

Verus<sup>777</sup>

*Meeting Date*  
**02/22/2023**  
*Agenda Item*  
**#5a.**



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



**PERIOD ENDING: DECEMBER 31, 2022**

Investment Performance Review for

**Contra Costa County Employees' Retirement Association**

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Investment Landscape

TAB I

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Investment Performance  
Review

TAB II



A decorative overlay consisting of a grid of interconnected triangles in various shades of blue and green, with some triangles containing white or blue geometric shapes, is positioned on the left side of the slide.

**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**

1<sup>ST</sup> QUARTER 2023  
Investment Landscape



# Verus business update

## Since our last Investment Landscape webinar:

- Verus hired two new employees:
  - **Cholo Villanueva**, Performance Analyst – Seattle office
  - **Demitri Castaneda**, Performance Analyst – Seattle office
- Two employees passed their Level III CFA exams, earning their charters. Verus now has a total of 33 CFA charterholders.
- Verus retained a new client in Alaska, adding a fourth client to the state.
- We celebrated our 37th anniversary. Wurts Johnson & Company (founding name) was established in January 1986.
- We also enhanced our research content management system to improve how we *communicate* our conviction in managers with our new IQ Ratings system. *(details on next page)*



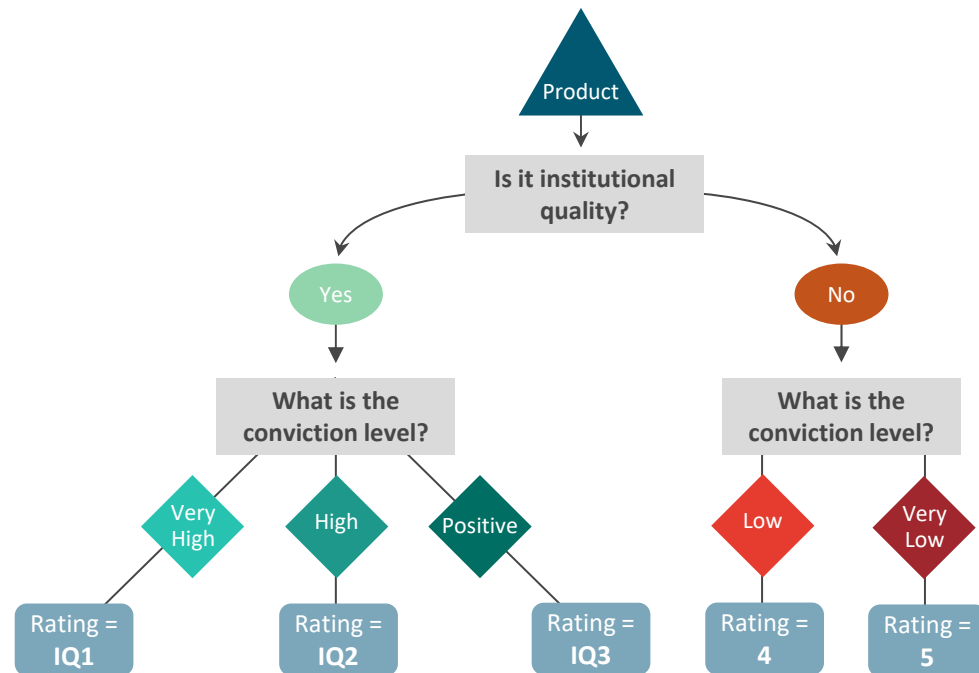
# Manager rating system

## The IQ Rating System communicates our conviction in investment products

There are two components to the rating:

- Institutional quality** – (IQ) The product meets or exceeds the standards of fiduciary care required by institutional investors and is suitable for use in clients’ portfolios.
- Conviction** – (1 to 5) Represents the conviction of our research teams in the distinguishing qualities of the product relative to its peers, with 1 as the highest rating and 5 the lowest.

### PROCESS



Rating process simplified for illustrative purposes only

### DEFINITIONS & GUIDELINES

| Rating | Institutional Quality? | Conviction Level | Defining Characteristics                                                                                                         | Recommendations                                                                                                                             |
|--------|------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| IQ1    | Yes                    | Very High        | Earns Verus’ highest conviction. Above-average characteristics most likely to achieve the strategy’s desired investment results. | Recommended for use in client portfolios. May be used in Verus discretionary portfolios.                                                    |
| IQ2    | Yes                    | High             | Maintains Verus’ high conviction. Above-average characteristics most likely to achieve strategy’s desired investment results.    | Recommended for use in client portfolios. May be used in Verus discretionary portfolios.                                                    |
| IQ3    | Yes                    | Positive         | Meets institutional quality standards that can achieve desired investment results. Strengths outweigh weaknesses.                | While IQ1 or IQ2 rated products are generally preferable, certain client needs may be better addressed by a highly specialized IQ3 product. |
| 4      | No                     | Low              | Concerns with the product’s ability to meet institutional-quality standards.                                                     | Clients should re-evaluate retention or monitor closely.                                                                                    |
| 5      | No                     | Very Low         | Significant issues inhibit the product’s ability to meet institutional-quality standards.                                        | Verus recommends termination, immediately.                                                                                                  |

# Recent Verus research

Visit: <https://www.verusinvestments.com/insights/>

## Topics of interest papers

### A BRIEF GUIDE TO THE SFA PROGRAM

In this paper, we plan to approach the Special Financial Assistance (SFA) program from an investment perspective. First, we describe the interest rate rules. Next, we offer some ways in which investors may think about their legacy assets relative to their new SFA funds. This section concludes by outlining a strategy in which SFA funds are used to cash flow match expected future liability payments. Overall, the health of a Plan will determine how much SFA funding is available, and the total amount of SFA funding awarded will likely determine the degree to which this program should reasonably impact an investor's total portfolio strategy.

### IS PAINLESS DIVERSIFICATION BACK?

Low interest rates over the last few years have caused investors significant asset allocation problems. The 2022 market reversal has begun to reverse these challenges. The implications of this return to more normal conditions for investors include:

- The renewed role of fixed income in portfolios
- Greater flexibility to meet performance objectives through simple portfolio structures
- The ability of certain investors to meet return objectives while taking less market risk
- The potential for pensions to take advantage of higher interest rates and likely stronger funded status by pursuing more liability-aware investment strategies

## Annual research

### 2023 CAPITAL MARKET ASSUMPTIONS

Some important developments occurred in the last year. Capital Market Assumptions guide our advice and recommendations. They reflect the best judgments of our research and investment teams regarding the expected behavior and associated risks of capital markets in the years ahead. During our 2023 Capital Market Assumptions webinar, we discussed:

- A significant increase in our Capital Market Assumptions, and aspects of the environment which have driven this change
- The “building blocks” of market returns and our philosophy around forecasting future asset-class performance
- Implications for investors as markets escape the *low-return environment* of recent years



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# 4<sup>th</sup> quarter summary

## THE ECONOMIC CLIMATE

- Real GDP increased at a 2.9% rate in the fourth quarter (1.0% year-over-year growth), slightly exceeding expectations. Consumer spending, private inventory investment, government expenditures, and nonresidential investment were supportive of growth.
- Unemployment remained near historic lows during the quarter, at 3.5% in December. While this figure suggests a strong and resilient job market, the workforce remains much smaller than pre-pandemic times as more than two million workers remain out of the labor force.

## PORTFOLIO IMPACTS

- Inflation fears continue to ease as domestic inflation fell further. Headline inflation was 6.5% year-over-year in December—the lowest since October 2021—while core inflation came in at 5.7%. Prices for most goods and services have moderated with the exception of shelter costs, which increased at a worryingly fast pace of 10.0% annualized in December.
- U.S. real personal spending held steady at 2.0% year-over-year in August. Households focused spending on services over goods, which has removed some stress from supply chains and likely helped to normalize global transportation issues. Relatively strong spending seems to suggest it is possible that inflation moderates without a painful slowdown in the economy.

## THE INVESTMENT CLIMATE

- China’s rapid pivot away from a “Zero Covid” policy towards the end of Q4 added a large tailwind to emerging market equity performance and the global growth outlook. Despite this positive news, an uptick in virus cases poses challenges for China’s reopening.
- Credit performed well in the fourth quarter, as resilient U.S. economic growth combined with expectations for the Fed to ease their tightening cycle helped mitigate investor concerns of a near-term cyclical downturn.

## ASSET ALLOCATION ISSUES

- Calendar year 2022 proved to be a year of *reversal* regarding asset class performance. Top performing investments of the past decade, such as U.S. growth and small cap stocks, suffered some of the largest losses. Meanwhile, many of the worst performing investments of the past decade, including commodities and value stocks, significantly outperformed.
- Value stocks outperformed markedly during 2022, outpacing growth stocks by 10.2% in Q4 and 21.6% for the year. Energy, industrials, and materials—sectors heavily tilted toward value—showed strong returns, with energy ending the year up 64.6%.

Markets have partially recovered as inflation fears eased

Recession risks and an earnings slowdown may come into focus in 2023



# What drove the market in Q4?

## “Has Inflation Peaked?”

### HEADLINE CONSUMER PRICE INFLATION (YEAR-OVER-YEAR)

| Jul  | Aug  | Sep  | Oct  | Nov  | Dec  |
|------|------|------|------|------|------|
| 8.5% | 8.3% | 8.2% | 7.7% | 7.1% | 6.5% |

Article Source: Financial Times, December 8<sup>th</sup>, 2022

## “The Labor Market is Still Hot”

### CHANGE IN U.S. NONFARM PAYROLLS

| Jul   | Aug   | Sep   | Oct   | Nov   | Dec   |
|-------|-------|-------|-------|-------|-------|
| +537k | +292k | +269k | +284k | +263k | +223k |

Article Source: Axios, November 1<sup>st</sup>, 2022

## “Fed Raises Rate by 0.5 Percentage Point, Signals More Increases Likely”

### FOMC MEETING RATE HIKE DECISIONS

| May     | Jun     | July    | Sep     | Nov     | Dec     |
|---------|---------|---------|---------|---------|---------|
| +50 bps | +75 bps | +75 bps | +75 bps | +75 bps | +50 bps |

Article Source: Wall Street Journal, December 14<sup>th</sup>, 2022

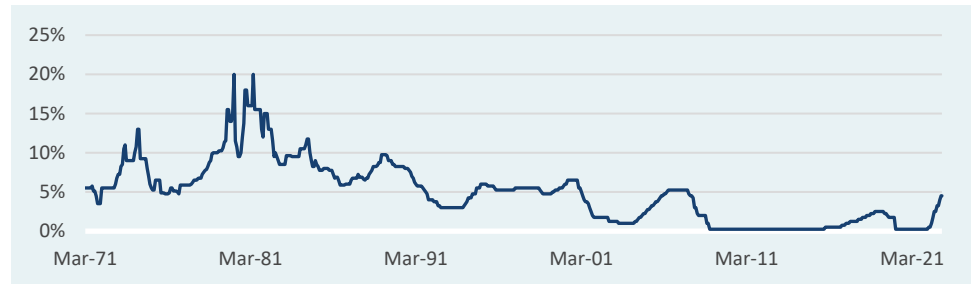
## “China’s Covid Pivot Accelerates as Cities Ease Testing Rules”

### CHINESE REPORTED NEW CASES (DAILY AVERAGE FOR THE MONTH)

| Jul | Aug   | Sep   | Oct   | Nov    | Dec    |
|-----|-------|-------|-------|--------|--------|
| 559 | 1,629 | 1,158 | 1,340 | 18,914 | 14,748 |

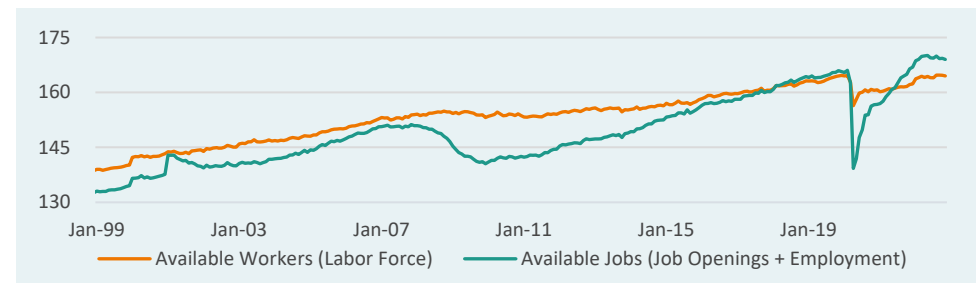
Article Source: Bloomberg, December 5<sup>th</sup>, 2022. Dataset from Our World in Data

## FED FUNDS RATE UPPER BOUND



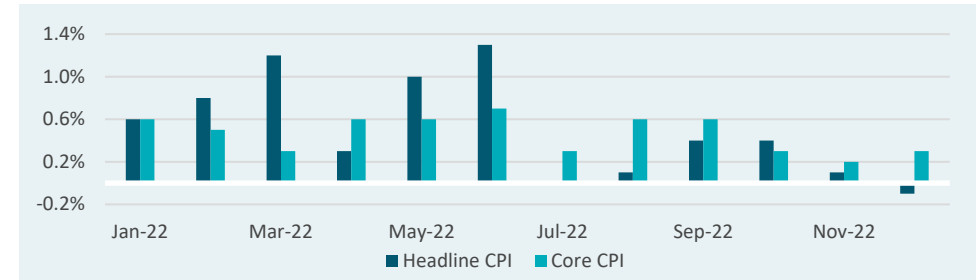
Source: Federal Reserve, as of 12/31/22

## U.S. AVAILABLE WORKERS VS. AVAILABLE JOBS (MILLIONS)



Source: Bureau of Labor Statistics, as of 11/30/22

## U.S. HEADLINE & CORE CPI (MONTH-OVER-MONTH)



Source: Bureau of Labor Statistics, as of 12/31/22

# Economic environment



# U.S. economics summary

- Real GDP increased at a 2.9% rate in Q4 (1.0% year-over-year growth). Consumer spending, private inventory investment, government expenditures, and nonresidential investment supported the economy.
- Inflation fears continue to ease as domestic inflation fell further. December headline inflation came in at 6.5% year-over-year while core inflation (excluding food & energy) came in at 5.7%. Most goods and services price rises have slowed, with the exception of shelter costs, which increased at a worryingly fast pace of 10% annualized in December.
- Unemployment remained very low during the quarter, at 3.5% in December. While this official figure suggests a strong and resilient job market, the workforce remains much smaller than pre-pandemic times as more than two million workers are missing from the labor force.
- Consumer spending kept steady though savings rates dropped to 2.3%—a depressed level not seen since the mid-2000s. A low household savings rate is sometimes seen as an indicator of strong consumer confidence and spending, though we suspect household budgets are currently being hit hard by higher costs.
- Consumer sentiment improved during Q4 but is still very downbeat. In the most recent University of Michigan survey, respondents showed less concern around inflation, reported better business conditions and long-term outlook, but were pessimistic over personal finances.
- U.S. home prices peaked in June 2022 and have been falling since then, according to S&P CoreLogic. Significantly higher mortgage interest rates have led to the worst home affordability on record, according to the National Association of Realtors.

|                                      | Most Recent               | 12 Months Prior           |
|--------------------------------------|---------------------------|---------------------------|
| Real GDP (YoY)                       | 1.0%<br>12/31/22          | 5.7%<br>12/31/21          |
| Inflation (CPI YoY, Core)            | 5.7%<br>12/31/22          | 5.5%<br>12/31/21          |
| Expected Inflation (5yr-5yr forward) | 2.2%<br>12/31/22          | 2.3%<br>12/31/21          |
| Fed Funds Target Range               | 4.25% – 4.50%<br>12/31/22 | 0.00% – 0.25%<br>12/31/21 |
| 10-Year Rate                         | 3.87%<br>12/31/22         | 1.51%<br>12/31/21         |
| U-3 Unemployment                     | 3.5%<br>12/31/22          | 3.9%<br>12/31/21          |
| U-6 Unemployment                     | 6.5%<br>12/31/22          | 7.3%<br>12/31/21          |

# GDP growth

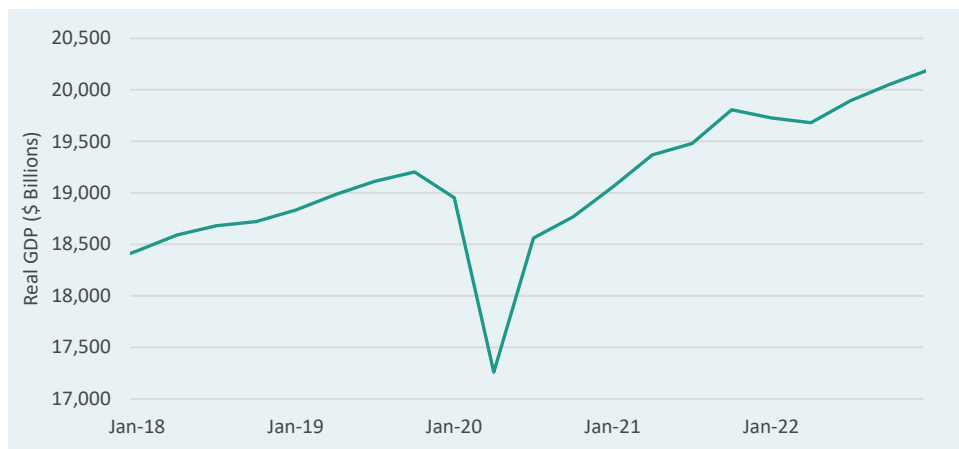
Real GDP increased at a 2.9% rate in the fourth quarter (1.0% growth year-over-year), slightly exceeding expectations of 2.8%. Consumer spending supported growth, along with gains in private inventory investment, government expenditures, and nonresidential investment. Residential fixed investment saw an extreme drop of -26.7% during the quarter as the housing market weakened. Declining exports also acted as a drag on growth.

Investors appear unsure about how to interpret the recent string of strong U.S. economic data. Although consumer sentiment is very poor by most measures, spending remains positive and the job market remains surprisingly resilient. Were the economy to avoid recession, this would be positive for businesses and for corporate

earnings, but might also lead to further aggressive Federal Reserve action and interest rate hikes, which are negative for equity prices.

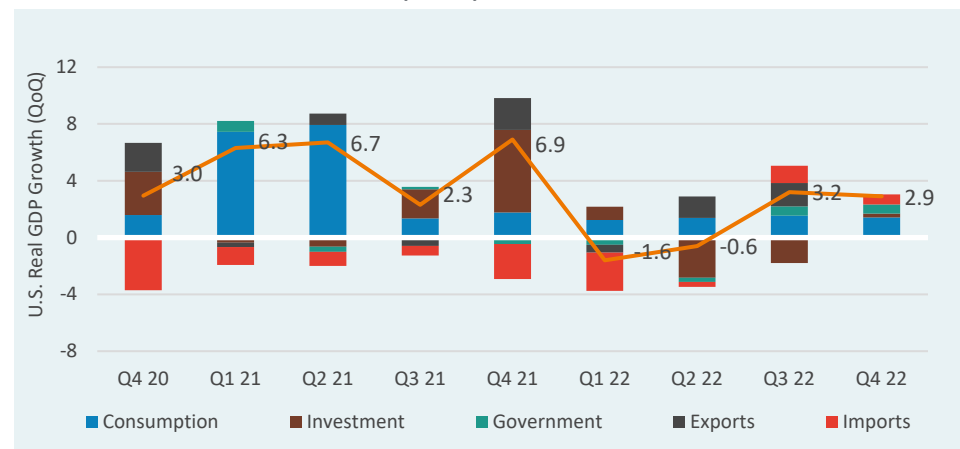
The inflation environment following the COVID-19 pandemic is unlike many past inflation cycles. Much of the price pressure has been fueled by factors *other than* a strong economy, such as an unprecedented shift in consumer spending behavior towards goods and away from services, port and international transportation issues related to lockdowns, and Russia's invasion of Ukraine. Because many of these variables are outside of the Federal Reserve's control, we believe it is possible that inflation continues to fall despite a relatively strong U.S. economy.

## U.S. REAL GROSS DOMESTIC PRODUCT



Source: FRED, as of 12/31/22

## U.S. REAL GDP COMPONENTS (QOQ)



Source: FRED, as of 12/31/22

# Inflation

The inflation picture continued to improve in the United States, as both headline and core inflation figures declined further. December headline inflation came in at 6.5% year-over-year—the lowest since October 2021—while core inflation came in at 5.7%. Most goods and services prices have moderated with the exception of shelter, which increased at a worryingly fast pace of 10% annualized in December. Food inflation has been a large contributor to high inflation, but food price rises reassuringly slowed in December, increasing at a 3.7% annualized rate.

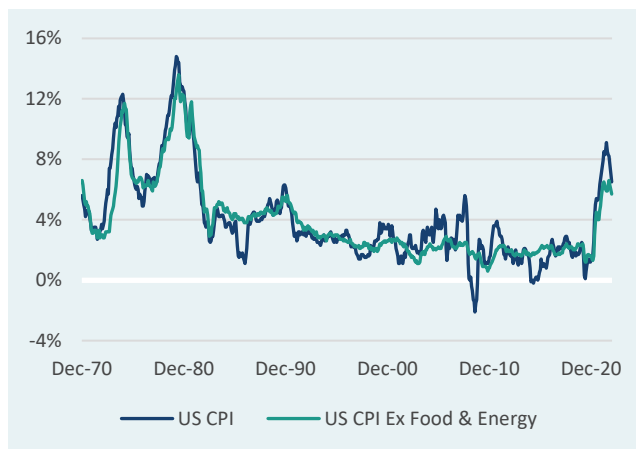
Strong increases in U.S. hourly wages over recent years have

been a welcome development for workers who are feeling the squeeze of higher prices on household budgets. But wage rises can also act as a key risk to the inflation environment. Accelerating wages might sustain higher spending and therefore persistently elevated rates of inflation. However, government data now indicates that wage growth is slowing, which mitigates the risk of a *wage-price spiral*.

Overall, we believe inflation is falling and will likely be much less of a perceived market risk in 2023. Certain persistent price pressures suggest that an inflation level of 3-4% is more likely than the 1-2% experienced throughout much of the 2010s.

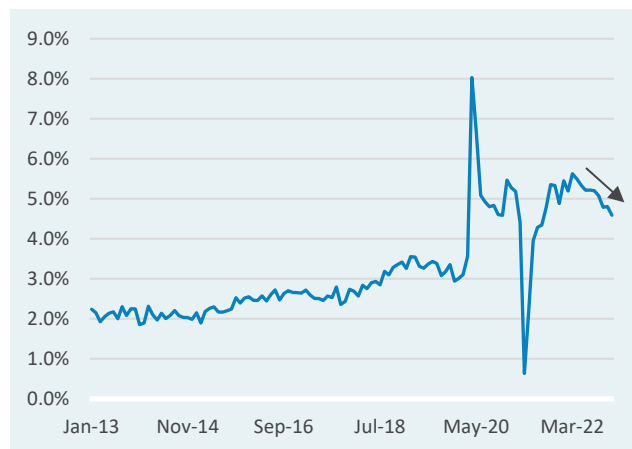
Price pressures continue to ease, adding to optimism that inflation will fall to more normal levels

U.S. CPI (YOY)



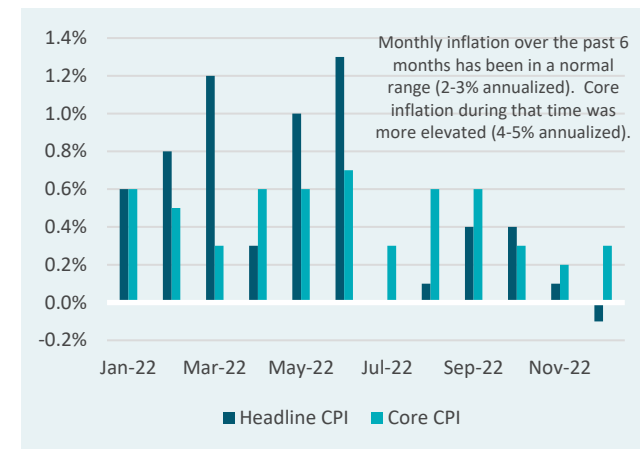
Source: BLS, as of 12/31/22

AVERAGE HOURLY EARNINGS



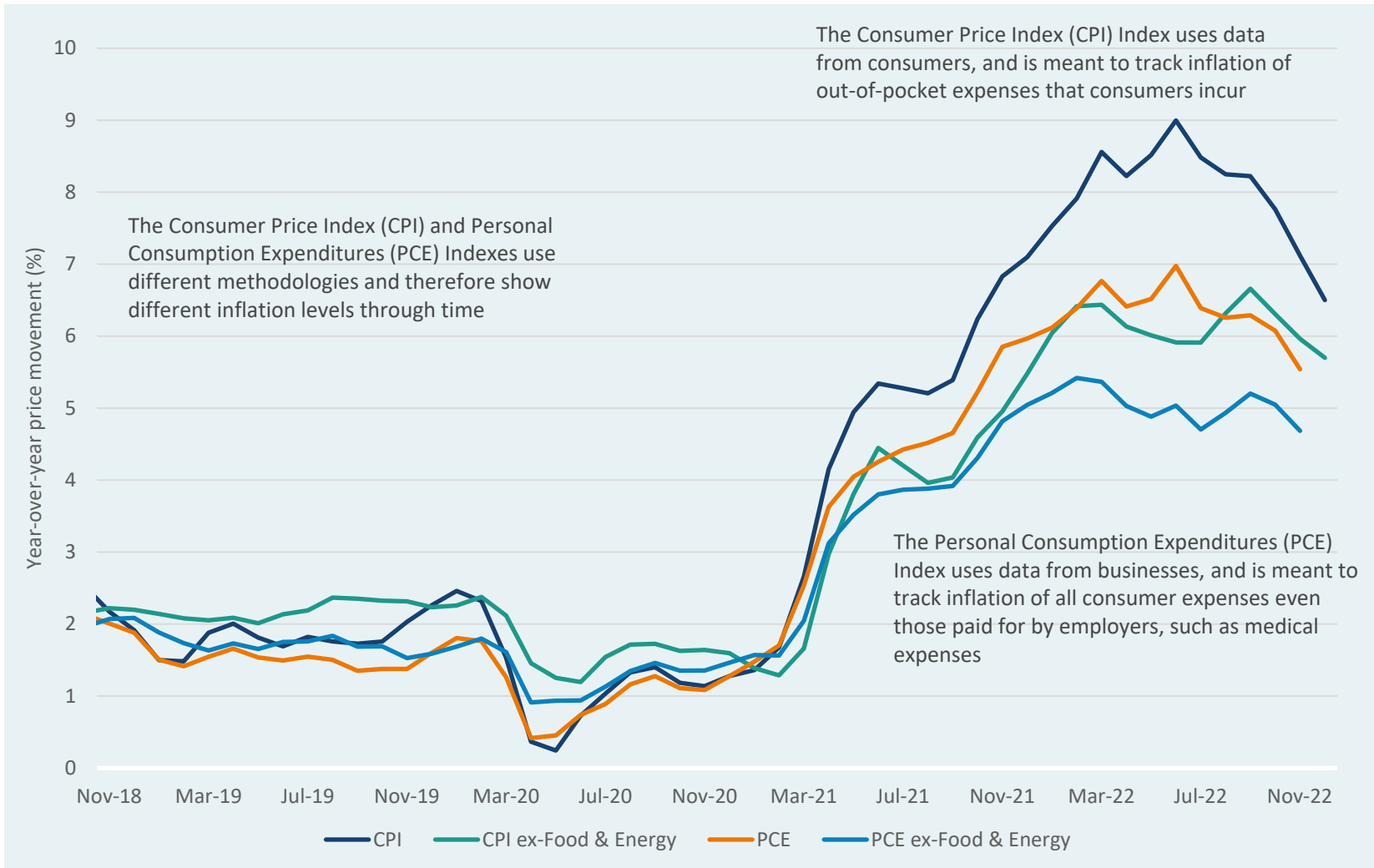
Source: BLS, as of 12/31/22

MONTHLY PRICE MOVEMENT



Source: BLS, as of 12/31/22

# How are inflation conditions evolving?



Price rises have slowed considerably in recent months, which is bringing down official year-over-year inflation figures

Source: FRED, Verus, PCE data as of 11/30/22, CPI data as of 12/31/22

# Labor market

Unemployment remained very low during the quarter, at 3.5% in December. This official figure suggests a strong and resilient job market for those workers who seek employment, although this data contrasts with media reports of fairly widespread layoff activity.

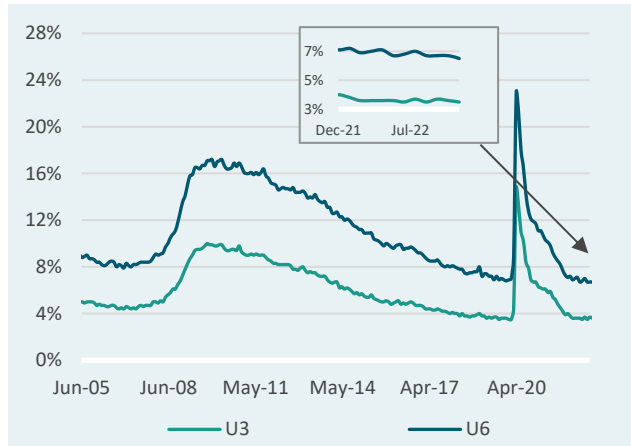
The labor participation rate also remained unchanged during the quarter. Low labor participation paints a different and much weaker picture of the job market, because this figure takes into account the workers *who are not seeking employment*. More than two million workers remain out of the labor force, relative to the pre-pandemic job market. Survey

and government-reported data suggests that much of this effect is due to “Long Covid” health troubles. Other variables such as early retirements, and parents taking time off to care for children, have also likely had a material impact on the size of the workforce.

The result of millions of Americans dropping out of the workforce has been a historically large mismatch regarding the number of jobs available and the number of workers available to fill those jobs. This gap remains wide, but has been closing recently as job openings have fallen.

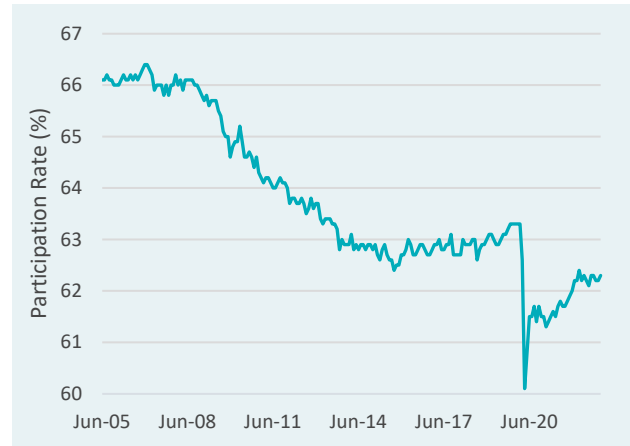
The labor market remains tight, though the size of workforce is much smaller relative to pre-pandemic times

U.S. UNEMPLOYMENT



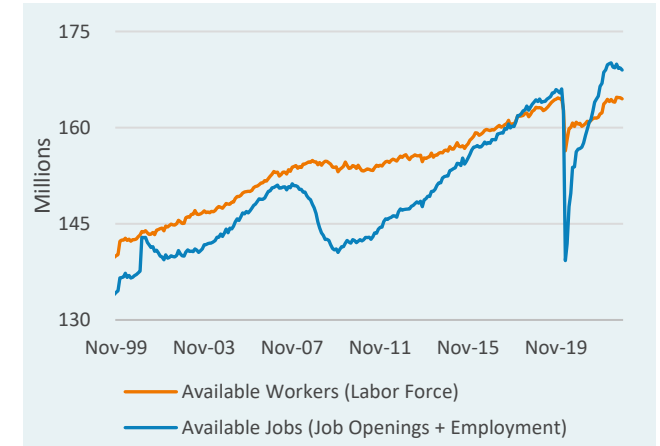
Source: FRED, as of 12/31/22

LABOR FORCE PARTICIPATION RATE



Source: FRED, as of 12/31/22

WORKERS AVAILABLE VS. AVAILABLE JOBS



Source: BLS, as of 11/30/22



# The consumer

U.S. real (inflation-adjusted) personal consumption expenditures held steady in August, at 2.0% year-over-year. Households have focused spending on services rather than goods, which removed some stress from supply chains and likely helped to normalize transportation issues. Relatively strong spending seems to suggest it is possible that inflation moderates without a painful slowdown in the economy.

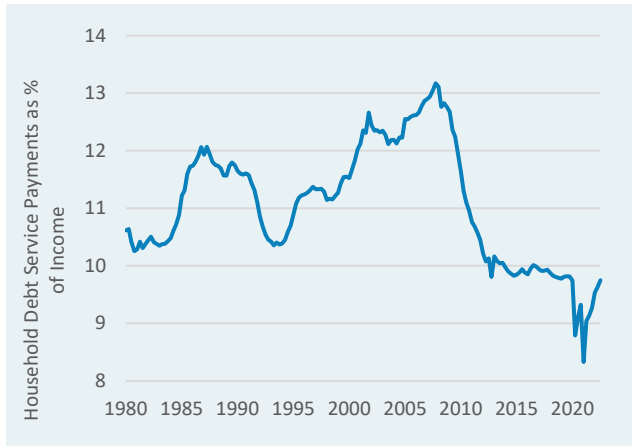
Spending has slowed but savings rates have also dropped to 2.3%—a depressed level not seen since the mid-2000s. A low household savings rate is sometimes seen as an indicator of

strong consumer confidence and spending, though in the current environment we suspect that household budgets are being hit hard by inflation and higher living costs.

Big ticket items such as automobiles have seen falling sales as higher interest rates make purchases less affordable and household budgets come under strain. The pressure of higher interest rates is reflected in *average debt payments relative to average income*—a metric which has risen towards pre-pandemic levels.

Household spending remains strong, though a very low savings rate may suggest budgets are being squeezed

DEBT SERVICE AS % HOUSEHOLD INCOME



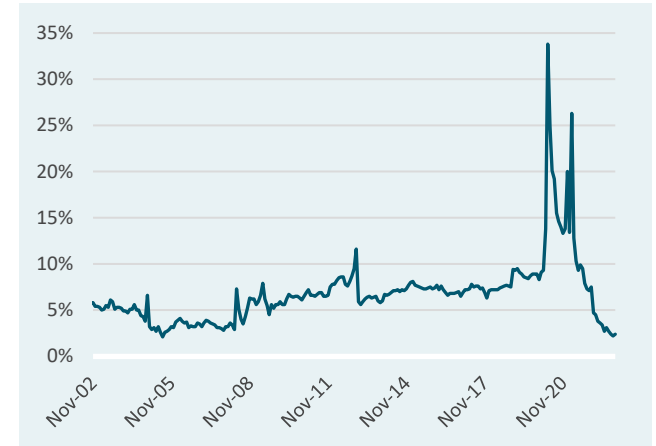
Source: FRED, as of 9/30/22

REAL PERSONAL CONSUMPTION



Source: FRED, as of 11/30/22

PERSONAL SAVINGS RATE



Source: FRED, as of 11/30/22

# Sentiment

Consumer sentiment improved again during the fourth quarter, but remains very downbeat, according to the University of Michigan. In the most recent survey, respondents expressed less concerns over inflation, reported better business conditions and long-term outlook, though pessimism around current and future personal finances remained.

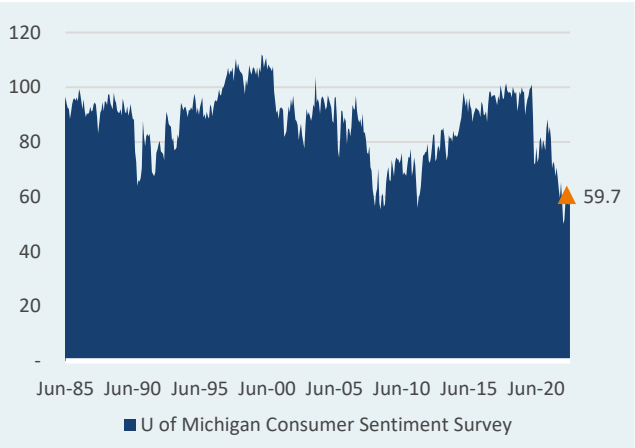
Consumer confidence measured by the Conference Board improved slightly in the fourth quarter—at the highest level since April. According to the Conference Board, views around

current conditions and future conditions improved as households were more upbeat regarding the economy and jobs. Inflation expectations continued to fall (improve), driven by lower gas prices in particular.

The NFIB Small Business Optimism index deteriorated slightly during the quarter, reflecting a very poor business outlook. Thirty-two percent of business owners expressed inflation as their greatest concern for business operations. Other concerns included difficulties in filling open job positions and an inability to raise prices to keep up with inflation.

Sentiment, by most measures, remains very poor

**CONSUMER SENTIMENT**



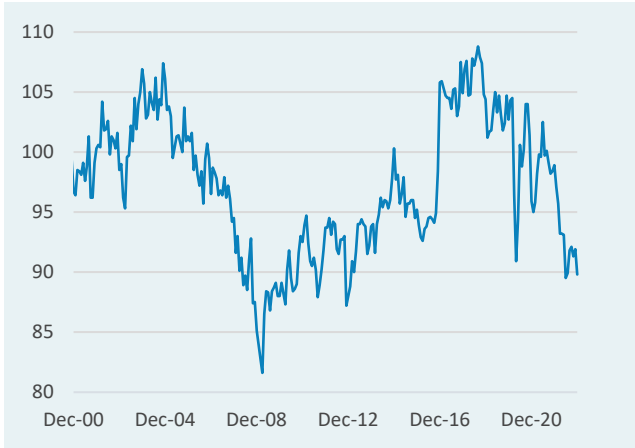
Source: University of Michigan, as of 12/31/22

**CONFERENCE BOARD CONSUMER CONFIDENCE**



Source: Conference Board, as of 12/31/22

**NFIB SMALL BUSINESS SENTIMENT**



Source: NFIB, as of 12/31/22

# Housing

U.S. home prices peaked in June 2022 and have been falling since that time, according to the S&P CoreLogic Case-Shiller U.S. National Index. Significantly higher mortgage interest rates have led to the worst home affordability on record, as indicated by the National Association of Realtors.

Higher home prices and interest rates have also resulted in a sharp slowdown in sales activity—a notable change from the frothy environment that had occurred post-pandemic. Existing home sales activity has now fallen to a rate not seen since the real estate market was recovering from the housing

crisis during the early 2010s.

Conditions in housing today appear to be helping to *rebalance* the housing market, as suggested by the monthly supply of homes. Weaker sales volumes and worse affordability has meant that potential buyers have much more inventory to select from. The monthly supply of homes is now at 8.6 months, up from an all-time-low of 3.3 months in August 2020. As homes sit on the market unsold for longer, prices may need to fall further to attract buyers.

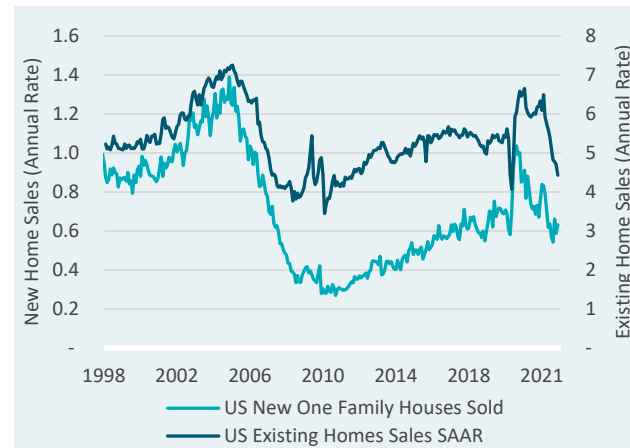
## HOUSING AFFORDABILITY INDEX



Source: NAR, as of 11/30/22

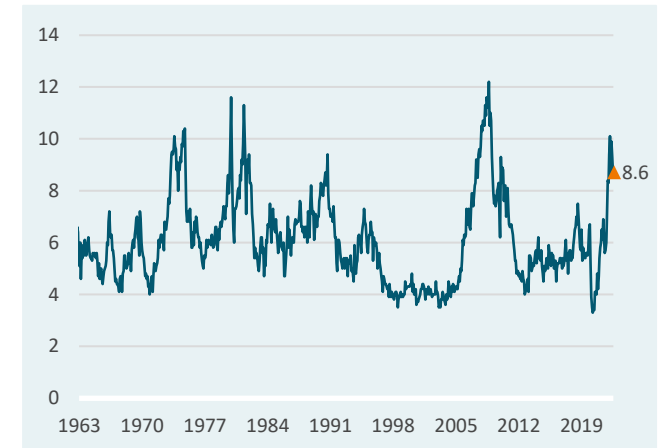
The Monthly Housing Affordability Index measures whether or not a typical family earns enough income to qualify for a mortgage loan on a typical home at the national and regional levels based on the most recent monthly price and income data

## HOME SALES: NEW & EXISTING (MILLIONS)



Source: FRED, as of 10/31/22

## MONTHLY SUPPLY OF HOMES



Source: FRED, as of 11/30/22

# International economics summary

- Economic growth expectations continued to weaken, although the GDP outlook for emerging economies is starting to paint a more optimistic picture. Developed economies, specifically across the Eurozone and United Kingdom, are still facing the negative growth impacts of tighter financial conditions as inflation remains elevated.
- Inflation in both the Eurozone and U.K. has reinforced tighter policies from the ECB and BOE. While U.K. inflation fell to 10.7% from the 11.1% peak in October, interest rates are expected to be raised further (but in smaller increments). Eurozone inflation has shown signs of moving past its peak, although core inflation hit a new high of 5.2%, stoking fears that inflation may be spreading to core goods and services.
- Unemployment rates have remained stable over the quarter.

India stood out as an exception, where unemployment jumped from 6.4% to 8.3%.

- The war in Ukraine carried on despite temporary “ceasefires” declared by Russia. The fighting has intensified in Eastern Ukraine around Kharkiv, with a supporting effort in Southern Ukraine, as Russian forces attempt to secure frontline positioning in the Kherson Oblast.
- China’s rapid pivot away from a “Zero Covid” policy towards the end of the quarter added a large tailwind to the global growth outlook. Despite this positive news, a rapid uptick in COVID-19 cases challenges the timeline of the reopening story. Additionally, many wonder how a large uptick in global demand might impact inflation pressures at a time when advanced economies struggle specifically to reign in spending.

| Area             | GDP<br>(Real, YoY) | Inflation<br>(CPI, YoY) | Unemployment     |
|------------------|--------------------|-------------------------|------------------|
| United States    | 1.0%<br>12/31/22   | 6.5%<br>12/31/22        | 3.5%<br>12/31/22 |
| Eurozone         | 2.3%<br>9/30/22    | 9.2%<br>12/31/22        | 6.5%<br>11/30/22 |
| Japan            | 1.5%<br>9/30/22    | 4.0%<br>12/31/22        | 2.4%<br>11/30/22 |
| BRICS<br>Nations | 3.6%<br>9/30/22    | 3.5%<br>12/31/22        | 5.2%<br>12/31/21 |
| Brazil           | 3.6%<br>9/30/22    | 5.8%<br>12/31/22        | 8.3%<br>10/31/22 |
| Russia           | (3.7%)<br>9/30/22  | 11.9%<br>12/31/22       | 3.7%<br>11/30/22 |
| India            | 6.3%<br>9/30/22    | 5.7%<br>12/31/22        | 8.3%<br>12/31/22 |
| China            | 3.9%<br>9/30/22    | 1.8%<br>12/31/22        | 5.7%<br>11/30/22 |

NOTE: India lacks reliable government unemployment data. Unemployment rate shown above is estimated from the Centre for Monitoring Indian Economy. The Chinese unemployment rate represents the monthly surveyed urban unemployment rate in China.

# International economics

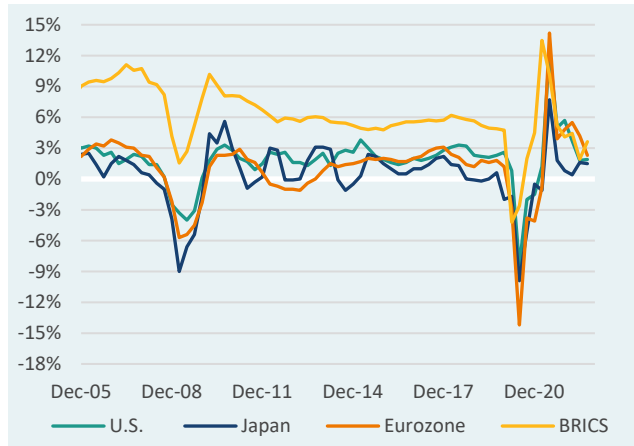
Growth expectations outside of the U.S. contracted over the quarter, with the largest moves coming from developed economies. The IMF cut its GDP forecast by 0.7% and 0.2% for the Eurozone and U.K. in their October outlook (now expecting 2023 GDP of 0.5% and 0.3%, respectively) as the European Central Bank and Bank of England struggle to rein in record high inflation. Japan saw a smaller downward revision of 0.1%, with 2023 growth expectations now at 1.6%.

The outlook for emerging markets is much more optimistic. Most countries have avoided the high inflation seen in developed markets. A rapid reopening of the Chinese economy

is likely providing a tailwind to growth, although the timing remains unclear due to another wave of COVID-19 infections. The 2023 GDP forecast for emerging economies per Bloomberg ticked down from 4.3% to 3.9% over the quarter, but emerging economy growth is still expected to far exceed that of developed economies (developed economy 2023 GDP expectations sit at 0.4%, according to the IMF).

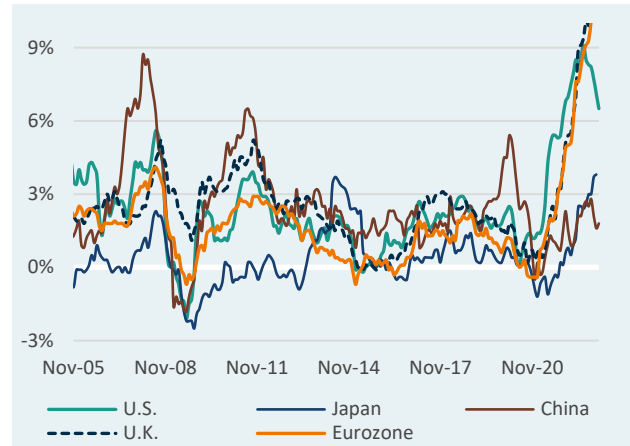
Despite the slowdown in economic growth, employment remains stable amongst the regions we track. India stood out as an exception, where unemployment jumped from 6.4% to 8.3% during Q4.

**REAL GDP GROWTH (YOY)**



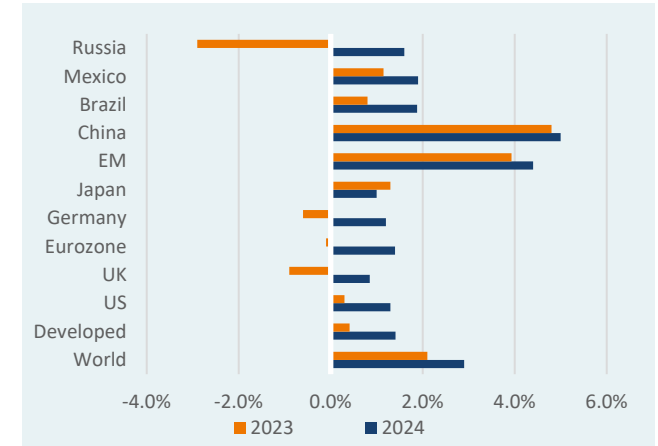
Source: Bloomberg, as of 9/30/22

**INFLATION (CPI YOY)**



Source: Bloomberg, as of 12/31/22 – or most recent release

**ECONOMIC GROWTH FORECASTS**



Source: Bloomberg, as of 12/31/22 – or most recent release



# Fixed income rates & credit

# Fixed income environment

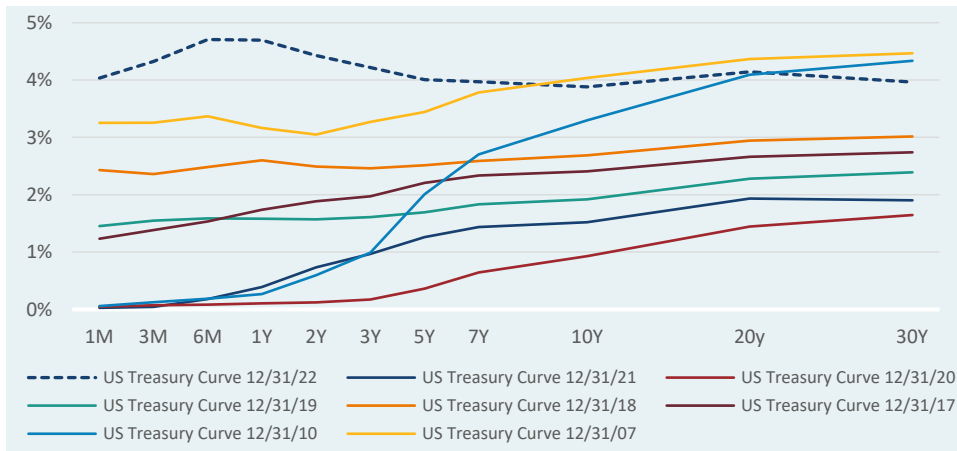
- The 10-year U.S. Treasury yield ended the quarter unchanged at 3.8%. It is possible that long-term interest rates have already reached a cyclical peak, assuming inflation continues to fall and the Federal Reserve becomes less aggressive.
- Credit performance was positive during the fourth quarter, with riskier exposures such as U.S. high yield and emerging market debt (both local and hard currency) leading the pack. Expectations for a slowdown in Federal Reserve rate hikes, and a rosier U.S. economic environment, have provided a tailwind to the credit space.
- Default activity in high yield bonds and bank loans remained subdued during Q4. Throughout the year, 17 companies defaulted totaling \$26.3 billion, with large defaults concentrated in the Healthcare sector which accounted for over 36% of total dollar volume. Default rates for par-weighted U.S. high yield and bank loans remained very low at 0.8% and 1.0%, respectively.
- The U.S. yield curve inversion reached historically negative levels, with the 10-year 2-year yield spread seeing its widest inversion since 1981 (short-term interest rates being higher than long-term interest rates). The negative spread bottomed out at ~81 bps on December 5<sup>th</sup> before gradually easing during the latter half of the month.
- Derivative markets are beginning to clash with Federal Reserve projections, as investors are pricing in a shorter tightening cycle relative to that indicated by comments from Federal Reserve officials. Federal Funds futures reflect a target interest rate of approximately 4.6% by the end of 2023, which compares to 5.1% indicated by the Federal Reserve's December Summary of Economic Projections.

|                                                            | QTD Total Return | 1 Year Total Return |
|------------------------------------------------------------|------------------|---------------------|
| Core Fixed Income (Bloomberg U.S. Aggregate)               | 1.9%             | (13.0%)             |
| Core Plus Fixed Income (Bloomberg U.S. Universal)          | 2.2%             | (13.0%)             |
| U.S. Treasuries (Bloomberg U.S. Treasury)                  | 0.7%             | (12.5%)             |
| U.S. High Yield (Bloomberg U.S. Corporate HY)              | 4.2%             | (11.2%)             |
| Bank Loans (S&P/LSTA Leveraged Loan)                       | 2.7%             | (0.6%)              |
| Emerging Market Debt Local (JPM GBI-EM Global Diversified) | 8.5%             | (11.7%)             |
| Emerging Market Debt Hard (JPM EMBI Global Diversified)    | 8.1%             | (17.8%)             |
| Mortgage-Backed Securities (Bloomberg MBS)                 | 2.1%             | (11.8%)             |

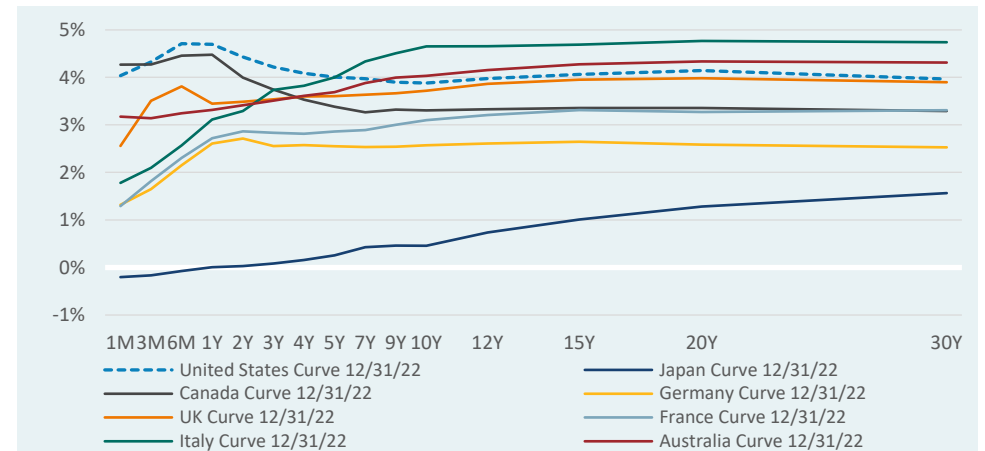
Source: Bloomberg, as of 12/31/22

# Yield environment

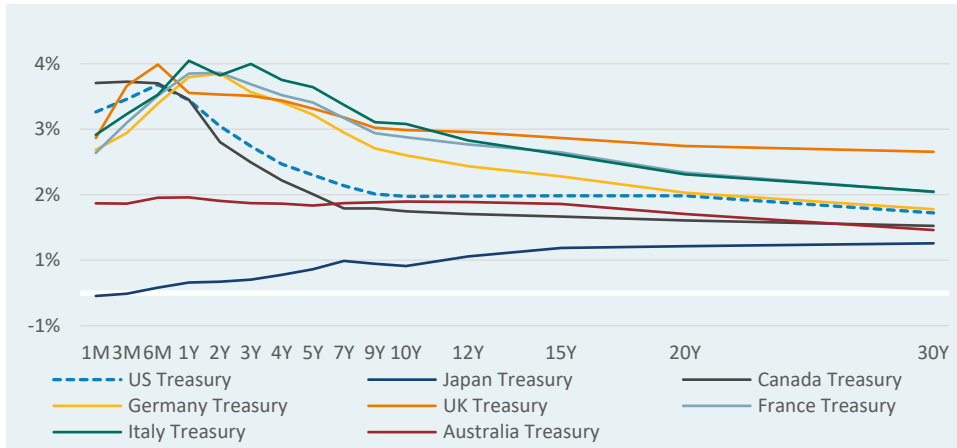
## U.S. YIELD CURVE



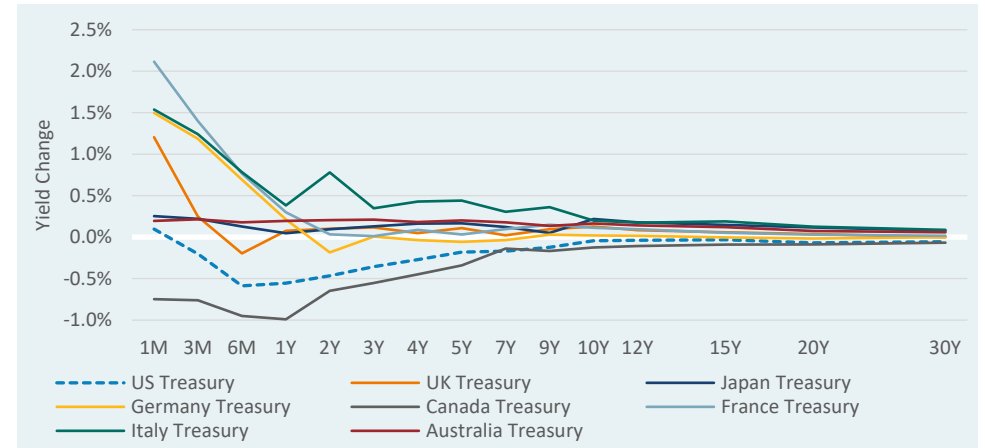
## GLOBAL GOVERNMENT YIELD CURVES



## YIELD CURVE CHANGES OVER LAST FIVE YEARS



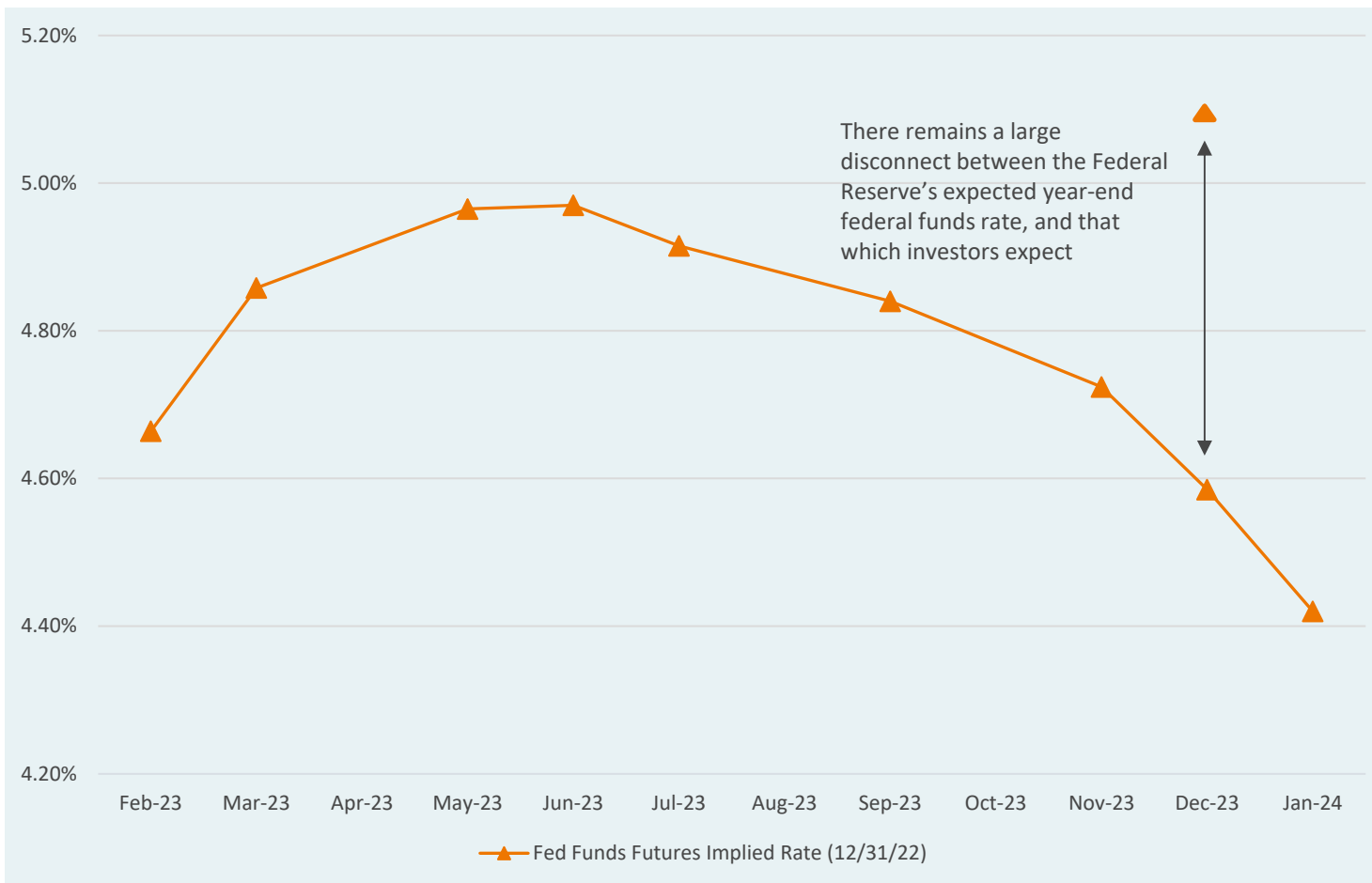
## IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 12/31/22

# Markets more optimistic than the Fed

FED FUNDS FUTURES IMPLIED FED RATE



Markets expected the federal funds rate to rise to a peak of near 5.0% in Spring of 2023, followed by rate cuts throughout the remainder of the year

This contrasts sharply with forecasts from the Federal Reserve, which indicates a federal funds rate projection for the end of 2023 of **5.1%**

Source: Bloomberg, as of 12/31/22

# Credit environment

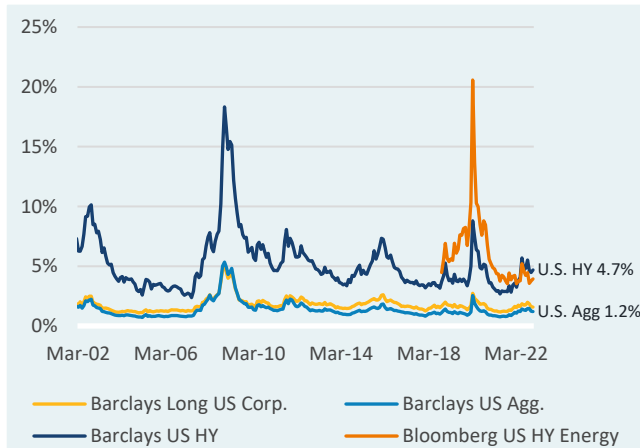
During the fourth quarter, markets began pricing in an eventual end to the Federal Reserve rate hiking cycle. This supported the performance of credit assets, as well as stronger-than-expected U.S. economic data which helped alleviate recession fears. High yield credit returns led the way with 4.2%, followed by 3.6% from investment grade credit and 2.3% from bank loans.

Credit spreads broadly tightened, with investment grade spreads falling to 130 bps from their high of 165 bps in Q3. High yield spreads compressed further, moving from 552 bps to 469 bps over the quarter. Despite calendar year returns of investment grade credit being the worst on record at -15.8%, and two consecutive years of negative returns, spreads have

widened less than anticipated. This suggests spreads could expand from these levels if conditions deteriorate.

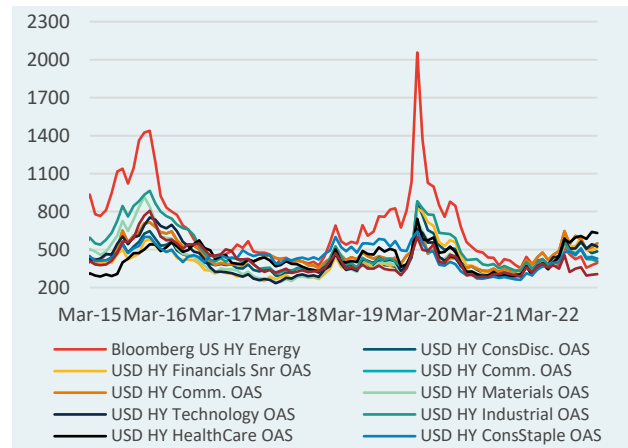
The total yield of high yield credit declined modestly throughout Q4, ending the quarter at 9.0%, which was 71 bps below Q3 yields but still elevated far above yields to start 2022. The Bloomberg US Corporate Investment Grade Index saw similar movement, with yields declining to 5.4% from 5.7% during the quarter, though still significantly higher than 2.4% to start the year. More attractive yield levels have the potential to drive demand for fixed income broadly, though concerns around growth and recession may act as headwinds to the spread-sensitive performance of higher risk credit.

## SPREADS



Source: Barclays, Bloomberg, as of 12/31/22

## HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 12/31/22

| Market              | Credit Spread (OAS) |          |
|---------------------|---------------------|----------|
|                     | 12/31/22            | 12/31/21 |
| Long U.S. Corp      | 1.6%                | 1.3%     |
| U.S. Inv Grade Corp | 1.3%                | 0.9%     |
| U.S. High Yield     | 4.7%                | 2.8%     |
| U.S. Bank Loans*    | 5.9%                | 4.3%     |

Source: Barclays, Credit Suisse, Bloomberg, as of 12/31/22

\*Discount margin (4-year life)



# Default & issuance

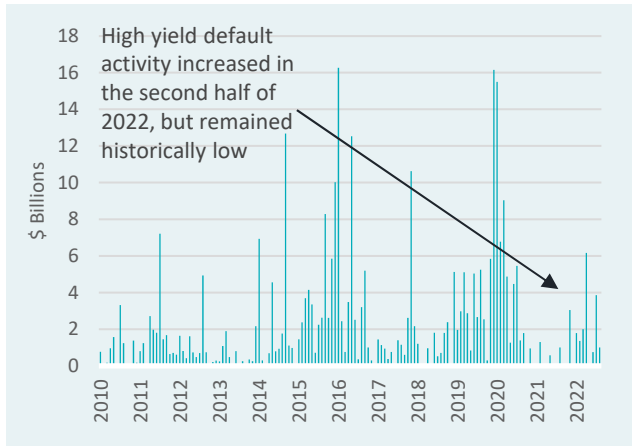
Default activity in high yield bonds and bank loans remained subdued during Q4. Throughout the year, 17 companies defaulted totaling \$26.3 billion, with large defaults concentrated in the Healthcare sector which accounted for over 36% of total dollar volume. Default rates for par-weighted U.S. high yield and bank loans remained very low at 0.8% and 1.0%, respectively. While these levels are well below long-term historical averages, defaults are widely expected to increase amid sustained higher interest rates, tighter financial conditions, and weaker economic growth.

Default recovery rates of high yield and bank loans remained strong for a second consecutive year. High yield recovery rates ended the year at 55% (above the long-term average of 40%) while the recovery rate of bank loans

ended the year at 58% (below the long-term average of 64%).

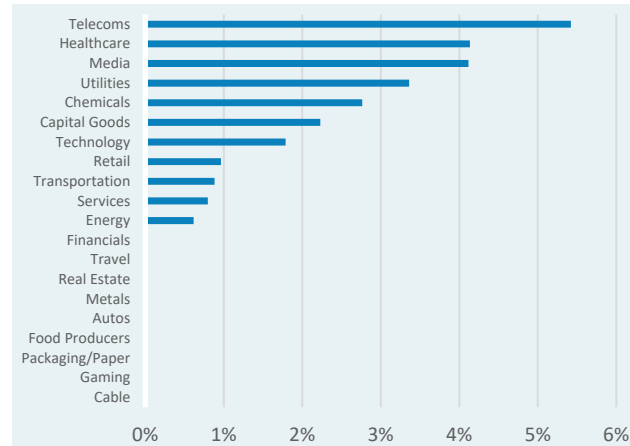
Investment grade credit issuance remained light, with \$195 billion of issuance in Q4 being the lowest quarter of the year. During 2022, \$1.2 trillion of investment grade bond issuance was 12% lower than 2021 but still in line with the past five-year average. Levered credit also saw quarterly lows of issuance, with \$16.5 billion and \$47.6 billion in the high yield and levered loan spaces, respectively. The year-over-year declines in issuance within high yield and bank loans have been dramatic, down around 70% since 2021.

**U.S. HY MONTHLY DEFAULTS (PAR WEIGHTED)**



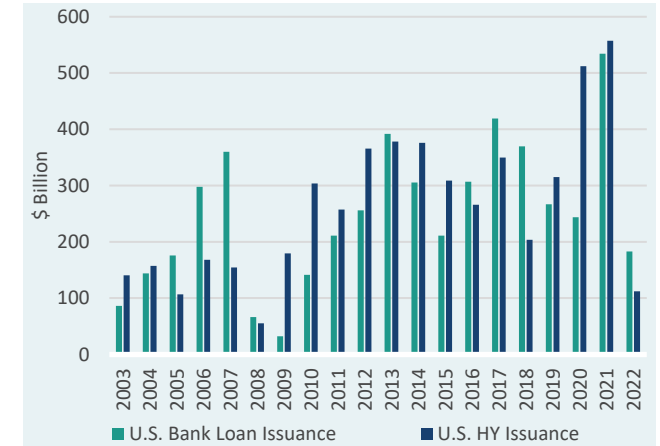
Source: BofA Merrill Lynch, as of 12/31/22

**U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)**



Source: BofA Merrill Lynch, as of 12/31/22 – par weighted

**U.S. ISSUANCE (\$ BILLIONS)**



Source: BofA Merrill Lynch, as of 12/31/22

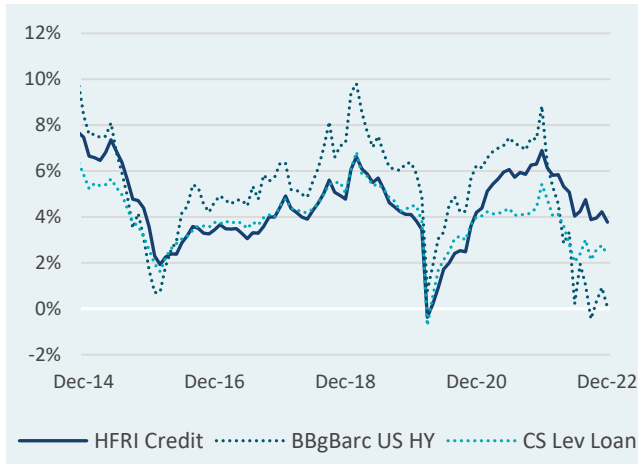
# Alternative credit

Credit hedge fund strategies held up well in 2022 despite continued pressure on high yield and duration-sensitive assets. The HFRI Credit Index, which typically delivers performance between that of high yield and bank loans, only lost -2.6% for the year despite widening credit spreads and exposure to duration (which has been very painful for traditional credit).

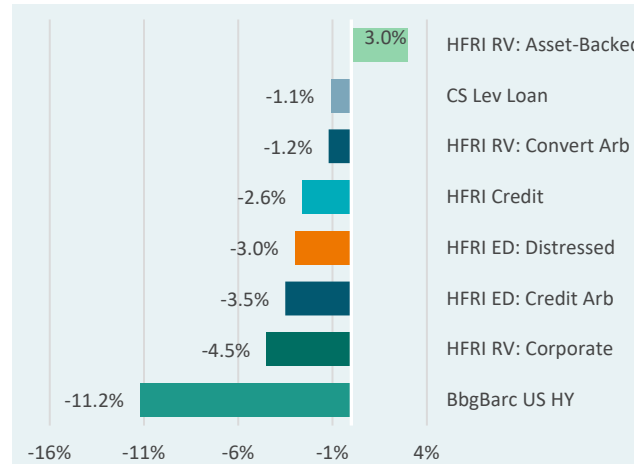
Looking more closely at hedge fund credit, asset-backed strategies were the strongest performers throughout the year. These strategies gained 3% while most other alternative credit funds were modestly negative, in line with bank loans.

We believe asset-backed and distressed strategies remain the most interesting in the space. Asset-backed funds have found attractive yields in off-the-run securitized credit markets, while distressed funds benefited from value investing coming back into favor, and increasing corporate stress which provides new trading opportunities.

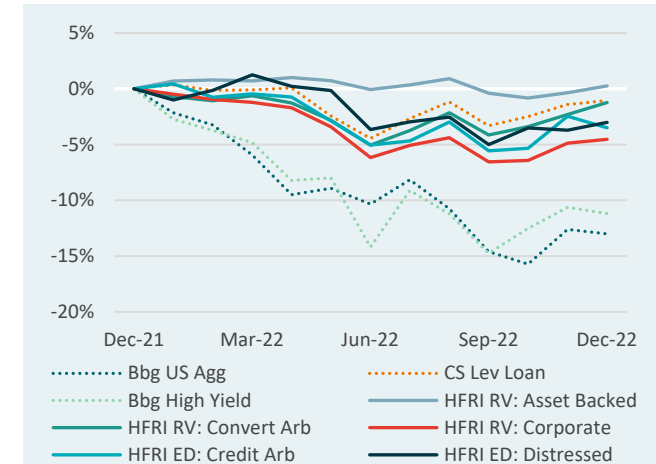
**3-YEAR ROLLING RETURN**



**2022 RETURN**



**2022 CUMULATIVE RETURN**



Source: MPI, Morningstar, HFR, Bloomberg, as of 12/31/22

# Equity

# Equity environment

- U.S. equities delivered their only positive quarterly return of 2022 during Q4 (S&P 500 +7.6%), helping to dampen the index's worst calendar year performance since 2008 (-18.1% loss in 2022). Higher interest rates and recession fears contributed to poor returns.
- U.S. corporate earnings in Q3 grew 2.4% from the year prior, marking the slowest rate of growth since Q3 2020. Per FactSet, earnings are projected to decline by -4.1% in Q4, which would mark the first decline in U.S. earnings since 2020.
- Many equity markets now trade at valuation levels near historical averages as rising rates and growth concerns have contributed to more attractive pricing. The S&P 500 forward P/E ratio of 18.3 (as of November 30<sup>th</sup>) is under the five-year average of 18.6 and the ten-year average of 20.2.
- Currency movements continued to create portfolio volatility for investors with unhedged exposure to foreign currencies. The U.S. dollar depreciated sharply during Q4 which resulted in a large gain of 7.6% for investors with unhedged foreign currency exposure (+17.3% MSCI EAFE unhedged, +9.7% MSCI EAFE hedged).
- Value stocks outpaced growth stocks by 10.2% in Q4 and by 21.6% for the year. Energy, industrials, and materials—sectors which are heavily tilted toward value—showed strong returns, with energy ending the year up 64.6%.
- Implied volatility fell significantly over the quarter, as the Cboe VIX Index moved from 31.6 to 21.7. Equity markets advanced on cooling inflation, potential for less aggressive central bank action, and perhaps optimism around China's reopening.

|                                          | QTD TOTAL RETURN |          | 1 YEAR TOTAL RETURN |          |
|------------------------------------------|------------------|----------|---------------------|----------|
|                                          | (unhedged)       | (hedged) | (unhedged)          | (hedged) |
| U.S. Large Cap (S&P 500)                 | 7.6%             |          | (18.1%)             |          |
| U.S. Small Cap (Russell 2000)            | 6.2%             |          | (20.4%)             |          |
| U.S. Equity (Russell 3000)               | 7.2%             |          | (19.2%)             |          |
| U.S. Large Value (Russell 1000 Value)    | 12.4%            |          | (7.5%)              |          |
| US Large Growth (Russell 1000 Growth)    | 2.2%             |          | (29.1%)             |          |
| Global Equity (MSCI ACWI)                | 9.8%             | 7.6%     | (18.4%)             | (15.5%)  |
| International Large (MSCI EAFE)          | 17.3%            | 9.7%     | (14.5%)             | (4.6%)   |
| Eurozone (EURO STOXX 50)                 | 24.8%            | 15.7%    | (15.1%)             | (7.0%)   |
| U.K. (FTSE 100)                          | 17.1%            | 9.3%     | (7.0%)              | 5.9%     |
| Japan (NIKKEI 225)                       | 11.3%            | 1.4%     | (18.9%)             | (5.2%)   |
| Emerging Markets (MSCI Emerging Markets) | 9.7%             | 6.7%     | (20.1%)             | (16.3%)  |

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 12/31/22

# Domestic equity

U.S. equities notched their only positive quarterly return for the year during Q4 (S&P 500 +7.6%), helping to dampen the index's worst annual performance since 2008 (-18.1% loss in 2022). Domestic shares were negatively impacted by higher interest rates and growing recession fears due to tightening from the Federal Reserve. While performance over the quarter was positive, U.S. equities trailed emerging market and international developed equities.

Earnings in the third quarter grew 2.4% from the year prior, marking the slowest rate of growth since Q3 2020. Energy dominated the narrative,

as earnings grew an incredible 137% from the previous year. U.S. energy companies experienced margin expansion due to materially higher commodity prices, specifically within oil and natural gas. Per FactSet, earnings are projected to decline by -4.1% in Q4, which would mark the first decline in U.S. earnings since 2020. A potential recession could pose challenges for the earnings outlook.

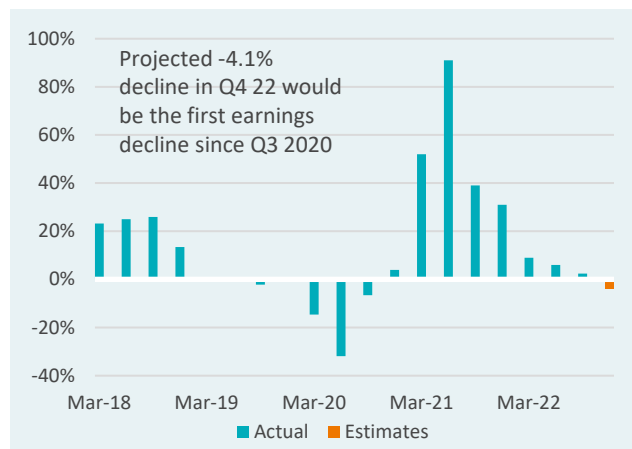
Energy dominated sector performance in the quarter (+22.8), leading the positive performance seen in most sectors, while telecommunications (-1.4%) and consumer discretionary (-10.2%) saw negative returns.

**S&P 500 PRICE INDEX**



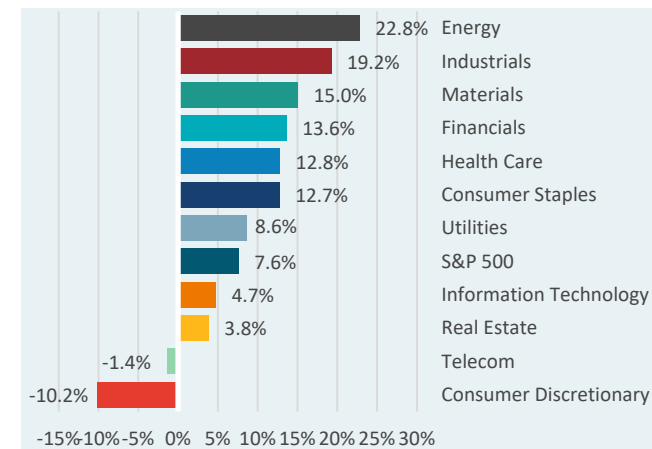
Source: Standard & Poor's, as of 12/31/22

**S&P 500 EARNINGS GROWTH (YEAR-OVER-YEAR)**



Source: FactSet, as of 12/31/22

**Q4 SECTOR PERFORMANCE**



Source: Morningstar, as of 12/31/22



# Domestic equity size & style

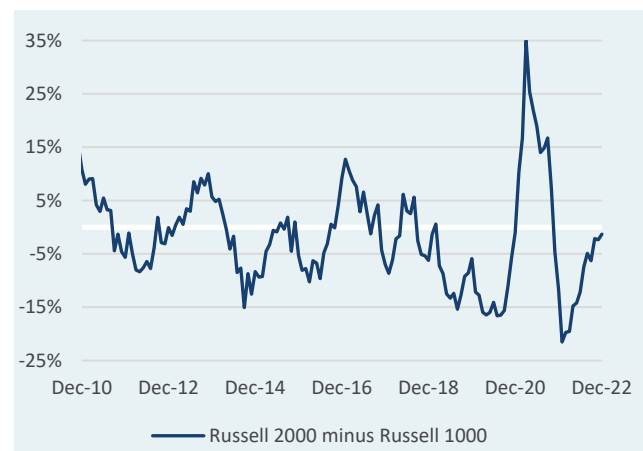
Value stocks outpaced growth stocks by 10.2% in Q4 and by 21.6% for the year. Energy, industrials, and materials —sectors which are heavily tilted toward value—showed strong returns, with the energy sector ending the year up 64.6%.

Markets adjusted to Federal Reserve rate hikes in the fourth quarter and throughout the year. Profitless and high-growth companies suffered the most as investors favored higher yielding fixed income and preferred stocks with strong fundamentals.

Small capitalization stocks underperformed large capitalization stocks (Russell 2000 +6.2%, Russell 1000 +7.2%), and remain relatively rich in valuations despite recent performance pain.

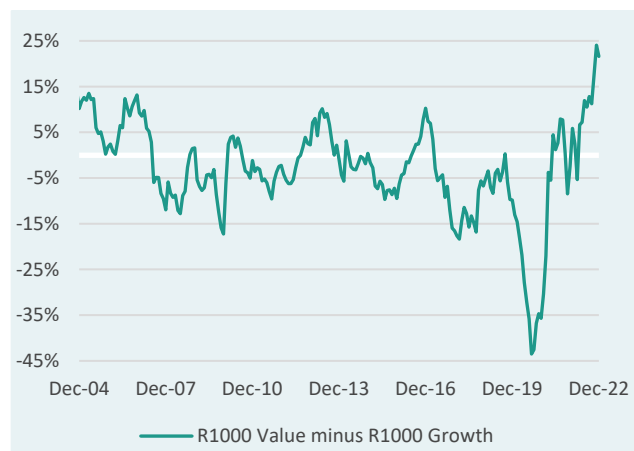
Domestic equities made a modest recovery in Q4 as inflation appears to have peaked and the end of the Fed’s hiking cycle is in sight. These dynamics will likely help determine the relative performance of style factors in the near-term.

**SMALL CAP VS LARGE CAP (YOY)**



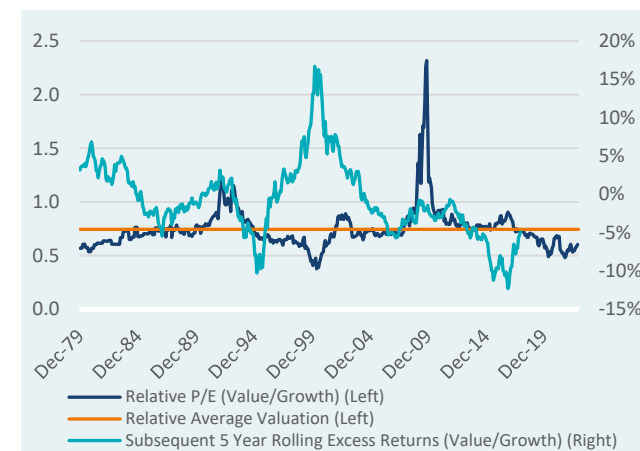
Source: FTSE, as of 12/31/22

**VALUE VS GROWTH (YOY)**



Source: FTSE, as of 12/31/22

**VALUE VS. GROWTH RELATIVE VALUATIONS**



Source: FTSE, Bloomberg, as of 12/31/22

# International developed equity

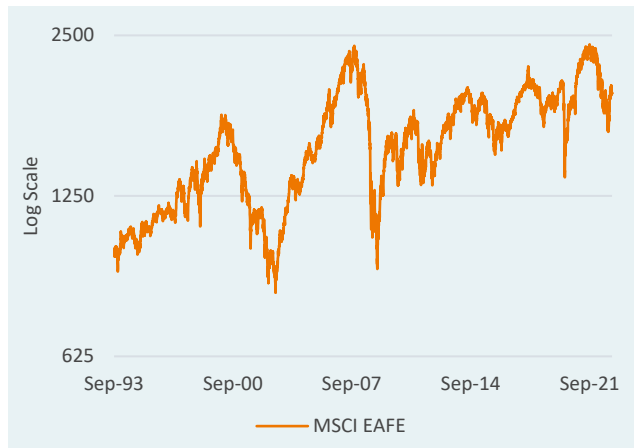
International developed equities rallied significantly in the fourth quarter, driven by strong gains from Eurozone equities and favorable currency movements. The MSCI EAFE Index finished the quarter up 17.3% on an unhedged currency basis, handily outperforming emerging market and U.S. equities.

A bounce back from European shares helped drive the double-digit returns seen from the MSCI EAFE Index. Investors showed preference towards larger names, as the EURO STOXX 50—a gauge of the largest companies in the

Eurozone—rose 24.8%, outpacing the 19.7% gain from the broader EURO STOXX 600 Index. Both indices were trading at 2022 lows at the start of the fourth quarter.

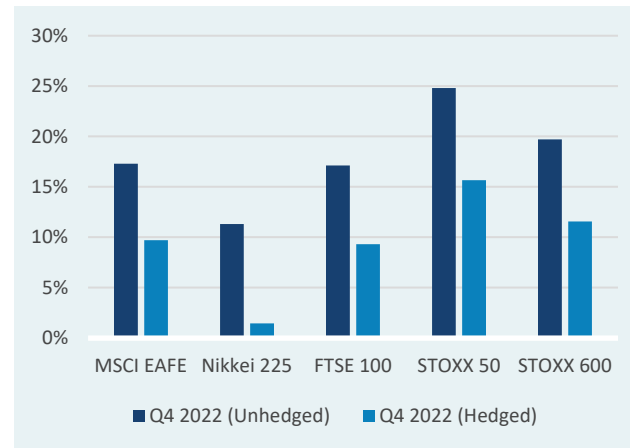
Currency movements played a large role in unhedged Eurozone performance and also boosted the unhedged returns of Japan and the United Kingdom. The U.S. dollar sharply pivoted on market views that the Federal Reserve may follow a shorter tightening cycle. As a result, exchange rates for the Euro, Pound, and Yen appreciated relative to the greenback.

## INTERNATIONAL DEVELOPED EQUITY



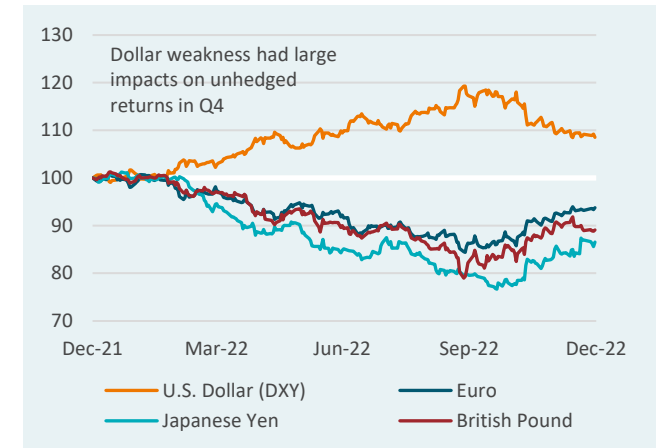
Source: MSCI, as of 12/31/22

## Q4 2022 REGIONAL INDEX RETURNS



Source: MSCI, STOXX, FTSE, Nikkei, as of 12/31/22

## 2022 CURRENCY MOVEMENTS (BASE OF 100)



Source: Bloomberg, as of 12/31/22

# Emerging market equity

Emerging market equities advanced alongside global equities as the MSCI EM Index finished the quarter up 9.7%. Performance was volatile over the quarter, as losses in October were pared by a 13.2% rally over November and December. Despite the rally to close out the year, the index still ended down -20.1%, underperforming both international developed and U.S. equity benchmarks.

Returns in the fourth quarter were driven by gains in Chinese equities, which jumped following a rapid pivot away from the Chinese Communist Party's "Zero Covid" policy. While

Chinese shares still dominate the index (around 30%), strong performance from countries with smaller weights also played a large role.

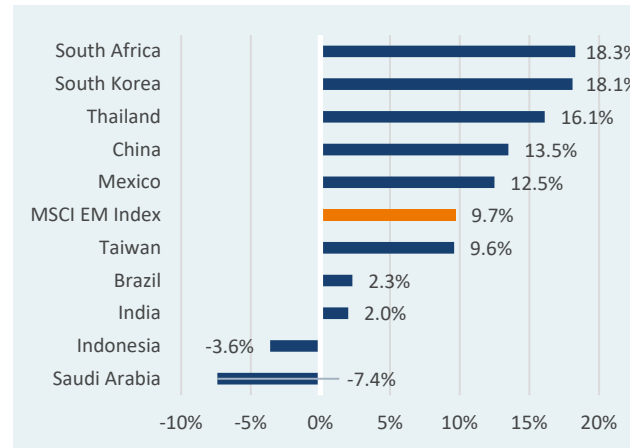
Indian shares, which hold the second largest weight in the index, acted as a drag on returns during the quarter but still ended in positive territory. Despite a modest 2.0% quarterly gain, the Indian market was one of the best performers of 2022, finishing the year down -8.0%. This compared to double-digit losses from other regional indices.

## EMERGING MARKET EQUITY



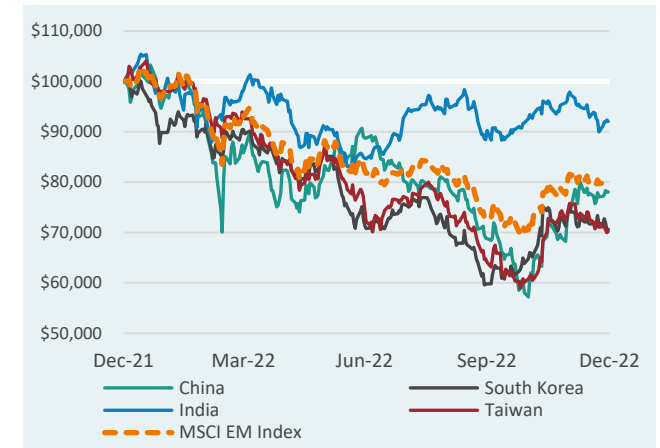
Source: MSCI, as of 12/31/22

## Q4 2022 MSCI COUNTRY RETURNS (USD)



Source: Bloomberg, MSCI, as of 12/31/22

## GROWTH OF \$100K IN 2022 (EM WEIGHTS >10%)



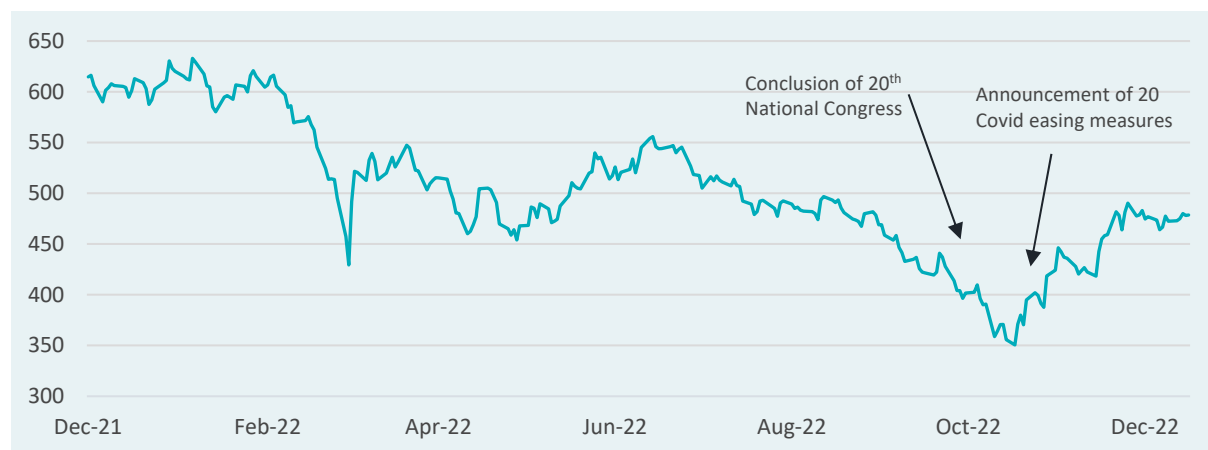
Source: Bloomberg, MSCI, as of 12/31/22 - performance in USD

# Recent developments in China

China has continued to make global headlines, though two stories seemed to dominate the narrative. First, the 20<sup>th</sup> National Congress of the Chinese Communist Party (CCP) resulted in greater concentration of power and an unprecedented third-term for CCP General Secretary Xi Jinping. Second, China communicated a sharp reversal of its “Zero Covid” policy, as the government swiftly reopened major cities from stringent lockdowns, which has contributed to a new wave of COVID-19 cases.

Chinese equity markets dropped sharply following the 20<sup>th</sup> National Congress, but quickly reversed course following a string of economic reopening announcements. Markets moved even higher during the latter half of the quarter, fueled by the reopening story and prospects for easier monetary and fiscal policy relative to the rest of the world. While the reopening of the world’s largest economy presents a tailwind to economic growth, concerns remain around the timeline of recovery, the net impact of eased supply chains and increased global demand, as well as the new concentration of power within the government.

## MSCI CHINA INDEX (USD)



Source: Bloomberg, as of 12/31/22

## CHINESE LEADERSHIP SINCE MAO ZEDONG

| Leader      | Electing Central Committee |
|-------------|----------------------------|
| Mao Zedong  | 6th (1928 - 1945)          |
|             | 7th                        |
|             | 8th                        |
|             | 9th                        |
|             | 10th (1973 - 1977)         |
| Hua Guofeng | 11th (1977 - 1982)         |
| Hu Yaobang  | 11th (1977 - 1982)         |
|             | 12th (1982 - 1987)         |
| Zhao Ziyang | 12th (1982 - 1987)         |
|             | 13th (1987 - 1992)         |
| Jiang Zemin | 13th (1987 - 1992)*        |
|             | 14th (1992 - 1997)         |
|             | 15th (1997 - 2002)         |
| Hu Jintao   | 16th (2002 - 2007)         |
|             | 17th (2007 - 2012)         |
| Xi Jinping  | 18th (2012 - 2017)         |
|             | 19th (2017 - 2022)         |
|             | 20th (2022 - 2027)         |

\*Replaced Zhao Ziyang mid-term in 1989

First third-term election since Mao Zedong

# Equity valuations

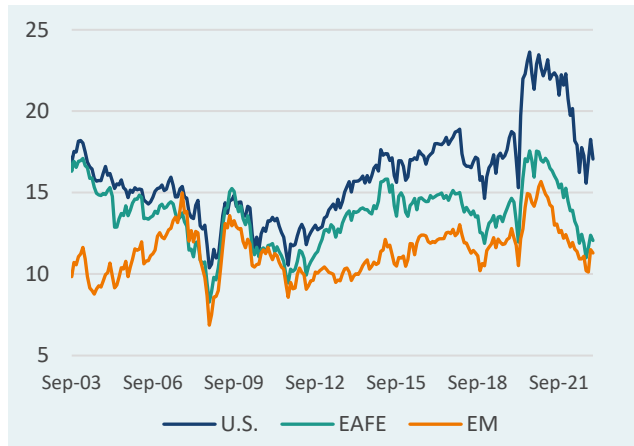
Many markets now trade at valuation levels near their historical average as inflation and rising interest rates have brought prices down. The S&P 500 forward P/E ratio of 17.1 is below the five- and ten-year averages of 18.6 and 20.2, respectively. The Federal Reserve remains in focus for U.S. investors as valuations over the past decade have been lifted by low interest rates. International equity valuations are depressed but may be further challenged by inflation and recession. Emerging market equities appear to be poised for a strong recovery, given a more positive growth outlook, and

as China's reopening could improve fundamentals and bring the asset class back into favor.

International developed equities remain inexpensive relative to U.S. equities, but developed markets face significant long-term headwinds. In Q4, gains in the Euro and Yen and an easing energy crisis boosted international developed equity returns, but high inflation, high debt and low growth in Japan, poor demographics, and a hawkish ECB make for a challenged long-term outlook.

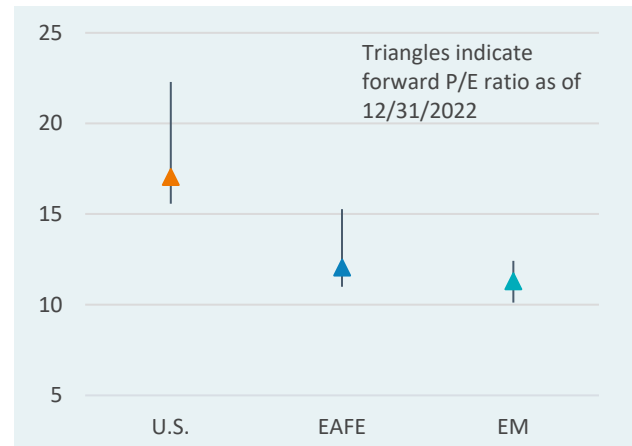
International developed equities remain extremely cheap relative to U.S. markets

**FORWARD P/E RATIOS**



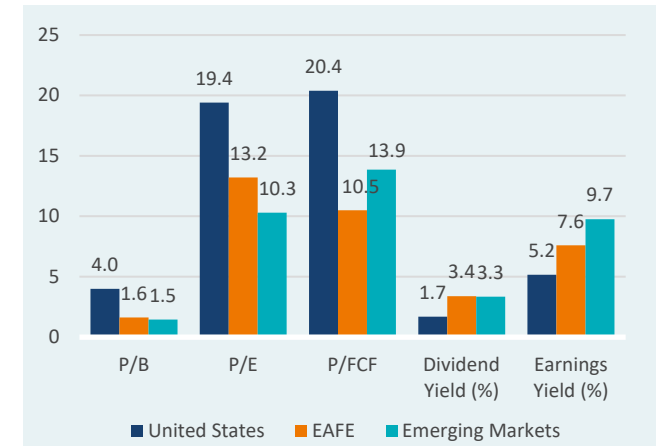
Source: MSCI, 12m forward P/E, as of 12/31/22

**FORWARD P/E RATIO RANGES (DURING 2022)**



Source: MSCI, 12m forward P/E, as of 12/31/22

**VALUATION METRICS (3-MONTH AVERAGE)**



Source: Bloomberg, MSCI, as of 12/31/22 - trailing P/E

# Equity volatility

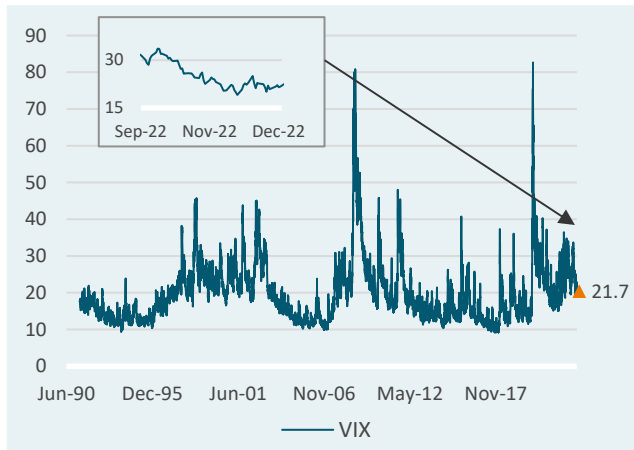
Implied volatility fell significantly over the quarter. The Cboe VIX Index moved from 31.6 to 21.7. Equity markets advanced on cooling inflation, potential for less aggressive central bank action, and perhaps optimism around China’s reopening.

In contrast, realized volatility increased from the prior quarter. Volatility rose across S&P 500, MSCI EAFE, and MSCI EM Indices. Realized volatility in the domestic market remained the highest—a trend consistent with last quarter—as markets swung around inflation prints, two Federal

Reserve interest rate decisions, and growing concerns over a potential 2023 recession.

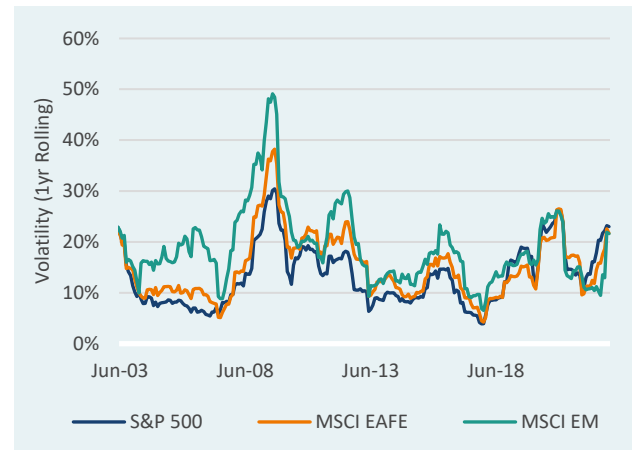
Historically speaking, the S&P 500 delivered exceptionally poor performance in line with some of the worst of the index’s history. Looking all the way back to 1929, this year was the seventh worst in the index’s history and the worst calendar year performance since 2008.

**U.S. IMPLIED VOLATILITY (VIX)**



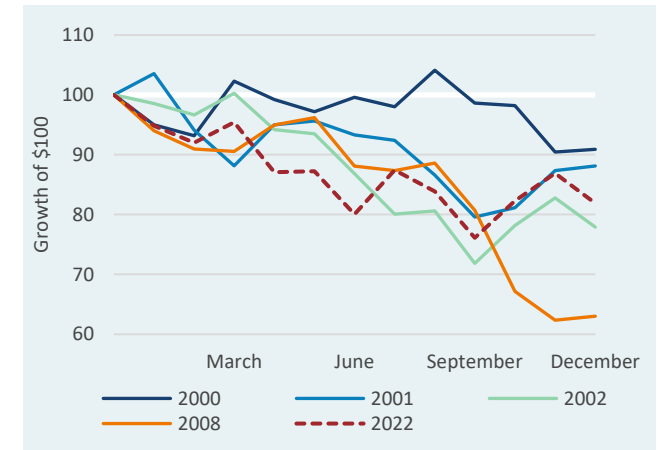
Source: Cboe, as of 12/31/22

**REALIZED VOLATILITY**



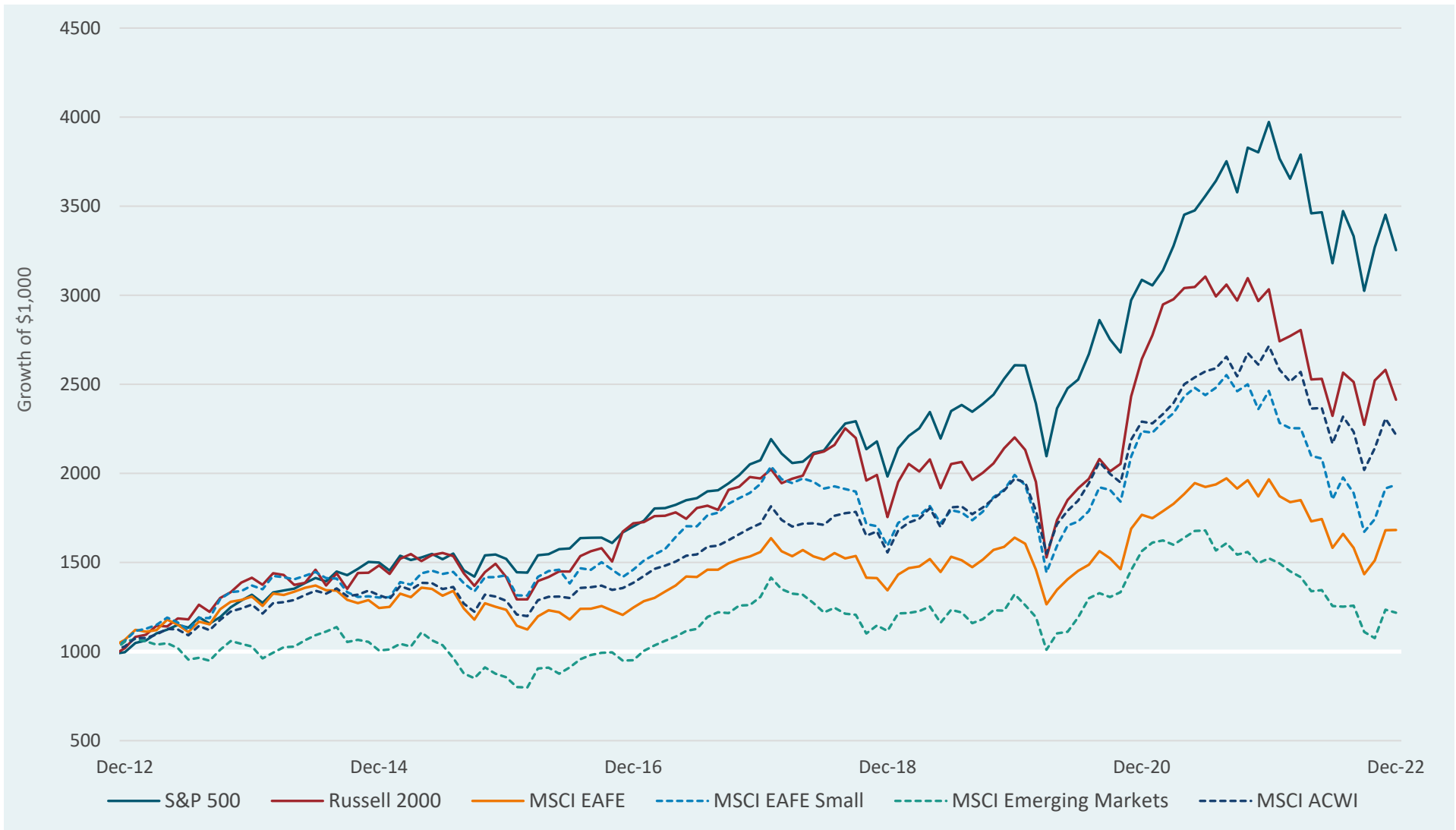
Source: S&P, MSCI, as of 12/31/22

**S&P 500 FIVE WORST YEARS SINCE 1988**



Source: S&P, Bloomberg, as of 12/31/22 – since 1988

# Long-term equity performance



Source: MPI, as of 12/31/22



# Other assets

# Currency

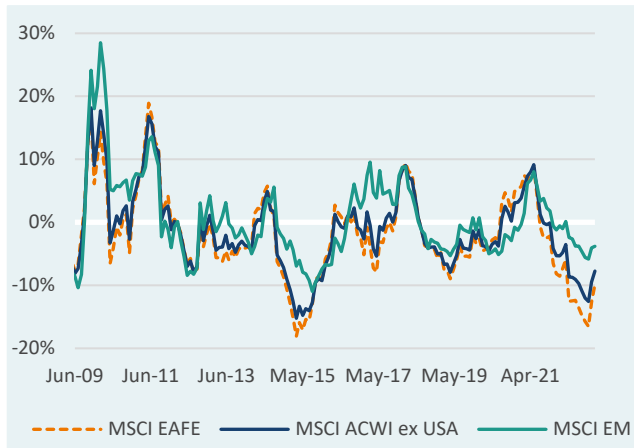
Currency volatility has translated to much higher portfolio volatility for investors with unhedged exposure to foreign currencies. The U.S. dollar depreciated relative to major currencies during the fourth quarter which resulted in large gains for investors with unhedged foreign currency exposure. These currency gains amounted to 7.6% for investors with unhedged exposure to the MSCI EAFE Index (+17.3% MSCI EAFE unhedged, +9.7% MSCI EAFE hedged).

U.S. dollar strength of 2022 was reversed in Q4 as markets began pricing in a shorter Federal Reserve tightening cycle. Expectations for lower rates in the U.S., combined with an ongoing struggle to control high inflation (and therefore tighter financial policies from respective central banks)

within developed economies, likely played a major role in the U.S. dollar sell-off.

Despite currency gains seen this quarter, we believe that a thoughtful currency program may allow an investor to reduce their total portfolio risk while also increasing long-term expected returns. The MSCI Currency Factor Mix Index—a representation of a passive investment in the currency market—has shown a positive one-year rolling return over most periods with very low volatility. This contrasts to the unhedged currency exposure (what we refer to as “embedded currency”) that most investors own, which has shown high volatility and frequent losses.

**EFFECT OF CURRENCY (1-YEAR ROLLING)**



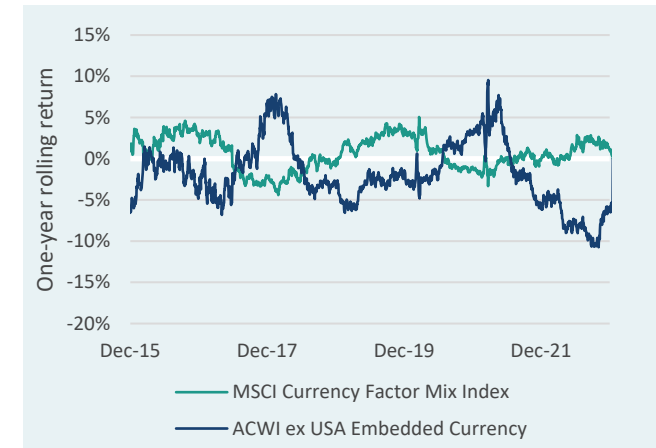
Source: MSCI, as of 12/31/22

**BLOOMBERG DOLLAR SPOT INDEX**



Source: Bloomberg, as of 12/31/22

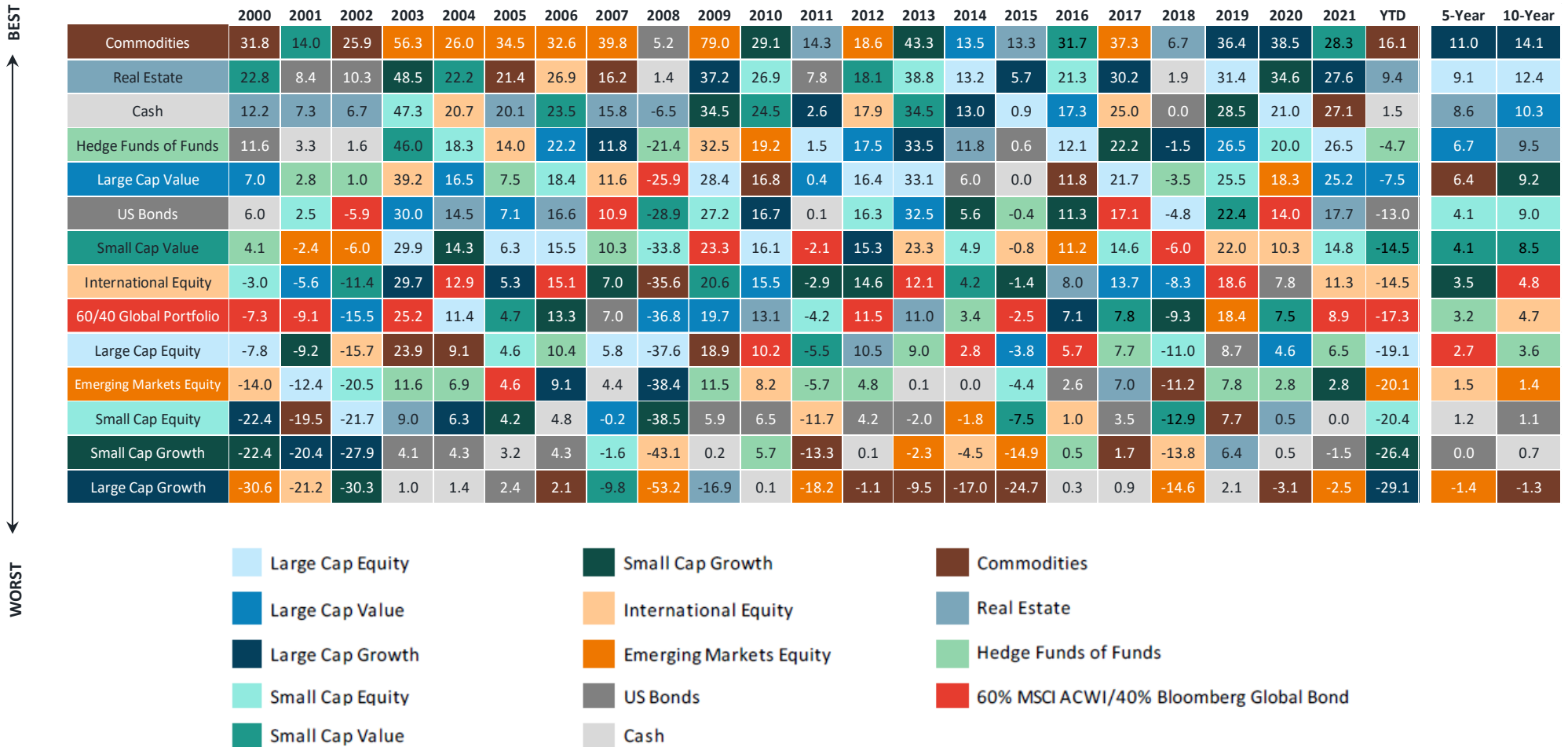
**EMBEDDED CURRENCY VS CURRENCY FACTORS**



Source: Bloomberg, as of 12/31/22

# Appendix

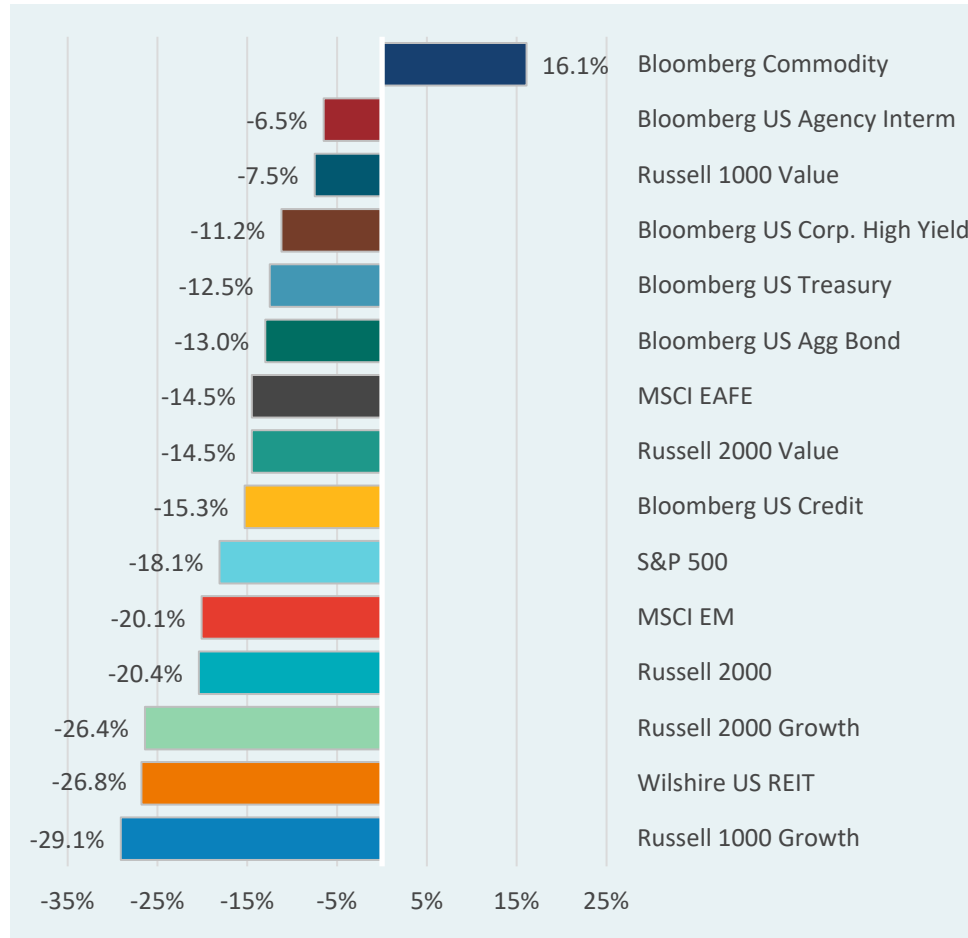
# Periodic table of returns



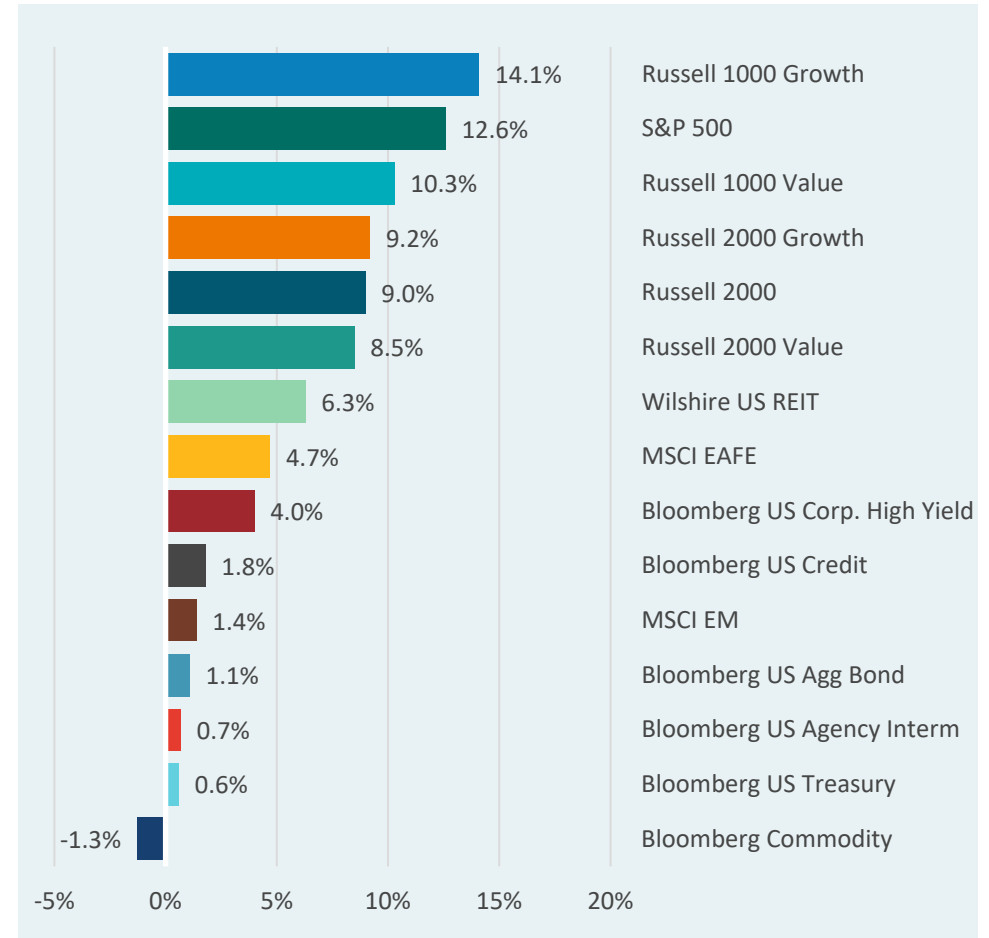
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond as of 12/31/22. NCREIF Property Index performance data as of 9/30/22.

# Major asset class returns

ONE YEAR ENDING DECEMBER



TEN YEARS ENDING DECEMBER



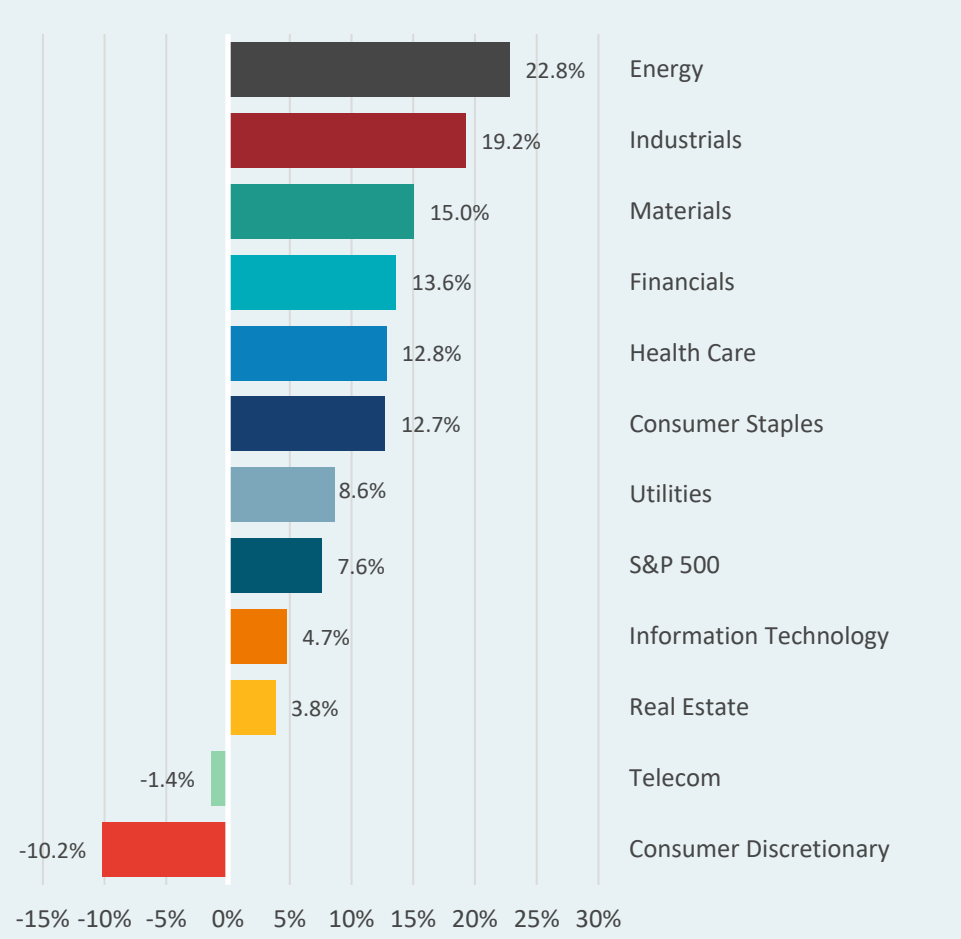
\*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 12/31/22

Source: Morningstar, as of 12/31/22

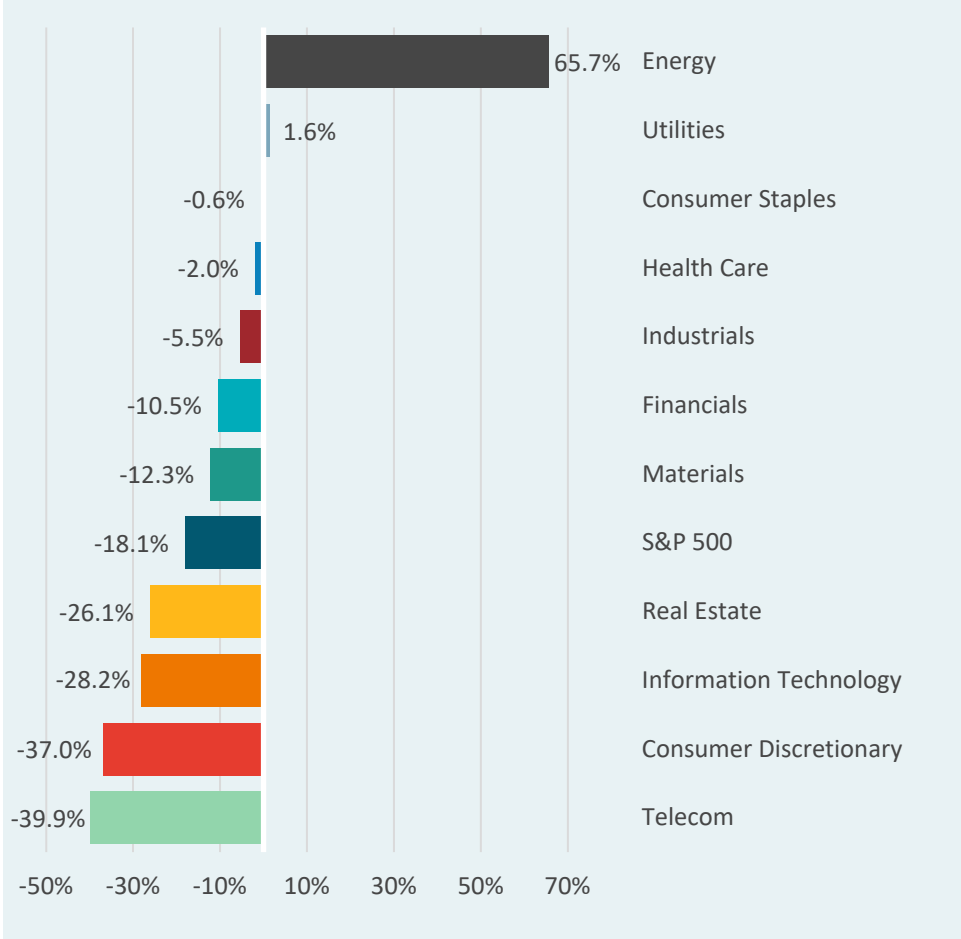
# S&P 500 sector returns

QTD



Source: Morningstar, as of 12/31/22

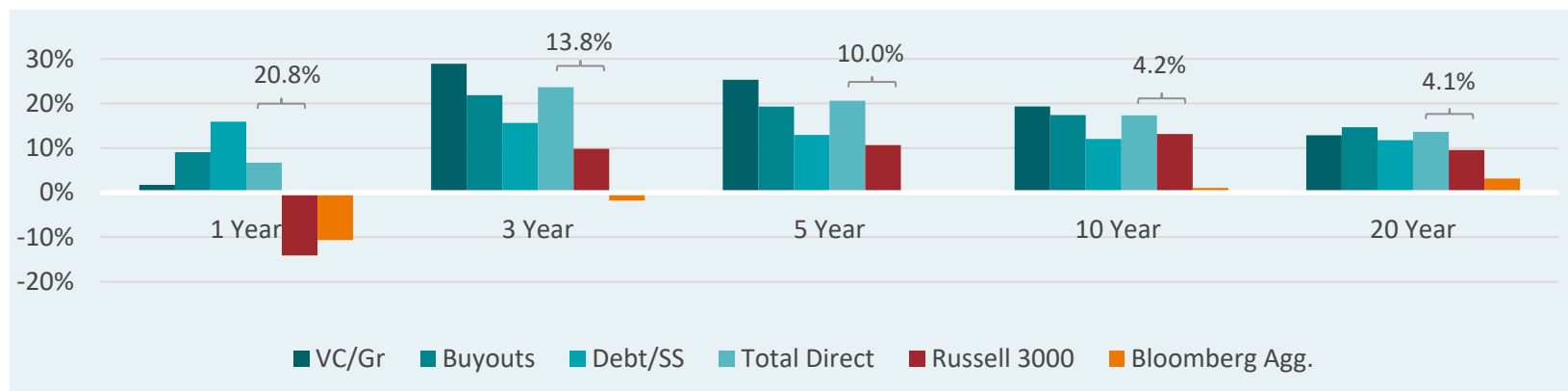
ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/22

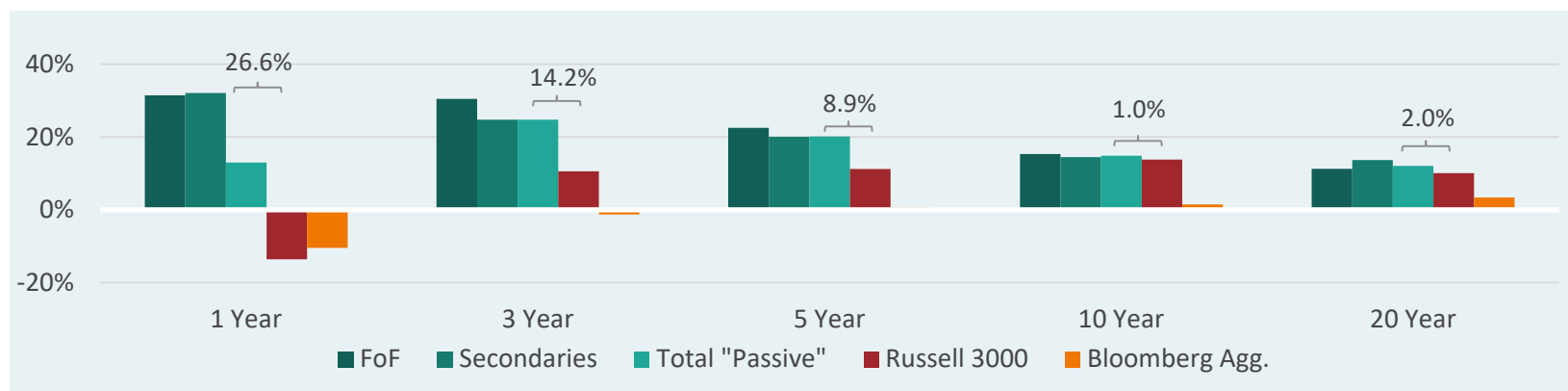
# Private equity vs. traditional assets performance

## DIRECT PRIVATE EQUITY FUND INVESTMENTS



Direct P.E Fund Investments outperformed over all time periods, though elevated short-term outperformance may be transitory due to appraisal lags

## "PASSIVE" STRATEGIES



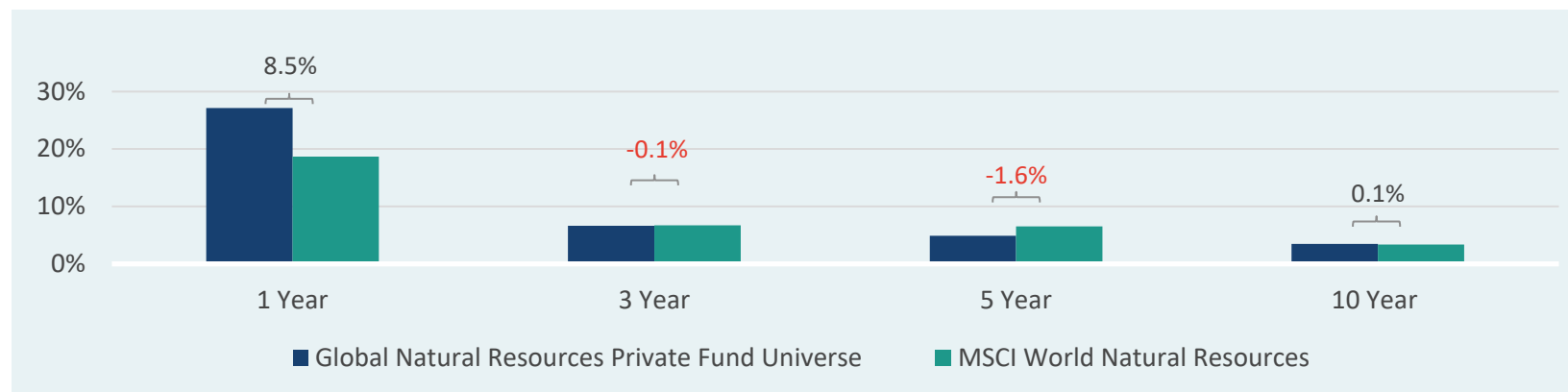
"Passive" strategies outperformed over all periods

Sources: Refinitiv PME: U.S. Private Equity Funds sub asset classes as of June 30, 2022. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.



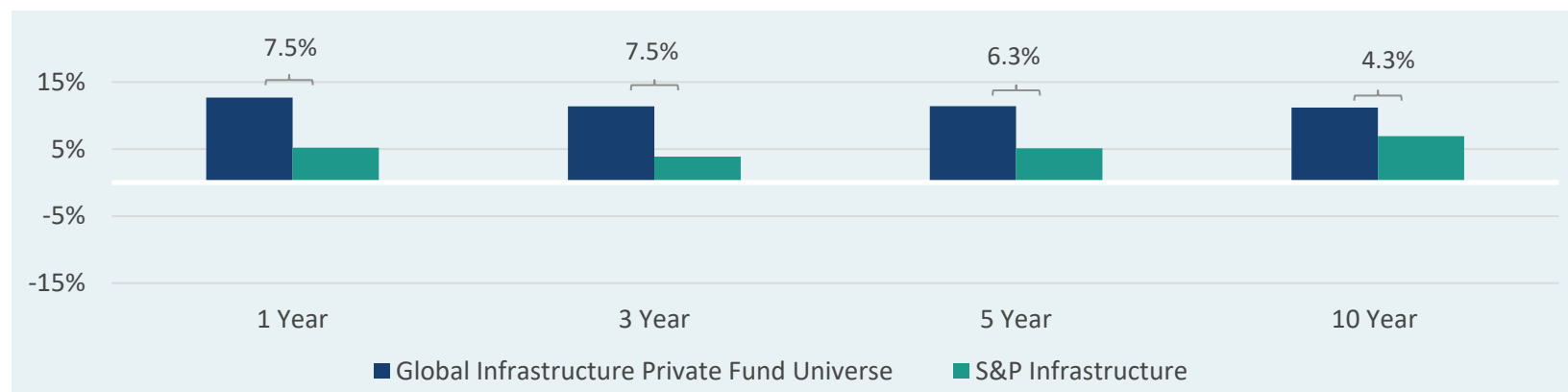
# Private vs. liquid real assets performance

## GLOBAL NATURAL RESOURCES FUNDS



N.R. funds outperformed the MSCI World Natural Resources benchmark across 1- and 10-year periods

## GLOBAL INFRASTRUCTURE FUNDS

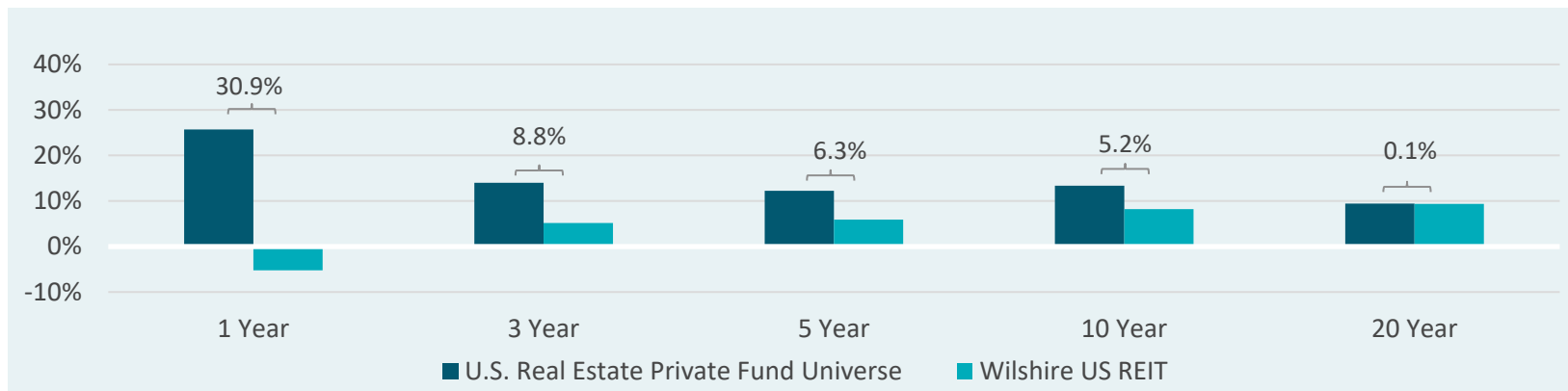


Infra. funds outperformed the S&P Infra. across all periods

Sources: Refinitiv PME: Global Natural Resources (vintage 1999 and later, inception of MSCI World Natural Resources benchmark) and Global Infrastructure (vintage 2002 and later, inception of S&P Infrastructure benchmark) universes as of June 30, 2022. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

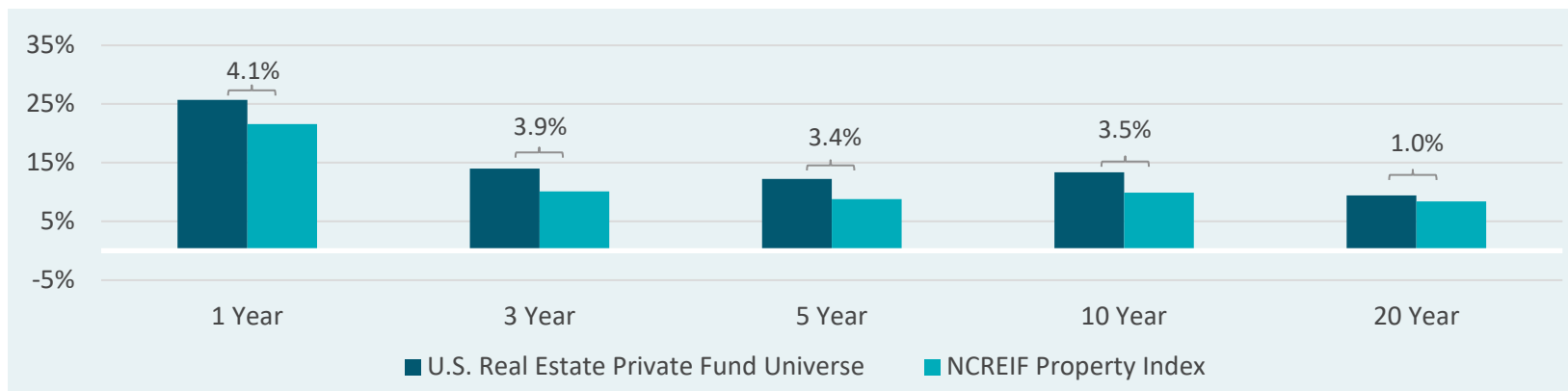
# Private vs. liquid and core real estate performance

## U.S. PRIVATE REAL ESTATE FUNDS VS. LIQUID UNIVERSE



U.S. Private R.E. funds outperformed the Wilshire U.S. REIT Index across all time periods, though short-term outperformance may be transitory due to appraisal lags

## U.S. PRIVATE REAL ESTATE FUNDS VS. CORE FUNDS



U.S. Private R.E. Funds outperformed across all periods

Sources: Refinitiv PME: U.S. Real Estate universes as of June 30, 2022. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real estate universes.

# Detailed index returns

## DOMESTIC EQUITY

|                        | Month | QTD  | YTD    | 1 Year | 3 Year | 5 Year | 10 Year |
|------------------------|-------|------|--------|--------|--------|--------|---------|
| <b>Core Index</b>      |       |      |        |        |        |        |         |
| S&P 500                | (5.8) | 7.6  | (18.1) | (18.1) | 7.7    | 9.4    | 12.6    |
| S&P 500 Equal Weighted | (4.7) | 11.6 | (11.4) | (11.4) | 9.0    | 9.1    | 12.4    |
| DJ Industrial Average  | (4.1) | 16.0 | (6.9)  | (6.9)  | 7.3    | 8.4    | 12.3    |
| Russell Top 200        | (6.0) | 6.6  | (19.8) | (19.8) | 7.9    | 9.9    | 12.9    |
| Russell 1000           | (5.8) | 7.2  | (19.1) | (19.1) | 7.3    | 9.1    | 12.4    |
| Russell 2000           | (6.5) | 6.2  | (20.4) | (20.4) | 3.1    | 4.1    | 9.0     |
| Russell 3000           | (5.9) | 7.2  | (19.2) | (19.2) | 7.1    | 8.8    | 12.1    |
| Russell Mid Cap        | (5.4) | 9.2  | (17.3) | (17.3) | 5.9    | 7.1    | 11.0    |
| <b>Style Index</b>     |       |      |        |        |        |        |         |
| Russell 1000 Growth    | (7.7) | 2.2  | (29.1) | (29.1) | 7.8    | 11.0   | 14.1    |
| Russell 1000 Value     | (4.0) | 12.4 | (7.5)  | (7.5)  | 6.0    | 6.7    | 10.3    |
| Russell 2000 Growth    | (6.4) | 4.1  | (26.4) | (26.4) | 0.6    | 3.5    | 9.2     |
| Russell 2000 Value     | (6.6) | 8.4  | (14.5) | (14.5) | 4.7    | 4.1    | 8.5     |

## INTERNATIONAL EQUITY

|                        | Month | QTD  | YTD    | 1 Year | 3 Year | 5 Year | 10 Year |
|------------------------|-------|------|--------|--------|--------|--------|---------|
| <b>Broad Index</b>     |       |      |        |        |        |        |         |
| MSCI ACWI              | (3.9) | 9.8  | (18.4) | (18.4) | 4.0    | 5.2    | 8.0     |
| MSCI ACWI ex US        | (0.7) | 14.3 | (16.0) | (16.0) | 0.1    | 0.9    | 3.8     |
| MSCI EAFE              | 0.1   | 17.3 | (14.5) | (14.5) | 0.9    | 1.5    | 4.7     |
| MSCI EM                | (1.4) | 9.7  | (20.1) | (20.1) | (2.7)  | (1.4)  | 1.4     |
| MSCI EAFE Small Cap    | 1.1   | 15.8 | (21.4) | (21.4) | (0.9)  | (0.0)  | 6.2     |
| <b>Style Index</b>     |       |      |        |        |        |        |         |
| MSCI EAFE Growth       | (1.1) | 15.0 | (22.9) | (22.9) | 0.5    | 2.5    | 5.6     |
| MSCI EAFE Value        | 1.3   | 19.6 | (5.6)  | (5.6)  | 0.6    | 0.2    | 3.5     |
| <b>Regional Index</b>  |       |      |        |        |        |        |         |
| MSCI UK                | (0.4) | 17.0 | (4.8)  | (4.8)  | 0.3    | 1.0    | 3.1     |
| MSCI Japan             | 0.3   | 13.2 | (16.6) | (16.6) | (1.0)  | 0.2    | 5.6     |
| MSCI Euro              | (0.5) | 23.0 | (17.2) | (17.2) | 0.5    | 0.8    | 4.3     |
| MSCI EM Asia           | (0.8) | 10.8 | (21.1) | (21.1) | (1.3)  | (0.6)  | 3.6     |
| MSCI EM Latin American | (4.0) | 5.7  | 8.9    | 8.9    | (4.8)  | (1.1)  | (2.1)   |

## FIXED INCOME

|                               | Month | QTD   | YTD    | 1 Year | 3 Year | 5 Year | 10 Year |
|-------------------------------|-------|-------|--------|--------|--------|--------|---------|
| <b>Broad Index</b>            |       |       |        |        |        |        |         |
| Bloomberg US TIPS             | (1.0) | 2.0   | (11.8) | (11.8) | 1.2    | 2.1    | 1.1     |
| Bloomberg US Treasury Bills   | 0.4   | 0.9   | 1.3    | 1.3    | 0.7    | 1.2    | 0.8     |
| Bloomberg US Agg Bond         | (0.5) | 1.9   | (13.0) | (13.0) | (2.7)  | 0.0    | 1.1     |
| Bloomberg US Universal        | (0.3) | 2.2   | (13.0) | (13.0) | (2.5)  | 0.2    | 1.3     |
| <b>Duration</b>               |       |       |        |        |        |        |         |
| Bloomberg US Treasury 1-3 Yr  | 0.2   | 0.7   | (3.8)  | (3.8)  | (0.5)  | 0.7    | 0.7     |
| Bloomberg US Treasury Long    | (1.7) | (0.6) | (29.3) | (29.3) | (7.4)  | (2.2)  | 0.6     |
| Bloomberg US Treasury         | (0.5) | 0.7   | (12.5) | (12.5) | (2.6)  | (0.1)  | 0.6     |
| <b>Issuer</b>                 |       |       |        |        |        |        |         |
| Bloomberg US MBS              | (0.4) | 2.1   | (11.8) | (11.8) | (3.2)  | (0.5)  | 0.7     |
| Bloomberg US Corp. High Yield | (0.6) | 4.2   | (11.2) | (11.2) | 0.0    | 2.3    | 4.0     |
| Bloomberg US Agency Interm    | 0.0   | 0.8   | (6.5)  | (6.5)  | (1.3)  | 0.4    | 0.7     |
| Bloomberg US Credit           | (0.4) | 3.4   | (15.3) | (15.3) | (2.9)  | 0.4    | 1.8     |

## OTHER

|                           | Month | QTD  | YTD    | 1 Year | 3 Year | 5 Year | 10 Year |
|---------------------------|-------|------|--------|--------|--------|--------|---------|
| <b>Index</b>              |       |      |        |        |        |        |         |
| Bloomberg Commodity       | (2.4) | 2.2  | 16.1   | 16.1   | 12.7   | 6.4    | (1.3)   |
| Wilshire US REIT          | (5.6) | 4.0  | (26.8) | (26.8) | (0.5)  | 3.4    | 6.3     |
| CS Leveraged Loans        | 0.4   | 2.3  | (1.1)  | (1.1)  | 2.3    | 3.2    | 3.8     |
| S&P Global Infrastructure | (2.2) | 11.0 | (0.2)  | (0.2)  | 1.7    | 3.9    | 6.5     |
| Alerian MLP               | (4.7) | 10.5 | 31.4   | 31.4   | 8.3    | 3.6    | 2.1     |
| <b>Regional Index</b>     |       |      |        |        |        |        |         |
| JPM EMBI Global Div       | 0.3   | 8.1  | (17.8) | (17.8) | (5.3)  | (1.3)  | 1.6     |
| JPM GBI-EM Global Div     | 2.2   | 8.5  | (11.7) | (11.7) | (6.1)  | (2.5)  | (2.0)   |
| <b>Hedge Funds</b>        |       |      |        |        |        |        |         |
| HFRI Composite            | (0.4) | 2.2  | (4.3)  | (4.3)  | 5.7    | 4.4    | 4.7     |
| HFRI FOF Composite        | 0.9   | 2.4  | (4.7)  | (4.7)  | 3.9    | 3.2    | 3.6     |
| <b>Currency (Spot)</b>    |       |      |        |        |        |        |         |
| Euro                      | 3.7   | 8.9  | (6.2)  | (6.2)  | (1.7)  | (2.3)  | (2.1)   |
| Pound Sterling            | 1.0   | 7.8  | (11.2) | (11.2) | (3.2)  | (2.3)  | (3.0)   |
| Yen                       | 5.8   | 9.7  | (12.7) | (12.7) | (6.3)  | (3.1)  | (4.1)   |

Source: Morningstar, HFRI, as of 12/31/22.

# Definitions

**Bloomberg US Weekly Consumer Comfort Index** - tracks the public's economic attitudes each week, providing a high-frequency read on consumer sentiment. The index, based on cell and landline telephone interviews with a random, representative national sample of U.S. adults, tracks Americans' ratings of the national economy, their personal finances and the buying climate on a weekly basis, with views of the economy's direction measured separately each month. ([www.lanqerresearch.com](http://www.lanqerresearch.com))

**University of Michigan Consumer Sentiment Index** - A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conditions conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. ([www.Bloomberg.com](http://www.Bloomberg.com))

**NFIB Small Business Outlook** - Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (<http://www.nfib-sbet.org/about/>)

**NAHB Housing Market Index** - the housing market index is a weighted average of separate diffusion indices for three key single-family indices: market conditions for the sale of new homes at the present time, market conditions for the sale of new homes in the next six months, and the traffic of prospective buyers of new homes. The first two series are rated on a scale of Good, Fair, and Poor and the last is rated on a scale of High/Very High, Average, and Low/Very Low. A diffusion index is calculated for each series by applying the formula  $(\text{Good-Poor} + 100)/2$  to the present and future sales series and  $(\text{High/Very High-Low/Very Low} + 100)/2$  to the traffic series. Each resulting index is then seasonally adjusted and weighted to produce the HMI. Based on this calculation, the HMI can range between 0 and 100.

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# Contra Costa County Employees' Retirement Association

Investment Performance Review  
Period Ending: December 31, 2022



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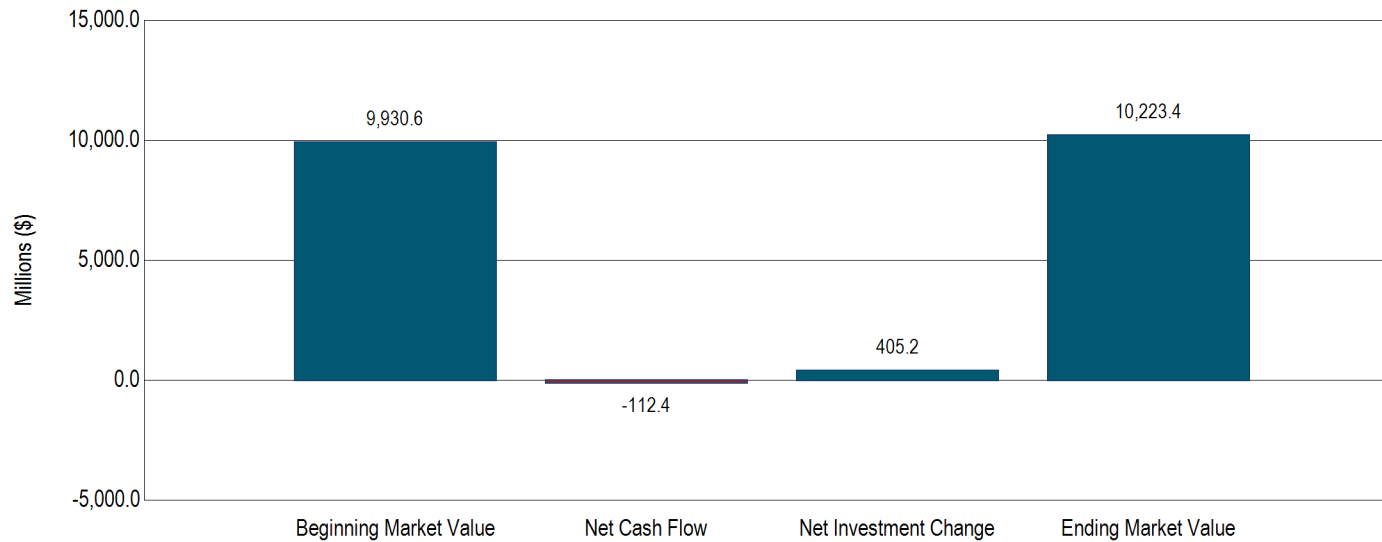
LOS ANGELES 310.297.1777

SAN FRANCISCO 415.362.3484

Portfolio Reconciliation

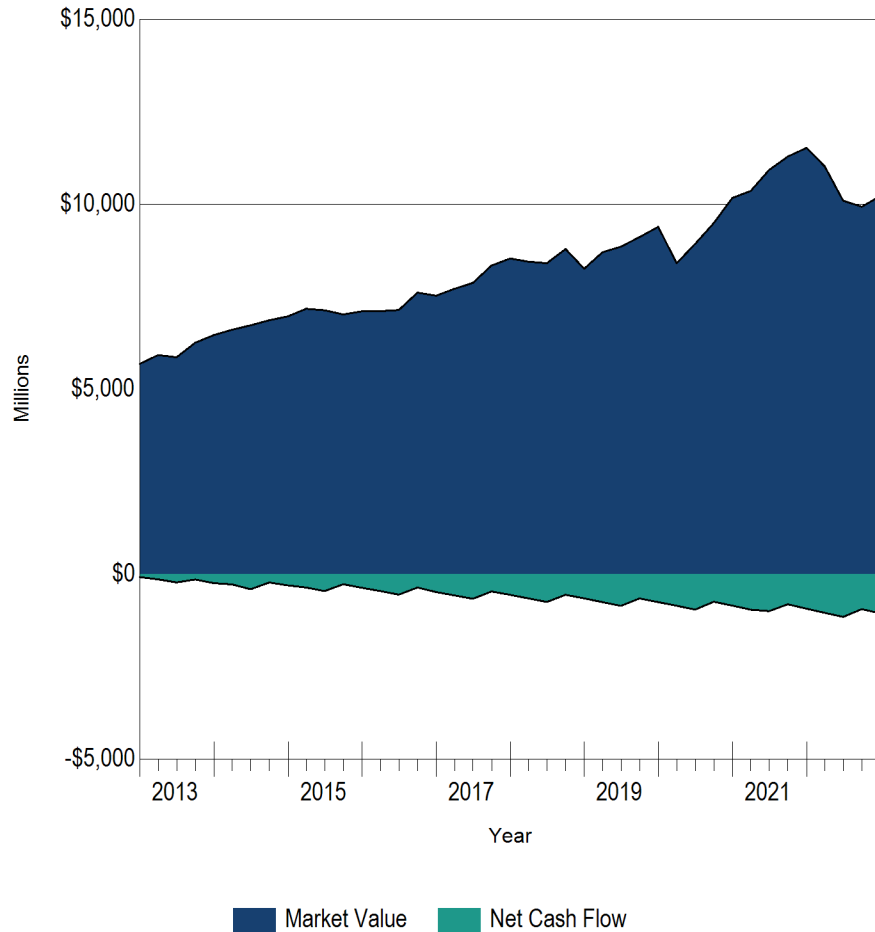
|                        | Last Three Months | Year-To-Date     |
|------------------------|-------------------|------------------|
| Beginning Market Value | \$9,930,641,665   | \$11,520,465,270 |
| Net Cash Flow          | -\$112,417,383    | -\$103,043,665   |
| Net Investment Change  | \$405,173,844     | -\$1,194,023,478 |
| Ending Market Value    | \$10,223,398,127  | \$10,223,398,127 |

Change in Market Value  
Last Three Months

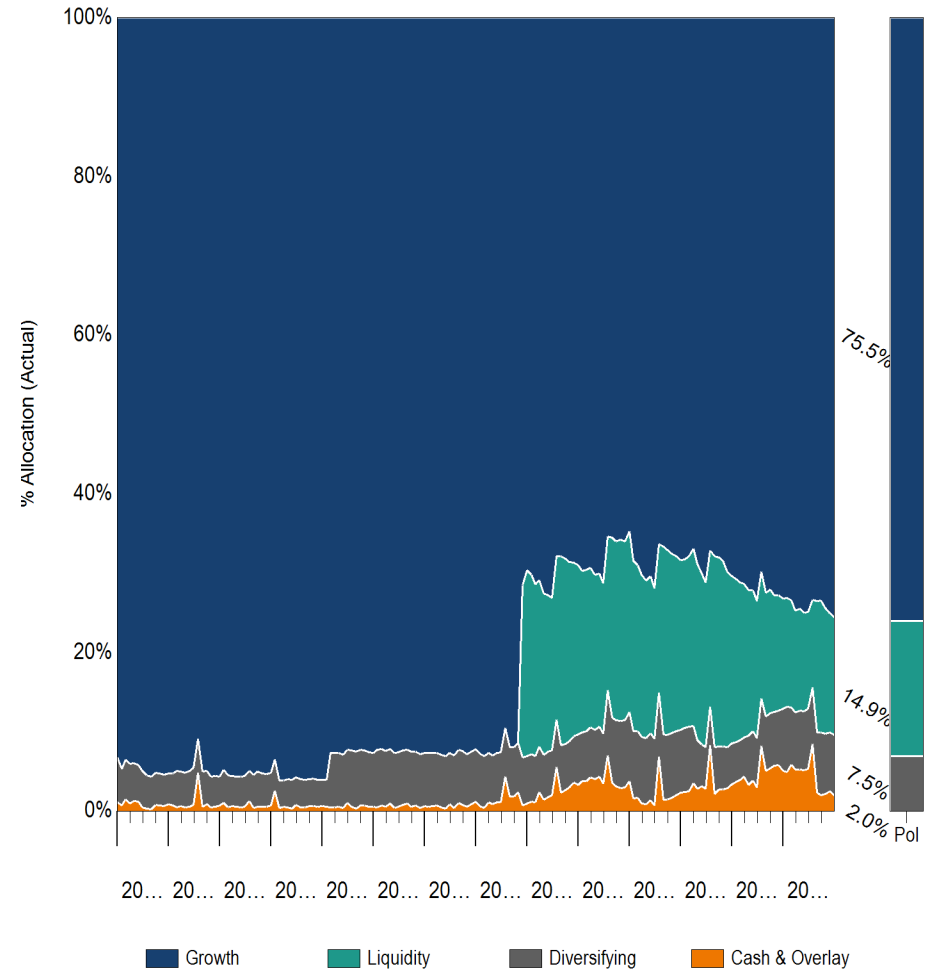


Contributions and withdrawals may include intra-account transfers between managers/funds.

Market Value History  
Cumulative Cash Flows



Asset Allocation History



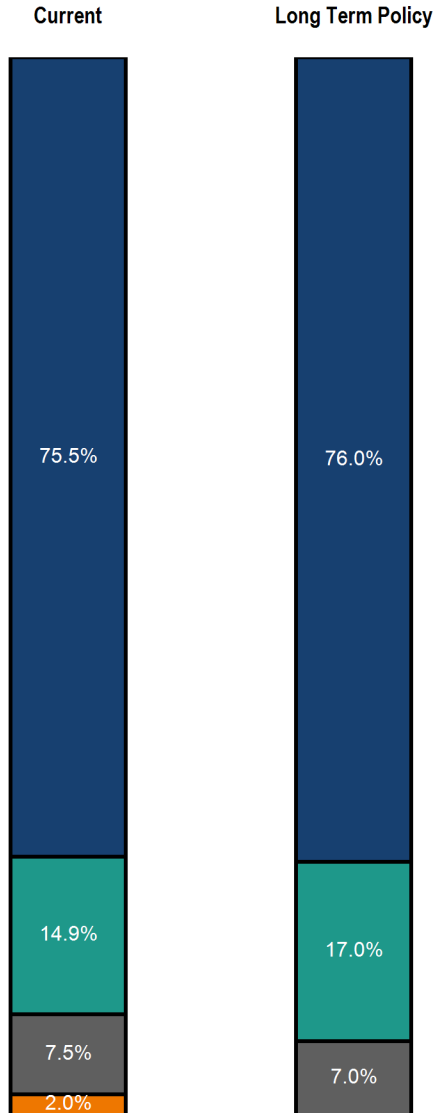
Policy reflects Long-Term Asset Allocation approved July 2022.



Total Fund

Asset Allocation vs. Long Term Target Policy

Period Ending: December 31, 2022



Allocation vs. Long Term Target

|                | Current Balance         | Current Allocation | Long Term Target | Difference     |
|----------------|-------------------------|--------------------|------------------|----------------|
| Growth         | \$7,722,293,524         | 75.5%              | 76.0%            | -\$47,334,018  |
| Liquidity      | \$1,524,746,733         | 14.9%              | 17.0%            | -\$213,196,269 |
| Diversifying   | \$769,903,968           | 7.5%               | 7.0%             | \$54,280,379   |
| Cash & Overlay | \$206,249,909           | 2.0%               | --               | \$206,249,909  |
| <b>Total</b>   | <b>\$10,223,194,134</b> | <b>100.0%</b>      | <b>100.0%</b>    |                |

Allocation vs. Current Targets

|                | Current Balance         | Current Allocation | Current Target | Difference     |
|----------------|-------------------------|--------------------|----------------|----------------|
| Growth         | \$7,722,293,524         | 75.5%              | 75.5%          | \$3,781,953    |
| Liquidity      | \$1,524,746,733         | 14.9%              | 17.0%          | -\$213,196,269 |
| Diversifying   | \$769,903,968           | 7.5%               | 7.5%           | \$3,164,408    |
| Cash & Overlay | \$206,249,909           | 2.0%               | --             | \$206,249,909  |
| <b>Total</b>   | <b>\$10,223,194,134</b> | <b>100.0%</b>      | <b>100.0%</b>  |                |

Current and Long-Term Policy Targets approved July 2022.

Total Fund  
Executive Summary (Net of Fees)

Period Ending: December 31, 2022

|                                     | % of Portfolio | QTD         | 1 Yr         | 3 Yrs       | 5 Yrs       | 10 Yrs     | 2022         | 2021        | 2020        | 2019        | 2018        |
|-------------------------------------|----------------|-------------|--------------|-------------|-------------|------------|--------------|-------------|-------------|-------------|-------------|
| <b>Total Fund</b>                   | <b>100.0</b>   | <b>4.1</b>  | <b>-10.6</b> | <b>3.6</b>  | <b>4.4</b>  | <b>6.7</b> | <b>-10.6</b> | <b>13.9</b> | <b>9.2</b>  | <b>14.6</b> | <b>-2.7</b> |
| Policy Index                        |                | 4.5         | -8.3         | 5.4         | 5.9         | 7.6        | -8.3         | 15.3        | 10.8        | 14.6        | -0.9        |
| Policy Index (Adjusted)             |                | 4.5         | -8.3         | 4.7         | 5.2         | 7.1        | -8.3         | 15.3        | 8.5         | 14.1        | -1.5        |
| <b>Growth</b>                       | <b>75.5</b>    | <b>5.2</b>  | <b>-11.6</b> | <b>5.7</b>  | <b>6.1</b>  | <b>8.3</b> | <b>-11.6</b> | <b>19.2</b> | <b>12.0</b> | <b>18.3</b> | <b>-3.9</b> |
| Custom Growth Benchmark             |                | 5.5         | -10.2        | 7.5         | 7.7         | 9.2        | -10.2        | 21.6        | 13.8        | 19.3        | -2.1        |
| <b>Diversifying</b>                 | <b>7.5</b>     | <b>-1.5</b> | <b>-5.7</b>  | <b>-2.0</b> | <b>-0.3</b> | <b>0.0</b> | <b>-5.7</b>  | <b>1.7</b>  | <b>-1.7</b> | <b>6.8</b>  | <b>-2.3</b> |
| Custom Diversifying Benchmark       |                | 2.1         | -5.4         | 0.2         | 1.6         | 2.3        | -5.4         | 1.6         | 4.7         | 6.1         | 1.4         |
| <b>Liquidity</b>                    | <b>14.9</b>    | <b>1.1</b>  | <b>-3.5</b>  | <b>-0.2</b> | <b>1.2</b>  | <b>--</b>  | <b>-3.5</b>  | <b>-0.3</b> | <b>3.4</b>  | <b>4.8</b>  | <b>1.7</b>  |
| Bloomberg US Govt/Credit 1-3 Yr. TR |                | 0.9         | -3.7         | -0.3        | 0.9         | --         | -3.7         | -0.5        | 3.3         | 4.0         | 1.6         |

\*Correlation between the Growth and Diversifying composites is .43, .65 and .55 over the previous 1, 3 and 5 year periods respectively.

Policy Index (7/1/2022-Present): 16% Russell 3000, 15% MSCI ACWI ex-US (Gross), 9% MSCI ACWI (Net), 1.5% ICE BofA High Yield Master II, 2% Wilshire REIT, 8% Private Real Estate composite returns, 13% Private Equity composite returns, 8% Private Credit composite returns, 17% Bloomberg 1-3 Yr Gov/Credit, 2.5% Bloomberg US Aggregate, 3% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate, 2.5% FTSE 3-month T-bill +5%, 2.5% Bloomberg US Aggregate TR +1%. Adjusted policy index reflects current approach to private markets throughout history.

Attribution Effects  
3 Months Ending December 31, 2022



Performance Attribution

|                      | Quarter       |
|----------------------|---------------|
| Wtd. Actual Return   | 3.93%         |
| Wtd. Index Return *  | 4.43%         |
| <b>Excess Return</b> | <b>-0.50%</b> |
| Selection Effect     | -0.46%        |
| Allocation Effect    | 0.00%         |
| Interaction Effect   | -0.04%        |

\*Calculated from benchmark returns and weightings of each component.

Attribution Summary  
Last Three Months

|              | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction Effects | Total Effects |
|--------------|--------------------|-------------------|---------------|------------------|-------------------|---------------------|---------------|
| Growth       | 5.2%               | 5.5%              | -0.3%         | -0.2%            | 0.0%              | 0.0%                | -0.3%         |
| Diversifying | -1.5%              | 2.1%              | -3.6%         | -0.3%            | 0.0%              | 0.0%                | -0.3%         |
| Liquidity    | 1.1%               | 0.9%              | 0.2%          | 0.0%             | 0.0%              | 0.0%                | 0.1%          |
| <b>Total</b> | <b>3.9%</b>        | <b>4.4%</b>       | <b>-0.5%</b>  | <b>-0.5%</b>     | <b>0.0%</b>       | <b>0.0%</b>         | <b>-0.5%</b>  |

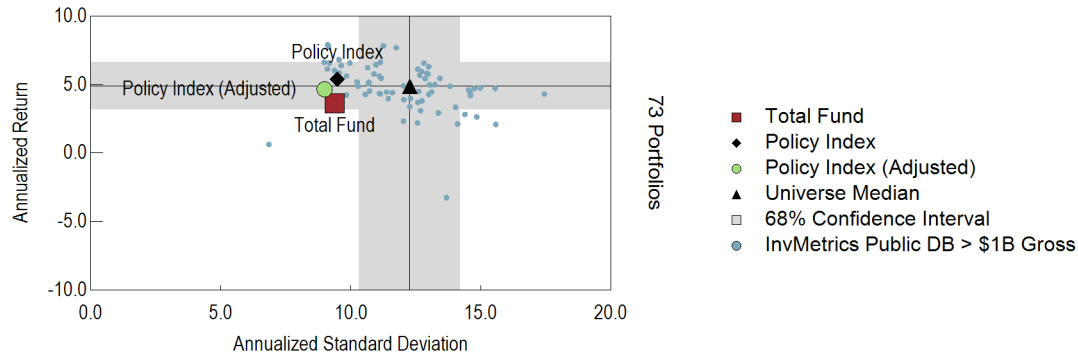
# Total Fund Executive Summary (Net of Fees)

Period Ending: December 31, 2022

## 3 Years

|            | Anlzd Return | Ann Excess BM Return | Anlzd Standard Deviation | Anlzd Alpha | Beta | Tracking Error | R-Squared | Sharpe Ratio | Information Ratio | Up Mkt Capture Ratio | Down Mkt Capture Ratio |
|------------|--------------|----------------------|--------------------------|-------------|------|----------------|-----------|--------------|-------------------|----------------------|------------------------|
| Total Fund | 3.62%        | -1.78%               | 9.38%                    | -1.60%      | 0.97 | 2.05%          | 0.95      | 0.32         | -0.87             | 93.69%               | 107.11%                |

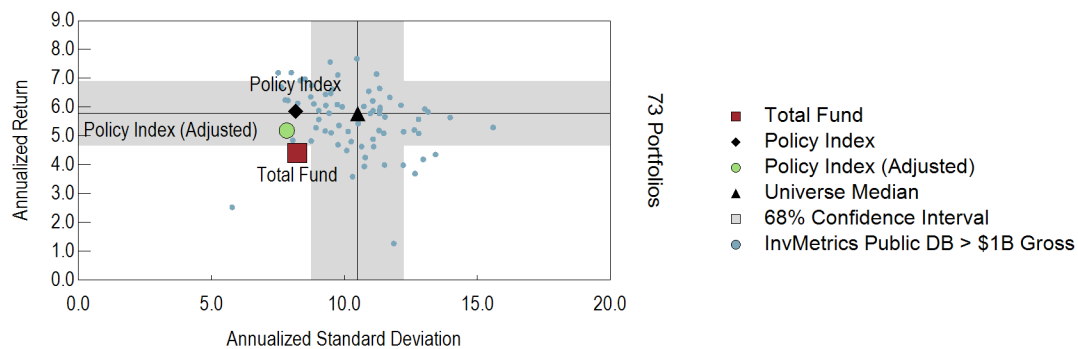
## Risk vs. Return



## 5 Years

|            | Anlzd Return | Ann Excess BM Return | Anlzd Standard Deviation | Anlzd Alpha | Beta | Tracking Error | R-Squared | Sharpe Ratio | Information Ratio | Up Mkt Capture Ratio | Down Mkt Capture Ratio |
|------------|--------------|----------------------|--------------------------|-------------|------|----------------|-----------|--------------|-------------------|----------------------|------------------------|
| Total Fund | 4.40%        | -1.45%               | 8.23%                    | -1.34%      | 0.98 | 1.91%          | 0.95      | 0.39         | -0.76             | 93.51%               | 106.52%                |

## Risk vs. Return



Total Fund  
Performance Summary (Gross of Fees)

Period Ending: December 31, 2022

|                                          | Market Value          | % of Portfolio | 3 Mo       | 1 Yr         | 3 Yrs      | 5 Yrs      | 10 Yrs      | 2022         | 2021        | 2020        | 2019        | 2018        | Inception | Inception Date |
|------------------------------------------|-----------------------|----------------|------------|--------------|------------|------------|-------------|--------------|-------------|-------------|-------------|-------------|-----------|----------------|
| <b>Total Fund</b>                        | <b>10,223,398,127</b> | <b>100.0</b>   | <b>4.2</b> | <b>-10.4</b> | <b>3.9</b> | <b>4.7</b> | <b>7.2</b>  | <b>-10.4</b> | <b>14.2</b> | <b>9.5</b>  | <b>14.9</b> | <b>-2.5</b> |           |                |
| Policy Index                             |                       |                | 4.5        | -8.3         | 5.4        | 5.9        | 7.6         | -8.3         | 15.3        | 10.8        | 14.6        | -0.9        |           |                |
| Policy Index (Adjusted)                  |                       |                | 4.5        | -8.3         | 4.7        | 5.2        | 7.1         | -8.3         | 15.3        | 8.5         | 14.1        | -1.5        |           |                |
| InvMetrics Public DB > \$1B Gross Rank   |                       |                | 87         | 42           | 81         | 83         | 70          | 42           | 62          | 78          | 83          | 25          |           |                |
| <b>Total Fund ex Overlay &amp; Cash</b>  | <b>10,017,148,219</b> | <b>98.0</b>    | <b>4.0</b> | <b>-9.8</b>  | <b>4.3</b> | <b>5.0</b> | <b>7.3</b>  | <b>-9.8</b>  | <b>14.6</b> | <b>9.7</b>  | <b>14.7</b> | <b>-2.1</b> |           |                |
| Policy Index                             |                       |                | 4.5        | -8.3         | 5.4        | 5.9        | 7.6         | -8.3         | 15.3        | 10.8        | 14.6        | -0.9        |           |                |
| Policy Index (Adjusted)                  |                       |                | 4.5        | -8.3         | 4.7        | 5.2        | 7.1         | -8.3         | 15.3        | 8.5         | 14.1        | -1.5        |           |                |
| InvMetrics Public DB > \$1B Gross Rank   |                       |                | 89         | 37           | 71         | 76         | 65          | 37           | 55          | 72          | 85          | 20          |           |                |
| <b>Growth</b>                            | <b>7,722,497,517</b>  | <b>75.5</b>    | <b>5.2</b> | <b>-11.4</b> | <b>6.0</b> | <b>6.4</b> | <b>8.7</b>  | <b>-11.4</b> | <b>19.6</b> | <b>12.4</b> | <b>18.7</b> | <b>-3.6</b> |           |                |
| Custom Growth Benchmark                  |                       |                | 5.5        | -10.2        | 7.5        | 7.7        | 9.2         | -10.2        | 21.6        | 13.8        | 19.3        | -2.1        |           |                |
| <b>Total Domestic Equity</b>             | <b>1,658,713,573</b>  | <b>16.2</b>    | <b>9.2</b> | <b>-18.3</b> | <b>6.4</b> | <b>7.2</b> | <b>11.6</b> | <b>-18.3</b> | <b>20.6</b> | <b>22.2</b> | <b>26.7</b> | <b>-7.2</b> |           |                |
| Russell 3000                             |                       |                | 7.2        | -19.2        | 7.1        | 8.8        | 12.1        | -19.2        | 25.7        | 20.9        | 31.0        | -5.2        |           |                |
| InvMetrics Public DB US Eq Gross Rank    |                       |                | 9          | 69           | 78         | 93         | 68          | 69           | 97          | 10          | 87          | 78          |           |                |
| BlackRock Russell 1000 Index             | 871,082,993           | 8.5            | 7.2        | -19.1        | 7.4        | 9.1        | --          | -19.1        | 26.5        | 21.0        | 31.4        | -4.8        | 10.5      | Apr-17         |
| Russell 1000                             |                       |                | 7.2        | -19.1        | 7.3        | 9.1        | --          | -19.1        | 26.5        | 21.0        | 31.4        | -4.8        | 10.5      | Apr-17         |
| eV US Large Cap Equity Gross Rank        |                       |                | 69         | 68           | 57         | 51         | --          | 68           | 55          | 36          | 39          | 47          |           |                |
| Boston Partners                          | 399,005,510           | 3.9            | 12.7       | -3.8         | 9.2        | 8.1        | 11.7        | -3.8         | 31.3        | 3.0         | 24.3        | -8.7        | 10.6      | Jun-95         |
| Russell 1000 Value                       |                       |                | 12.4       | -7.5         | 6.0        | 6.7        | 10.3        | -7.5         | 25.2        | 2.8         | 26.5        | -8.3        | 9.1       | Jun-95         |
| eV US Large Cap Value Equity Gross Rank  |                       |                | 53         | 36           | 29         | 53         | 40          | 36           | 17          | 61          | 77          | 55          |           |                |
| Emerald Advisers                         | 195,522,418           | 1.9            | 6.6        | -23.8        | 3.8        | 5.5        | 12.0        | -23.8        | 5.5         | 39.0        | 30.3        | -10.1       | 12.1      | Apr-03         |
| Russell 2000 Growth                      |                       |                | 4.1        | -26.4        | 0.6        | 3.5        | 9.2         | -26.4        | 2.8         | 34.6        | 28.5        | -9.3        | 9.8       | Apr-03         |
| eV US Small Cap Growth Equity Gross Rank |                       |                | 23         | 25           | 66         | 83         | 49          | 25           | 76          | 57          | 45          | 85          |           |                |
| Ceredex                                  | 193,019,137           | 1.9            | 14.1       | -8.5         | 6.3        | 4.8        | 9.4         | -8.5         | 28.4        | 2.3         | 18.4        | -11.3       | 10.0      | Nov-11         |
| Russell 2000 Value                       |                       |                | 8.4        | -14.5        | 4.7        | 4.1        | 8.5         | -14.5        | 28.3        | 4.6         | 22.4        | -12.9       | 9.3       | Nov-11         |
| eV US Small Cap Value Equity Gross Rank  |                       |                | 14         | 28           | 63         | 72         | 71          | 28           | 60          | 69          | 87          | 25          |           |                |

Individual closed end funds are not shown in performance summary table. Jackson Square has a residual balance of \$83,514.15.

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: December 31, 2022

|                                             | Market Value         | % of Portfolio | 3 Mo        | 1 Yr         | 3 Yrs       | 5 Yrs       | 10 Yrs     | 2022         | 2021        | 2020        | 2019        | 2018         | Inception  | Inception Date |
|---------------------------------------------|----------------------|----------------|-------------|--------------|-------------|-------------|------------|--------------|-------------|-------------|-------------|--------------|------------|----------------|
| <b>Total International Equity</b>           | <b>1,505,546,963</b> | <b>14.7</b>    | <b>12.8</b> | <b>-18.2</b> | <b>0.8</b>  | <b>1.7</b>  | <b>4.9</b> | <b>-18.2</b> | <b>8.3</b>  | <b>15.8</b> | <b>23.7</b> | <b>-14.3</b> |            |                |
| MSCI ACWI ex USA Gross                      |                      |                | 14.4        | -15.6        | 0.5         | 1.4         | 4.3        | -15.6        | 8.3         | 11.1        | 22.1        | -13.8        |            |                |
| MSCI EAFE Gross                             |                      |                | 17.4        | -14.0        | 1.3         | 2.0         | 5.2        | -14.0        | 11.8        | 8.3         | 22.7        | -13.4        |            |                |
| InvMetrics Public DB ex-US Eq Gross Rank    |                      |                | 89          | 73           | 32          | 34          | 42         | 73           | 45          | 23          | 28          | 44           |            |                |
| <b>International Equity</b>                 | <b>843,243,833</b>   | <b>8.2</b>     | <b>13.7</b> | <b>-18.1</b> | <b>2.1</b>  | <b>3.1</b>  | <b>5.6</b> | <b>-18.1</b> | <b>9.0</b>  | <b>19.0</b> | <b>27.0</b> | <b>-13.6</b> |            |                |
| MSCI ACWI ex USA Gross                      |                      |                | 14.4        | -15.6        | 0.5         | 1.4         | 4.3        | -15.6        | 8.3         | 11.1        | 22.1        | -13.8        |            |                |
| InvMetrics Public DB ex-US Eq Gross Rank    |                      |                | 76          | 71           | 15          | 10          | 16         | 71           | 32          | 13          | 7           | 21           |            |                |
| Pyrford                                     | 436,308,732          | 4.3            | 15.2        | -7.0         | 1.6         | 2.8         | --         | -7.0         | 7.6         | 4.7         | 22.1        | -10.1        | 3.4        | May-14         |
| MSCI ACWI ex USA Value                      |                      |                | 15.7        | -8.6         | 0.1         | -0.1        | --         | -8.6         | 10.5        | -0.8        | 15.7        | -14.0        | 1.2        | May-14         |
| eV ACWI ex-US Value Equity Gross Rank       |                      |                | 84          | 20           | 55          | 20          | --         | 20           | 84          | 33          | 35          | 5            |            |                |
| William Blair                               | 406,935,101          | 4.0            | 12.1        | -27.7        | 2.1         | 3.2         | 6.1        | -27.7        | 10.5        | 33.3        | 32.0        | -16.8        | 5.9        | Oct-10         |
| MSCI ACWI ex USA Growth                     |                      |                | 12.9        | -23.1        | -0.4        | 1.5         | 4.7        | -23.1        | 5.1         | 22.2        | 27.3        | -14.4        | 4.2        | Oct-10         |
| eV ACWI ex-US Growth Equity Gross Rank      |                      |                | 67          | 60           | 44          | 46          | 63         | 60           | 44          | 30          | 39          | 69           |            |                |
| <b>Emerging Markets Equity</b>              | <b>662,303,130</b>   | <b>6.5</b>     | <b>11.8</b> | <b>-18.4</b> | <b>-0.8</b> | <b>-0.2</b> | <b>--</b>  | <b>-18.4</b> | <b>7.6</b>  | <b>11.4</b> | <b>19.4</b> | <b>-15.3</b> |            |                |
| MSCI Emerging Markets                       |                      |                | 9.7         | -20.1        | -2.7        | -1.4        | --         | -20.1        | -2.5        | 18.3        | 18.4        | -14.6        |            |                |
| InvMetrics Public DB Emg Mkt Eq Gross Rank  |                      |                | 4           | 29           | 26          | 69          | --         | 29           | 2           | 81          | 31          | 51           |            |                |
| PIMCO RAE Emerging Markets                  | 348,122,745          | 3.4            | 15.0        | -9.7         | 2.6         | 1.7         | --         | -9.7         | 17.1        | 2.1         | 14.6        | -12.3        | 4.2        | Feb-17         |
| MSCI Emerging Markets Value NR              |                      |                | 9.8         | -15.8        | -2.6        | -1.6        | --         | -15.8        | 4.0         | 5.5         | 12.0        | -10.7        | 1.5        | Feb-17         |
| eV Emg Mkts All Cap Value Equity Gross Rank |                      |                | 13          | 33           | 19          | 30          | --         | 33           | 6           | 85          | 72          | 44           |            |                |
| TT Emerging Markets                         | 314,180,385          | 3.1            | 8.5         | -26.4        | -3.9        | -2.0        | --         | -26.4        | -0.2        | 20.8        | 24.8        | -18.4        | 0.3        | Jul-17         |
| MSCI Emerging Markets                       |                      |                | 9.7         | -20.1        | -2.7        | -1.4        | --         | -20.1        | -2.5        | 18.3        | 18.4        | -14.6        | 0.4        | Jul-17         |
| eV Emg Mkts Equity Gross Rank               |                      |                | 75          | 88           | 87          | 89          | --         | 88           | 58          | 39          | 24          | 83           |            |                |
| <b>Total Global Equity</b>                  | <b>957,701,783</b>   | <b>9.4</b>     | <b>9.4</b>  | <b>-18.8</b> | <b>5.1</b>  | <b>6.6</b>  | <b>9.3</b> | <b>-18.8</b> | <b>14.1</b> | <b>25.3</b> | <b>28.9</b> | <b>-7.8</b>  | <b>4.7</b> | <b>Jun-07</b>  |
| MSCI ACWI                                   |                      |                | 9.8         | -18.4        | 4.0         | 5.2         | 8.0        | -18.4        | 18.5        | 16.3        | 26.6        | -9.4         | 4.8        | Jun-07         |
| InvMetrics Public DB Glbl Eq Gross Rank     |                      |                | 99          | 93           | 35          | 24          | 85         | 93           | 88          | 2           | 3           | 60           |            |                |
| Artisan Partners                            | 464,457,135          | 4.5            | 5.7         | -29.6        | 4.7         | 7.7         | 11.3       | -29.6        | 15.0        | 41.7        | 37.0        | -7.9         | 11.1       | Oct-12         |
| MSCI ACWI Growth NR USD                     |                      |                | 5.3         | -28.6        | 3.8         | 6.4         | 9.2        | -28.6        | 17.1        | 33.6        | 32.7        | -8.1         | 9.2        | Oct-12         |
| eV All Global Equity Gross Rank             |                      |                | 92          | 90           | 57          | 26          | 15         | 90           | 80          | 9           | 7           | 40           |            |                |
| First Eagle                                 | 493,124,169          | 4.8            | 13.1        | -5.6         | 5.0         | 5.3         | 7.5        | -5.6         | 13.0        | 8.5         | 21.0        | -7.6         | 7.5        | Jan-11         |
| MSCI ACWI Value NR USD                      |                      |                | 14.2        | -7.5         | 3.3         | 3.5         | 6.4        | -7.5         | 19.6        | -0.3        | 20.6        | -10.8        | 5.9        | Jan-11         |
| eV All Global Equity Gross Rank             |                      |                | 27          | 10           | 51          | 63          | 77         | 10           | 85          | 70          | 82          | 38           |            |                |

Individual closed end funds are not shown in performance summary table.

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: December 31, 2022

|                                                         | Market Value         | % of Portfolio | 3 Mo        | 1 Yr         | 3 Yrs       | 5 Yrs       | 10 Yrs      | 2022         | 2021        | 2020        | 2019        | 2018        | Inception | Inception Date |
|---------------------------------------------------------|----------------------|----------------|-------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-----------|----------------|
| <b>Private Credit</b>                                   | <b>1,028,772,515</b> | <b>10.1</b>    | <b>1.7</b>  | <b>10.5</b>  | <b>8.1</b>  | <b>8.1</b>  | <b>10.4</b> | <b>10.5</b>  | <b>10.0</b> | <b>4.0</b>  | <b>7.7</b>  | <b>8.3</b>  |           |                |
| <b>Total High Yield</b>                                 | <b>139,937,548</b>   | <b>1.4</b>     | <b>4.6</b>  | <b>-10.6</b> | <b>-0.3</b> | <b>2.0</b>  | <b>3.6</b>  | <b>-10.6</b> | <b>5.3</b>  | <b>5.2</b>  | <b>15.3</b> | <b>-3.2</b> |           |                |
| <i>ICE BofAML High Yield Master II</i>                  |                      |                | 4.0         | -11.2        | -0.2        | 2.1         | 3.9         | -11.2        | 5.4         | 6.2         | 14.4        | -2.3        |           |                |
| <i>eV US High Yield Fixed Inc Gross Rank</i>            |                      |                | 21          | 74           | 87          | 90          | 85          | 74           | 51          | 74          | 31          | 88          |           |                |
| Allianz Global Investors                                | 139,937,548          | 1.4            | 4.6         | -10.6        | -0.3        | 2.0         | 3.6         | -10.6        | 5.3         | 5.2         | 15.3        | -3.2        | 6.1       | Apr-00         |
| <i>ICE BofAML High Yield Master II</i>                  |                      |                | 4.0         | -11.2        | -0.2        | 2.1         | 3.9         | -11.2        | 5.4         | 6.2         | 14.4        | -2.3        | 6.2       | Apr-00         |
| <i>eV US High Yield Fixed Inc Gross Rank</i>            |                      |                | 21          | 74           | 87          | 90          | 85          | 74           | 51          | 74          | 31          | 88          |           |                |
| <b>Total Real Estate</b>                                | <b>773,960,795</b>   | <b>7.6</b>     | <b>-1.7</b> | <b>-4.8</b>  | <b>2.2</b>  | <b>4.4</b>  | <b>8.2</b>  | <b>-4.8</b>  | <b>19.2</b> | <b>-5.9</b> | <b>8.1</b>  | <b>7.4</b>  |           |                |
| <i>Real Estate Benchmark</i>                            |                      |                | -1.8        | -4.1         | 4.8         | 5.7         | 7.6         | -4.1         | 19.3        | 0.6         | 7.5         | 6.8         |           |                |
| <i>NCREIF-ODCE</i>                                      |                      |                | -5.0        | 7.5          | 9.9         | 8.7         | 10.1        | 7.5          | 22.2        | 1.2         | 5.3         | 8.3         |           |                |
| <i>NCREIF Property Index</i>                            |                      |                | -3.5        | 5.5          | 8.1         | 7.5         | 8.8         | 5.5          | 17.7        | 1.6         | 6.4         | 6.7         |           |                |
| <b>Total Core RE</b>                                    | <b>189,707,985</b>   | <b>1.9</b>     | <b>3.6</b>  | <b>-24.8</b> | <b>2.1</b>  | <b>5.3</b>  | <b>7.7</b>  | <b>-24.8</b> | <b>48.3</b> | <b>-4.6</b> | <b>28.2</b> | <b>-5.0</b> |           |                |
| Adelante                                                | 83,134,119           | 0.8            | 2.6         | -26.7        | 1.2         | 4.8         | 7.5         | -26.7        | 48.3        | -4.6        | 28.2        | -5.0        | 9.3       | Sep-01         |
| <i>Wilshire REIT</i>                                    |                      |                | 4.0         | -26.8        | -0.5        | 3.4         | 6.3         | -26.8        | 46.2        | -7.9        | 25.8        | -4.8        | 8.8       | Sep-01         |
| Invesco US Fundamental Beta                             | 106,573,866          | 1.0            | 4.4         | --           | --          | --          | --          | --           | --          | --          | --          | --          | -15.0     | Mar-22         |
| <i>Wilshire REIT</i>                                    |                      |                | 4.0         | --           | --          | --          | --          | --           | --          | --          | --          | --          | -18.6     | Mar-22         |
| <b>Total Private Real Estate</b>                        | <b>584,252,810</b>   | <b>5.7</b>     | <b>-3.3</b> | <b>1.9</b>   | <b>3.3</b>  | <b>5.0</b>  | <b>8.7</b>  | <b>1.9</b>   | <b>15.3</b> | <b>-6.1</b> | <b>6.2</b>  | <b>8.8</b>  |           |                |
| <b>Private Equity</b>                                   | <b>1,333,129,938</b> | <b>13.0</b>    | <b>-2.3</b> | <b>-0.5</b>  | <b>20.2</b> | <b>16.1</b> | <b>14.5</b> | <b>-0.5</b>  | <b>60.4</b> | <b>8.7</b>  | <b>8.4</b>  | <b>12.1</b> |           |                |
| <b>Risk Parity</b>                                      | <b>324,734,402</b>   | <b>3.2</b>     | <b>3.2</b>  | <b>-21.5</b> | <b>-1.8</b> | <b>--</b>   | <b>--</b>   | <b>-21.5</b> | <b>9.7</b>  | <b>10.0</b> | <b>--</b>   | <b>--</b>   |           |                |
| <i>60% MSCI ACWI Net/40% Bloomberg Global Aggregate</i> |                      |                | 7.7         | -17.3        | 0.8         | --          | --          | -17.3        | 8.8         | 14.0        | --          | --          |           |                |
| AQR Global Risk Premium-EL                              | 165,496,345          | 1.6            | 2.6         | -16.3        | -0.5        | --          | --          | -16.3        | 10.7        | 6.2         | --          | --          | 4.0       | Jan-19         |
| <i>HFR Risk Parity Vol 10 Index</i>                     |                      |                | 3.1         | -18.3        | -3.3        | --          | --          | -18.3        | 6.8         | 3.6         | --          | --          | 1.7       | Jan-19         |
| PanAgora Risk Parity Multi Asset                        | 159,238,057          | 1.6            | 3.9         | -26.1        | -2.9        | --          | --          | -26.1        | 8.7         | 14.0        | --          | --          | 1.0       | Feb-19         |
| <i>HFR Risk Parity Vol 10 Index</i>                     |                      |                | 3.1         | -18.3        | -3.3        | --          | --          | -18.3        | 6.8         | 3.6         | --          | --          | 0.2       | Feb-19         |

Individual closed end funds are not shown in performance summary table.



# Total Fund

## Performance Summary (Gross of Fees)

Period Ending: December 31, 2022

|                                           | Market Value         | % of Portfolio | 3 Mo        | 1 Yr         | 3 Yrs       | 5 Yrs       | 10 Yrs     | 2022         | 2021        | 2020        | 2019       | 2018        | Inception | Inception Date |
|-------------------------------------------|----------------------|----------------|-------------|--------------|-------------|-------------|------------|--------------|-------------|-------------|------------|-------------|-----------|----------------|
| <b>Diversifying</b>                       | <b>769,903,968</b>   | <b>7.5</b>     | <b>-1.4</b> | <b>-5.3</b>  | <b>-1.6</b> | <b>0.0</b>  | <b>0.3</b> | <b>-5.3</b>  | <b>2.0</b>  | <b>-1.3</b> | <b>7.1</b> | <b>-2.0</b> |           |                |
| Custom Diversifying Benchmark             |                      |                | 2.1         | -5.4         | 0.2         | 1.6         | 2.3        | -5.4         | 1.6         | 4.7         | 6.1        | 1.4         |           |                |
| <b>Diversifying Fixed Income</b>          | <b>220,472,703</b>   | <b>2.2</b>     | <b>1.0</b>  | <b>-13.3</b> | <b>-4.4</b> | <b>-1.4</b> | <b>0.5</b> | <b>-13.3</b> | <b>-0.7</b> | <b>1.6</b>  | <b>8.6</b> | <b>-1.7</b> |           |                |
| Bloomberg US Aggregate TR                 |                      |                | 1.9         | -13.0        | -2.7        | 0.0         | 1.1        | -13.0        | -1.5        | 7.5         | 8.7        | 0.0         |           |                |
| eV US Core Fixed Inc Gross Rank           |                      |                | 96          | 76           | 99          | 99          | 99         | 76           | 30          | 99          | 80         | 99          |           |                |
| AFL-CIO                                   | 220,337,258          | 2.2            | 1.0         | -13.3        | -2.8        | 0.0         | 1.2        | -13.3        | -0.7        | 6.6         | 8.2        | 0.6         | 5.3       | Jun-91         |
| Bloomberg US Aggregate TR                 |                      |                | 1.9         | -13.0        | -2.7        | 0.0         | 1.1        | -13.0        | -1.5        | 7.5         | 8.7        | 0.0         | 4.9       | Jun-91         |
| eV US Core Fixed Inc Gross Rank           |                      |                | 96          | 77           | 95          | 96          | 93         | 77           | 30          | 95          | 88         | 16          |           |                |
| <b>Diversifying Multi-Asset</b>           | <b>549,431,265</b>   | <b>5.4</b>     | <b>-2.4</b> | <b>-1.9</b>  | <b>--</b>   | <b>--</b>   | <b>--</b>  | <b>-1.9</b>  | <b>2.8</b>  | <b>--</b>   | <b>--</b>  | <b>--</b>   |           |                |
| Custom Diversifying Multi-Asset Benchmark |                      |                | 2.1         | -3.1         | --          | --          | --         | -3.1         | 4.1         | --          | --         | --          |           |                |
| Acadian Multi-Asset Absolute Return Fund  | 254,025,032          | 2.5            | -3.6        | -0.1         | --          | --          | --         | -0.1         | 1.7         | --          | --         | --          | 1.4       | Aug-20         |
| FTSE 3-Month T-bill +5%                   |                      |                | 2.1         | 6.6          | --          | --          | --         | 6.6          | 5.0         | --          | --         | --          | 5.7       | Aug-20         |
| Sit LLCAR                                 | 295,406,233          | 2.9            | -1.4        | -3.3         | --          | --          | --         | -3.3         | --          | --          | --         | --          | 0.6       | Apr-21         |
| Bloomberg US Aggregate Index + 100 bps    |                      |                | 2.1         | -12.1        | --          | --          | --         | -12.1        | --          | --          | --         | --          | -5.7      | Apr-21         |
| <b>Liquidity</b>                          | <b>1,524,746,733</b> | <b>14.9</b>    | <b>1.1</b>  | <b>-3.4</b>  | <b>-0.1</b> | <b>1.3</b>  | <b>--</b>  | <b>-3.4</b>  | <b>-0.2</b> | <b>3.5</b>  | <b>4.9</b> | <b>1.8</b>  |           |                |
| Bloomberg US Govt/Credit 1-3 Yr. TR       |                      |                | 0.9         | -3.7         | -0.3        | 0.9         | --         | -3.7         | -0.5        | 3.3         | 4.0        | 1.6         |           |                |
| eV US Short Duration Fixed Inc Gross Rank |                      |                | 48          | 51           | 62          | 50          | --         | 51           | 40          | 77          | 34         | 24          |           |                |
| DFA Short Credit                          | 343,235,798          | 3.4            | 1.6         | -5.3         | -1.0        | 0.7         | --         | -5.3         | -0.4        | 2.9         | 5.2        | 1.2         | 0.9       | Nov-16         |
| ICE BofA 1-5 Yrs US Corp & Govt TR        |                      |                | 1.2         | -5.5         | -0.7        | 0.9         | --         | -5.5         | -0.9        | 4.6         | 5.1        | 1.4         | 0.9       | Nov-16         |
| eV US Short Duration Fixed Inc Gross Rank |                      |                | 10          | 91           | 99          | 97          | --         | 91           | 64          | 90          | 21         | 93          |           |                |
| Insight Short Duration                    | 559,011,052          | 5.5            | 1.1         | -1.1         | 0.7         | 1.7         | --         | -1.1         | 0.1         | 3.2         | 4.7        | 1.7         | 1.6       | Nov-16         |
| Bloomberg US Govt/Credit 1-3 Yr. TR       |                      |                | 0.9         | -3.7         | -0.3        | 0.9         | --         | -3.7         | -0.5        | 3.3         | 4.0        | 1.6         | 0.9       | Nov-16         |
| eV US Short Duration Fixed Inc Gross Rank |                      |                | 52          | 4            | 9           | 15          | --         | 4            | 25          | 86          | 45         | 38          |           |                |
| Sit Short Duration                        | 622,499,883          | 6.1            | 0.9         | -4.8         | -0.3        | 1.3         | --         | -4.8         | -0.3        | 4.6         | 4.9        | 2.5         | 1.3       | Nov-16         |
| Bloomberg US Govt 1-3 Yr TR               |                      |                | 0.7         | -3.8         | -0.5        | 0.7         | --         | -3.8         | -0.6        | 3.1         | 3.6        | 1.6         | 0.7       | Nov-16         |
| eV US Short Duration Fixed Inc Gross Rank |                      |                | 80          | 80           | 74          | 45          | --         | 80           | 55          | 26          | 35         | 1           |           |                |
| <b>Total Cash</b>                         | <b>107,482,318</b>   | <b>1.1</b>     | <b>1.3</b>  | <b>2.4</b>   | <b>1.3</b>  | <b>1.8</b>  | <b>1.6</b> | <b>2.4</b>   | <b>0.4</b>  | <b>1.3</b>  | <b>3.3</b> | <b>1.7</b>  |           |                |
| 91 Day T-Bills                            |                      |                | 0.8         | 1.5          | 0.6         | 1.2         | 0.7        | 1.5          | 0.0         | 0.5         | 2.1        | 1.9         |           |                |
| Cash                                      | 106,907,199          | 1.0            | 1.3         | 2.2          | 1.3         | 1.8         | 1.7        | 2.2          | 0.4         | 1.3         | 3.4        | 1.7         |           |                |
| Northern Trust Transition                 | 575,119              | 0.0            | 9.0         | 2,807.6      | 281.9       | --          | --         | 2,807.6      | -6.1        | 104.1       | --         | --          |           |                |

Individual closed end funds are not shown in performance summary table. Effective 3/1/2019 the custodian of record switched from State Street to Northern Trust. Wellington Real Total Return was liquidated 4/30/2020. \$135,445.27 in residual value is reflected in the Diversifying Fixed Income composite.

# Total Fund Performance Summary (Net of Fees)

Period Ending: December 31, 2022

|                                         | Market Value          | % of Portfolio | 3 Mo        | 1 Yr         | 3 Yrs       | 5 Yrs       | 10 Yrs      | 2022         | 2021        | 2020        | 2019        | 2018         | Inception | Inception Date |
|-----------------------------------------|-----------------------|----------------|-------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|--------------|-----------|----------------|
| <b>Total Fund</b>                       | <b>10,223,398,127</b> | <b>100.0</b>   | <b>4.1</b>  | <b>-10.6</b> | <b>3.6</b>  | <b>4.4</b>  | <b>6.7</b>  | <b>-10.6</b> | <b>13.9</b> | <b>9.2</b>  | <b>14.6</b> | <b>-2.7</b>  |           |                |
| Policy Index                            |                       |                | 4.5         | -8.3         | 5.4         | 5.9         | 7.6         | -8.3         | 15.3        | 10.8        | 14.6        | -0.9         |           |                |
| Policy Index (Adjusted)                 |                       |                | 4.5         | -8.3         | 4.7         | 5.2         | 7.1         | -8.3         | 15.3        | 8.5         | 14.1        | -1.5         |           |                |
| <b>Total Fund ex Overlay &amp; Cash</b> | <b>10,017,148,219</b> | <b>98.0</b>    | <b>3.9</b>  | <b>-10.1</b> | <b>4.0</b>  | <b>4.7</b>  | <b>6.9</b>  | <b>-10.1</b> | <b>14.3</b> | <b>9.4</b>  | <b>14.3</b> | <b>-2.4</b>  |           |                |
| Policy Index                            |                       |                | 4.5         | -8.3         | 5.4         | 5.9         | 7.6         | -8.3         | 15.3        | 10.8        | 14.6        | -0.9         |           |                |
| Policy Index (Adjusted)                 |                       |                | 4.5         | -8.3         | 4.7         | 5.2         | 7.1         | -8.3         | 15.3        | 8.5         | 14.1        | -1.5         |           |                |
| <b>Growth</b>                           | <b>7,722,497,517</b>  | <b>75.5</b>    | <b>5.2</b>  | <b>-11.6</b> | <b>5.7</b>  | <b>6.1</b>  | <b>8.3</b>  | <b>-11.6</b> | <b>19.2</b> | <b>12.0</b> | <b>18.3</b> | <b>-3.9</b>  |           |                |
| Custom Growth Benchmark                 |                       |                | 5.5         | -10.2        | 7.5         | 7.7         | 9.2         | -10.2        | 21.6        | 13.8        | 19.3        | -2.1         |           |                |
| <b>Total Domestic Equity</b>            | <b>1,658,713,573</b>  | <b>16.2</b>    | <b>9.1</b>  | <b>-18.5</b> | <b>6.1</b>  | <b>6.8</b>  | <b>11.2</b> | <b>-18.5</b> | <b>20.3</b> | <b>21.8</b> | <b>26.1</b> | <b>-7.6</b>  |           |                |
| Russell 3000                            |                       |                | 7.2         | -19.2        | 7.1         | 8.8         | 12.1        | -19.2        | 25.7        | 20.9        | 31.0        | -5.2         |           |                |
| BlackRock Russell 1000 Index            | 871,082,993           | 8.5            | 7.2         | -19.1        | 7.3         | 9.1         | --          | -19.1        | 26.5        | 20.9        | 31.4        | -4.8         | 10.4      | Apr-17         |
| Russell 1000                            |                       |                | 7.2         | -19.1        | 7.3         | 9.1         | --          | -19.1        | 26.5        | 21.0        | 31.4        | -4.8         | 10.5      | Apr-17         |
| Boston Partners                         | 399,005,510           | 3.9            | 12.6        | -4.1         | 8.8         | 7.8         | 11.3        | -4.1         | 31.0        | 2.6         | 23.8        | -8.9         | 10.2      | Jun-95         |
| Russell 1000 Value                      |                       |                | 12.4        | -7.5         | 6.0         | 6.7         | 10.3        | -7.5         | 25.2        | 2.8         | 26.5        | -8.3         | 9.1       | Jun-95         |
| Emerald Advisers                        | 195,522,418           | 1.9            | 6.4         | -24.2        | 3.2         | 4.9         | 11.3        | -24.2        | 4.9         | 38.2        | 29.4        | -10.7        | 11.4      | Apr-03         |
| Russell 2000 Growth                     |                       |                | 4.1         | -26.4        | 0.6         | 3.5         | 9.2         | -26.4        | 2.8         | 34.6        | 28.5        | -9.3         | 9.8       | Apr-03         |
| Ceredex                                 | 193,019,137           | 1.9            | 14.0        | -9.0         | 5.7         | 4.2         | 8.8         | -9.0         | 27.7        | 1.7         | 17.7        | -11.8        | 9.4       | Nov-11         |
| Russell 2000 Value                      |                       |                | 8.4         | -14.5        | 4.7         | 4.1         | 8.5         | -14.5        | 28.3        | 4.6         | 22.4        | -12.9        | 9.3       | Nov-11         |
| <b>Total International Equity</b>       | <b>1,505,546,963</b>  | <b>14.7</b>    | <b>12.7</b> | <b>-18.6</b> | <b>0.3</b>  | <b>1.2</b>  | <b>4.4</b>  | <b>-18.6</b> | <b>7.8</b>  | <b>15.2</b> | <b>23.2</b> | <b>-14.7</b> |           |                |
| MSCI ACWI ex USA Gross                  |                       |                | 14.4        | -15.6        | 0.5         | 1.4         | 4.3         | -15.6        | 8.3         | 11.1        | 22.1        | -13.8        |           |                |
| MSCI EAFE Gross                         |                       |                | 17.4        | -14.0        | 1.3         | 2.0         | 5.2         | -14.0        | 11.8        | 8.3         | 22.7        | -13.4        |           |                |
| <b>International Equity</b>             | <b>843,243,833</b>    | <b>8.2</b>     | <b>13.6</b> | <b>-18.4</b> | <b>1.6</b>  | <b>2.7</b>  | <b>5.2</b>  | <b>-18.4</b> | <b>8.6</b>  | <b>18.5</b> | <b>26.5</b> | <b>-13.9</b> |           |                |
| MSCI ACWI ex USA Gross                  |                       |                | 14.4        | -15.6        | 0.5         | 1.4         | 4.3         | -15.6        | 8.3         | 11.1        | 22.1        | -13.8        |           |                |
| Pyrford                                 | 436,308,732           | 4.3            | 15.1        | -7.4         | 1.1         | 2.4         | --          | -7.4         | 7.1         | 4.2         | 21.6        | -10.5        | 3.0       | May-14         |
| MSCI ACWI ex USA Value                  |                       |                | 15.7        | -8.6         | 0.1         | -0.1        | --          | -8.6         | 10.5        | -0.8        | 15.7        | -14.0        | 1.2       | May-14         |
| William Blair                           | 406,935,101           | 4.0            | 12.0        | -28.0        | 1.7         | 2.8         | 5.7         | -28.0        | 10.1        | 32.8        | 31.5        | -17.1        | 5.5       | Oct-10         |
| MSCI ACWI ex USA Growth                 |                       |                | 12.9        | -23.1        | -0.4        | 1.5         | 4.7         | -23.1        | 5.1         | 22.2        | 27.3        | -14.4        | 4.2       | Oct-10         |
| <b>Emerging Markets Equity</b>          | <b>662,303,130</b>    | <b>6.5</b>     | <b>11.6</b> | <b>-18.9</b> | <b>-1.4</b> | <b>-0.8</b> | <b>--</b>   | <b>-18.9</b> | <b>7.0</b>  | <b>10.7</b> | <b>18.7</b> | <b>-15.7</b> |           |                |
| MSCI Emerging Markets                   |                       |                | 9.7         | -20.1        | -2.7        | -1.4        | --          | -20.1        | -2.5        | 18.3        | 18.4        | -14.6        |           |                |
| PIMCO RAE Emerging Markets              | 348,122,745           | 3.4            | 14.8        | -10.1        | 2.1         | 1.2         | --          | -10.1        | 16.5        | 1.6         | 14.0        | -12.6        | 3.6       | Feb-17         |
| MSCI Emerging Markets Value NR          |                       |                | 9.8         | -15.8        | -2.6        | -1.6        | --          | -15.8        | 4.0         | 5.5         | 12.0        | -10.7        | 1.5       | Feb-17         |
| TT Emerging Markets                     | 314,180,385           | 3.1            | 8.3         | -26.8        | -4.5        | -2.6        | --          | -26.8        | -0.9        | 20.0        | 24.0        | -18.9        | -0.4      | Jul-17         |
| MSCI Emerging Markets                   |                       |                | 9.7         | -20.1        | -2.7        | -1.4        | --          | -20.1        | -2.5        | 18.3        | 18.4        | -14.6        | 0.4       | Jul-17         |

Individual closed end funds are not shown in performance summary table. Jackson Square has a residual market value of \$83,514.15.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: December 31, 2022

|                                                         | Market Value         | % of Portfolio | 3 Mo        | 1 Yr         | 3 Yrs       | 5 Yrs       | 10 Yrs      | 2022         | 2021        | 2020        | 2019        | 2018        | Inception | Inception Date |
|---------------------------------------------------------|----------------------|----------------|-------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-----------|----------------|
| <b>Total Global Equity</b>                              | <b>957,701,783</b>   | <b>9.4</b>     | <b>9.2</b>  | <b>-19.4</b> | <b>4.3</b>  | <b>5.8</b>  | <b>8.6</b>  | <b>-19.4</b> | <b>13.2</b> | <b>24.4</b> | <b>27.9</b> | <b>-8.5</b> |           |                |
| <i>MSCI ACWI</i>                                        |                      |                | 9.8         | -18.4        | 4.0         | 5.2         | 8.0         | -18.4        | 18.5        | 16.3        | 26.6        | -9.4        |           |                |
| Artisan Partners                                        | 464,457,135          | 4.5            | 5.5         | -30.1        | 3.9         | 6.9         | 10.4        | -30.1        | 14.1        | 40.6        | 36.0        | -8.6        | 10.3      | Oct-12         |
| <i>MSCI ACWI Growth NR USD</i>                          |                      |                | 5.3         | -28.6        | 3.8         | 6.4         | 9.2         | -28.6        | 17.1        | 33.6        | 32.7        | -8.1        | 9.2       | Oct-12         |
| First Eagle                                             | 493,124,169          | 4.8            | 12.9        | -6.3         | 4.2         | 4.5         | 6.7         | -6.3         | 12.1        | 7.7         | 20.1        | -8.3        | 6.7       | Jan-11         |
| <i>MSCI ACWI Value NR USD</i>                           |                      |                | 14.2        | -7.5         | 3.3         | 3.5         | 6.4         | -7.5         | 19.6        | -0.3        | 20.6        | -10.8       | 5.9       | Jan-11         |
| <b>Private Credit</b>                                   | <b>1,028,772,515</b> | <b>10.1</b>    | <b>1.7</b>  | <b>10.5</b>  | <b>8.1</b>  | <b>8.1</b>  | <b>9.7</b>  | <b>10.5</b>  | <b>10.0</b> | <b>4.0</b>  | <b>7.7</b>  | <b>8.3</b>  |           |                |
| <b>Total High Yield</b>                                 | <b>139,937,548</b>   | <b>1.4</b>     | <b>4.6</b>  | <b>-10.9</b> | <b>-0.7</b> | <b>1.6</b>  | <b>3.2</b>  | <b>-10.9</b> | <b>4.9</b>  | <b>4.7</b>  | <b>14.7</b> | <b>-3.6</b> |           |                |
| <i>ICE BofAML High Yield Master II</i>                  |                      |                | 4.0         | -11.2        | -0.2        | 2.1         | 3.9         | -11.2        | 5.4         | 6.2         | 14.4        | -2.3        |           |                |
| Allianz Global Investors                                | 139,937,548          | 1.4            | 4.6         | -10.9        | -0.7        | 1.6         | 3.2         | -10.9        | 4.9         | 4.7         | 14.7        | -3.6        | 5.6       | Apr-00         |
| <i>ICE BofAML High Yield Master II</i>                  |                      |                | 4.0         | -11.2        | -0.2        | 2.1         | 3.9         | -11.2        | 5.4         | 6.2         | 14.4        | -2.3        | 6.2       | Apr-00         |
| <b>Total Real Estate</b>                                | <b>773,960,795</b>   | <b>7.6</b>     | <b>-1.7</b> | <b>-4.9</b>  | <b>2.1</b>  | <b>4.3</b>  | <b>7.7</b>  | <b>-4.9</b>  | <b>19.2</b> | <b>-6.0</b> | <b>8.1</b>  | <b>7.4</b>  |           |                |
| <i>Real Estate Benchmark</i>                            |                      |                | -1.8        | -4.1         | 4.8         | 5.7         | 7.6         | -4.1         | 19.3        | 0.6         | 7.5         | 6.8         |           |                |
| <i>NCREIF-ODCE</i>                                      |                      |                | -5.0        | 7.5          | 9.9         | 8.7         | 10.1        | 7.5          | 22.2        | 1.2         | 5.3         | 8.3         |           |                |
| <i>NCREIF Property Index</i>                            |                      |                | -3.5        | 5.5          | 8.1         | 7.5         | 8.8         | 5.5          | 17.7        | 1.6         | 6.4         | 6.7         |           |                |
| <b>Total Core RE</b>                                    | <b>189,707,985</b>   | <b>1.9</b>     | <b>3.5</b>  | <b>-25.1</b> | <b>1.6</b>  | <b>4.8</b>  | <b>7.2</b>  | <b>-25.1</b> | <b>47.5</b> | <b>-5.2</b> | <b>27.5</b> | <b>-5.5</b> |           |                |
| Adelante                                                | 83,134,119           | 0.8            | 2.5         | -27.2        | 0.6         | 4.2         | 6.9         | -27.2        | 47.5        | -5.2        | 27.5        | -5.5        | 8.8       | Sep-01         |
| <i>Wilshire REIT</i>                                    |                      |                | 4.0         | -26.8        | -0.5        | 3.4         | 6.3         | -26.8        | 46.2        | -7.9        | 25.8        | -4.8        | 8.8       | Sep-01         |
| Invesco US Fundamental Beta                             | 106,573,866          | 1.0            | 4.3         | --           | --          | --          | --          | --           | --          | --          | --          | --          | -15.0     | Mar-22         |
| <i>Wilshire REIT</i>                                    |                      |                | 4.0         | --           | --          | --          | --          | --           | --          | --          | --          | --          | -18.6     | Mar-22         |
| <b>Total Private Real Estate</b>                        | <b>584,252,810</b>   | <b>5.7</b>     | <b>-3.3</b> | <b>1.9</b>   | <b>3.3</b>  | <b>5.0</b>  | <b>8.2</b>  | <b>1.9</b>   | <b>15.3</b> | <b>-6.1</b> | <b>6.2</b>  | <b>8.8</b>  |           |                |
| <b>Private Equity</b>                                   | <b>1,333,129,938</b> | <b>13.0</b>    | <b>-2.3</b> | <b>-0.5</b>  | <b>20.2</b> | <b>16.1</b> | <b>13.9</b> | <b>-0.5</b>  | <b>60.4</b> | <b>8.7</b>  | <b>8.4</b>  | <b>12.1</b> |           |                |
| <b>Risk Parity</b>                                      | <b>324,734,402</b>   | <b>3.2</b>     | <b>3.1</b>  | <b>-21.8</b> | <b>-2.2</b> | <b>--</b>   | <b>--</b>   | <b>-21.8</b> | <b>9.3</b>  | <b>9.6</b>  | <b>--</b>   | <b>--</b>   |           |                |
| <i>60% MSCI ACWI Net/40% Bloomberg Global Aggregate</i> |                      |                | 7.7         | -17.3        | 0.8         | --          | --          | -17.3        | 8.8         | 14.0        | --          | --          |           |                |
| AQR Global Risk Premium-EL                              | 165,496,345          | 1.6            | 2.5         | -16.6        | -0.9        | --          | --          | -16.6        | 10.3        | 5.8         | --          | --          | 3.6       | Jan-19         |
| <i>HFR Risk Parity Vol 10 Index</i>                     |                      |                | 3.1         | -18.3        | -3.3        | --          | --          | -18.3        | 6.8         | 3.6         | --          | --          | 1.7       | Jan-19         |
| PanAgora Risk Parity Multi Asset                        | 159,238,057          | 1.6            | 3.8         | -26.3        | -3.2        | --          | --          | -26.3        | 8.3         | 13.6        | --          | --          | 0.7       | Feb-19         |
| <i>HFR Risk Parity Vol 10 Index</i>                     |                      |                | 3.1         | -18.3        | -3.3        | --          | --          | -18.3        | 6.8         | 3.6         | --          | --          | 0.2       | Feb-19         |

Individual closed end funds are not shown in performance summary table.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: December 31, 2022

|                                                  | Market Value         | % of Portfolio | 3 Mo        | 1 Yr         | 3 Yrs       | 5 Yrs       | 10 Yrs     | 2022         | 2021        | 2020        | 2019       | 2018        | Inception | Inception Date |
|--------------------------------------------------|----------------------|----------------|-------------|--------------|-------------|-------------|------------|--------------|-------------|-------------|------------|-------------|-----------|----------------|
| <b>Diversifying</b>                              | <b>769,903,968</b>   | <b>7.5</b>     | <b>-1.5</b> | <b>-5.7</b>  | <b>-2.0</b> | <b>-0.3</b> | <b>0.0</b> | <b>-5.7</b>  | <b>1.7</b>  | <b>-1.7</b> | <b>6.8</b> | <b>-2.3</b> |           |                |
| <i>Custom Diversifying Benchmark</i>             |                      |                | 2.1         | -5.4         | 0.2         | 1.6         | 2.3        | -5.4         | 1.6         | 4.7         | 6.1        | 1.4         |           |                |
| <b>Diversifying Fixed Income</b>                 | <b>220,472,703</b>   | <b>2.2</b>     | <b>0.9</b>  | <b>-13.5</b> | <b>-4.7</b> | <b>-1.7</b> | <b>0.1</b> | <b>-13.5</b> | <b>-1.0</b> | <b>1.2</b>  | <b>8.3</b> | <b>-2.0</b> |           |                |
| <i>Bloomberg US Aggregate TR</i>                 |                      |                | 1.9         | -13.0        | -2.7        | 0.0         | 1.1        | -13.0        | -1.5        | 7.5         | 8.7        | 0.0         |           |                |
| AFL-CIO                                          | 220,337,258          | 2.2            | 0.9         | -13.6        | -3.1        | -0.4        | 0.8        | -13.6        | -1.0        | 6.2         | 7.8        | 0.2         | 4.9       | Jun-91         |
| <i>Bloomberg US Aggregate TR</i>                 |                      |                | 1.9         | -13.0        | -2.7        | 0.0         | 1.1        | -13.0        | -1.5        | 7.5         | 8.7        | 0.0         | 4.9       | Jun-91         |
| <b>Diversifying Multi-Asset</b>                  | <b>549,431,265</b>   | <b>5.4</b>     | <b>-2.5</b> | <b>-2.3</b>  | <b>--</b>   | <b>--</b>   | <b>--</b>  | <b>-2.3</b>  | <b>2.4</b>  | <b>--</b>   | <b>--</b>  | <b>--</b>   |           |                |
| <i>Custom Diversifying Multi-Asset Benchmark</i> |                      |                | 2.1         | -3.1         | --          | --          | --         | -3.1         | 4.1         | --          | --         | --          |           |                |
| Acadian Multi-Asset Absolute Return Fund         | 254,025,032          | 2.5            | -3.7        | -0.6         | --          | --          | --         | -0.6         | 1.1         | --          | --         | --          | 0.8       | Aug-20         |
| <i>FTSE 3-Month T-bill +5%</i>                   |                      |                | 2.1         | 6.6          | --          | --          | --         | 6.6          | 5.0         | --          | --         | --          | 5.7       | Aug-20         |
| Sit LLCAR                                        | 295,406,233          | 2.9            | -1.5        | -3.7         | --          | --          | --         | -3.7         | --          | --          | --         | --          | 0.2       | Apr-21         |
| <i>Bloomberg US Aggregate Index + 100 bps</i>    |                      |                | 2.1         | -12.1        | --          | --          | --         | -12.1        | --          | --          | --         | --          | -5.7      | Apr-21         |
| <b>Liquidity</b>                                 | <b>1,524,746,733</b> | <b>14.9</b>    | <b>1.1</b>  | <b>-3.5</b>  | <b>-0.2</b> | <b>1.2</b>  | <b>--</b>  | <b>-3.5</b>  | <b>-0.3</b> | <b>3.4</b>  | <b>4.8</b> | <b>1.7</b>  |           |                |
| <i>Bloomberg US Govt/Credit 1-3 Yr. TR</i>       |                      |                | 0.9         | -3.7         | -0.3        | 0.9         | --         | -3.7         | -0.5        | 3.3         | 4.0        | 1.6         |           |                |
| DFA Short Credit                                 | 343,235,798          | 3.4            | 1.6         | -5.4         | -1.1        | 0.6         | --         | -5.4         | -0.5        | 2.8         | 5.2        | 1.1         | 0.8       | Nov-16         |
| <i>ICE BofA 1-5 Yrs US Corp &amp; Govt TR</i>    |                      |                | 1.2         | -5.5         | -0.7        | 0.9         | --         | -5.5         | -0.9        | 4.6         | 5.1        | 1.4         | 0.9       | Nov-16         |
| Insight Short Duration                           | 559,011,052          | 5.5            | 1.1         | -1.2         | 0.6         | 1.6         | --         | -1.2         | 0.0         | 3.1         | 4.6        | 1.7         | 1.6       | Nov-16         |
| <i>Bloomberg US Govt/Credit 1-3 Yr. TR</i>       |                      |                | 0.9         | -3.7         | -0.3        | 0.9         | --         | -3.7         | -0.5        | 3.3         | 4.0        | 1.6         | 0.9       | Nov-16         |
| Sit Short Duration                               | 622,499,883          | 6.1            | 0.9         | -5.0         | -0.4        | 1.1         | --         | -5.0         | -0.5        | 4.4         | 4.7        | 2.3         | 1.1       | Nov-16         |
| <i>Bloomberg US Govt 1-3 Yr TR</i>               |                      |                | 0.7         | -3.8         | -0.5        | 0.7         | --         | -3.8         | -0.6        | 3.1         | 3.6        | 1.6         | 0.7       | Nov-16         |
| <b>Total Cash</b>                                | <b>107,482,318</b>   | <b>1.1</b>     | <b>1.3</b>  | <b>2.4</b>   | <b>1.3</b>  | <b>1.8</b>  | <b>1.6</b> | <b>2.4</b>   | <b>0.4</b>  | <b>1.3</b>  | <b>3.3</b> | <b>1.7</b>  |           |                |
| 91 Day T-Bills                                   |                      |                | 0.8         | 1.5          | 0.6         | 1.2         | 0.7        | 1.5          | 0.0         | 0.5         | 2.1        | 1.9         |           |                |
| Cash                                             | 106,907,199          | 1.0            | 1.3         | 2.2          | 1.3         | 1.8         | 1.7        | 2.2          | 0.4         | 1.3         | 3.4        | 1.7         |           |                |
| Northern Trust Transition                        | 575,119              | 0.0            | 9.0         | 2,807.6      | 281.9       | --          | --         | 2,807.6      | -6.1        | 104.1       | --         | --          |           |                |

Individual closed end funds are not shown in performance summary table. Effective 3/1/2019 the custodian of record switched from State Street to Northern Trust. Wellington Real Total Return was liquidated 4/30/2020. \$135,445.27 in residual value is reflected in the Diversifying Fixed Income composite.

Total Fund  
Closed End Funds - Investment Summary

Period Ending: December 31, 2022

| StepStone Group Analysis (*)                    |                                             |                                                     |                        |                |                        |                                            |                                            |                        |                      |                                     |                                        |                  |
|-------------------------------------------------|---------------------------------------------|-----------------------------------------------------|------------------------|----------------|------------------------|--------------------------------------------|--------------------------------------------|------------------------|----------------------|-------------------------------------|----------------------------------------|------------------|
| Closing Date                                    | Manager Name/Fund Name                      | Estimated Market Value as of 9/30/2022 <sup>1</sup> | Total Commitment       | Total % Called | Contributed Capital    | Current Qtr. Change in Contributed Capital | Current Qtr. Change in Distributed Capital | Total Distributions    | Remaining Commitment | Distrib./Paid-In (DPI) <sup>2</sup> | Tot. Value/Paid-In (TVPI) <sup>3</sup> | Latest Valuation |
| <b>Private Equity &amp; Venture Capital</b>     |                                             |                                                     |                        |                |                        |                                            |                                            |                        |                      |                                     |                                        |                  |
| 2/11/2004                                       | Adams Street Partners                       | \$135,098,421                                       | \$210,000,000          | 0%             | \$194,765,257          | \$0                                        | \$4,242,724                                | \$264,764,008          | \$15,234,743         | 1.36                                | 2.05                                   | 9/30/2022        |
| 1/15/2009                                       | Adams Street Partners II                    | \$3,657,493                                         | \$30,000,000           | 0%             | \$28,365,000           | \$0                                        | \$262,174                                  | \$45,385,528           | \$1,635,000          | 1.60                                | 1.73                                   | 9/30/2022        |
| 9/21/2012                                       | Adams Street Partners - Fund 5              | \$11,344,803                                        | \$40,000,000           | 0%             | \$30,845,875           | \$0                                        | \$0                                        | \$30,186,904           | \$9,154,125          | 0.98                                | 1.35                                   | 9/30/2022        |
| 1/18/1996                                       | Adams Street Partners - BPF                 | \$494,603                                           | \$59,565,614           | 0%             | \$57,517,409           | \$0                                        | \$85,897                                   | \$103,896,144          | \$2,048,205          | 1.81                                | 1.81                                   | 9/30/2022        |
| 3/31/2016                                       | Adams Street Venture Innovation             | \$182,872,622                                       | \$75,000,000           | 0%             | \$66,037,500           | \$0                                        | \$0                                        | \$30,786,690           | \$8,962,500          | 0.47                                | 3.24                                   | 9/30/2022        |
| 5/18/2018                                       | AE Industrial Partners Fund II, LP          | \$41,247,713                                        | \$35,000,000           | 0%             | \$32,397,781           | \$0                                        | \$0                                        | \$9,140,470            | \$11,133,248         | 0.28                                | 1.56                                   | 9/30/2022        |
| 11/27/2013                                      | Aether Real Assets III                      | \$18,408,257                                        | \$25,000,000           | 1%             | \$25,856,373           | \$174,157                                  | \$961,461                                  | \$6,638,065            | \$1,416,913          | 0.26                                | 0.97                                   | 9/30/2022        |
| 11/30/2013                                      | Aether Real Assets III Surplus              | \$42,985,151                                        | \$50,000,000           | 0%             | \$52,464,173           | \$219,755                                  | \$1,571,296                                | \$13,469,751           | \$1,150,292          | 0.26                                | 1.08                                   | 9/30/2022        |
| 1/30/2016                                       | Aether Real Assets IV                       | \$58,082,394                                        | \$50,000,000           | 1%             | \$50,036,488           | \$281,149                                  | \$1,328,439                                | \$5,392,364            | \$4,516,236          | 0.11                                | 1.27                                   | 9/30/2022        |
| 4/30/2004                                       | Bay Area Equity Fund I <sup>4</sup>         | 4,533                                               | 10,000,000             | 0%             | 10,000,000             | 0                                          | 0                                          | 37,018,019             | 0                    | 3.70                                | 3.70                                   | 9/30/2022        |
| 6/29/2009                                       | Bay Area Equity Fund II <sup>4</sup>        | 20,002,593                                          | 10,000,000             | 0%             | 10,000,000             | 0                                          | 0                                          | 3,684,910              | 0                    | 0.37                                | 2.37                                   | 9/30/2022        |
| 6/30/2013                                       | Commonfund                                  | \$38,323,141                                        | \$50,000,000           | 1%             | \$47,524,993           | \$250,000                                  | \$5,853,569                                | \$29,371,587           | \$2,475,007          | 0.62                                | 1.42                                   | 9/30/2022        |
| 7/15/2005                                       | EIF US Power Fund II <sup>4</sup>           | \$37,627                                            | \$50,000,000           | 0%             | \$65,029,556           | \$0                                        | \$0                                        | \$76,092,655           | \$0                  | 1.17                                | 1.17                                   | 9/30/2022        |
| 5/31/2007                                       | EIF US Power Fund III <sup>4</sup>          | 3,114,379                                           | 65,000,000             | 0%             | \$71,409,097           | \$0                                        | \$137,203                                  | \$92,933,824           | \$0                  | 1.30                                | 1.35                                   | 9/30/2022        |
| 11/28/2011                                      | EIF US Power Fund IV                        | 24,741,104                                          | 50,000,000             | 0%             | \$64,917,547           | \$0                                        | \$845,564                                  | \$46,284,331           | \$4                  | 0.71                                | 1.09                                   | 9/30/2022        |
| 11/28/2016                                      | EIF US Power Fund V                         | \$32,691,643                                        | \$50,000,000           | 0%             | \$69,328,438           | \$0                                        | \$2,497,927                                | \$59,851,077           | \$6,194,129          | 0.86                                | 1.33                                   | 9/30/2022        |
| 2/21/2019                                       | Genstar Capital Partners IX, L.P.           | \$64,468,236                                        | \$50,000,000           | 1%             | \$47,421,994           | \$391,686                                  | \$63,008                                   | \$20,982,839           | \$7,684,319          | 0.44                                | 1.80                                   | 9/30/2022        |
| 4/1/2021                                        | Genstar Capital Partners X, L.P.            | \$21,937,398                                        | \$42,500,000           | 8%             | \$21,272,011           | \$3,241,563                                | \$0                                        | \$0                    | \$21,227,989         | 0.00                                | 1.03                                   | 9/30/2022        |
| 10/27/2020                                      | GTCR Fund XIII, L.P.                        | \$24,360,986                                        | \$50,000,000           | 14%            | \$25,572,753           | \$7,247,753                                | \$3,637,753                                | \$5,446,907            | \$24,427,247         | 0.21                                | 1.17                                   | 9/30/2022        |
| 5/10/2021                                       | Hellman & Friedman Capital Partners X, L.P. | 36,794,136                                          | 75,000,000             | 0%             | \$40,882,181           | \$0                                        | \$0                                        | \$0                    | \$34,117,819         | 0.00                                | 0.90                                   | 9/30/2022        |
| 11/18/2009                                      | Oaktree PIF 2009                            | \$410,257                                           | \$40,000,000           | 0%             | \$34,812,560           | \$0                                        | \$0                                        | \$47,032,470           | \$6,308,961          | 1.35                                | 1.36                                   | 12/31/2022       |
| 5/2/2013                                        | Ocean Avenue Fund II                        | \$29,593,786                                        | \$30,000,000           | 0%             | \$27,000,000           | \$0                                        | \$0                                        | \$43,184,220           | \$3,000,000          | 1.60                                | 2.70                                   | 9/30/2022        |
| 4/15/2016                                       | Ocean Avenue Fund III                       | \$50,758,432                                        | \$50,000,000           | 0%             | \$46,500,000           | \$0                                        | \$1,729,876                                | \$54,209,752           | \$3,500,000          | 1.17                                | 2.26                                   | 9/30/2022        |
| 11/30/2007                                      | Paladin III                                 | \$7,105,218                                         | \$25,000,000           | 0%             | \$34,836,639           | \$0                                        | \$0                                        | \$71,182,958           | \$387,482            | 2.04                                | 2.25                                   | 9/30/2022        |
| 8/22/2011                                       | Pathway 6                                   | \$31,985,819                                        | \$40,000,000           | 0%             | \$39,401,701           | \$54,000                                   | \$859,383                                  | \$49,683,560           | \$3,693,746          | 1.26                                | 2.07                                   | 9/30/2022        |
| 7/10/2013                                       | Pathway 7                                   | \$68,863,336                                        | \$70,000,000           | 0%             | \$69,277,586           | \$126,000                                  | \$1,663,908                                | \$80,161,813           | \$5,253,584          | 1.16                                | 2.15                                   | 9/30/2022        |
| 11/23/2015                                      | Pathway 8                                   | \$71,497,550                                        | \$50,000,000           | 1%             | \$47,951,625           | \$337,985                                  | \$794,780                                  | \$31,763,975           | \$4,006,022          | 0.66                                | 2.15                                   | 9/30/2022        |
| 1/19/1999                                       | Pathway                                     | \$3,923,720                                         | \$125,000,000          | 0%             | \$126,122,772          | \$75,500                                   | \$362,346                                  | \$188,445,935          | \$10,503,340         | 1.49                                | 1.53                                   | 9/30/2022        |
| 7/31/2009                                       | Pathway 2008                                | \$14,179,674                                        | \$30,000,000           | 0%             | \$30,101,981           | \$26,560                                   | \$477,473                                  | \$50,325,860           | \$2,717,846          | 1.67                                | 2.14                                   | 6/30/2022        |
| 6/3/2014                                        | Siguler Guff CCCERA Opportunities           | \$145,130,998                                       | \$200,000,000          | 1%             | \$175,083,208          | \$1,000,000                                | \$3,611,121                                | \$202,362,111          | \$28,597,500         | 1.16                                | 1.98                                   | 9/30/2022        |
| 5/18/2018                                       | Siris Partners IV, L.P.                     | \$39,886,406                                        | \$35,000,000           | 2%             | \$29,431,510           | \$754,625                                  | \$35,075                                   | \$4,165,217            | \$8,126,210          | 0.14                                | 1.50                                   | 9/30/2022        |
| 5/27/2021                                       | TA XIV-A, L.P.                              | \$26,789,323                                        | \$50,000,000           | 20%            | \$29,000,000           | \$10,000,000                               | \$0                                        | \$0                    | \$21,000,000         | 0.00                                | 0.92                                   | 9/30/2022        |
| 6/28/2019                                       | TPG Healthcare Partners, L.P.               | \$19,619,197                                        | \$24,000,000           | 8%             | \$20,062,184           | \$1,914,025                                | \$0                                        | \$6,221,617            | \$6,689,553          | 0.31                                | 1.29                                   | 9/30/2022        |
| 9/17/2021                                       | Trident IX, L.P.                            | \$8,574,215                                         | \$50,000,000           | 10%            | \$10,057,320           | \$4,826,395                                | \$0                                        | \$0                    | \$39,942,680         | -                                   | -                                      | 9/30/2022        |
| 5/24/2019                                       | Trident VIII, L.P.                          | \$46,300,891                                        | \$40,000,000           | 2%             | \$37,584,994           | \$699,013                                  | \$334,755                                  | \$2,942,939            | \$5,062,283          | 0.08                                | 1.31                                   | 9/30/2022        |
| 12/8/2015                                       | Wastewater Opportunity Fund                 | \$7,843,885                                         | \$25,000,000           | 8%             | \$31,512,759           | \$2,102,283                                | \$13,753,482                               | \$26,646,664           | \$521,541            | 0.85                                | 1.09                                   | 9/30/2022        |
| <b>Total Private Equity and Venture Capital</b> |                                             | <b>\$1,333,129,938</b>                              | <b>\$1,961,065,614</b> | <b>92%</b>     | <b>\$1,800,381,264</b> | <b>\$33,722,447</b>                        | <b>\$45,109,214</b>                        | <b>\$1,739,655,165</b> | <b>\$300,688,524</b> | <b>0.97</b>                         | <b>1.71</b>                            |                  |

% of Portfolio (Market Value) 13.0%

\* All Data provided by StepStone Group

<sup>1</sup>Latest valuation + capital calls - distributions

<sup>2</sup>(DPI) is equal to (capital returned / capital called)

<sup>3</sup>(TVPI) is equal to (market value + capital returned) / capital called

<sup>4</sup>Capital has been fully called and fund is in redemption.



Total Fund  
Closed End Funds - IRR Summary

Period Ending: December 31, 2022

| Private Equity & Venture Capital                  | Closing Date | Fund Level (G) <sup>2</sup> | CCCERA (G) | Fund Level (N) <sup>2,3</sup> | CCCERA (N) <sup>3</sup> | IRR Date   |
|---------------------------------------------------|--------------|-----------------------------|------------|-------------------------------|-------------------------|------------|
| Adams Street Partners                             | 2/11/2004    | 12.4%                       | -          | -                             | 12.1%                   | 9/30/2022  |
| Adams Street Partners II                          | 12/31/2008   | 17.7%                       | -          | -                             | 14.0%                   | 9/30/2022  |
| Adams Street Partners - Fund 5                    | 12/31/2008   | 9.5%                        | -          | -                             | 6.5%                    | 9/30/2022  |
| Adams Street Partners Venture                     | 1/18/1996    | 41.8%                       | 45.4%      | -                             | 43.0%                   | 9/30/2022  |
| Adams Street Partners - BPF                       | 3/31/2016    | 14.3%                       | -          | -                             | 11.6%                   | 9/30/2022  |
| AE Industrial Partners Fund II, LP                | 5/18/2018    | 32.0%                       | -          | 30.2%                         | -                       | 9/30/2022  |
| Aether Real Assets III                            | 11/27/2013   | 1.0%                        | -          | -0.6%                         | -                       | 9/30/2022  |
| Aether Real Assets III Surplus                    | 11/30/2013   | 2.4%                        | -          | 1.4%                          | -                       | 9/30/2022  |
| Aether Real Assets IV                             | 1/30/2016    | 8.6%                        | -          | 6.8%                          | -                       | 9/30/2022  |
| Bay Area Equity Fund I <sup>9</sup>               | 11/26/2003   | 31.3%                       | 31.3%      | 22.9%                         | 22.9%                   | 9/30/2022  |
| Bay Area Equity Fund II <sup>9</sup>              | 11/26/2003   | 14.3%                       | 14.3%      | 9.8%                          | 9.8%                    | 9/30/2022  |
| CommonFund                                        | 6/30/2013    | -                           | -          | -                             | 8.0%                    | 6/30/2022  |
| Energy Investor Fund II <sup>9</sup>              | 7/15/2005    | 5.7%                        | 5.3%       | 2.9%                          | 2.6%                    | 6/30/2022  |
| Energy Investor Fund III <sup>9</sup>             | 5/31/2007    | 6.8%                        | 6.7%       | 4.3%                          | 4.3%                    | 6/30/2022  |
| Energy Investor Fund IV                           | 8/31/2010    | 4.3%                        | 4.4%       | 1.2%                          | 1.1%                    | 6/30/2022  |
| Energy Investor Fund V                            | 11/28/2016   | 15.8%                       | 13.6%      | 12.2%                         | 10.0%                   | 6/30/2022  |
| Genstar Capital Partners IX, L.P.                 | 2/21/2019    | 40.8%                       | -          | 39.9%                         | -                       | 9/30/2022  |
| Oaktree PIF 2009                                  | 2/28/2010    | 6.8%                        | -          | 6.6%                          | -                       | 12/31/2022 |
| Ocean Avenue II                                   | 8/15/2013    | -                           | -          | 20.9%                         | -                       | 9/30/2022  |
| Ocean Avenue III                                  | 4/15/2016    | -                           | -          | 27.2%                         | -                       | 9/30/2022  |
| Paladin III                                       | 11/30/2007   | 20.4%                       | -          | -                             | -                       | 6/30/2022  |
| Pathway 6                                         | 8/22/2011    | 17.0%                       | 17.0%      | 14.9%                         | 14.9%                   | 9/30/2022  |
| Benchmark <sup>4</sup>                            |              | 12.7%                       | -          | -                             | -                       | 9/30/2022  |
| Pathway 7                                         | 7/10/2013    | 19.3%                       | 19.3%      | 17.3%                         | 17.3%                   | 9/30/2022  |
| Benchmark <sup>5</sup>                            |              | 13.0%                       | -          | -                             | -                       | 9/30/2022  |
| Pathway 8                                         | 11/23/2015   | 22.5%                       | 23.4%      | 21.2%                         | 21.5%                   | 9/30/2022  |
| Benchmark <sup>6</sup>                            |              | 15.8%                       | -          | -                             | -                       | 9/30/2022  |
| Pathway Private Equity Fund                       | 1/19/1999    | 10.2%                       | 10.2%      | 8.4%                          | 8.4%                    | 9/30/2022  |
| Benchmark <sup>7</sup>                            |              | -0.5%                       | -          | -                             | -                       | 9/30/2022  |
| Pathway Private Equity Fund 2008                  | 7/31/2009    | 16.8%                       | 16.8%      | 14.5%                         | 14.5%                   | 9/30/2022  |
| Benchmark <sup>8</sup>                            |              | 8.5%                        | -          | -                             | -                       | 9/30/2022  |
| Siguler Guff CCCERA Opportunities                 | 6/3/2014     | 19.5%                       | 20.3%      | 19.0%                         | 17.8%                   | 9/30/2022  |
| Siguler Guff Secondary Opportunities <sup>9</sup> | 8/31/2013    | 55.3%                       | 118.4%     | 49.5%                         | 69.0%                   | 9/30/2020  |
| Siris Partners IV, L.P.                           | 5/18/2018    | 25.0%                       | 25.0%      | 21.0%                         | 21.0%                   | 9/30/2022  |
| TPG Healthcare Partners, L.P.                     | 6/28/2019    | 35.0%                       | -          | -                             | 31.0%                   | 9/30/2022  |
| Trident VIII, L.P. <sup>1</sup>                   | 5/24/2019    | 25.2%                       | -          | 20.1%                         | -                       | 9/30/2022  |
| Wastewater Opportunity Fund                       | 12/8/2015    | 7.0%                        | -          | 3.9%                          | -                       | 9/30/2022  |

<sup>1</sup>Manager has yet to report IRR figure.

<sup>2</sup>Fund level data includes CCCERA and all other fund investors.

<sup>3</sup>Net IRR calculated after deductions of management fees and carried interest to the General Partner.

<sup>4</sup>Private IQ global all private equity median pooled return for vintage years 2011-2014, as of September 30, 2021.

<sup>5</sup>Private IQ global all private equity median pooled return for vintage years 2012-2016, as of September 30, 2021.

<sup>6</sup>Private IQ global all private equity median pooled return for vintage years 2015-2018, as of September 30, 2021.

<sup>7</sup>Private IQ global all private equity median pooled return for vintage years 1999-2011, as of September 30, 2021.

<sup>8</sup>Private IQ global all private equity median pooled return for vintage years 2008-2014, as of September 30, 2021.

<sup>9</sup>Capital has been fully called and fund is in redemption.

Total Fund  
Closed End Funds - Investment Summary

Period Ending: December 31, 2022

| StepStone Group Analysis (*)         |                                               |                                                      |                  |          |                     |                                            |                                            |                     |                      |                                      |                                         |                  |
|--------------------------------------|-----------------------------------------------|------------------------------------------------------|------------------|----------|---------------------|--------------------------------------------|--------------------------------------------|---------------------|----------------------|--------------------------------------|-----------------------------------------|------------------|
| Closing Date                         | Manager Name/Fund Name                        | Estimated Market Value as of 12/31/2022 <sup>1</sup> | Total Commitment | % Called | Contributed Capital | Current Qtr. Change in Contributed Capital | Current Qtr. Change in Distributed Capital | Total Distributions | Remaining Commitment | Distrib./ Paid-In (DPI) <sup>2</sup> | Tot. Value/ Paid-In (TVPI) <sup>3</sup> | Latest Valuation |
| <b>Private Credit</b>                |                                               |                                                      |                  |          |                     |                                            |                                            |                     |                      |                                      |                                         |                  |
| 8/31/2015                            | Angelo Gordon Energy Credit Opp. <sup>4</sup> | \$1,854,643                                          | \$16,500,000     | 0%       | \$18,750,000        | \$0                                        | \$0                                        | \$20,410,032        | \$2,319,783          | 1.09                                 | 1.19                                    | 9/30/2022        |
| 12/18/2017                           | Stepstone CC Opportunities Fund               | \$1,015,672,419                                      | \$1,170,000,000  | 8%       | \$960,385,255       | \$94,051,061                               | \$27,315,996                               | \$165,082,795       | \$301,974,445        | 0.17                                 | 1.23                                    | 9/30/2022        |
| 8/1/2012                             | Torchlight IV                                 | \$5,916,812                                          | \$60,000,000     | 0%       | \$84,866,971        | \$0                                        | \$2,115,017                                | \$108,261,644       | \$0                  |                                      | 1.35                                    | 12/31/2022       |
| 3/12/2015                            | Torchlight V                                  | \$7,631,737                                          | \$75,000,000     | 0%       | \$60,000,000        | \$0                                        | \$662,261                                  | \$71,460,214        | \$15,000,000         |                                      | 1.32                                    | 9/30/2022        |
| <b>Total Private Credit</b>          |                                               | <b>\$1,031,075,611</b>                               |                  |          |                     |                                            |                                            |                     |                      |                                      |                                         |                  |
| <b>% of Portfolio (Market Value)</b> |                                               | <b>10.1%</b>                                         |                  |          |                     |                                            |                                            |                     |                      |                                      |                                         |                  |

\*All Data provided by StepStone Group

<sup>1</sup>Latest valuation + capital calls - distributions

<sup>2</sup>(DPI) is equal to (capital returned / capital called)

<sup>3</sup>(TVPI) is equal to (market value + capital returned) / capital called

<sup>4</sup>Capital has been fully called and fund is in redemption.

Total Fund  
Closed End Funds - Investment Summary

Period Ending: December 31, 2022

| Verus Internal Analysis              |                                             |                                                      |                        |                |                            |                             |                            |                                  |                           |                                     |                                        |                  |
|--------------------------------------|---------------------------------------------|------------------------------------------------------|------------------------|----------------|----------------------------|-----------------------------|----------------------------|----------------------------------|---------------------------|-------------------------------------|----------------------------------------|------------------|
| Inception Date                       | Manager Name/Fund Name                      | Estimated Market Value as of 12/31/2022 <sup>1</sup> | Total Commitment       | Total % Called | Capital Called             | Current Qtr. Capital Called | Current Qtr. Distributions | Total Distributions <sup>8</sup> | Remaining Commitment      | Distrib./Paid-In (DPI) <sup>2</sup> | Tot. Value/Paid-In (TVPI) <sup>3</sup> | Latest Valuation |
| <b>Real Estate</b>                   |                                             |                                                      |                        |                |                            |                             |                            |                                  |                           |                                     |                                        |                  |
| 1/23/2012                            | Angelo Gordon Realty Fund VIII <sup>4</sup> | \$12,654,479                                         | \$80,000,000           | 94%            | \$75,401,855               | \$0                         | \$0                        | \$101,711,550                    | \$12,334,302              | 1.35                                | 1.52                                   | 9/30/2022        |
| 12/8/2014                            | Angelo Gordon Realty Fund IX                | \$31,461,369                                         | \$65,000,000           | 93%            | \$60,125,000               | \$0                         | \$0                        | \$53,950,001                     | \$7,572,500               | 0.90                                | 1.42                                   | 9/30/2022        |
| 6/23/2005                            | DLJ RECP III                                | \$11,711,727                                         | \$75,000,000           | 134%           | \$100,709,313 <sup>4</sup> | \$0                         | \$3,645,944                | \$69,364,915                     | \$4,031,338               | 0.69                                | 0.81                                   | 9/30/2022        |
| 2/11/2008                            | DLJ RECP IV                                 | \$52,153,148                                         | \$100,000,000          | 130%           | \$130,117,329 <sup>5</sup> | \$0                         | \$0                        | \$99,841,735                     | \$1,876,084               | 0.77                                | 1.17                                   | 9/30/2022        |
| 7/1/2014                             | DLJ RECP V                                  | \$30,272,207                                         | \$75,000,000           | 132%           | \$98,684,517 <sup>6</sup>  | \$0                         | \$0                        | \$97,880,214                     | \$15,567,682              | 0.99                                | 1.30                                   | 9/30/2022        |
| 3/19/2019                            | DLJ RECP VI                                 | \$22,181,968                                         | \$50,000,000           | 60%            | \$30,103,770               | \$0                         | \$0                        | \$13,276,083                     | \$22,649,572              | 0.44                                | 1.18                                   | 9/30/2022        |
| 6/30/2014                            | Invesco Real Estate IV <sup>4</sup>         | \$976,002                                            | \$35,000,000           | 87%            | \$30,546,401               | \$0                         | \$864,144                  | \$39,777,325                     | \$4,453,599               | 1.30                                | 1.33                                   | 12/31/2022       |
| 2/20/2019                            | Invesco Real Estate V                       | \$70,918,241                                         | \$75,000,000           | 79%            | \$58,980,934               | \$0                         | \$0                        | \$9,319,462                      | \$16,019,066              | 0.16                                | 1.36                                   | 12/31/2022       |
| 9/27/2022                            | Invesco Real Estate VI                      | \$34,420,390                                         | \$100,000,000          | 33%            | \$33,126,592               | \$0                         | \$0                        | \$2,230,131                      | \$66,873,408              | 0.07                                | 1.11                                   | N/A              |
| 7/16/2013                            | LaSalle Income & Growth VI <sup>4</sup>     | \$14,586,380                                         | \$75,000,000           | 95%            | \$71,428,571               | \$0                         | \$0                        | \$84,535,301                     | \$0                       | 1.18                                | 1.39                                   | 9/30/2022        |
| 2/28/2017                            | LaSalle Income & Growth VII                 | \$53,179,316                                         | \$75,000,000           | 110%           | \$82,873,358               | \$2,936,724                 | \$0                        | \$61,623,058                     | \$2,922,629               | 0.74                                | 1.39                                   | 9/30/2022        |
| 7/3/2013                             | Long Wharf Fund IV <sup>4</sup>             | \$1,259,888                                          | \$25,000,000           | 100%           | \$25,000,000               | \$0                         | \$49,319                   | \$34,948,087                     | \$0                       | 1.40                                | 1.45                                   | 12/31/2022       |
| 9/30/2016                            | Long Wharf Fund V <sup>4</sup>              | \$30,826,546                                         | \$50,000,000           | 100%           | \$50,000,000               | \$0                         | \$0                        | \$37,244,373                     | \$0                       | 0.74                                | 1.36                                   | 12/31/2022       |
| 6/27/2019                            | Long Wharf Fund VI                          | \$29,861,210                                         | \$50,000,000           | 88%            | \$44,063,428               | \$8,810,704                 | \$6,045,589                | \$24,876,113                     | \$5,936,572               | 0.56                                | 1.24                                   | 12/31/2022       |
| 12/31/2011                           | Oaktree REOF V <sup>4</sup>                 | \$1,020,660                                          | \$50,000,000           | 101%           | \$50,315,673               | \$0                         | \$0                        | \$78,780,733                     | \$5,000,000 <sup>9</sup>  | 1.57                                | 1.59                                   | 12/31/2022       |
| 9/30/2013                            | Oaktree REOF VI <sup>4</sup>                | \$23,764,467                                         | \$80,000,000           | 100%           | \$80,000,000               | \$0                         | \$0                        | \$84,010,175                     | \$18,400,000 <sup>9</sup> | 1.05                                | 1.35                                   | 12/31/2022       |
| 4/1/2015                             | Oaktree REOF VII                            | \$47,247,708                                         | \$65,000,000           | 100%           | \$65,000,000               | \$0                         | \$0                        | \$42,829,688                     | \$18,915,000 <sup>9</sup> | 0.66                                | 1.39                                   | 12/31/2022       |
| 11/10/2013                           | Paulson Real Estate Fund II <sup>4</sup>    | \$15,348,670                                         | \$20,000,000           | 97%            | \$19,345,623               | \$0                         | \$0                        | \$24,069,538                     | \$654,377                 | 1.24                                | 2.04                                   | 9/30/2022        |
| 4/28/2022                            | PCCP IX                                     | \$39,256,049                                         | \$75,000,000           | 61%            | \$45,926,564               | \$5,625,000                 | \$0                        | \$0                              | \$29,073,436              | 0.00                                | 0.85                                   | 9/30/2022        |
| 1/25/2012                            | Siguler Guff DREOF                          | \$17,896,774                                         | \$75,000,000           | 93%            | \$69,375,000               | \$0                         | \$1,465,883                | \$105,236,994                    | \$5,625,000               | 1.52                                | 1.77                                   | 9/30/2022        |
| 8/31/2013                            | Siguler Guff DREOF II                       | \$30,246,004                                         | \$70,000,000           | 89%            | \$61,985,000               | \$0                         | \$2,299,191                | \$57,990,977                     | \$8,015,000               | 0.94                                | 1.42                                   | 9/30/2022        |
| 1/27/2016                            | Siguler Guff DREOF II Co-Inv                | \$12,566,248                                         | \$25,000,000           | 82%            | \$20,537,862               | \$0                         | \$0                        | \$13,871,261                     | \$4,462,138               | 0.68                                | 1.29                                   | 9/30/2022        |
| <b>Total Closed End Real Estate</b>  |                                             | <b>\$583,809,451</b>                                 | <b>\$1,450,000,000</b> | <b>94%</b>     | <b>\$1,355,971,677</b>     | <b>\$17,372,428</b>         | <b>\$14,370,070</b>        | <b>\$1,212,421,822</b>           | <b>\$252,995,280</b>      | <b>0.89</b>                         | <b>1.32</b>                            |                  |
| <b>% of Portfolio (Market Value)</b> |                                             | <b>5.7%</b>                                          |                        |                |                            |                             |                            |                                  |                           |                                     |                                        |                  |

<sup>1</sup>Latest valuation + capital calls - distributions

<sup>2</sup>(DPI) is equal to (capital returned / capital called)

<sup>3</sup>(TVPI) is equal to (market value + capital returned) / capital called

<sup>4</sup>Capital has been fully called and fund is in redemption.

<sup>5</sup>Total distributions may include recallable distributions

<sup>6</sup>Remianing commitment includes recallable distributions



Total Fund  
Closed End Funds - IRR Summary

Period Ending: December 31, 2022

| Private Credit                              | Inception  | Fund Level (G) <sup>2</sup> | CCCERA (G) | Fund Level (N) <sup>2,3</sup> | CCCERA (N) <sup>3</sup> | IRR Date   |
|---------------------------------------------|------------|-----------------------------|------------|-------------------------------|-------------------------|------------|
| Angelo Gordon Energy Cred Opp. <sup>4</sup> | 9/24/2015  | -                           | -          | -                             | 6.9%                    | 9/30/2022  |
| Stepstone CC Opportunities Fund             | 2/2/2018   | -                           | 10.0%      | -                             | 9.1%                    | 9/30/2022  |
| Torchlight IV                               | 8/1/2012   | 11.5%                       | 12.0%      | 9.3%                          | 10.0%                   | 9/30/2022  |
| Torchlight V                                | 3/12/2015  | 14.9%                       | 14.9%      | 10.5%                         | 10.5%                   | 9/30/2022  |
| Real Estate                                 | Inception  | Fund Level (G) <sup>2</sup> | CCCERA (G) | Fund Level (N) <sup>2,3</sup> | CCCERA (N) <sup>3</sup> | IRR Date   |
| Angelo Gordon VIII <sup>4</sup>             | 1/23/2012  | -                           | -          | -                             | 12.6%                   | 9/30/2022  |
| Angelo Gordon IX                            | 12/8/2014  | -                           | -          | -                             | 8.5%                    | 9/30/2022  |
| DLJ RECP III                                | 6/23/2005  | -1.0%                       | -1.0%      | -3.0%                         | -3.0%                   | 9/30/2022  |
| DLJ RECP IV                                 | 2/11/2008  | 5.0%                        | 5.0%       | 2.0%                          | 2.0%                    | 9/30/2022  |
| DLJ RECP V                                  | 7/1/2014   | 16.0%                       | 16.0%      | 9.0%                          | 9.0%                    | 9/30/2022  |
| DLJ RECP VI <sup>1</sup>                    | 3/19/2019  | 7.0%                        | 7.0%       | 1.0%                          | 2.0%                    | 9/30/2022  |
| Hearthstone II <sup>4</sup>                 | 6/17/1998  | -                           | 30.3%      | -                             | 30.3%                   | 3/31/2020  |
| Invesco Fund III <sup>4</sup>               | 6/30/2013  | 16.6%                       | -          | 13.6%                         | -                       | 12/31/2020 |
| Invesco Fund IV <sup>4</sup>                | 6/30/2014  | 13.8%                       | -          | 10.8%                         | -                       | 9/30/2022  |
| Invesco Fund V                              | 2/20/2019  | 21.4%                       | -          | 15.4%                         | -                       | 9/30/2022  |
| Invesco Fund VI                             | 9/27/2022  | -                           | -          | -                             | -                       | N/A        |
| LaSalle Income & Growth VI <sup>4</sup>     | 7/16/2013  | 11.0%                       | 11.0%      | 9.0%                          | 9.0%                    | 12/31/2022 |
| LaSalle Income & Growth VII                 | 2/28/2017  | 11.4%                       | 11.4%      | 9.6%                          | 9.6%                    | 12/31/2022 |
| Long Wharf IV <sup>4</sup>                  | 7/3/2013   | 11.4%                       | 11.9%      | 8.7%                          | 9.1%                    | 12/31/2022 |
| Long Wharf V <sup>4</sup>                   | 9/30/2016  | 16.1%                       | 15.5%      | 11.7%                         | 11.6%                   | 12/31/2022 |
| Long Wharf VI                               | 6/27/2019  | 39.7%                       | 44.2%      | 24.8%                         | 27.1%                   | 12/31/2022 |
| Oaktree REOF V <sup>4</sup>                 | 12/31/2011 | 16.6%                       | -          | 12.3%                         | -                       | 12/31/2022 |
| Oaktree REOF VI <sup>4</sup>                | 9/30/2013  | 11.1%                       | -          | 7.3%                          | -                       | 12/31/2022 |
| Oaktree REOF VII                            | 4/1/2015   | 21.4%                       | -          | 14.1%                         | -                       | 12/31/2022 |
| Paulson <sup>4</sup>                        | 11/10/2013 | 18.0%                       | -          | 12.0%                         | -                       | 12/31/2021 |
| PCCP IX                                     | 5/27/2021  | 22.4%                       | -          | 24.8%                         | -                       | 9/30/2022  |
| Siguler Guff I                              | 1/25/2012  | 12.7%                       | 15.4%      | 11.2%                         | 12.4%                   | 9/30/2022  |
| Siguler Guff II                             | 8/31/2013  | 10.3%                       | 10.4%      | 9.0%                          | 8.3%                    | 9/30/2022  |
| Siguler Guff DREOF II Co-Inv                | 1/27/2016  | 6.9%                        | 7.1%       | 5.9%                          | 569.0%                  | 9/30/2022  |

<sup>1</sup>Manager has yet to report IRR figure.

<sup>2</sup>Fund level data includes CCCERA and all other fund investors.

<sup>3</sup>Net IRR calculated after deductions of management fees and carried interest to the General Partner.

<sup>4</sup>Capital has been fully called and fund is in redemption.

Total Fund  
Performance Analysis - 3 Years (Net of Fees)

Period Ending: December 31, 2022

3 Years

|                                  | Anlzd Ret | Ann Excess<br>BM Return | Anlzd Std<br>Dev | Anlzd Alpha | Beta | Tracking<br>Error | R-Squared | Sharpe Ratio | Info Ratio | Up Mkt Cap<br>Ratio | Down Mkt<br>Cap Ratio |
|----------------------------------|-----------|-------------------------|------------------|-------------|------|-------------------|-----------|--------------|------------|---------------------|-----------------------|
| BlackRock Russell 1000 Index     | 7.34%     | -0.01%                  | 21.62%           | -0.01%      | 1.00 | 0.01%             | 1.00      | 0.31         | -0.84      | 99.95%              | 100.00%               |
| Boston Partners                  | 8.83%     | 2.87%                   | 22.56%           | 2.66%       | 1.04 | 3.23%             | 0.98      | 0.36         | 0.89       | 108.08%             | 97.38%                |
| Emerald Advisers                 | 3.18%     | 2.53%                   | 25.72%           | 2.56%       | 0.95 | 5.69%             | 0.95      | 0.10         | 0.44       | 104.32%             | 97.37%                |
| Ceredex                          | 5.74%     | 1.04%                   | 25.02%           | 1.63%       | 0.87 | 7.32%             | 0.93      | 0.20         | 0.14       | 81.90%              | 90.27%                |
| Pyrford                          | 1.13%     | 1.07%                   | 16.68%           | 1.08%       | 0.74 | 7.65%             | 0.90      | 0.03         | 0.14       | 75.66%              | 84.33%                |
| William Blair                    | 1.69%     | 2.08%                   | 21.79%           | 2.12%       | 1.09 | 6.13%             | 0.93      | 0.05         | 0.34       | 130.49%             | 107.22%               |
| PIMCO RAE Emerging Markets       | 2.05%     | 4.67%                   | 23.71%           | 4.93%       | 1.10 | 7.13%             | 0.92      | 0.06         | 0.66       | 127.15%             | 99.06%                |
| TT Emerging Markets              | -4.51%    | -1.82%                  | 24.13%           | -1.44%      | 1.14 | 6.50%             | 0.94      | -0.21        | -0.28      | 127.48%             | 113.60%               |
| Artisan Partners                 | 3.89%     | 0.14%                   | 21.68%           | 0.27%       | 0.97 | 5.15%             | 0.94      | 0.15         | 0.03       | 91.39%              | 95.61%                |
| First Eagle                      | 4.19%     | 0.89%                   | 15.82%           | 1.71%       | 0.75 | 6.26%             | 0.95      | 0.22         | 0.14       | 76.18%              | 83.67%                |
| Allianz Global Investors         | -0.72%    | -0.49%                  | 10.44%           | -0.51%      | 0.92 | 1.95%             | 0.97      | -0.13        | -0.25      | 89.32%              | 95.78%                |
| Adelante                         | 0.63%     | 1.11%                   | 22.23%           | 1.09%       | 0.95 | 1.82%             | 1.00      | 0.00         | 0.61       | 97.70%              | 97.07%                |
| AQR Global Risk Premium-EL       | -0.90%    | 2.38%                   | 10.96%           | 2.12%       | 0.92 | 2.25%             | 0.97      | -0.14        | 1.06       | 99.10%              | 88.85%                |
| PanAgora Risk Parity Multi Asset | -3.23%    | 0.06%                   | 15.52%           | 1.03%       | 1.29 | 4.77%             | 0.95      | -0.25        | 0.01       | 143.36%             | 118.50%               |
| AFL-CIO                          | -3.15%    | -0.43%                  | 5.44%            | -0.68%      | 0.91 | 1.21%             | 0.96      | -0.70        | -0.36      | 80.14%              | 93.04%                |
| DFA Short Credit                 | -1.10%    | -0.43%                  | 2.89%            | -0.41%      | 1.03 | 1.32%             | 0.79      | -0.60        | -0.32      | 88.37%              | 103.32%               |
| Insight Short Duration           | 0.65%     | 0.97%                   | 2.17%            | 0.87%       | 0.69 | 1.89%             | 0.30      | 0.00         | 0.51       | 93.79%              | 53.01%                |
| Sit Short Duration               | -0.42%    | 0.04%                   | 2.70%            | 0.21%       | 1.37 | 1.36%             | 0.80      | -0.39        | 0.03       | 163.35%             | 144.03%               |

Performance Analysis excludes closed end funds and those funds without 3 years of performance.

Total Fund  
Performance Analysis - 5 Years (Net of Fees)

Period Ending: December 31, 2022

|                              | 5 Years   |                         |                  |             |      |                   |           |              |            |                     |                       |  |
|------------------------------|-----------|-------------------------|------------------|-------------|------|-------------------|-----------|--------------|------------|---------------------|-----------------------|--|
|                              | Anlzd Ret | Ann Excess<br>BM Return | Anlzd Std<br>Dev | Anlzd Alpha | Beta | Tracking<br>Error | R-Squared | Sharpe Ratio | Info Ratio | Up Mkt Cap<br>Ratio | Down Mkt<br>Cap Ratio |  |
| BlackRock Russell 1000 Index | 9.11%     | -0.02%                  | 19.04%           | -0.02%      | 1.00 | 0.02%             | 1.00      | 0.42         | -1.37      | 99.89%              | 100.00%               |  |
| Boston Partners              | 7.77%     | 1.10%                   | 19.77%           | 0.86%       | 1.04 | 3.03%             | 0.98      | 0.33         | 0.36       | 105.93%             | 99.65%                |  |
| Emerald Advisers             | 4.88%     | 1.38%                   | 23.70%           | 1.51%       | 0.96 | 5.49%             | 0.95      | 0.16         | 0.25       | 102.47%             | 98.63%                |  |
| Ceredex                      | 4.18%     | 0.05%                   | 22.41%           | 0.49%       | 0.89 | 6.39%             | 0.93      | 0.13         | 0.01       | 81.55%              | 94.86%                |  |
| Pyrford                      | 2.39%     | 2.44%                   | 14.55%           | 2.43%       | 0.74 | 6.71%             | 0.90      | 0.08         | 0.36       | 71.67%              | 82.80%                |  |
| William Blair                | 2.76%     | 1.27%                   | 19.02%           | 1.16%       | 1.08 | 5.02%             | 0.94      | 0.08         | 0.25       | 124.65%             | 104.51%               |  |
| PIMCO RAE Emerging Markets   | 1.16%     | 2.75%                   | 21.00%           | 2.88%       | 1.08 | 5.77%             | 0.93      | 0.00         | 0.48       | 121.23%             | 99.91%                |  |
| TT Emerging Markets          | -2.63%    | -1.24%                  | 21.50%           | -1.09%      | 1.11 | 5.63%             | 0.94      | -0.18        | -0.22      | 125.63%             | 108.03%               |  |
| Artisan Partners             | 6.86%     | 0.49%                   | 19.14%           | 0.65%       | 0.97 | 4.32%             | 0.95      | 0.30         | 0.11       | 94.63%              | 96.98%                |  |
| First Eagle                  | 4.48%     | 1.02%                   | 13.75%           | 1.90%       | 0.75 | 5.59%             | 0.94      | 0.24         | 0.18       | 68.32%              | 82.36%                |  |
| Allianz Global Investors     | 1.60%     | -0.52%                  | 8.70%            | -0.37%      | 0.93 | 1.62%             | 0.97      | 0.05         | -0.32      | 91.98%              | 98.30%                |  |
| Adelante                     | 4.19%     | 0.84%                   | 19.18%           | 1.00%       | 0.95 | 1.75%             | 0.99      | 0.16         | 0.48       | 95.68%              | 97.00%                |  |
| AFL-CIO                      | -0.39%    | -0.41%                  | 4.78%            | -0.41%      | 0.92 | 1.03%             | 0.96      | -0.33        | -0.40      | 83.79%              | 93.26%                |  |
| DFA Short Credit             | 0.56%     | -0.31%                  | 2.45%            | -0.30%      | 0.99 | 1.08%             | 0.81      | -0.26        | -0.29      | 88.95%              | 99.12%                |  |
| Insight Short Duration       | 1.63%     | 0.71%                   | 1.78%            | 0.99%       | 0.70 | 1.49%             | 0.37      | 0.25         | 0.48       | 93.85%              | 44.17%                |  |
| Sit Short Duration           | 1.13%     | 0.39%                   | 2.53%            | 0.05%       | 1.45 | 1.27%             | 0.83      | -0.02        | 0.30       | 164.81%             | 159.20%               |  |

Performance Analysis excludes closed end funds and those funds without 5 years of performance.

# Total Fund Investment Fund Fee Analysis

Period Ending: December 31, 2022

| Name                         | Asset Class | Fee Schedule                                                                                                                                             | Market Value  | Estimated Fee Value | Estimated Fee |
|------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------|---------------|
| BlackRock Russell 1000 Index | Growth      | 0.03% of Assets                                                                                                                                          | \$871,082,993 | \$261,325           | 0.03%         |
| Boston Partners              | Growth      | 0.50% of First 25.0 Mil,<br>0.30% Thereafter                                                                                                             | \$399,005,510 | \$1,247,017         | 0.31%         |
| Emerald Advisers             | Growth      | 0.75% of First 10.0 Mil,<br>0.60% Thereafter                                                                                                             | \$195,522,418 | \$1,188,135         | 0.61%         |
| Ceredex                      | Growth      | 0.85% of First 10.0 Mil,<br>0.68% of Next 40.0 Mil,<br>0.51% Thereafter                                                                                  | \$193,019,137 | \$1,086,398         | 0.56%         |
| Pyrford                      | Growth      | 0.70% of First 50.0 Mil,<br>0.50% of Next 50.0 Mil,<br>0.35% Thereafter                                                                                  | \$436,308,732 | \$1,777,081         | 0.41%         |
| William Blair                | Growth      | 0.80% of First 20.0 Mil,<br>0.60% of Next 30.0 Mil,<br>0.50% of Next 50.0 Mil,<br>0.45% of Next 50.0 Mil,<br>0.40% of Next 50.0 Mil,<br>0.30% Thereafter | \$406,935,101 | \$1,635,805         | 0.40%         |
| PIMCO RAE Emerging Markets   | Growth      | 0.75% of First 50.0 Mil,<br>0.68% of Next 50.0 Mil,<br>0.50% of Next 100.0 Mil,<br>0.45% Thereafter                                                      | \$348,122,745 | \$1,879,052         | 0.54%         |
| TT Emerging Markets          | Growth      | 0.70% of First 100.0 Mil,<br>0.65% of Next 100.0 Mil,<br>0.60% Thereafter                                                                                | \$314,180,385 | \$2,035,082         | 0.65%         |
| Artisan Partners             | Growth      | 0.75% of Assets                                                                                                                                          | \$464,457,135 | \$3,483,429         | 0.75%         |
| First Eagle                  | Growth      | 0.75% of Assets                                                                                                                                          | \$493,124,169 | \$3,698,431         | 0.75%         |
| Allianz Global Investors     | Growth      | 0.50% of First 50.0 Mil,<br>0.40% of Next 50.0 Mil,<br>0.35% Thereafter                                                                                  | \$139,937,548 | \$589,781           | 0.42%         |
| Invesco US Fundamental Beta  | Growth      | 0.15% of Assets                                                                                                                                          | \$106,573,866 | \$159,861           | 0.15%         |
| AQR Global Risk Premium-EL   | Growth      | 0.38% of Assets                                                                                                                                          | \$165,496,345 | \$628,886           | 0.38%         |

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

# Total Fund Investment Fund Fee Analysis

Period Ending: December 31, 2022

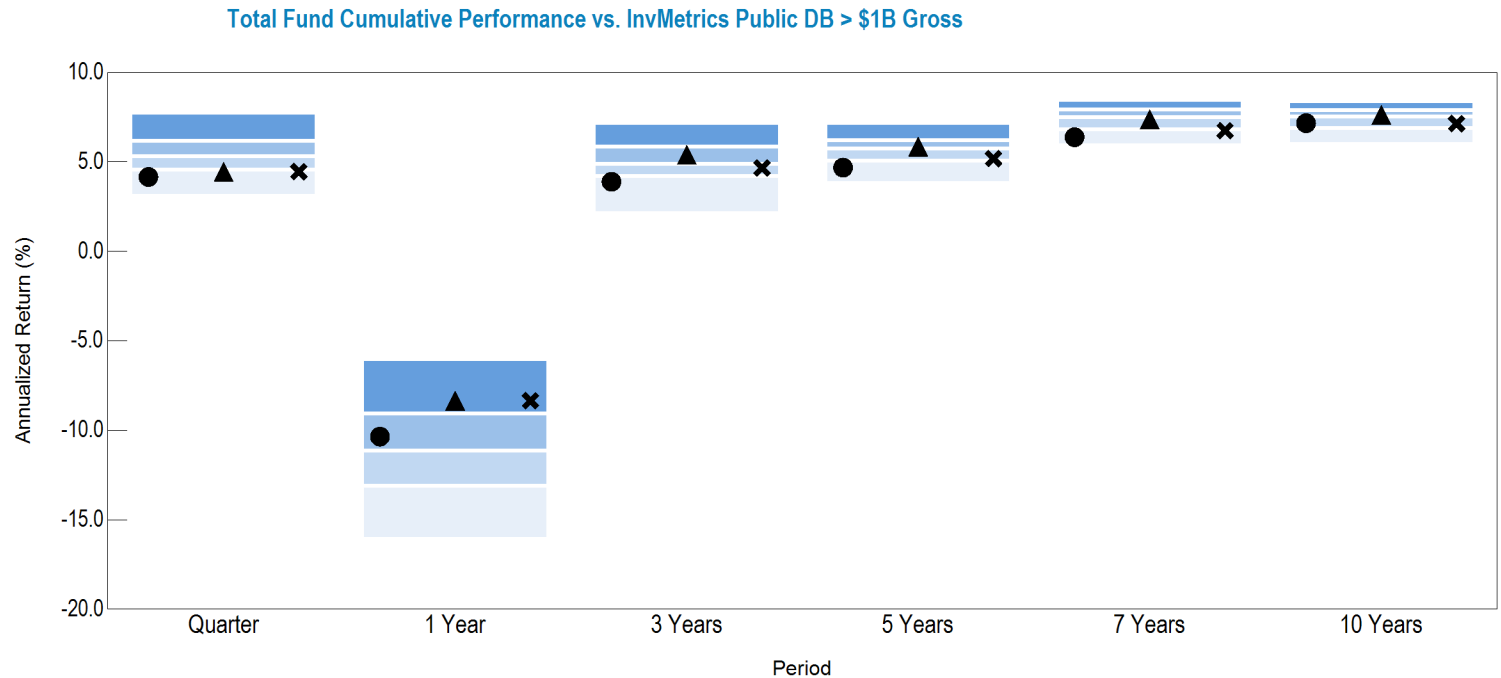
| Name                                     | Asset Class  | Fee Schedule                                                              | Market Value  | Estimated Fee Value | Estimated Fee |
|------------------------------------------|--------------|---------------------------------------------------------------------------|---------------|---------------------|---------------|
| PanAgora Risk Parity Multi Asset         | Growth       | 0.35% of Assets                                                           | \$159,238,057 | \$557,333           | 0.35%         |
| AFL-CIO                                  | Diversifying | 0.32% of Assets                                                           | \$220,337,258 | \$705,079           | 0.32%         |
| Acadian Multi-Asset Absolute Return Fund | Diversifying | 0.50% of Assets                                                           | \$254,025,032 | \$1,270,125         | 0.50%         |
| Sit LLCAR                                | Diversifying | 0.39% of First 200.0 Mil,<br>0.35% Thereafter                             | \$295,406,233 | \$1,113,922         | 0.38%         |
| DFA Short Credit                         | Liquidity    | 0.20% of First 25.0 Mil,<br>0.10% Thereafter                              | \$343,235,798 | \$368,236           | 0.11%         |
| Insight Short Duration                   | Liquidity    | 0.06% of First 500.0 Mil,<br>0.05% of Next 500.0 Mil,<br>0.04% Thereafter | \$559,011,052 | \$329,506           | 0.06%         |
| Sit Short Duration                       | Liquidity    | 0.15% of Assets                                                           | \$622,499,883 | \$933,750           | 0.15%         |

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

# Total Fund

## Peer Universe Comparison: Cumulative Performance (Gross of Fees)

Period Ending: December 31, 2022



|                                  | Quarter |      | 1 Year |      | 3 Years |      | 5 Years |      | 7 Years |      | 10 Years |      |
|----------------------------------|---------|------|--------|------|---------|------|---------|------|---------|------|----------|------|
| <b>5th Percentile</b>            | 7.7     |      | -6.0   |      | 7.2     |      | 7.2     |      | 8.4     |      | 8.4      |      |
| <b>25th Percentile</b>           | 6.2     |      | -9.0   |      | 5.9     |      | 6.2     |      | 7.9     |      | 7.9      |      |
| <b>Median</b>                    | 5.3     |      | -11.1  |      | 4.9     |      | 5.8     |      | 7.5     |      | 7.6      |      |
| <b>75th Percentile</b>           | 4.6     |      | -13.1  |      | 4.2     |      | 5.1     |      | 6.8     |      | 6.9      |      |
| <b>95th Percentile</b>           | 3.1     |      | -16.1  |      | 2.2     |      | 3.8     |      | 5.9     |      | 6.0      |      |
| <b># of Portfolios</b>           | 75      |      | 75     |      | 73      |      | 73      |      | 73      |      | 68       |      |
| <b>● Total Fund</b>              | 4.2     | (87) | -10.4  | (42) | 3.9     | (81) | 4.7     | (83) | 6.4     | (89) | 7.2      | (70) |
| <b>▲ Policy Index</b>            | 4.5     | (79) | -8.3   | (20) | 5.4     | (38) | 5.9     | (44) | 7.4     | (55) | 7.6      | (46) |
| <b>✕ Policy Index (Adjusted)</b> | 4.5     | (79) | -8.3   | (20) | 4.7     | (57) | 5.2     | (67) | 6.7     | (81) | 7.1      | (71) |

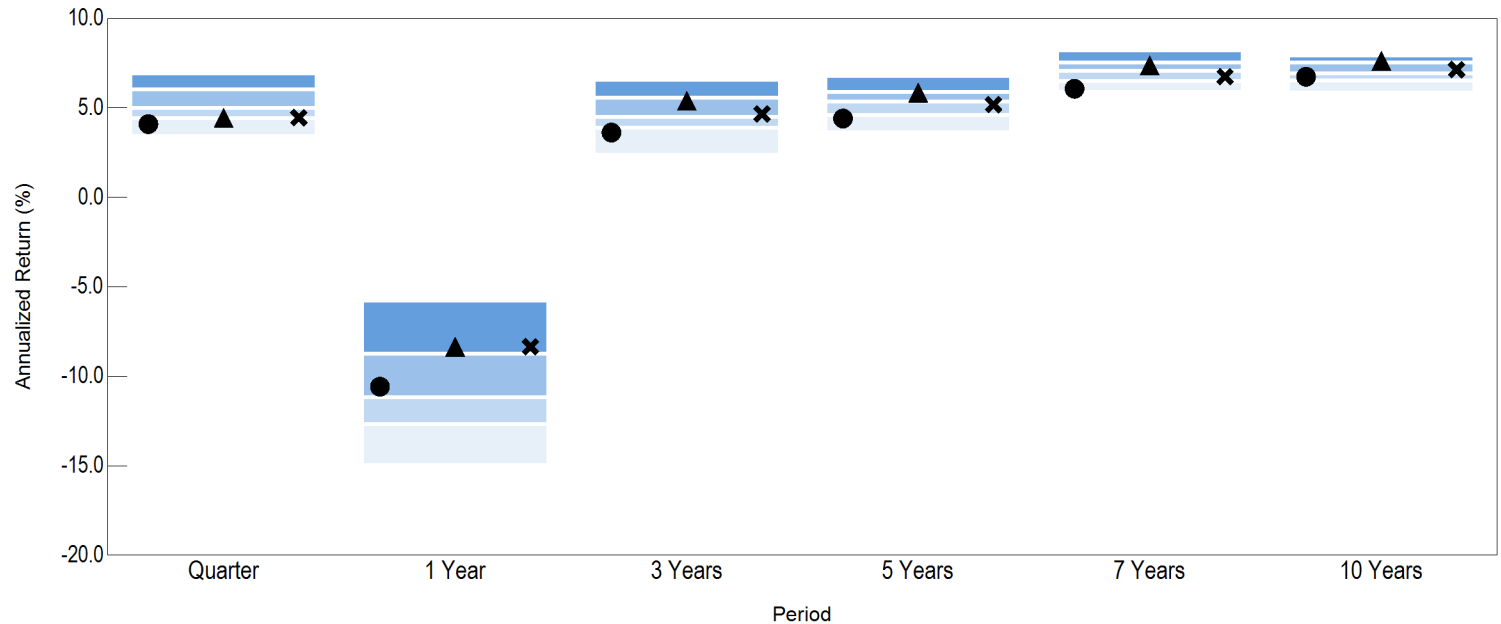
Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund

Peer Universe Comparison: Cumulative Performance (Net of Fees)

Period Ending: December 31, 2022

Total Fund Cumulative Performance vs. InvMetrics Public DB > \$1B Net



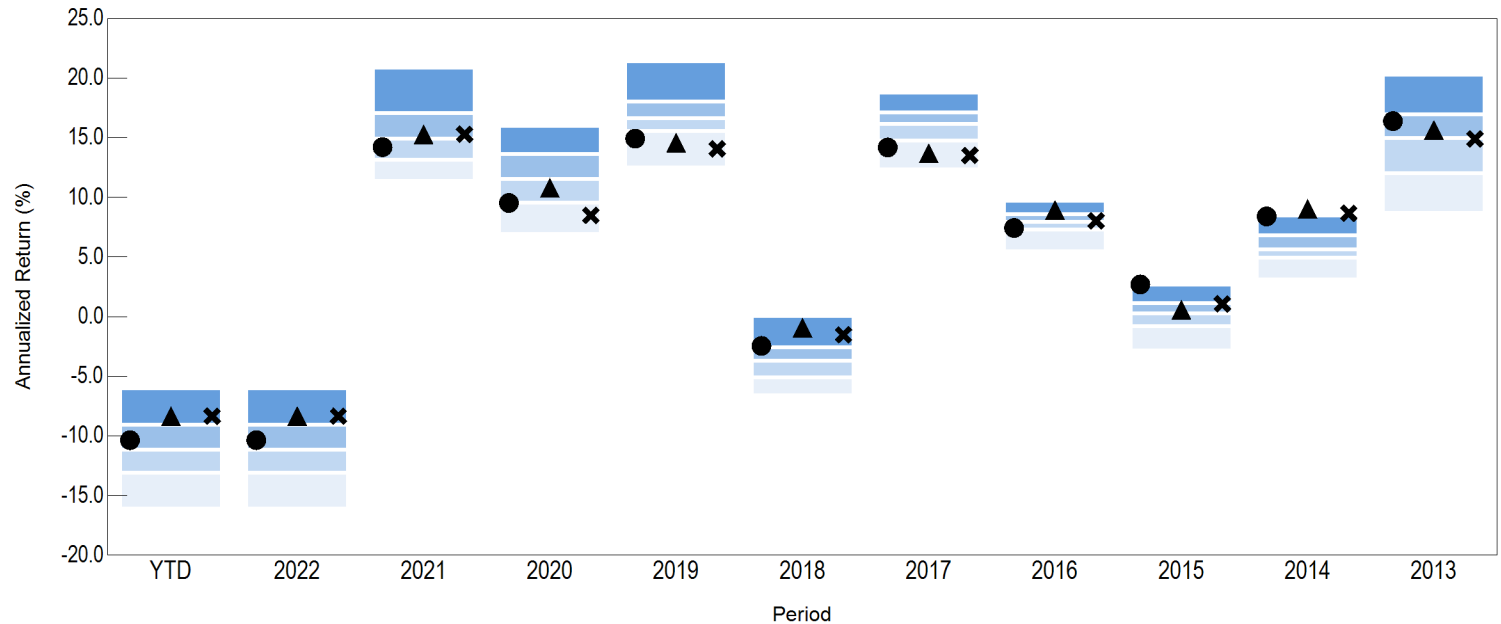
|                                  | Quarter |      | 1 Year |      | 3 Years |      | 5 Years |      | 7 Years |      | 10 Years |      |
|----------------------------------|---------|------|--------|------|---------|------|---------|------|---------|------|----------|------|
| <b>5th Percentile</b>            | 6.9     |      | -5.8   |      | 6.6     |      | 6.8     |      | 8.2     |      | 7.9      |      |
| <b>25th Percentile</b>           | 6.0     |      | -8.7   |      | 5.6     |      | 5.9     |      | 7.6     |      | 7.5      |      |
| <b>Median</b>                    | 5.0     |      | -11.1  |      | 4.5     |      | 5.4     |      | 7.1     |      | 6.9      |      |
| <b>75th Percentile</b>           | 4.4     |      | -12.7  |      | 3.9     |      | 4.6     |      | 6.5     |      | 6.6      |      |
| <b>95th Percentile</b>           | 3.5     |      | -15.0  |      | 2.4     |      | 3.7     |      | 5.9     |      | 5.9      |      |
| <b># of Portfolios</b>           | 59      |      | 59     |      | 57      |      | 57      |      | 57      |      | 54       |      |
| <b>● Total Fund</b>              | 4.1     | (83) | -10.6  | (48) | 3.6     | (82) | 4.4     | (85) | 6.1     | (88) | 6.7      | (62) |
| <b>▲ Policy Index</b>            | 4.5     | (75) | -8.3   | (23) | 5.4     | (31) | 5.9     | (26) | 7.4     | (35) | 7.6      | (20) |
| <b>✕ Policy Index (Adjusted)</b> | 4.5     | (75) | -8.3   | (23) | 4.7     | (46) | 5.2     | (57) | 6.7     | (61) | 7.1      | (46) |

# Total Fund

## Peer Universe Comparison: Consecutive Periods (Gross of Fees)

Period Ending: December 31, 2022

Total Fund Consecutive Periods vs. InvMetrics Public DB > \$1B Gross



|                           | Return (Rank) |            |           |           |           |           |           |          |          |         |           |  |
|---------------------------|---------------|------------|-----------|-----------|-----------|-----------|-----------|----------|----------|---------|-----------|--|
|                           | YTD           | 2022       | 2021      | 2020      | 2019      | 2018      | 2017      | 2016     | 2015     | 2014    | 2013      |  |
| 5th Percentile            | -6.0          | -6.0       | 20.9      | 16.0      | 21.4      | 0.0       | 18.8      | 9.7      | 2.7      | 8.5     | 20.2      |  |
| 25th Percentile           | -9.0          | -9.0       | 17.1      | 13.6      | 18.1      | -2.6      | 17.2      | 8.6      | 1.1      | 6.8     | 17.0      |  |
| Median                    | -11.1         | -11.1      | 14.9      | 11.5      | 16.7      | -3.7      | 16.2      | 8.0      | 0.3      | 5.7     | 15.0      |  |
| 75th Percentile           | -13.1         | -13.1      | 13.2      | 9.6       | 15.6      | -5.1      | 14.8      | 7.4      | -0.7     | 4.9     | 12.0      |  |
| 95th Percentile           | -16.1         | -16.1      | 11.4      | 6.9       | 12.5      | -6.6      | 12.4      | 5.5      | -2.8     | 3.1     | 8.7       |  |
| # of Portfolios           | 75            | 75         | 84        | 94        | 81        | 71        | 98        | 92       | 98       | 79      | 67        |  |
| ● Total Fund              | -10.4 (42)    | -10.4 (42) | 14.2 (62) | 9.5 (78)  | 14.9 (83) | -2.5 (25) | 14.2 (83) | 7.4 (74) | 2.7 (5)  | 8.4 (6) | 16.4 (33) |  |
| ▲ Policy Index            | -8.3 (20)     | -8.3 (20)  | 15.3 (47) | 10.8 (60) | 14.6 (87) | -0.9 (8)  | 13.7 (89) | 8.9 (15) | 0.6 (40) | 9.0 (2) | 15.6 (43) |  |
| ✕ Policy Index (Adjusted) | -8.3 (20)     | -8.3 (20)  | 15.3 (47) | 8.5 (89)  | 14.1 (89) | -1.5 (10) | 13.5 (89) | 8.0 (46) | 1.1 (31) | 8.7 (5) | 14.9 (54) |  |

Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

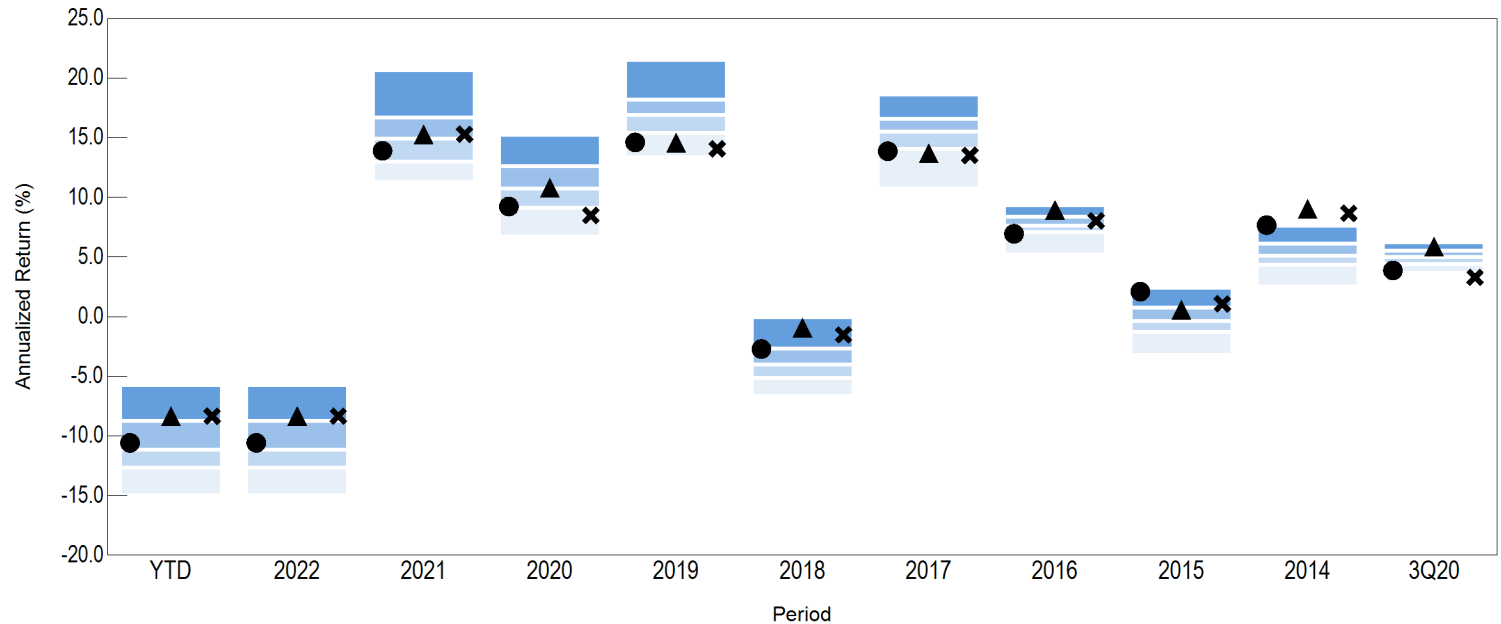


Total Fund

Peer Universe Comparison: Consecutive Periods (Net of Fees)

Period Ending: December 31, 2022

Total Fund Consecutive Periods vs. InvMetrics Public DB > \$1B Net

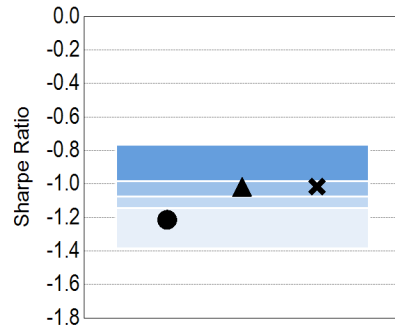


|                           | Return (Rank) |            |           |           |           |           |           |          |          |         |          |
|---------------------------|---------------|------------|-----------|-----------|-----------|-----------|-----------|----------|----------|---------|----------|
|                           | YTD           | 2022       | 2021      | 2020      | 2019      | 2018      | 2017      | 2016     | 2015     | 2014    | 3Q20     |
| 5th Percentile            | -5.8          | -5.8       | 20.6      | 15.2      | 21.5      | -0.1      | 18.6      | 9.3      | 2.4      | 7.6     | 6.2      |
| 25th Percentile           | -8.7          | -8.7       | 16.7      | 12.7      | 18.2      | -2.7      | 16.6      | 8.4      | 0.8      | 6.1     | 5.5      |
| Median                    | -11.1         | -11.1      | 14.9      | 10.8      | 17.0      | -4.0      | 15.6      | 7.7      | -0.4     | 5.1     | 5.0      |
| 75th Percentile           | -12.7         | -12.7      | 13.0      | 9.2       | 15.4      | -5.1      | 14.1      | 7.1      | -1.3     | 4.4     | 4.4      |
| 95th Percentile           | -15.0         | -15.0      | 11.3      | 6.8       | 13.4      | -6.6      | 10.7      | 5.3      | -3.2     | 2.6     | 3.7      |
| # of Portfolios           | 59            | 59         | 74        | 80        | 69        | 63        | 61        | 62       | 57       | 55      | 77       |
| ● Total Fund              | -10.6 (48)    | -10.6 (48) | 13.9 (62) | 9.2 (73)  | 14.6 (92) | -2.7 (27) | 13.9 (81) | 6.9 (78) | 2.1 (12) | 7.7 (5) | 3.9 (90) |
| ▲ Policy Index            | -8.3 (23)     | -8.3 (23)  | 15.3 (45) | 10.8 (49) | 14.6 (92) | -0.9 (8)  | 13.7 (85) | 8.9 (13) | 0.6 (29) | 9.0 (2) | 5.9 (13) |
| ✕ Policy Index (Adjusted) | -8.3 (23)     | -8.3 (23)  | 15.3 (45) | 8.5 (86)  | 14.1 (95) | -1.5 (10) | 13.5 (86) | 8.0 (37) | 1.1 (21) | 8.7 (3) | 3.3 (98) |

# Total Fund Sharpe Ratio Ranking (Gross of Fees)

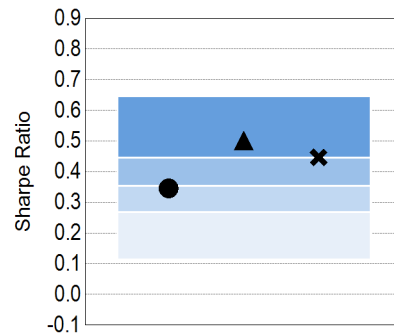
Period Ending: December 31, 2022

Sharpe Ratio  
1 Year



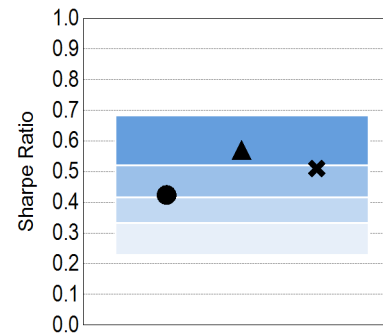
|                           |      |
|---------------------------|------|
| ● Total Fund              |      |
| Value                     | -1.2 |
| Rank                      | 90   |
| ▲ Policy Index            |      |
| Value                     | -1.0 |
| Rank                      | 30   |
| ✕ Policy Index (Adjusted) |      |
| Value                     | -1.0 |
| Rank                      | 30   |
| Universe                  |      |
| 5th %tile                 | -0.8 |
| 25th %tile                | -1.0 |
| Median                    | -1.1 |
| 75th %tile                | -1.1 |
| 95th %tile                | -1.4 |

Sharpe Ratio  
3 Year



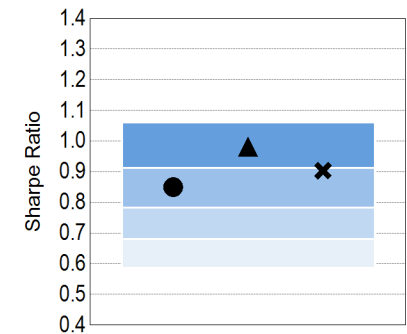
|                           |     |
|---------------------------|-----|
| ● Total Fund              |     |
| Value                     | 0.3 |
| Rank                      | 53  |
| ▲ Policy Index            |     |
| Value                     | 0.5 |
| Rank                      | 22  |
| ✕ Policy Index (Adjusted) |     |
| Value                     | 0.4 |
| Rank                      | 26  |
| Universe                  |     |
| 5th %tile                 | 0.6 |
| 25th %tile                | 0.4 |
| Median                    | 0.4 |
| 75th %tile                | 0.3 |
| 95th %tile                | 0.1 |

Sharpe Ratio  
5 Year



|                           |     |
|---------------------------|-----|
| ● Total Fund              |     |
| Value                     | 0.4 |
| Rank                      | 47  |
| ▲ Policy Index            |     |
| Value                     | 0.6 |
| Rank                      | 18  |
| ✕ Policy Index (Adjusted) |     |
| Value                     | 0.5 |
| Rank                      | 28  |
| Universe                  |     |
| 5th %tile                 | 0.7 |
| 25th %tile                | 0.5 |
| Median                    | 0.4 |
| 75th %tile                | 0.3 |
| 95th %tile                | 0.2 |

Sharpe Ratio  
10 Year



|                           |     |
|---------------------------|-----|
| ● Total Fund              |     |
| Value                     | 0.8 |
| Rank                      | 38  |
| ▲ Policy Index            |     |
| Value                     | 1.0 |
| Rank                      | 14  |
| ✕ Policy Index (Adjusted) |     |
| Value                     | 0.9 |
| Rank                      | 30  |
| Universe                  |     |
| 5th %tile                 | 1.1 |
| 25th %tile                | 0.9 |
| Median                    | 0.8 |
| 75th %tile                | 0.7 |
| 95th %tile                | 0.6 |

## Domestic Equity Managers

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# Boston Partners Manager Portfolio Overview

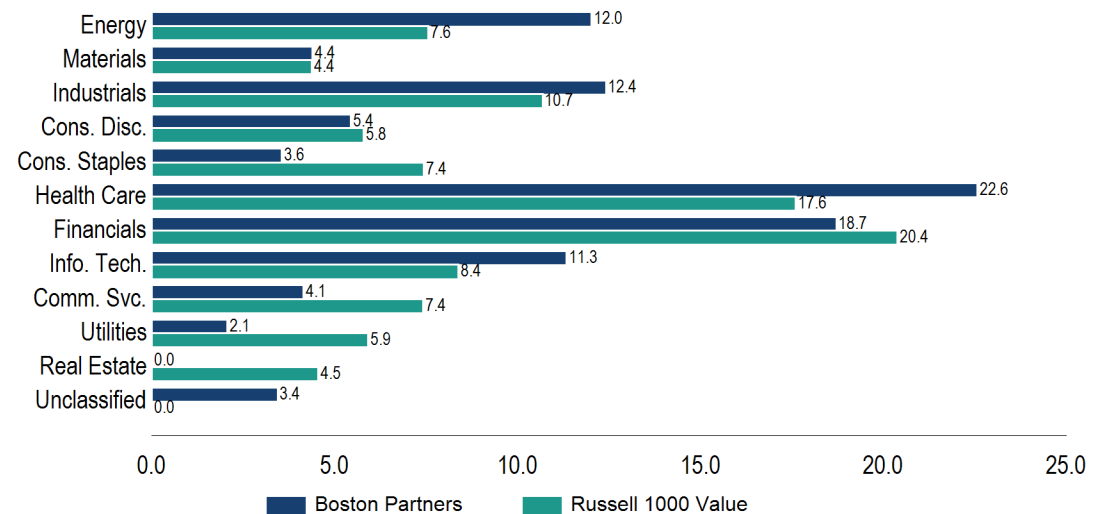
Period Ending: December 31, 2022

Domestic equity large cap value portfolio exhibiting low turnover in companies with low valuations relative to intrinsic value. Primary personnel include Mark Donovan and David Pyle.

## Characteristics

|                                 | Portfolio | Russell 1000 Value |
|---------------------------------|-----------|--------------------|
| Number of Holdings              | 81        | 852                |
| Weighted Avg. Market Cap. (\$B) | 161.84    | 152.32             |
| Median Market Cap. (\$B)        | 50.50     | 11.90              |
| Price To Earnings               | 15.73     | 15.56              |
| Price To Book                   | 2.50      | 2.46               |
| Price To Sales                  | 1.54      | 1.84               |
| Return on Equity (%)            | 21.03     | 16.74              |
| Yield (%)                       | 2.00      | 2.29               |
| Beta                            | 1.08      | 1.00               |

## Sector Allocation (%) vs Russell 1000 Value



## Largest Holdings

|                         | End Weight | Return |
|-------------------------|------------|--------|
| JOHNSON & JOHNSON       | 3.81       | 8.83   |
| JPMORGAN CHASE & CO     | 3.64       | 29.49  |
| BERKSHIRE HATHAWAY INC  | 3.55       | 15.68  |
| BRISTOL-MYERS SQUIBB CO | 2.70       | 1.99   |
| SANOFI                  | 2.57       | 27.38  |
| CONOCOPHILLIPS          | 2.48       | 16.44  |
| SCHWAB (CHARLES) CORP   | 2.40       | 16.17  |
| AUTOZONE INC            | 2.34       | 15.14  |
| CIGNA CORP              | 2.32       | 19.82  |
| CVS HEALTH CORP         | 2.31       | -1.70  |

## Top Contributors

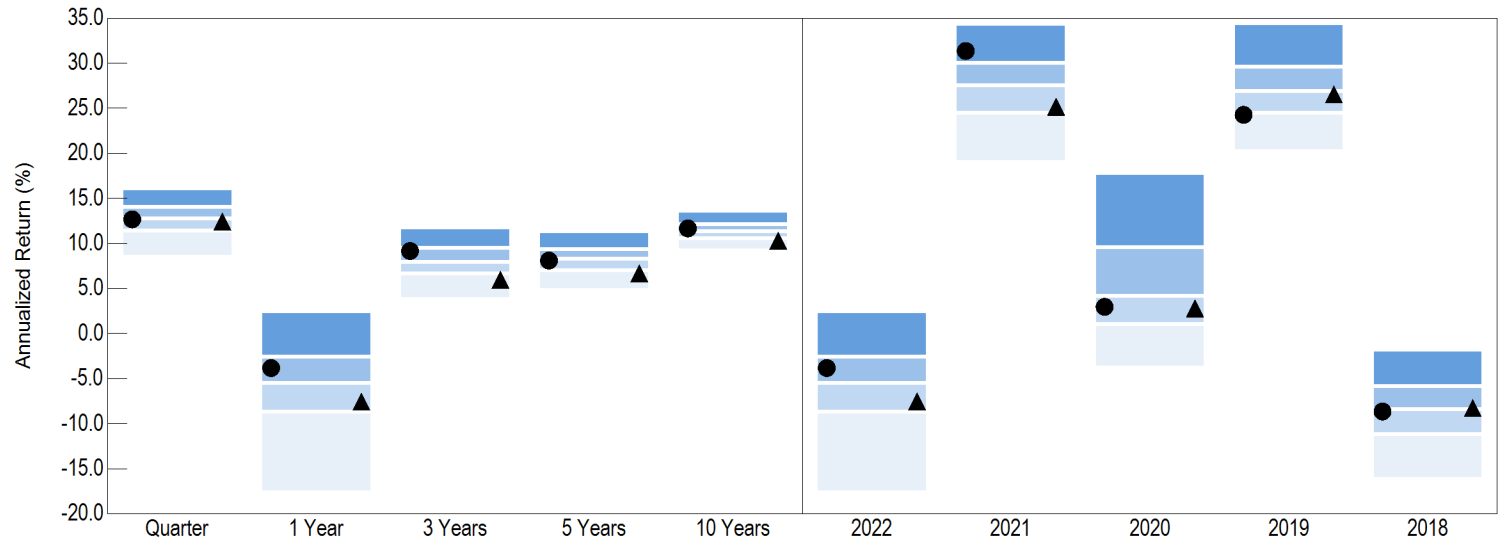
|                        | Avg Wgt | Return | Contribution |
|------------------------|---------|--------|--------------|
| JPMORGAN CHASE & CO    | 1.07    | 29.49  | 0.31         |
| CONOCOPHILLIPS         | 1.24    | 16.44  | 0.20         |
| SCHLUMBERGER LTD       | 0.41    | 49.43  | 0.20         |
| SANOFI                 | 0.68    | 27.38  | 0.19         |
| DUPONT DE NEMOURS INC  | 0.47    | 36.82  | 0.17         |
| BERKSHIRE HATHAWAY INC | 1.04    | 15.68  | 0.16         |
| CIGNA CORP             | 0.73    | 19.82  | 0.14         |
| AUTOZONE INC           | 0.85    | 15.14  | 0.13         |
| ABBVIE INC             | 0.58    | 21.60  | 0.13         |
| SCHWAB (CHARLES) CORP  | 0.78    | 16.17  | 0.13         |

## Bottom Contributors

|                                            | Avg Wgt | Return | Contribution |
|--------------------------------------------|---------|--------|--------------|
| ALPHABET INC                               | 0.80    | -7.76  | -0.06        |
| META PLATFORMS INC                         | 0.51    | -11.31 | -0.06        |
| FIDELITY NATIONAL INFORMATION SERVICES INC | 0.40    | -9.61  | -0.04        |
| DOMINION ENERGY INC                        | 0.31    | -10.29 | -0.03        |
| GLOBAL PAYMENTS INC                        | 0.30    | -7.84  | -0.02        |
| CVS HEALTH CORP                            | 0.77    | -1.70  | -0.01        |
| QUALCOMM INC.                              | 0.54    | -2.11  | -0.01        |
| KEURIG DR PEPPER INC                       | 0.65    | -0.45  | 0.00         |
| COGNIZANT TECHNOLOGY SOLUTIONS CORP        | 0.30    | 0.02   | 0.00         |
| TRUIST FINANCIAL CORP                      | 0.29    | 0.03   | 0.00         |

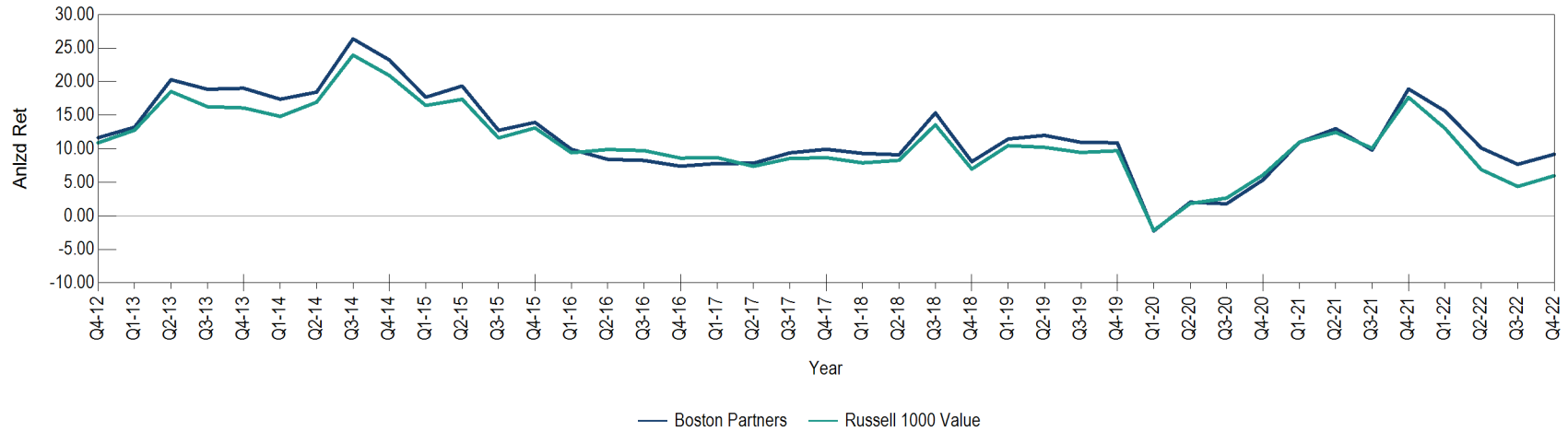
Unclassified sector allocation includes cash allocations.

Boston Partners vs. eV US Large Cap Value Equity Gross Universe

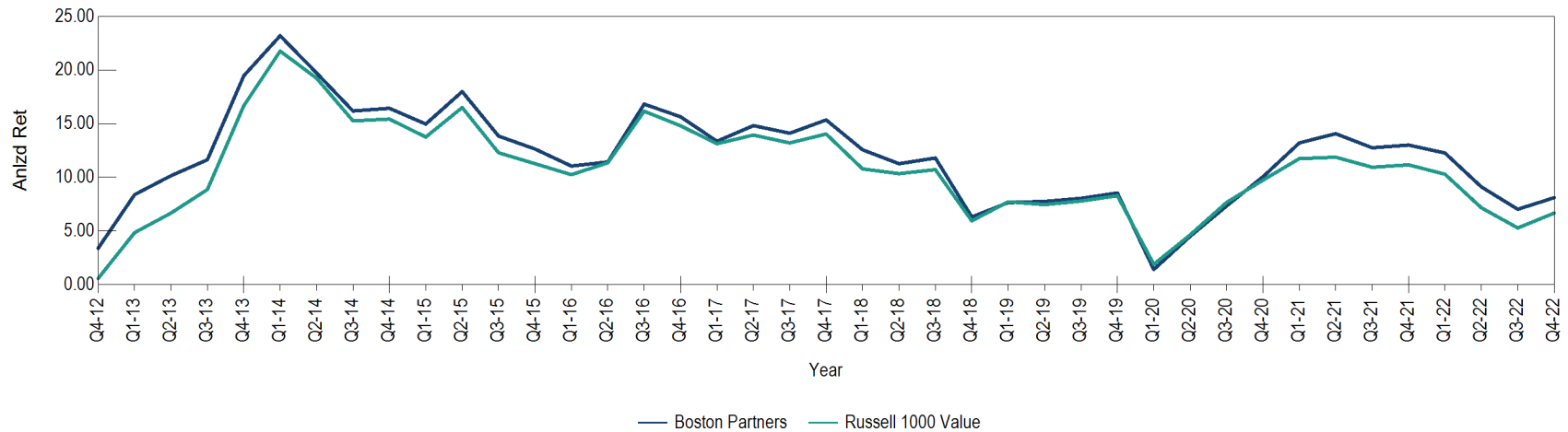


|                      | Return (Rank) |           |          |          |           |           |           |          |           |           |  |
|----------------------|---------------|-----------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|--|
| 5th Percentile       | 16.1          | 2.4       | 11.7     | 11.3     | 13.6      | 2.4       | 34.4      | 17.8     | 34.4      | -1.8      |  |
| 25th Percentile      | 14.1          | -2.5      | 9.6      | 9.4      | 12.2      | -2.5      | 30.0      | 9.6      | 29.6      | -5.8      |  |
| Median               | 12.8          | -5.4      | 8.0      | 8.3      | 11.4      | -5.4      | 27.6      | 4.2      | 26.9      | -8.3      |  |
| 75th Percentile      | 11.5          | -8.6      | 6.7      | 7.0      | 10.6      | -8.6      | 24.5      | 1.1      | 24.5      | -11.1     |  |
| 95th Percentile      | 8.5           | -17.6     | 3.9      | 4.9      | 9.3       | -17.6     | 19.1      | -3.8     | 20.3      | -16.1     |  |
| # of Portfolios      | 353           | 352       | 343      | 332      | 299       | 352       | 337       | 326      | 331       | 336       |  |
| ● Boston Partners    | 12.7 (53)     | -3.8 (36) | 9.2 (29) | 8.1 (53) | 11.7 (40) | -3.8 (36) | 31.3 (17) | 3.0 (61) | 24.3 (77) | -8.7 (55) |  |
| ▲ Russell 1000 Value | 12.4 (57)     | -7.5 (69) | 6.0 (85) | 6.7 (80) | 10.3 (84) | -7.5 (69) | 25.2 (72) | 2.8 (62) | 26.5 (54) | -8.3 (50) |  |

Rolling 3 Year Annualized Return (%)



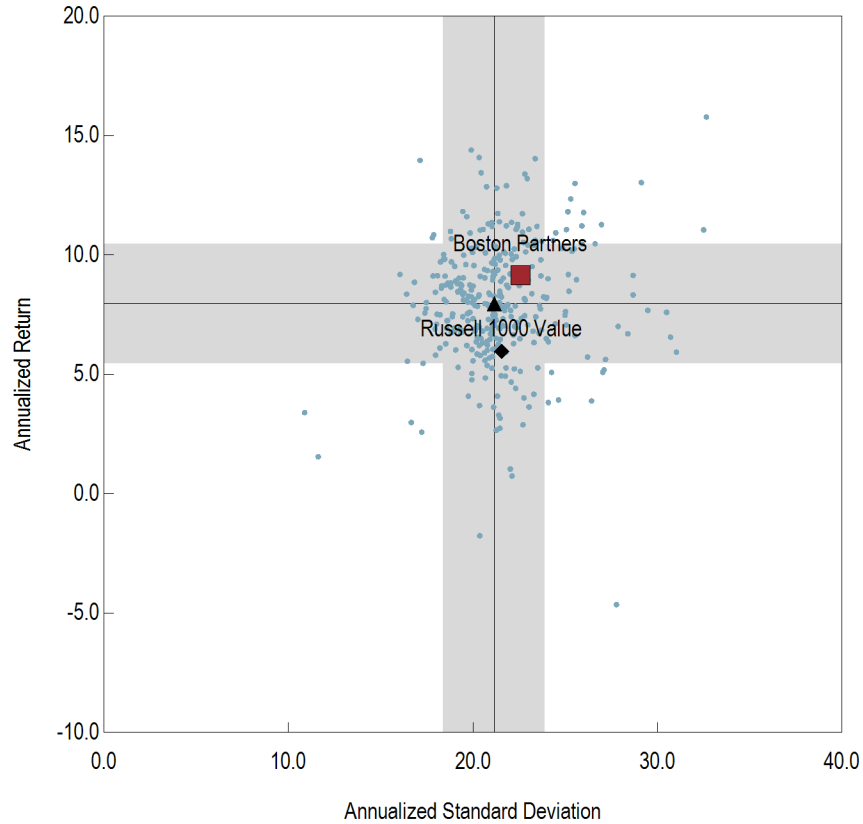
Rolling 5 Year Annualized Return (%)



Boston Partners  
Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: December 31, 2022

3 Years



5 Years



3 Years

|                                           | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|-------------------------------------------|--------------|--------------------------|--------------|
| Boston Partners                           | 9.2%         | 22.6%                    | 0.4          |
| Russell 1000 Value                        | 6.0%         | 21.6%                    | 0.2          |
| eV US Large Cap Value Equity Gross Median | 8.0%         | 21.2%                    | 0.4          |

5 Years

|                                           | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|-------------------------------------------|--------------|--------------------------|--------------|
| Boston Partners                           | 8.1%         | 19.8%                    | 0.3          |
| Russell 1000 Value                        | 6.7%         | 18.9%                    | 0.3          |
| eV US Large Cap Value Equity Gross Median | 8.3%         | 18.8%                    | 0.4          |

# Emerald Advisers Manager Portfolio Overview

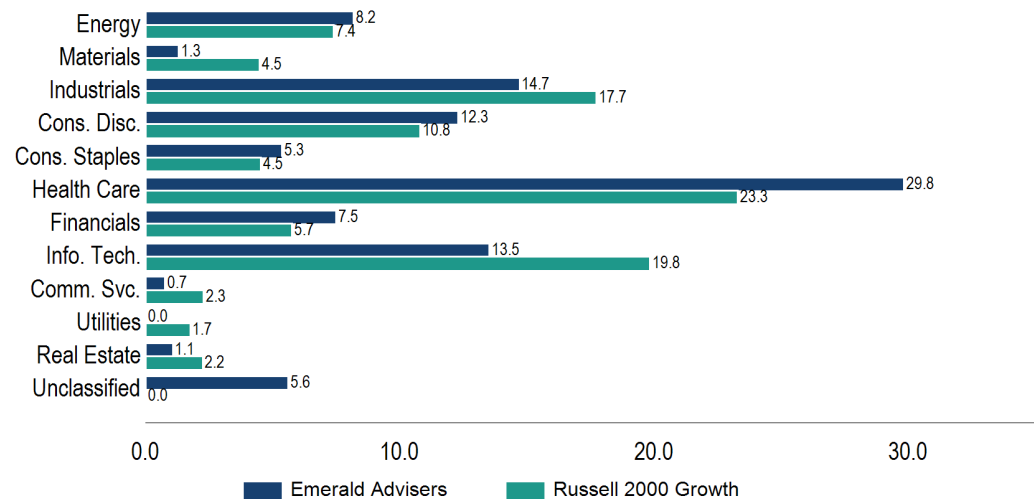
Period Ending: December 31, 2022

Domestic equity small cap growth portfolio of companies with significantly high growth rates. Primary personnel include Kenneth Mertz, Joseph Garner, and Stacey Sears.

## Characteristics

|                                 | Portfolio | Russell 2000 Growth |
|---------------------------------|-----------|---------------------|
| Number of Holdings              | 112       | 1,109               |
| Weighted Avg. Market Cap. (\$B) | 3.22      | 3.18                |
| Median Market Cap. (\$B)        | 2.61      | 1.27                |
| Price To Earnings               | 18.76     | 14.75               |
| Price To Book                   | 3.39      | 3.48                |
| Price To Sales                  | 2.61      | 1.67                |
| Return on Equity (%)            | -6.89     | 3.94                |
| Yield (%)                       | 0.52      | 0.90                |
| Beta                            | 0.96      | 1.00                |

## Sector Allocation (%) vs Russell 2000 Growth



## Largest Holdings

|                                         | End Weight | Return |
|-----------------------------------------|------------|--------|
| SIMPLY GOOD FOODS CO (THE)              | 2.02       | 18.88  |
| SUPER MICRO COMPUTER INC                | 2.00       | 49.08  |
| MACOM TECHNOLOGY SOLUTIONS HOLDINGS INC | 1.90       | 21.61  |
| MERIT MEDICAL SYSTEMS INC               | 1.80       | 24.97  |
| CHURCHILL DOWNS INC                     | 1.78       | 15.18  |
| TRANSMEDICS GROUP INC                   | 1.72       | 47.87  |
| NV5 GLOBAL INC                          | 1.71       | 6.86   |
| CACTUS INC                              | 1.71       | 31.06  |
| REPLIMUNE GROUP INC                     | 1.63       | 57.50  |
| PLANET FITNESS INC                      | 1.61       | 36.66  |

## Top Contributors

|                                         | Avg Wgt | Return | Contribution |
|-----------------------------------------|---------|--------|--------------|
| IMAGO BIOSCIENCES INC                   | 0.23    | 138.87 | 0.31         |
| SUPER MICRO COMPUTER INC                | 0.58    | 49.08  | 0.29         |
| PROFRAC HOLDING CORP                    | 0.32    | 65.68  | 0.21         |
| REPLIMUNE GROUP INC                     | 0.35    | 57.50  | 0.20         |
| TRANSMEDICS GROUP INC                   | 0.37    | 47.87  | 0.18         |
| PLANET FITNESS INC                      | 0.42    | 36.66  | 0.15         |
| CACTUS INC                              | 0.46    | 31.06  | 0.14         |
| MANNKIND CORP                           | 0.20    | 70.55  | 0.14         |
| MACOM TECHNOLOGY SOLUTIONS HOLDINGS INC | 0.64    | 21.61  | 0.14         |

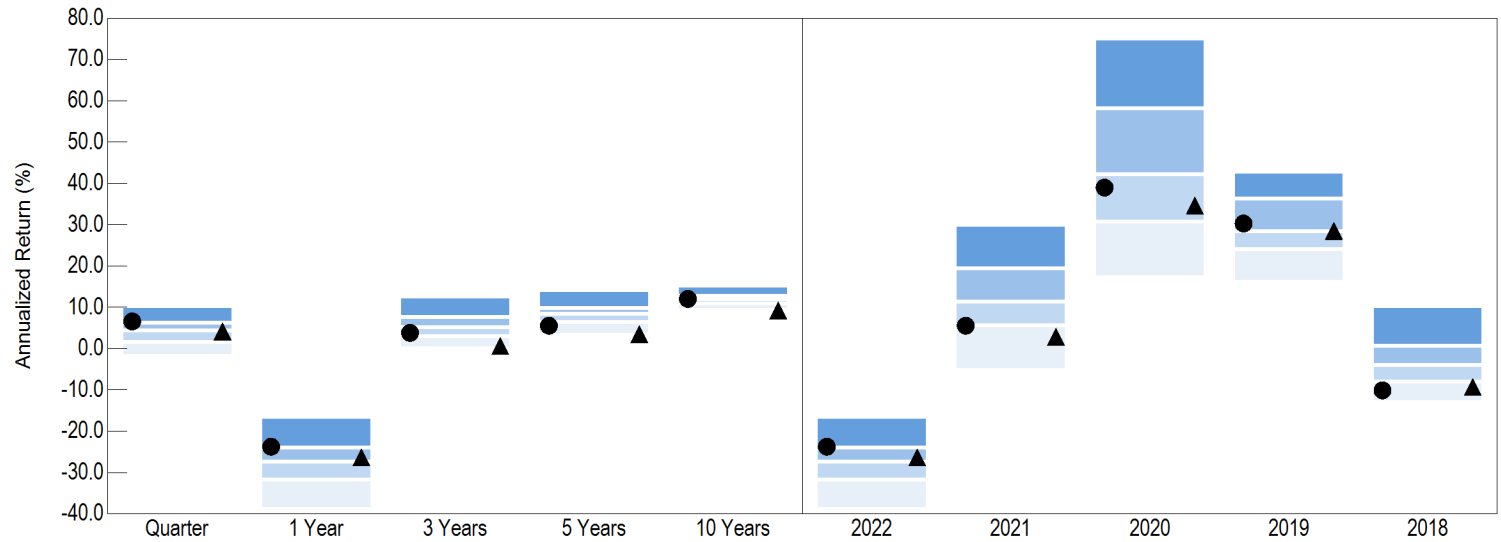
## Bottom Contributors

|                                             | Avg Wgt | Return | Contribution |
|---------------------------------------------|---------|--------|--------------|
| PALOMAR HOLDINGS INC                        | 0.73    | -46.06 | -0.34        |
| CHART INDUSTRIES INC                        | 0.81    | -37.49 | -0.30        |
| SILVERGATE CAPITAL CORPORATION              | 0.17    | -76.91 | -0.13        |
| LANTHEUS HOLDINGS INC                       | 0.46    | -27.54 | -0.13        |
| PACIRA BIOSCIENCES INC                      | 0.46    | -27.41 | -0.13        |
| BLUEPRINT MEDICINES CORP                    | 0.37    | -33.51 | -0.12        |
| GOSSAMER BIO INC                            | 0.13    | -81.89 | -0.11        |
| PRIVIA HEALTH GROUP INC COMMON STOCK USD.01 | 0.28    | -33.32 | -0.09        |

Unclassified sector allocation includes cash allocations.



Emerald Advisers vs. eV US Small Cap Growth Equity Gross Universe

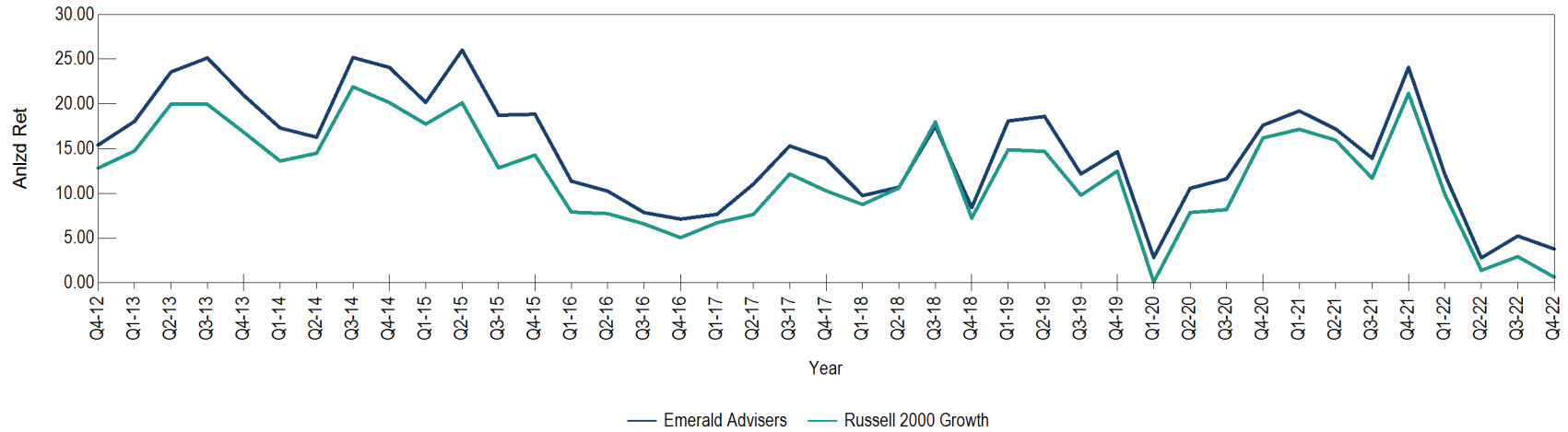


|                       | Return (Rank) |            |          |          |           |            |          |           |           |            |
|-----------------------|---------------|------------|----------|----------|-----------|------------|----------|-----------|-----------|------------|
|                       | Quarter       | 1 Year     | 3 Years  | 5 Years  | 10 Years  | 2022       | 2021     | 2020      | 2019      | 2018       |
| 5th Percentile        | 10.1          | -16.6      | 12.5     | 14.0     | 15.1      | -16.6      | 29.8     | 75.0      | 42.8      | 10.2       |
| 25th Percentile       | 6.3           | -23.8      | 7.7      | 10.0     | 12.9      | -23.8      | 19.5     | 58.3      | 36.4      | 0.7        |
| Median                | 4.5           | -27.3      | 5.3      | 8.4      | 12.0      | -27.3      | 11.5     | 42.2      | 28.5      | -3.9       |
| 75th Percentile       | 1.7           | -31.7      | 3.1      | 6.5      | 11.0      | -31.7      | 5.7      | 30.8      | 24.2      | -7.9       |
| 95th Percentile       | -1.7          | -38.8      | 0.2      | 3.4      | 9.4       | -38.8      | -5.1     | 17.4      | 16.2      | -12.8      |
| # of Portfolios       | 149           | 149        | 146      | 144      | 123       | 149        | 158      | 161       | 157       | 164        |
| ● Emerald Advisers    | 6.6 (23)      | -23.8 (25) | 3.8 (66) | 5.5 (83) | 12.0 (49) | -23.8 (25) | 5.5 (76) | 39.0 (57) | 30.3 (45) | -10.1 (85) |
| ▲ Russell 2000 Growth | 4.1 (55)      | -26.4 (42) | 0.6 (94) | 3.5 (95) | 9.2 (96)  | -26.4 (42) | 2.8 (84) | 34.6 (66) | 28.5 (51) | -9.3 (80)  |

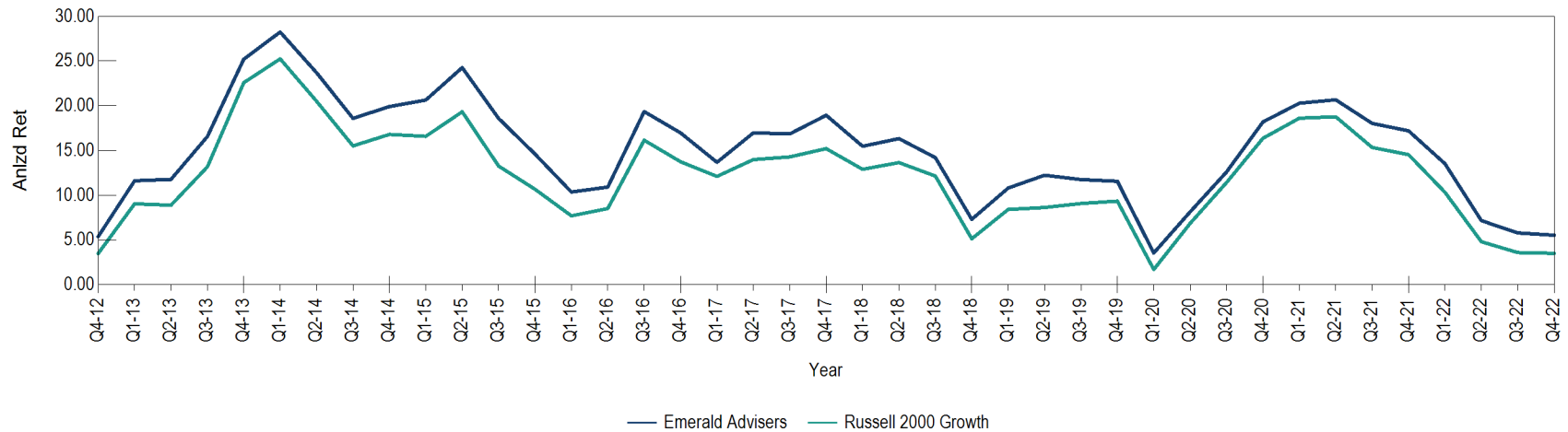
Emerald Advisers  
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: December 31, 2022

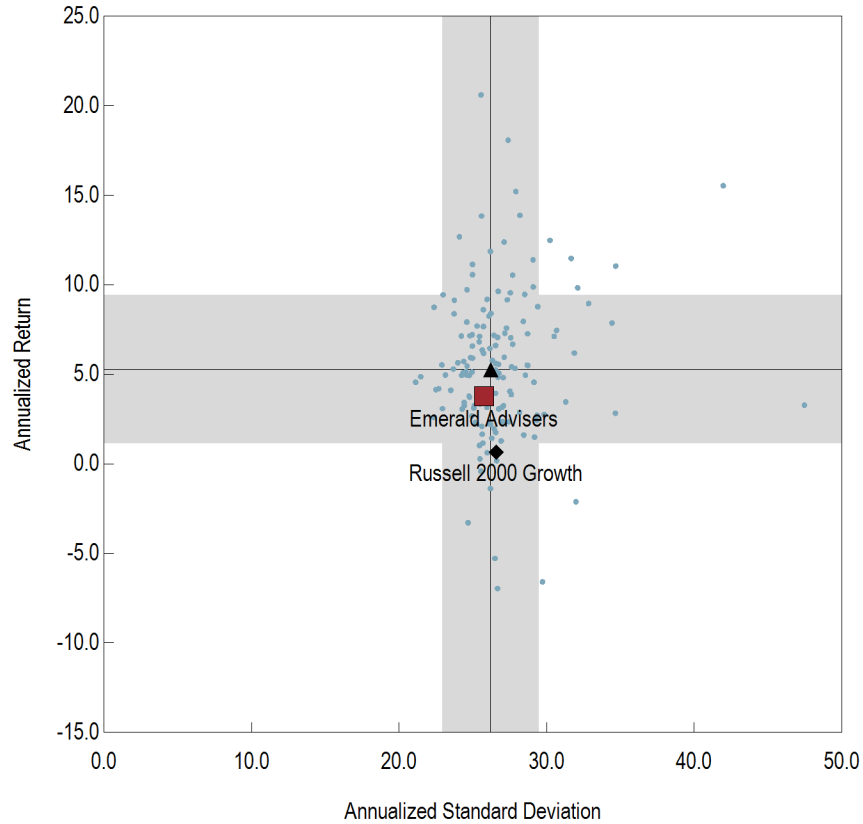
Rolling 3 Year Annualized Return (%)



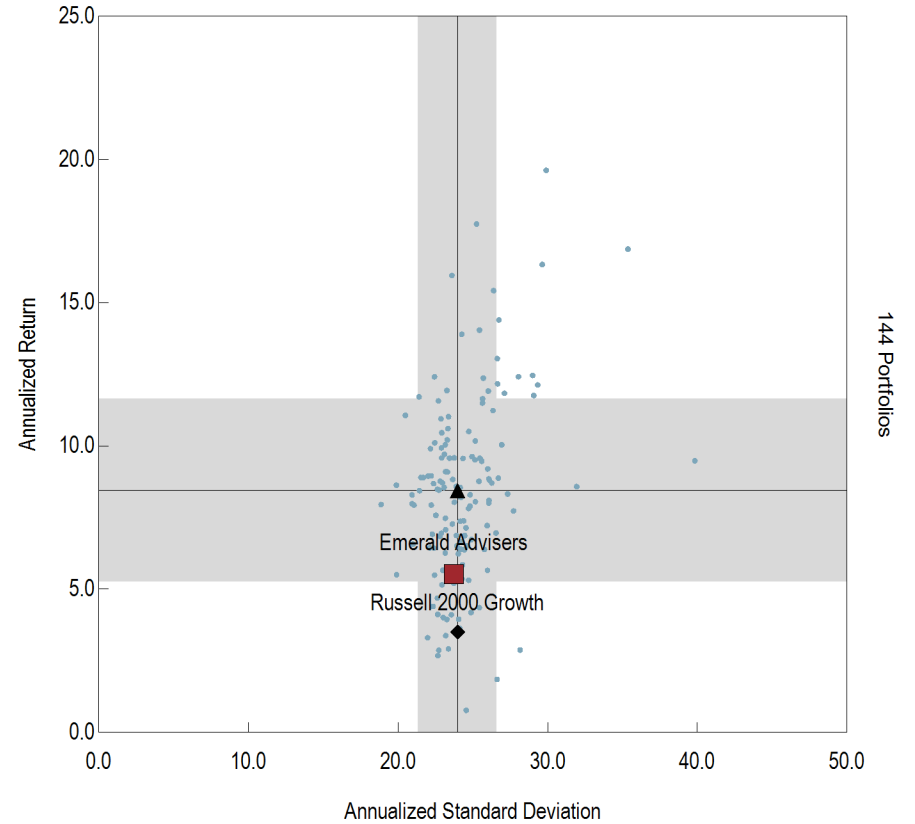
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

|                                            | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|--------------------------------------------|--------------|--------------------------|--------------|
| Emerald Advisers                           | 3.8%         | 25.8%                    | 0.1          |
| Russell 2000 Growth                        | 0.6%         | 26.6%                    | 0.0          |
| eV US Small Cap Growth Equity Gross Median | 5.3%         | 26.2%                    | 0.2          |

5 Years

|                                            | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|--------------------------------------------|--------------|--------------------------|--------------|
| Emerald Advisers                           | 5.5%         | 23.7%                    | 0.2          |
| Russell 2000 Growth                        | 3.5%         | 24.0%                    | 0.1          |
| eV US Small Cap Growth Equity Gross Median | 8.4%         | 24.0%                    | 0.3          |

# Ceredex Manager Portfolio Overview

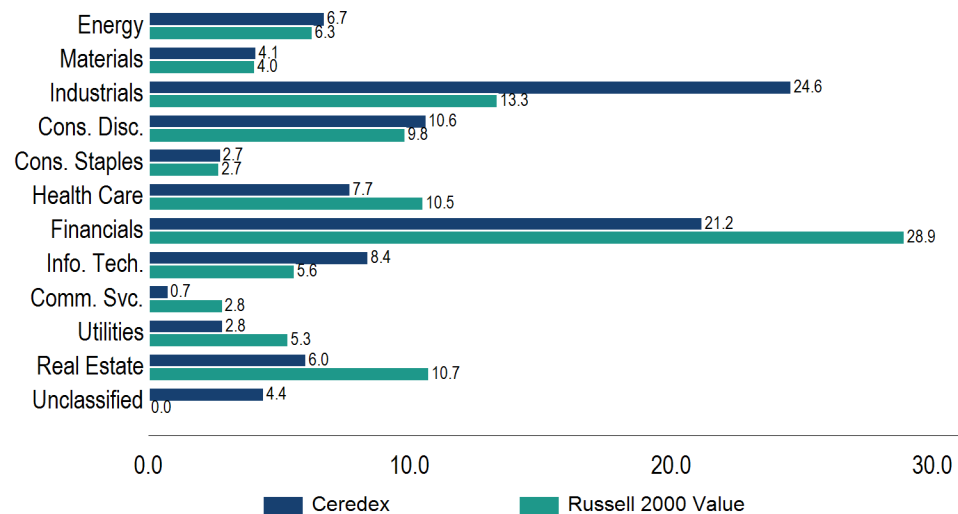
Period Ending: December 31, 2022

Domestic equity small cap value portfolio of companies with dividend yields and low valuations. Primary personnel include Brett Barner and David Maynard.

## Characteristics

|                                 | Portfolio | Russell 2000 Value |
|---------------------------------|-----------|--------------------|
| Number of Holdings              | 82        | 1,383              |
| Weighted Avg. Market Cap. (\$B) | 5.53      | 2.42               |
| Median Market Cap. (\$B)        | 4.70      | 0.92               |
| Price To Earnings               | 15.78     | 10.50              |
| Price To Book                   | 2.50      | 1.57               |
| Price To Sales                  | 1.28      | 1.09               |
| Return on Equity (%)            | 16.12     | 5.57               |
| Yield (%)                       | 2.42      | 2.34               |
| Beta                            | 0.87      | 1.00               |

## Sector Allocation (%) vs Russell 2000 Value



## Largest Holdings

|                               | End Weight | Return |
|-------------------------------|------------|--------|
| PERRIGO CO PLC                | 3.25       | -3.63  |
| OVINTIV INC                   | 2.41       | 10.79  |
| ACADEMY SPORTS OUTDOORS INC   | 2.32       | 24.74  |
| STANTEC INC                   | 2.07       | 9.68   |
| RITCHIE BROS AUCTIONEERS INC  | 2.05       | -6.98  |
| POWER INTEGRATIONS INC        | 1.96       | 11.77  |
| DOLBY LABORATORIES INC        | 1.87       | 8.68   |
| FIRST CITIZENS BANCSHARES INC | 1.85       | -4.81  |
| EMCOR GROUP INC.              | 1.76       | 28.41  |
| AGCO CORP                     | 1.67       | 44.49  |

## Top Contributors

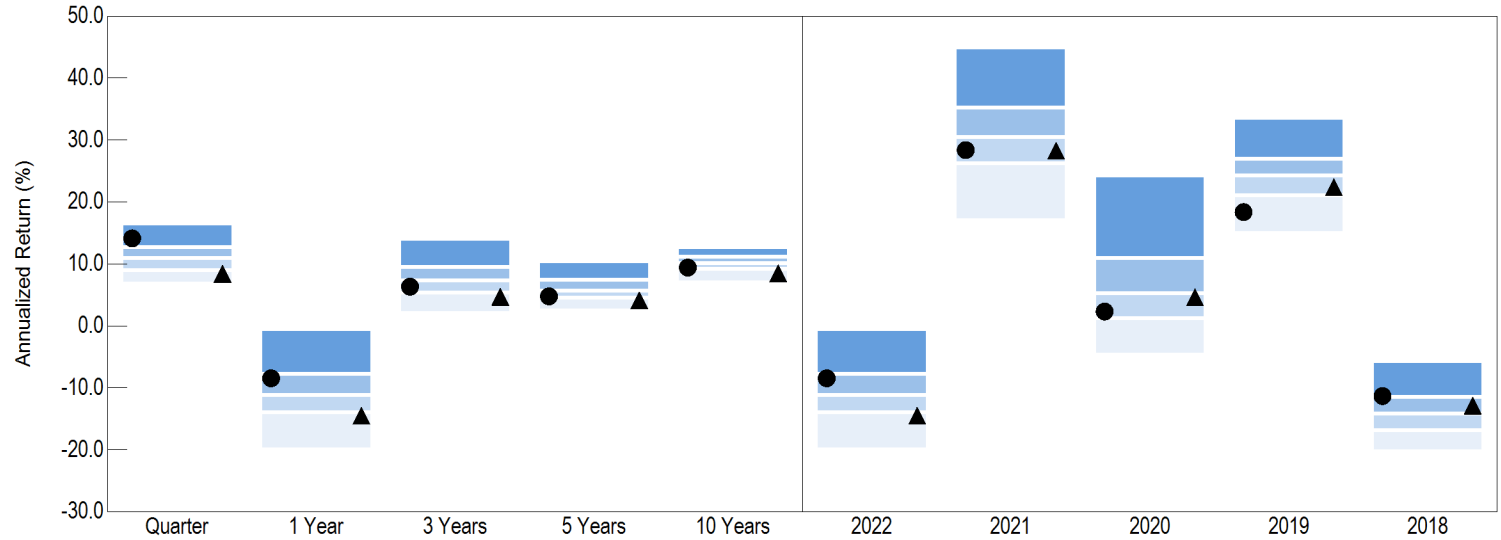
|                             | Avg Wgt | Return | Contribution |
|-----------------------------|---------|--------|--------------|
| AGCO CORP                   | 0.75    | 44.49  | 0.33         |
| EMCOR GROUP INC.            | 1.00    | 28.41  | 0.28         |
| MANCHESTER UNITED PLC       | 0.28    | 75.81  | 0.21         |
| TORO CO (THE)               | 0.59    | 31.71  | 0.19         |
| ACADEMY SPORTS OUTDOORS INC | 0.71    | 24.74  | 0.18         |
| CHAMPIONX CORP              | 0.35    | 48.64  | 0.17         |
| AAON INC                    | 0.39    | 40.22  | 0.16         |
| ENERGIZER HOLDINGS INC      | 0.41    | 34.66  | 0.14         |
| SLM CORP                    | 0.67    | 19.41  | 0.13         |
| SEI INVESTMENTS CO          | 0.64    | 19.73  | 0.13         |

## Bottom Contributors

|                                  | Avg Wgt | Return | Contribution |
|----------------------------------|---------|--------|--------------|
| ALGONQUIN POWER & UTILITIES CORP | 0.29    | -38.59 | -0.11        |
| ARMSTRONG WORLD INDUSTRIES INC   | 0.70    | -13.13 | -0.09        |
| FIRST CITIZENS BANCSHARES INC    | 0.97    | -4.81  | -0.05        |
| FIRST INTERSTATE BANCSYSTEM INC  | 0.61    | -3.22  | -0.02        |
| COMERICA INCORPORATED            | 0.35    | -5.00  | -0.02        |
| LEMAITRE VASCULAR INC            | 0.14    | -8.95  | -0.01        |
| NATIONAL INSTRUMENTS CORPORATION | 0.48    | -1.49  | -0.01        |
| PHYSICIANS RFAI TY               |         |        |              |

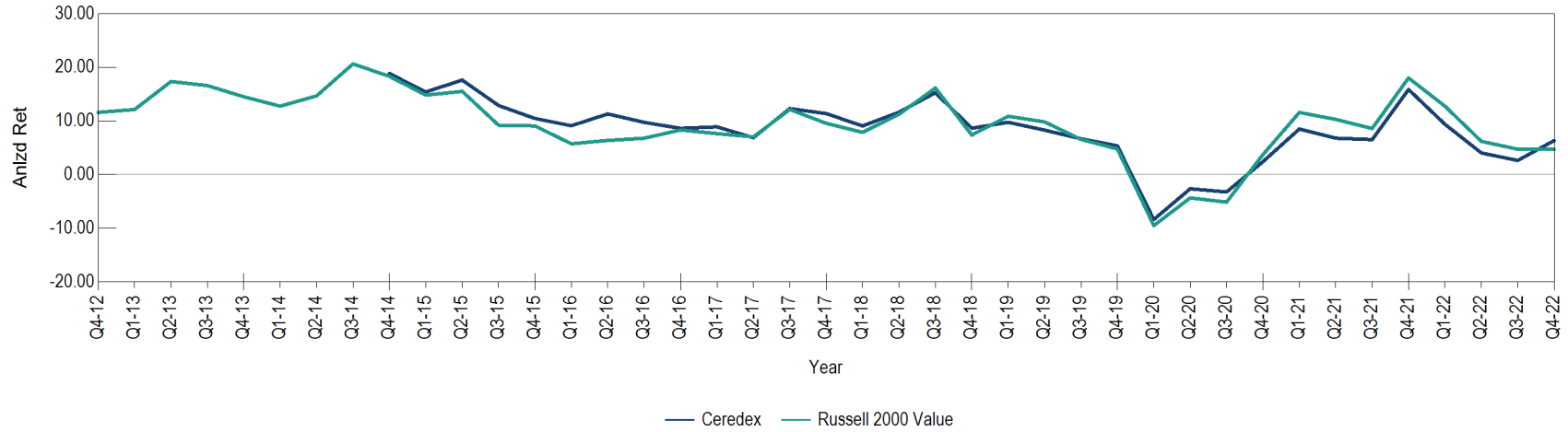
Unclassified sector allocation includes cash allocations.

Ceredex vs. eV US Small Cap Value Equity Gross Universe

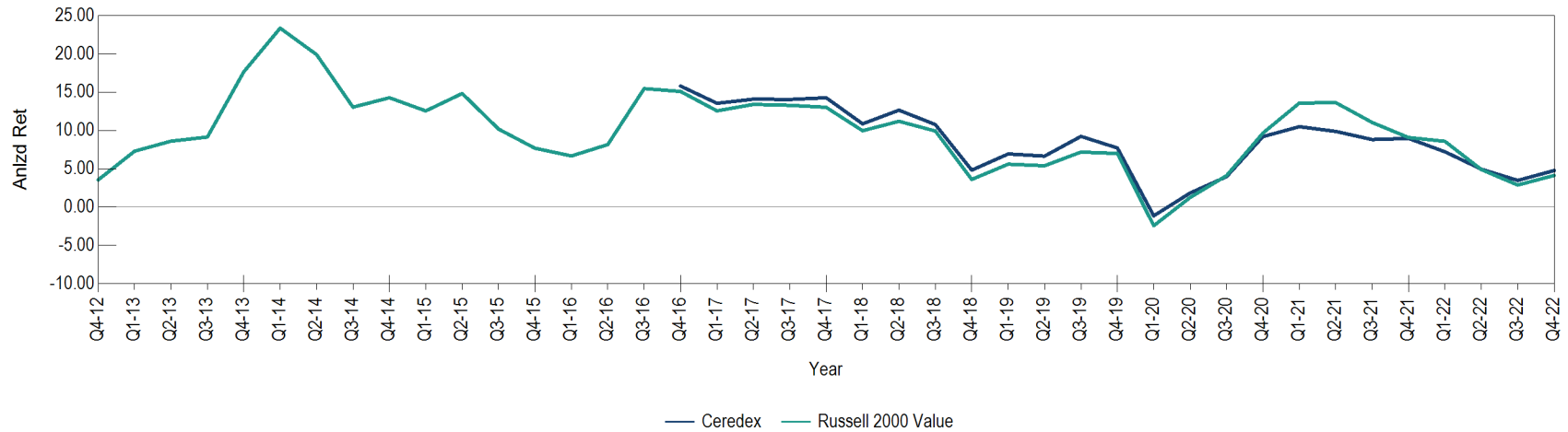


|                      | Return (Rank) |            |          |          |          |            |           |          |           |            |  |
|----------------------|---------------|------------|----------|----------|----------|------------|-----------|----------|-----------|------------|--|
| 5th Percentile       | 16.5          | -0.5       | 14.0     | 10.4     | 12.6     | -0.5       | 44.9      | 24.2     | 33.6      | -5.7       |  |
| 25th Percentile      | 12.7          | -7.7       | 9.6      | 7.5      | 11.2     | -7.7       | 35.3      | 11.1     | 27.0      | -11.4      |  |
| Median               | 11.1          | -11.0      | 7.4      | 5.7      | 10.2     | -11.0      | 30.5      | 5.3      | 24.4      | -14.0      |  |
| 75th Percentile      | 9.1           | -13.9      | 5.4      | 4.6      | 9.3      | -13.9      | 26.3      | 1.3      | 21.2      | -16.7      |  |
| 95th Percentile      | 6.9           | -19.9      | 2.1      | 2.6      | 7.1      | -19.9      | 17.1      | -4.6     | 15.0      | -20.2      |  |
| # of Portfolios      | 210           | 210        | 206      | 195      | 175      | 210        | 210       | 219      | 217       | 220        |  |
| ● Ceredex            | 14.1 (14)     | -8.5 (28)  | 6.3 (63) | 4.8 (72) | 9.4 (71) | -8.5 (28)  | 28.4 (60) | 2.3 (69) | 18.4 (87) | -11.3 (25) |  |
| ▲ Russell 2000 Value | 8.4 (83)      | -14.5 (79) | 4.7 (81) | 4.1 (83) | 8.5 (88) | -14.5 (79) | 28.3 (60) | 4.6 (53) | 22.4 (69) | -12.9 (39) |  |

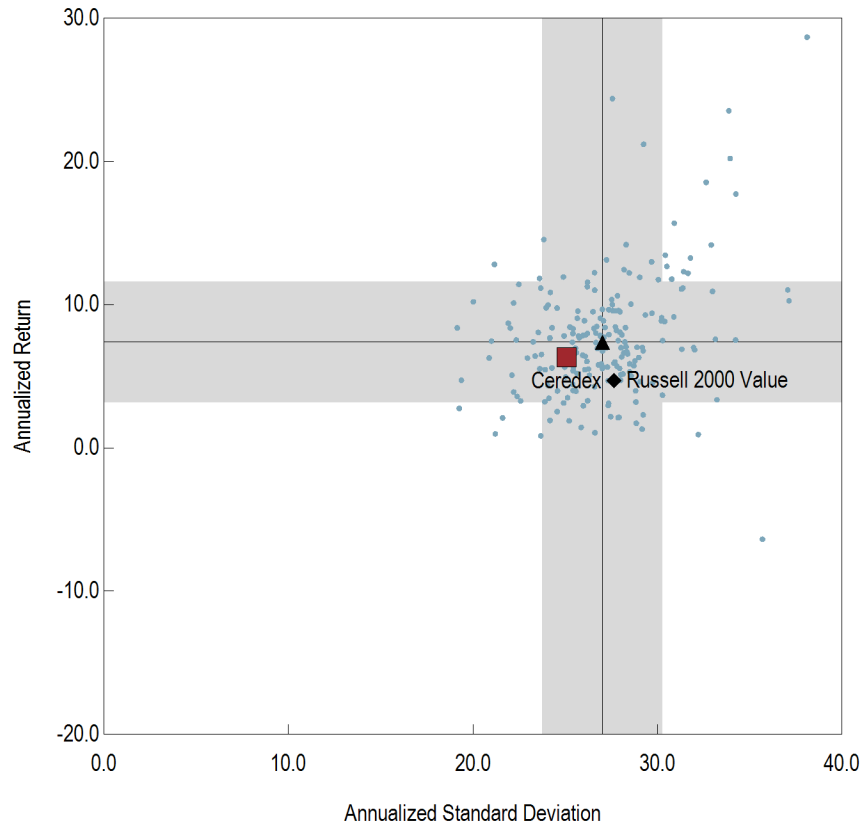
Rolling 3 Year Annualized Return (%)



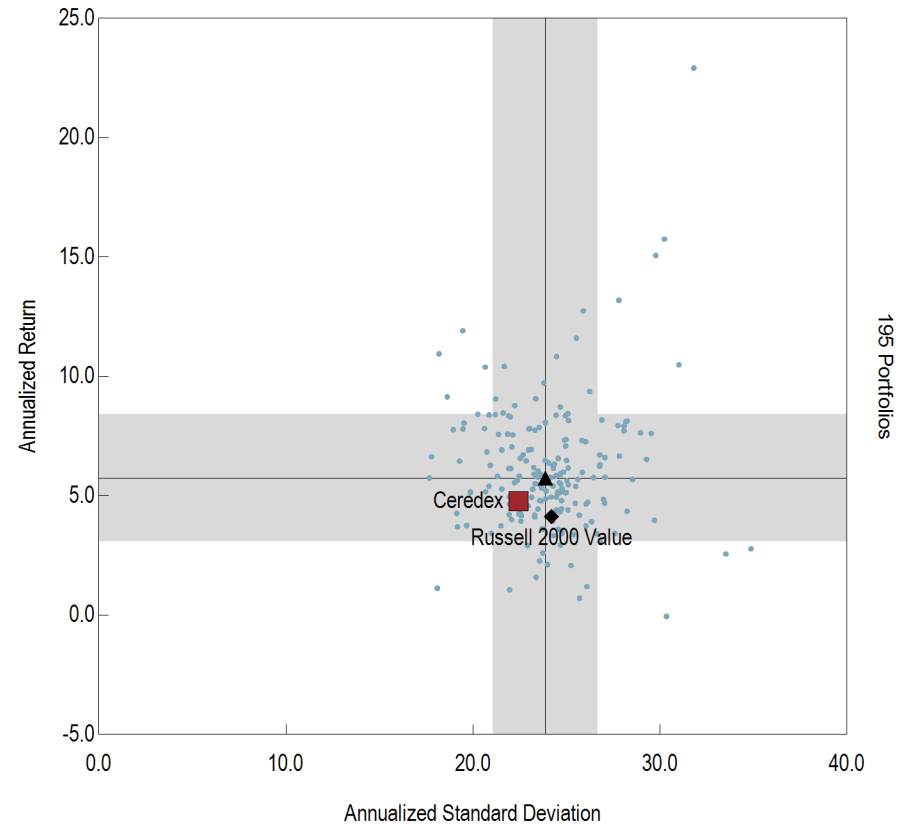
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

|                                           | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|-------------------------------------------|--------------|--------------------------|--------------|
| Ceredex                                   | 6.3%         | 25.1%                    | 0.2          |
| Russell 2000 Value                        | 4.7%         | 27.7%                    | 0.1          |
| eV US Small Cap Value Equity Gross Median | 7.4%         | 27.0%                    | 0.2          |

5 Years

|                                           | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|-------------------------------------------|--------------|--------------------------|--------------|
| Ceredex                                   | 4.8%         | 22.4%                    | 0.2          |
| Russell 2000 Value                        | 4.1%         | 24.2%                    | 0.1          |
| eV US Small Cap Value Equity Gross Median | 5.7%         | 23.9%                    | 0.2          |

# International Equity Managers

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# Pyrford Manager Portfolio Overview

Period Ending: December 31, 2022

International equity value portfolio of non-US companies with low valuations at the country and stock level. Primary personnel include Tony Cousins, Daniel McDonagh, and Paul Simons.

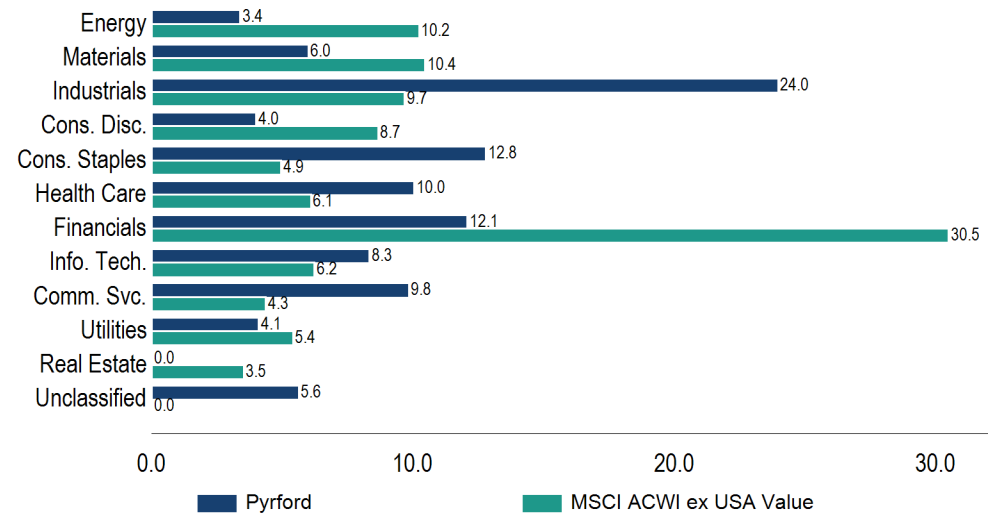
## Characteristics

|                                 | MSCI ACWI<br>Portfolio | MSCI ACWI<br>ex USA<br>Value |
|---------------------------------|------------------------|------------------------------|
| Number of Holdings              | 71                     | 1,343                        |
| Weighted Avg. Market Cap. (\$B) | 57.34                  | 60.39                        |
| Median Market Cap. (\$B)        | 22.64                  | 8.52                         |
| Price To Earnings               | 15.45                  | 9.32                         |
| Price To Book                   | 2.27                   | 1.70                         |
| Price To Sales                  | 1.62                   | 0.86                         |
| Return on Equity (%)            | 15.65                  | 11.94                        |
| Yield (%)                       | 4.04                   | 4.95                         |
| Beta                            | 0.73                   | 1.00                         |

## Country Allocation

|                                       | Manager<br>Ending Allocation<br>(USD) | Index<br>Ending Allocation<br>(USD) |
|---------------------------------------|---------------------------------------|-------------------------------------|
| <b>Totals</b>                         |                                       |                                     |
| Developed                             | 87.6%                                 | 72.4%                               |
| Emerging*                             | 7.8%                                  | 27.6%                               |
| <b>Top 10 Largest Countries</b>       |                                       |                                     |
| Japan                                 | 14.7%                                 | 14.5%                               |
| Germany                               | 11.4%                                 | 6.6%                                |
| United Kingdom                        | 10.8%                                 | 12.6%                               |
| Switzerland                           | 10.3%                                 | 4.2%                                |
| Australia                             | 8.5%                                  | 5.3%                                |
| France                                | 7.8%                                  | 6.3%                                |
| Singapore                             | 6.0%                                  | 1.0%                                |
| Hong Kong                             | 4.9%                                  | 1.8%                                |
| Cash                                  | 4.6%                                  | 0.0%                                |
| Sweden                                | 3.7%                                  | 2.2%                                |
| <b>Total-Top 10 Largest Countries</b> | <b>82.9%</b>                          | <b>54.4%</b>                        |

## Sector Allocation (%) vs MSCI ACWI ex USA Value



## Top Contributors

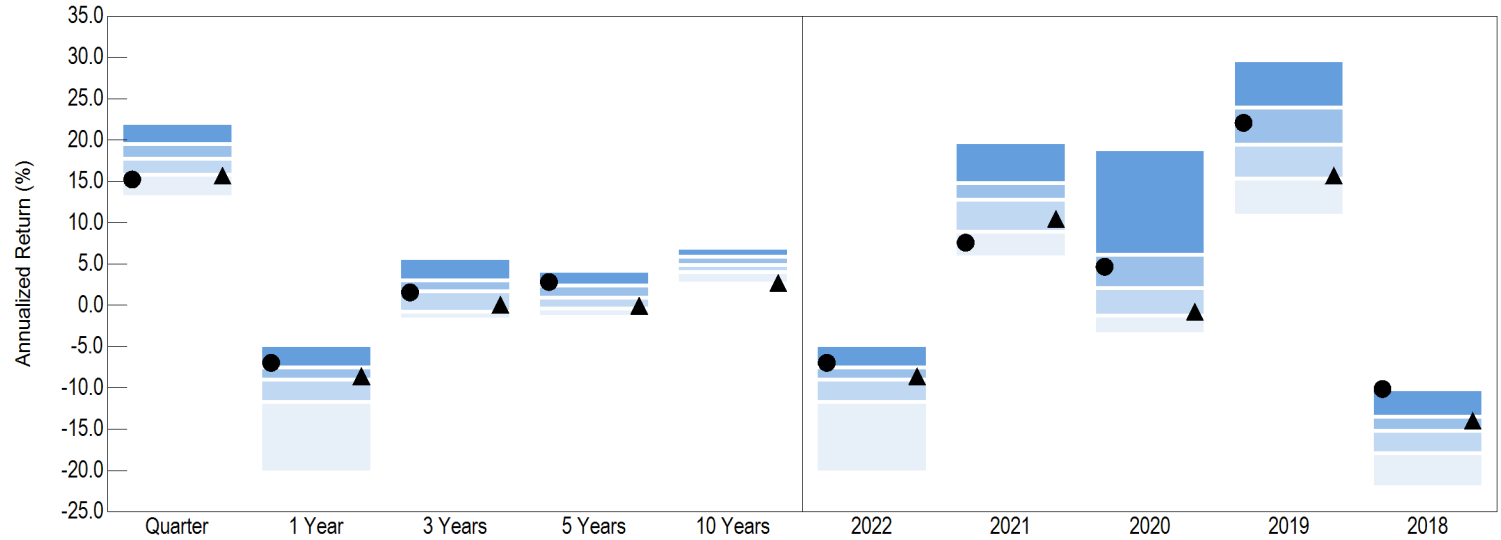
|                          | Avg Wgt | Return | Contribution |
|--------------------------|---------|--------|--------------|
| JAPAN TOBACCO INC        | 3.43    | 28.17  | 0.97         |
| FUCHS PETROLUB SE        | 1.80    | 37.25  | 0.67         |
| KONINKLIJKE VOPAK NV     | 1.03    | 61.74  | 0.64         |
| ABC-MART INC             | 1.89    | 31.55  | 0.60         |
| AIA GROUP LTD            | 1.64    | 33.52  | 0.55         |
| SAP SE                   | 2.09    | 24.89  | 0.52         |
| UNITED OVERSEAS BANK LTD | 1.95    | 25.58  | 0.50         |
| SANOFI                   | 1.84    | 24.90  | 0.46         |
| L'AIR LIQUIDE SA         | 1.94    | 22.75  | 0.44         |
| NOVARTIS AG              | 2.47    | 17.47  | 0.43         |

## Bottom Contributors

|                                        | Avg Wgt | Return | Contribution |
|----------------------------------------|---------|--------|--------------|
| TELEKOMUNIKASI INDONESIA               | 1.08    | -17.55 | -0.19        |
| ROCHE HOLDING AG                       | 2.87    | -4.67  | -0.13        |
| VODAFONE GROUP PUBLIC LIMITED COMPANY  | 1.27    | -6.17  | -0.08        |
| KONINKLIJKE PHILIPS NV                 | 0.63    | -4.60  | -0.03        |
| ENDEAVOUR GROUP LIMITED NPV            | 0.84    | -3.25  | -0.03        |
| MERIDA INDUSTRY                        | 0.10    | -4.26  | 0.00         |
| COMFORTDELGRO CORPORATION LTD          | 1.39    | -0.28  | 0.00         |
| GIVAUDAN SA                            | 0.56    | 0.13   | 0.00         |
| SINGAPORE TECHNOLOGIES ENGINEERING LTD | 0.75    | 1.32   | 0.01         |

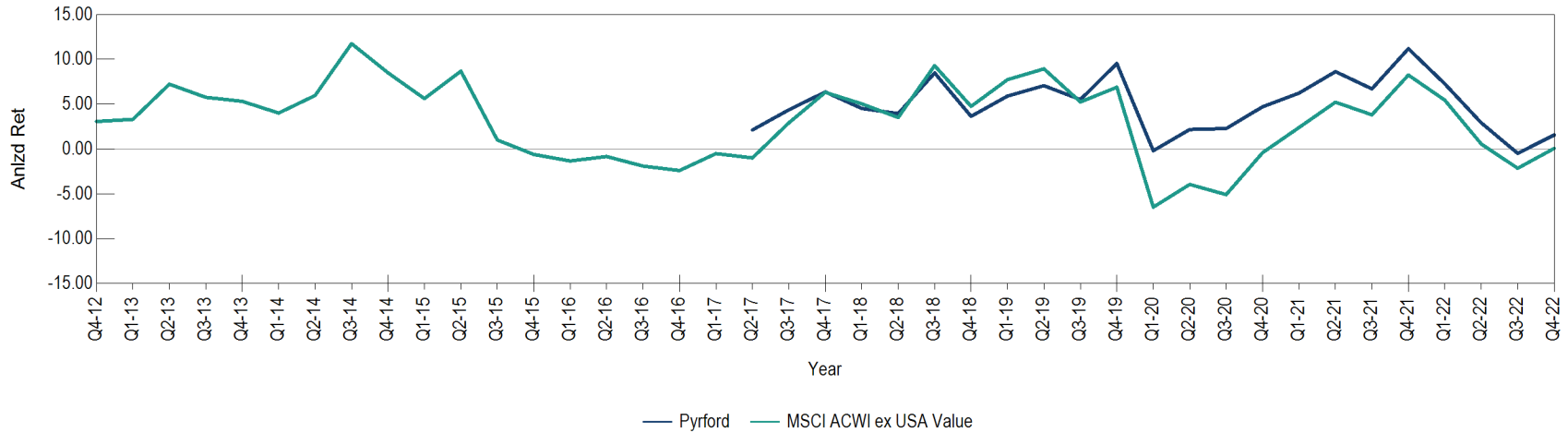
Unclassified sector allocation includes cash allocations.

Pyrford vs. eV ACWI ex-US Value Equity Gross Universe

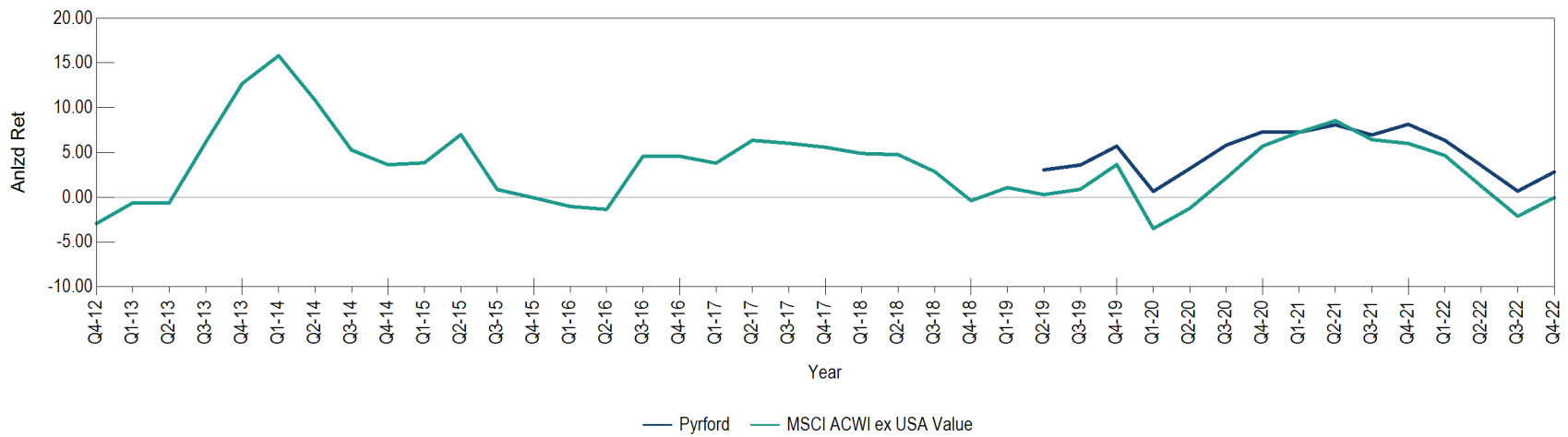


|                                 | Quarter   | 1 Year    | 3 Years  | 5 Years   | 10 Years | 2022      | 2021      | 2020      | 2019      | 2018       |
|---------------------------------|-----------|-----------|----------|-----------|----------|-----------|-----------|-----------|-----------|------------|
| <b>5th Percentile</b>           | 22.0      | -4.8      | 5.7      | 4.1       | 6.9      | -4.8      | 19.7      | 18.8      | 29.6      | -10.2      |
| <b>25th Percentile</b>          | 19.6      | -7.5      | 3.1      | 2.4       | 5.9      | -7.5      | 14.8      | 6.2       | 24.0      | -13.4      |
| <b>Median</b>                   | 17.7      | -8.9      | 1.7      | 1.0       | 4.9      | -8.9      | 12.8      | 2.1       | 19.5      | -15.2      |
| <b>75th Percentile</b>          | 15.8      | -11.7     | -0.8     | -0.4      | 4.1      | -11.7     | 8.9       | -1.2      | 15.4      | -17.9      |
| <b>95th Percentile</b>          | 13.1      | -20.2     | -1.7     | -1.4      | 2.7      | -20.2     | 5.8       | -3.5      | 10.8      | -21.9      |
| <b># of Portfolios</b>          | 49        | 49        | 45       | 40        | 33       | 49        | 46        | 49        | 52        | 54         |
| <b>● Pyrford</b>                | 15.2 (84) | -7.0 (20) | 1.6 (55) | 2.8 (20)  | -- (--)  | -7.0 (20) | 7.6 (84)  | 4.7 (33)  | 22.1 (35) | -10.1 (5)  |
| <b>▲ MSCI ACWI ex USA Value</b> | 15.7 (80) | -8.6 (41) | 0.1 (69) | -0.1 (73) | 2.7 (94) | -8.6 (41) | 10.5 (69) | -0.8 (73) | 15.7 (74) | -14.0 (32) |

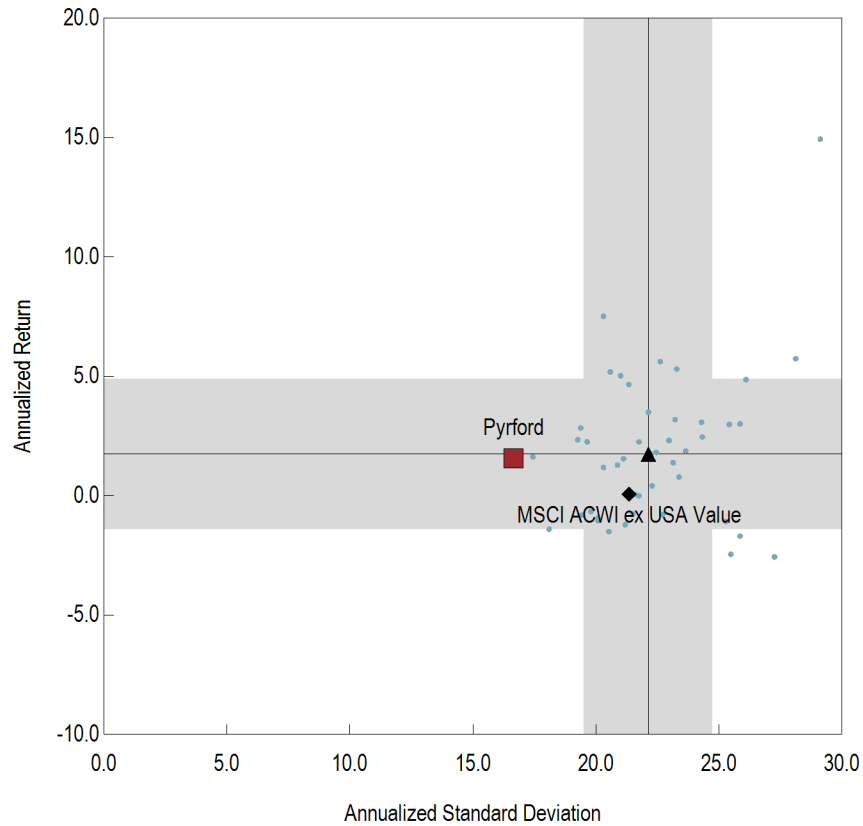
Rolling 3 Year Annualized Return (%)



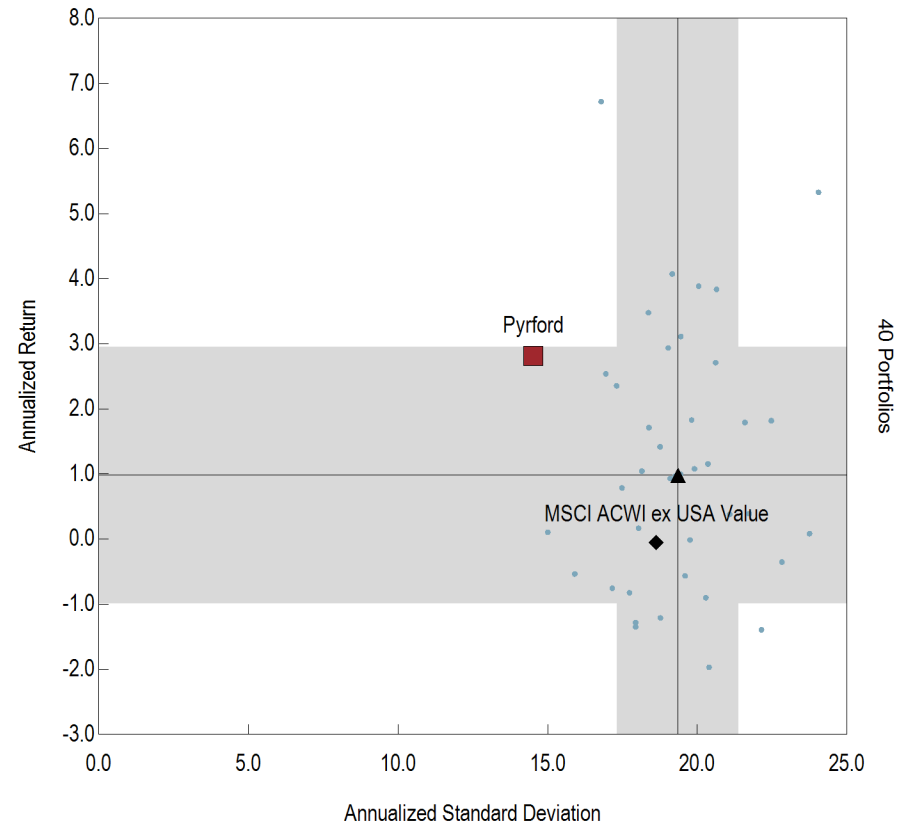
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

|                                         | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|-----------------------------------------|--------------|--------------------------|--------------|
| Pyrford                                 | 1.6%         | 16.7%                    | 0.1          |
| MSCI ACWI ex USA Value                  | 0.1%         | 21.3%                    | 0.0          |
| eV ACWI ex-US Value Equity Gross Median | 1.7%         | 22.1%                    | 0.1          |

5 Years

|                                         | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|-----------------------------------------|--------------|--------------------------|--------------|
| Pyrford                                 | 2.8%         | 14.5%                    | 0.1          |
| MSCI ACWI ex USA Value                  | -0.1%        | 18.6%                    | -0.1         |
| eV ACWI ex-US Value Equity Gross Median | 1.0%         | 19.4%                    | 0.0          |

# William Blair Manager Portfolio Overview

Period Ending: December 31, 2022

International equity growth portfolio of non-US companies with high growth rates constructed from the security level. Primary personnel include Simon Fennell and Kenneth McAtamney.

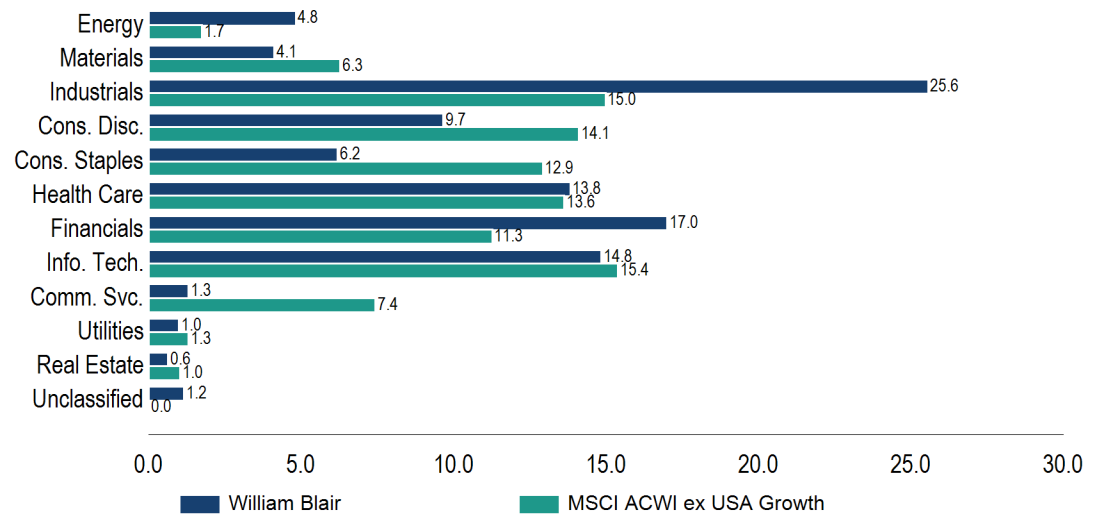
## Characteristics

|                                 | Portfolio | MSCI ACWI ex USA Growth |
|---------------------------------|-----------|-------------------------|
| Number of Holdings              | 180       | 1,241                   |
| Weighted Avg. Market Cap. (\$B) | 63.43     | 101.44                  |
| Median Market Cap. (\$B)        | 11.12     | 9.21                    |
| Price To Earnings               | 22.85     | 20.00                   |
| Price To Book                   | 3.61      | 3.34                    |
| Price To Sales                  | 2.97      | 2.55                    |
| Return on Equity (%)            | 18.69     | 18.66                   |
| Yield (%)                       | 1.85      | 1.86                    |
| Beta                            | 1.14      | 1.00                    |

## Country Allocation

|                                       | Manager Ending Allocation (USD) | Index Ending Allocation (USD) |
|---------------------------------------|---------------------------------|-------------------------------|
| <b>Totals</b>                         |                                 |                               |
| Developed                             | 83.0%                           | 70.8%                         |
| Emerging*                             | 16.0%                           | 29.2%                         |
| <b>Top 10 Largest Countries</b>       |                                 |                               |
| United Kingdom                        | 14.6%                           | 6.9%                          |
| France                                | 10.8%                           | 8.9%                          |
| Canada                                | 9.1%                            | 7.8%                          |
| Japan                                 | 8.4%                            | 13.5%                         |
| India*                                | 6.6%                            | 4.0%                          |
| Switzerland                           | 6.4%                            | 8.8%                          |
| Denmark                               | 4.6%                            | 3.4%                          |
| Netherlands                           | 4.1%                            | 3.9%                          |
| Sweden                                | 3.6%                            | 2.0%                          |
| Germany                               | 3.3%                            | 3.8%                          |
| <b>Total-Top 10 Largest Countries</b> | <b>71.7%</b>                    | <b>63.1%</b>                  |

## Sector Allocation (%) vs MSCI ACWI ex USA Growth



## Top Contributors

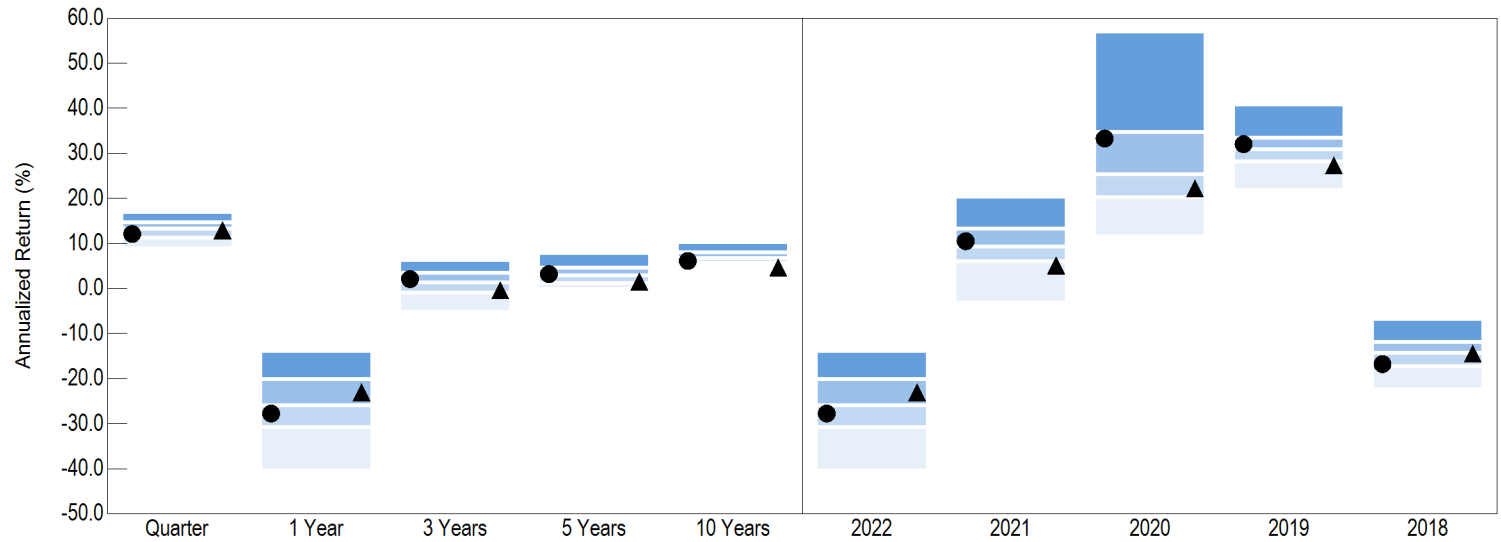
|                           | Avg Wgt | Return | Contribution |
|---------------------------|---------|--------|--------------|
| NOVO NORDISK 'B'          | 1.57    | 34.34  | 0.54         |
| AIRBUS SE                 | 1.17    | 36.13  | 0.42         |
| MTU AERO ENGINES AG       | 0.98    | 42.88  | 0.42         |
| VINCI SA                  | 1.76    | 23.54  | 0.41         |
| KBC GROUP SA              | 1.05    | 37.21  | 0.39         |
| AIA GROUP LTD             | 1.17    | 33.52  | 0.39         |
| SAFRAN SA                 | 0.98    | 35.56  | 0.35         |
| LINDE PLC                 | 1.59    | 21.41  | 0.34         |
| ZURICH INSURANCE GROUP AG | 1.78    | 18.85  | 0.34         |
| ASTRAZENECA PLC           | 1.47    | 21.98  | 0.32         |

## Bottom Contributors

|                                 | Avg Wgt | Return | Contribution |
|---------------------------------|---------|--------|--------------|
| ATLISSIAN CORP                  | 0.49    | -38.90 | -0.19        |
| OLYMPUS CORP                    | 1.39    | -7.12  | -0.10        |
| TELEKOMUNIKASI INDONESIA        | 0.40    | -17.55 | -0.07        |
| HAVELL'S INDIA                  | 0.32    | -19.80 | -0.06        |
| TELEPERFORMANCE                 | 0.75    | -6.96  | -0.05        |
| CCL INDUSTRIES INC              | 0.43    | -12.02 | -0.05        |
| CROMPTON GREAVES CONSUMER       | 0.25    | -19.69 | -0.05        |
| ELECTRICALS LTD                 |         |        |              |
| LOCAWEB SERVICOS DE INTERNET SA | 0.16    | -25.92 | -0.04        |
| GLOBAL SA                       | 0.34    | -10.11 | -0.03        |

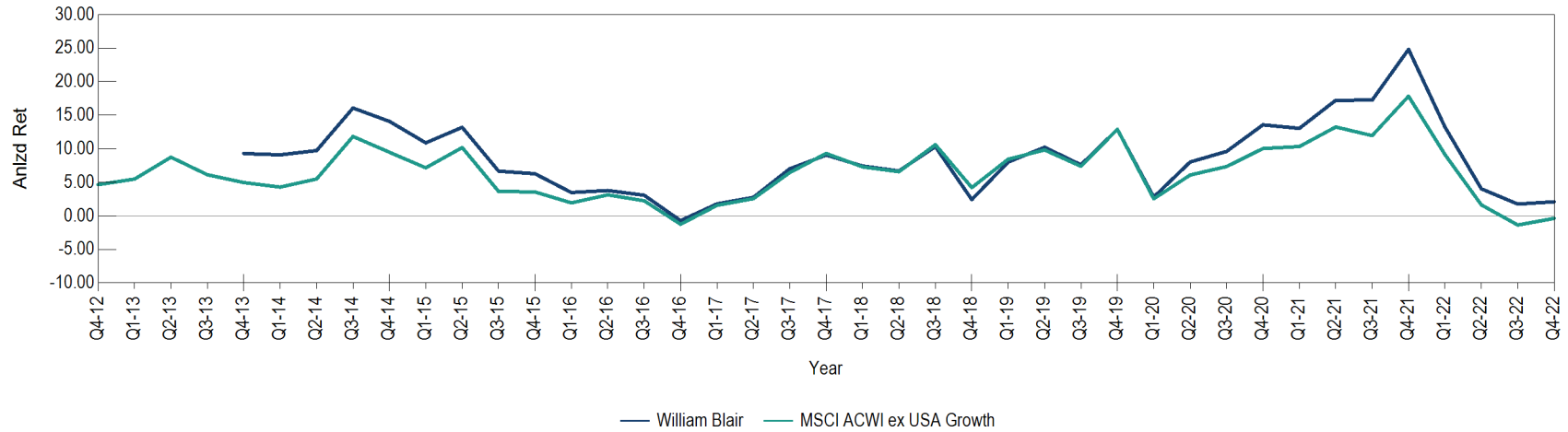
Unclassified sector allocation includes cash allocations.

William Blair vs. eV ACWI ex-US Growth Equity Gross Universe

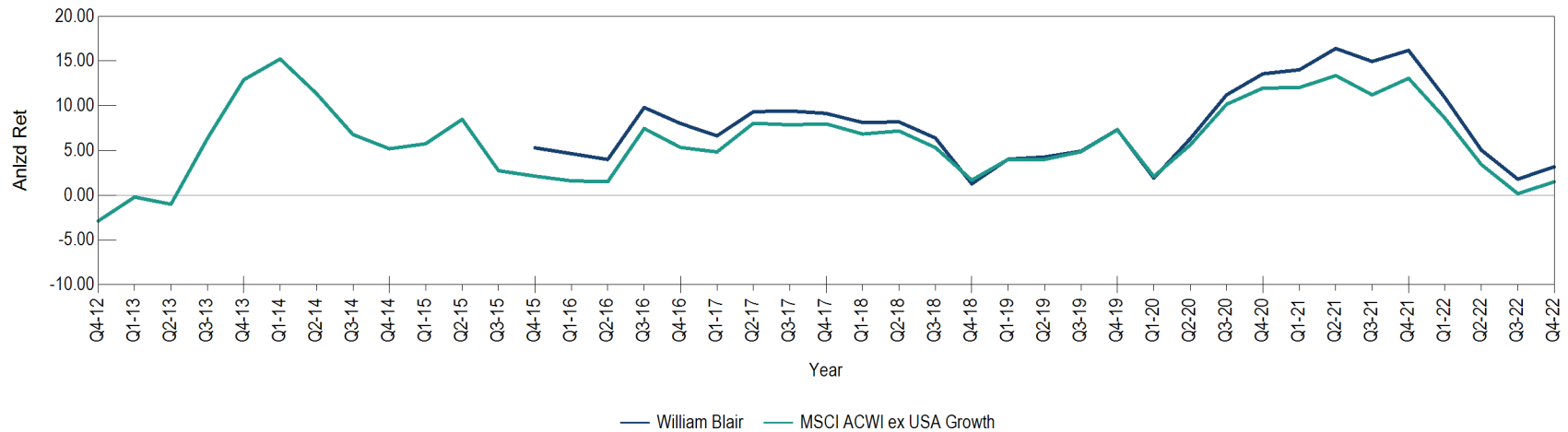


|                           | Return (Rank) |            |           |          |          |            |           |           |           |            |
|---------------------------|---------------|------------|-----------|----------|----------|------------|-----------|-----------|-----------|------------|
|                           | Quarter       | 1 Year     | 3 Years   | 5 Years  | 10 Years | 2022       | 2021      | 2020      | 2019      | 2018       |
| 5th Percentile            | 16.9          | -13.9      | 6.3       | 7.8      | 10.2     | -13.9      | 20.3      | 57.0      | 40.8      | -6.8       |
| 25th Percentile           | 14.7          | -20.1      | 3.5       | 4.7      | 8.0      | -20.1      | 13.4      | 34.8      | 33.6      | -11.7      |
| Median                    | 13.3          | -25.8      | 1.5       | 3.0      | 6.8      | -25.8      | 9.3       | 25.4      | 31.0      | -14.3      |
| 75th Percentile           | 11.3          | -30.6      | -0.9      | 1.3      | 5.8      | -30.6      | 6.1       | 20.3      | 28.3      | -17.2      |
| 95th Percentile           | 9.0           | -40.4      | -5.1      | 0.0      | 4.9      | -40.4      | -3.1      | 11.6      | 21.8      | -22.3      |
| # of Portfolios           | 103           | 103        | 96        | 85       | 61       | 103        | 102       | 95        | 93        | 82         |
| ● William Blair           | 12.1 (67)     | -27.7 (60) | 2.1 (44)  | 3.2 (46) | 6.1 (63) | -27.7 (60) | 10.5 (44) | 33.3 (30) | 32.0 (39) | -16.8 (69) |
| ▲ MSCI ACWI ex USA Growth | 12.9 (59)     | -23.1 (34) | -0.4 (72) | 1.5 (72) | 4.7 (97) | -23.1 (34) | 5.1 (78)  | 22.2 (64) | 27.3 (80) | -14.4 (51) |

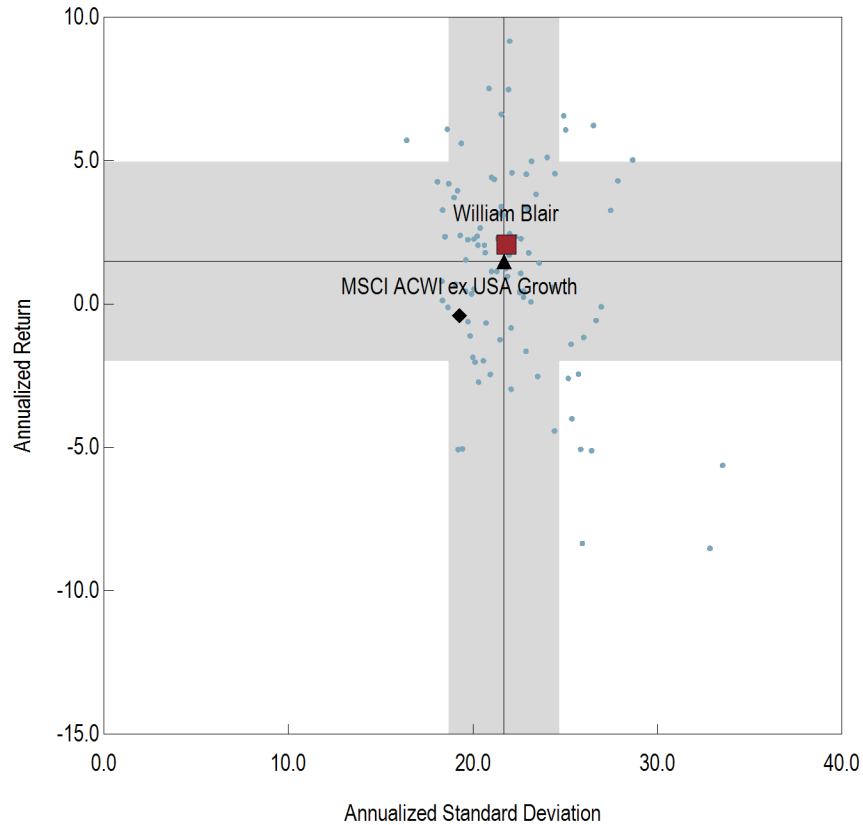
Rolling 3 Year Annualized Return (%)



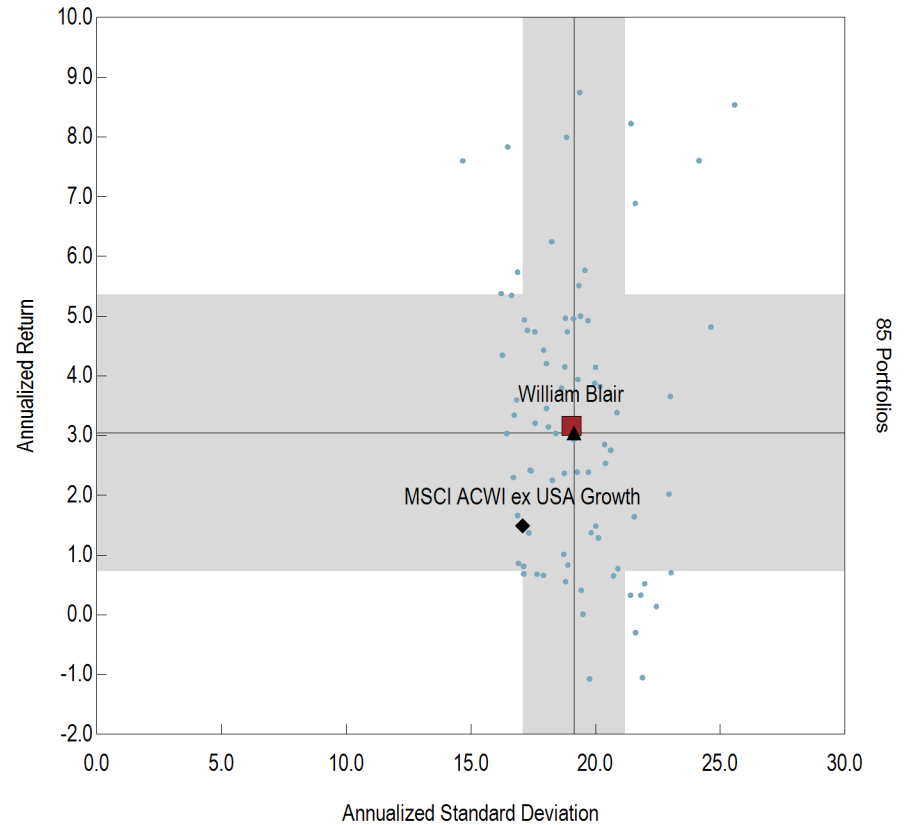
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

|                                          | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|------------------------------------------|--------------|--------------------------|--------------|
| William Blair                            | 2.1%         | 21.8%                    | 0.1          |
| MSCI ACWI ex USA Growth                  | -0.4%        | 19.3%                    | -0.1         |
| eV ACWI ex-US Growth Equity Gross Median | 1.5%         | 21.7%                    | 0.0          |

5 Years

|                                          | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|------------------------------------------|--------------|--------------------------|--------------|
| William Blair                            | 3.2%         | 19.0%                    | 0.1          |
| MSCI ACWI ex USA Growth                  | 1.5%         | 17.1%                    | 0.0          |
| eV ACWI ex-US Growth Equity Gross Median | 3.0%         | 19.1%                    | 0.1          |



# PIMCO RAE Emerging Markets Manager Portfolio Overview

Period Ending: December 31, 2022

The PIMCO RAE Emerging Markets seeks to invest 80% of its assets in investments that are economically tied to emerging market countries. The portfolio is sub-advised by Research Affiliates, LLC.

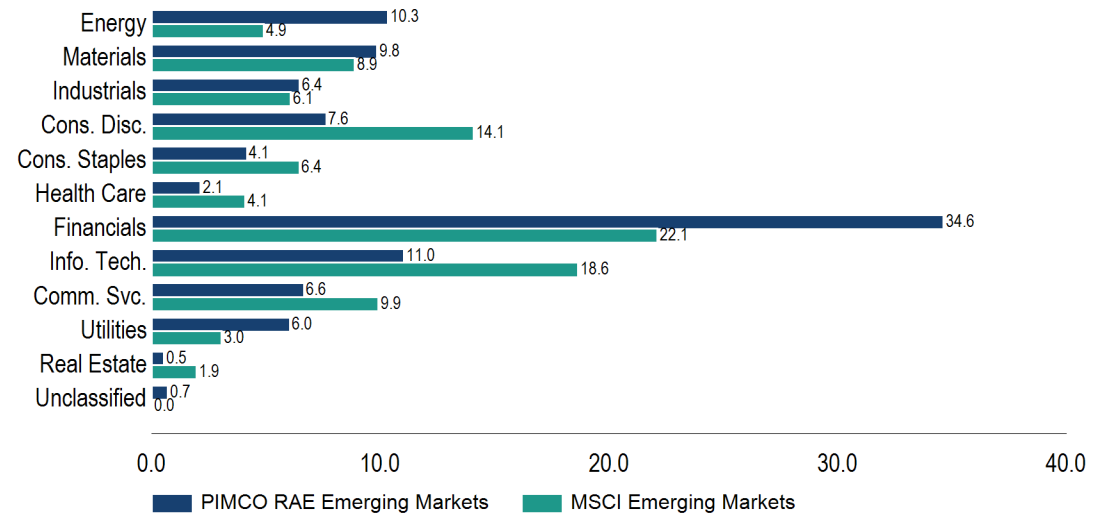
## Characteristics

|                                 | Portfolio | MSCI Emerging Markets |
|---------------------------------|-----------|-----------------------|
| Number of Holdings              | 359       | 1,375                 |
| Weighted Avg. Market Cap. (\$B) | 17.92     | 95.69                 |
| Median Market Cap. (\$B)        | 3.62      | 6.46                  |
| Price To Earnings               | 5.66      | 11.40                 |
| Price To Book                   | 1.75      | 2.60                  |
| Price To Sales                  | 0.34      | 1.08                  |
| Return on Equity (%)            | 12.67     | 14.40                 |
| Yield (%)                       | 5.64      | 3.39                  |
| Beta                            | 1.14      | 1.00                  |

## Country Allocation

|                                       | Manager Ending Allocation (USD) | Index Ending Allocation (USD) |
|---------------------------------------|---------------------------------|-------------------------------|
| <b>Totals</b>                         |                                 |                               |
| Developed                             | 4.7%                            | 0.0%                          |
| Emerging*                             | 95.1%                           | 100.0%                        |
| <b>Top 10 Largest Countries</b>       |                                 |                               |
| China*                                | 18.6%                           | 32.3%                         |
| Korea*                                | 14.6%                           | 11.3%                         |
| India*                                | 13.5%                           | 14.4%                         |
| Thailand*                             | 8.7%                            | 2.2%                          |
| Taiwan*                               | 8.4%                            | 13.8%                         |
| Turkey*                               | 6.4%                            | 0.7%                          |
| South Africa*                         | 6.1%                            | 3.7%                          |
| Brazil*                               | 5.9%                            | 5.3%                          |
| Hong Kong                             | 4.4%                            | 0.0%                          |
| Indonesia*                            | 4.2%                            | 1.9%                          |
| <b>Total-Top 10 Largest Countries</b> | <b>90.9%</b>                    | <b>85.6%</b>                  |

## Sector Allocation (%) vs MSCI Emerging Markets



## Top Contributors

|                                 | End Weight | Return | Contribution |
|---------------------------------|------------|--------|--------------|
| HACI OMER SABANCI HOLDING AS    | 1.62       | 73.11  | 1.18         |
| TURKIYE IS BANKASI AS           | 1.44       | 68.11  | 0.98         |
| AKBANK                          | 0.97       | 71.43  | 0.69         |
| POSCO HOLDINGS INC              | 1.33       | 49.63  | 0.66         |
| VIPSHOP HOLDINGS LIMITED        | 1.01       | 62.19  | 0.63         |
| IS YATIRIM MENKUL DEGERLER A.S. | 0.43       | 133.32 | 0.58         |
| VEDANTA LTD                     | 2.13       | 18.80  | 0.40         |
| BANK OF CHINA LTD               | 3.41       | 11.25  | 0.38         |
| YAPI VE KREDI BANKASI AS        | 0.58       | 65.37  | 0.38         |
| CHINA CONSTRUCTION BANK CORP    | 4.26       | 8.44   | 0.36         |

## Bottom Contributors

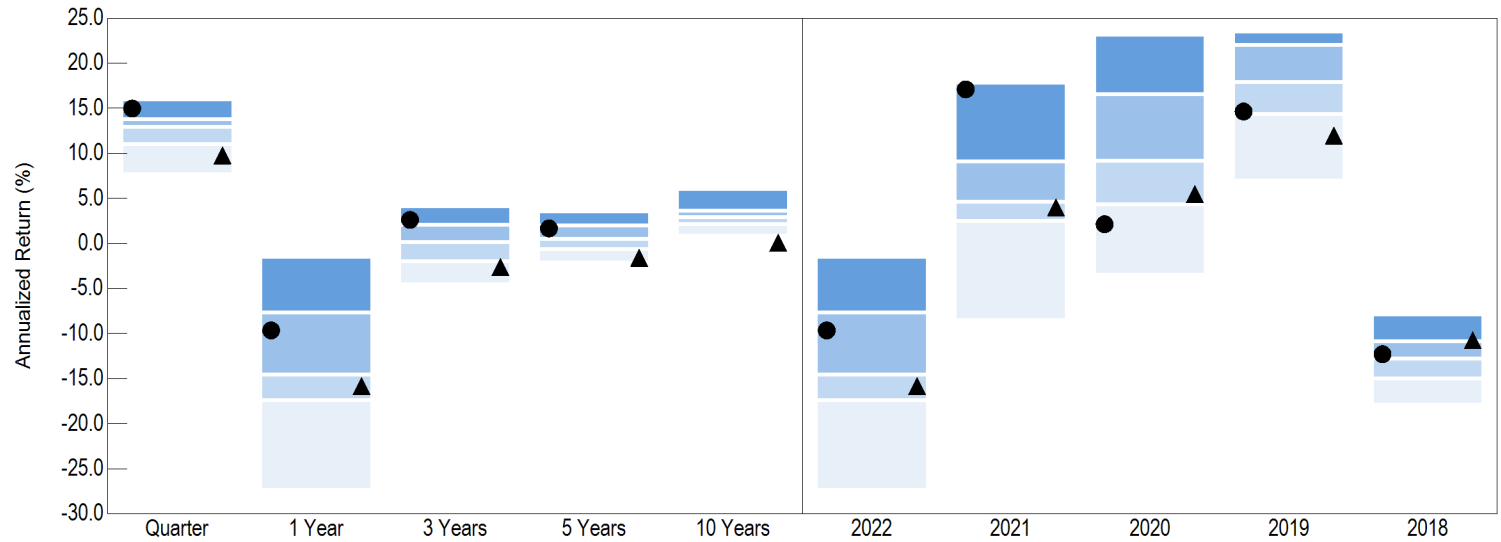
|                                            | End Weight | Return | Contribution |
|--------------------------------------------|------------|--------|--------------|
| TELEKOMUNIKASI INDONESIA                   | 0.54       | -17.55 | -0.09        |
| KIA CORPORATION                            | 1.13       | -5.83  | -0.07        |
| ASTRA INTERNATIONAL                        | 0.37       | -14.46 | -0.05        |
| CIELO SA                                   | 1.62       | -3.17  | -0.05        |
| TELKOM SA SOC LTD                          | 0.15       | -31.44 | -0.05        |
| BANCO DO ESTADO DO RIO GRANDE DO SUL B PN  | 0.23       | -17.00 | -0.04        |
| PICC PROPERTY AND CASUALTY COMPANY LIMITED | 0.43       | -8.35  | -0.04        |
| PT ADARO ENERGY INDONESIA TBK              | 0.66       | -4.66  | -0.03        |
| VIBRA ENERGIA S.A.                         | 0.29       | -8.95  | -0.03        |

Unclassified sector allocation includes cash allocations.

PIMCO RAE Emerging Markets  
 Manager Performance Comparisons (Gross of Fees)

Period Ending: December 31, 2022

PIMCO RAE Emerging Markets vs. eV Emg Mkts All Cap Value Equity Gross Universe



|                                  | Return (Rank) |            |           |           |          |            |          |          |           |            |  |
|----------------------------------|---------------|------------|-----------|-----------|----------|------------|----------|----------|-----------|------------|--|
| 5th Percentile                   | 16.0          | -1.5       | 4.1       | 3.5       | 6.0      | -1.5       | 17.8     | 23.1     | 23.5      | -7.9       |  |
| 25th Percentile                  | 13.8          | -7.6       | 2.1       | 2.0       | 3.7      | -7.6       | 9.1      | 16.6     | 22.1      | -10.8      |  |
| Median                           | 13.0          | -14.5      | 0.2       | 0.5       | 3.0      | -14.5      | 4.6      | 9.2      | 18.0      | -12.7      |  |
| 75th Percentile                  | 11.0          | -17.3      | -1.9      | -0.6      | 2.2      | -17.3      | 2.5      | 4.3      | 14.4      | -14.9      |  |
| 95th Percentile                  | 7.7           | -27.3      | -4.5      | -2.1      | 0.9      | -27.3      | -8.5     | -3.4     | 7.0       | -17.8      |  |
| # of Portfolios                  | 41            | 41         | 37        | 31        | 21       | 41         | 35       | 37       | 33        | 36         |  |
| ● PIMCO RAE Emerging Markets     | 15.0 (13)     | -9.7 (33)  | 2.6 (19)  | 1.7 (30)  | -- (--)  | -9.7 (33)  | 17.1 (6) | 2.1 (85) | 14.6 (72) | -12.3 (44) |  |
| ▲ MSCI Emerging Markets Value NR | 9.8 (91)      | -15.8 (55) | -2.6 (87) | -1.6 (88) | 0.1 (99) | -15.8 (55) | 4.0 (61) | 5.5 (73) | 12.0 (86) | -10.7 (25) |  |

# TT Emerging Markets Manager Portfolio Overview

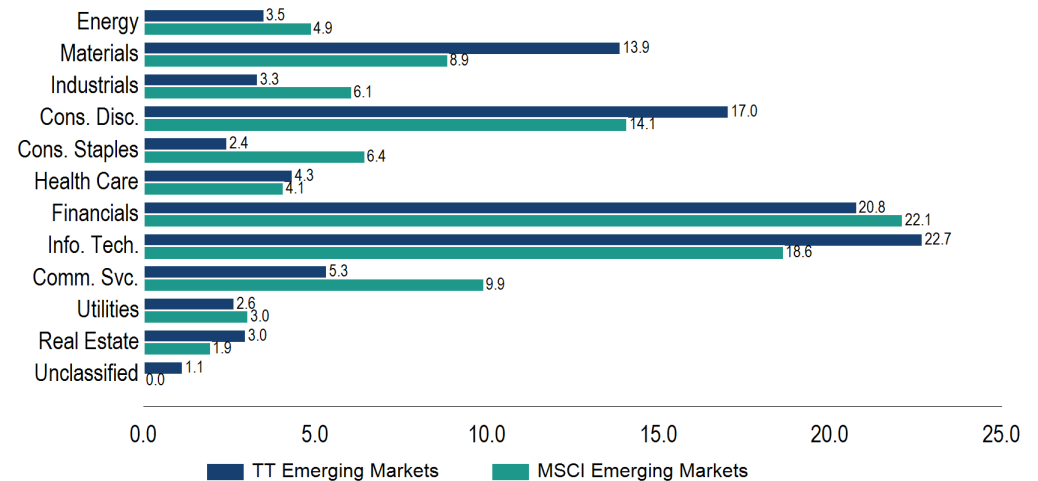
Period Ending: December 31, 2022

The Emerging Markets Unconstrained strategy aims to outperform its benchmark, MSCI Emerging Markets Index by 5% per annum over a three-year rolling period. It targets high returns and long term capital growth by investing in a focused portfolio of primarily equity and equity-related securities traded in the Emerging Markets.

## Characteristics

|                                 | Portfolio | MSCI Emerging Markets |
|---------------------------------|-----------|-----------------------|
| Number of Holdings              | 67        | 1,375                 |
| Weighted Avg. Market Cap. (\$B) | 110.73    | 95.69                 |
| Median Market Cap. (\$B)        | 22.31     | 6.46                  |
| Price To Earnings               | 13.07     | 11.40                 |
| Price To Book                   | 2.46      | 2.60                  |
| Price To Sales                  | 1.30      | 1.08                  |
| Return on Equity (%)            | 13.63     | 14.40                 |
| Yield (%)                       | 2.07      | 3.39                  |
| Beta                            | 1.17      | 1.00                  |

## Sector Allocation (%) vs MSCI Emerging Markets



## Country Allocation

|                                       | Manager Ending Allocation (USD) | Index Ending Allocation (USD) |
|---------------------------------------|---------------------------------|-------------------------------|
| <b>Totals</b>                         |                                 |                               |
| Developed                             | 23.5%                           | 0.0%                          |
| Emerging*                             | 75.8%                           | 100.0%                        |
| Frontier**                            | 0.7%                            | 0.0%                          |
| <b>Top 10 Largest Countries</b>       |                                 |                               |
| China*                                | 23.7%                           | 32.3%                         |
| Korea*                                | 12.4%                           | 11.3%                         |
| Taiwan*                               | 11.5%                           | 13.8%                         |
| India*                                | 10.6%                           | 14.4%                         |
| United Kingdom                        | 8.6%                            | 0.0%                          |
| Hong Kong                             | 6.0%                            | 0.0%                          |
| Brazil*                               | 6.0%                            | 5.3%                          |
| Mexico*                               | 3.3%                            | 2.3%                          |
| United Arab Emirates*                 | 3.0%                            | 1.3%                          |
| South Africa*                         | 2.6%                            | 3.7%                          |
| <b>Total-Top 10 Largest Countries</b> | <b>88.9%</b>                    | <b>84.5%</b>                  |

## Top Contributors

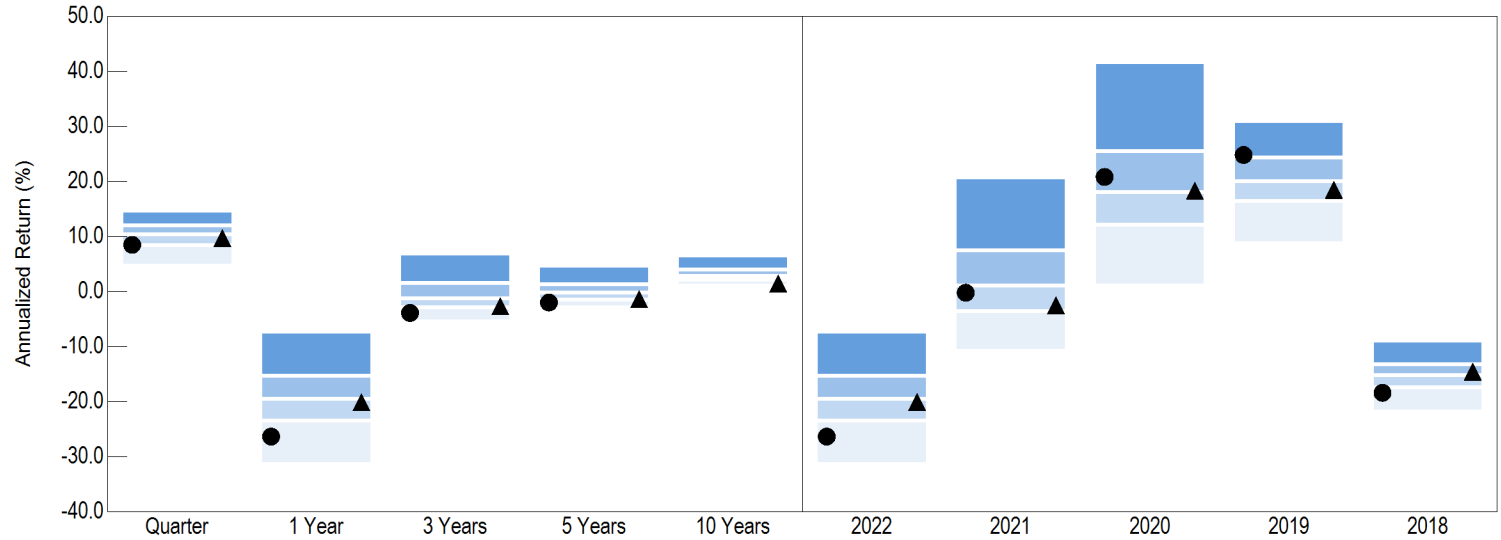
|                                           | End Weight | Return | Contribution |
|-------------------------------------------|------------|--------|--------------|
| POLYMETAL INTERNATIONAL PLC               | 6.85       | 36.13  | 2.48         |
| 360 DIGITECH INC                          | 3.14       | 60.23  | 1.89         |
| TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD | 8.61       | 10.60  | 0.91         |
| KB FINANCIAL GROUP INC                    | 3.00       | 26.73  | 0.80         |
| SAMSUNG ELECTRONICS CO LTD                | 3.87       | 18.92  | 0.73         |
| PING AN INSURANCE GROUP                   | 1.93       | 32.65  | 0.63         |
| TENCENT HOLDINGS LTD                      | 2.40       | 26.22  | 0.63         |
| AXIS BANK                                 | 2.30       | 25.22  | 0.58         |
| CIE FINANCIERE RICHEMONT AG, ZUG          | 1.58       | 34.98  | 0.55         |

## Bottom Contributors

|                                              | End Weight | Return | Contribution |
|----------------------------------------------|------------|--------|--------------|
| LOJAS RENNER SA                              | 1.86       | -29.01 | -0.54        |
| HAPVIDA PARTICIPACOES E INVESTIMENTOS SA     | 1.11       | -36.67 | -0.41        |
| GLOBANT SA                                   | 1.59       | -10.11 | -0.16        |
| XP INC                                       | 0.75       | -19.31 | -0.14        |
| THE SAUDI NATIONAL BANK                      | 0.64       | -19.99 | -0.13        |
| PVR                                          | 1.33       | -5.43  | -0.07        |
| CENTRAIS ELETRICAS BRASILEIRAS SA-ELETROBRAS | 2.10       | -2.47  | -0.05        |
| DIAGNOSTICOS DA AMERICA SA                   | 0.17       | -28.81 | -0.05        |
| SABIC AGRI-NUTRIENTS COMPANY                 | 0.63       | -7.50  | -0.05        |

Unclassified sector allocation includes cash allocations.

TT Emerging Markets vs. eV Emg Mkts Equity Gross Universe



|                         | Return (Rank) |            |           |           |          |            |           |           |           |            |
|-------------------------|---------------|------------|-----------|-----------|----------|------------|-----------|-----------|-----------|------------|
| 5th Percentile          | 14.6          | -7.3       | 6.9       | 4.6       | 6.5      | -7.3       | 20.7      | 41.6      | 30.9      | -9.0       |
| 25th Percentile         | 12.0          | -15.2      | 1.6       | 1.4       | 4.1      | -15.2      | 7.5       | 25.5      | 24.4      | -13.2      |
| Median                  | 10.4          | -19.5      | -1.2      | -0.1      | 2.9      | -19.5      | 1.2       | 18.2      | 20.1      | -15.2      |
| 75th Percentile         | 8.4           | -23.4      | -2.8      | -1.4      | 2.1      | -23.4      | -3.5      | 12.2      | 16.5      | -17.4      |
| 95th Percentile         | 4.8           | -31.2      | -5.4      | -2.8      | 1.1      | -31.2      | -10.7     | 1.2       | 8.8       | -21.8      |
| # of Portfolios         | 416           | 415        | 378       | 332       | 232      | 415        | 391       | 391       | 386       | 355        |
| ● TT Emerging Markets   | 8.5 (75)      | -26.4 (88) | -3.9 (87) | -2.0 (89) | -- (--)  | -26.4 (88) | -0.2 (58) | 20.8 (39) | 24.8 (24) | -18.4 (83) |
| ▲ MSCI Emerging Markets | 9.7 (60)      | -20.1 (56) | -2.7 (73) | -1.4 (77) | 1.4 (90) | -20.1 (56) | -2.5 (71) | 18.3 (49) | 18.4 (63) | -14.6 (43) |

## Global Equity Managers

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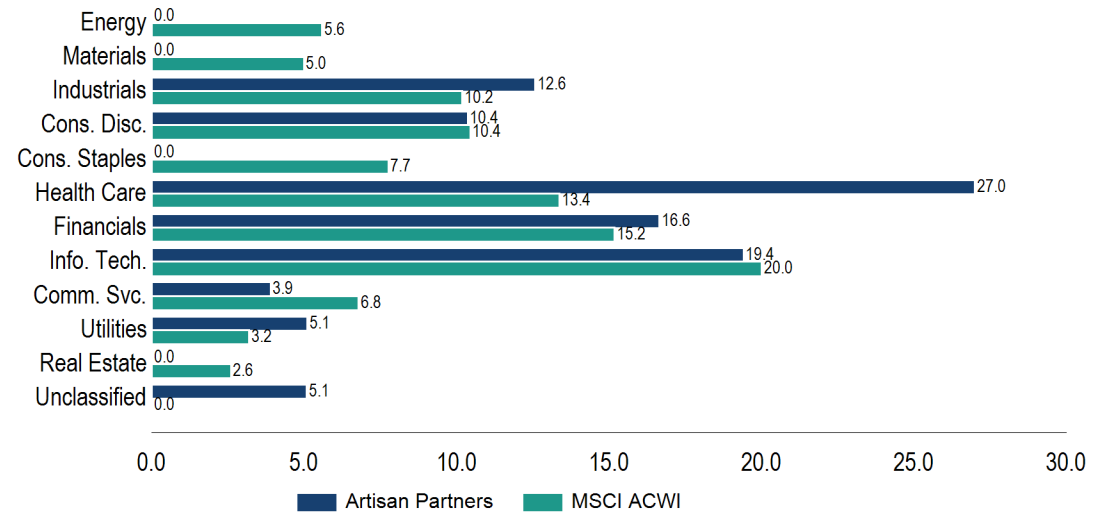
# Artisan Partners Manager Portfolio Overview

Period Ending: December 31, 2022

Global equity portfolio of companies that is benchmark agnostic with accelerating profit cycles and a focus on capital allocation. Primary personnel include James Hamel, Craig Cepukenas, and Matthew Kamm.

|                                 |        |        |
|---------------------------------|--------|--------|
| Number of Holdings              | 45     | 2,883  |
| Weighted Avg. Market Cap. (\$B) | 118.32 | 274.21 |
| Median Market Cap. (\$B)        | 40.93  | 11.87  |
| Price To Earnings               | 26.10  | 16.13  |
| Price To Book                   | 3.76   | 3.19   |
| Price To Sales                  | 4.28   | 1.85   |
| Return on Equity (%)            | 13.67  | 21.99  |
| Yield (%)                       | 0.92   | 2.40   |
| Beta                            | 1.00   | 1.00   |

Sector Allocation (%) vs MSCI ACWI



Country Allocation

|                                       | Manager<br>Ending Allocation<br>(USD) | Index<br>Ending Allocation<br>(USD) |
|---------------------------------------|---------------------------------------|-------------------------------------|
| <b>Totals</b>                         |                                       |                                     |
| Developed                             | 93.9%                                 | 88.8%                               |
| Emerging*                             | 1.0%                                  | 11.2%                               |
| <b>Top 10 Largest Countries</b>       |                                       |                                     |
| United States                         | 47.6%                                 | 60.4%                               |
| United Kingdom                        | 9.6%                                  | 3.9%                                |
| Switzerland                           | 7.4%                                  | 2.6%                                |
| Hong Kong                             | 7.3%                                  | 0.8%                                |
| Denmark                               | 6.6%                                  | 0.8%                                |
| Cash                                  | 5.1%                                  | 0.0%                                |
| Japan                                 | 4.0%                                  | 5.6%                                |
| Sweden                                | 3.7%                                  | 0.8%                                |
| Canada                                | 2.4%                                  | 3.1%                                |
| Australia                             | 2.3%                                  | 2.0%                                |
| <b>Total-Top 10 Largest Countries</b> | <b>96.0%</b>                          | <b>79.8%</b>                        |

Top Contributors

|                              | Avg Wgt | Return | Contribution |
|------------------------------|---------|--------|--------------|
| CNH INDUSTRIAL N.V.          | 2.40    | 40.25  | 0.97         |
| NOVO NORDISK 'B'             | 2.55    | 34.34  | 0.88         |
| BOSTON SCIENTIFIC CORP       | 4.13    | 19.47  | 0.80         |
| UBS GROUP AG                 | 2.97    | 26.16  | 0.78         |
| TECHTRONIC INDUSTRIES CO LTD | 4.73    | 15.61  | 0.74         |
| VESTAS WIND SYSTEMS A/S      | 1.29    | 55.61  | 0.72         |
| AIA GROUP LTD                | 1.87    | 33.52  | 0.63         |
| ASTRAZENECA PLC              | 2.81    | 21.98  | 0.62         |
| SCHWAB (CHARLES) CORP        | 3.20    | 16.17  | 0.52         |
| INGERSOLL RAND INC           | 2.38    | 20.83  | 0.50         |

Bottom Contributors

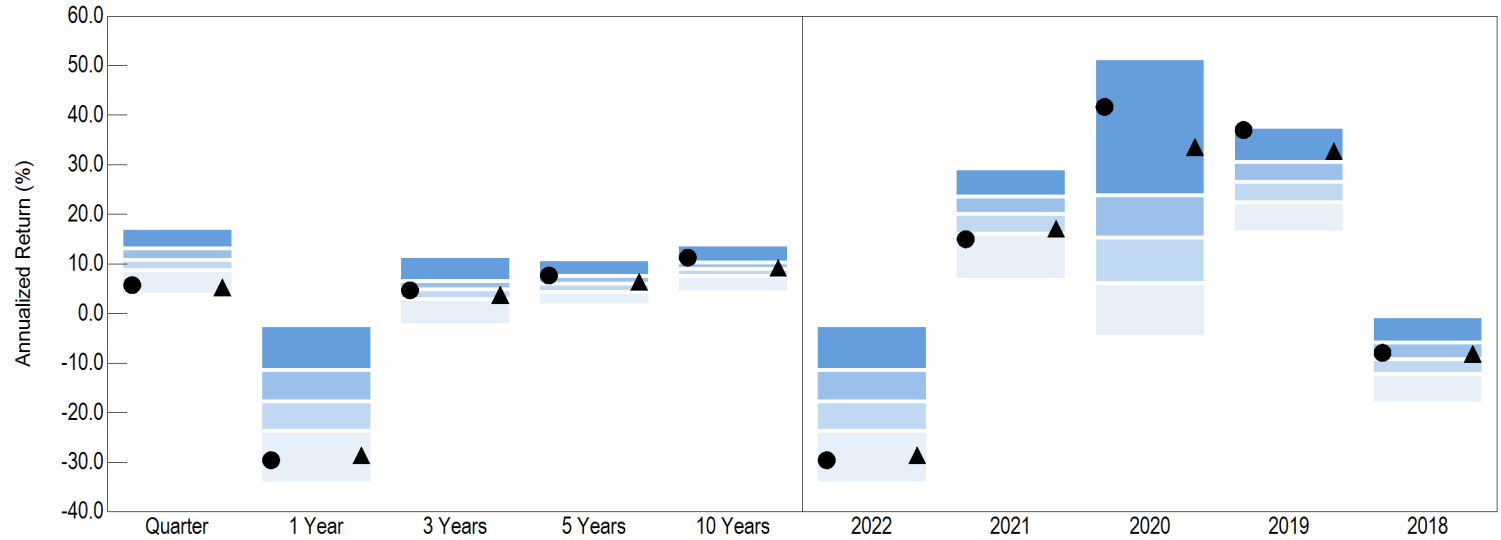
|                                            | Avg Wgt | Return | Contribution |
|--------------------------------------------|---------|--------|--------------|
| ATLISSIAN CORP                             | 4.11    | -38.90 | -1.60        |
| TESLA INC                                  | 1.26    | -53.56 | -0.67        |
| AIRBNB INC                                 | 2.26    | -18.60 | -0.42        |
| SVB FINANCIAL GROUP                        | 1.09    | -31.46 | -0.34        |
| ALPHABET INC                               | 3.96    | -7.76  | -0.31        |
| GENERAC HOLDINGS INC                       | 0.68    | -43.49 | -0.30        |
| CHIPOTLE MEXICAN GRILL INC                 | 2.57    | -7.67  | -0.20        |
| FIDELITY NATIONAL INFORMATION SERVICES INC | 1.72    | -9.61  | -0.17        |
| VEEVA SYSTEMS INC                          | 5.20    | -2.12  | -0.11        |
| NU HOLDINGS LTDCAYMAN ISLANDS              | 1.08    | -7.50  | -0.08        |

Unclassified sector allocation includes cash allocations.

Artisan Partners  
 Manager Performance Comparisons (Gross of Fees)

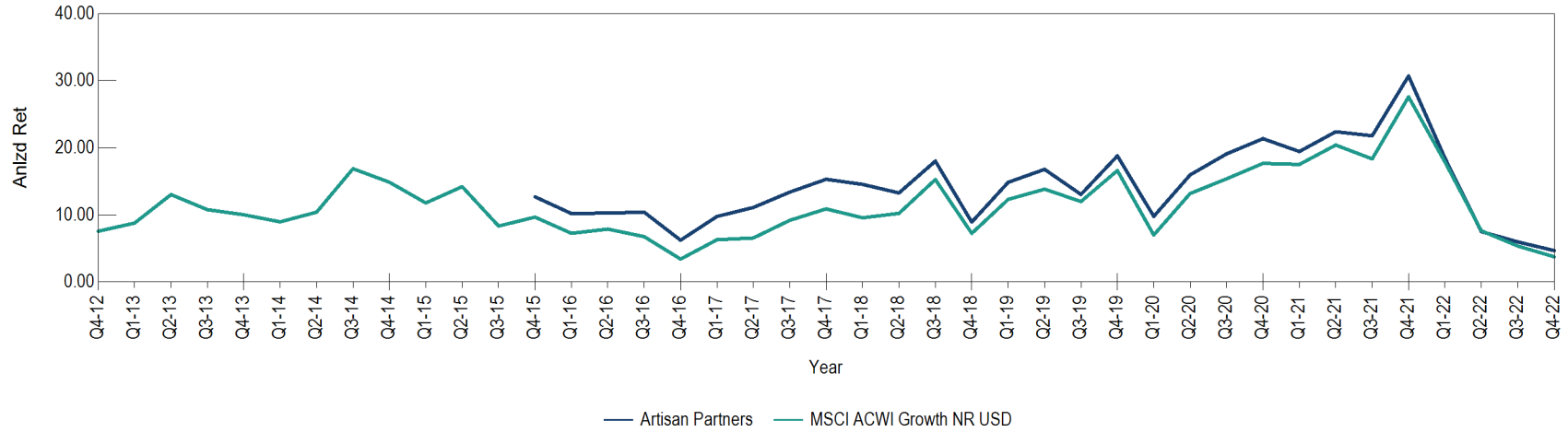
Period Ending: December 31, 2022

Artisan Partners vs. eV All Global Equity Gross Universe

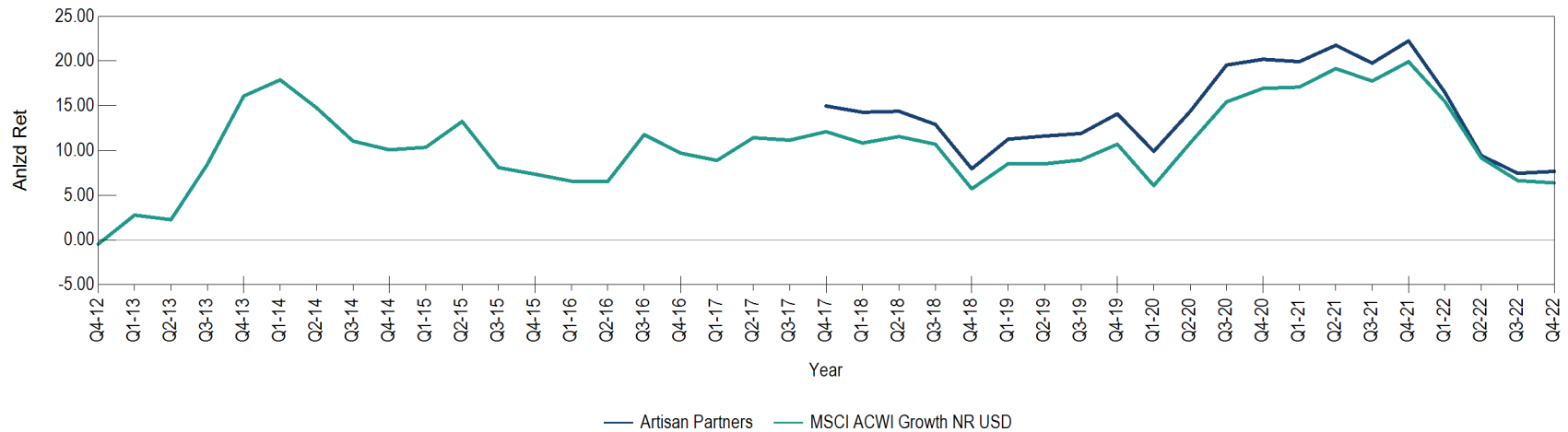


|                           | Return (Rank) |            |          |          |           |            |           |           |           |           |
|---------------------------|---------------|------------|----------|----------|-----------|------------|-----------|-----------|-----------|-----------|
|                           | Quarter       | 1 Year     | 3 Years  | 5 Years  | 10 Years  | 2022       | 2021      | 2020      | 2019      | 2018      |
| 5th Percentile            | 17.2          | -2.4       | 11.5     | 10.9     | 13.8      | -2.4       | 29.2      | 51.5      | 37.6      | -0.7      |
| 25th Percentile           | 13.3          | -11.4      | 6.6      | 7.7      | 10.3      | -11.4      | 23.7      | 24.0      | 30.7      | -5.8      |
| Median                    | 10.9          | -17.7      | 5.0      | 6.1      | 9.0       | -17.7      | 20.2      | 15.4      | 26.6      | -9.1      |
| 75th Percentile           | 8.7           | -23.5      | 3.0      | 4.4      | 7.7       | -23.5      | 16.2      | 6.3       | 22.6      | -12.2     |
| 95th Percentile           | 3.9           | -34.2      | -2.3     | 1.7      | 4.2       | -34.2      | 6.9       | -4.7      | 16.5      | -18.1     |
| # of Portfolios           | 1,216         | 1,214      | 1,125    | 991      | 657       | 1,214      | 1,141     | 1,093     | 989       | 920       |
| ● Artisan Partners        | 5.7 (92)      | -29.6 (90) | 4.7 (57) | 7.7 (26) | 11.3 (15) | -29.6 (90) | 15.0 (80) | 41.7 (9)  | 37.0 (7)  | -7.9 (40) |
| ▲ MSCI ACWI Growth NR USD | 5.3 (94)      | -28.6 (88) | 3.8 (69) | 6.4 (45) | 9.2 (48)  | -28.6 (88) | 17.1 (71) | 33.6 (14) | 32.7 (17) | -8.1 (42) |

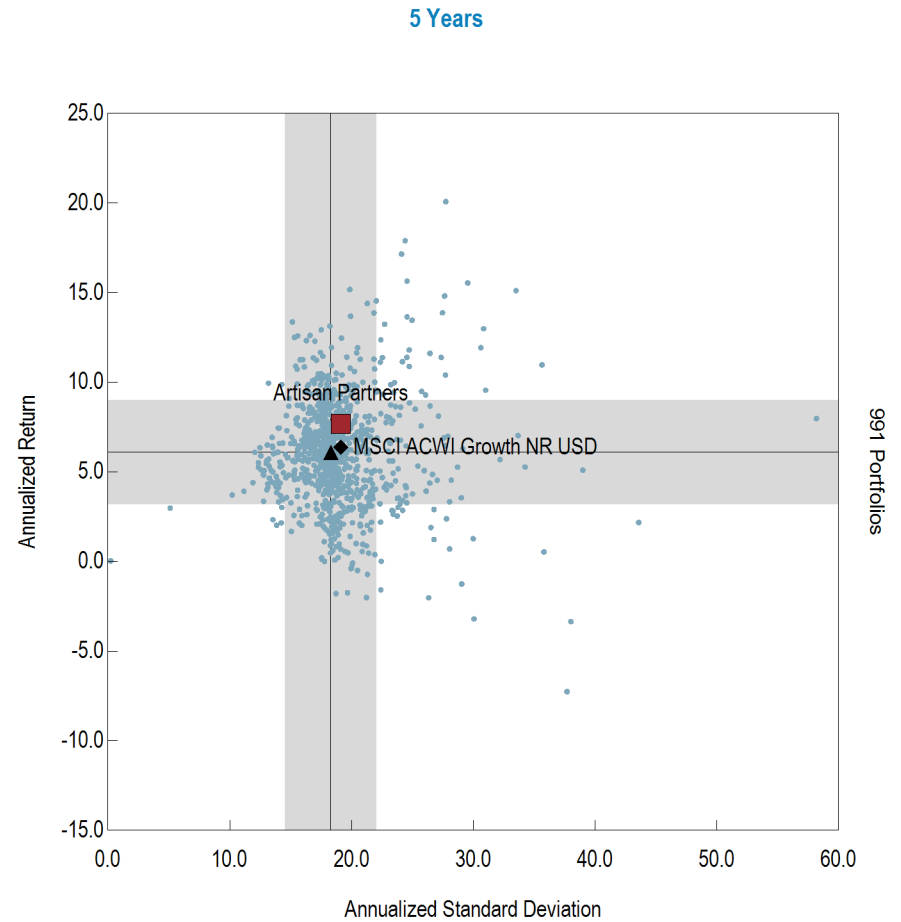
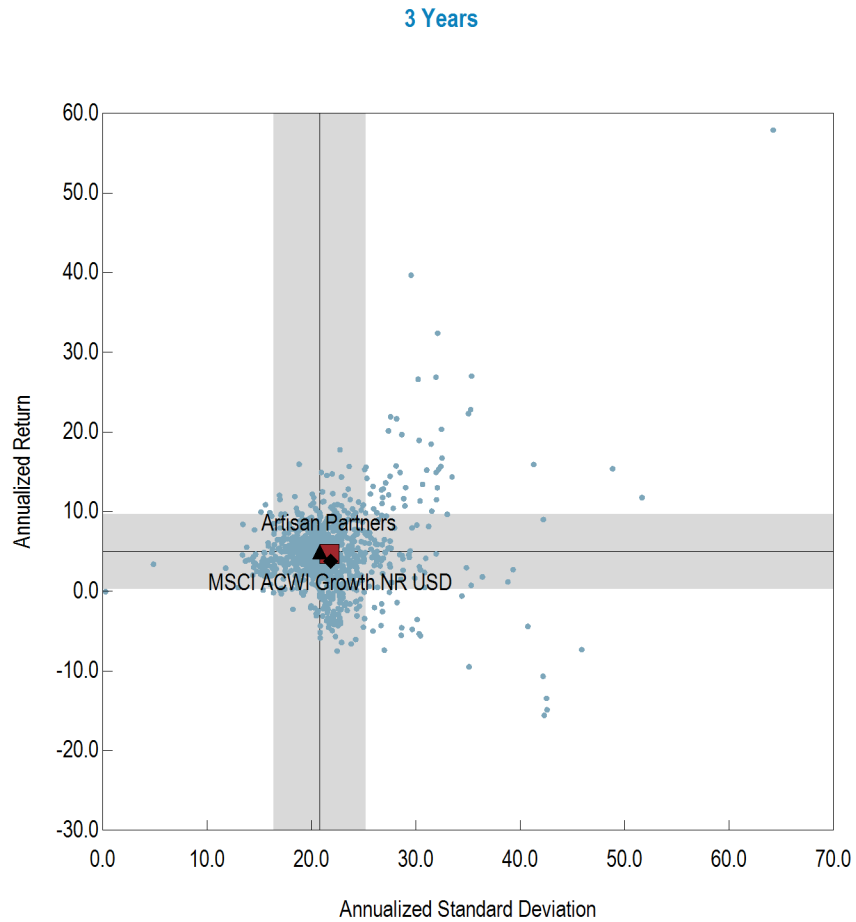
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)







|                                   | <b>3 Years</b> |                          |              |
|-----------------------------------|----------------|--------------------------|--------------|
|                                   | Anlzd Return   | Anlzd Standard Deviation | Sharpe Ratio |
| Artisan Partners                  | 4.7%           | 21.7%                    | 0.2          |
| MSCI ACWI Growth NR USD           | 3.8%           | 21.8%                    | 0.1          |
| eV All Global Equity Gross Median | 5.0%           | 20.8%                    | 0.2          |

|                                   | <b>5 Years</b> |                          |              |
|-----------------------------------|----------------|--------------------------|--------------|
|                                   | Anlzd Return   | Anlzd Standard Deviation | Sharpe Ratio |
| Artisan Partners                  | 7.7%           | 19.2%                    | 0.3          |
| MSCI ACWI Growth NR USD           | 6.4%           | 19.1%                    | 0.3          |
| eV All Global Equity Gross Median | 6.1%           | 18.3%                    | 0.3          |

# First Eagle Manager Portfolio Overview

Period Ending: December 31, 2022

Global equity portfolio that is benchmark agnostic comprised of companies with low valuations. Primary personnel include Matt McLennan and Kimball Brooker.

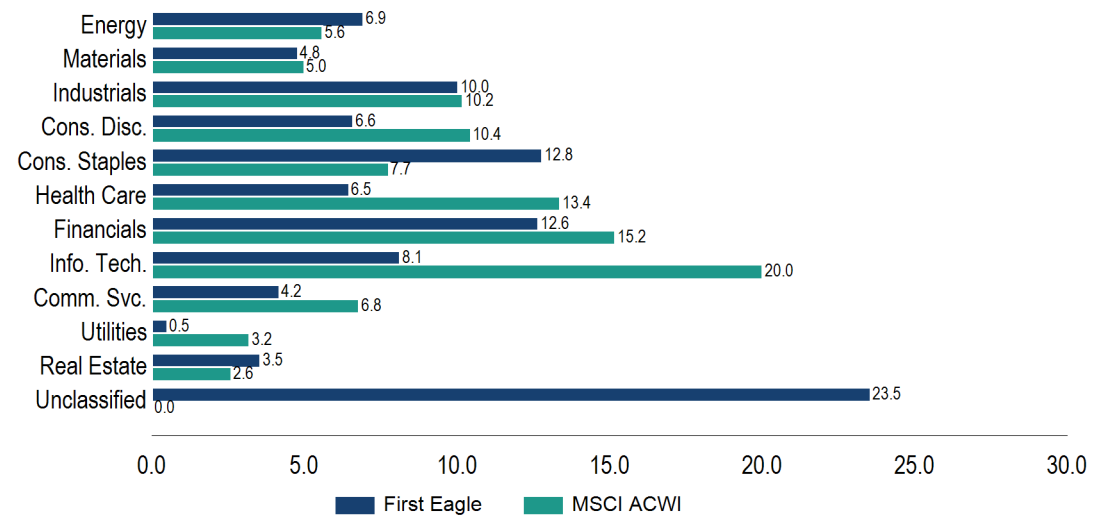
## Characteristics

|                                 | Portfolio | MSCI ACWI |
|---------------------------------|-----------|-----------|
| Number of Holdings              | 142       | 2,883     |
| Weighted Avg. Market Cap. (\$B) | 118.11    | 274.21    |
| Median Market Cap. (\$B)        | 28.39     | 11.87     |
| Price To Earnings               | 16.21     | 16.13     |
| Price To Book                   | 2.15      | 3.19      |
| Price To Sales                  | 1.57      | 1.85      |
| Return on Equity (%)            | 15.54     | 21.99     |
| Yield (%)                       | 2.20      | 2.40      |
| Beta                            | 0.78      | 1.00      |

## Country Allocation

|                                       | Manager<br>Ending Allocation<br>(USD) | Index<br>Ending Allocation<br>(USD) |
|---------------------------------------|---------------------------------------|-------------------------------------|
| <b>Totals</b>                         |                                       |                                     |
| Developed                             | 93.8%                                 | 88.8%                               |
| Emerging*                             | 6.2%                                  | 11.2%                               |
| <b>Top 10 Largest Countries</b>       |                                       |                                     |
| United States                         | 61.5%                                 | 60.4%                               |
| United Kingdom                        | 7.3%                                  | 3.9%                                |
| Japan                                 | 6.8%                                  | 5.6%                                |
| Canada                                | 4.4%                                  | 3.1%                                |
| France                                | 3.6%                                  | 3.0%                                |
| Switzerland                           | 3.0%                                  | 2.6%                                |
| Korea*                                | 2.0%                                  | 1.3%                                |
| Hong Kong                             | 1.6%                                  | 0.8%                                |
| Mexico*                               | 1.4%                                  | 0.3%                                |
| Brazil*                               | 1.2%                                  | 0.6%                                |
| <b>Total-Top 10 Largest Countries</b> | <b>93.7%</b>                          | <b>81.3%</b>                        |

## Sector Allocation (%) vs MSCI ACWI



## Top Contributors

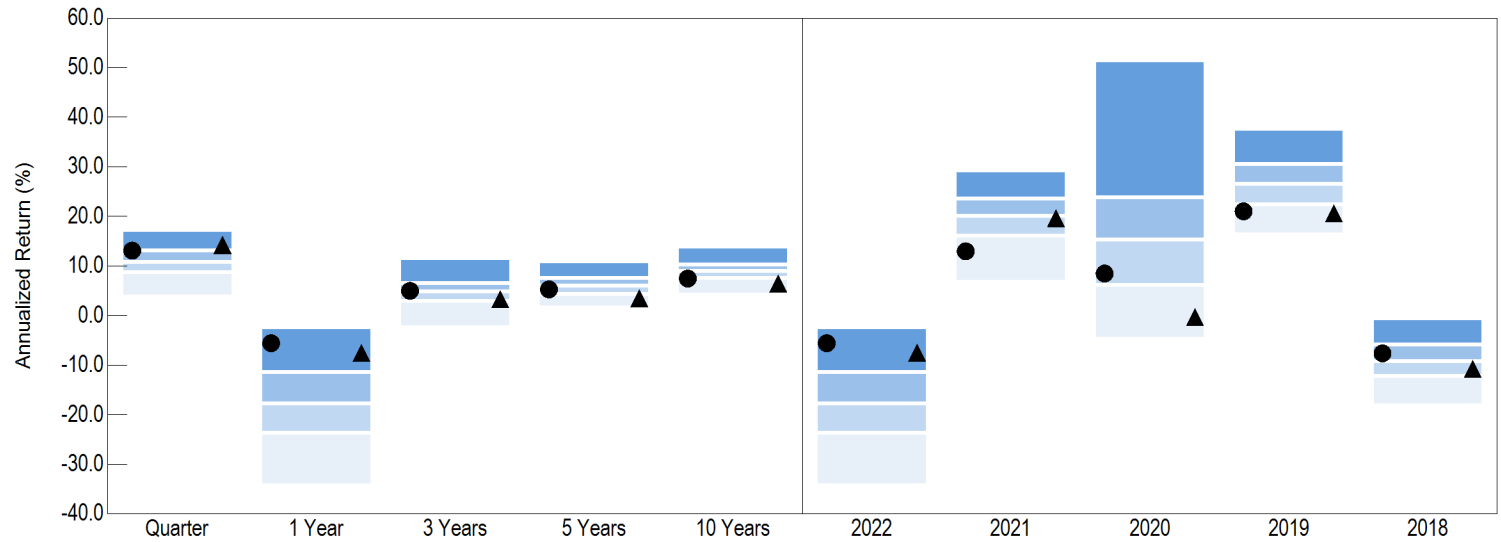
|                                  | End Weight | Return | Contribution |
|----------------------------------|------------|--------|--------------|
| SCHLUMBERGER LTD                 | 2.30       | 49.43  | 1.14         |
| ORACLE CORP                      | 2.65       | 34.53  | 0.92         |
| SPDR GOLD TRUST                  | 9.25       | 9.68   | 0.90         |
| EXXON MOBIL CORP                 | 2.33       | 27.35  | 0.64         |
| UNIVERSAL HEALTH SERVICES INC.   | 1.01       | 60.02  | 0.61         |
| CIE FINANCIERE RICHEMONT AG, ZUG | 1.40       | 34.98  | 0.49         |
| HCA HEALTHCARE INC               | 1.59       | 30.86  | 0.49         |
| PHILIP MORRIS INTERNATIONAL INC  | 1.51       | 23.47  | 0.35         |
| COMCAST CORP                     | 1.65       | 20.27  | 0.33         |
| NOV INC                          | 1.09       | 29.43  | 0.32         |

## Bottom Contributors

|                              | End Weight | Return | Contribution |
|------------------------------|------------|--------|--------------|
| META PLATFORMS INC           | 1.06       | -11.31 | -0.12        |
| NUTRIEN LTD                  | 0.65       | -11.85 | -0.08        |
| EQUITY RESIDENTIAL           | 0.65       | -11.31 | -0.07        |
| ALPHABET INC                 | 0.90       | -7.72  | -0.07        |
| C.H. ROBINSON WORLDWIDE INC. | 1.51       | -4.35  | -0.07        |
| BOSTON PROPERTIES INC        | 0.38       | -8.55  | -0.03        |
| DOUGLAS EMMETT INC           | 0.28       | -11.50 | -0.03        |
| SALESFORCE INC               | 0.39       | -7.82  | -0.03        |
| ALPHABET INC                 | 0.36       | -7.76  | -0.03        |
| BROWN & BROWN INC            | 0.42       | -5.62  | -0.02        |

Unclassified sector allocation includes cash allocations and Gold allocations (8.55% as of 6/30/2021).

First Eagle vs. eV All Global Equity Gross Universe

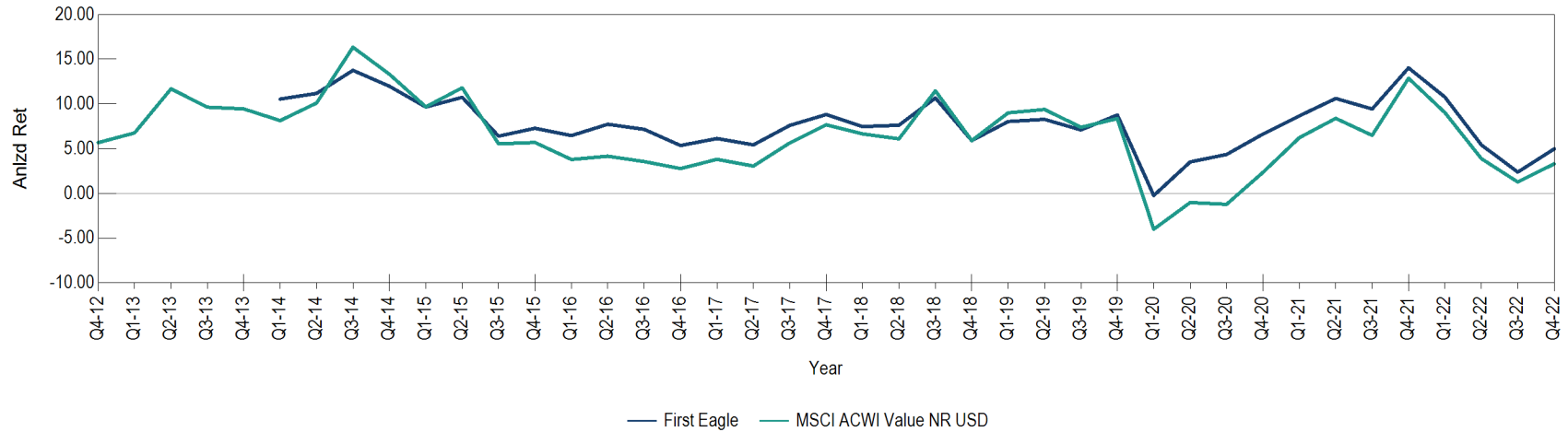


|                                 | Quarter   | 1 Year    | 3 Years  | 5 Years  | 10 Years | 2022      | 2021      | 2020      | 2019      | 2018       |
|---------------------------------|-----------|-----------|----------|----------|----------|-----------|-----------|-----------|-----------|------------|
| <b>5th Percentile</b>           | 17.2      | -2.4      | 11.5     | 10.9     | 13.8     | -2.4      | 29.2      | 51.5      | 37.6      | -0.7       |
| <b>25th Percentile</b>          | 13.3      | -11.4     | 6.6      | 7.7      | 10.3     | -11.4     | 23.7      | 24.0      | 30.7      | -5.8       |
| <b>Median</b>                   | 10.9      | -17.7     | 5.0      | 6.1      | 9.0      | -17.7     | 20.2      | 15.4      | 26.6      | -9.1       |
| <b>75th Percentile</b>          | 8.7       | -23.5     | 3.0      | 4.4      | 7.7      | -23.5     | 16.2      | 6.3       | 22.6      | -12.2      |
| <b>95th Percentile</b>          | 3.9       | -34.2     | -2.3     | 1.7      | 4.2      | -34.2     | 6.9       | -4.7      | 16.5      | -18.1      |
| <b># of Portfolios</b>          | 1,216     | 1,214     | 1,125    | 991      | 657      | 1,214     | 1,141     | 1,093     | 989       | 920        |
| ● <b>First Eagle</b>            | 13.1 (27) | -5.6 (10) | 5.0 (51) | 5.3 (63) | 7.5 (77) | -5.6 (10) | 13.0 (85) | 8.5 (70)  | 21.0 (82) | -7.6 (38)  |
| ▲ <b>MSCI ACWI Value NR USD</b> | 14.2 (18) | -7.5 (14) | 3.3 (73) | 3.5 (85) | 6.4 (86) | -7.5 (14) | 19.6 (55) | -0.3 (89) | 20.6 (83) | -10.8 (65) |

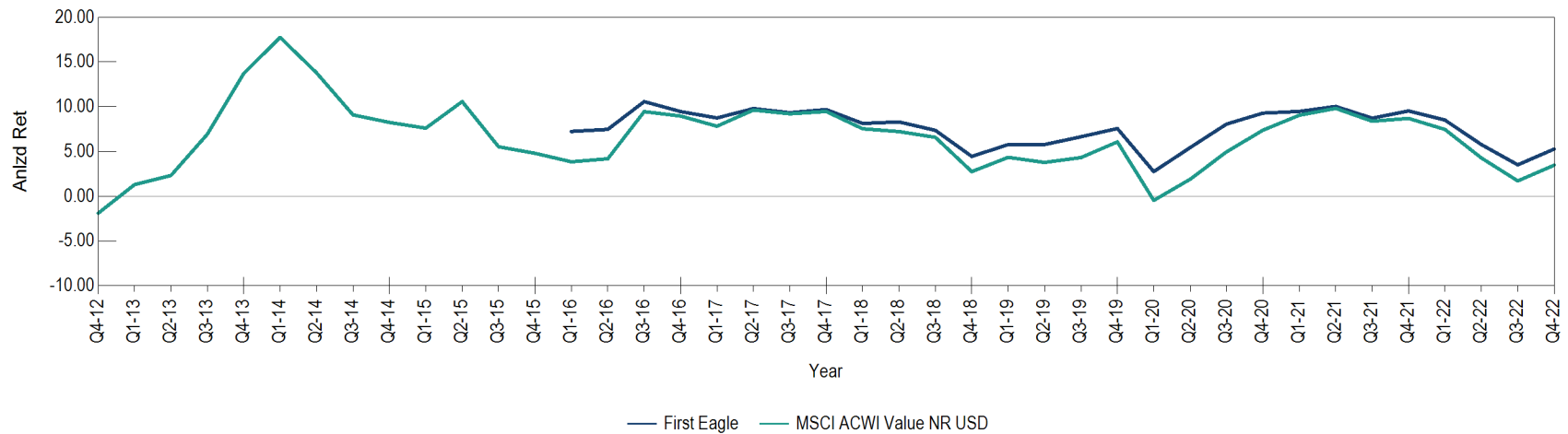
First Eagle  
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: December 31, 2022

Rolling 3 Year Annualized Return (%)



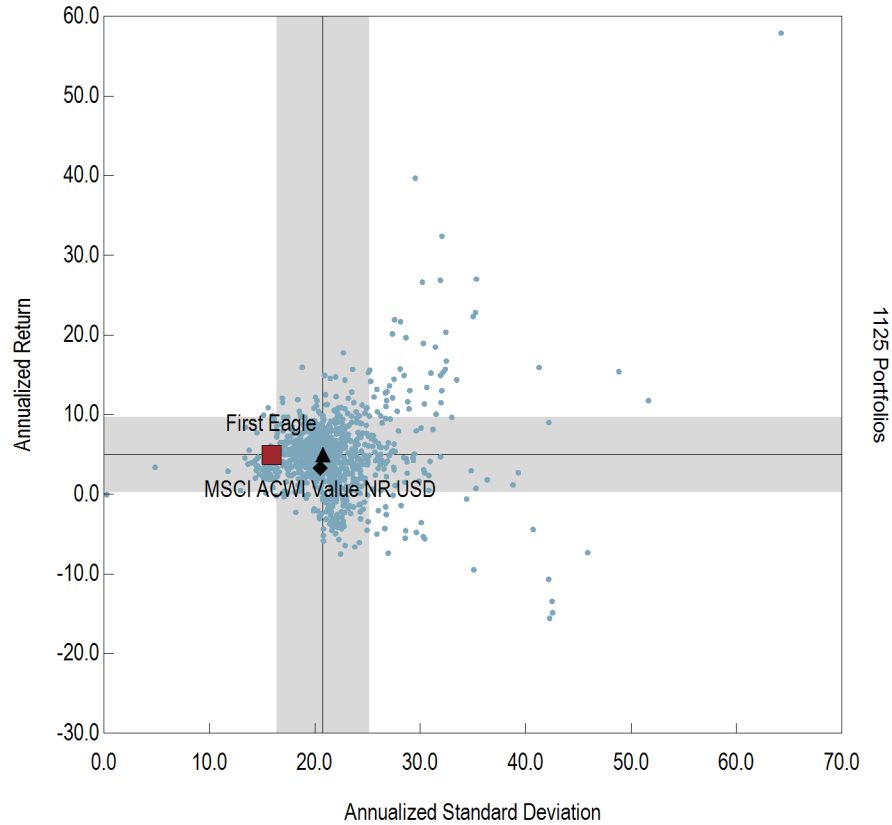
Rolling 5 Year Annualized Return (%)



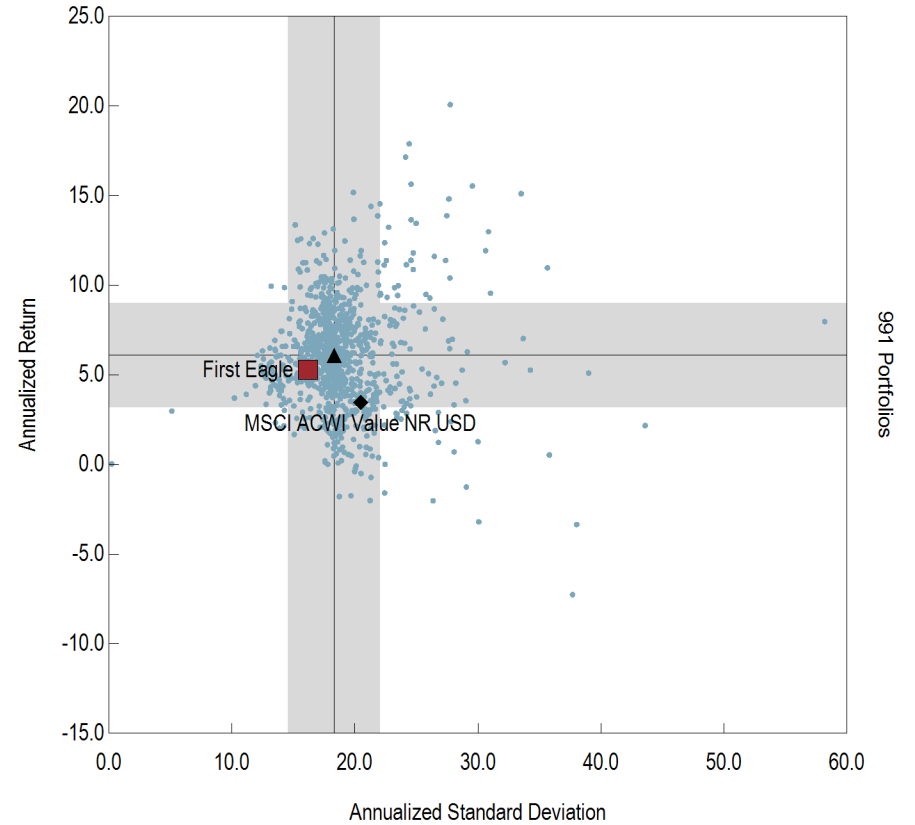
First Eagle  
Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: December 31, 2022

3 Years



5 Years



3 Years

|                                   | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|-----------------------------------|--------------|--------------------------|--------------|
| First Eagle                       | 5.0%         | 15.9%                    | 0.3          |
| MSCI ACWI Value NR USD            | 3.3%         | 20.5%                    | 0.1          |
| eV All Global Equity Gross Median | 5.0%         | 20.8%                    | 0.2          |

5 Years

|                                   | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|-----------------------------------|--------------|--------------------------|--------------|
| First Eagle                       | 5.3%         | 13.8%                    | 0.3          |
| MSCI ACWI Value NR USD            | 3.5%         | 17.9%                    | 0.1          |
| eV All Global Equity Gross Median | 6.1%         | 18.3%                    | 0.3          |

## High Yield Managers

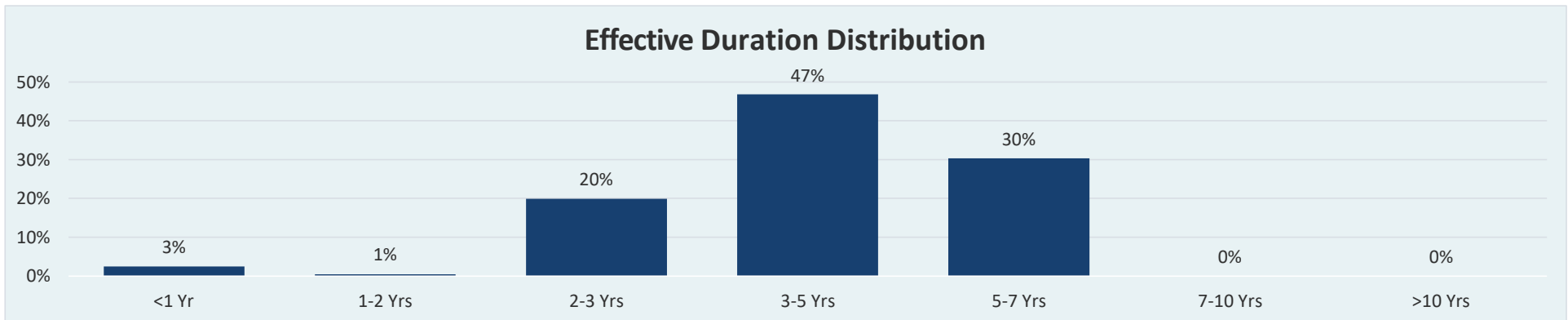
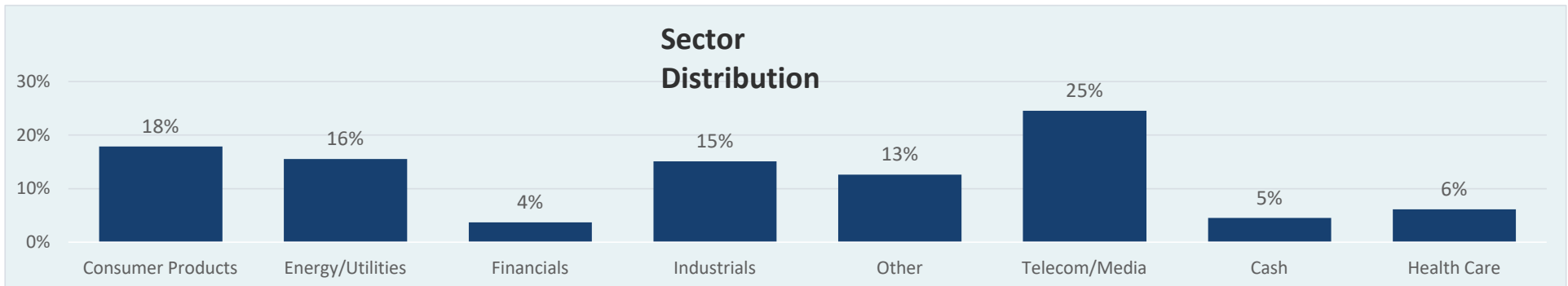
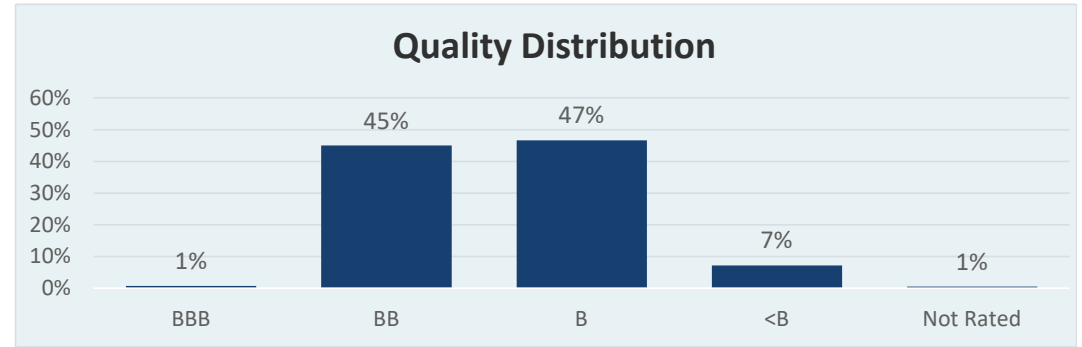
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# Allianz Global Investors Manager Portfolio Overview

Period Ending: December 31, 2022

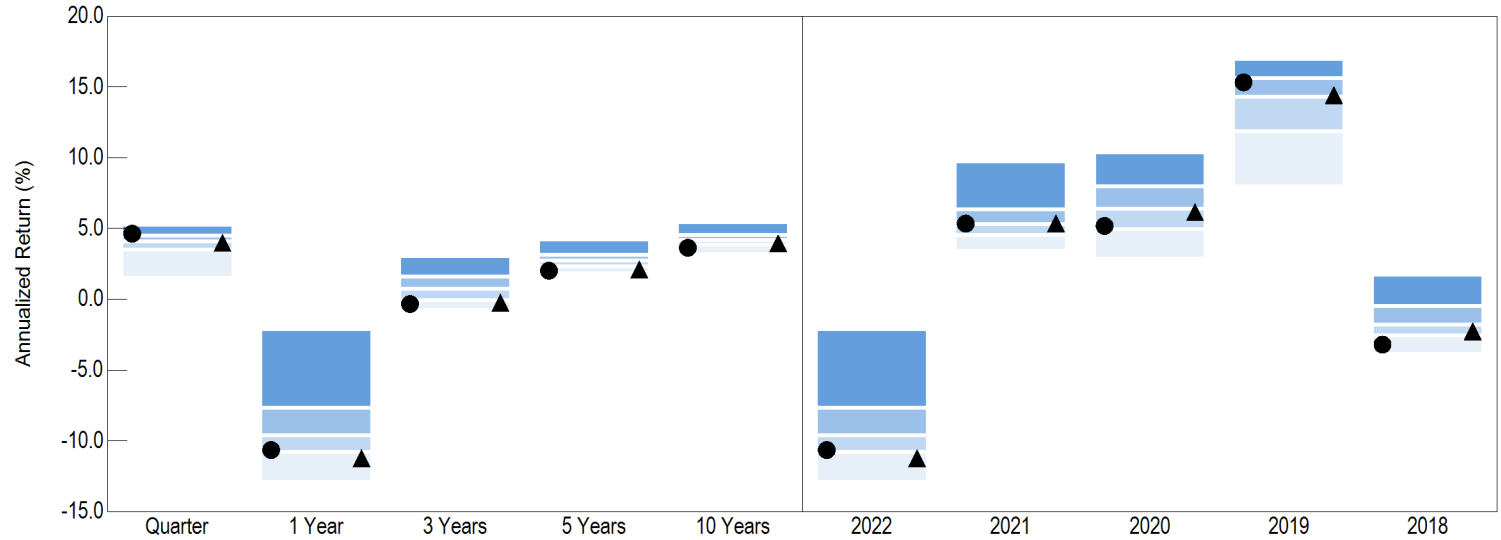
Domestic high yield fixed income portfolio with a focus on security selection. Primary personnel include Douglas Forsyth, Justin Kass, William Stickney, and Michael Yee.

|                    | Allianz | ICE BofAML HY Master II |
|--------------------|---------|-------------------------|
| Effective Duration | 4.10    | 4.00                    |
| Yield to Maturity  | 8.10    | 9.00                    |
| Average Quality    | B1      | B1                      |
| Average Coupon     | 6.4%    | 5.8%                    |



Quality distribution excludes cash.

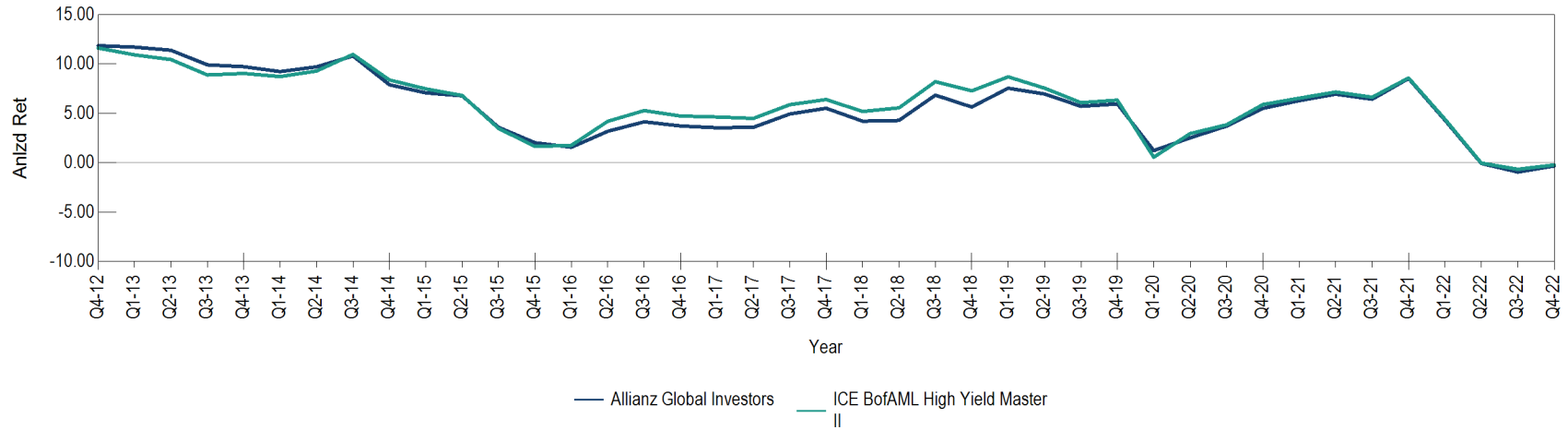
Allianz Global Investors vs. eV US High Yield Fixed Inc Gross Universe



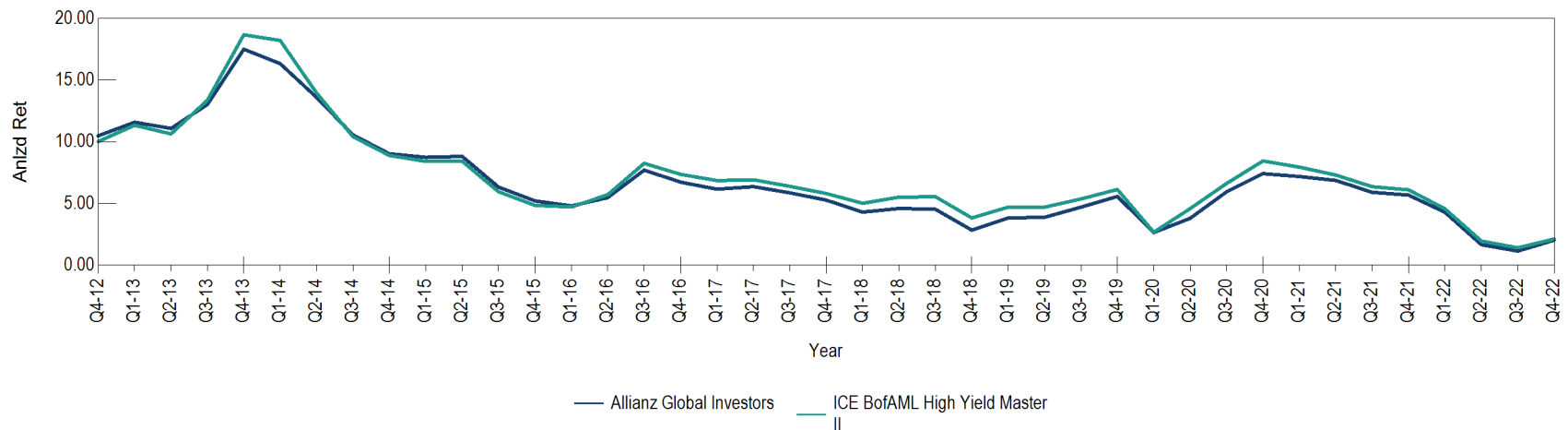
|                                   | Return (Rank) |            |           |          |          |            |          |          |           |           |  |  |  |  |
|-----------------------------------|---------------|------------|-----------|----------|----------|------------|----------|----------|-----------|-----------|--|--|--|--|
|                                   | Quarter       | 1 Year     | 3 Years   | 5 Years  | 10 Years | 2022       | 2021     | 2020     | 2019      | 2018      |  |  |  |  |
| 5th Percentile                    | 5.2           | -2.1       | 3.0       | 4.2      | 5.4      | -2.1       | 9.7      | 10.3     | 16.9      | 1.7       |  |  |  |  |
| 25th Percentile                   | 4.5           | -7.6       | 1.6       | 3.2      | 4.6      | -7.6       | 6.4      | 8.0      | 15.6      | -0.5      |  |  |  |  |
| Median                            | 4.1           | -9.6       | 0.8       | 2.7      | 4.2      | -9.6       | 5.4      | 6.4      | 14.3      | -1.8      |  |  |  |  |
| 75th Percentile                   | 3.5           | -10.8      | 0.0       | 2.4      | 3.9      | -10.8      | 4.6      | 5.0      | 11.9      | -2.5      |  |  |  |  |
| 95th Percentile                   | 1.5           | -12.9      | -0.7      | 1.9      | 3.2      | -12.9      | 3.4      | 2.9      | 8.0       | -3.8      |  |  |  |  |
| # of Portfolios                   | 205           | 205        | 204       | 195      | 157      | 205        | 211      | 217      | 226       | 210       |  |  |  |  |
| ● Allianz Global Investors        | 4.6 (21)      | -10.6 (74) | -0.3 (87) | 2.0 (90) | 3.6 (85) | -10.6 (74) | 5.3 (51) | 5.2 (74) | 15.3 (31) | -3.2 (88) |  |  |  |  |
| ▲ ICE BofAML High Yield Master II | 4.0 (58)      | -11.2 (83) | -0.2 (84) | 2.1 (87) | 3.9 (70) | -11.2 (83) | 5.4 (50) | 6.2 (55) | 14.4 (49) | -2.3 (69) |  |  |  |  |



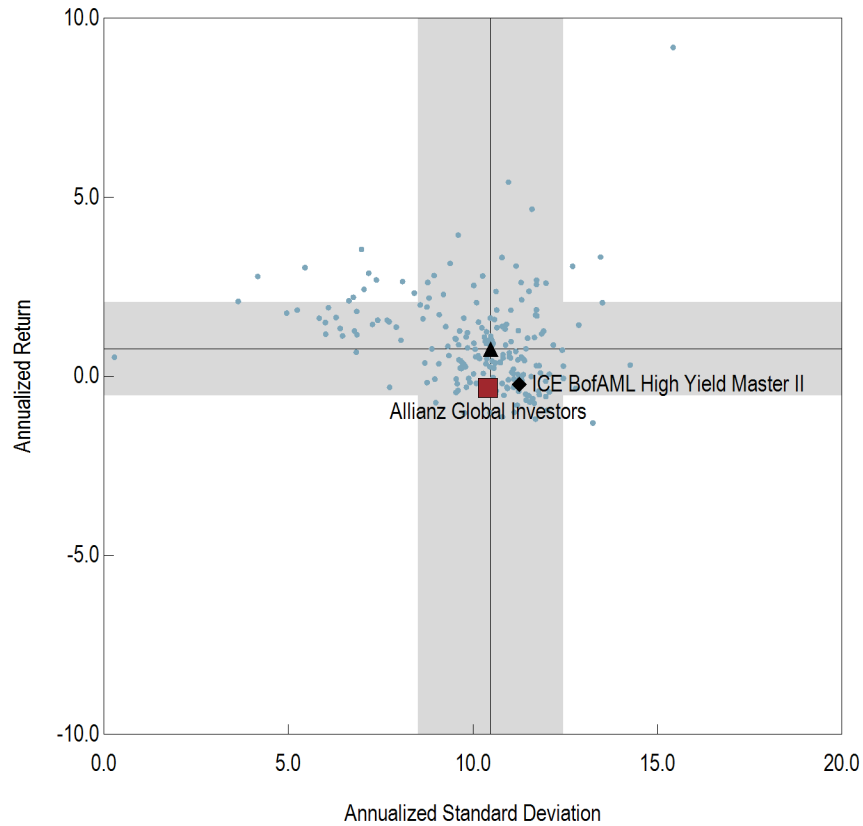
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)

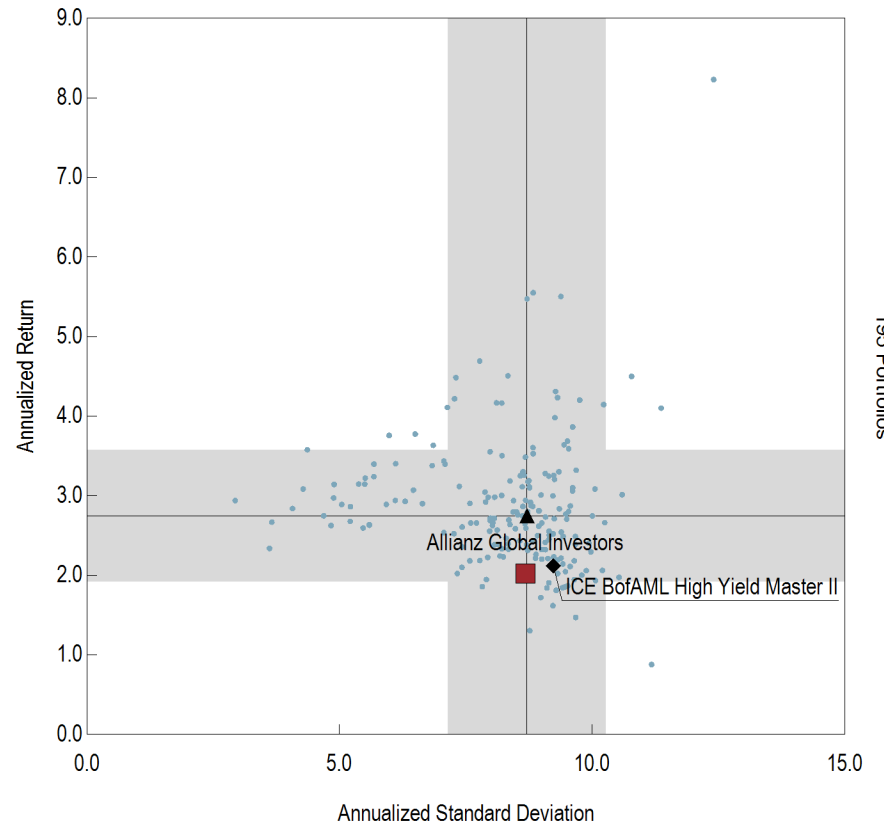


3 Years



204 Portfolios

5 Years



195 Portfolios

3 Years

|                                         | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|-----------------------------------------|--------------|--------------------------|--------------|
| Allianz Global Investors                | -0.3%        | 10.4%                    | -0.1         |
| ICE BofAML High Yield Master II         | -0.2%        | 11.3%                    | -0.1         |
| eV US High Yield Fixed Inc Gross Median | 0.8%         | 10.5%                    | 0.0          |

5 Years

|                                         | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|-----------------------------------------|--------------|--------------------------|--------------|
| Allianz Global Investors                | 2.0%         | 8.7%                     | 0.1          |
| ICE BofAML High Yield Master II         | 2.1%         | 9.2%                     | 0.1          |
| eV US High Yield Fixed Inc Gross Median | 2.7%         | 8.7%                     | 0.2          |

# Real Estate Managers

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# Adelante Manager Portfolio Overview

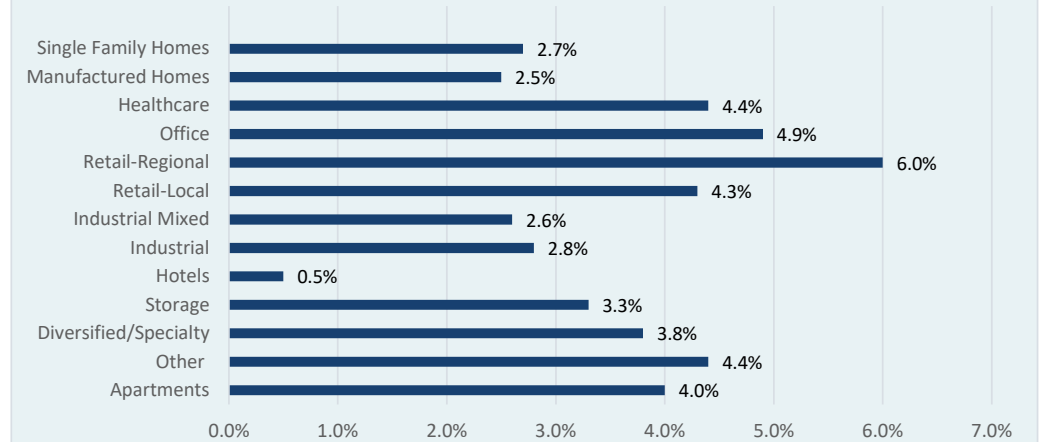
Period Ending: December 31, 2022

Diversified portfolio of U.S. REITs with a focus on the underlying real estate assets

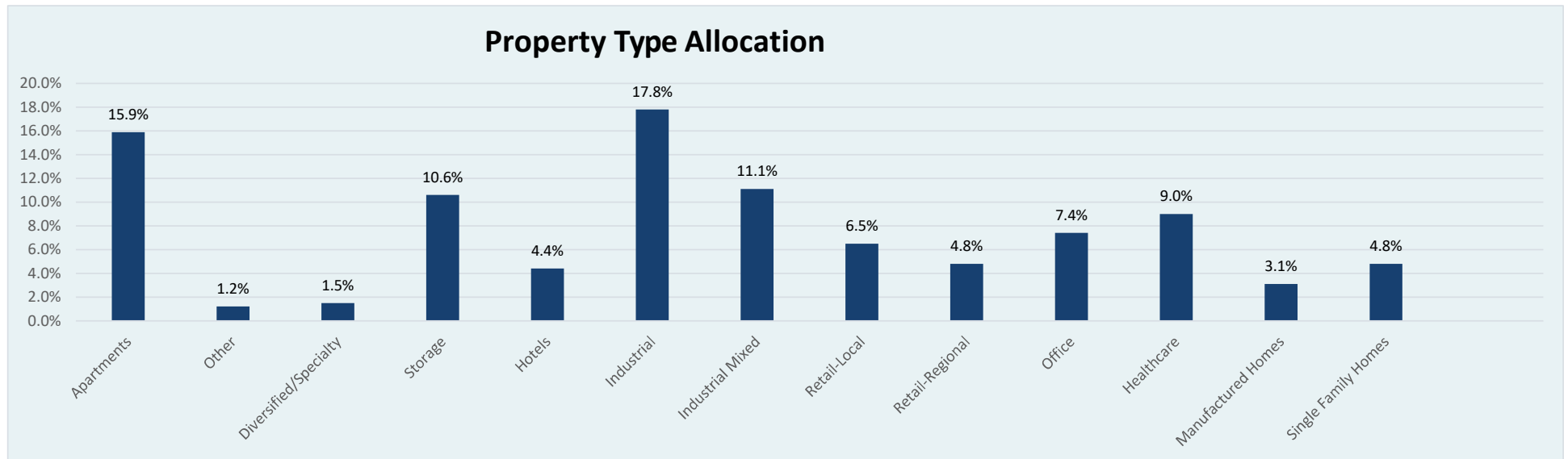
## Top Five Holdings

| Company            | Property Type    | Allocation |
|--------------------|------------------|------------|
| ProLogis Inc.      | Industrial       | 15.0%      |
| Equinix Inc        | Industrial Mixed | 7.3%       |
| Public Storage     | Storage          | 6.3%       |
| Equity Residential | Apartments       | 5.5%       |
| Welltower Inc.     | Industrial Mixed | 5.1%       |

## Dividend Yield by Property Type



## Property Type Allocation



## Diversifying Fixed Income Managers

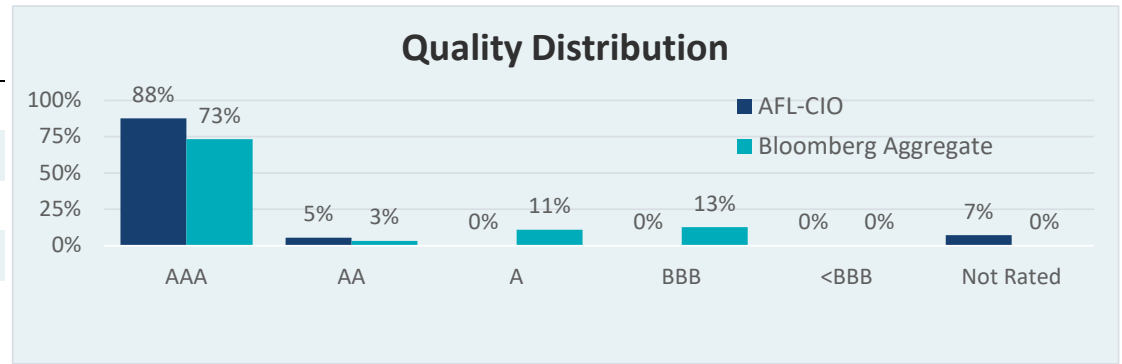
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# AFL-CIO Manager Portfolio Overview

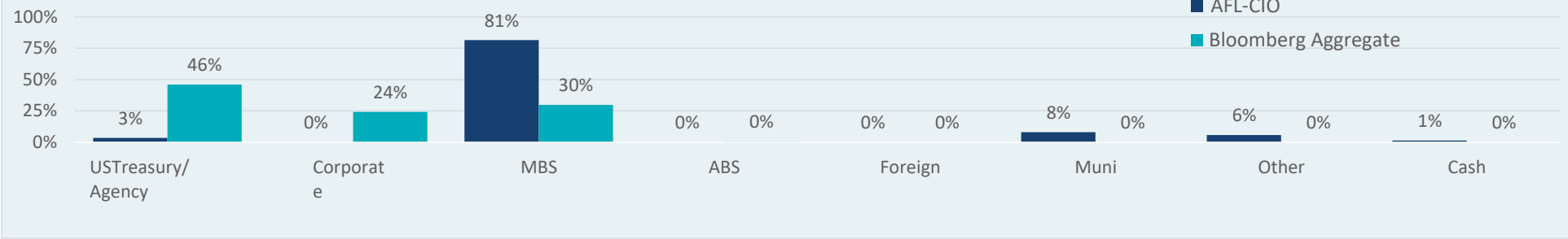
Period Ending: December 31, 2022

Domestic core fixed income portfolio with an exclusive focus on mortgage-related securities. Primary personnel include Stephen Coyle and Chang Su.

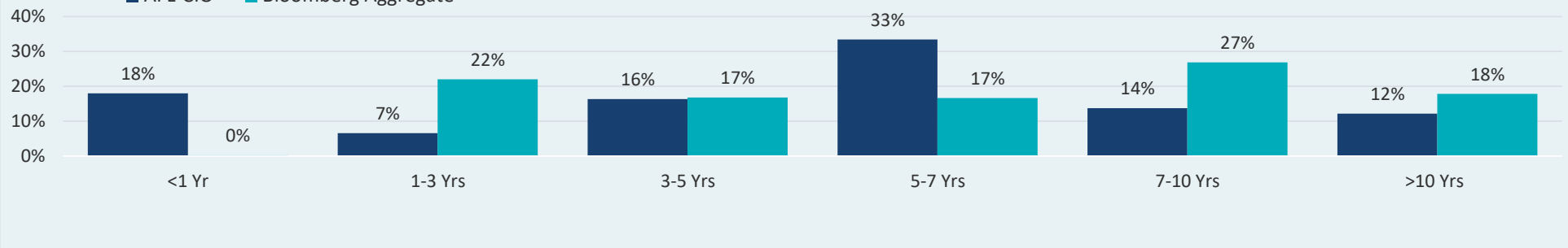
|                    | AFL-CIO | Bloomberg Aggregate |
|--------------------|---------|---------------------|
| Effective Duration | 5.97    | 6.12                |
| Yield to Maturity  | 3.49    | 4.63                |
| Average Quality    | AAA     | AA                  |
| Average Coupon     | 3.1%    | 2.7%                |



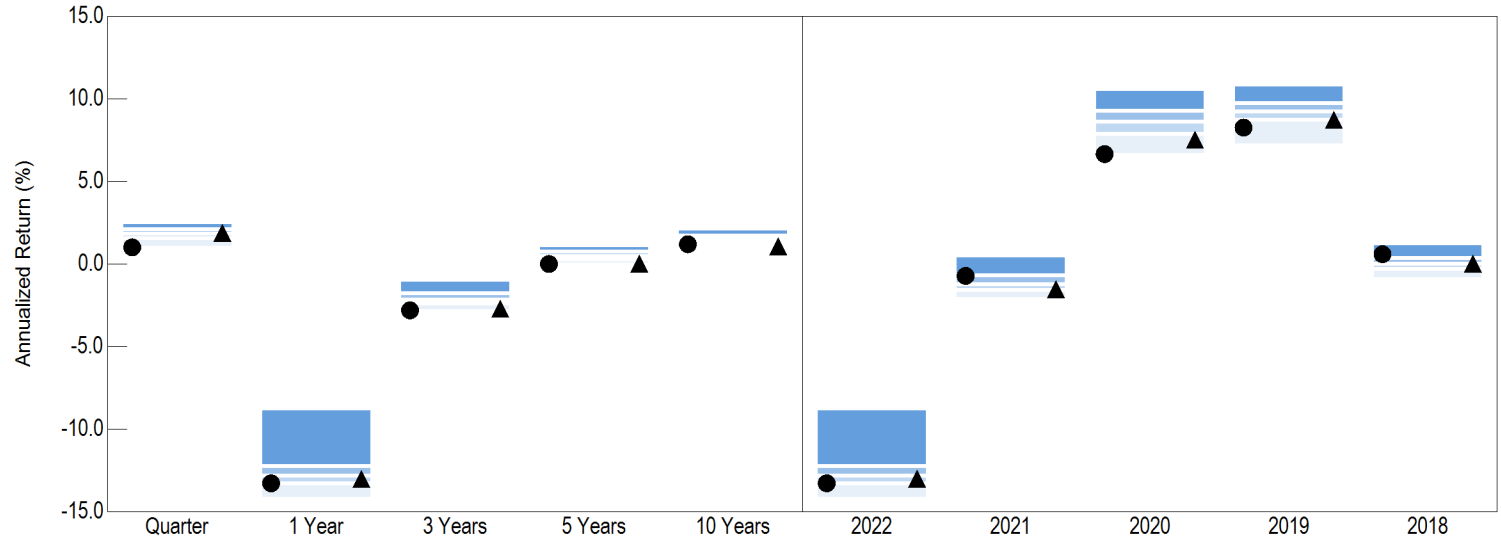
### Sector Distribution



### Duration Distribution

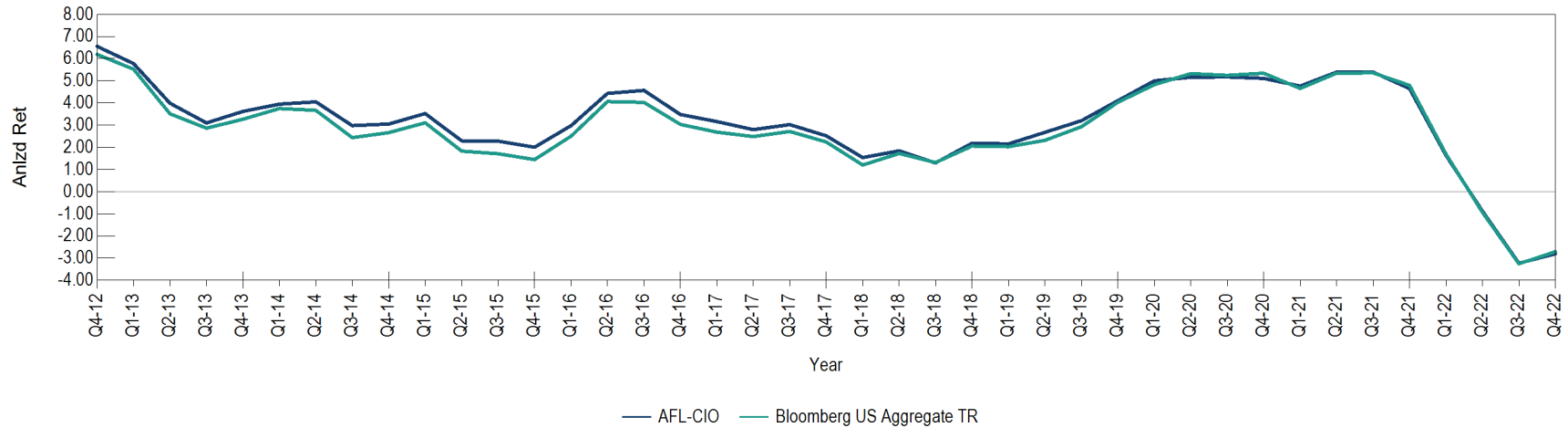


AFL-CIO vs. eV US Core Fixed Inc Gross Universe

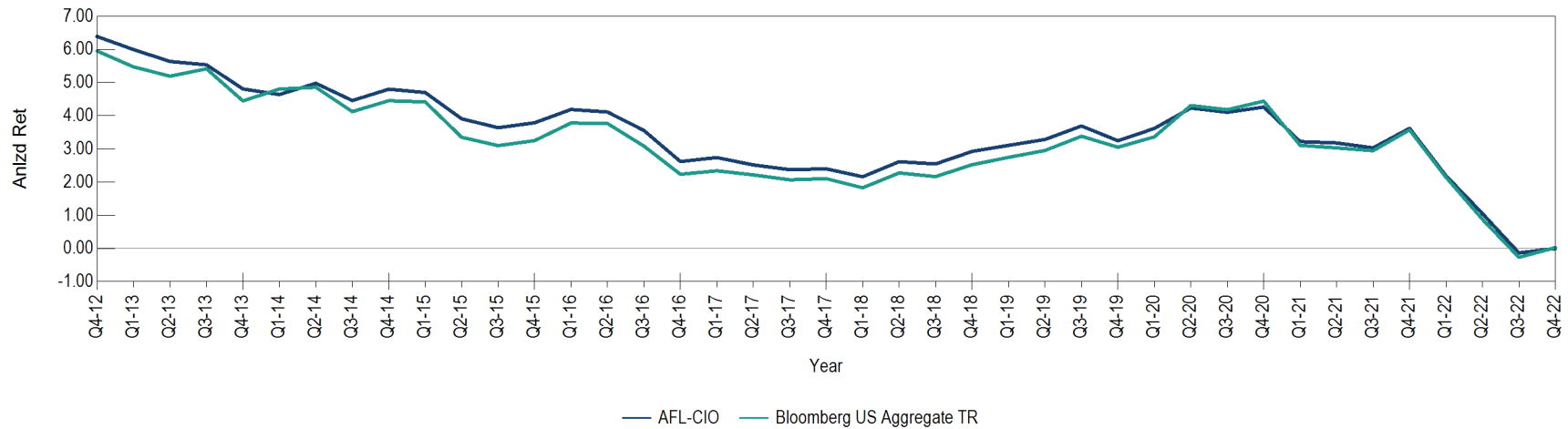


|                             | Return (Rank) |            |           |          |          |            |           |          |          |          |  |  |  |
|-----------------------------|---------------|------------|-----------|----------|----------|------------|-----------|----------|----------|----------|--|--|--|
|                             | Quarter       | 1 Year     | 3 Years   | 5 Years  | 10 Years | 2022       | 2021      | 2020     | 2019     | 2018     |  |  |  |
| 5th Percentile              | 2.5           | -8.8       | -1.0      | 1.1      | 2.1      | -8.8       | 0.5       | 10.6     | 10.9     | 1.2      |  |  |  |
| 25th Percentile             | 2.1           | -12.2      | -1.7      | 0.7      | 1.7      | -12.2      | -0.7      | 9.3      | 9.8      | 0.4      |  |  |  |
| Median                      | 1.9           | -12.8      | -2.1      | 0.5      | 1.5      | -12.8      | -1.2      | 8.6      | 9.3      | 0.0      |  |  |  |
| 75th Percentile             | 1.6           | -13.3      | -2.4      | 0.3      | 1.4      | -13.3      | -1.5      | 7.9      | 8.7      | -0.3     |  |  |  |
| 95th Percentile             | 1.0           | -14.2      | -2.9      | 0.0      | 1.1      | -14.2      | -2.1      | 6.6      | 7.2      | -0.9     |  |  |  |
| # of Portfolios             | 209           | 209        | 201       | 197      | 187      | 209        | 217       | 225      | 228      | 240      |  |  |  |
| ● AFL-CIO                   | 1.0 (96)      | -13.3 (77) | -2.8 (95) | 0.0 (96) | 1.2 (93) | -13.3 (77) | -0.7 (30) | 6.6 (95) | 8.2 (88) | 0.6 (16) |  |  |  |
| ▲ Bloomberg US Aggregate TR | 1.9 (50)      | -13.0 (66) | -2.7 (94) | 0.0 (95) | 1.1 (96) | -13.0 (66) | -1.5 (76) | 7.5 (85) | 8.7 (77) | 0.0 (54) |  |  |  |

Rolling 3 Year Annualized Return (%)

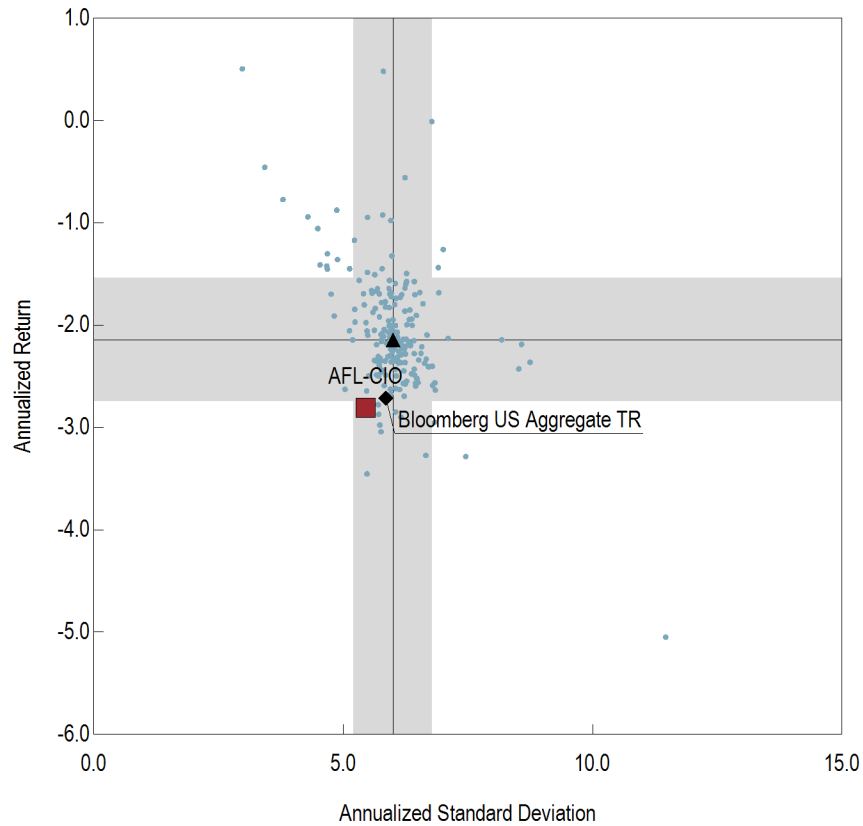


Rolling 5 Year Annualized Return (%)

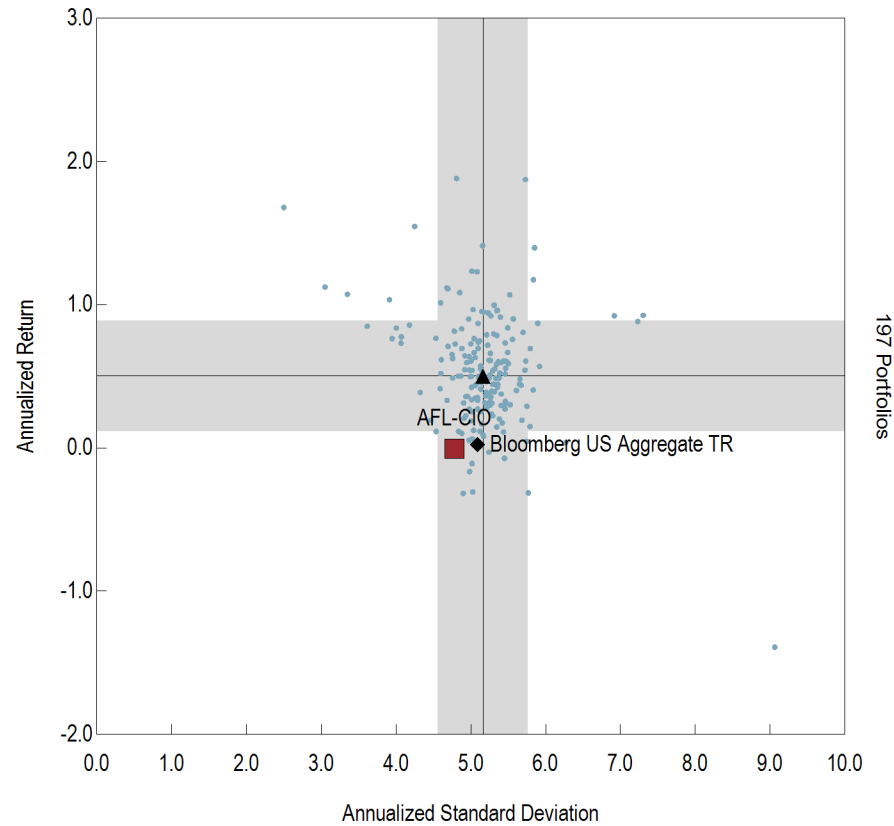




3 Years



5 Years



3 Years

|                                   | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|-----------------------------------|--------------|--------------------------|--------------|
| AFL-CIO                           | -2.8%        | 5.4%                     | -0.6         |
| Bloomberg US Aggregate TR         | -2.7%        | 5.9%                     | -0.6         |
| eV US Core Fixed Inc Gross Median | -2.1%        | 6.0%                     | -0.5         |

5 Years

|                                   | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio |
|-----------------------------------|--------------|--------------------------|--------------|
| AFL-CIO                           | 0.0%         | 4.8%                     | -0.2         |
| Bloomberg US Aggregate TR         | 0.0%         | 5.1%                     | -0.2         |
| eV US Core Fixed Inc Gross Median | 0.5%         | 5.2%                     | -0.1         |

# Liquidity Managers

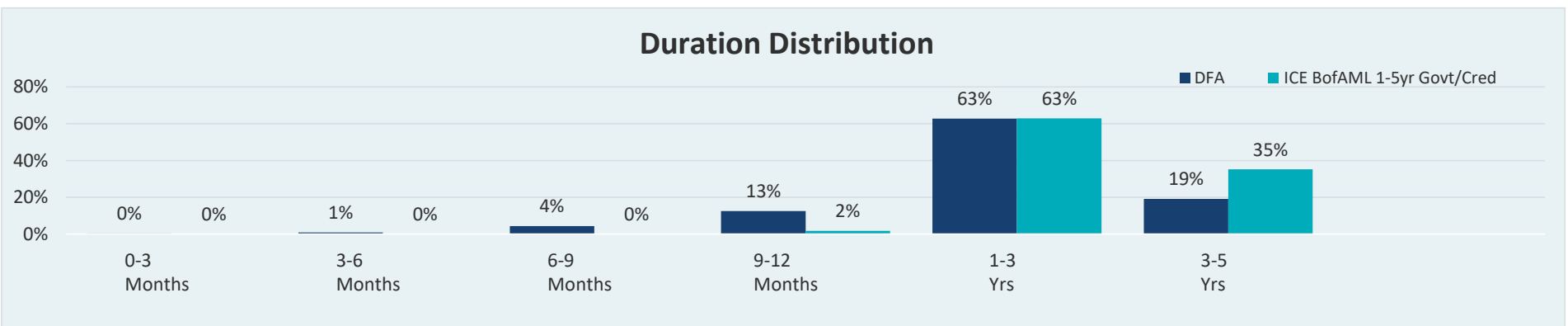
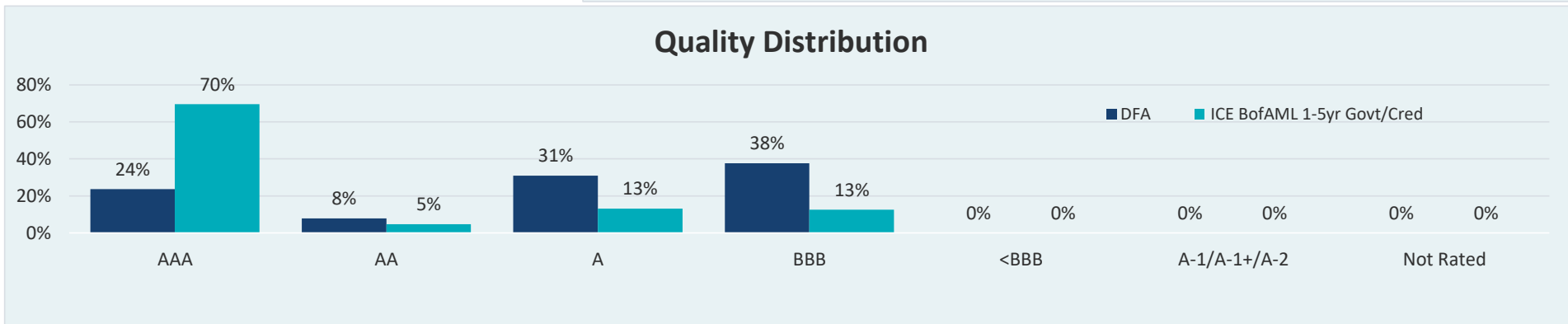
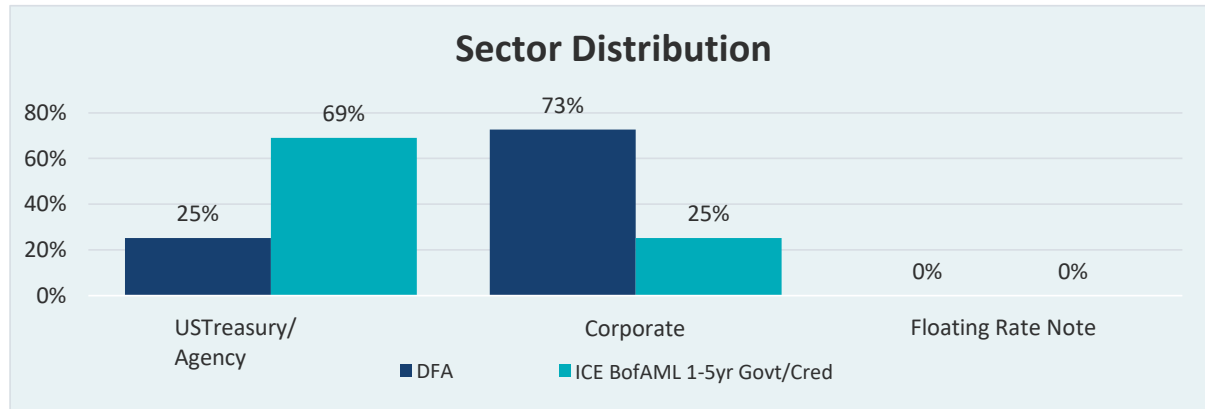
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# DFA Short Credit Manager Portfolio Overview

Period Ending: December 31, 2022

Domestic short term US credit fixed income portfolio that maximizes total return through income and capital appreciation. Primary personnel include Dave Plecha and Joseph Kolerich.

|                    | DFA   | ICE BofAML 1-5yr Govt/Cred |
|--------------------|-------|----------------------------|
| Effective Duration | 2.02  | 2.56                       |
| Yield to Maturity  | 5.32  | 4.64                       |
| Average Quality    | A     | AA+                        |
| Average Coupon     | 2.39% | 2.25%                      |

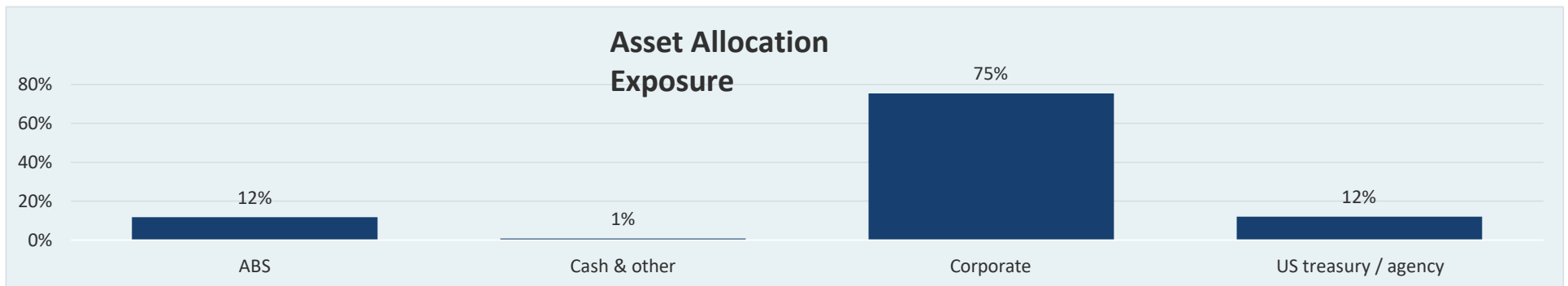
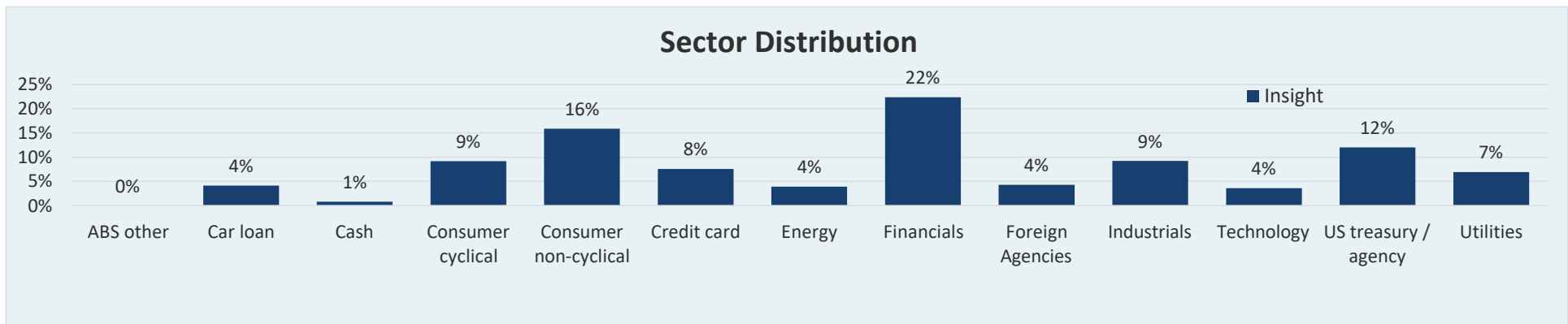
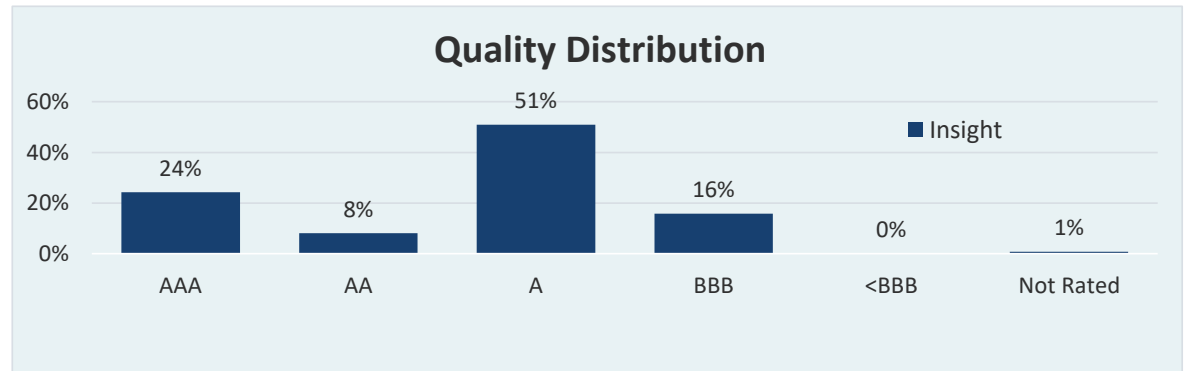


# Insight Short Duration Manager Portfolio Overview

Period Ending: December 31, 2022

High quality, short duration multi-sector fixed income portfolio comprised of Treasuries, Agencies, investment grade corporates, and ABS designed specifically to meet CCCERA's liabilities. Key personnel include Gerard Berrigan and Jesse Fogarty.

|                    | Insight | BBgBarc 1-3yr Govt |
|--------------------|---------|--------------------|
| Effective Duration | 1.18    | 1.88               |
| Yield to Maturity  | 5.22    | 4.44               |
| Average Quality    | A+      | AAA                |
| Average Coupon     | 2.75%   | 1.89%              |

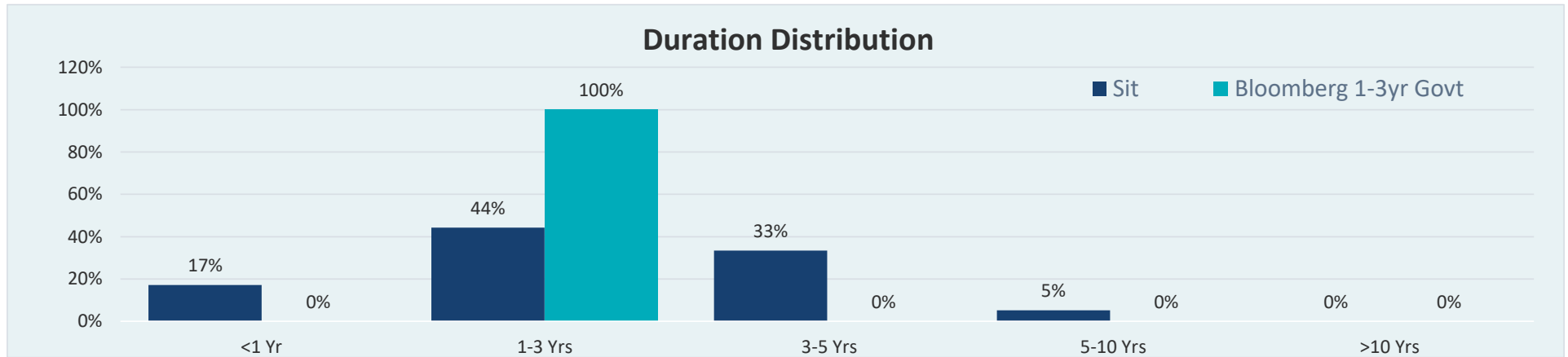
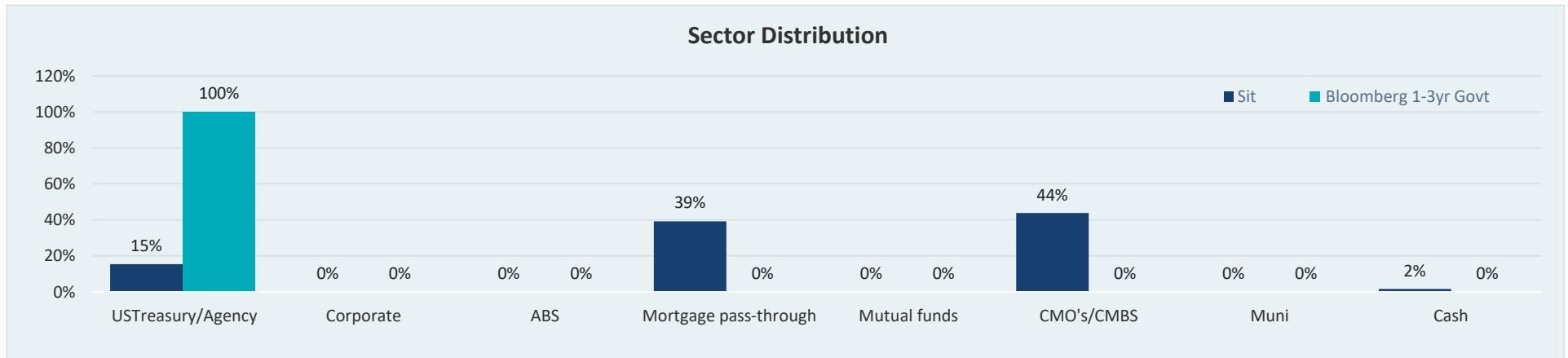


# Sit Short Duration Manager Portfolio Overview

Period Ending: December 31, 2022

Short duration fixed income portfolio with a focus on earning high levels of interest income. Primary personnel include Bryce Doty, Paul Jungquist and Michael Brilley.

|                          | Sit          | BBgBarc<br>1-3yr Govt |
|--------------------------|--------------|-----------------------|
| <b>Modified Duration</b> | <b>2.90</b>  | <b>1.88</b>           |
| <b>Yield to Maturity</b> | <b>5.40</b>  | <b>4.44</b>           |
| <b>Average Quality</b>   | <b>AAA</b>   | <b>AAA</b>            |
| <b>Average Coupon</b>    | <b>5.80%</b> | <b>1.89%</b>          |



**Performance Return Calculations**

Performance is calculated using Modified Dietz and for time periods with large cash flow (generally greater than 10% of portfolio value), Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are geometrically linked and annualized for periods longer than one year.

**Data Source**

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

**Illiquid Alternatives**

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

**Policy & Custom Index Composition**

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Policy Index (7/1/2022 - present)    | 16% Russell 3000, 15% MSCI ACWI ex-US (Gross), 9% MSCI ACWI (Net), 1.5% ICE BofA High Yield Master II, 2% Wilshire REIT, 8% Private Real Estate composite returns, 13% Private Equity composite returns, 8% Private Credit composite returns, 17% Bloomberg 1-3 Yr Gov/Credit, 2.5% Bloomberg US Aggregate, 3% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate 2.5% FTSE 3-month T-Bill +5%, 2.5% Bloomberg US Aggregate +1%. |
| Policy Index (7/1/2021 - 6/30/2022)  | 16% Russell 3000, 16% MSCI ACWI ex-US (Gross), 9% MSCI ACWI (Net), 2% Wilshire REIT, 8% Private Real Estate composite returns, 3% CPI + 4%, 11% Private Equity composite returns, 8% Private Credit composite returns, 2% ICE BofAML High Yield Master II, 18% Bloomberg 1-3 Yr Gov/Credit, 2.5% Bloomberg US Aggregate, 3% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate, 1.5% HFRI EH Equity Market Neutral.              |
| Policy Index (1/1/2021 - 6/30/2021)  | 9% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 8% Private Real Estate composite returns, 1.5% CPI + 4%, 11% Private Equity composite returns, 7% Private Credit composite returns, 1.5% ICE BofAML High Yield Master II, 25% Bloomberg 1-3 Yr Gov/Credit, 3% Bloomberg US Aggregate, 2% Bloomberg Global Aggregate, 2% HFRI EH Equity Market Neutral.                                    |
| Policy Index (7/1/2020 - 12/31/2020) | 9% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 1.5% CPI + 4%, 11% S&P 500 +4% (Lagged), 7% ICE BofAML High Yield Master II +2%, 1.5% ICE BofAML High Yield Master II, 25% Bloomberg 1-3 Yr Gov/Credit, 3% Bloomberg US Aggregate, 2% Bloomberg Global Aggregate, 2% HFRI EH Equity Market Neutral.                                   |
| Policy Index (7/1/2019 - 6/30/2020)  | 10% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 2% CPI + 4%, 11% S&P 500 +4% (Lagged), 5% ICE BofAML High Yield Master II +2%, 2% ICE BofAML High Yield Master II, 24% Bloomberg 1-3 Yr Gov/Credit, 3.5% Bloomberg US Aggregate, 2% Bloomberg Global Aggregate, 2.5% HFRI EH Equity Market Neutral.                                  |
| Policy Index (7/1/2018 - 6/30/2019)  | 11% Russell 3000, 19% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.8% NCREIF Property Index, 7.2% NCREIF ODCE Index, 2% CPI + 4%, 10% S&P 500 +4% (Lagged), 4% ICE BofAML High Yield Master II +2%, 2% ICE BofAML High Yield Master II, 23% Bloomberg 1-3 Yr Gov/Credit, 3.5% Bloomberg US Aggregate, 2% Bloomberg Global Aggregate, 2.5% HFRI EH Equity Market Neutral.                                  |
| Policy Index (10/1/2017 - 6/30/2018) | 16.3% Russell 3000, 18.8% MSCI ACWI ex-US (Gross), 8.6% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 2.5% CPI + 4%, 10.1% S&P 500 +4% (Lagged), 1.9% ICE BofAML High Yield Master II +2%, 4.3% ICE BofAML High Yield Master II, 25% Bloomberg 1-3 Yr Gov/Credit, 3.5% Bloomberg US Aggregate.                                                                                        |
| Policy Index (1/1/2017 - 9/30/2017)  | 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI + 4%, 8.1% S&P 500 +4% (Lagged), 1.7% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML High Yield Master II, 22.4% Bloomberg 1-3 Yr Gov/Credit, 3.2% Bloomberg US Aggregate, 1.6% 91-Day T-Bills.                                                                   |
| Policy Index (4/1/2012-12/31/2016)   | 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% Bloomberg U.S. Aggregate, 5% ICE BofAML High Yield Master II, 4% Bloomberg Global Aggregate, 13.5% Real Estate Benchmark, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.                                                                                                                                                                      |

**Policy & Custom Index Composition (continued)**

|                                                       |                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Policy Index (4/1/2011-3/31/2012)                     | 31% Russell 3000, 10.4% MSCI EAFE (Gross), 9.6% MSCI ACWI (Net), 25% Bloomberg U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% Bloomberg Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.                                                                       |
| Policy Index (4/1/2010-3/31/2011)                     | 35.6% Russell 3000, 10.4% MSCI EAFE (Gross), 5% MSCI ACWI (Net), 25% Bloomberg U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% Bloomberg Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.                                                                       |
| Policy Index (7/1/2009-3/31/2010)                     | 40.6% Russell 3000, 10.4% MSCI EAFE (Gross), 25% Bloomberg U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% Bloomberg Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.                                                                                           |
| Custom Growth Benchmark (7/1/2022 - present)          | 21.2% Russell 3000, 19.9% MSCI ACWI ex-US (Gross), 11.9% MSCI ACWI (Net), 2.6% Wilshire REIT, 10.6% Private Real Estate composite returns, 17.2% Private Equity composite returns, 10.6% Private Credit composite returns, 2.0% ICE BofAML High Yield Master II, 4% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate      |
| Custom Growth Benchmark (7/1/2021 - 6/30/2022)        | 21.33% Russell 3000, 21.33% MSCI ACWI ex-US (Gross), 12% MSCI ACWI (Net), 2.67% Wilshire REIT, 10.67% Private Real Estate composite returns, 14.67% Private Equity composite returns, 10.67% Private Credit composite returns, 2.67% ICE BofAML High Yield Master II, 4% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate |
| Custom Growth Benchmark (1/1/2021 - 6/30/2021)        | 13.14% Russell 3000, 26.28% MSCI ACWI ex-US (Gross), 16.06% MSCI ACWI (Net), 1.46% Wilshire REIT, 11.68 Private Real Estate composite returns%, 16.06% Private Equity composite returns, 10.22% Private Credit composite returns, 2.19% ICE BofAML High Yield Master II, 2.92% Bloomberg Global Bond                      |
| Custom Growth Benchmark (7/1/2020 - 12/31/2020)       | 13.14% Russell 3000, 26.28% MSCI ACWI ex-US (Gross), 16.06% MSCI ACWI (Net), 1.46% Wilshire REIT, 2.34% NCREIF Property Index, 9.33% NCREIF ODCE Index, 16.06% S&P 500 +4% (Lagged), 10.22% ICE BofAML High Yield Master II +2%, 2.19% ICE BofAML High Yield Master II, 2.92% Bloomberg Global Bond                       |
| Custom Growth Benchmark (7/1/2019 - 6/30/20)          | 14.7% Russell 3000, 26.4% MSCI ACWI ex-US (Gross), 16.2% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.4% NCREIF Property Index, 9.4% NCREIF ODCE Index, 16.2% S&P 500 +4% (Lagged), 7.4% ICE BofAML High Yield Master II +2%, 2.9% ICE BofAML High Yield Master II, 2.9% Bloomberg Global Bond                                  |
| Custom Growth Benchmark (7/1/2018 - 6/30/2019)        | 16.0% Russell 3000, 27.5% MSCI ACWI ex-US (Gross), 15.9% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.6% NCREIF Property Index, 10.4% NCREIF ODCE Index, 14.5% S&P 500 +4% (Lagged), 5.8% ICE BofAML High Yield Master II +2%, 2.9% ICE BofAML High Yield Master II, 2.9% Bloomberg Global Bond                                 |
| Custom Growth Benchmark (9/30/2017- 6/30/2018)        | 23.6% Russell 3000, 27.2% MSCI ACWI ex-US (Gross), 12.5% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.3% NCREIF Property Index, 9.3% NCREIF ODCE Index, 14.6% S&P 500 +4% (Lagged), 2.8% ICE BofAML High Yield Master II +2%, 6.2% ICE BofAML High Yield Master II                                                              |
| Custom Growth Benchmark (1/1/2017-9/30/2017)          | 32.6% Russell 3000, 15.7% MSCI ACWI ex-US (Gross), 15.5% MSCI ACWI (Net), 1.4% Wilshire REIT, 2.4% NCREIF Property Index, 9.6% NCREIF ODCE Index, 1.6% CPI +4%, 11.5% S&P 500 +4% (Lagged), 2.4% ICE BofAML High Yield Master II +2%, 7.3% ICE BofAML High Yield Master II                                                |
| Custom Growth Benchmark (Prior to 1/1/2017)           | Weighted-average of the benchmarks of the sub-composites that make up the composite.                                                                                                                                                                                                                                      |
| Custom Diversifying Benchmark (7/1/2021-present)      | 35.71% Bloomberg US Aggregate, 21.43% FTSE 3-Month T-bill +4%, 21.43 FTSE 3-Month T-bill +5%, 21.43% Bloomberg Barclays US Aggregate +1%                                                                                                                                                                                  |
| Custom Diversifying Benchmark (8/1/2020 - 6/30/2021)  | 46.15% Bloomberg US Aggregate, 30.77 FTSE 3-Month T-bill +4%, 23.08 FTSE 3-Month T-bill +5%.                                                                                                                                                                                                                              |
| Custom Diversifying Benchmark (7/1/2018 - 7/31/2020)  | 43.75% Bloomberg US Aggregate, 25% CPI + 4%, 31.25% HFRI EH Equity Market Neutral.                                                                                                                                                                                                                                        |
| Custom Diversifying Benchmark (10/1/2017 - 6/30/2018) | 58.33% Bloomberg US Aggregate, 41.67% CPI + 4%.                                                                                                                                                                                                                                                                           |
| Custom Diversifying Benchmark (1/1/2017 - 9/30/2017)  | 56.1% Bloomberg US Aggregate, 43.9% CPI + 4%.                                                                                                                                                                                                                                                                             |
| Custom Diversifying Benchmark (Prior to 1/1/2017)     | Weighted-average of the benchmarks of the sub-composites that make up the composite.                                                                                                                                                                                                                                      |
| Custom Diversifying Multi-Asset Benchmark (current)   | 50% FTSE 3-Month T-bill +5%, 50% Bloomberg Barclays US Aggregate +1%                                                                                                                                                                                                                                                      |
| Real Estate Benchmark (current)                       | 20% Wilshire REIT, 80% Private Real Estate composite returns.                                                                                                                                                                                                                                                             |
| Real Estate Benchmark (4/1/2012-11/30/2016)           | 40% Wilshire REIT, 50% NCREIF Property Index, 10% FTSE/EPRA NAREIT Developed ex-US.                                                                                                                                                                                                                                       |



| Manager Line Up                               |                |                 |                                   |                |                 |
|-----------------------------------------------|----------------|-----------------|-----------------------------------|----------------|-----------------|
| Manager                                       | Inception Date | Data Source     | Manager                           | Inception Date | Data Source     |
| BlackRock Russell 1000 Index                  | 4/20/2017      | BlackRock       | Invesco Real Estate V             | 9/27/2022      | Invesco         |
| Boston Partners                               | 6/1/1995       | Northern Trust  | Oaktree REOF V                    | 12/31/2011     | Oaktree         |
| Emerald Advisors                              | 4/7/2003       | Northern Trust  | Oaktree REOF VI                   | 9/30/2013      | Oaktree         |
| Ceredex                                       | 11/6/2011      | Northern Trust  | Oaktree REOF VII                  | 4/1/2015       | Oaktree         |
| Pyrford                                       | 4/25/2014      | State Street    | PCCI IX                           | 4/28/2022      | PCCP            |
| William Blair                                 | 10/29/2010     | William Blair   | Siguler Guff DREOF                | 1/25/2012      | Siguler Guff    |
| PIMCO RAE Emerging Markets                    | 2/28/2017      | State Street    | Siguler Guff DREOF II             | 8/31/2013      | Siguler Guff    |
| TT Emerging Markets                           | 7/27/2017      | TT              | Siguler Guff DREOF II Co-Inv      | 1/27/2016      | Siguler Guff    |
| Artisan Partners                              | 10/1/2012      | SEI Trust       | Paulson Real Estate Fund II       | 11/10/2013     | Paulson         |
| First Eagle                                   | 1/18/2011      | Northern Trust  | AE Industrial Partners Fund II    | 4/8/2019       | StepStone Group |
| Allianz Global Investors                      | 4/25/2000      | Northern Trust  | Adams Street Partners             | 3/18/1996      | StepStone Group |
| Adelante                                      | 9/30/2001      | Northern Trust  | Adams Street Partners II          | 1/16/2009      | StepStone Group |
| AQR Global Risk Premium - EL                  | 1/18/2019      | AQR             | Adams Street Partners Venture     | 4/28/2017      | StepStone Group |
| Panagora Risk Parity Multi Asset              | 3/15/2019      | Panagora        | Adams Street Partners - BFP       | 1/18/1996      | StepStone Group |
| AFL-CIO                                       | 6/30/1991      | AFL-CIO         | Adams Street Partners - Fund 5    | 9/21/2012      | StepStone Group |
| Wellington Real Total Return (in Liquidation) | 2/26/2013      | Wellington      | Aether Real Assets IV             | 3/16/2016      | StepStone Group |
| Acadian Multi-Asset Absolute Return Fund      | 8/4/2020       | Northern Trust  | Aether Real Assets III            | 11/27/2013     | StepStone Group |
| Sit LLCAR                                     | 4/15/2021      | Northern Trust  | Aether Real Assets III Surplus    | 11/30/2013     | StepStone Group |
| Sit Short Duration                            | 11/2/2016      | Northern Trust  | Bay Area Equity Fund              | 6/14/2004      | StepStone Group |
| DFA Short Credit                              | 11/21/2016     | Northern Trust  | Bay Area Equity Fund II           | 12/7/2009      | StepStone Group |
| Insight Short Duration                        | 11/18/2016     | Northern Trust  | Commonfund                        | 6/28/2013      | StepStone Group |
| Parametric Overlay                            | 3/29/2017      | Northern Trust  | EIF US Power Fund II              | 8/16/2005      | StepStone Group |
| Cash                                          | -              | Northern Trust  | EIF US Power Fund III             | 5/30/2007      | StepStone Group |
| Angelo Gordon Energy Credit Opp               | 9/24/2015      | StepStone Group | EIF US Power Fund IV              | 11/28/2011     | StepStone Group |
| StepStone CC Opportunities Fund               | 2/1/2018       | StepStone Group | EIF US Power Fund V               | 11/28/2016     | StepStone Group |
| Torchlight II                                 | 9/30/2006      | StepStone Group | Genstar Capital Partners IX, L.P. | 2/21/2019      | StepStone Group |
| Torchlight IV                                 | 7/1/2012       | StepStone Group | Oaktree PIF 2009                  | 2/28/2010      | StepStone Group |
| Torchlight V                                  | 7/1/2012       | StepStone Group | Paladin III                       | 11/30/2007     | StepStone Group |
| Angelo Gordon Realty Fund VIII                | 1/23/2012      | Angelo Gordon   | Ocean Avenue Fund II              | 6/11/2014      | StepStone Group |
| Angelo Gordon Realty Fund IX                  | 12/8/2014      | Angelo Gordon   | Ocean Avenue Fund III             | 4/15/2016      | StepStone Group |
| DLJ RECP III                                  | 6/23/2005      | DLJ             | Pathway 6                         | 5/24/2011      | StepStone Group |
| DLJ RECP IV                                   | 2/11/2008      | DLJ             | Pathway 7                         | 2/7/2013       | StepStone Group |
| DLJ RECP V                                    | 7/1/2014       | DLJ             | Pathway 8                         | 11/23/2015     | StepStone Group |
| DLJ RECP VI                                   | 3/19/2019      | DLJ             | Pathway                           | 11/9/1998      | StepStone Group |
| LaSalle Income & Growth VI                    | 7/16/2013      | LaSalle         | Pathway 2008                      | 12/26/2008     | StepStone Group |
| LaSalle Income & Growth VII                   | 2/28/2017      | LaSalle         | Siguler Guff CCCERA Opps          | 6/3/2014       | StepStone Group |
| Hearthstone II                                | 6/17/1998      | Hearthstone     | Siguler Guff Secondary Opps       | 11/30/2016     | StepStone Group |
| Long Wharf Fund IV                            | 7/3/2013       | Long Wharf      | Siris Partners IV                 | 3/15/2019      | StepStone Group |
| Long Wharf Fund V                             | 9/30/2016      | Long Wharf      | TPG Healthcare Partners, L.P.     | 6/28/2019      | StepStone Group |
| Long Wharf Fund VI                            | 2/5/2020       | Long Wharf      | Trident VIII, L.P.                | 5/24/2019      | StepStone Group |
| Invesco Real Estate IV                        | 6/30/2014      | Invesco         | Wastewater Opp. Fund              | 12/8/2015      | StepStone Group |
| Invesco Real Estate V                         | 2/20/2019      | Invesco         |                                   |                |                 |

Other Disclosures

All data prior to 12/31/2014 was provided by previous consultant.  
 As of 7/1/2018 all Private Equity and Private Credit data is provided by StepStone Group.



## Glossary

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**Allocation Effect:** An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

**Alpha:** The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as:  $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$ .

**Benchmark R-squared:** Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

**Beta:** A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

**Book-to-Market:** The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

**Capture Ratio:** A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

**Correlation:** A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

**Excess Return:** A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

**Information Ratio:** A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

**Interaction Effect:** An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

**Portfolio Turnover:** The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

**Price-to-Earnings Ratio (P/E):** Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

**R-Squared:** Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

**Selection Effect:** An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

**Sharpe Ratio:** A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as:  $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$ .

**Sortino Ratio:** Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

**Standard Deviation:** A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

**Style Analysis:** A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

**Style Map:** A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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