



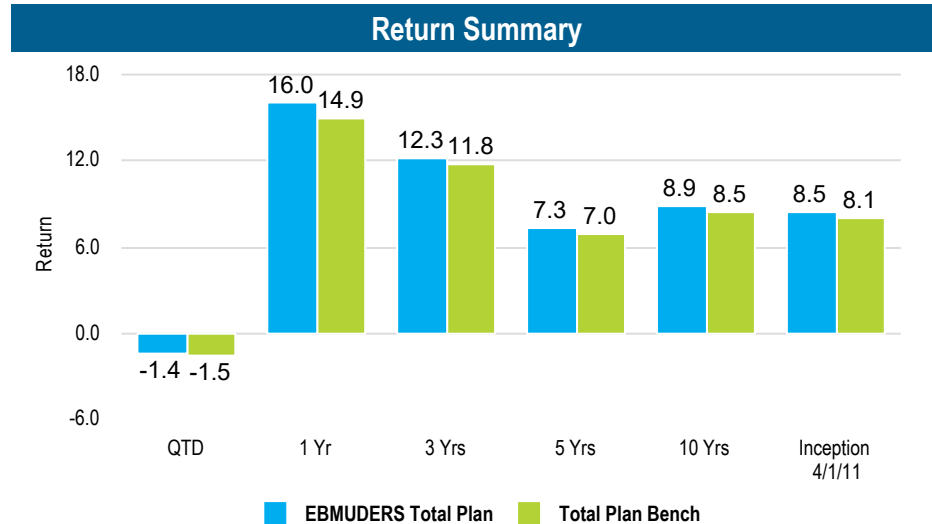
# East Bay Municipal Utility District Employees' Retirement System

May 21, 2026

Q1 2026 Performance Report

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# Introduction



|                            | Summary of Cash Flows |                 |
|----------------------------|-----------------------|-----------------|
|                            | QTD                   | 1 Yr            |
| <b>EBMUDERS Total Plan</b> |                       |                 |
| Beginning Market Value     | \$3,012,763,140       | \$2,602,373,560 |
| Net Cash Flow              | \$42,889,342          | -\$5,813,319    |
| Net Investment Change      | -\$42,517,321         | \$416,574,920   |
| Ending Market Value        | \$3,013,135,161       | \$3,013,135,161 |

|                                    | 3 Mo (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | 20 Yrs (%) |
|------------------------------------|----------|----------|-----------|-----------|------------|------------|
| <b>EBMUDERS Total Plan - Net</b>   | -1.4     | 16.0     | 12.3      | 7.3       | 8.9        | --         |
| <b>EBMUDERS Total Plan - Gross</b> | -1.4     | 16.1     | 12.4      | 7.4       | 9.1        | 7.6        |
| <i>Total Plan Benchmark</i>        | -1.5     | 14.9     | 11.8      | 7.0       | 8.5        | 7.2        |
| InvMetrics Public DB > \$1B Median | -0.7     | 12.1     | 9.9       | 6.3       | 8.2        | 7.1        |

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

## Asset Class Performance - Net of Fees | As of March 31, 2026

|                                             | Market Value<br>(\$) | % of<br>Portfolio | QTD<br>(%)  | 1 Yr<br>(%) | 3 Yrs<br>(%) | 5 Yrs<br>(%) | 10 Yrs<br>(%) | Inception<br>(%) | Inception<br>Date |
|---------------------------------------------|----------------------|-------------------|-------------|-------------|--------------|--------------|---------------|------------------|-------------------|
| <b>EBMUDERS Total Plan</b>                  | <b>3,013,135,161</b> | <b>100.0</b>      | <b>-1.4</b> | <b>16.0</b> | <b>12.3</b>  | <b>7.3</b>   | <b>8.9</b>    | <b>8.5</b>       | <b>Apr-11</b>     |
| <i>Total Plan Benchmark</i>                 |                      |                   | <i>-1.5</i> | <i>14.9</i> | <i>11.8</i>  | <i>7.0</i>   | <i>8.5</i>    | <i>8.1</i>       |                   |
| <b>US Equity</b>                            | <b>1,032,382,391</b> | <b>34.3</b>       | <b>-4.0</b> | <b>17.6</b> | <b>17.7</b>  | <b>10.8</b>  | <b>13.9</b>   | <b>12.8</b>      | <b>Apr-11</b>     |
| <i>Russell 3000 Hybrid</i>                  |                      |                   | <i>-4.0</i> | <i>18.1</i> | <i>17.9</i>  | <i>10.9</i>  | <i>13.7</i>   | <i>12.8</i>      |                   |
| <b>Non-US Equity</b>                        | <b>808,005,214</b>   | <b>26.8</b>       | <b>0.7</b>  | <b>26.6</b> | <b>15.2</b>  | <b>7.8</b>   | <b>8.4</b>    | <b>6.9</b>       | <b>Jul-95</b>     |
| <i>MSCI ACWI xUS (blend)</i>                |                      |                   | <i>-0.6</i> | <i>25.6</i> | <i>15.1</i>  | <i>7.6</i>   | <i>8.9</i>    | <i>6.1</i>       |                   |
| <b>Covered Calls</b>                        | <b>143,588,113</b>   | <b>4.8</b>        | <b>-4.0</b> | <b>12.8</b> | <b>12.4</b>  | <b>8.4</b>   | <b>9.2</b>    | <b>9.3</b>       | <b>Feb-14</b>     |
| <i>Cboe S&amp;P 500 Buy Write Index</i>     |                      |                   | <i>-0.9</i> | <i>11.4</i> | <i>11.0</i>  | <i>7.9</i>   | <i>7.3</i>    | <i>7.0</i>       |                   |
| <b>Core Private Real Estate</b>             | <b>55,069,203</b>    | <b>1.8</b>        | <b>1.5</b>  | <b>5.0</b>  | <b>3.5</b>   | <b>5.4</b>   | <b>5.9</b>    | <b>5.7</b>       | <b>Jan-07</b>     |
| <i>Real Estate Benchmark</i>                |                      |                   | <i>1.2</i>  | <i>4.9</i>  | <i>5.1</i>   | <i>5.8</i>   | <i>5.9</i>    | <i>6.7</i>       |                   |
| <b>Investment Grade Bonds</b>               | <b>607,693,526</b>   | <b>20.2</b>       | <b>0.0</b>  | <b>4.6</b>  | <b>3.6</b>   | <b>0.8</b>   | <b>2.0</b>    | <b>2.4</b>       | <b>Jan-14</b>     |
| <i>Fixed Income Core Benchmark</i>          |                      |                   | <i>0.0</i>  | <i>4.3</i>  | <i>3.6</i>   | <i>0.6</i>   | <i>--</i>     | <i>--</i>        |                   |
| <b>High Yield Bonds</b>                     | <b>213,452,900</b>   | <b>7.1</b>        | <b>0.0</b>  | <b>6.2</b>  | <b>7.1</b>   | <b>5.0</b>   | <b>--</b>     | <b>5.3</b>       | <b>Jul-19</b>     |
| <i>Blmbg. U.S. Corp: High Yield Index</i>   |                      |                   | <i>-0.5</i> | <i>7.0</i>  | <i>8.6</i>   | <i>4.2</i>   | <i>--</i>     | <i>4.9</i>       |                   |
| <b>Bank Loans</b>                           | <b>138,945,727</b>   | <b>4.6</b>        | <b>-0.5</b> | <b>2.8</b>  | <b>5.3</b>   | <b>3.2</b>   | <b>--</b>     | <b>3.0</b>       | <b>Jul-19</b>     |
| <i>Morningstar LSTA U.S. Leveraged Loan</i> |                      |                   | <i>-0.6</i> | <i>4.8</i>  | <i>8.0</i>   | <i>5.9</i>   | <i>--</i>     | <i>5.5</i>       |                   |
| <b>Cash</b>                                 | <b>13,998,088</b>    | <b>0.5</b>        | <b>1.2</b>  | <b>4.5</b>  | <b>4.6</b>   | <b>3.3</b>   | <b>2.4</b>    | <b>1.6</b>       | <b>Aug-10</b>     |
| <i>FTSE 3 Month T-Bill</i>                  |                      |                   | <i>0.9</i>  | <i>4.2</i>  | <i>5.0</i>   | <i>3.5</i>   | <i>2.3</i>    | <i>1.5</i>       |                   |

## **Economic and Market Update**

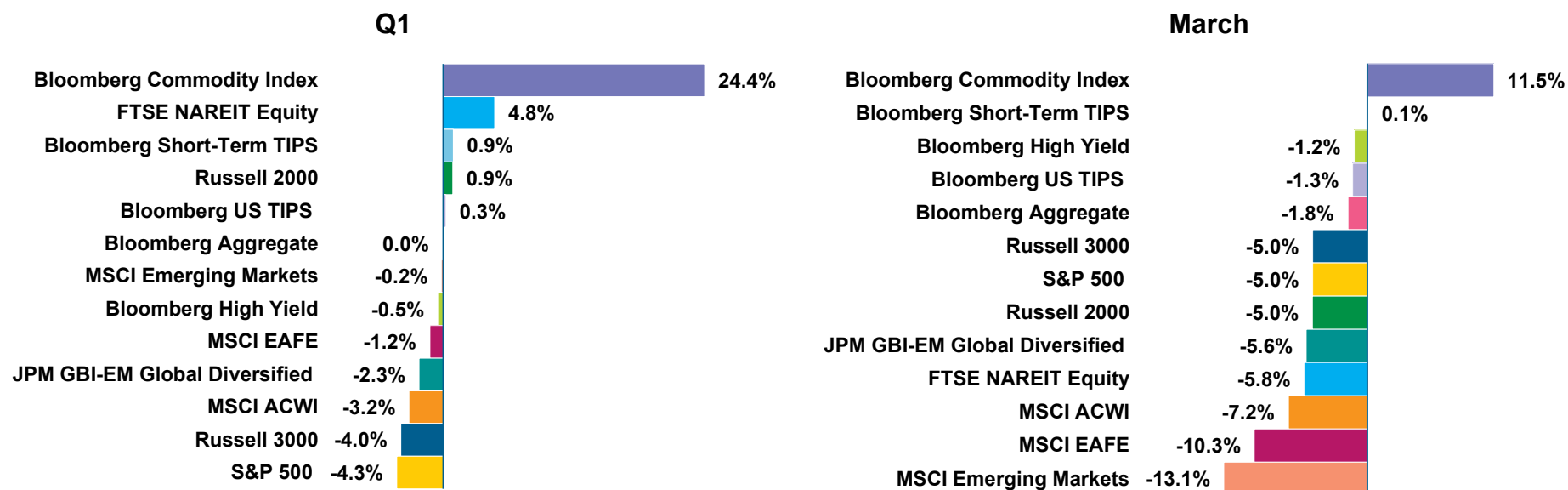
Data as of March 31, 2026

## Commentary

**Despite a solid start in January, equities globally declined in the first quarter amid tensions in the Middle East and US technology weakness, while higher energy prices fueled inflation concerns in the bond markets.**

- US equities (Russell 3000) declined 4.0% in the first quarter. Small-cap and value stocks outperformed large-cap and growth, as skepticism around AI-driven valuations and shifting rate expectations supported a rotation toward more cyclical and defensive areas of the market.
- Non-US equities declined less than US stocks in the first quarter, supported by more attractive relative valuations and a rotation away from US technology leadership. Performance was also aided by strength in parts of Asia tied to AI-related hardware demand. Later in the quarter, the Middle East conflict particularly weighed on countries dependent on oil from the region, especially oil that typically passes through the Strait of Hormuz.
  - Non-US developed stocks (MSCI EAFE) fell 1.2% in the first quarter.
  - Emerging markets (MSCI Emerging Markets) slightly declined (0.2%) in the first quarter. South Korea and Taiwan were among the top performing countries, while China fell on weakness in internet and software stocks.
- Major bond markets were broadly flat for the first quarter of 2026. The US bond market (Bloomberg Aggregate) finished the quarter largely unchanged. TIPS (Bloomberg US TIPS) were up slightly driven by increased inflation concerns, while longer-duration Treasuries posted modestly negative returns amid upward pressure on yields.
- Looking ahead, markets will be focused on how geopolitical risks, elevated energy prices, and trade uncertainty feed into inflation expectations and influence the path of monetary policy, growth, and earnings outlooks.

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



- In the first quarter of 2026, commodities led performance, significantly outperforming as geopolitical tensions drove oil prices higher. US REITs also had a strong quarter as investors rotated out of large-cap tech into defensive, income-generating assets, with data centers and healthcare properties driving results.
- In contrast, risk assets broadly lagged, with US equities declining, led by large-cap stocks, while international equities also posted negative returns amid continued concerns around technology valuations and energy related worries from the conflict in the Middle East.

<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2026.



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

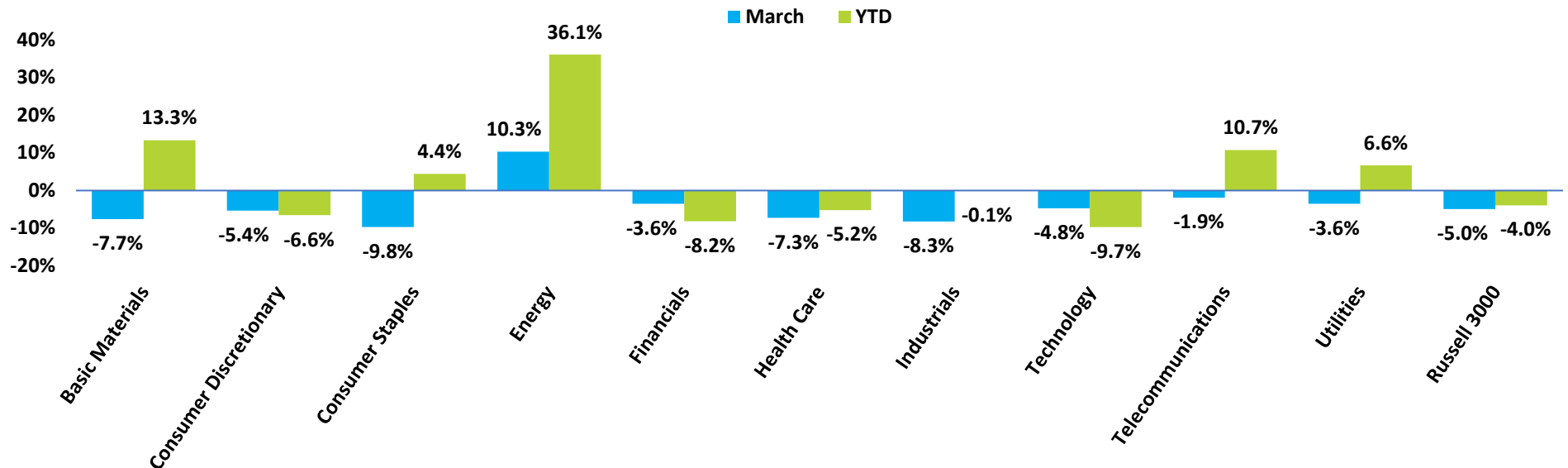
| Domestic Equity       | March (%) | Q1 (%) | 1 YR (%) | 3 YR (%) | 5 YR (%) | 10 YR (%) |
|-----------------------|-----------|--------|----------|----------|----------|-----------|
| S&P 500               | -5.0      | -4.3   | 17.8     | 18.3     | 12.1     | 14.2      |
| Russell 3000          | -5.0      | -4.0   | 18.1     | 17.8     | 10.9     | 13.7      |
| Russell 1000          | -5.0      | -4.2   | 17.7     | 18.1     | 11.3     | 14.0      |
| Russell 1000 Growth   | -5.2      | -9.8   | 18.8     | 21.2     | 12.8     | 16.8      |
| Russell 1000 Value    | -4.8      | 2.1    | 15.9     | 14.3     | 9.4      | 10.6      |
| Russell MidCap        | -5.3      | 1.3    | 16.0     | 13.3     | 7.3      | 10.9      |
| Russell MidCap Growth | -6.3      | -6.3   | 9.6      | 12.7     | 5.4      | 11.7      |
| Russell MidCap Value  | -5.1      | 3.7    | 17.6     | 13.1     | 7.9      | 9.7       |
| Russell 2000          | -5.0      | 0.9    | 25.7     | 13.0     | 3.8      | 9.9       |
| Russell 2000 Growth   | -6.3      | -2.8   | 23.6     | 12.3     | 1.6      | 9.8       |
| Russell 2000 Value    | -3.6      | 5.0    | 28.1     | 13.8     | 5.8      | 9.6       |

### US Equities: The Russell 3000 index fell 4.0% in the first quarter of 2026.

- The rotation from growth to value that began late last year remained firmly in place throughout the first quarter of 2026, despite broad declines in US equities. The style divergence was evident across market capitalizations, with the Russell 1000 Value Index gaining 2.1% versus a 9.8% decline for the Russell 1000 Growth Index. In small caps, the Russell 2000 Value Index rose 5.0% compared to a 2.8% decline for the Russell 2000 Growth Index, reflecting continued investor preference for lower-valuation, more cyclically exposed segments of the market.
- All the “Magnificent Seven” constituents posted negative returns in the first quarter: Microsoft (-23.5%), Meta (-13.0%), Amazon (-9.4%), Alphabet (-8.1%), Apple (-7.3%), Tesla (-6.7%), and Nvidia (-6.5%). This acted as a meaningful headwind to broad market performance given their significant weight in the index.

<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2026.

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



**Sector performance was mixed in the first quarter, with leadership concentrated in energy and other inflation-sensitive areas alongside defensive sectors.**

- Energy was the clear standout, gaining 36.1% during the quarter, driven by elevated geopolitical risk and rising energy prices. Basic materials (+13.3%) benefited from higher commodity prices and telecommunications (+10.7%) was helped by wireless carriers posting strong earnings.
- Technology was the weakest-performing sector, declining 9.7% for the quarter, as continued concerns around AI-related valuations and the sustainability of elevated capital spending weighed on returns. Financials (-8.2%) and consumer discretionary (-6.6%) also lagged.

<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2026.

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

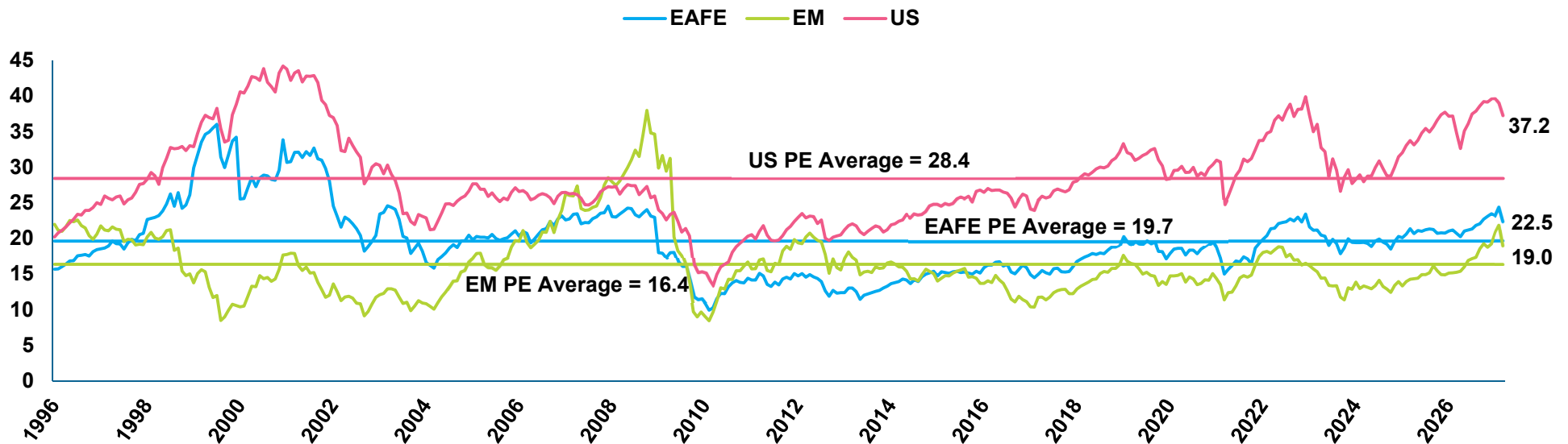
| Foreign Equity                         | March (%) | Q1 (%) | 1 YR (%) | 3 YR (%) | 5 YR (%) | 10 YR (%) |
|----------------------------------------|-----------|--------|----------|----------|----------|-----------|
| MSCI ACWI Ex US                        | -10.8     | -0.7   | 24.9     | 14.5     | 7.0      | 8.4       |
| MSCI EAFE                              | -10.3     | -1.2   | 21.3     | 13.6     | 7.9      | 8.4       |
| MSCI EAFE (Local Currency)             | -8.0      | 0.1    | 17.4     | 13.2     | 9.9      | 9.3       |
| MSCI EAFE Small Cap                    | -10.9     | -1.3   | 25.6     | 12.6     | 4.4      | 7.4       |
| MSCI Emerging Markets                  | -13.1     | -0.2   | 29.6     | 14.8     | 3.7      | 7.8       |
| MSCI Emerging Markets (Local Currency) | -10.5     | 2.1    | 30.6     | 17.1     | 6.2      | 9.5       |
| MSCI EM ex China                       | -14.8     | 3.2    | 41.3     | 18.5     | 8.1      | 9.2       |
| MSCI China                             | -7.7      | -8.9   | 3.8      | 6.5      | -4.9     | 5.1       |

**Foreign equities declined in the first quarter of 2026, but by less than US equities. Developed markets (MSCI EAFE: -1.2%) modestly underperformed emerging markets (MSCI Emerging Markets: -0.2%), with performance dispersion across regions remaining elevated.**

- Within developed markets, results were mixed. European and UK equities benefited at times from relative value appeal and exposure to energy and defensive sectors. Japan was supported by expectations of political stability after the February national elections and continued AI-related hardware demand, though broader risk-off sentiment and concerns related to energy prices weighed on returns by quarter-end.
- Emerging markets modestly outperformed developed peers during the quarter, driven by strength in select Asian markets tied to continued semiconductor and hardware demand. China was a notable laggard (-8.9%), as broad-based weakness in tech and consumer stocks and ongoing uncertainty around growth and policy support pressured returns in the first quarter.

<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2026.

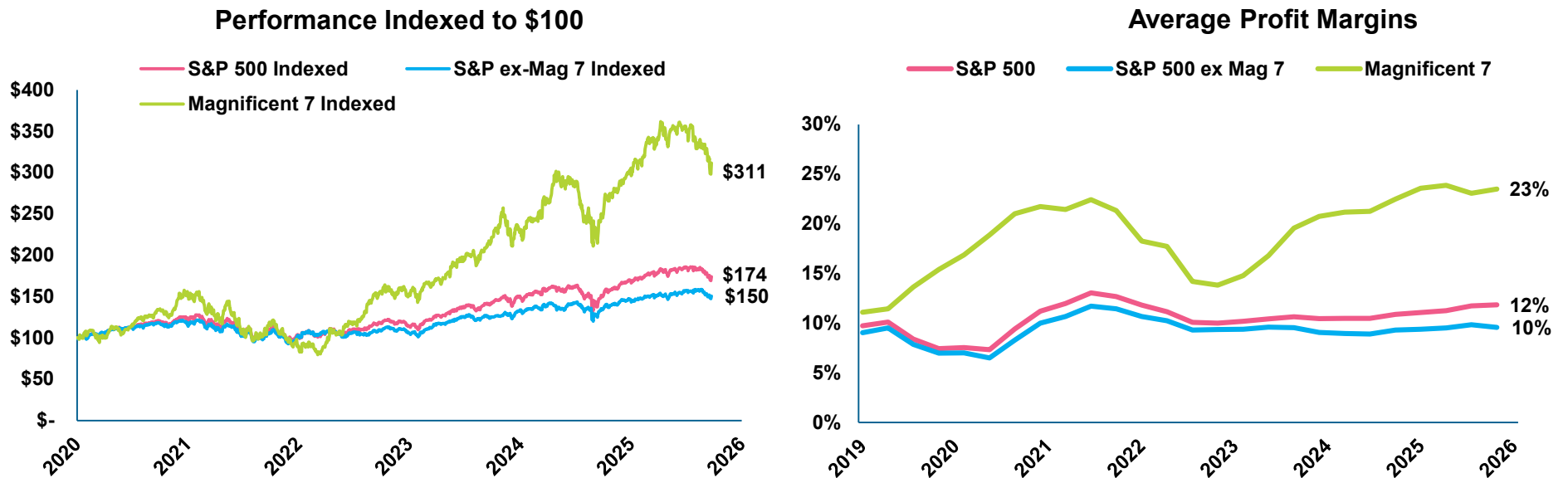
### Equity Cyclically Adjusted P/E Ratios<sup>1</sup>



- Cyclically adjusted US equity valuations pulled back from their recent peak driven by weakness in AI-related growth stocks and the conflict in the Middle East. Valuations nevertheless remain well above long-run averages.
- Non-US developed markets (EAFE) pulled back modestly in the first quarter, but valuations remain above their long-run average (22.5 versus 19.7).
- Emerging market valuations also declined slightly in the first quarter but remain above the long-run average (19.0 versus 16.4) though.

<sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E Source: Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of March 2026. The average line is the long-term average of the US, EM, and EAFE PE values from April 1998 to the recent month-end, respectively.

### Performance and Profit Margins: S&P 500 and “Magnificent 7”<sup>1</sup>



- AI-oriented mega-cap stocks continued to play an outsized role in US equity performance during the first quarter of 2026, this time depressing overall results given their declines and weight in the index.
- Leadership broadened meaningfully over the quarter as investor concerns around valuations, capital intensity, and disruption risks weighed on high-multiple AI leaders. This contributed to the relative underperformance of the “Magnificent 7” versus the broader market.
- Despite the recent stock price weakness, the average profit margins (23%) for the “Magnificent 7” are more than double those of the S&P 500 ex Mag 7 (10%).

<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2026, for index prices and profit margins.

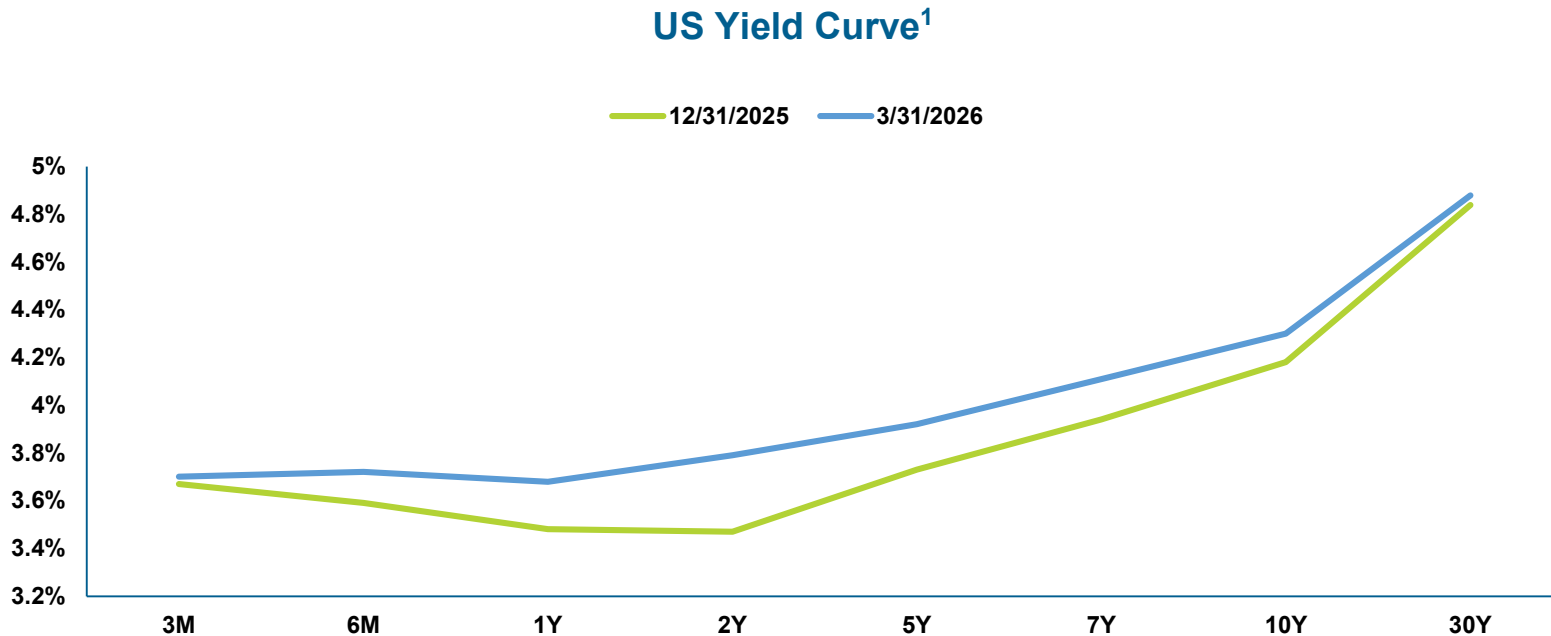
## Fixed Income Returns<sup>1</sup>

| Fixed Income                        | March (%) | Q1 (%) | 1 YR (%) | 3 YR (%) | 5 YR (%) | 10 YR (%) | Current Yield (%) | Duration (Years) |
|-------------------------------------|-----------|--------|----------|----------|----------|-----------|-------------------|------------------|
| Bloomberg Universal                 | -1.8      | -0.1   | 4.6      | 4.2      | 0.7      | 2.1       | 4.8               | 5.8              |
| Bloomberg Aggregate                 | -1.8      | 0.0    | 4.3      | 3.6      | 0.3      | 1.7       | 4.6               | 6.0              |
| Bloomberg US TIPS                   | -1.3      | 0.3    | 3.0      | 3.2      | 1.5      | 2.7       | 4.3               | 6.6              |
| Bloomberg Short-term TIPS           | 0.1       | 0.9    | 3.9      | 4.7      | 3.5      | 3.1       | 3.8               | 2.4              |
| Bloomberg US Long Treasury          | -4.0      | -0.4   | 0.5      | -1.5     | -4.6     | -0.8      | 4.9               | 14.4             |
| Bloomberg High Yield                | -1.2      | -0.5   | 7.0      | 8.6      | 4.2      | 6.1       | 7.4               | 3.4              |
| JPM GBI-EM Global Diversified (USD) | -5.6      | -2.3   | 11.8     | 6.9      | 2.1      | 2.6       | --                | --               |

### Fixed Income: The Bloomberg Universal index fell 0.1% in the first quarter of 2026.

- Fixed income returns were mixed during the first quarter of 2026. The Mideast conflict reignited inflation fears, and fixed income markets repriced future rate cut expectations for the year. The broad US bond market (Bloomberg Aggregate) finished the quarter flat, while longer-duration assets and riskier credit segments lagged.
- Long-term Treasuries were pressured late in the quarter as yields moved higher, resulting in modest losses for the Bloomberg US Long Treasury Index (-0.4%). Inflation-protected securities delivered positive results, with short-term TIPS returning +0.9% while the broader TIPS index rose 0.3%.
- During the quarter credit-oriented sectors lagged as weaker risk sentiment and rate volatility weighed on returns. High yield bonds declined modestly (-0.5%), while emerging market debt underperformed more meaningfully (-2.3%), reflecting sensitivity to global risk conditions.

<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2026. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration, respectively. JPM GBI-EM data is from J.P. Morgan. Current yield and duration data is not available.

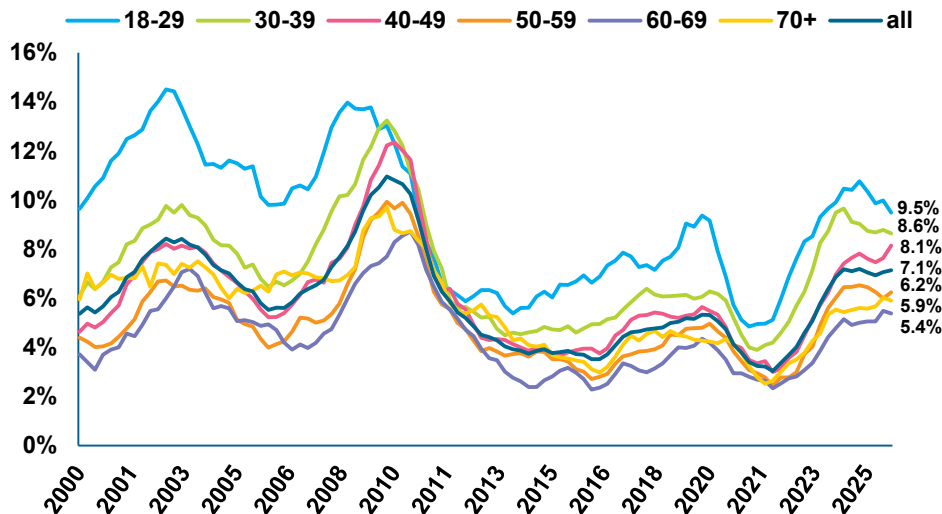


- Treasury yields moved higher across the entire curve during the first quarter of 2026 as the war in the Middle East increased inflation concerns and lowered the number of expected interest rate cuts from the Federal Reserve.
- The policy-sensitive 2-year nominal Treasury yield increased from 3.47% to 3.79%. The 10-year nominal Treasury yield rose from 4.18% to 4.30%, while the 30-year nominal Treasury yield increased from 4.84% to 4.91%.
- As the front end of the yield curve rose more sharply than longer-dated yields, the spread between the two-year and ten-year Treasury declined from 70 basis points to 53 basis points.

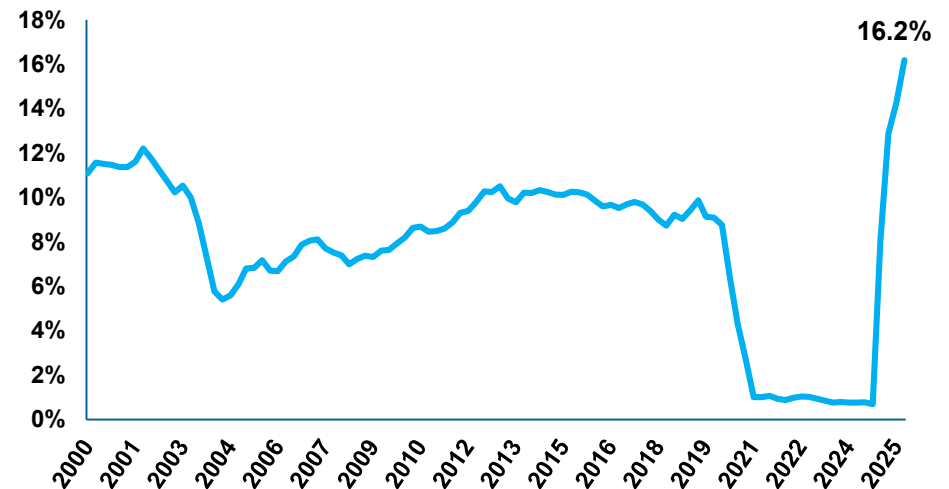
<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2026.

### Stress is Building Among Some US Consumers<sup>1</sup>

Transition into Serious Delinquency for Credit Cards by Age



Transition Into Serious Delinquency (90+ Days) for Student Loans<sup>2</sup>



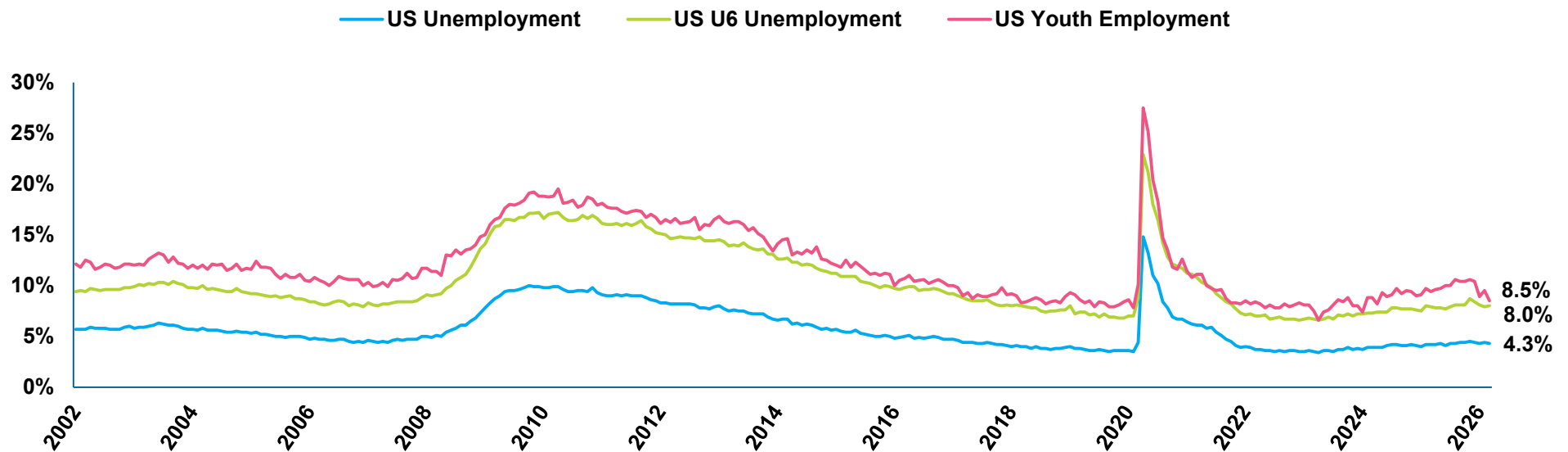
- US consumer conditions are increasingly K-shaped, with higher-income households remaining resilient while younger and more rate-sensitive borrowers show rising stress amid persistently high prices and interest rates.
- Delinquencies have risen from pandemic lows, driven by this more financially stretched group; while overall levels are close to pre-pandemic numbers, dispersion across households is widening.
- Student loan repayments have re-emerged as a key pressure point, with millions of borrowers missing payments and over 16% of balances now seriously delinquent, weighing on consumption for younger cohorts.

<sup>1</sup> Source: New York Federal Reserve, Quarterly Household Debt and Credit Report. See also FRED. Data is as of December 31, 2025.

<sup>2</sup> Source: New York Federal Reserve, Quarterly Household Debt and Credit Report. Percent of student loan holders transitioning in serious default (90-days or more) based on four quarter moving average. Delays in reporting may cause fluctuations. Data is as of December 31, 2025.



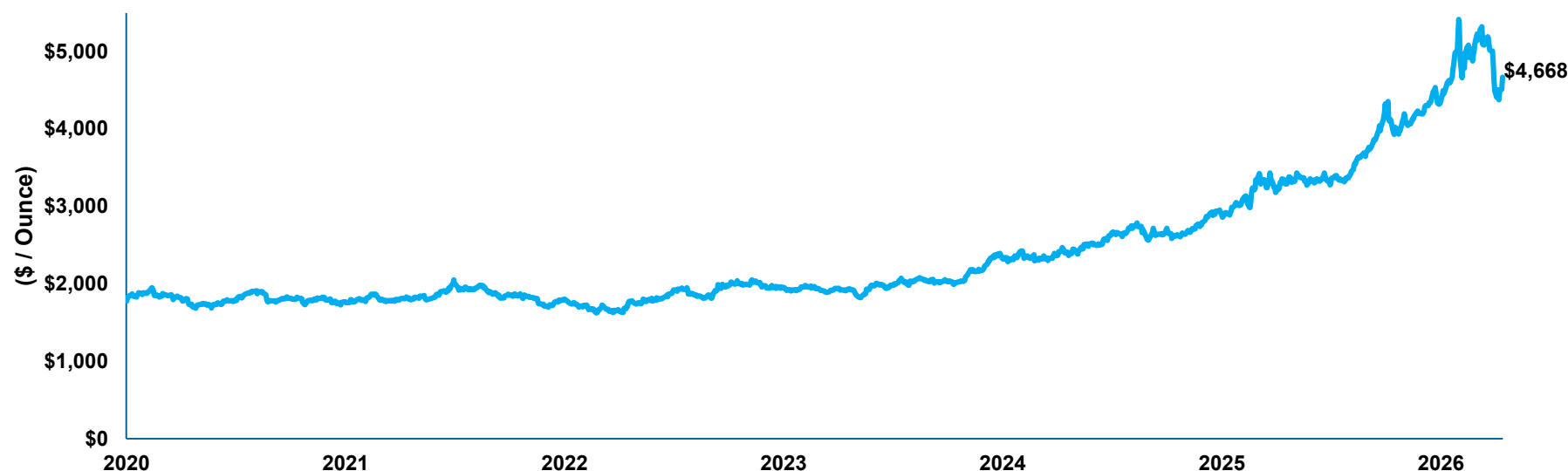
### US Unemployment<sup>1</sup>



- The unemployment rate finished the quarter slightly lower than where it started (4.3% versus 4.4%). More than 200,000 jobs were added during the quarter with gains in January (160k) and March (178k) and losses in February (-133k). The gains were largely driven by the health care sector.
- Broader measures of labor markets (U6) have improved somewhat since late last year but remain above pre-pandemic levels. Youth unemployment improved somewhat in the first quarter to 8.5%.
- Despite some recent signs of weakness, the labor market remains broadly stable, with low initial unemployment claims, the number of job openings stabilizing, the rate of people quitting jobs slowing, and although hiring has slowed, layoffs remain low.

<sup>1</sup> Source: FRED and BLS. Data is as of March 31, 2026. Original February job loss was -92,000 but subsequently revised lower.

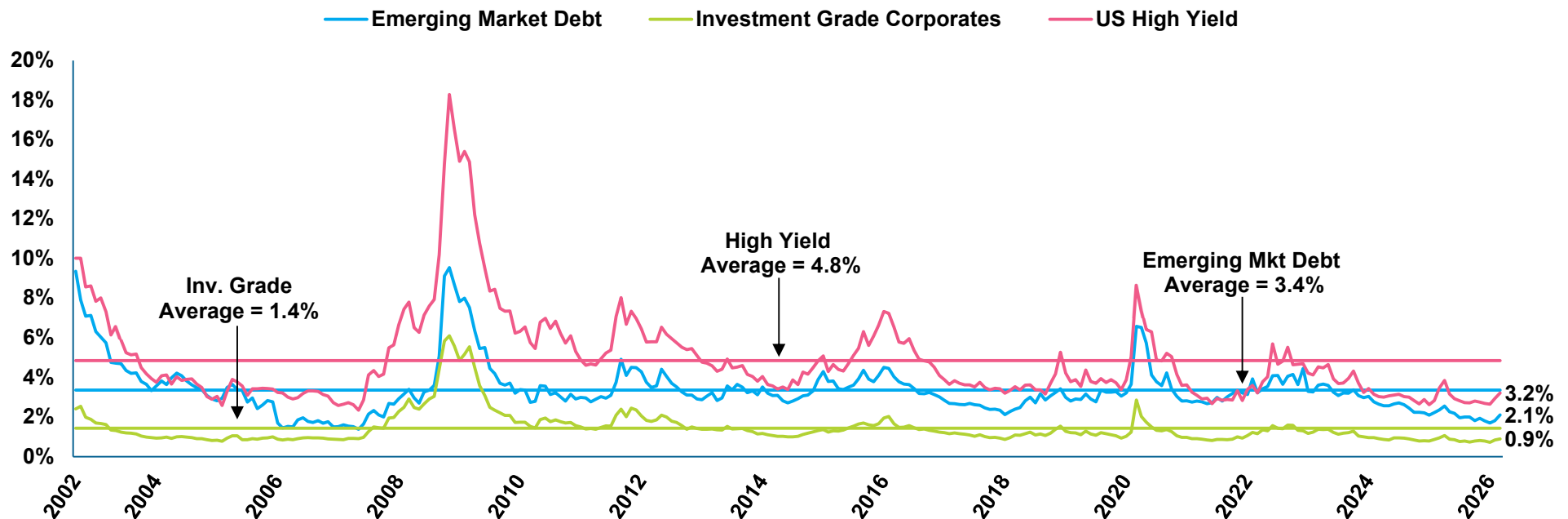
### Gold<sup>1</sup>



- Gold gained over the first quarter of 2026. The rally reached an all-time high in January of over \$5,300 an ounce before falling to \$4,668 at quarter end. US dollar strength, the conflict in the Middle East, and some central bank liquidations contributed to the price decline.
- At the start of the Middle East conflict the price of gold rose. However, as the energy shock roiled non-US markets many central banks sold or stepped back purchases of gold bullion to raise US dollars and stabilize their currencies. The global energy shock rekindled inflation fears and raised market expectations for central bank rate hikes in the coming months.
- Longer-term support remains anchored by persistent inflation concerns, deteriorating fiscal trajectories in major economies, and despite recent dynamics, central bank de-dollarization.

<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2026. Gold Spot Price is quoted as US Dollars per Troy Ounce.

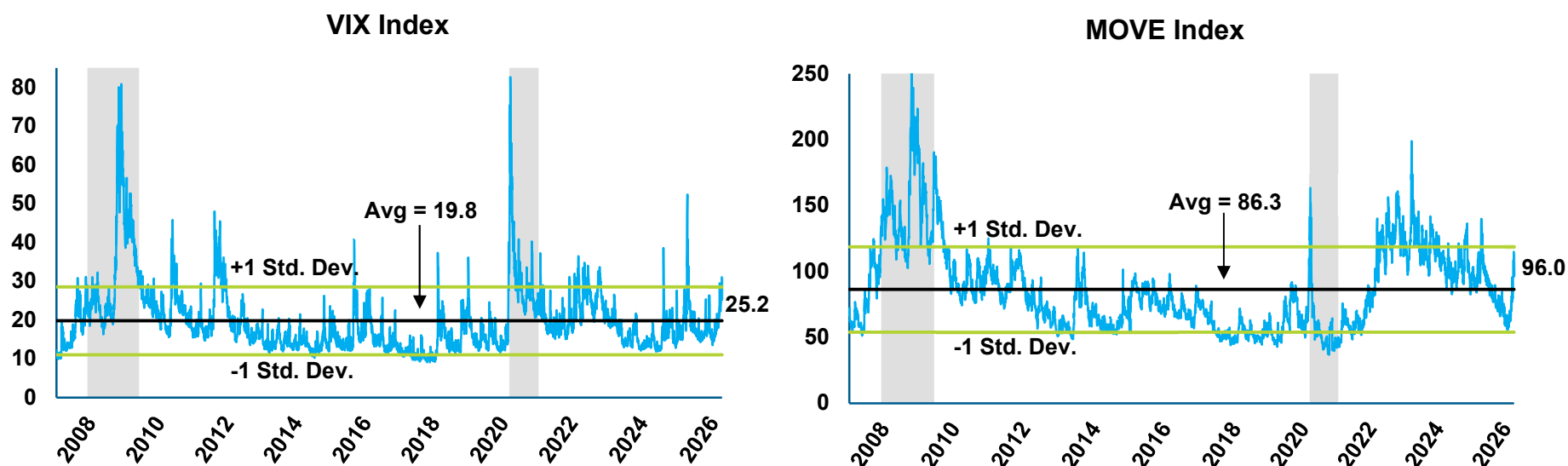
### Credit Spreads vs. US Treasury Bonds<sup>1</sup>



- Credit spreads (the difference in yield from a comparable-maturity Treasury) rose during the first quarter as the Middle East conflict and the resulting energy shock drove a risk-off rotation.
- Investment grade spreads moved slightly higher for the quarter (0.8% to 0.9%).
- High yield spreads rose the most in the first quarter (2.7% to 3.2%), while emerging market spreads ticked up more modestly (1.8% to 2.1%).
- All yield spreads remain well below their respective long-run averages, particularly high yield (3.2% vs. 4.8%).

<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2026. Average lines denote the average of the investment grade, high yield, and emerging market spread values from September 2002 to the recent month-end, respectively.

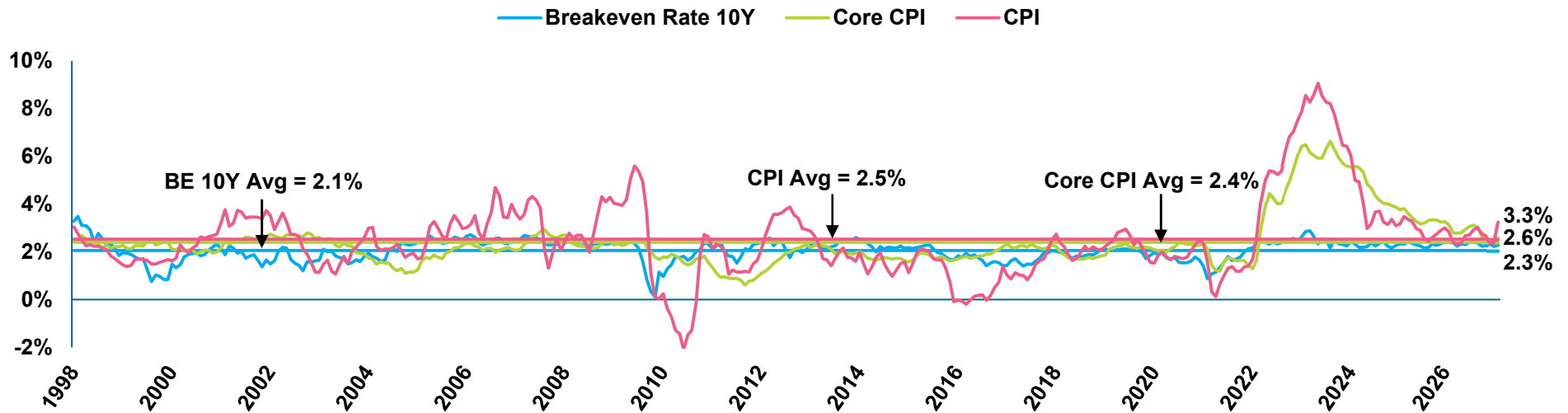
### Equity and Fixed Income Volatility<sup>1</sup>



- Volatility rose significantly across both equity and fixed income markets in the first quarter, largely due to uncertainty related to the conflict in the Middle East.
- Equity market volatility (VIX) rose in the first quarter (15.0 to 25.2), peaking at over 30 during March. Despite the rise this quarter, the volatility levels were lower than the VIX readings after the US tariff announcements last year.
- Bond market volatility (MOVE) also spiked in the first quarter (64.0 to 96.0) reaching levels around 115 before declining at quarter-end. Heightened uncertainty around geopolitical risks on inflation and the related Federal Reserve policy path drove fixed income volatility levels higher.

<sup>1</sup> Equity Volatility – Source: FRED. Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of March 31, 2026. The average line indicated is the average of the VIX and MOVE values between January 2007 and March 2026.

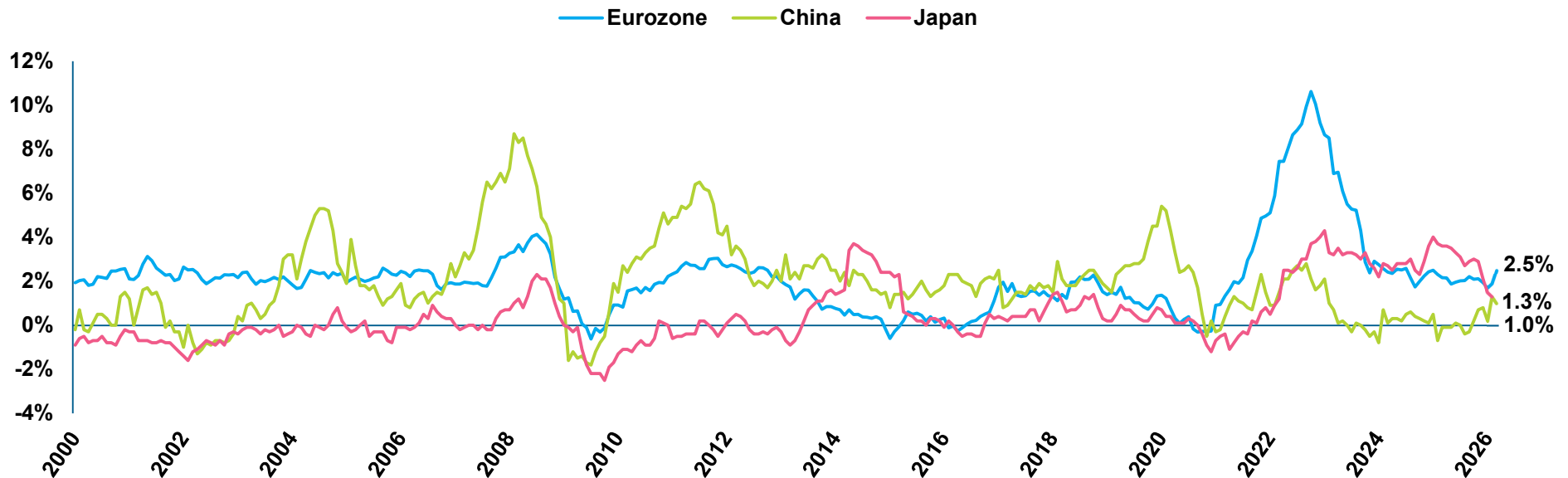
### US Inflation<sup>1</sup>



- In the first quarter of 2026, year-on-year headline inflation rose from the end of 2025 level of 2.4% in January to 3.3% in March. This was largely driven by an increase in the energy index (+10.9%) with gasoline prices up 21.2%, the largest monthly gain since 1967. The month-on-month rate jumped from +0.2% to +0.9%.
- Year-on-year core inflation remained unchanged in the first quarter at 2.6% with the monthly pace falling slightly (0.3% to 0.2%). Shelter remained the largest contributor, though notably rent posted the smallest monthly increase since 2021.
- Despite a rise in March, long-term inflation expectations (breakevens) rose only modestly over the quarter (2.2% to 2.3%).

<sup>1</sup> Source: FRED. Data is as of March 31, 2026.

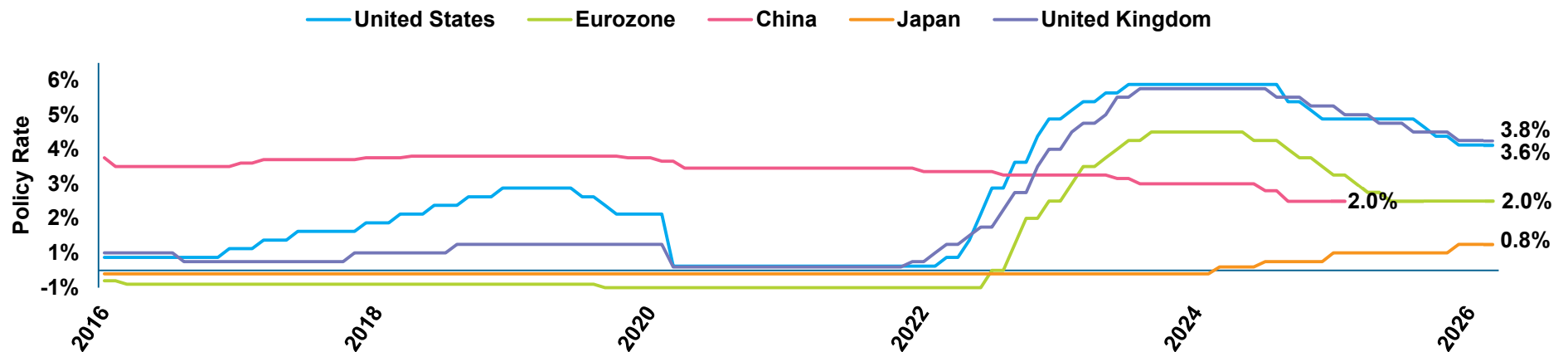
### Global Inflation (CPI Trailing Twelve Months)<sup>1</sup>



- Eurozone inflation rose during the first quarter of 2026, largely driven by a spike in energy costs. It ended the period at 2.5% year-on-year (above the ECB's 2% target), up from 2.0% at the end of 2025. While inflation pressures remain uneven across components, the elevated headline level continues to complicate the policy outlook.
- Japan's inflation declined over the quarter from 2.1% at the end of 2025 to 1.3% (a four-year low). Government energy subsidies kept electricity and gas prices contained, alongside a deceleration in food price inflation as rice price gains slowed markedly.
- China's inflation rose modestly during the first quarter of 2026, increasing from 0.8% at year-end to 1.0%, though overall price pressures remain subdued and well below levels seen in developed markets.

<sup>1</sup> Source: Bloomberg. Data is as of March 2026 except Japan which is as of February.

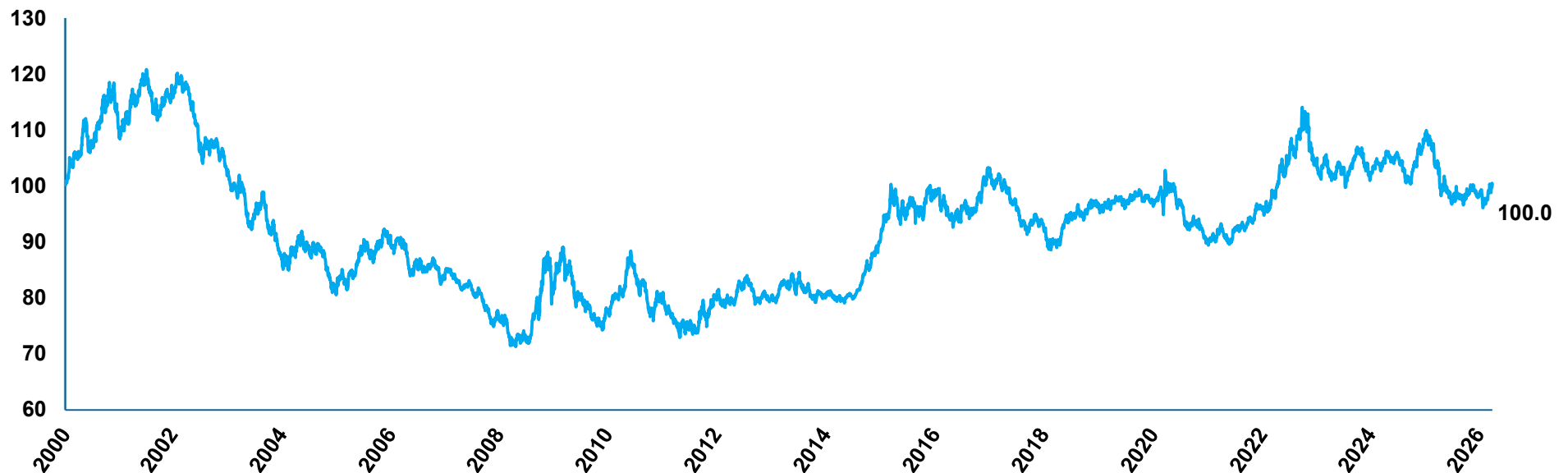
### Global Policy Rates<sup>1</sup>



- Global monetary policy was increasingly divergent during the first quarter of 2026, as tensions in the Middle East created inflation fears, driving expectations for some central banks to start increasing policy rates.
- The Federal Reserve held policy rates steady throughout the first quarter as inflation remained above target and labor market conditions cooled gradually. In Q1, markets materially reduced expectations for rate cuts in 2026 given the Iran conflict, with a slight chance of a rate increase priced in late in the quarter.
- The European Central Bank and Bank of England are expected to increase policy rates 1-2 times this year given the impact of higher oil prices on inflation and both areas being net importers of oil.
- China's central bank is expected to keep supporting economic growth with accommodative monetary policy and other easing measures.
- The Bank of Japan continued its gradual normalization away from ultra-easy monetary policy. While rates remain low by global standards, markets continue to anticipate additional incremental rate increases later in 2026.

<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2026, except China which is as of February 28, 2025. United States rate is the mid-point of the Federal Funds Target Rate range. Eurozone rate is the ECB Deposit Facility Announcement Rate. Japan rate is the Bank of Japan Unsecured Overnight Call Rate Expected. China rate is the China Central Bank 1-Year Medium Term Interest Rate. UK rate is the UK Bank of England Official Bank Rate.

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



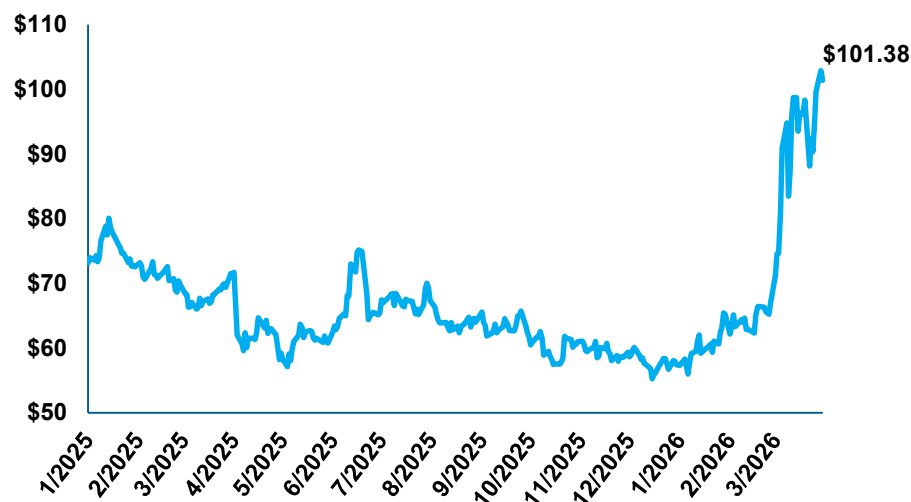
- The US dollar was volatile over the quarter but rose modestly with the DXY rising from 98.3 at the end of 2025 to 100.0 by quarter-end.
- The dollar weakened early in Q1 given softer US inflation data and related expectations for aggressive Fed rate cuts, then strengthened sharply as the Middle East conflict drove safe-haven demand and the energy-shock inflation threat pushed the Fed back to a holding pattern on potential interest rate cuts.
- Overall, the dollar remains sensitive to changes in interest rate expectations and geopolitical developments, with policy divergence across regions continuing to play a central role in currency markets.

<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2026.

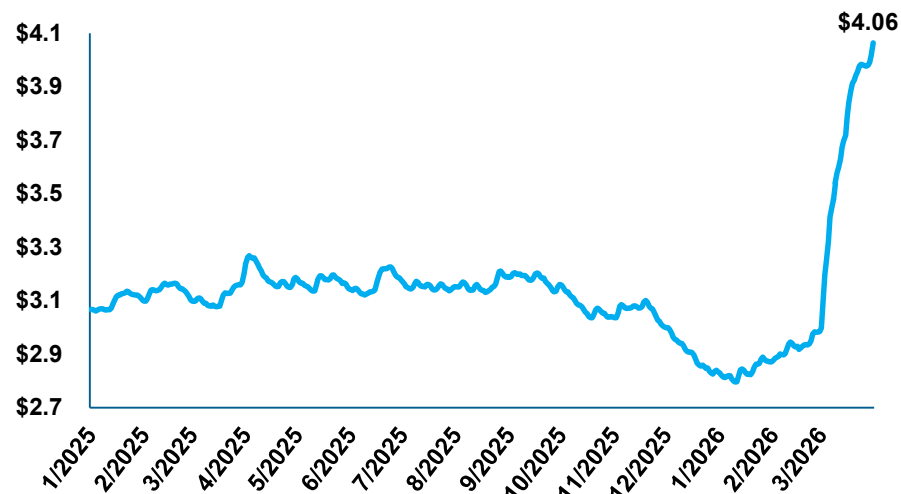


### Gas and Oil<sup>1</sup>

WTI Crude



Avg. Retail Gas Price

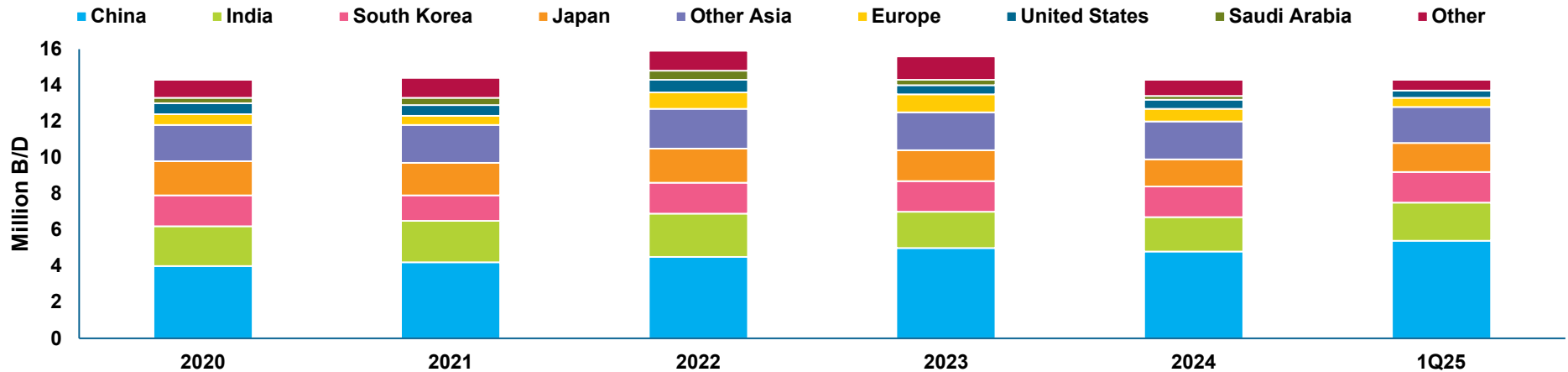


- Energy prices rose sharply during the first quarter of 2026 following a significant escalation in the Middle East conflict, marking one of the largest geopolitical shocks to global energy markets in history. Concerns around supply disruption risk pushed WTI crude oil from approximately \$58 at year-end to \$101.38 by quarter-end.
- The surge in crude prices translated quickly to consumers, with average US retail gasoline prices rising from \$2.81 at the end of 2025 to \$4.06 by the end of the first quarter, increasing inflation pressures and weighing on household purchasing power.

<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2026.

### Volume of Crude Oil<sup>1</sup>

Volume of Crude Oil Transported Through The Strait of Hormuz, By Destination



- Major economies are impacted differently from the conflict depending on their reliance on regional oil and whether they are net importers or exporters. The Strait of Hormuz is the critical chokepoint with Saudi Arabia, Iraq, and the UAE depending on it to export their oil, meaning a closure disrupts supply on both sides of the equation.
- China purchases around 90% of Iran's oil, while Japan, South Korea, and India are heavily dependent on broader Gulf supply.
- US crude production near record highs provides a meaningful buffer against Middle Eastern disruption, though global prices will ultimately reflect the scale and duration of any supply shortfall.
- As we move forward, the length of the conflict and the path of energy prices will be the defining variables for both inflation and growth globally with central banks caught in the difficult position of responding to a shock they cannot control.

<sup>1</sup> Source: Apollo Academy. Data is as of March 31, 2025.

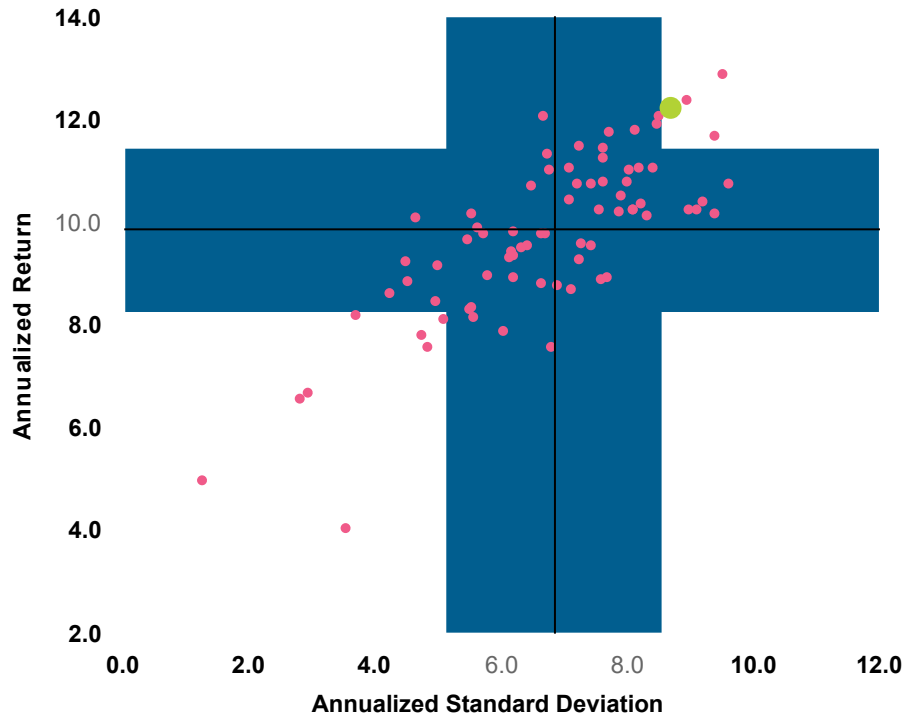
### Key Trends

- Global growth expectations entering 2026 remained relatively resilient, with the IMF projecting global GDP growth of 3.3% for the year, masking growing divergence across regions. The US outlook remains comparatively stronger, while growth in the euro area and China is expected to moderate amid structural and policy headwinds.
- As the first quarter progressed, the global macro backdrop became more fragile, with geopolitical escalation in the Middle East introducing a significant energy price shock that threatens to weigh on growth while simultaneously re-accelerating inflation pressures. This dynamic has complicated the outlook for monetary policy globally.
- US consumer conditions showed early signs of strain entering 2026. Despite a strong January jobs report, hiring was narrowly concentrated, prior gains were revised lower, and confidence weakened — particularly among lower-income households facing persistent pressure from elevated prices and borrowing costs. February's unexpected loss of 133,000 payroll jobs confirmed that the labor market's apparent resilience might have been more fragile than the headline numbers suggested. However, the economy added 178,000 jobs in March, offsetting the previous month's job losses.
- US equity market leadership continued to broaden during Q1. Elevated valuations and increased dispersion shifted investor focus toward earnings durability, cash generation, and return on capital rather than momentum-driven growth. The underperformance of AI-linked mega-caps reinforced this trend.
- Global trade tensions remained outwardly contained during the quarter following the late-2025 tariff suspension, but underlying frictions persisted. Strategic competition in semiconductors and rare-earths, China's slowing growth and low inflation, and heightened geopolitical risk continue to pose downside risks to the global outlook.
- The late-February US-Israel strikes on Iran represent the most significant new risk to the global macro-outlook. Oil's sharp move higher, despite recent declines, is tightening financial conditions, threatening to reignite inflation just as some central banks were preparing to ease. This puts the Fed in an increasingly difficult position between a softening labor market and resurging energy prices.

## **First Quarter Performance Review**

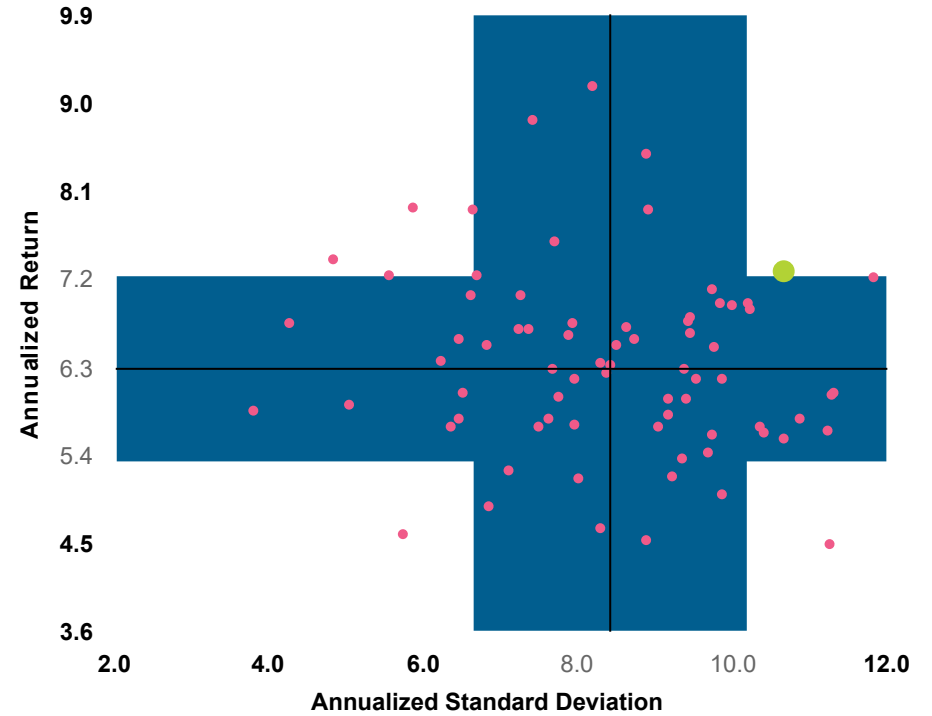
### EBMUDERS Total Plan | As of March 31, 2026

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending March 31, 2026



● InvMetrics All Public DB Plans > \$1B  
● EBMUDERS Total Plan

Annualized Return vs. Annualized Standard Deviation  
5 Years Ending March 31, 2026



● InvMetrics All Public DB Plans > \$1B  
● EBMUDERS Total Plan

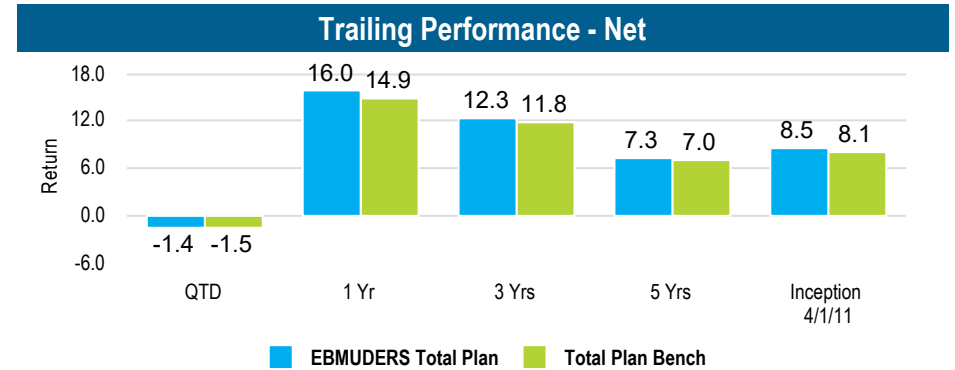
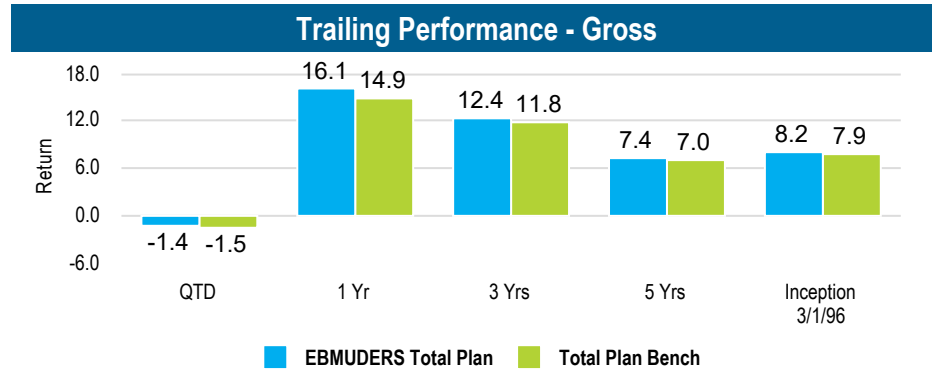
3 Years Ending March 31, 2026

|                     | Return | Standard Deviation | Sharpe Ratio |
|---------------------|--------|--------------------|--------------|
| EBMUDERS Total Plan | 12.3   | 8.7                | 0.9          |
| Total Plan Bench    | 11.8   | 8.1                | 0.9          |

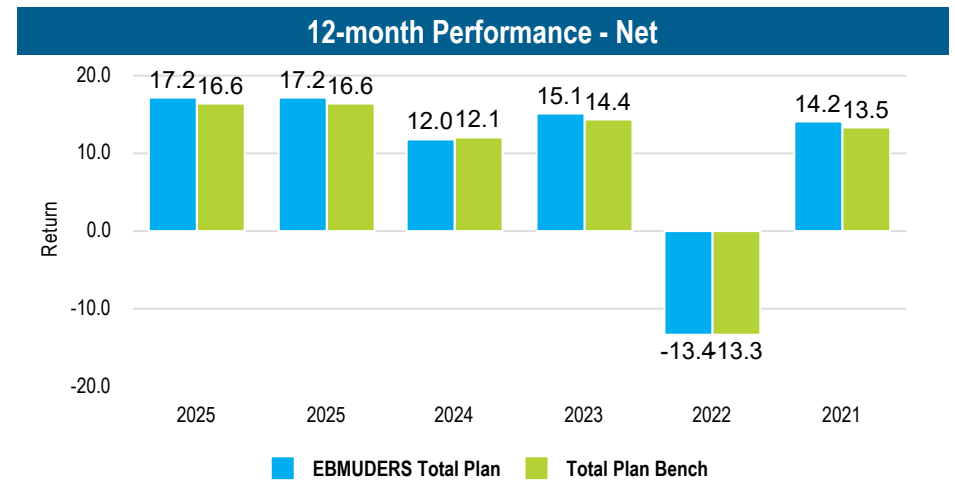
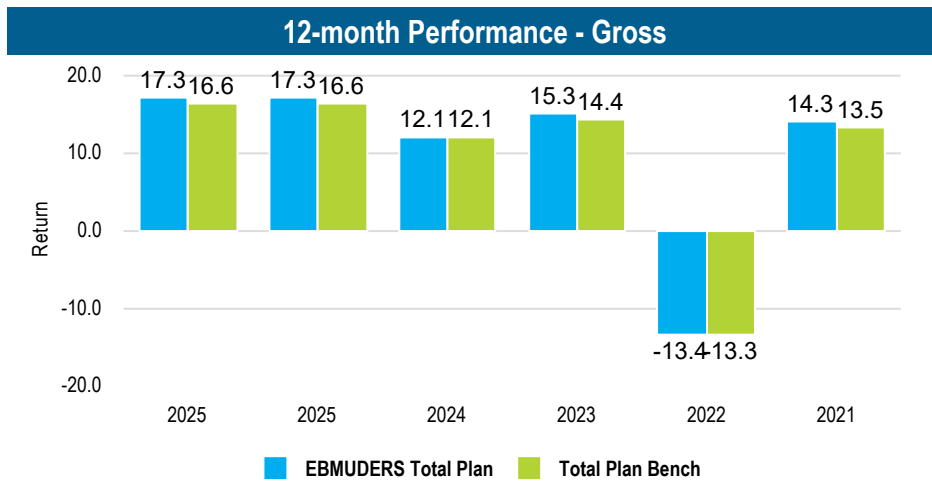
5 Years Ending March 31, 2026

|                     | Return | Standard Deviation | Sharpe Ratio |
|---------------------|--------|--------------------|--------------|
| EBMUDERS Total Plan | 7.3    | 10.7               | 0.4          |
| Total Plan Bench    | 7.0    | 10.0               | 0.4          |

### EBMUDERS Total Plan | As of March 31, 2026

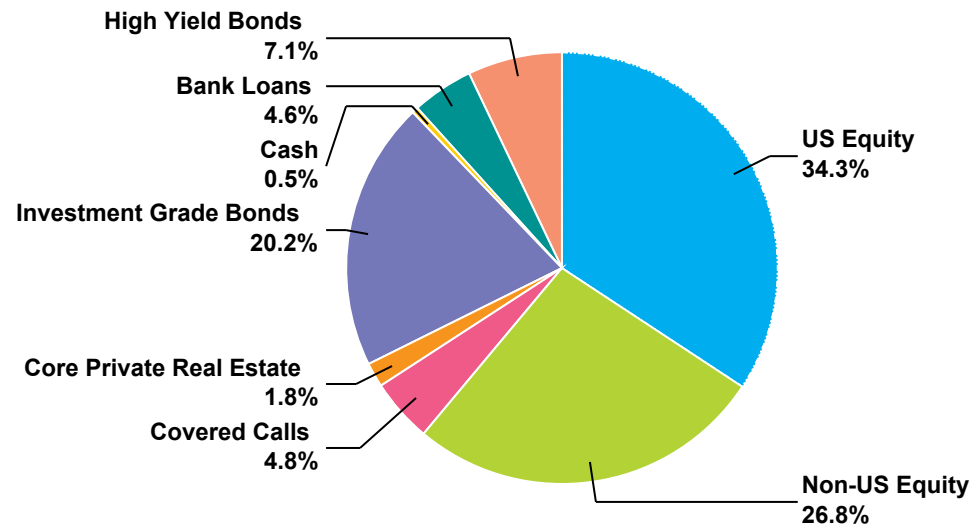


|                                    | 3 Mo (%)    | 1 Yr (%)    | 3 Yrs (%)   | 5 Yrs (%)  | 10 Yrs (%) | 2025 (%)    | 2025 (%)    | 2024 (%)    | 2023 (%)    | 2022 (%)     | 2021 (%)    |
|------------------------------------|-------------|-------------|-------------|------------|------------|-------------|-------------|-------------|-------------|--------------|-------------|
| <b>EBMUDERS Total Plan</b>         | -1.4        | 16.0        | 12.3        | 7.3        | 8.9        | 17.2        | 17.2        | 12.0        | 15.1        | -13.4        | 14.2        |
| <b>EBMUDERS Total Plan</b>         | -1.4        | 16.1        | 12.4        | 7.4        | 9.1        | 17.3        | 17.3        | 12.1        | 15.3        | -13.4        | 14.3        |
| <i>Total Plan Benchmark</i>        | <i>-1.5</i> | <i>14.9</i> | <i>11.8</i> | <i>7.0</i> | <i>8.5</i> | <i>16.6</i> | <i>16.6</i> | <i>12.1</i> | <i>14.4</i> | <i>-13.3</i> | <i>13.5</i> |
| InvMetrics Public DB > \$1B Median | -0.7        | 12.1        | 9.9         | 6.3        | 8.2        | 13.6        | 13.6        | 9.3         | 11.4        | -10.3        | 16.0        |



Actual vs Target Allocation | As of March 31, 2026

| Allocation vs. Targets and Policy |                        |                        |              |                  |
|-----------------------------------|------------------------|------------------------|--------------|------------------|
|                                   | Current Balance (\$)   | Current Allocation (%) | Policy (%)   | Policy Range (%) |
| US Equity                         | \$1,032,382,391        | 34.3                   | 35.0         | 30.0 - 40.0      |
| Non-US Equity                     | \$808,005,214          | 26.8                   | 25.0         | 20.0 - 30.0      |
| Covered Calls                     | \$143,588,113          | 4.8                    | 7.5          | 4.5 - 10.5       |
| High Yield Bonds                  | \$213,452,900          | 7.1                    | 5.0          | 2.5 - 7.5        |
| Bank Loans                        | \$138,945,727          | 4.6                    | 5.0          | 2.5 - 7.5        |
| Investment Grade Bonds            | \$607,693,526          | 20.2                   | 20.0         | 17.0 - 23.0      |
| Core Private Real Estate          | \$55,069,203           | 1.8                    | 2.5          | 0.5 - 4.5        |
| Cash                              | \$13,998,088           | 0.5                    | 0.0          | 0.0 - 100.0      |
| <b>Total</b>                      | <b>\$3,013,135,161</b> | <b>100.0</b>           | <b>100.0</b> |                  |



Policy Targets reflect stage 1 Interim Policy Targets per the Evolving Policy Plan.  
Actual allocations may deviate from Policy Targets and ranges during the asset allocation transition.

## Manager Performance - Net of Fees | As of March 31, 2026

|                                   | Market Value<br>(\$) | QTR<br>(%)  | 1 Yr<br>(%) | 3 Yrs<br>(%) | 5 Yrs<br>(%) |
|-----------------------------------|----------------------|-------------|-------------|--------------|--------------|
| <b>EBMUDERS Total Plan</b>        | <b>3,013,135,161</b> | <b>-1.4</b> | <b>16.0</b> | <b>12.3</b>  | <b>7.3</b>   |
| <i>Total Plan Benchmark</i>       |                      | <i>-1.5</i> | <i>14.9</i> | <i>11.8</i>  | <i>7.0</i>   |
| <b>US Equity</b>                  | <b>1,032,382,391</b> | <b>-4.0</b> | <b>17.6</b> | <b>17.7</b>  | <b>10.8</b>  |
| <i>Russell 3000 Hybrid</i>        |                      | <i>-4.0</i> | <i>18.1</i> | <i>17.9</i>  | <i>10.9</i>  |
| Northern Trust Russell 3000       | 1,031,258,820        | -4.0        | 17.6        | 17.7         | 10.8         |
| <i>Russell 3000 Index</i>         |                      | <i>-4.0</i> | <i>18.1</i> | <i>17.9</i>  | <i>10.9</i>  |
| <b>Non-US Equity</b>              | <b>808,005,214</b>   | <b>0.7</b>  | <b>26.6</b> | <b>15.2</b>  | <b>7.8</b>   |
| <i>MSCI ACWI xUS (blend)</i>      |                      | <i>-0.6</i> | <i>25.6</i> | <i>15.1</i>  | <i>7.6</i>   |
| Northern Trust ACWI ex US         | 808,005,214          | 0.7         | 26.6        | 15.2         | 7.6          |
| <i>MSCI AC World ex USA Index</i> |                      | <i>-0.6</i> | <i>25.6</i> | <i>15.1</i>  | <i>7.6</i>   |



## Manager Performance - Net of Fees | As of March 31, 2026

|                                         | Market Value<br>(\$) | QTR<br>(%)  | 1 Yr<br>(%) | 3 Yrs<br>(%) | 5 Yrs<br>(%) |
|-----------------------------------------|----------------------|-------------|-------------|--------------|--------------|
| <b>Covered Calls</b>                    | <b>143,588,113</b>   | <b>-4.0</b> | <b>12.8</b> | <b>12.4</b>  | <b>8.4</b>   |
| <i>Cboe S&amp;P 500 Buy Write Index</i> |                      | <i>-0.9</i> | <i>11.4</i> | <i>11.0</i>  | <i>7.9</i>   |
| <b>Parametric Delta Shift</b>           | <b>143,588,113</b>   | <b>-4.0</b> | <b>15.4</b> | <b>15.1</b>  | <b>10.2</b>  |
| <i>Cboe S&amp;P 500 Buy Write Index</i> |                      | <i>-0.9</i> | <i>11.4</i> | <i>11.0</i>  | <i>7.9</i>   |

## Manager Performance - Net of Fees | As of March 31, 2026

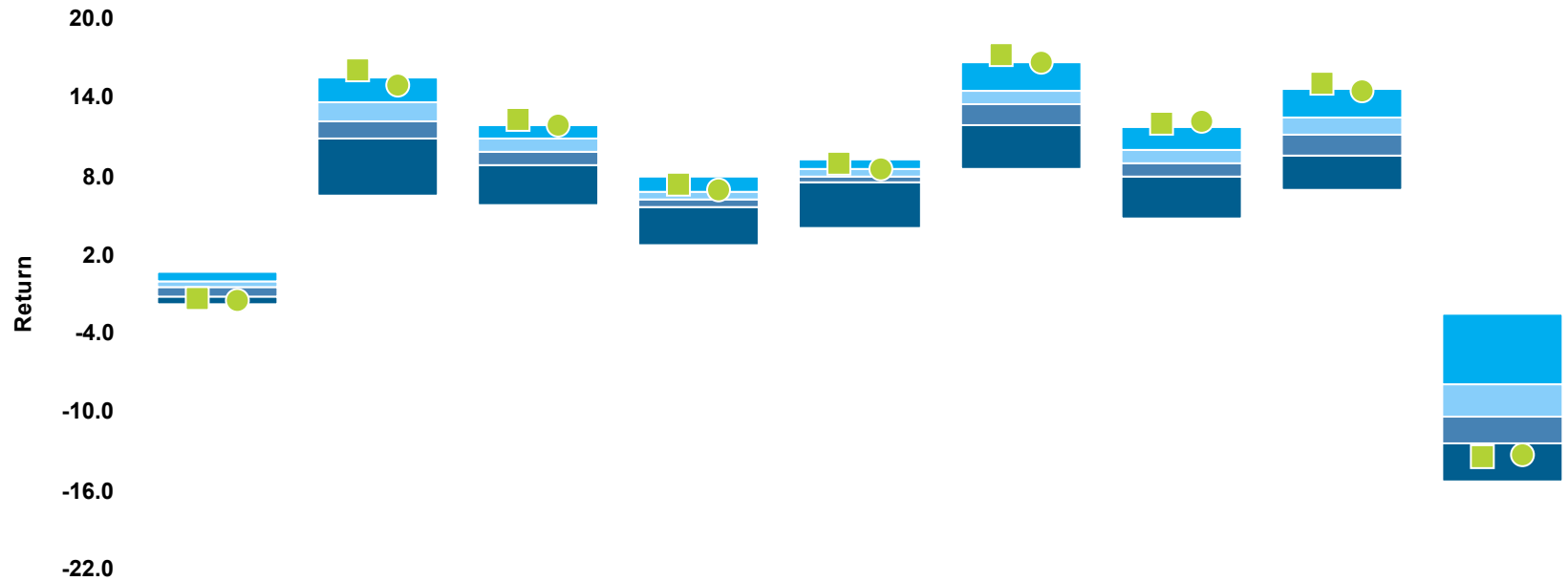
|                                                     | Market Value<br>(\$) | QTR<br>(%)  | 1 Yr<br>(%) | 3 Yrs<br>(%) | 5 Yrs<br>(%) |
|-----------------------------------------------------|----------------------|-------------|-------------|--------------|--------------|
| <b>Investment Grade Bonds</b>                       | <b>607,693,526</b>   | <b>0.0</b>  | <b>4.6</b>  | <b>3.6</b>   | <b>0.8</b>   |
| <i>Investment Grade Bonds Benchmark</i>             |                      | <i>0.0</i>  | <i>4.3</i>  | <i>3.6</i>   | <i>0.6</i>   |
| CS McKee                                            | 304,387,071          | 0.0         | 4.6         | 4.2          | 0.6          |
| <i>Blmbg. U.S. Aggregate Index</i>                  |                      | <i>0.0</i>  | <i>4.3</i>  | <i>3.6</i>   | <i>0.3</i>   |
| Garcia Hamilton                                     | 303,306,455          | 0.0         | 4.6         | 3.1          | 1.0          |
| <i>Garcia Hamilton Blended Benchmark</i>            |                      | <i>0.0</i>  | <i>4.3</i>  | <i>3.6</i>   | <i>0.9</i>   |
| <b>High Yield</b>                                   | <b>213,452,900</b>   | <b>0.0</b>  | <b>6.2</b>  | <b>7.1</b>   | <b>5.0</b>   |
| <i>Blmbg. U.S. Corp: High Yield Index</i>           |                      | <i>-0.5</i> | <i>7.0</i>  | <i>8.6</i>   | <i>4.2</i>   |
| MacKay Shields (HY)                                 | 105,456,606          | 0.1         | 6.0         | 7.1          | 4.9          |
| <i>Mackay Shields Blended Benchmark</i>             |                      | <i>-0.5</i> | <i>7.0</i>  | <i>8.1</i>   | <i>5.0</i>   |
| Brigade High Yield                                  | 107,996,294          | -0.1        | --          | --           | --           |
| <i>ICE BofA Global High Yield Constrained (USD)</i> |                      | <i>-1.1</i> | <i>--</i>   | <i>--</i>    | <i>--</i>    |
| <b>Bank Loans</b>                                   | <b>138,945,727</b>   | <b>-0.5</b> | <b>2.8</b>  | <b>5.3</b>   | <b>3.2</b>   |
| <i>Morningstar LSTA U.S. Leveraged Loan</i>         |                      | <i>-0.6</i> | <i>4.8</i>  | <i>8.0</i>   | <i>5.9</i>   |
| Aristotle Bank Loans                                | 70,348,199           | -0.3        | --          | --           | --           |
| <i>Morningstar LSTA U.S. Leveraged Loan</i>         |                      | <i>-0.6</i> | <i>--</i>   | <i>--</i>    | <i>--</i>    |
| Beach Point Bank Loans                              | 68,597,528           | -0.6        | --          | --           | --           |
| <i>Morningstar LSTA U.S. Leveraged Loan</i>         |                      | <i>-0.6</i> | <i>--</i>   | <i>--</i>    | <i>--</i>    |

## Manager Performance - Net of Fees | As of March 31, 2026

|                                 | Market Value<br>(\$) | QTR<br>(%) | 1 Yr<br>(%) | 3 Yrs<br>(%) | 5 Yrs<br>(%) |
|---------------------------------|----------------------|------------|-------------|--------------|--------------|
| <b>Core Private Real Estate</b> | <b>55,069,203</b>    | <b>1.5</b> | <b>5.0</b>  | <b>3.5</b>   | <b>5.4</b>   |
| <i>Real Estate Benchmark</i>    |                      | <i>1.2</i> | <i>4.9</i>  | <i>5.1</i>   | <i>5.8</i>   |
| <b>RREEF America II Lag</b>     | <b>55,069,203</b>    | <b>1.5</b> | <b>5.0</b>  | <b>-4.6</b>  | <b>3.0</b>   |
| <i>NCREIF NPI Lag</i>           |                      | <i>1.2</i> | <i>4.9</i>  | <i>-1.0</i>  | <i>3.8</i>   |

RREEF results are lagged 1 quarter.

#### InvMetrics Public Plans > \$1B Return Comparison March 31, 2026



|                       | QTD (%)   | 1 Yr (%)  | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | 2025 (%) | 2024 (%) | 2023 (%) | 2022 (%)   |
|-----------------------|-----------|-----------|-----------|-----------|------------|----------|----------|----------|------------|
| ■ EBMUDERS Total Plan | -1.4 (83) | 16.0 (4)  | 12.3 (2)  | 7.3 (10)  | 8.9 (11)   | 17.2 (4) | 12.0 (3) | 15.1 (5) | -13.4 (87) |
| ● Total Plan Bench    | -1.5 (90) | 14.9 (11) | 11.8 (7)  | 7.0 (19)  | 8.5 (26)   | 16.6 (6) | 12.1 (3) | 14.4 (7) | -13.3 (85) |
| 5th Percentile        | 0.6       | 15.5      | 11.9      | 7.9       | 9.3        | 16.7     | 11.8     | 14.6     | -2.6       |
| 1st Quartile          | 0.0       | 13.6      | 10.8      | 6.8       | 8.5        | 14.5     | 10.0     | 12.5     | -7.8       |
| Median                | -0.6      | 12.2      | 9.8       | 6.2       | 8.0        | 13.4     | 9.0      | 11.1     | -10.3      |
| 3rd Quartile          | -1.2      | 10.9      | 8.8       | 5.7       | 7.5        | 11.9     | 7.9      | 9.5      | -12.4      |
| 95th Percentile       | -1.7      | 6.5       | 5.8       | 2.7       | 4.0        | 8.6      | 4.8      | 7.0      | -15.2      |
| Population            | 84        | 83        | 83        | 81        | 78         | 188      | 202      | 213      | 203        |

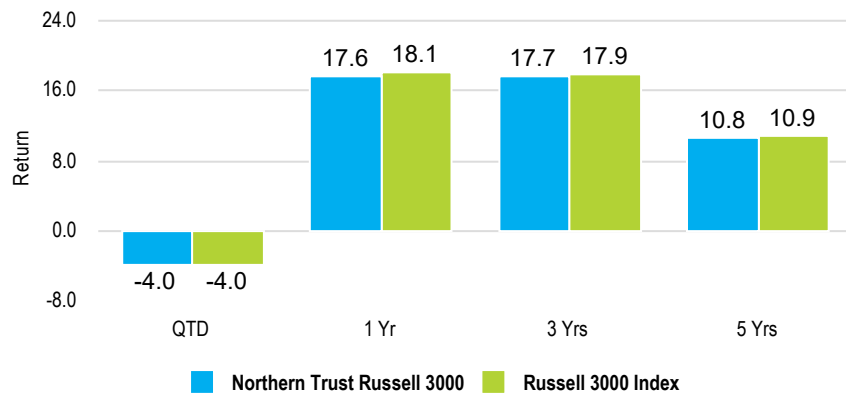
Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

Northern Trust Russell 3000 | As of March 31, 2026

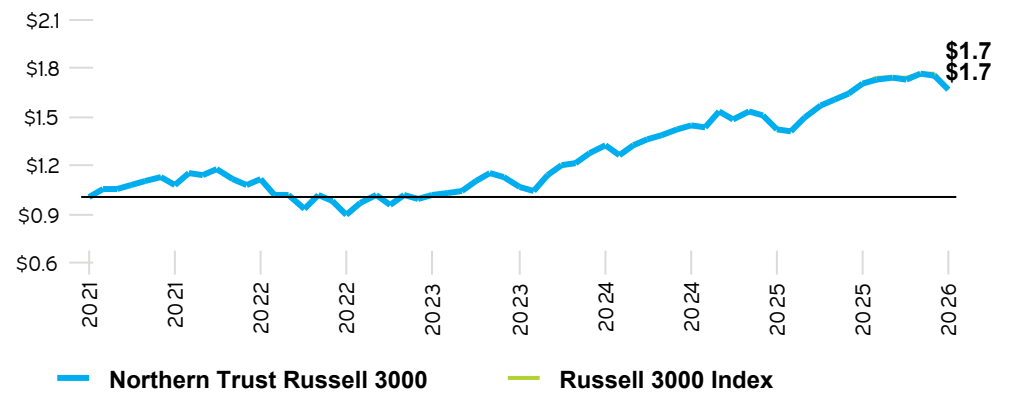
### Statistics Summary 5 Years Ending March 31, 2026

|                             | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |
|-----------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|
| Northern Trust Russell 3000 | -0.1  | 1.0  | -0.5              | 0.5          | 0.2            | 1.0       | 99.7       | 100.0        |
| Russell 3000 Index          | 0.0   | 1.0  | -                 | 0.5          | 0.0            | 1.0       | 100.0      | 100.0        |

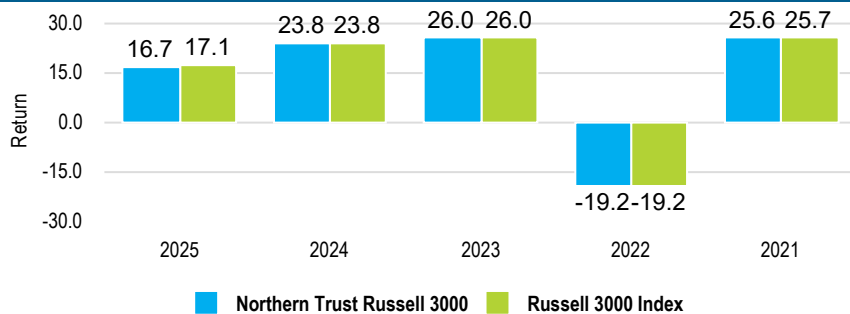
### Return Summary



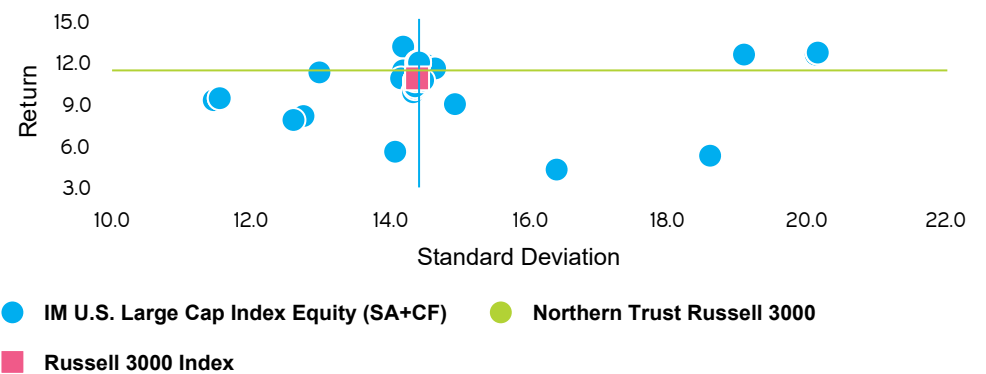
### Investment Growth



### Return Summary

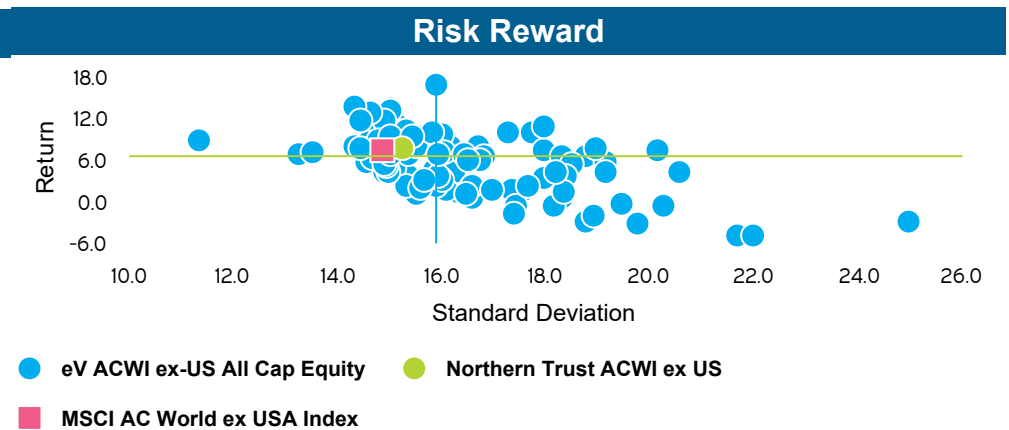
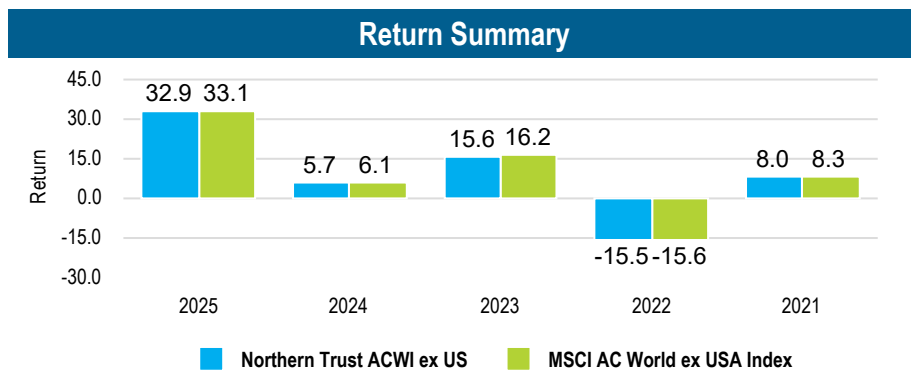
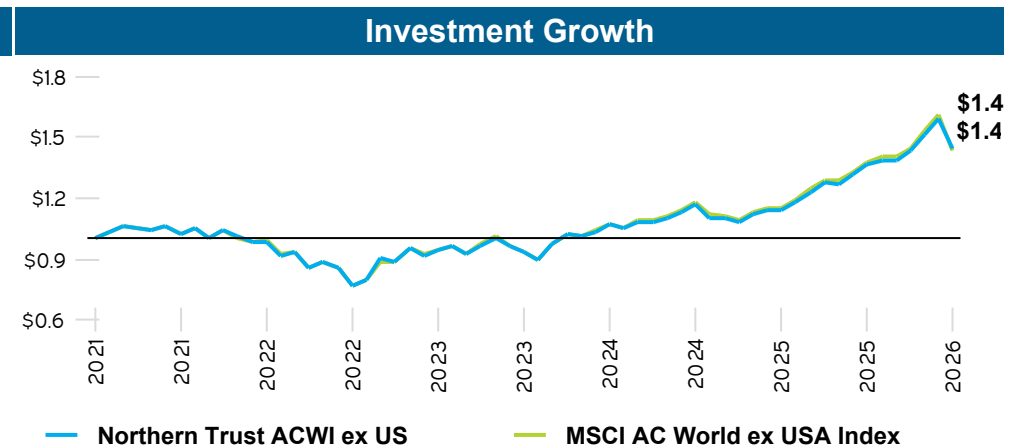
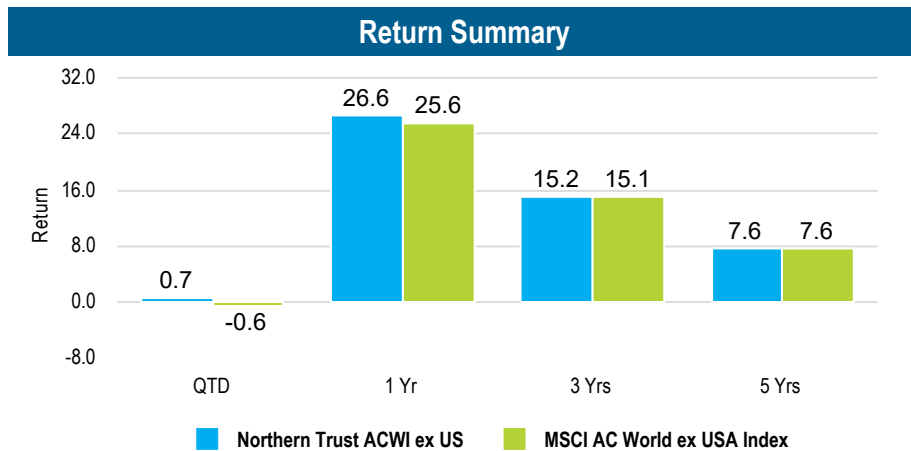


### Risk Reward



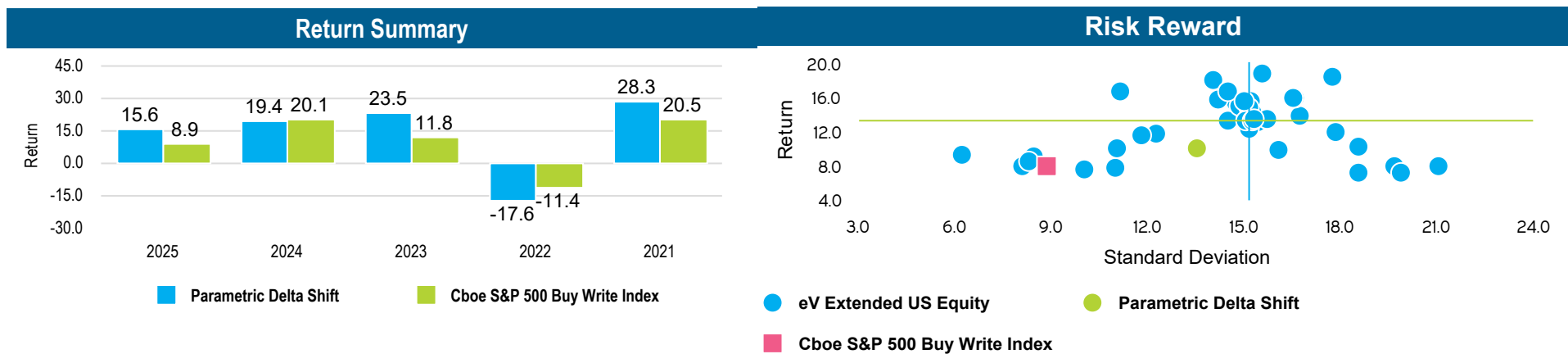
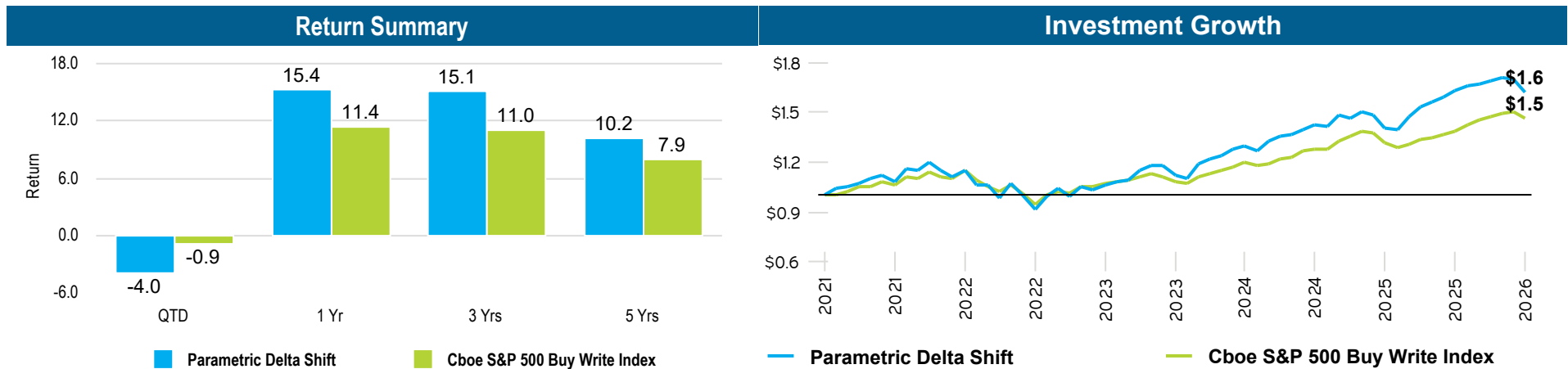
Northern Trust ACWI ex US | As of March 31, 2026

| Statistics Summary<br>5 Years Ending March 31, 2026 |       |      |                   |              |                |           |            |              |  |
|-----------------------------------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|--|
|                                                     | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |  |
| Northern Trust ACWI ex US                           | -0.1  | 1.0  | 0.1               | 0.3          | 1.6            | 1.0       | 102.7      | 103.5        |  |
| MSCI AC World ex USA Index                          | 0.0   | 1.0  | -                 | 0.3          | 0.0            | 1.0       | 100.0      | 100.0        |  |

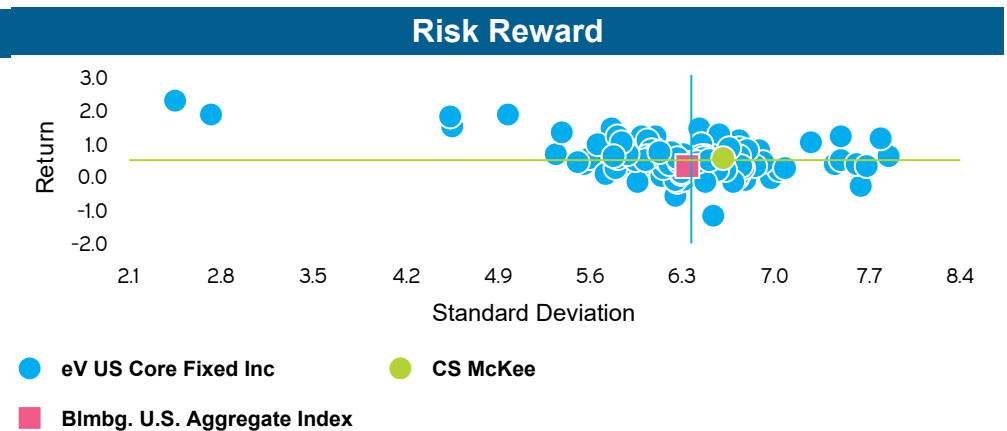
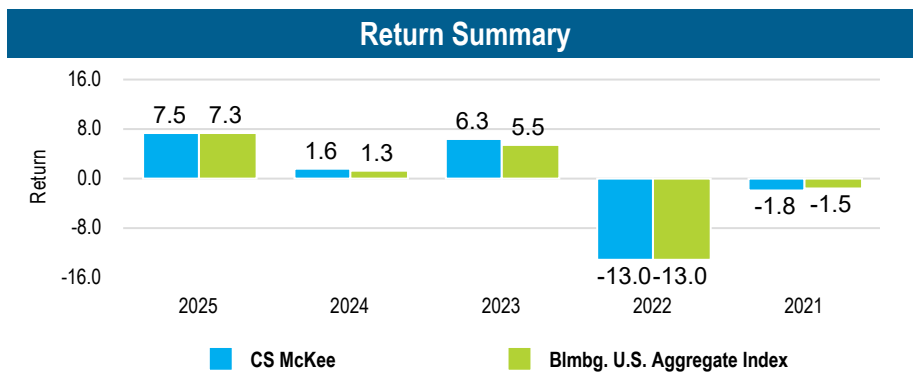
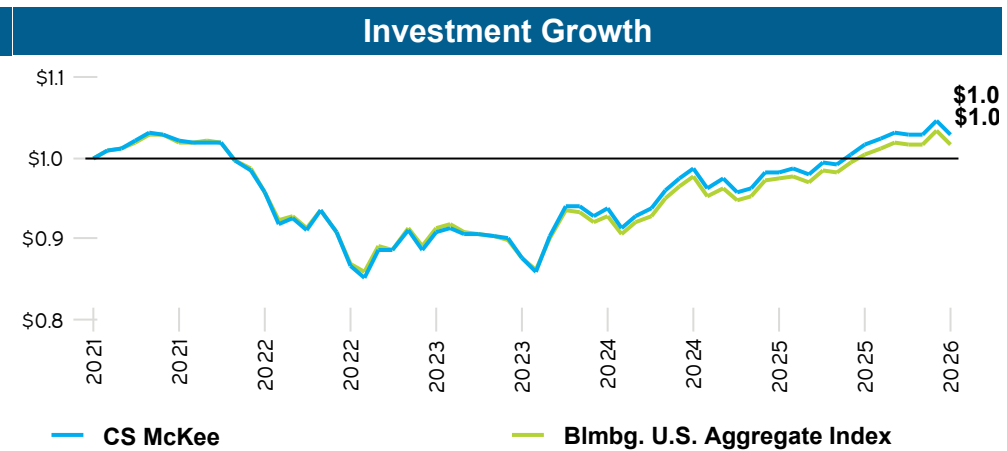
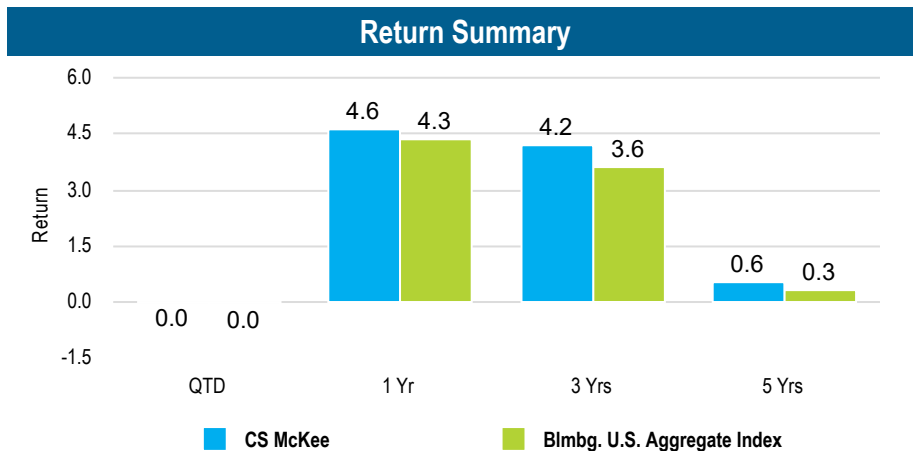


Parametric Delta Shift | As of March 31, 2026

| Statistics Summary<br>5 Years Ending March 31, 2026 |       |      |                   |              |                |           |            |              |  |
|-----------------------------------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|--|
|                                                     | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |  |
| Parametric Delta Shift                              | -0.1  | 1.3  | 0.4               | 0.5          | 7.1            | 0.8       | 140.4      | 147.5        |  |
| Cboe S&P 500 Buy Write Index                        | 0.0   | 1.0  | -                 | 0.5          | 0.0            | 1.0       | 100.0      | 100.0        |  |

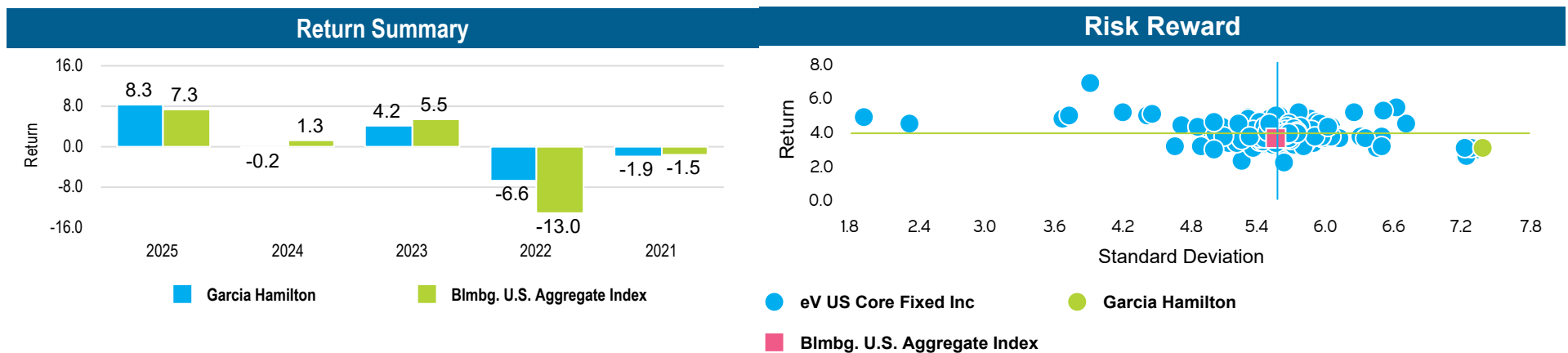
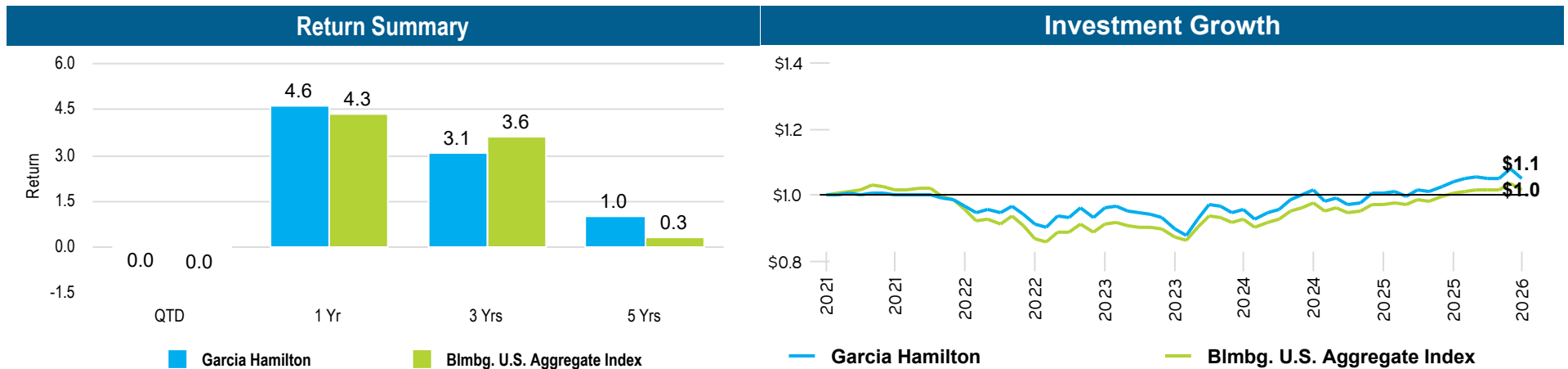


| Statistics Summary<br>5 Years Ending March 31, 2026 |       |      |                   |              |                |           |            |              |  |
|-----------------------------------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|--|
|                                                     | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |  |
| CS McKee                                            | 0.2   | 1.0  | 0.4               | -0.4         | 0.6            | 1.0       | 103.3      | 100.4        |  |
| Blmbg. U.S. Aggregate Index                         | 0.0   | 1.0  | -                 | -0.4         | 0.0            | 1.0       | 100.0      | 100.0        |  |



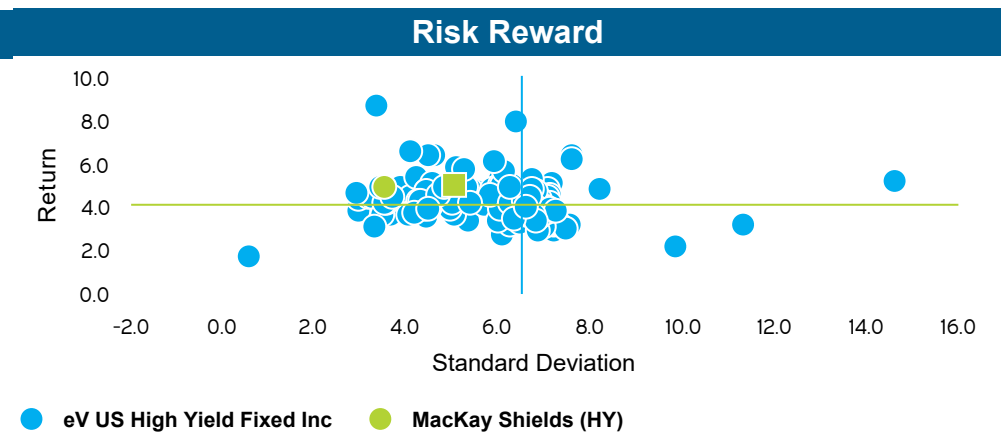
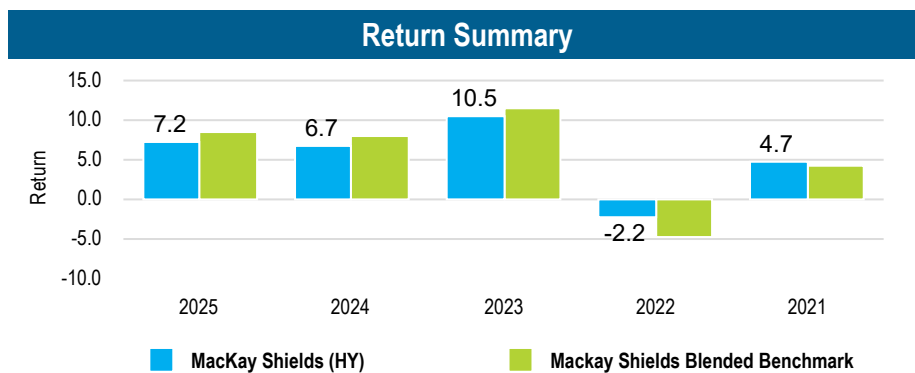
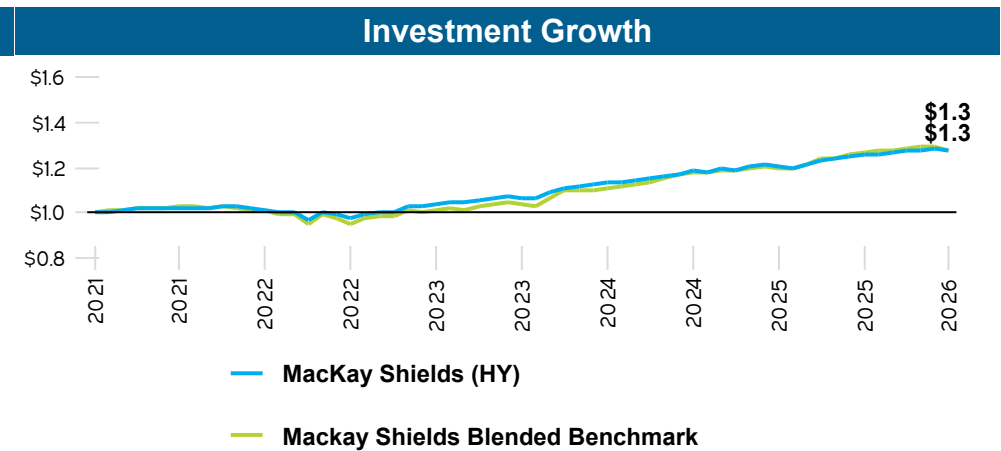
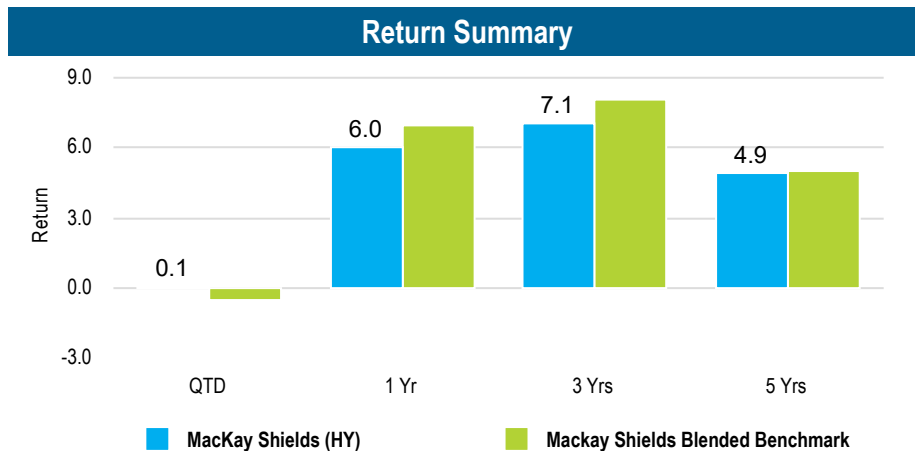


| Statistics Summary<br>5 Years Ending March 31, 2026 |       |      |                   |              |                |           |            |              |  |
|-----------------------------------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|--|
|                                                     | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |  |
| Garcia Hamilton                                     | 0.7   | 1.0  | 0.4               | -0.3         | 2.1            | 0.9       | 111.1      | 102.9        |  |
| Blmbg. U.S. Aggregate Index                         | 0.0   | 1.0  | -                 | -0.4         | 0.0            | 1.0       | 100.0      | 100.0        |  |



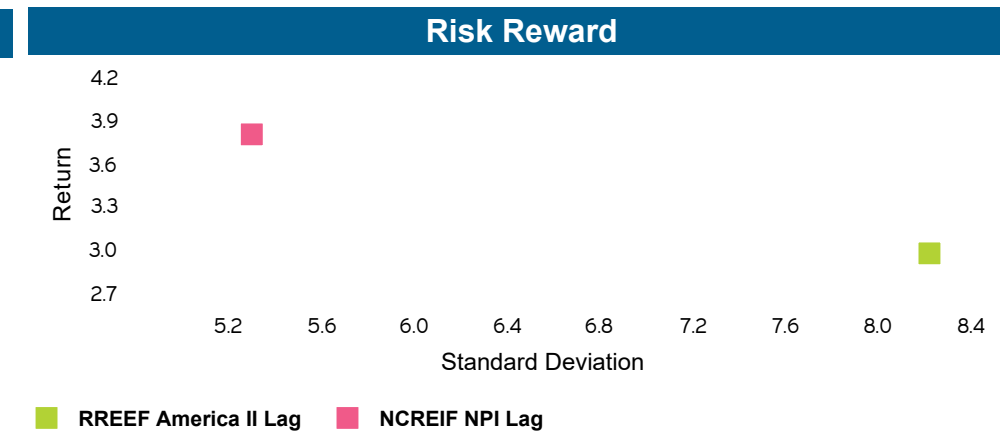
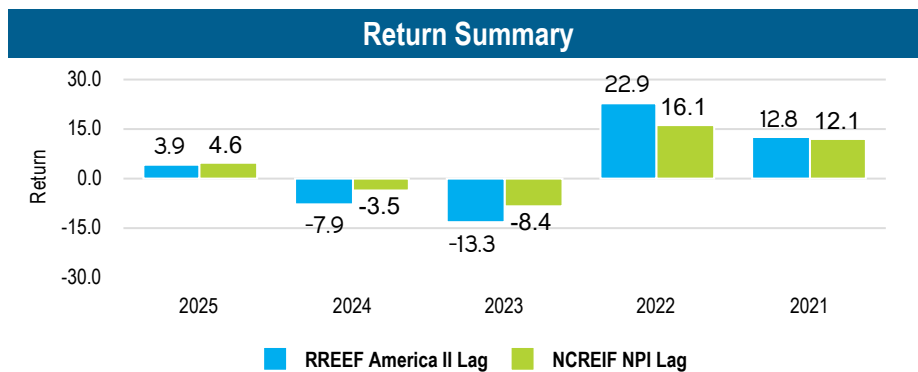
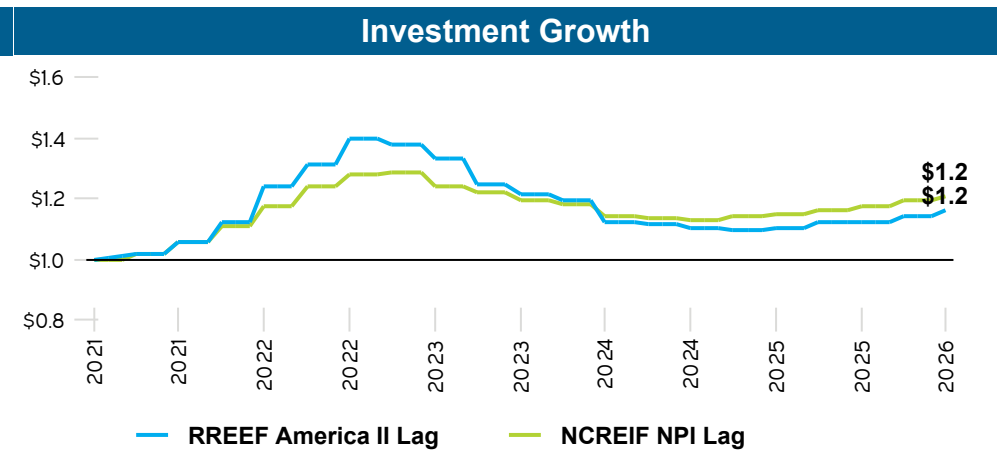
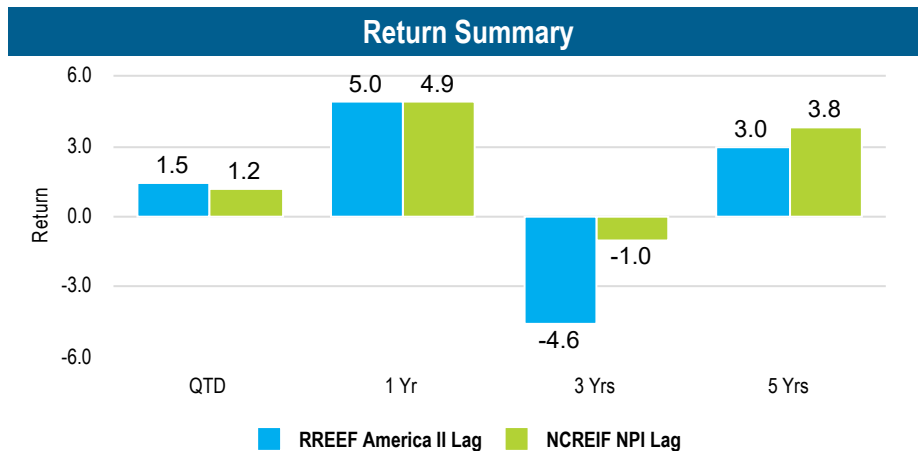
Mackay Shields | As of March 31, 2026

| Statistics Summary<br>5 Years Ending March 31, 2026 |       |      |                   |              |                |           |            |              |
|-----------------------------------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|
|                                                     | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |
| MacKay Shields (HY)                                 | 1.5   | 0.7  | -0.1              | 0.5          | 1.8            | 1.0       | 79.4       | 57.9         |
| Mackay Shields Blended Benchmark                    | 0.0   | 1.0  | -                 | 0.4          | 0.0            | 1.0       | 100.0      | 100.0        |



RREEF American II Lag | As of March 31, 2026

| Statistics Summary<br>5 Years Ending March 31, 2026 |       |      |                   |              |                |           |            |              |
|-----------------------------------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|
|                                                     | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |
| RREEF America II Lag                                | -2.1  | 1.4  | -0.2              | 0.0          | 3.8            | 0.9       | 117.0      | 166.4        |
| NCREIF NPI Lag                                      | 0.0   | 1.0  | -                 | 0.1          | 0.0            | 1.0       | 100.0      | 100.0        |



| Benchmark History          |            |                                                                                                                                                                                                                                                                                                                                       |
|----------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| From Date                  | To Date    | Benchmark                                                                                                                                                                                                                                                                                                                             |
| <b>EBMUDERS Total Plan</b> |            |                                                                                                                                                                                                                                                                                                                                       |
| 01/01/2026                 | Present    | 35.0% Russell 3000 Index, 7.5% Cboe S&P 500 Buy Write Index, 25.0% MSCI AC World ex USA Index, 20.0% Blmbg. U.S. Aggregate Index, 5.0% Blmbg. U.S. Corp: High Yield Index, 5.0% Morningstar LSTA U.S. Leveraged Loan, 2.5% NCREIF NPI Lag                                                                                             |
| 07/01/2025                 | 12/31/2025 | 35.0% Russell 3000 Index, 7.5% Cboe S&P 500 Buy Write Index, 25.0% MSCI AC World ex USA Index, 20.0% Blmbg. U.S. Aggregate Index, 5.0% Blmbg. U.S. Corp: High Yield Index, 5.0% S&P UBS Leveraged Loans, 2.5% NCREIF NPI Lag                                                                                                          |
| 10/01/2024                 | 06/30/2025 | 33.5% Russell 3000 Index, 14.0% Cboe S&P 500 Buy Write Index, 25.0% MSCI AC World ex USA Index, 20.0% Blmbg. U.S. Aggregate Index, 2.5% Blmbg. U.S. Corp: High Yield Index, 2.5% S&P UBS Leveraged Loans, 2.5% NCREIF NPI Lag                                                                                                         |
| 02/01/2023                 | 09/30/2024 | 25.0% Russell 3000 Index, 20.0% Cboe S&P 500 Buy Write Index, 25.0% MSCI AC World ex USA Index, 20.0% Blmbg. U.S. Aggregate Index, 2.5% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr, 2.5% 60% CredSuisLevLoan/40% BBStGovCorp, 2.5% NCREIF NPI Lag, 2.5% FTSE NAREIT All Equity REITs                                                     |
| 12/01/2019                 | 01/31/2023 | 25.0% Russell 3000 Index, 20.0% Cboe S&P 500 Buy Write Index, 25.0% MSCI AC World ex USA Index, 10.0% Blmbg. U.S. Aggregate Index, 10.0% Blmbg. Intermed. U.S. Government/Credit, 2.5% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr, 2.5% 60% CredSuisLevLoan/40% BBStGovCorp, 2.5% NCREIF NPI Lag, 2.5% FTSE NAREIT All Equity REITs      |
| 03/01/2019                 | 11/30/2019 | 25.0% Russell 3000 Index, 20.0% Cboe S&P 500 Buy Write Index, 25.0% MSCI AC World ex USA Index, 15.0% Blmbg. U.S. Aggregate Index, 5.0% Bloomberg U.S. Gov/Credit 1-3 Year Index, 2.5% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr, 2.5% 60% CredSuisLevLoan/40% BBStGovCorp, 2.5% NCREIF NPI Lag, 2.5% FTSE NAREIT All Equity REITs      |
| 07/01/2018                 | 02/28/2019 | 25.0% Russell 3000 Index, 20.0% Cboe S&P 500 Buy Write Index, 25.0% MSCI AC World ex USA Index, 15.0% Blmbg. U.S. Aggregate Index, 5.0% Bloomberg U.S. Gov/Credit 1-3 Year Index, 2.5% Blmbg. U.S. High Yield 1-5 Yr Cash Pay 2%, 2.5% Morningstar LSTA U.S. Performing Loans, 2.5% NCREIF NPI Lag, 2.5% FTSE NAREIT All Equity REITs |
| 04/01/2014                 | 06/30/2018 | 40.0% Russell 3000 Index, 20.0% Cboe S&P 500 Buy Write Index, 15.0% MSCI AC World ex USA Index, 10.0% Blmbg. U.S. Aggregate Index, 5.0% Bloomberg U.S. Gov/Credit 1-3 Year Index, 2.5% Blmbg. U.S. High Yield 1-5 Yr Cash Pay 2%, 2.5% Morningstar LSTA U.S. Performing Loans, 2.5% NCREIF NPI Lag, 2.5% FTSE NAREIT All Equity REITs |
| 03/01/2014                 | 03/31/2014 | 40.0% Russell 3000 Index, 20.0% Cboe S&P 500 Buy Write Index, 15.0% MSCI AC World ex USA Index, 15.0% Blmbg. U.S. Aggregate Index, 2.5% Blmbg. U.S. High Yield 1-5 Yr Cash Pay 2%, 2.5% Morningstar LSTA U.S. Performing Loans, 2.5% NCREIF NPI Lag, 2.5% FTSE NAREIT All Equity REITs                                                |
| 11/01/2011                 | 02/28/2014 | 50.0% Russell 3000 Index, 20.0% MSCI AC World ex USA Index, 25.0% Blmbg. U.S. Universal Index, 2.5% NCREIF NPI Lag, 2.5% FTSE NAREIT All Equity REITs                                                                                                                                                                                 |
| 01/01/2008                 | 10/31/2011 | 50.0% Russell 3000 Index, 20.0% MSCI AC World ex USA Index, 25.0% Blmbg. U.S. Universal Index, 5.0% NCREIF NPI Lag                                                                                                                                                                                                                    |
| 01/01/2007                 | 12/31/2007 | 50.0% Russell 3000 Index, 20.0% MSCI AC World ex USA Index, 25.0% Blmbg. U.S. Aggregate Index, 5.0% NCREIF NPI Lag                                                                                                                                                                                                                    |
| 10/01/2005                 | 12/31/2006 | 50.0% Russell 3000 Index, 20.0% MSCI EAFE (Net), 25.0% Blmbg. U.S. Aggregate Index, 5.0% NCREIF NPI Lag                                                                                                                                                                                                                               |
| 04/01/2005                 | 09/30/2005 | 30.0% S&P 500 Index, 10.0% S&P MidCap 400 Index, 10.0% Russell 2000 Index, 20.0% MSCI EAFE (Net), 25.0% Blmbg. U.S. Aggregate Index, 5.0% NCREIF NPI Lag                                                                                                                                                                              |

## Benchmark History | As of March 31, 2026

| From Date  | To Date    | Benchmark                                                                                                                                                            |
|------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 09/01/1998 | 03/31/2005 | 10.0% Russell 2000 Index, 33.0% S&P 500 Index, 10.0% S&P MidCap 400 Index, 30.0% Blmbg. U.S. Aggregate Index, 17.0% MSCI EAFE (Net)                                  |
| 07/01/1978 | 08/31/1998 | 30.0% S&P 500 Index, 30.0% Blmbg. U.S. Aggregate Index, 5.0% FTSE 3 Month T-Bill, 15.0% MSCI EAFE (Net), 5.0% NCREIF NPI Lag, 15.0% Wilshire 5000 Total Market Index |

### Investment Grade Bonds

|            |            |                                                                                  |
|------------|------------|----------------------------------------------------------------------------------|
| 02/01/2023 | Present    | 100.0% Blmbg. U.S. Aggregate Index                                               |
| 12/01/2019 | 01/31/2023 | 50.0% Blmbg. Intermed. U.S. Government/Credit, 50.0% Blmbg. U.S. Aggregate Index |

### Core Private Real Estate

|            |            |                                                           |
|------------|------------|-----------------------------------------------------------|
| 10/01/2024 | Present    | 100.0% NCREIF NPI Lag                                     |
| 11/01/2011 | 09/30/2024 | 50.0% NCREIF NPI Lag, 50.0% FTSE NAREIT Equity REIT Index |
| 10/01/1998 | 10/31/2011 | 100.0% NCREIF NPI Lag                                     |
| 04/01/1978 | 09/30/1998 | 100.0% NCREIF Property Index                              |

### Fixed Income Blended Benchmarks

#### Garcia Hamilton

|            |            |                                                |
|------------|------------|------------------------------------------------|
| 02/01/2023 | Present    | 100.0% Blmbg. U.S. Aggregate Index             |
| 11/01/2019 | 01/31/2023 | 100.0% Blmbg. Intermed. U.S. Government/Credit |

#### MacKay Shields (HY)

|            |            |                                                |
|------------|------------|------------------------------------------------|
| 10/01/2024 | Present    | 100.0% Blmbg. U.S. Corp: High Yield Index      |
| 02/01/2019 | 09/30/2024 | 100.0% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr |

#### Federated Investment Counseling (Bank Loans)

|            |            |                                            |
|------------|------------|--------------------------------------------|
| 10/01/2024 | Present    | 100.0% S&P UBS Leveraged Loans             |
| 02/01/2019 | 09/30/2024 | 100.0% 60% CredSuisLevLoan/40% BBStGovCorp |

## 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:  $P/E \text{ ratio} = \text{Price} / \text{"Normalized" earnings for the S\&P 500 Index}$

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:  $P/E \text{ ratio} = \text{Price} / \text{"Normalized" earnings for the MSCI EAFE Index}$

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).

#### 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>2</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

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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.

<sup>2</sup> "Time Series Momentum" Moskowitz, Ooi, Pedersen, August 2010 <http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf>

### Appendix

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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