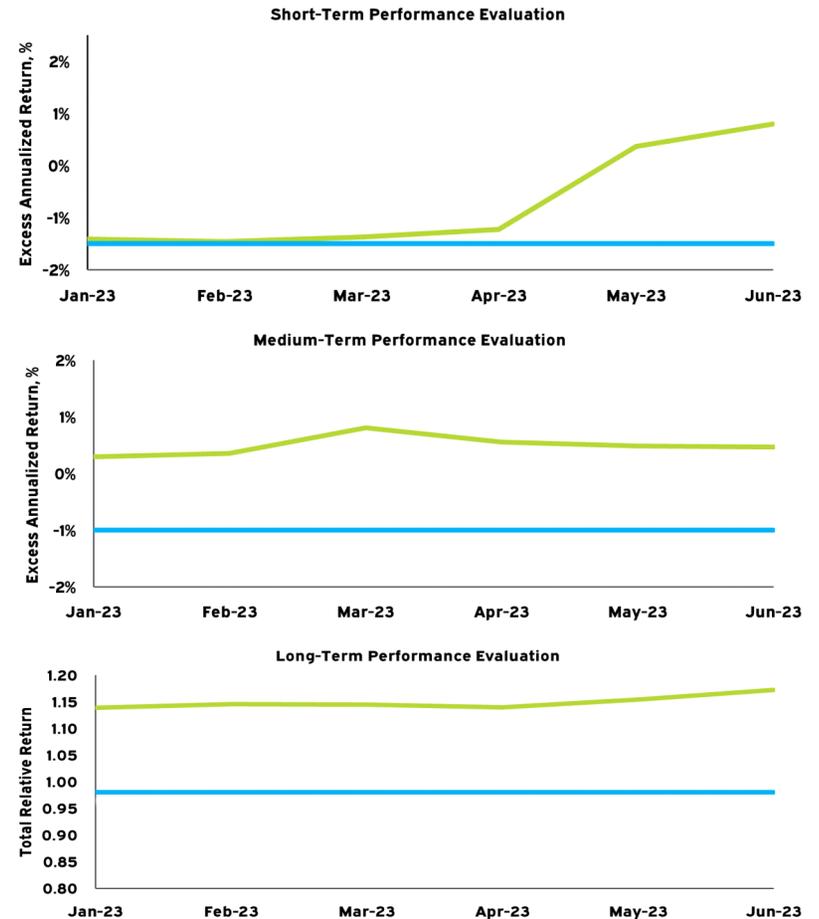
### Long-Term Criteria (60+ months)

VRR < 0.98 for 6 consecutive months

**Current Status: Acceptable**

**Overall Status:**  
**Acceptable**

— Excess  
— Threshold



Manager Performance			
	QTD	1 Yr	3 Yrs
Garcia Hamilton	-1.3	0.1	-2.1
<i>Bloomberg US Aggregate TR</i>	-0.8	-0.9	-4.0

**Overall Status:**  
**Acceptable**

Excess  
Threshold

### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -1.5% for 6 consecutive months

**Current Status: Acceptable**

### Medium-Term Criteria (rolling 36-month periods)

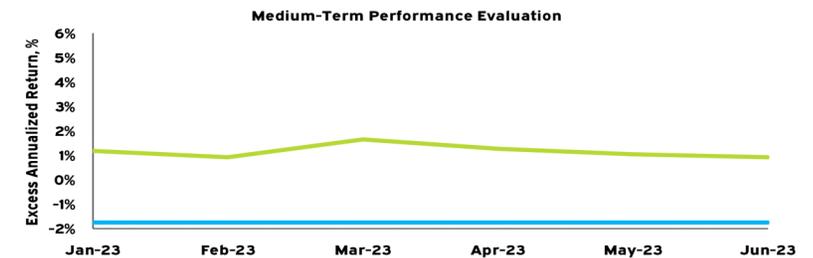
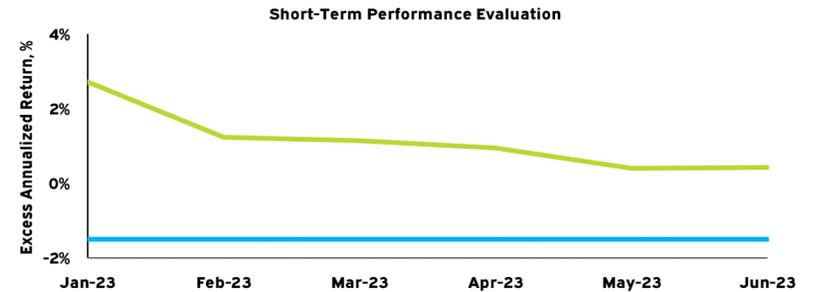
Fund annualized return < benchmark annualized return -1.0% for 6 consecutive months

**Current Status: Acceptable**

### Long-Term Criteria (60+ months)

VRR < 0.98 for 6 consecutive months

**Current Status: Not Applicable**



Manager Performance			
	QTD	1 Yr	3 Yrs
MacKay Shields (HY)	1.5	8.6	4.5
ICE BofA ML US Corp Cash Pay BB-B 1-5Yr	1.6	8.7	4.0

#### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -4.5% for 6 consecutive months

**Current Status: Acceptable**

#### Medium-Term Criteria (rolling 36-month periods)

Fund annualized return < benchmark annualized return -2.0% for 6 consecutive months

**Current Status: Acceptable**

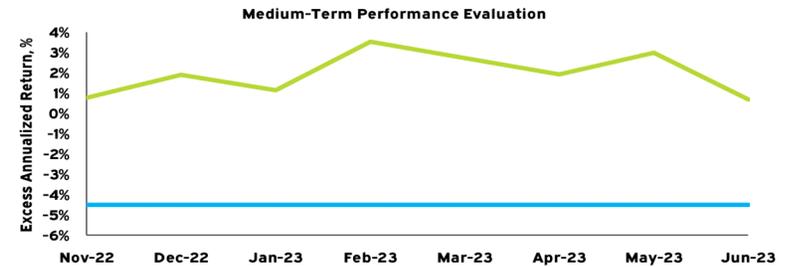
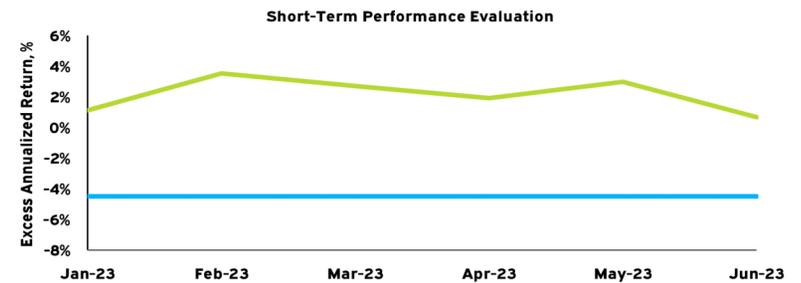
#### Long-Term Criteria (60+ months)

VRR < 0.97 for 6 consecutive months

**Current Status: Not Applicable**

**Overall Status:**  
**Acceptable**

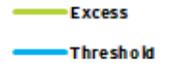
— Excess  
— Threshold



Manager Performance			
	QTD	1 Yr	3 Yrs
Federated Investment Counseling (Bank Loans)	0.8	5.5	2.3
60% CredSuisLevLoan/40% BBStGovCorp	2.3	7.3	4.1

Overall Status:

**Acceptable**



#### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -4.5% for 6 consecutive months

**Current Status: Acceptable**

#### Medium-Term Criteria (rolling 36-month periods)

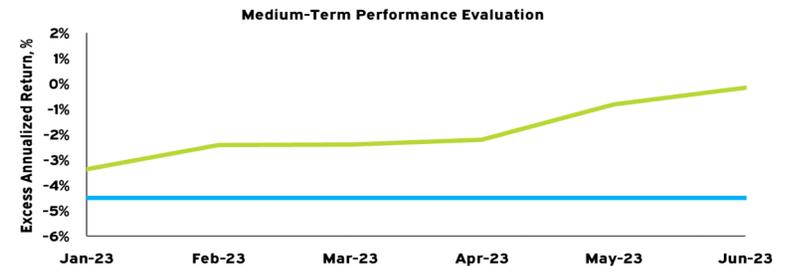
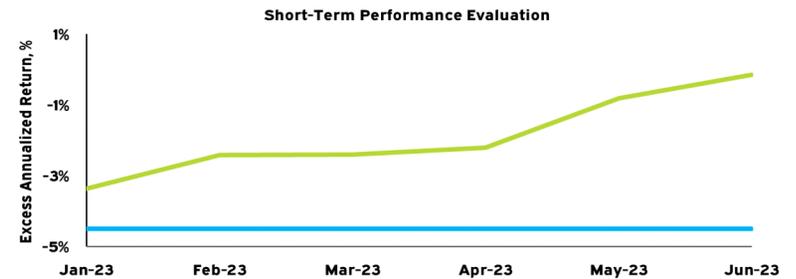
Fund annualized return < benchmark annualized return -2.0% for 6 consecutive months

**Current Status: Acceptable**

#### Long-Term Criteria (60+ months)

VRR < 0.97 for 6 consecutive months

**Current Status: Not Applicable**



Manager Performance				
	QTD	1 Yr	3 Yrs	5 Yrs
CenterSquare	3.1	-0.6	8.9	5.4
<i>FTSE NAREIT Equity REIT</i>	<i>2.6</i>	<i>-0.1</i>	<i>8.9</i>	<i>4.6</i>

### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -3.5% for 6 consecutive months

**Current Status: Acceptable**

### Medium-Term Criteria (rolling 36-month periods)

Fund annualized return < benchmark annualized return -1.75% for 6 consecutive months

**Current Status: Acceptable**

### Long-Term Criteria (60+ months)

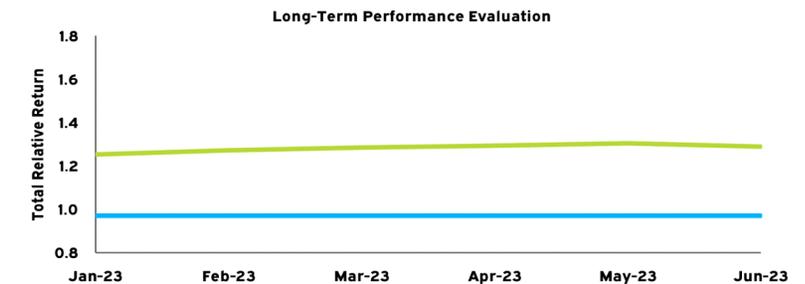
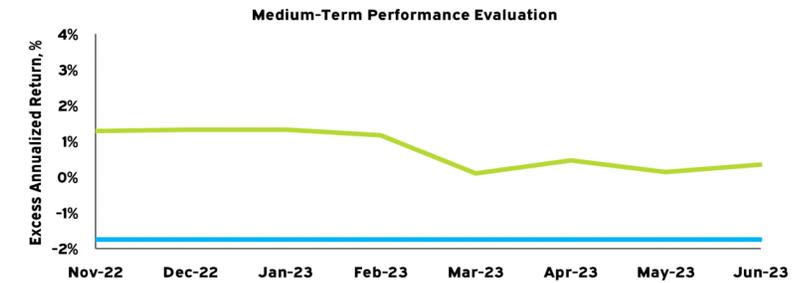
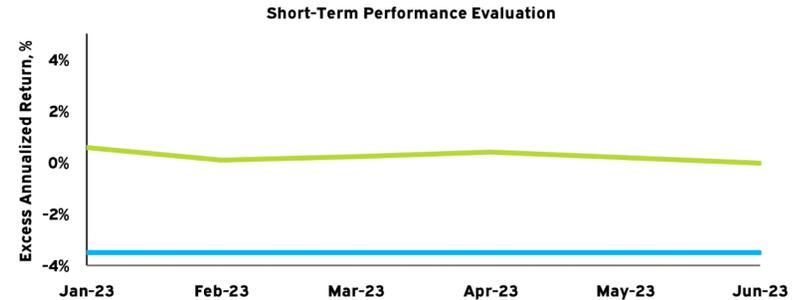
VRR < 0.97 for 6 consecutive months

**Current Status: Acceptable**

**Overall Status:**

**Acceptable**

— Excess  
— Threshold



	QTD	1 Yr	3 Yrs	5 Yrs
	(%)	(%)	(%)	(%)
<b>EBMUDERS Total Plan Composite</b>	<b>3.7</b>	<b>10.6</b>	<b>7.7</b>	<b>6.2</b>
<i>Total Plan Bench</i>	<i>3.7</i>	<i>10.6</i>	<i>7.6</i>	<i>5.6</i>
<b>US Equity Composite</b>	<b>8.4</b>	<b>18.9</b>	<b>13.8</b>	<b>11.3</b>
<i>Russell 3000 Hybrid</i>	<i>8.4</i>	<i>19.0</i>	<i>13.9</i>	<i>11.4</i>
<b>NonUS Equity Composite</b>	<b>2.4</b>	<b>12.8</b>	<b>7.7</b>	<b>3.5</b>
<i>MSCI ACWI xUS (blend)</i>	<i>2.7</i>	<i>13.3</i>	<i>7.7</i>	<i>4.0</i>
<b>Covered Calls Composite</b>	<b>6.0</b>	<b>13.3</b>	<b>10.7</b>	<b>7.7</b>
<i>CBOE S&amp;P 500 BuyWrite USD</i>	<i>4.3</i>	<i>9.0</i>	<i>10.6</i>	<i>4.6</i>
<b>Real Estate Composite</b>	<b>-2.0</b>	<b>-2.8</b>	<b>9.0</b>	<b>6.7</b>
<i>NCREIF NPI Lag</i>	<i>0.4</i>	<i>-0.1</i>	<i>8.7</i>	<i>6.3</i>
<b>Fixed Income Composite</b>	<b>-0.5</b>	<b>1.3</b>	<b>-1.7</b>	<b>1.6</b>
<i>Fixed Income Composite Bench</i>	<i>-0.3</i>	<i>0.9</i>	<i>-1.9</i>	<i>1.4</i>
<b>Cash Composite</b>	<b>1.1</b>	<b>3.4</b>	<b>1.6</b>	<b>1.9</b>
<i>FTSE T-Bill 3 Months TR</i>	<i>1.3</i>	<i>3.7</i>	<i>1.3</i>	<i>1.6</i>

Benchmark composition and history provided at the end of this report.

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
<b>US Equity Composite</b>	<b>8.4</b>	<b>18.9</b>	<b>13.8</b>	<b>11.3</b>
<i>Russell 3000 Hybrid</i>	<i>8.4</i>	<i>19.0</i>	<i>13.9</i>	<i>11.4</i>
Northern Trust Russell 3000	8.4	19.0	13.9	11.4
<i>Russell 3000</i>	<i>8.4</i>	<i>19.0</i>	<i>13.9</i>	<i>11.4</i>
<b>NonUS Equity Composite</b>	<b>2.4</b>	<b>12.8</b>	<b>7.7</b>	<b>3.5</b>
<i>MSCI ACWI xUS (blend)</i>	<i>2.7</i>	<i>13.3</i>	<i>7.7</i>	<i>4.0</i>
Northern Trust ACWI ex US	2.4	12.8	7.1	3.6
<i>MSCI ACWI ex USA Gross</i>	<i>2.7</i>	<i>13.3</i>	<i>7.7</i>	<i>4.0</i>
<b>Covered Calls Composite</b>	<b>6.0</b>	<b>13.3</b>	<b>10.7</b>	<b>7.7</b>
<i>CBOE S&amp;P 500 BuyWrite USD</i>	<i>4.3</i>	<i>9.0</i>	<i>10.6</i>	<i>4.6</i>
Parametric BXM	5.9	12.5	11.3	7.2
<i>CBOE S&amp;P 500 BuyWrite USD</i>	<i>4.3</i>	<i>9.0</i>	<i>10.6</i>	<i>4.6</i>
Parametric Delta Shift	8.4	17.5	14.0	11.1
<i>CBOE S&amp;P 500 BuyWrite USD</i>	<i>4.3</i>	<i>9.0</i>	<i>10.6</i>	<i>4.6</i>
Van Hulzen	3.6	9.4	6.3	4.6
<i>CBOE S&amp;P 500 BuyWrite USD</i>	<i>4.3</i>	<i>9.0</i>	<i>10.6</i>	<i>4.6</i>

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
<b>Real Estate Composite</b>	<b>-2.0</b>	<b>-2.8</b>	<b>9.0</b>	<b>6.7</b>
<i>NCREIF NPI Lag</i>	<i>0.4</i>	<i>-0.1</i>	<i>8.7</i>	<i>6.3</i>
RREEF America II Lag	-6.3	-5.0	7.5	7.0
<i>NCREIF NPI Mo 1 Qtr Lag</i>	<i>-1.8</i>	<i>-1.5</i>	<i>7.3</i>	<i>6.8</i>
CenterSquare	3.1	-0.6	8.9	5.4
<i>FTSE NAREIT Equity REIT</i>	<i>2.6</i>	<i>-0.1</i>	<i>8.9</i>	<i>4.6</i>
<b>Fixed Income Composite</b>	<b>-0.5</b>	<b>1.3</b>	<b>-1.7</b>	<b>1.6</b>
<i>Fixed Income Composite Bench</i>	<i>-0.3</i>	<i>0.9</i>	<i>-1.9</i>	<i>1.4</i>
<b>Fixed Income Core Fixed Income Composite</b>	<b>-0.9</b>	<b>-0.2</b>	<b>-2.9</b>	<b>1.2</b>
<i>Fixed Income Core Composite Bench</i>	<i>-0.8</i>	<i>-0.5</i>	<i>-3.2</i>	<i>--</i>
CS McKee	-0.4	-0.6	-4.0	0.8
<i>Bloomberg US Aggregate TR</i>	<i>-0.8</i>	<i>-0.9</i>	<i>-4.0</i>	<i>0.8</i>
Garcia Hamilton	-1.3	0.1	-2.1	--
<i>Bloomberg US Aggregate TR</i>	<i>-0.8</i>	<i>-0.9</i>	<i>-4.0</i>	<i>--</i>
<b>Fixed Income Non-Core Fixed Income Composite</b>	<b>1.1</b>	<b>7.2</b>	<b>3.6</b>	<b>3.1</b>
<i>Fixed Income Non-Core Composite Bench</i>	<i>1.9</i>	<i>8.1</i>	<i>4.1</i>	<i>3.2</i>
MacKay Shields (HY)	1.5	8.6	4.5	--
<i>ICE BofA ML US Corp Cash Pay BB-B 1-5Yr</i>	<i>1.6</i>	<i>8.7</i>	<i>4.0</i>	<i>--</i>
Federated Investment Counseling (Bank Loans)	0.8	5.5	2.3	--
<i>60% CredSuisLevLoan/40% BBStGovCorp</i>	<i>2.3</i>	<i>7.3</i>	<i>4.1</i>	<i>--</i>

### Benchmark History

As of June 30, 2023

#### EBMUDERS Total Plan Composite

12/1/2019	Present	25% Russell 3000 / 20% CBOE S&P 500 BuyWrite USD / 25% MSCI ACWI ex USA Gross / 10% Bloomberg US Aggregate TR / 10% Bloomberg US Intermediate Gov/Cred / 2.5% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr / 2.5% 60% CredSuisLevLoan/40% BBStGovCorp / 2.5% FTSE NAREIT Equity REIT / 2.5% Morningstar LSTA US Performing Loans Index
3/1/2019	11/30/2019	25% Russell 3000 / 20% CBOE S&P 500 BuyWrite USD / 25% MSCI ACWI ex USA Gross / 15% Bloomberg US Aggregate TR / 5% Bloomberg US Govt/Credit 1-3 Yr. TR / 2.5% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr / 2.5% 60% CredSuisLevLoan/40% BBStGovCorp / 2.5% FTSE NAREIT Equity REIT / 2.5% Morningstar LSTA US Performing Loans Index
7/1/2018	2/28/2019	25% Russell 3000 / 20% CBOE S&P 500 BuyWrite USD / 25% MSCI ACWI ex USA Gross / 15% Bloomberg US Aggregate TR / 5% Bloomberg US Govt/Credit 1-3 Yr. TR / 2.5% Bloomberg US High Yield 1-5Yr Cash Pay 2% / 2.5% NCREIF NPI Mo 1 Qtr Lag / 2.5% FTSE NAREIT Equity REIT / 2.5% Morningstar LSTA US Performing Loans Index
4/1/2014	6/30/2018	40% Russell 3000 / 20% CBOE S&P 500 BuyWrite USD / 15% MSCI ACWI ex USA Gross / 10% Bloomberg US Aggregate TR / 5% Bloomberg US Govt/Credit 1-3 Yr. TR / 2.5% Bloomberg US High Yield 1-5Yr Cash Pay 2% / 2.5% NCREIF NPI Mo 1 Qtr Lag / 2.5% FTSE NAREIT Equity REIT / 2.5% Morningstar LSTA US Performing Loans Index
3/1/2014	3/31/2014	40% Russell 3000 / 20% CBOE S&P 500 BuyWrite USD / 15% MSCI ACWI ex USA Gross / 15% Bloomberg US Aggregate TR / 2.5% Bloomberg US High Yield 1-5Yr Cash Pay 2% / 2.5% NCREIF NPI Mo 1 Qtr Lag / 2.5% FTSE NAREIT Equity REIT / 2.5% Morningstar LSTA US Performing Loans Index
11/1/2011	2/28/2014	50% Russell 3000 / 20% MSCI ACWI ex USA Gross / 25% Bloomberg US Universal TR / 2.5% NCREIF NPI Mo 1 Qtr Lag / 2.5% FTSE NAREIT Equity REIT
1/1/2008	10/31/2011	50% Russell 3000 / 20% MSCI ACWI ex USA Gross / 25% Bloomberg US Universal TR / 5% NCREIF NPI Mo 1 Qtr Lag
1/1/2007	12/31/2007	50% Russell 3000 / 20% MSCI ACWI ex USA Gross / 25% Bloomberg US Aggregate TR / 5% NCREIF Property Index
10/1/2005	12/31/2006	50% Russell 3000 / 25% Bloomberg US Aggregate TR / 5% NCREIF NPI Mo 1 Qtr Lag / 20% MSCI EAFE
4/1/2005	9/30/2005	30% S&P 500 / 10% S&P 400 MidCap / 10% Russell 2000 / 20% MSCI EAFE / 25% Bloomberg US Aggregate TR / 5% NCREIF NPI Mo 1 Qtr Lag
9/1/1998	3/31/2005	33% S&P 500 / 10% S&P 400 MidCap / 10% Russell 2000 / 17% MSCI EAFE / 30% Bloomberg US Aggregate TR
3/31/1996	8/31/1998	30% S&P 500 / 15% Wilshire 5000 / 15% MSCI EAFE / 30% Bloomberg US Aggregate TR / 5% NCREIF Property Index / 5% FTSE T-Bill 3 Months TR

### Benchmark History

As of June 30, 2023

#### Fixed Income Composite

2/1/2023	Present	80% Bloomberg US Aggregate TR / 10% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr / 10% 60% CredSuisLevLoan/40% BBStGovCorp
12/1/2019	1/31/2023	40% Bloomberg US Aggregate TR / 10% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr / 40% Bloomberg US Intermediate Gov/Cred / 10% 60% CredSuisLevLoan/40% BBStGovCorp
3/1/2019	11/30/2019	60% Bloomberg US Aggregate TR / 10% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr / 20% Bloomberg US Govt/Credit 1-3 Yr. TR / 10% 60% CredSuisLevLoan/40% BBStGovCorp
7/1/2018	2/28/2019	60% Bloomberg US Aggregate TR / 10% Morningstar LSTA US Performing Loans Index / 20% Bloomberg US Govt/Credit 1-3 Yr. TR / 10% Bloomberg US High Yield 1-5Yr Cash Pay 2%
4/1/2014	6/30/2018	50% Bloomberg US Aggregate TR / 12.5% Morningstar LSTA US Performing Loans Index / 25% Bloomberg US Govt/Credit 1-3 Yr. TR / 12.5% Bloomberg US High Yield 1-5Yr Cash Pay 2%
3/1/2014	3/31/2014	75% Bloomberg US Aggregate TR / 12.5% Bloomberg US High Yield 1-5Yr Cash Pay 2% / 12.5% Morningstar LSTA US Performing Loans Index
1/1/2008	2/28/2014	Bloomberg US Universal TR
1/1/1976	12/31/2007	Bloomberg US Aggregate TR

#### Fixed Income Core Fixed Income Composite

12/1/2019	Present	50% Bloomberg US Aggregate TR / 50% Bloomberg US Intermediate Gov/Cred
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#### Fixed Income Non-Core Fixed Income Composite

12/1/2019	Present	50% 60% CredSuisLevLoan/40% BBStGovCorp / 50% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr
3/1/2019	11/30/2019	25% 60% CredSuisLevLoan/40% BBStGovCorp / 25% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr / 50% Bloomberg US Govt/Credit 1-3 Yr. TR
3/1/2014	2/28/2019	25% Morningstar LSTA US Performing Loans Index / 25% Bloomberg US High Yield 1-5Yr Cash Pay 2% / 50% Bloomberg US Govt/Credit 1-3 Yr. TR

### Benchmark History As of June 30, 2023

#### NonUS Equity Composite

1/1/2007	Present	MSCI ACWI ex USA Gross
1/1/1970	12/31/2006	MSCI EAFE

#### Northern Trust ACWI ex US

Present	MSCI ACWI ex USA Gross
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#### NonUSE Developed Markets Composite

1/1/2007	Present	MSCI ACWI ex USA Gross
1/1/1970	12/31/2006	MSCI EAFE

## **Manager Compliance Certification Responses**

### Manager Compliance Certification Responses

#### Qualitative Compliance Monitoring per EBMUDERS Investment Policy

Each of EBMUDERS managers is required to respond to a questionnaire on a quarterly basis to certify their compliance with EBMUDERS Investment Policy Statement and provide an update on specific qualitative indicators to be evaluated.

These indicators include:

- Compliance with the guidelines of 'Eligible Investments' for the manager's specific mandate
- Any litigation or governmental regulatory proceedings involving the firm/manager
- Changes to the manager's investment outlook, investment strategy, and/or portfolio structure
- Personnel changes to the investment team responsible for the EBMUDERS mandate
- Significant personnel changes at the management level of the firm
- Material client terminations
- Compliance with EBMUDERS current Investment Policy Statement

The manager's responses are rated based on the potential effects these factors could pose to the performance and management of the EBMUDERS portfolio.

Reasons for heightened concern triggering Watch status include, but are not limited to:

- Instability of key members of the portfolio management team and organization
- Changes in investment strategy and style
- Failure to comply with investment guidelines

A summary of manager responses as of the latest quarter-end is provided below.

### Manager Compliance Certification Responses

Manager	Asset Class	Question 1 Compliance with 'Eligible Investments' for mandate	Question 2 Good standing as Registered Investment Advisor	Question 3 Litigation?	Question 4 Changes in manager's investment outlook, strategy, structure	Question 5 Investment team personnel changes	Question 6 Management level personnel changes	Question 7 Material business changes	Question 8 Compliance with IPS
Northern Trust R3000	Domestic Equity – All Cap	Yes	Yes	Yes*	No	No	Yes*	Yes*	Yes
Northern Trust ACWI ex US	International Equity	Yes	Yes	Yes*	No	No	Yes*	Yes*	Yes
Parametric	Covered Calls	Yes	Yes	Yes*	No	No	Yes*	No	Yes
Van Hulzen	Covered Calls	Yes	Yes	No	No	No	No	No	Yes
CS McKee	Fixed Income – Core	Yes	Yes	No	No	No	No	No	Yes
Garcia Hamilton	Fixed Income – Core	Yes	Yes	No	No	No	No	No	Yes
Mackay Shields	Fixed Income – Short-term HY	Yes	Yes	No	No	No	No	No	Yes
Federated	Fixed Income – Bank Loans	Yes	Yes	No	No	No	No	No	Yes
RREEF	Real Estate	Yes	Yes	No	No	No	No	No	Yes
CenterSquare	Real Estate	Yes	Yes	Yes*	No	No	Yes*	No	Yes

■ no concern 
 ■ low concern 
 ■ high concern (Watch status)

\* see detailed manager response below

**Northern Trust – R3000 and ACWI ex US****Question 3: Is there any litigation or governmental regulatory proceedings involving your Firm, the Manager?**

→ As one of the world's largest asset managers, Northern Trust Investments, Inc. ("NTI") is occasionally named as a defendant in asset management-related litigation. In the past 5 years, NTI has not been party to any litigation that has had a material effect on its ability to perform services for its clients.

→ Below is one pending litigation case that involves NTI:

- Michael J. Iannone, Jr. and Nicole A. James v. AutoZone, Inc. (W.D. Tenn.). In September 2021, plan participants of the AutoZone, Inc. 401(k) Plan sued AutoZone, Inc., its Investment Committee, and Northern Trust Corporation and Northern Trust, Inc. (later described as Northern Trust Investments, Inc.) (collectively, "Defendants") as investment fiduciaries for breach of fiduciary duty in connection with the use of the GoalMaker® asset allocation service furnished by Prudential Insurance Company ("GoalMaker"). The Complaint alleges that the funds that Defendants selected for GoalMaker paid excessive investment management fees to Prudential and its affiliates while consistently underperforming benchmark indices and lower-cost index fund alternatives.

**Northern Trust – R3000 and ACWI ex US (cont.)****Question 6: Have there been any significant personnel changes at the management level of the Firm during the quarter?**

→ As a result of the constantly changing landscape of asset management, we believe the occasional organizational changes are a natural progression and necessary in order to adapt to new market and regulatory environments. The most recent changes to senior personnel are the following:

- May 2023; Chris Vella, Head of Multi-Manager Solutions for Northern Trust Asset Management announced his leaving the firm. With over 25 years of experience, Kelly Finegan, CFA, was promoted to the Head of Multi-Manager Solutions.
- June/July 2023; Following the appointment of Daniel Gamba as NTAM President earlier in the year, the following changes have been announced to realign leadership:NTAC:3NS-20
  - Sheri Hawkins assumes the newly created role titled Head of Investment Platform Services. This group is designed to ensure investment process and client portfolio management excellence, including equity trading, client portfolio management, index services, ESG integration, stewardship, and an expanded mandate for our Office of the CIO to cover performance monitoring and alpha enhancements across investment teams. Paula Kar, Global Head of Product Strategy, assumes the role of Global Head of Product, replacing Sheri Hawkins. John McCareins becomes the Head of International Asset Management, where he has responsibility over our EMEA & APAC regions. Marie Dzanis, Head of EMEA for NTAM, will be pursuing other opportunities outside of Northern Trust. Angelo Manioudakis, Global Chief Investment Officer will also serve as interim CIO of global fixed income. Tom Swaney, CIO of global fixed income, is pursuing opportunities outside of Northern Trust.

#### Northern Trust – R3000 and ACWI ex US (cont.)

Question 7: Have there been any material changes in your firm's business during the quarter, including but not limited to:

1. any client(s) that terminated its relationship whose terminated portfolio account represents > 1% of the Manager's aggregate portfolio on the day of notice of termination
2. any client(s) that terminates its relationship when the cumulative terminations for a calendar month is > 1% of the Manager's aggregate portfolio as of the first business day of the month

→ NTAM Gain/Loss for 2Q2023<sup>1</sup>

- **Firm**

Date	AUM		ACCOUNTS COUNT		Firm AUM
	GAIN	LOSS	GAIN COUNT	LOSS COUNT	
6/30/2023	18,702,330,724	16,303,942,849	29	22	1,121,722,066,391

Accounts above \$50M  
 Above accounts exclude Securities  
 Lending & Multi – Manager Solutions

<sup>1</sup> Table below taken from Northern Trust Manager Certification Form 2Q23.

**Parametric****Question 3: Is there any litigation or governmental regulatory proceedings involving your Firm, the Manager?**

→ Parametric is part of Morgan Stanley, a global financial services company with numerous subsidiaries. Parametric and its affiliates have from time to time, been plaintiffs or defendants in various lawsuits and arbitrations that are incidental to their businesses and are or were handled in the ordinary course of business. From time to time, Parametric and its affiliates are subject to periodic audits, regulatory and governmental examinations, information-gathering requests, investigations, and proceedings both formal and informal which have the potential to result in findings, conclusions, recommendations or various forms of sanction. Parametric believes that these actions have not and will not have a material adverse effect on its consolidated financial condition, liquidity, results of operations or the ability to manage client assets.

**Question 6: Have there been any significant personnel changes at the management level of the Firm during the quarter?**

→ In early May 2023, Brian Langstraat announced his transition out of the CEO role on December 31, 2023, and into a Senior Advisor role on January 1, 2024. Brian has worked at Parametric for over 33 years and served as CEO for over 22 years. As Senior Adviser, Brian will support Tom Lee, Co-President and Chief Investment Officer, Ranjit Kapila, Co-President and Chief Operating Officer, and the Parametric team as they expand their leadership roles. Reuben Butler, Managing Director, Corporate Development, will also be Chief Administrative Officer. He will report to Ranjit with a dotted line into Tom.

→ The following changes will occur effective June 30, 2023:

- Melissa Fell, Managing Director, Human Resources, and the HR team will report to Reuben Butler.
- James Barrett, Managing Director, Head of Client Development, and Rob Ciro, Managing Director, Product Management, along with their teams, will report to Tom Lee.
- Through the remainder of 2023, Ranjit, Tom, and Brian will fully transition Brian's CEO responsibilities and shape his 2024 role.

**CenterSquare****Question 3: Is there any litigation or governmental regulatory proceedings involving your Firm, the Manager?**

→ CenterSquare has been made aware of a slip and fall lawsuit regarding a property which is owned by one of our separate account clients. A writ of summons was sent to the insurance company that is handling the response on behalf of the property owner and an attorney has been assigned to the case which is currently in the discovery period. The defense counsel is in discussions with plaintiff's counsel regarding the removal of CenterSquare since it has neither management responsibility nor ownership interest in the property.

**Question 6: Have there been any significant personnel changes at the management level of the Firm during the quarter?**

→ Liz Conklin, Head of Securities Operations, retired on June 30, 2023, after a deliberate and long-term succession plan was executed. This plan entailed a twelve-month transition to Melissa Burk, who has been with the Operations Group since 2010 and served as Liz's deputy for the preceding 7 years. The transition and implementation were executed successfully without any impact to CenterSquare processes or operations.

→ Mark Greco, Director Private Real Estate, retired on April 30, 2023.

**Required California AB 2833 Disclosure – RREEF AMERICA II**

Effective January 1, 2017 RREEF America REIT II, Inc. (“alternative investment vehicle”) is required to provide to the East Bay Municipal Utility District (“public investment fund” or “District”) specific information at least annually pursuant to Section 7514.7 of the California Government Code (“Section 7514.7”).

1. The fees and expenses that the public investment fund pays directly to the alternative investment vehicle, the fund manager, or related parties.

EBMUD asset management fees – January 2022 – December 2022= \$639,956.56

2. The public investment fund’s pro rata share of fees and expenses not included in paragraph (1) that are paid from the alternative investment vehicle to the fund manager or related parties.

\$0.00

3. The public investment fund’s pro rata share of carried interest distributed to the fund manager or related parties.

N/A

4. The public investment fund’s pro rata share of aggregate fees and expenses paid by all of the portfolio companies held within the alternative investment vehicle to the fund manager or related parties.

EBMUDERS asset management fees – January 2022 – December 2022= \$639,956.56

5. Any additional information described in subdivision (b) of Section 6254.26.

N/A

6. The gross and net rate of return of each alternative investment vehicle since inception.

Gross = 7.4% Net = 6.6% (as of December 31, 2022)<sup>1</sup>

7. Any other information required to be collected pursuant to Section 7514.7.

N/A

<sup>1</sup>Please note that since inception returns provided represent the client’s time frame in the Fund, and not the returns of the Fund as a whole.

# Appendix

### Glossary of Terms

**Alpha:** The premium an investment earns above a set standard. This is usually measured in terms of a common index (i.e., how the stock performs independent of the market). An Alpha is usually generated by regressing a security's excess return on the S&P 500 excess return.

**Annualized Performance:** The annual rate of return that when compounded  $t$  times generates the same  $t$ -period holding return as actually occurred from period 1 to period  $t$ .

**Batting Average:** Percentage of periods a portfolio outperforms a given index.

**Beta:** The measure of an asset's risk in relation to the Market (for example, the S&P 500) or to an alternative benchmark or factors. Roughly speaking, a security with a Beta of 1.5 will have moved, on average, 1.5 times the market return.

**Bottom-up:** A management style that de-emphasizes the significance of economic and market cycles, focusing instead on the analysis of individual stocks.

**Dividend Discount Model:** A method to value the common stock of a company that is based on the present value of the expected future dividends.

**Growth Stocks:** Common stock of a company that has an opportunity to invest money and earn more than the opportunity cost of capital.

**Information Ratio:** The ratio of annualized expected residual return to residual risk. A central measurement for active management, value added is proportional to the square of the information ratio.

**R-Squared:** Square of the correlation coefficient. The proportion of the variability in one series that can be explained by the variability of one or more other series a regression model. A measure of the quality of fit. 100% R-square means perfect predictability.

**Standard Deviation:** The square root of the variance. A measure of dispersion of a set of data from its mean.

**Sharpe Ratio:** A measure of a portfolio's excess return relative to the total variability of the portfolio.

**Style Analysis:** A returns-based analysis using a multi-factor attribution model. The model calculates a product's average exposure to particular investment styles over time (i.e., the product's normal style benchmark).

**Top-down:** Investment style that begins with an assessment of the overall economic environment and makes a general asset allocation decision regarding various sectors of the financial markets and various industries.

**Tracking Error:** The standard deviation of the difference between the performance of a portfolio and an appropriate benchmark.

**Turnover:** For mutual funds, a measure of trading activity during the previous year, expressed as a percentage of the average total assets of the fund. A turnover rate of 25% means that the value of trades represented one-fourth of the assets of the fund.

**Value Stocks:** Stocks with low price/book ratios or price/earnings ratios. Historically, value stocks have enjoyed higher average returns than growth stocks (stocks with high price/book or P/E ratios) in a variety of countries.

**Definition of Benchmarks**

**BC Aggregate:** an index comprised of approximately 6,000 publicly traded investment-grade bonds including U.S. Government, mortgage-backed, corporate, and yankee bonds with an approximate average maturity of 10 years.

**BC High Yield:** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (e.g., Argentina, Brazil, Venezuela, etc.) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included. Original issue zeroes, step-up coupon structures, 144-As and pay-in-kind bonds (PIKs, as of October 1, 2009) are also included. Must be rated high-yield (Ba1/BB+ or lower) by at least two of the following ratings agencies: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. All issues must have at least one year to final maturity regardless of call features and have at least \$150 million par amount outstanding.

**BC Multiverse Non-US Hedged:** provides a broad-based measure of the international fixed-income bond market. The index represents the union of the BC Global Aggregate Index and the BC Global High Yield Index. In this sense, the term "Multiverse" refers to the concept of multiple universes in a single macro index.

**BC US Credit:** includes publicly issued U.S. corporate and foreign debentures and secured notes that which are rated investment grade or higher by Moody's Investor Services, Standard and Poor's Corporation, or Fitch Investor's Service, with all issues having at least one year to maturity and an outstanding par value of at least \$250 million. Issues must be publicly issued, dollar-denominated and non-convertible.

**BC US Government:** includes treasuries (i.e., public obligations of the U.S. Treasury that have remaining maturities of more than one year) and agencies (i.e., publicly issued debt of U.S. Government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. Government).

**BC Universal:** includes market coverage by the Aggregate Bond Index fixed rate debt issues, which are rated investment grade or higher by Moody's Investor Services, Standard and Poor's Corporation, or Fitch Investor's Service, with all issues having at least one year to maturity and an outstanding par value of at least \$100 million) and includes exposures to high yield CMBS securities. All returns are market value weighted inclusive of accrued interest.

**Citigroup 3-Month Treasury Bills (T-bills):** tracks the performance of U.S. Treasury bills with 3-month maturity.

**MSCI ACWI x US ND:** comprises both developed and emerging markets less the United States. As of August 2008, the index consisted of 23 countries classified as developed markets and 25 classified as emerging markets. This series approximates the minimum possible dividend reinvestment. The dividend is reinvested after deduction of withholding tax, applying the rate to non-resident individuals who do not benefit from double taxation treaties. MSCI Barra uses withholding tax rates applicable to Luxembourg holding companies, as Luxembourg applies the highest rates.

**MSCI EAFE Free (Europe, Australasia, Far East) ND:** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance, excluding the US & Canada. This series approximates the minimum possible dividend reinvestment. The dividend is reinvested after deduction of withholding tax, applying the rate to non-resident individuals who do not benefit from double taxation treaties. MSCI Barra uses withholding tax rates applicable to Luxembourg holding companies, as Luxembourg applies the highest rates.

**MSCI EM (Emerging Markets) GD:** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. This series approximates the maximum possible dividend reinvestment. The amount reinvested is the entire dividend distributed to individuals resident in the country of the company, but does not include tax credits.

**MSCI Europe** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in Europe. As of June 2007, this index consisted of the following 16 developed market country indices: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**MSCI Pacific** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in the Pacific region. As of June 2007, this index consisted of the following 5 Developed Market countries: Australia, Hong Kong, Japan, New Zealand, and Singapore.

**NAREIT Index:** consists of all tax-qualified REITs listed on the New York Stock Exchange, American Stock Exchange, and the NASDAQ National Market System. The data is market weighted.

**NCREIF Property Index:** the NPI contains investment-grade, non-agricultural, income-producing properties which may be financed in excess of 5% gross market value; were acquired on behalf of tax exempt institutions; and are held in a fiduciary environment. Returns are gross of fees; including income, realized gains/losses, and appreciation/depreciation; and are market value weighted. Index is lagged one quarter.

**Russell 1000:** measures the performance of the 1,000 largest securities in the Russell 3000 Index. Russell 1000 is highly correlated with the S&P 500 Index and capitalization-weighted.

**Russell 1000 Growth:** measures the performance of those Russell 1000 securities with a greater-than-average growth orientation. Securities in this index tend to exhibit higher price-to-book and price-earnings ratios, lower dividend yields and higher forecasted growth values than the Value universe.

**Russell 1000 Value:** measures the performance of those Russell 1000 securities with a less-than-average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-earnings ratios, higher dividend yields and lower forecasted growth values than the Growth universe.

**Russell 2000:** measures the performance of the 2,000 smallest companies in the Russell 3000 Index, which represents approximately 8% of the total market capitalization of the Russell 3000 Index.

**Russell 2000 Growth:** measures the performance of those Russell 2000 securities with a greater-than-average growth orientation. Securities in this index tend to exhibit higher price-to-book and price-to-earnings ratios.

**Russell 2000 Value:** measures the performance of those Russell 2000 securities with a less-than-average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-to-earnings ratios.

**Russell 3000:** represents the largest 3,000 US companies based on total market capitalization, representing approximately 98% of the investable US equity market.

**Value Relative Ratio (VRR):** Performance metric used to evaluate long-term manager performance relative to a benchmark and to highlight compounded over/under performance data over a certain time frame. VRR is calculated by the growth of a dollar invested with the manager divided by the growth of a dollar invested in the benchmark for the same time period.

**Risk Metric Description – Rationale for Selection and Calculation Methodology****US Equity Markets**

Metric: P/E ratio = Price / "Normalized" earnings for the S&P 500 Index

To represent the price of US equity markets, we have chosen the S&P 500 index. This index has the longest published history of price, is well known, and also has reliable, long-term, published quarterly earnings. The price= $P$  of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the S&P 500 index). Equity markets are very volatile. Prices fluctuate significantly during normal times and extremely during periods of market stress or euphoria. Therefore, developing a measure of earnings power ( $E$ ) which is stable is vitally important, if the measure is to provide insight. While equity prices can and do double, or get cut in half, real earnings power does not change nearly as much. Therefore, we have selected a well known measure of real, stable earnings power developed by Yale Professor Robert Shiller known as the Shiller E-10. The calculation of E-10 is simply the average real annual earnings over the past 10 years. Over 10 years, the earnings shenanigans and boom and bust levels of earnings tend to even out (and often times get restated). Therefore, this earnings statistic gives a reasonably stable, slow-to-change estimate of average real earnings power for the index. Professor Shiller's data and calculation of the E-10 are available on his website at <http://www.econ.yale.edu/~shiller/data.htm>. We have used his data as the base for our calculations. Details of the theoretical justification behind the measure can be found in his book *Irrational Exuberance* [Princeton University Press 2000, Broadway Books 2001, 2nd ed., 2005].

**Developed Equity Markets Excluding the US**

Metric: P/E ratio = Price / "Normalized" earnings for the MSCI EAFE Index

To represent the price of non-US developed equity markets, we have chosen the MSCI EAFE index. This index has the longest published history of price for non-US developed equities. The price= $P$  of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the MSCI EAFE index). The price level of this index is available starting in December 1969. Again, for the reasons described above, we elected to use the Shiller E-10 as our measure of earnings ( $E$ ). Since 12/1972, a monthly price earnings ratio is available from MSCI. Using this quoted ratio, we have backed out the implied trailing-twelve month earnings of the EAFE index for each month from 12/1972 to the present. These annualized earnings are then inflation adjusted using CPI-U to represent real earnings in US dollar terms for each time period. The Shiller E-10 for the EAFE index (10 year average real earnings) is calculated in the same manner as detailed above.

However, we do not believe that the pricing and earnings history of the EAFE markets are long enough to be a reliable representation of pricing history for developed market equities outside of the US. Therefore, in constructing the Long-Term Average Historical P/E for developed ex-US equities for comparison purposes, we have elected to use the US equity market as a developed market proxy, from 1881 to 1982. This lowers the Long-Term Average Historical P/E considerably. We believe this methodology provides a more realistic historical comparison for a market with a relatively short history.

### **Emerging Market Equity Markets**

Metric: Ratio of Emerging Market P/E Ratio to Developed Market P/E Ratio

To represent the Emerging Markets P/E Ratio, we have chosen the MSCI Emerging Market Free Index, which has P/E data back to January 1995 on Bloomberg. To represent the Developed Markets PE Ratio, we have chosen the MSCI World Index, which also has data back to January 1995 on Bloomberg. Although there are issues with published, single time period P/E ratios, in which the denominator effect can cause large movements, we feel that the information contained in such movements will alert investors to market activity that they will want to interpret.

### **US Private Equity Markets**

Metrics: S&P LCD Average EBITDA Multiples Paid in LBOs and US Quarterly Deal Volume

The Average Purchase Price to EBITDA multiples paid in LBOs is published quarterly by S&P in their LCD study. This is the total price paid (both equity and debt) over the trailing-twelve month EBITDA (earnings before interest, taxes, depreciation and amortization) as calculated by S&P LCD. This is the relevant, high-level pricing metric that private equity managers use in assessing deals. Data is published monthly.

US quarterly deal volume for private equity is the total deal volume in \$ billions (both equity and debt) reported in the quarter by Thomson Reuters Buyouts. This metric gives a measure of the level of activity in the market. Data is published quarterly.

**US Private Real Estate Markets**

Metrics: US Cap Rates, Cap Rate Spreads, and Transactions as a % of Market Value

Real estate cap rates are a measure of the price paid in the market to acquire properties versus their annualized income generation before financing costs (NOI=net operating income). The data, published by NCREIF, describes completed and leased properties (core) on an unleveraged basis. We chose to use current value cap rates. These are capitalization rates from properties that were revalued during the quarter. This data relies on estimates of value and therefore tends to be lagging (estimated prices are slower to rise and slower to fall than transaction prices). The data is published quarterly.

Spreads between the cap rate (described above) and the 10-year nominal Treasury yield, indicate a measure of the cost of properties versus a current measure of the cost of financing.

Transactions as a % of Market Value Trailing-Four Quarters is a measure of property turnover activity in the NCREIF Universe. This quarterly metric is a measure of activity in the market.

**Credit Markets Fixed Income**

Metric: Spreads

The absolute level of spreads over treasuries and spread trends (widening / narrowing) are good indicators of credit risk in the fixed income markets. Spreads incorporate estimates of future default, but can also be driven by technical dislocations in the fixed income markets. Abnormally narrow spreads (relative to historical levels) indicate higher levels of valuation risk, wide spreads indicate lower levels of valuation risk and / or elevated default fears. Investment grade bond spreads are represented by the Barclays Capital US Corporate Investment Grade Index Intermediate Component. The high yield corporate bond spreads are represented by the Barclays Capital US Corporate High Yield Index.

**Measure of Equity Market Fear / Uncertainty**

Metric: VIX – Measure of implied option volatility for US equity markets

The VIX is a key measure of near-term volatility conveyed by implied volatility of S&P 500 index option prices. VIX increases with uncertainty and fear. Stocks and the VIX are negatively correlated. Volatility tends to spike when equity markets fall.

**Measure of Monetary Policy**

Metric: Yield Curve Slope

We calculate the yield curve slope as the 10 year treasury yield minus the 1 year treasury yield. When the yield curve slope is zero or negative, this is a signal to pay attention. A negative yield curve slope signals lower rates in the future, caused by a contraction in economic activity. Recessions are typically preceded by an inverted (negatively sloped) yield curve. A very steep yield curve (2 or greater) indicates a large difference between shorter-term interest rates (the 1 year rate) and longer-term rates (the 10 year rate). This can signal expansion in economic activity in the future, or merely higher future interest rates.

**Measures of US Inflation Expectations**

Metrics: Breakeven Inflation and Inflation Adjusted Commodity Prices

Inflation is a very important indicator impacting all assets and financial instruments. Breakeven inflation is calculated as the 10 year nominal treasury yield minus the 10 year real yield on US TIPS (treasury inflation protected securities). Abnormally low long-term inflation expectations are indicative of deflationary fears. A rapid rise in breakeven inflation indicates an acceleration in inflationary expectations as market participants sell nominal treasuries and buy TIPS. If breakeven inflation continues to rise quarter over quarter, this is a signal of inflationary worries rising, which may cause Fed action and / or dollar decline.

Commodity price movement (above the rate of inflation) is an indication of anticipated inflation caused by real global economic activity putting pressure on resource prices. We calculate this metric by adjusted in the Dow Jones UBS Commodity Index (formerly Dow Jones AIG Commodity Index) by US CPI-U. While rising commodity prices will not necessarily translate to higher US inflation, higher US inflation will likely show up in higher commodity prices, particularly if world economic activity is robust.

These two measures of anticipated inflation can, and often are, conflicting.

**Measures of US Treasury Bond Interest Rate Risk**

Metrics: 10-Year Treasury Forward-Looking Real Yield and 10-Year Treasury Duration

The expected annualized real yield of the 10 year US Treasury Bond is a measure of valuation risk for US Treasuries. A low real yield means investors will accept a low rate of expected return for the certainty of receiving their nominal cash flows. Meketa estimates the expected annualized real yield by subtracting an estimate of expected 10 year inflation (produced by the Survey of Professional Forecasters as collected by the Federal Reserve Bank of Philadelphia), from the 10 year Treasury constant maturity interest rate.

Duration for the 10-Year Treasury Bond is calculated based on the current yield and a price of 100. This is a measure of expected percentage movements in the price of the bond based on small movements in percentage yield. We make no attempt to account for convexity.

**Definition of "Extreme" Metric Readings**

A metric reading is defined as "extreme" if the metric reading is in the top or bottom decile of its historical readings. These "extreme" reading should cause the reader to pay attention. These metrics have reverted toward their mean values in the past.

**RISK METRICS DESCRIPTION – Meketa Market Sentiment Indicator****What is the Meketa Market Sentiment Indicator (MMSI)?**

The MMSI is a measure meant to gauge the market's sentiment regarding economic growth risk. Growth risk cuts across most financial assets, and is the largest risk exposure that most portfolios bear. The MMSI takes into account the momentum<sup>1</sup> (trend over time, positive or negative) of the economic growth risk exposure of publicly traded stocks and bonds, as a signal of the future direction of growth risk returns; either positive (risk seeking market sentiment), or negative (risk averse market sentiment).

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<sup>1</sup> Momentum is defined as the persistence of relative performance. There is a significant amount of academic evidence indicating that positive momentum (e.g., strong performing stocks over the recent past continue to post strong performance into the near future) exists over near-to-intermediate holding periods. See, for example, "Understanding Momentum," *Financial Analysts Journal*, Scowcroft, Sefton, March, 2005.

**How do I read the Meketa Market Sentiment Indicator (MMSI) graph?**

Simply put, the MMSI is a color coded indicator that signals the market's sentiment regarding economic growth risk. It is read left to right chronologically. A green indicator on the MMSI indicates that the market's sentiment towards growth risk is positive. A gray indicator indicates that the market's sentiment towards growth risk is neutral or inconclusive. A red indicator indicates that the market's sentiment towards growth risk is negative. The black line on the graph is the level of the MMSI. The degree of the signal above or below the neutral reading is an indication the signal's current strength.

**How is the Meketa Market Sentiment Indicator (MMSI) Constructed?**

The MMSI is constructed from two sub-elements representing investor sentiment in stocks and bonds:

1. Stock return momentum: Return momentum for the S&P 500 Equity Index (trailing 12-months)
2. Bond yield spread momentum: Momentum of bond yield spreads (excess of the measured bond yield over the identical duration U.S. Treasury bond yield) for corporate bonds (trailing 12-months) for both investment grade bonds (75% weight) and high yield bonds (25% weight). The scale of this measure is adjusted to match that of the stock return momentum measure.

The black line reading on the graph is calculated as the average of the stock return momentum measure and the bonds spread momentum measure. The color reading on the graph is determined as follows:

1. If both stock return momentum and bond spread momentum are positive = GREEN (positive)
2. If one of the momentum indicators is positive, and the other negative = GRAY (inconclusive)
3. If both stock return momentum and bond spread momentum are negative = RED (negative)

**What does the Meketa Market Sentiment Indicator (MMSI) mean? Why might it be useful?**

There is strong evidence that time series momentum is significant and persistent.<sup>1</sup> In particular, across an extensive array of asset classes, the sign of the trailing 12-month return (positive or negative) is indicative of future returns (positive or negative) over the next 12 month period. The MMSI is constructed to measure this momentum in stocks and corporate bond spreads. A reading of green or red is agreement of both the equity and bond measures, indicating that it is likely that this trend (positive or negative) will continue over the next 12 months. When the measures disagree, the indicator turns gray. A gray reading does not necessarily mean a new trend is occurring, as the indicator may move back to green, or into the red from there. The level of the reading (black line) and the number of months at the red or green reading, gives the user additional information on which to form an opinion, and potentially take action.

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<sup>1</sup> "Time Series Momentum" Moskowitz, Ooi, Pedersen, August 2010 <http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf>

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