

SCERS TOTAL FUND PERFORMANCE SUMMARY
Quarter Reporting Periods Ending December 31, 2022

SCERS ASSET CLASS	Quarter	Fiscal Year-to-Date	1-Year	3-Year	5-Year	Since Inception	Since Inception Date
SCERS TOTAL FUND Return w/Overlay	4.2%	0.1%	-8.6%	6.4%	7.0%	8.3%	Jun-86
Policy Index	4.1%	0.2%	-8.1%	5.2%	5.6%	8.2%	
InvestorForce Public DB > \$1B	5.2%	1.1%	-10.8%	5.0%	5.9%	7.9%	
SCERS TOTAL FUND Return w/o Overlay	3.9%	-0.1%	-8.3%	6.3%	6.9%	8.2%	Jun-86
Policy Index	4.1%	0.2%	-8.1%	5.2%	5.6%	8.2%	
GROWTH ASSET CATEGORY	6.6%	0.1%	-14.2%	7.4%	8.2%	9.9%	Mar-17
Custom Benchmark	7.1%	0.8%	-13.1%	6.3%	6.9%	8.4%	
DIVERSIFYING ASSET CATEGORY	1.2%	-1.9%	-8.4%	-0.1%	1.3%	1.7%	Mar-17
Custom Benchmark	1.5%	-1.5%	-9.0%	-0.7%	1.0%	1.4%	
REAL RETURN ASSET CATEGORY	-0.1%	1.0%	9.7%	9.9%	9.6%	10.0%	Mar-17
Custom Benchmark	-0.9%	0.1%	11.5%	9.4%	7.6%	7.6%	

SCERS' portfolio performance was up in the fourth quarter of 2022 driven by a partial market recovery as inflation fears eased. SCERS' Total Fund return was up 4.2% for the quarter, gross of fees, performing in line with the Policy Index return of 4.1%, but underperforming the median public fund return of 5.2%. For the one-year period ending December 31, 2022, SCERS' portfolio was down -8.6% and slightly underperformed the Policy Index return of -8.1%, while delivering significant outperformance versus the median public fund return of -10.8%. Over the 3- and 5-Year periods, SCERS' Total Fund performance is 6.4% and 7.0%, respectively, and is ahead of the Policy Index returns of 5.2% and 5.6%. The Total Fund performance ranks in the top quartile for the trailing 3- and 5-Years.

The fourth quarter was defined by a decelerating global economy, with inflation showing signs of slowing down in the U.S. and peaking in the Eurozone and Japan. The idea that the Fed could have engineered a soft-landing in the U.S. became more hopeful with an increased market optimism of a moderating inflation trend and a potential policy tightening slowdown. However, central banks continued with a hawkish tone to guide markets toward fighting inflation and further dented market sentiment. The Fed hiked rates another 75 basis points in November and pivoted to 50 points in December. Hopes for a near-term slowdown in the Fed's tightening were driven by positive developments in inflation, with CPI prints for October and November slowing down, although inflation remained elevated at 6.5% year-over-year in December. This positive development drove risk assets to rally in the first two months in Q4, but came to a halt in December as concerns about a weakening economy dampened investor sentiment.

Globally, China eased its strict "Zero COVID" policy. Given the large role that China has within the global economy, this policy reversal was viewed as a positive prospect of restoring growth for companies around the world. The Euro area also capped off a difficult year from the fallout of Ukraine and Russia with a rally in risk assets in the first two months of the quarter. Similar to the U.S., global markets were hopeful with the positive developments of the macroeconomic backdrop in the first half of the quarter, but a renewed uncertainty of the scale and duration of a downturn ended the rally in December.

SCERS' Growth asset category rebounded in Q4 and was the largest contributor to the total fund's performance with a return of 6.6% for the quarter, led by Global Public Equity. The Diversifying asset category was also up 1.2% in the quarter with all asset classes in positive territory for the quarter. SCERS' Real Return asset category underperformed during the quarter, down -0.1%. Within the Real return asset category, Real Estate was the biggest detractor with a -2.5%, return while Liquid Real return and Real Assets outperformed. The underperformance in the Real Estate portfolio was driven by a decline in valuations, which have typically lagged public markets. SCERS' Private Equity asset class, lagged one quarter, also contributed to the underperformance with a return of -0.5%, and was also impacted by a decline in valuations.

Growth Asset Category

SCERS GROWTH Performance Summary for the periods ending 12/31/22	Quarter	Fiscal Year-to-Date	1-Year	Since Inception	Since Inception Date
SCERS GROWTH ASSET CATEGORY	6.6%	0.1%	-14.2%	9.9%	Mar-17
Custom Benchmark	7.1%	0.8%	-13.1%	8.4%	
Global Public Equity	10.6%	2.9%	-19.0%	8.0%	Jun-11
MSCI ACWI IMI	10.0%	2.8%	-18.0%	7.2%	
Private Equity (lagged 1 quarter)	-0.5%	-5.8%	-3.8%	7.3%	Feb-08
Cambridge All PE	-1.7%	-6.6%	-2.6%	11.7%	
Public Credit	-0.7%	-2.6%	-10.5%	3.6%	Nov-13
Custom Benchmark	3.2%	3.5%	-6.2%	3.6%	
Private Credit (lagged 1 quarter)	1.5%	1.0%	4.0%	7.5%	Mar-17
Credit Suisse Leveraged Loan + 2%	1.7%	-2.2%	-0.6%	5.9%	
Growth Absolute Return	0.5%	0.8%	-10.1%	4.7%	Aug-04
HFRI FoF Composite +1%	1.9%	1.8%	-4.4%	5.8%	

The Growth asset category was up 6.6% in the quarter, but trailed the benchmark with a 7.1% return. The positive performance was driven primarily by Global Public Equity's return of 10.6% versus the MSCI ACWI IMI benchmark return of 10%. SCERS' Private Credit portfolio, where performance is also lagged one quarter, also continued to show positive results, up 1.5% for the quarter and up 4% for the year. Detractors included SCERS' Private Equity portfolio, where returns are lagged by one quarter, and Public Credit. The Private Equity portfolio was down -0.5% during the quarter and -3.8% for the year as funds began to write-down valuations. However, SCERS' Private Equity portfolio has generated positive returns and outperformed the benchmark for the trailing 3-year and 5-year periods. The Public Credit portfolio declined -0.7% for the quarter, which lagged the benchmark return of 3.2%, and capped the year down -10.5%.

Global Equities advanced in the fourth quarter, marking the end to the worst year for global equities with the MSCI ACWI IMI index down -18%. The fourth quarter began with a relief rally fueled by optimism of a potential policy tightening slowdown and a moderating inflation trend,

but sold off into the end of the quarter as the Fed remained hawkish and concerns of a weakening economic growth halted the rally. The value-oriented equity style outperformed growth during the quarter, highlighted by the Russell 1000 value index up 12.4% compared to the Russell 1000 growth index return of 2.2%. Although both styles were up in the quarter, they were down -7.5% (value index) and -29.1% (growth index) for the year. This has been a consistent theme this year, with value factor returns outperforming growth factor returns and narrowing the performance gap between the two factors from prior years, where growth outperformed. From a market capitalization standpoint, large cap outperformed small cap as the Russell 1000 was up 7.2%, while the Russell 2000 was up 6.2% during the quarter. However, both are down -19.3% and -20.4% for the year, respectively. International equity markets were up for the quarter with the MSCI ACWI ex U.S. index up 14.3%. Emerging markets generated positive returns, but underperformed International Developed markets during the quarter, with the MSCI Emerging Markets index up 9.7%, trailing the MSCI World ex U.S. index return of 16.2%. The performance recovery of Emerging markets was driven by the news of the easing of China's zero-COVID policies, which helped boost optimism for economic growth in 2023. SCERS' International equities contributed significantly to the positive performance with a return of 14.5%, while SCERS' U.S. equities returned 7.7% for the quarter. International equity returns benefitted from weakening of the U.S. dollar, which had rallied significantly versus other currencies during most of 2022.

Diversifying Asset Category

SCERS DIVERSIFYING Performance Summary for the periods ending 12/31/22	Quarter	Fiscal Year-to-Date	1-Year	Since Inception	Since Inception Date
SCERS DIVERSIFYING ASSET CATEGORY	1.2%	-1.9%	-8.4%	1.7%	Mar-17
Custom Benchmark	1.5%	-1.5%	-9.0%	1.4%	
Core/Core Plus Fixed Income	1.9%	-3.0%	-13.4%	2.2%	Jun-11
Bloomberg Barclays US Aggregate TR	1.9%	-3.0%	-13.0%	1.7%	
U.S. Treasury	0.5%	-3.9%	-12.4%	0.4%	Feb-18
Bloomberg Barclays US Treasury TR	0.7%	-3.7%	-12.5%	0.3%	
Diversifying Absolute Return	0.3%	0.5%	0.9%	2.6%	Nov-11
HFRI FoF Conservative Index	1.5%	1.7%	0.1%	4.6%	

SCERS' Diversifying Asset Category was up 1.2% for the quarter and down -8.4% for the year. All asset classes were up for the quarter with SCERS' Fixed Income portfolio driving the positive performance. Within SCERS' Fixed Income portfolio, Core/Core Plus managers were up 1.9% for the quarter while U.S. Treasury managers were slightly positive (0.5%). Fixed income markets rebounded during the quarter with the Bloomberg Barclays Aggregate and U.S. Treasury index up 1.9% and 0.7%. Amid signs of an easing inflationary trend, there was a risk-on shift early in the quarter in hopes of a monetary policy pivot. However, this quickly reversed later in the quarter as the Fed continued raising rates and remained hawkish. In the U.S., the Fed raised rates in both November (75 basis points) and December (50 basis points), bringing the fed fund rate to a range of 4.25% and 4.5% after a total of seven rate hikes in 2022. Overall, the 10-year U.S. Treasury rate was volatile during the quarter, but rose modestly from 3.83% to 3.88%. Tighter spreads on increased risk sentiment also contributed to the positive performance with U.S. high-

yield and investment-grade credit spreads narrowing. SCERS' Core/Core Plus managers can invest in high-yield and credit sectors, which tend to perform well in a risk on environment, and benefitted from the positive performance in those sectors. The Diversifying Absolute Return portfolio was also up 0.3% for the quarter, but underperformed the benchmark index (1.5%). For the year, the Absolute Return portfolio was up 0.9%, outperforming the benchmark return of 0.1%, and significantly outperforming fixed income.

Real Return Asset Category

SCERS REAL RETURN Performance Summary	Quarter	Fiscal Year-to-Date	1-Year	Since Inception	Since Inception Date
SCERS REAL RETURN ASSET CATEGORY					
SCERS Real Return w/ SSgA Proxy	-0.1%	1.0%	9.7%	10.0%	Mar-17
Custom Benchmark	-0.9%	0.1%	11.5%	7.6%	Mar-17
SCERS Real Estate	-2.5%	-2.5%	8.6%	11.5%	Jun-11
Custom Benchmark	-3.6%	-1.3%	13.0%	10.0%	
Core Real Estate (as of 12/31/22)					
Commingled Funds	-2.0%	-2.0%	11.2%	7.1%	Sep-08
NFI-ODCE	-5.0%	-4.5%	7.5%	6.5%	Sep-08
Non-Core Real Estate (as of 9/30/22)					
Opportunistic	-4.9%	-4.1%	1.0%	15.4%	Feb-14
Value Add	-2.2%	-4.5%	0.3%	0.6%	Sep-08
NFI-ODCE net +1%	-1.6%	3.5%	22.0%	10.7%	Feb-14
				8.6%	Sep-08
SCERS Real Assets (as of 9/30/22)	1.9%	5.9%	19.3%	7.0%	Jan-13
Custom Benchmark	0.6%	1.9%	14.2%	6.9%	
SCERS Liquid Real Return (as of 12/31/22)	5.7%	-0.6%	-5.1%	3.9%	Jun-19
SSgA Real Assets	6.0%	-0.2%	-3.3%	4.0%	

SCERS' Real Return portfolio was slightly down -0.1% for the fourth quarter, but up 9.7% for the year, and outperformed the benchmark return of -0.9%. SCERS' Real Assets portfolio, where returns are lagged one quarter, continues to outperform with a 1.9% return for the quarter and 19.3% over the year. During the quarter, investors sought out defensive assets with reasonable valuations and reliable cash flows. In real assets that included infrastructure and commodities, which produced robust returns in the quarter with the S&P Global Infrastructure index up 11% and the S&P GSCI index up 3.4%. SCERS' Real Estate portfolio, which is a mix of Core Real Estate open-end commingled funds valued as of 12/31/22 and Non-Core Real Estate investments in closed end funds valued as of 9/30/22, was down -2.5% in the quarter, but outperformed the benchmark return of -3.6%. The Core managers were down -2.0% for the quarter, but outperformed the benchmark return of -5.0%. Non-core managers, where returns are lagged one quarter, were down with Opportunistic managers being the biggest detractor down -4.9%. Relative to the benchmark, both Opportunistic and Value Add managers significantly trailed the benchmark returns of -1.6%. For the year, SCERS' Real Estate portfolio has posted strong returns, up +8.6%, benefiting from the inflationary environment despite

increasing interest rates. However, the Real Estate returns trail the benchmark return of 13%, primarily due to underperformance of the Non-Core segment.

SCERS' Liquid Real Return was the biggest contributor to SCERS' Real Return portfolio, up 5.7%, but slightly underperforming SSGA's benchmark returns of 6%. Certain commodities, publicly traded REITs, and TIPS all posted positive returns during the quarter while energy underperformed, contributing to the positive performance of the liquid real return strategies.

SCERS' policy index benchmark includes a blended weighted average of the individual asset class benchmarks, as defined within SCERS' Master IPS, and as shown below. No changes to the policy index benchmark were made during the quarter.

SCERS BENCHMARK SUMMARY	
As of December 31, 2022	
Asset Class	Policy Index Benchmark
Growth Asset Category	Blended Weighted Average of Asset Class Benchmarks
Global Equity	MSCI ACWI IMI
Private Equity	Cambridge Associates PE/VC Index
Public Credit	50% (BofA High Yield) + 50% (CS High Yield)
Private Credit	CS Leveraged Loan + 2%
Diversifying Asset Category	Blended Weighted Average of Asset Class Benchmarks
Fixed Income	75% Bloomberg Barclays Aggregate Index/25% Bloomberg US Treasury Index
Diversifying Absolute Return	HFRI FoF Conservative Index
Cash	Overnight LIBOR/SOFR
Real Return Asset Category	Blended Weighted Average of Asset Class Benchmarks
Real Estate	60% (NFI-ODCE) + 40% (NFI-ODCE) + 1%
Real Assets	60% (Cambridge Associates Private Infrastructure Index) + 30% (Cambridge Associates Private Energy Index) + 10% (NCREIF Farmland Index)
Liquid Real Return	SSGA Real Return Overlay Proxy *

*SSGA Real Return Overlay Policy: 15% FTSE EPRA/NAREIT Developed Liquid Index, 25% S&P Global Infrastructure Index, 10% S&P Global Large Mid Cap Commodity and Resources Index, 10% Bloomberg Roll select Commodity Index, 30% Bloomberg Barclays 1-10 year US TIPS Index, and 10% Bloomberg Barclays US Dollar Floating Rate <5 Year Index.

ATTACHMENT

- Board Order
- Verus' Investment Performance Review for SCERS for the period ending December 31, 2022.

Prepared by:

/S/

Michael Vang
Investment Analyst

Reviewed by:

/S/

Steve Davis
Chief Investment Officer

/S/

Eric Stern
Chief Executive Officer



Retirement Board Order

Sacramento County Employees' Retirement System

Before the Board of Retirement
February 15, 2023

AGENDA ITEM:

**Total Fund Investment Performance Report –
Fourth Quarter 2022**

THE BOARD OF RETIREMENT hereby approves Staff's recommendation to receive and file the SCERS Total Fund Investment Performance Review report, prepared by Verus, for the quarter ending December 31, 2022.

I HEREBY CERTIFY that the above order was passed and adopted on February 15, 2023 by the following vote of the Board of Retirement, to wit:

AYES:

NOES:

ABSENT:

ABSTAIN:

ALTERNATES:
(Present but not voting)

Keith DeVore
Board President

Eric Stern
Chief Executive Officer and
Board Secretary



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: DECEMBER 31, 2022

Investment Performance Review for

Sacramento County Employees' Retirement System

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Investment Landscape **TAB I**

Total Fund **TAB II**

Policy Index and
Benchmark History **TAB III**

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

**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

1ST 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)*

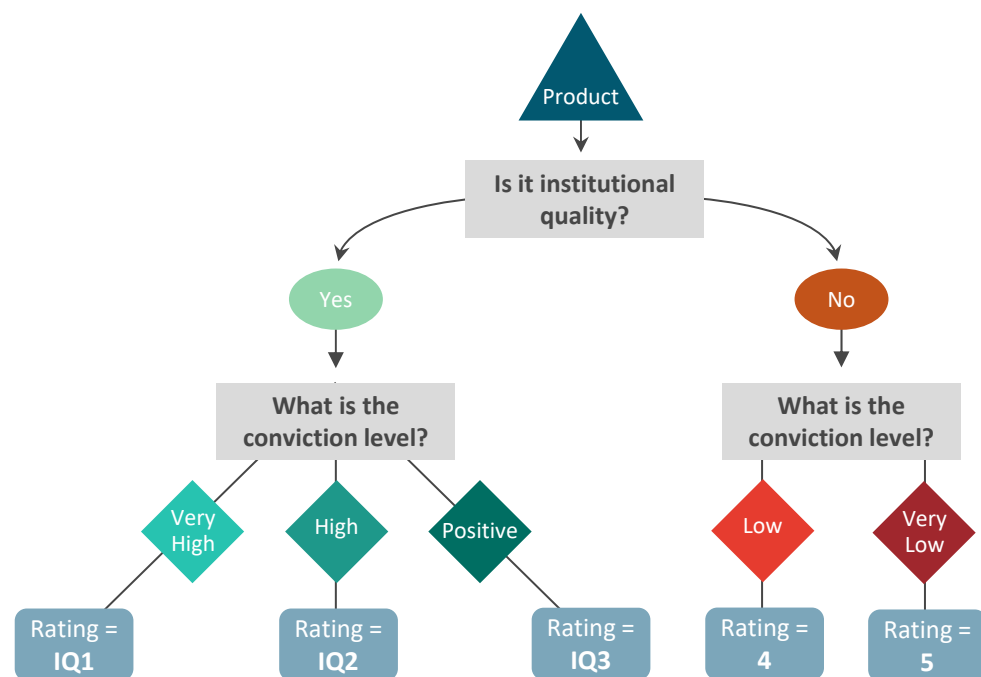
Manager rating system

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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4th 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. **p. 10**
- 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. **p. 13**

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. **p. 11**
- 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. **p. 14**

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. **p. 32**
- 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. **p. 23 & 24**

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. **p. 40**
- 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%. **p. 29**

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 8th, 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 1st, 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 14th, 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

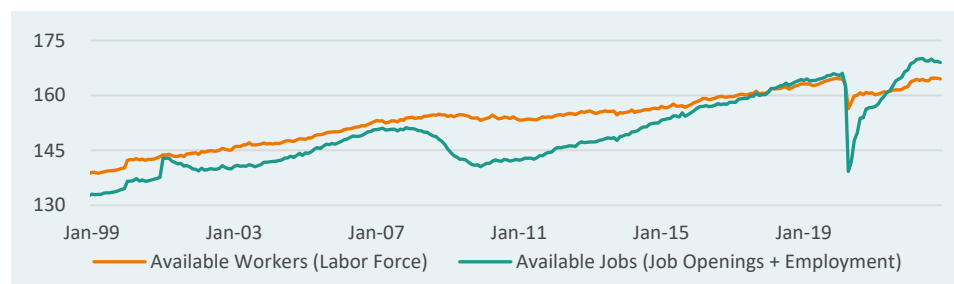
Article Source: Bloomberg, December 5th, 2022. Dataset from Our World in Data

FED FUNDS RATE UPPER BOUND



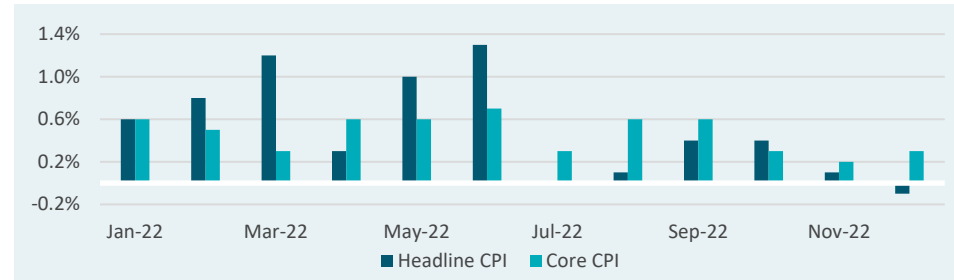
Source: Federal Reserve, as of 12/31/22

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

GDP growth

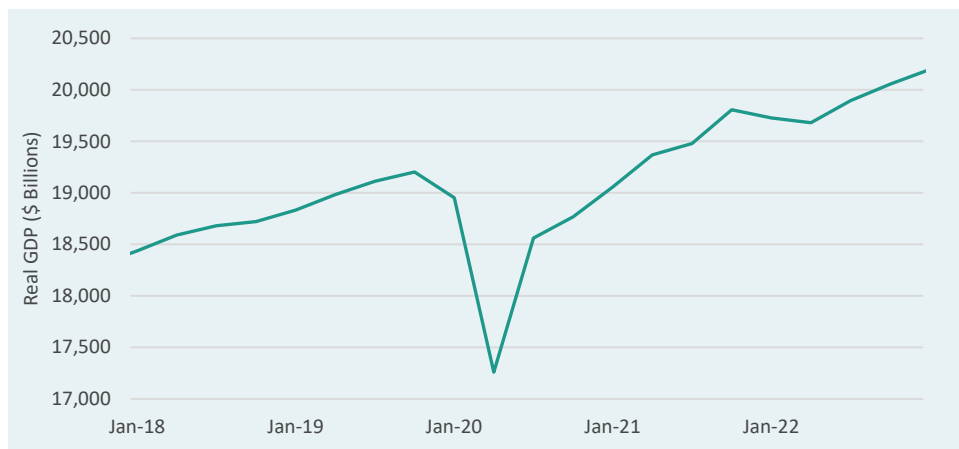
Real GDP increased at a 2.9% rate in the fourth quarter (1.0% growth year-over-year), slightly exceeding expectations of 2.8%. Consumer spending supported growth, along with gains in private inventory investment, government expenditures, and nonresidential investment. Residential fixed investment saw 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.

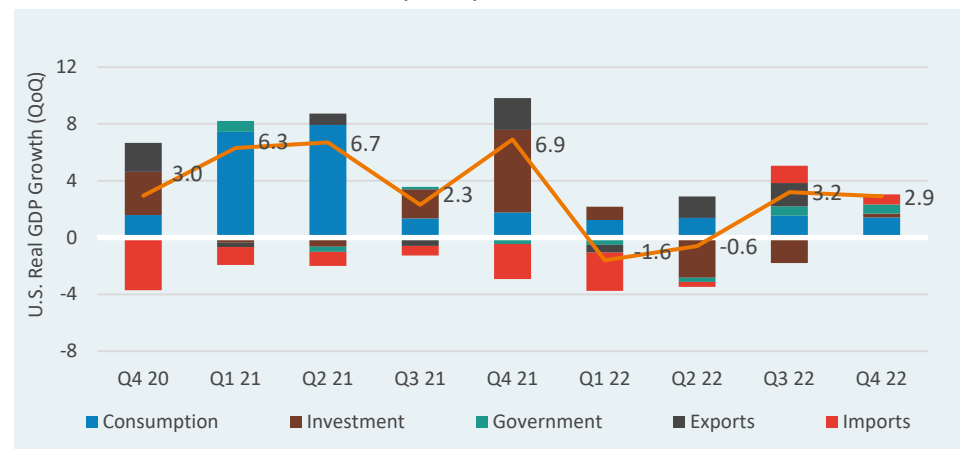
The inflation environment following the COVID-19 pandemic is unlike many past inflation cycles. Much of the price pressure has been fueled by factors *other than* a strong economy, such as an unprecedented shift in consumer spending behavior towards goods and away from services, port and international 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.

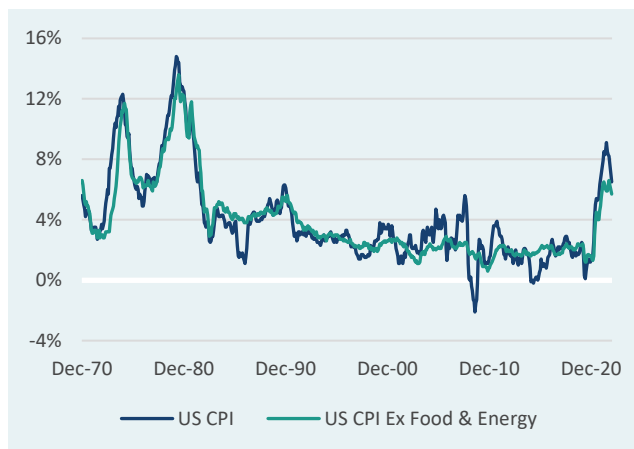
Strong increases in U.S. hourly wages over recent years have

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.

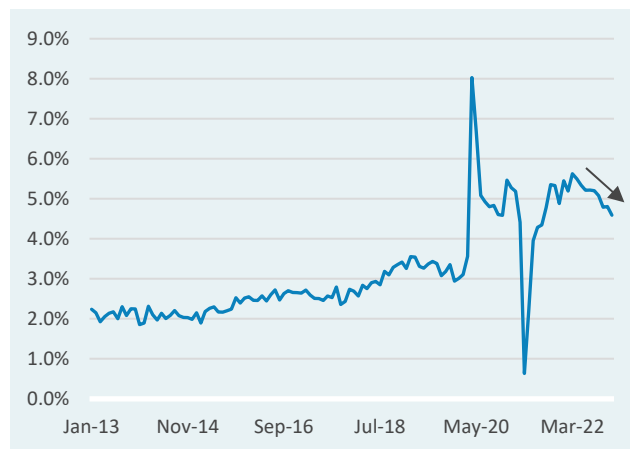
Price pressures continue to ease, adding to optimism that inflation will fall to more normal levels

U.S. CPI (YOY)



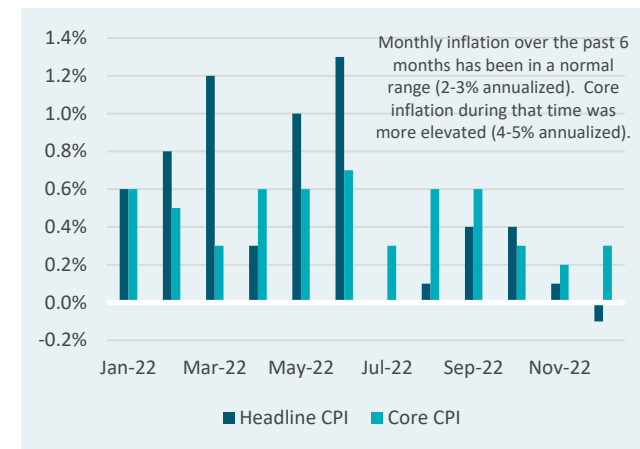
Source: BLS, as of 12/31/22

AVERAGE HOURLY EARNINGS



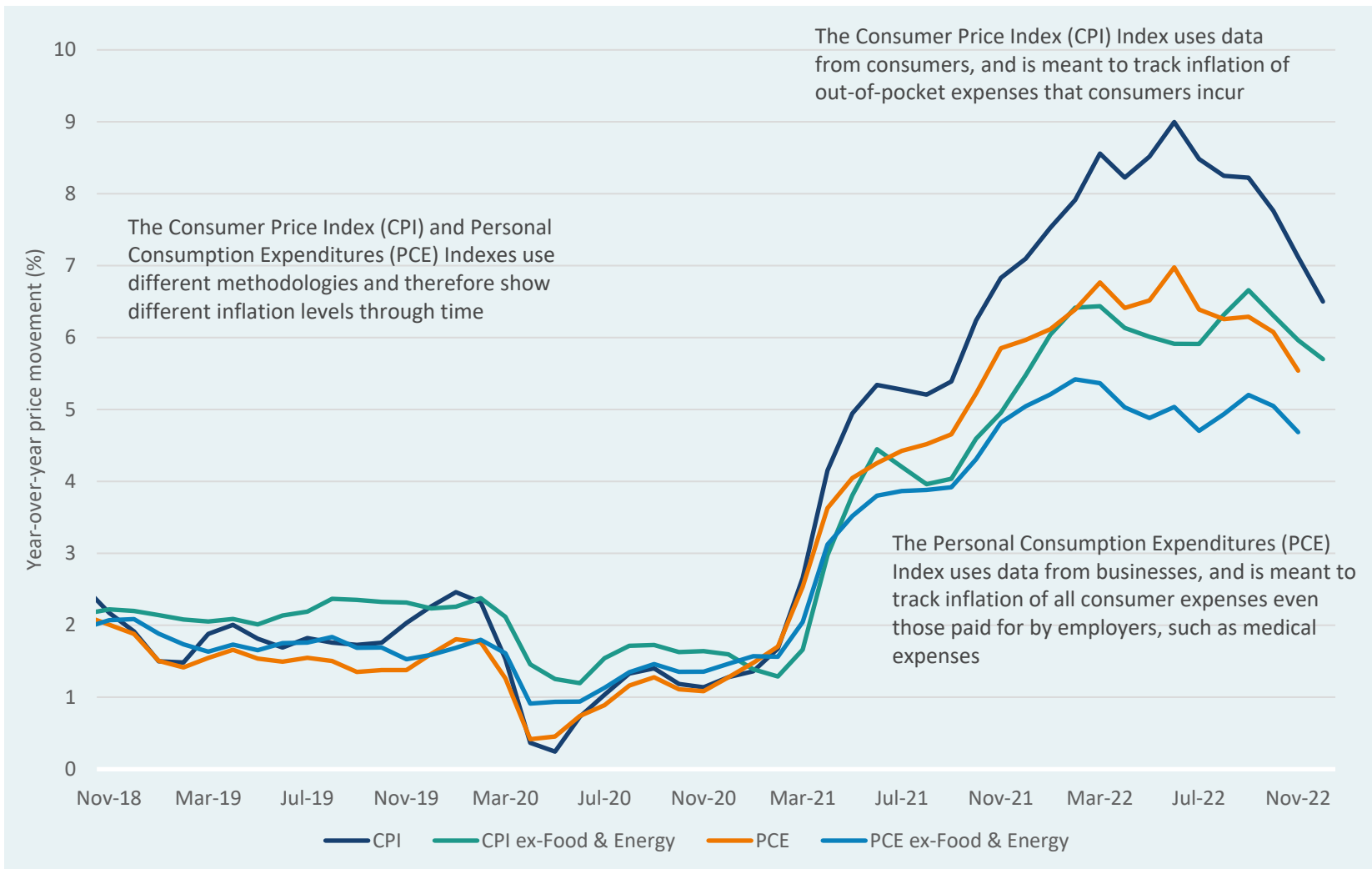
Source: BLS, as of 12/31/22

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.

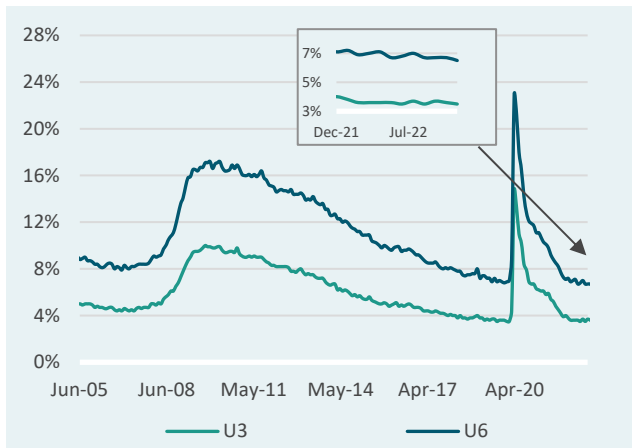
The labor participation rate also remained unchanged during the quarter. Low labor participation paints a different and much weaker picture of the job market, because this figure takes into account the workers *who are not seeking employment*. More than two million workers remain out of the labor force,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

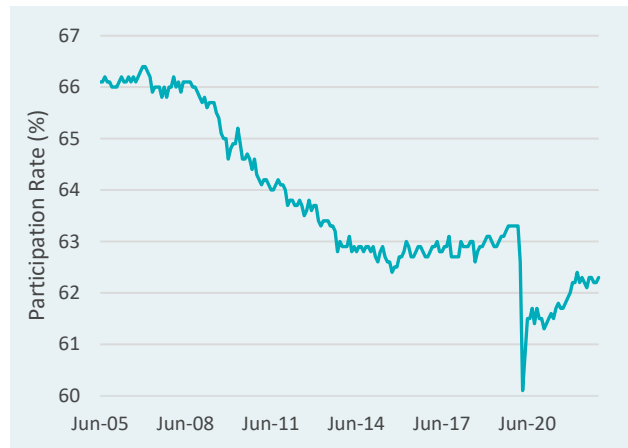
The labor market remains tight, though the size of workforce is much smaller relative to pre-pandemic times

U.S. UNEMPLOYMENT



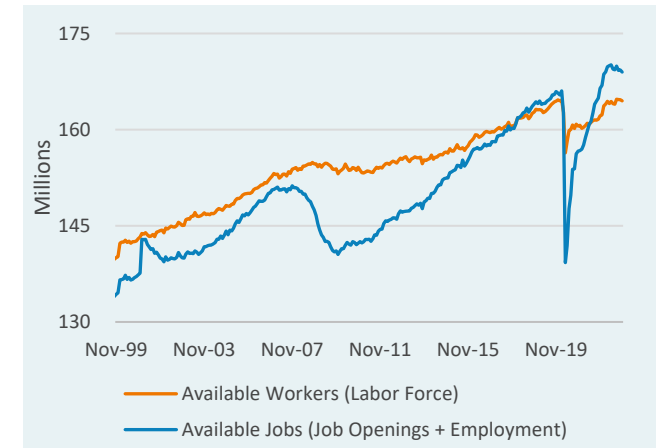
Source: FRED, as of 12/31/22

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.

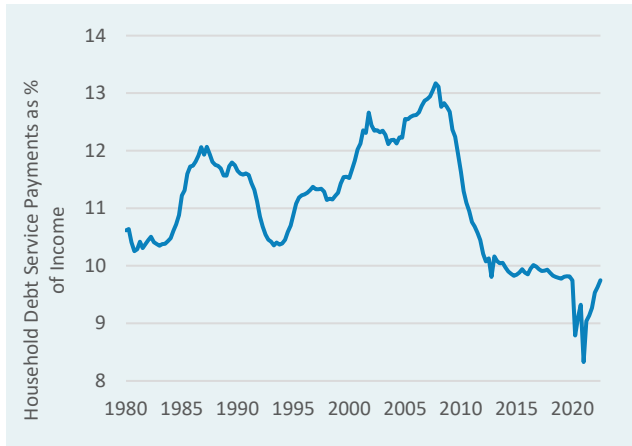
Spending has slowed but savings rates have also dropped to 2.3%—a depressed level not seen since the mid-2000s. A low household savings rate is sometimes seen as an indicator of

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.

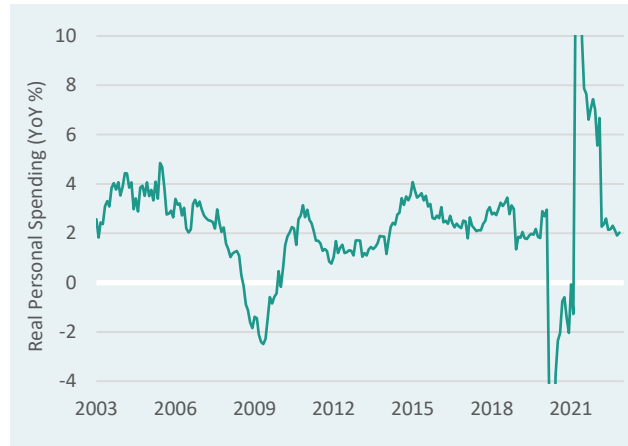
Household spending remains strong, though a very low savings rate may suggest budgets are being squeezed

DEBT SERVICE AS % HOUSEHOLD INCOME



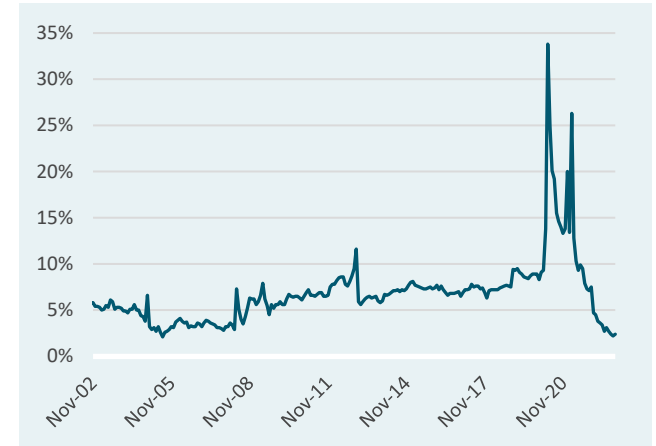
Source: FRED, as of 9/30/22

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.

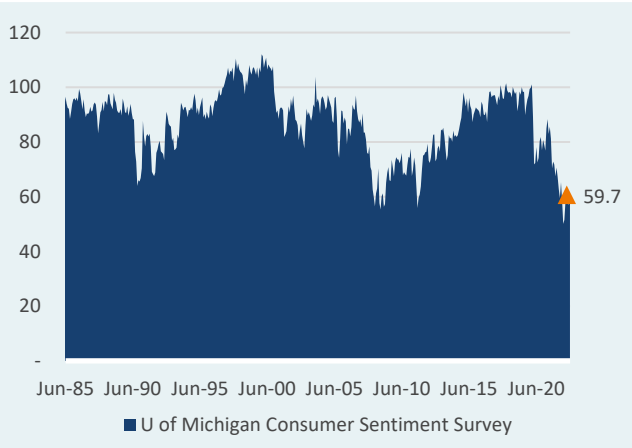
Consumer confidence measured by the Conference Board improved slightly in the fourth quarter—at the highest level since April. According to the Conference Board, views around

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



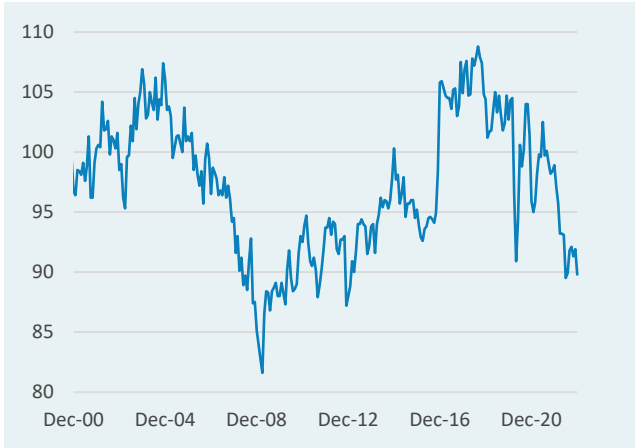
Source: University of Michigan, as of 12/31/22

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.

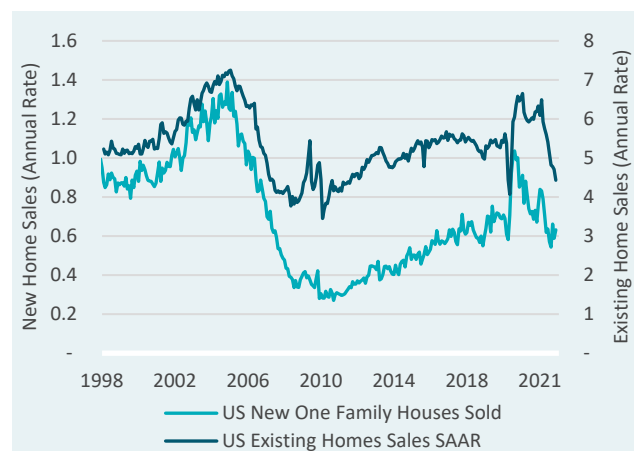
HOUSING AFFORDABILITY INDEX



Source: NAR, as of 11/30/22

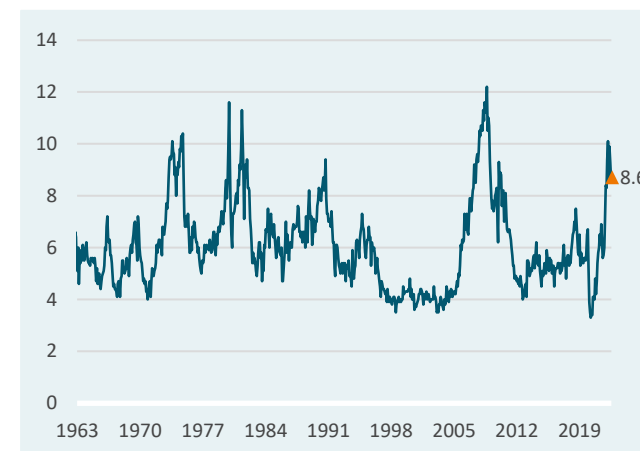
The Monthly Housing Affordability Index measures whether or not a typical family earns enough income to qualify for a mortgage loan on a typical home at the national and regional levels based on the most recent monthly price and income data

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

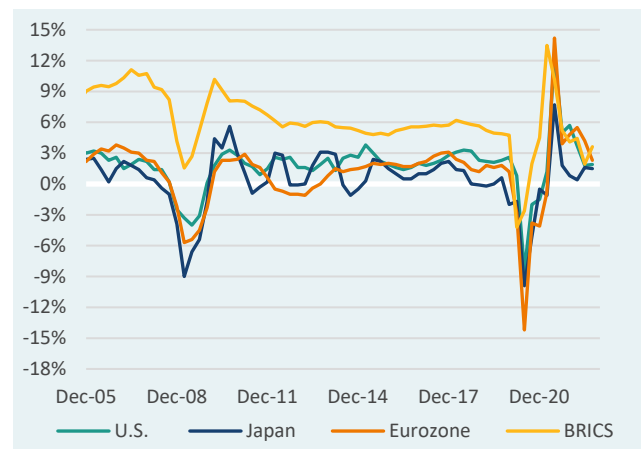
Growth expectations outside of the U.S. contracted over the quarter, with the largest moves coming from developed economies. The IMF cut its GDP forecast by 0.7% and 0.2% for the Eurozone and U.K. in their October outlook (now expecting 2023 GDP of 0.5% and 0.3%, respectively) as the European Central 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).

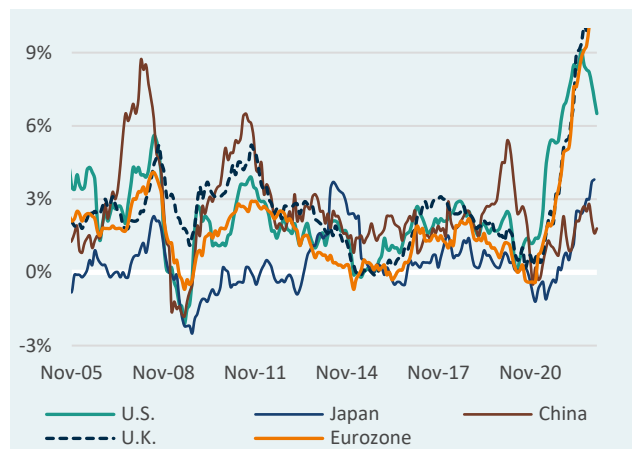
Despite the slowdown in economic growth, employment remains stable amongst the regions we track. India stood out as an exception, where unemployment jumped from 6.4% to 8.3% during Q4.

REAL GDP GROWTH (YOY)



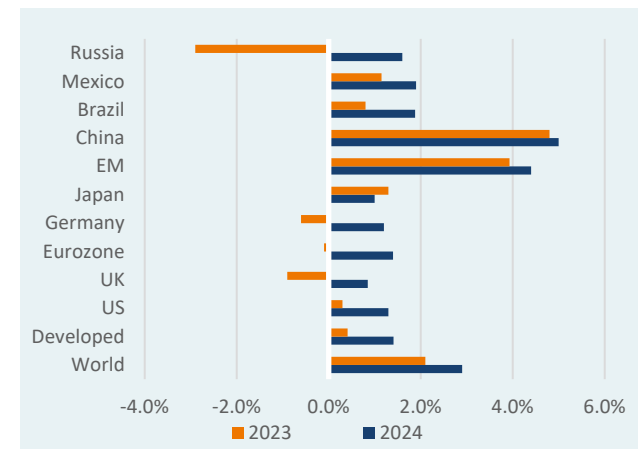
Source: Bloomberg, as of 9/30/22

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

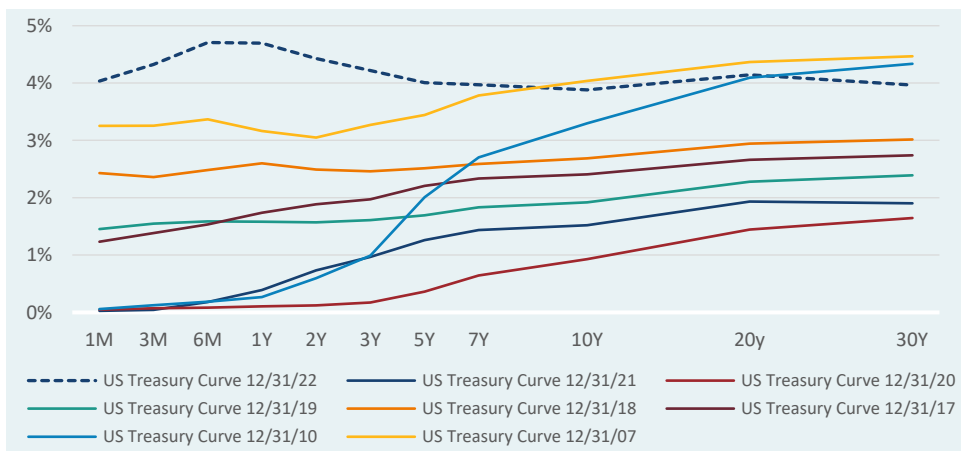
- The 10-year U.S. Treasury yield ended the quarter unchanged at 3.8%. It is possible that long-term interest rates have already reached a cyclical peak, assuming inflation continues to fall and the Federal Reserve becomes less aggressive.
- Credit performance was positive during the fourth quarter, 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 5th 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%)

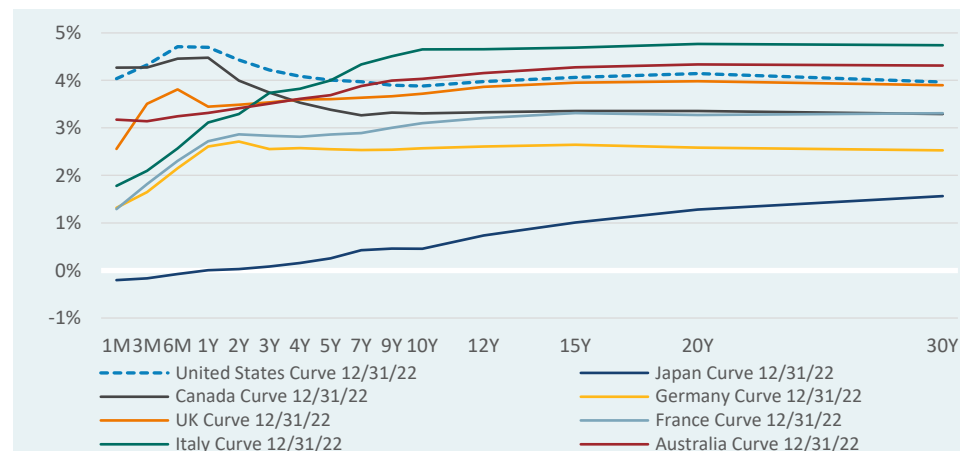
Source: Bloomberg, as of 12/31/22

Yield environment

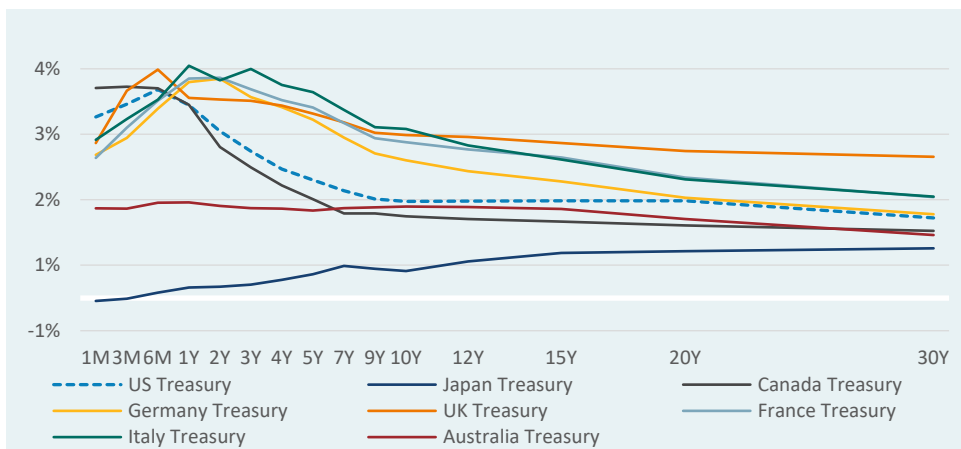
U.S. YIELD CURVE



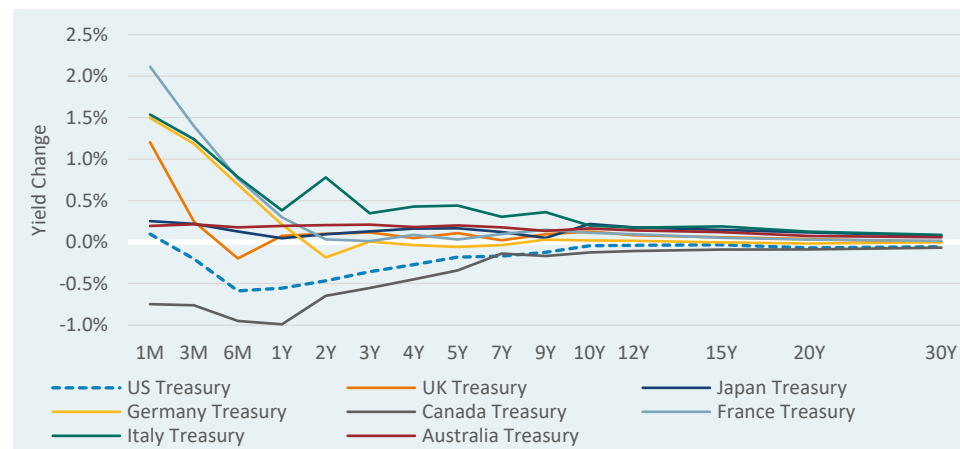
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



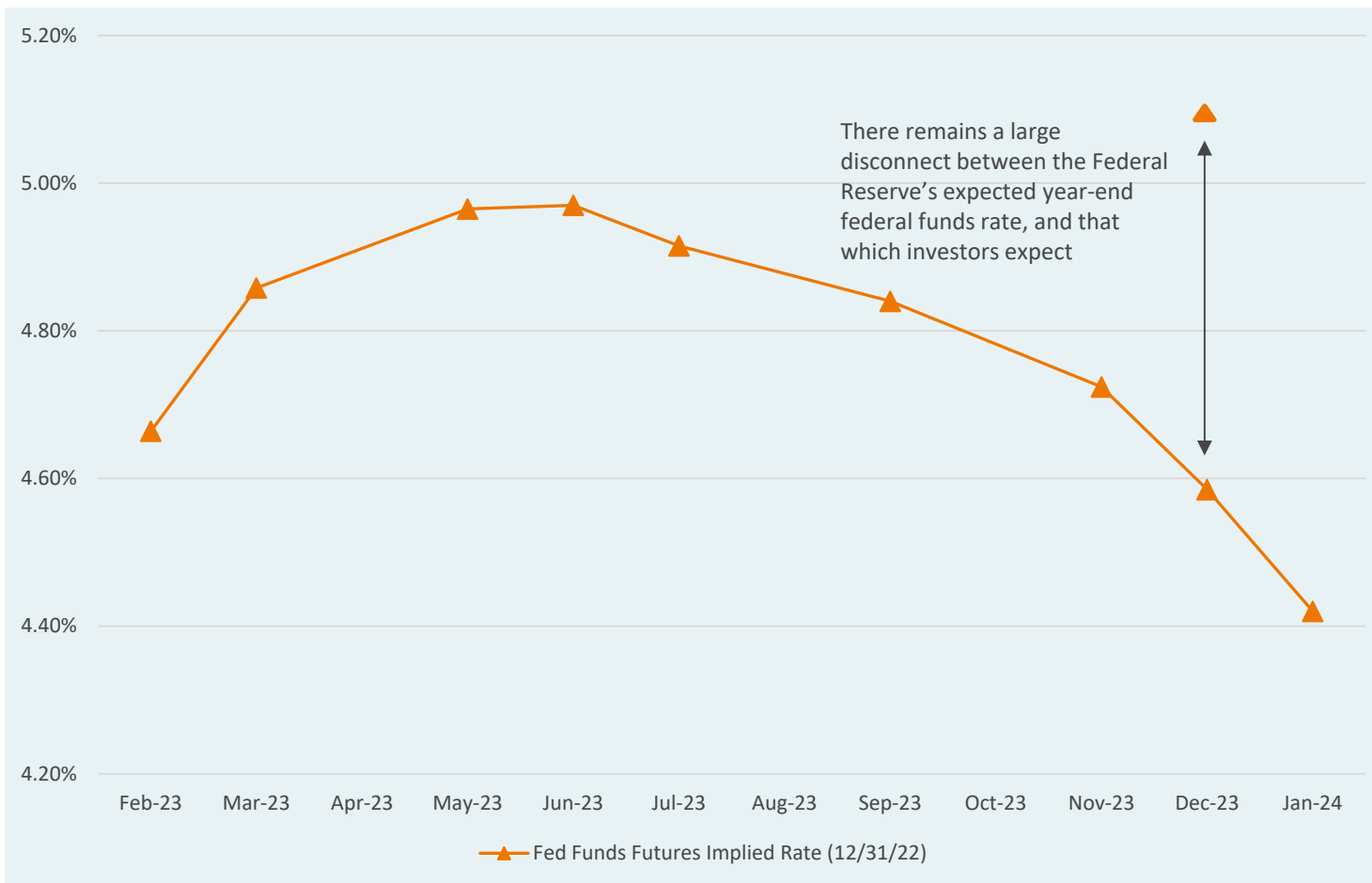
IMPLIED CHANGES OVER NEXT YEAR



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

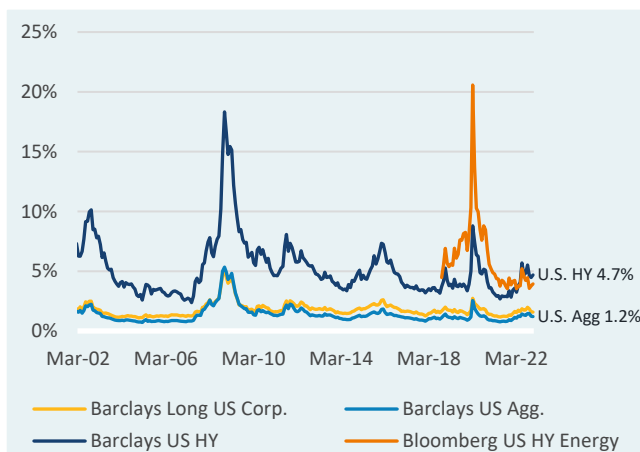
During the fourth quarter, markets began pricing in an eventual end to the Federal Reserve rate hiking cycle. This supported the performance of credit assets, as well as stronger-than-expected U.S. economic data which helped alleviate recession fears. High yield credit returns led the way with 4.2%,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

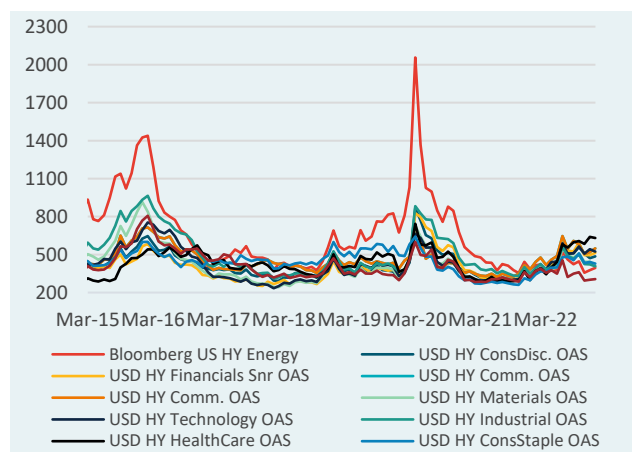
The total yield of high yield credit declined modestly throughout Q4, ending the quarter at 9.0%, which was 71 bps below Q3 yields but still elevated far above yields to start 2022. The Bloomberg US Corporate Investment Grade Index saw similar movement, with yields declining to 5.4% from 5.7% during 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

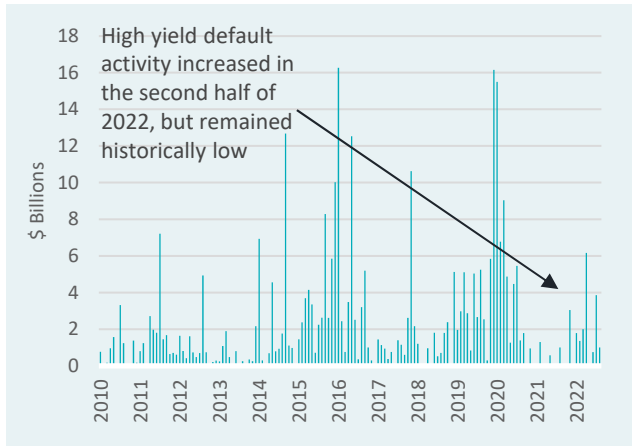
Default activity in high yield bonds and bank loans remained subdued during Q4. Throughout the year, 17 companies defaulted totaling \$26.3 billion, with large defaults concentrated in the Healthcare sector which accounted for over 36% of total dollar volume. Default rates for par-weighted U.S. high 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%).

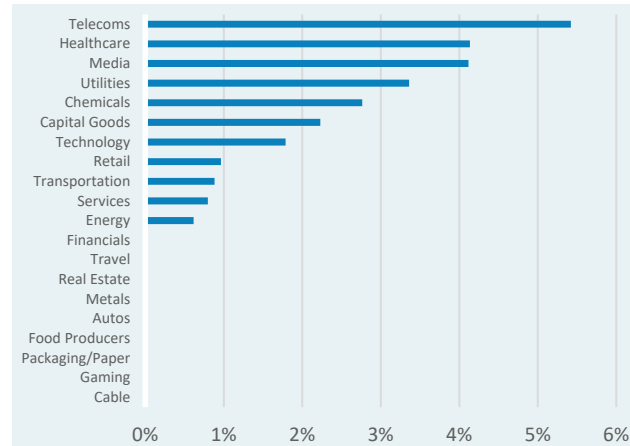
Investment grade credit issuance remained light, with \$195 billion of issuance in Q4 being the lowest quarter of the year. During 2022, \$1.2 trillion of investment grade bond issuance was 12% lower than 2021 but still in line with the past five-year average. Levered credit also saw quarterly lows of 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)



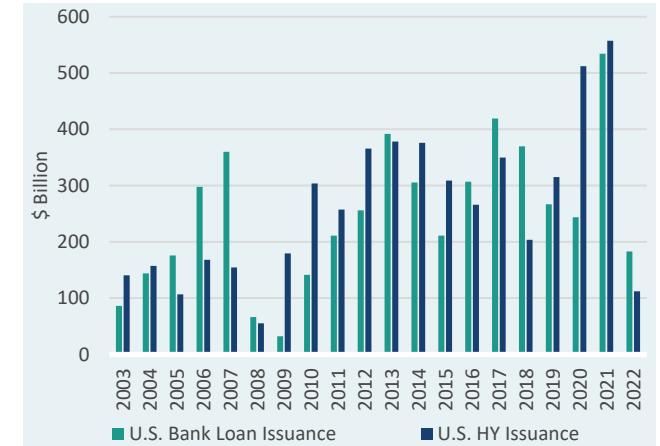
Source: BofA Merrill Lynch, as of 12/31/22

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

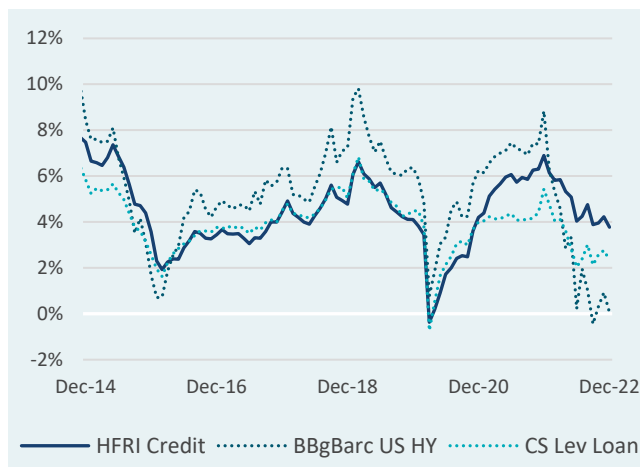
Alternative credit

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).

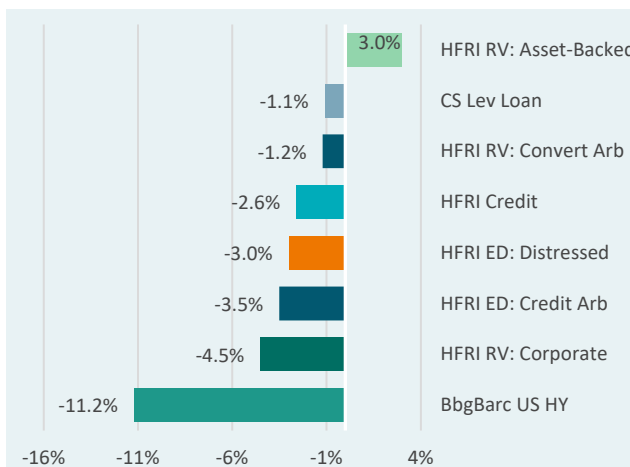
Looking more closely at hedge fund credit, asset-backed strategies were the strongest performers throughout the year. These strategies gained 3% while most other alternative credit funds were modestly negative, in line with bank loans.

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.

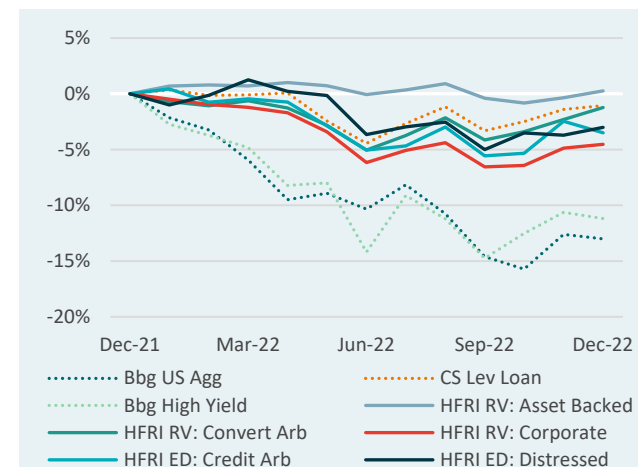
3-YEAR ROLLING RETURN



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 30th) 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.

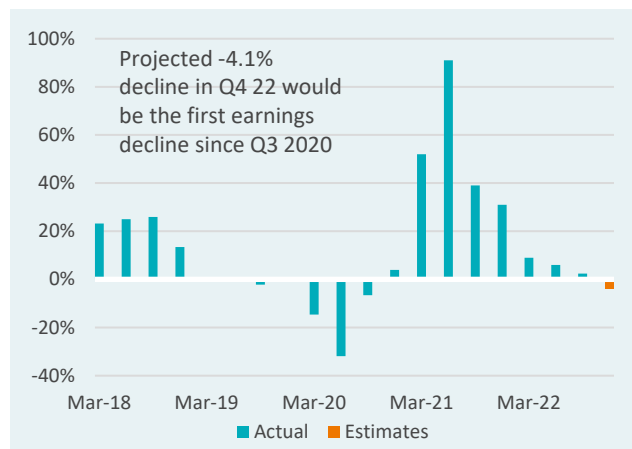
Energy dominated sector performance in the quarter (+22.8), leading the positive performance seen in most sectors, while telecommunications (-1.4%) and consumer discretionary (-10.2%) saw negative returns.

S&P 500 PRICE INDEX



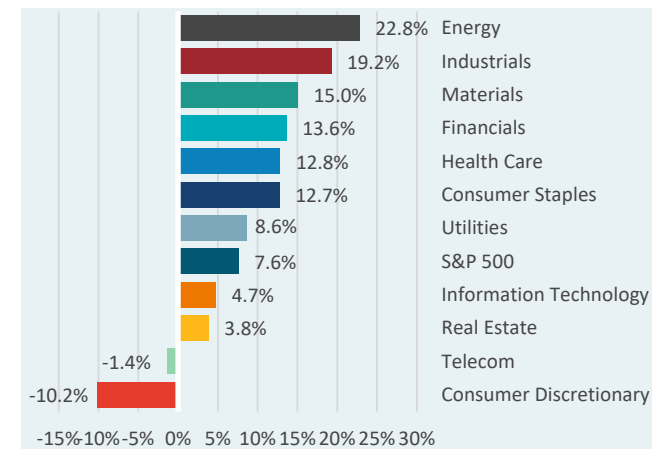
Source: Standard & Poor's, as of 12/31/22

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

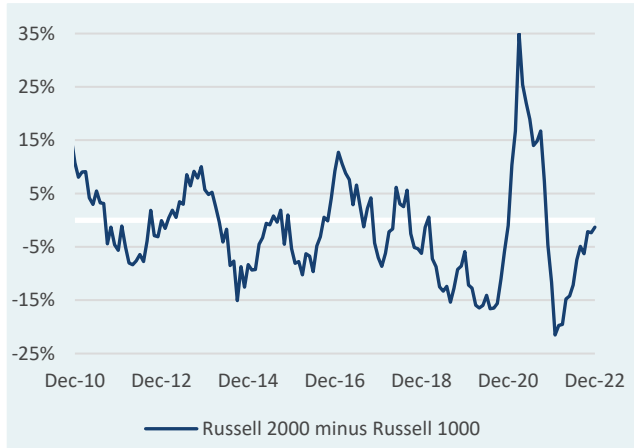
Value stocks outpaced growth stocks by 10.2% in Q4 and by 21.6% for the year. Energy, industrials, and materials —sectors which are heavily tilted toward value—showed strong returns, with the energy sector ending the year up 64.6%.

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)



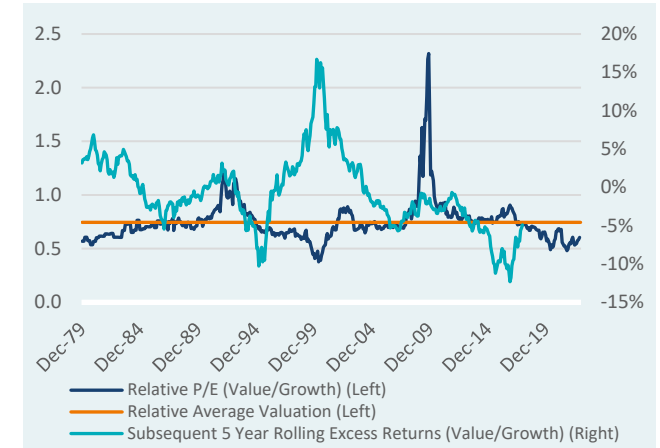
Source: FTSE, as of 12/31/22

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

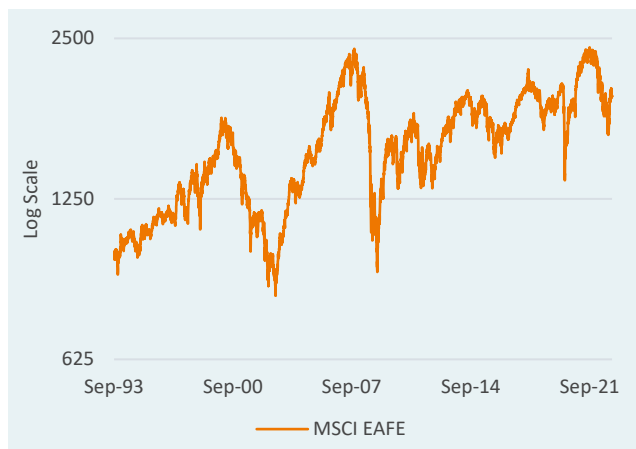
International developed equities rallied significantly in the fourth quarter, driven by strong gains from Eurozone equities and favorable currency movements. The MSCI EAFE Index finished the quarter up 17.3% on an unhedged currency basis, handily outperforming emerging market and U.S. equities.

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.

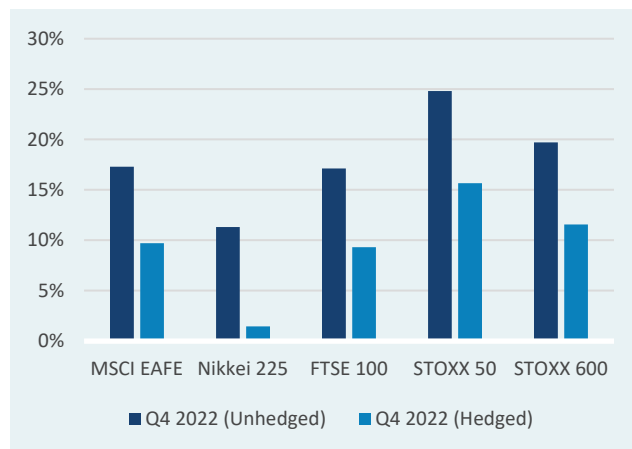
Currency movements played a large role in unhedged Eurozone performance and also boosted the unhedged returns of Japan and the United Kingdom. The U.S. dollar sharply pivoted on market views that the Federal Reserve may follow a shorter tightening cycle. As a result, exchange rates for the Euro, Pound,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

INTERNATIONAL DEVELOPED EQUITY



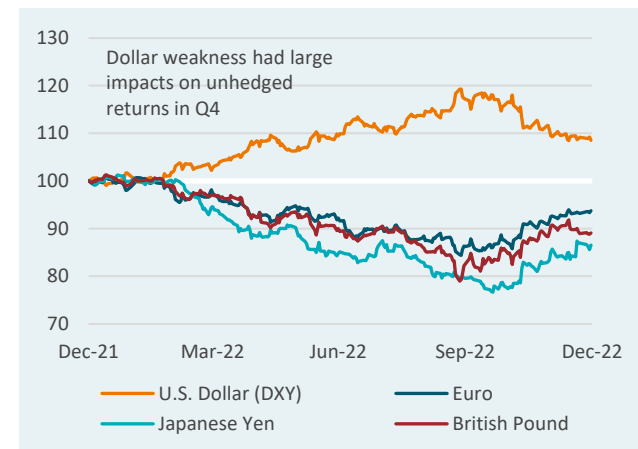
Source: MSCI, as of 12/31/22

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.

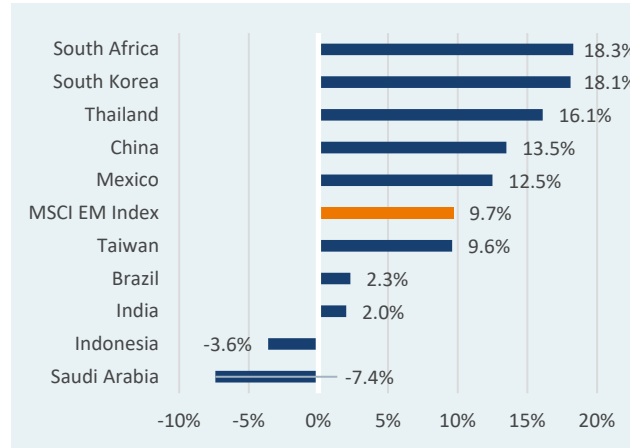
Indian shares, which hold the second largest weight in the index, acted as a drag on returns during the quarter but still ended in positive territory. Despite a modest 2.0% quarterly gain, the Indian market was one of the best performers of 2022, finishing the year down -8.0%. This compared to double-digit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

EMERGING MARKET EQUITY



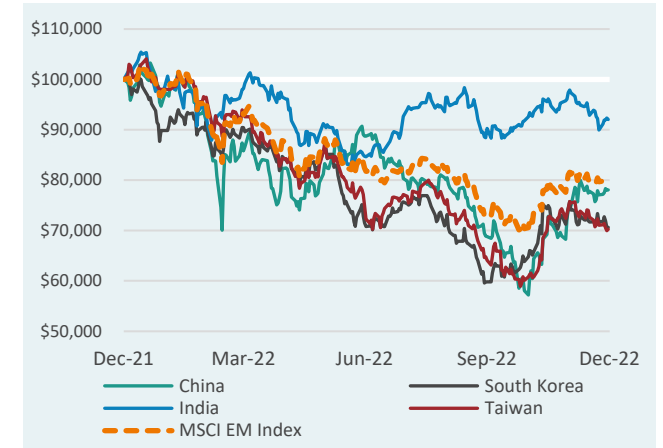
Source: MSCI, as of 12/31/22

Q4 2022 MSCI COUNTRY RETURNS (USD)



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

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



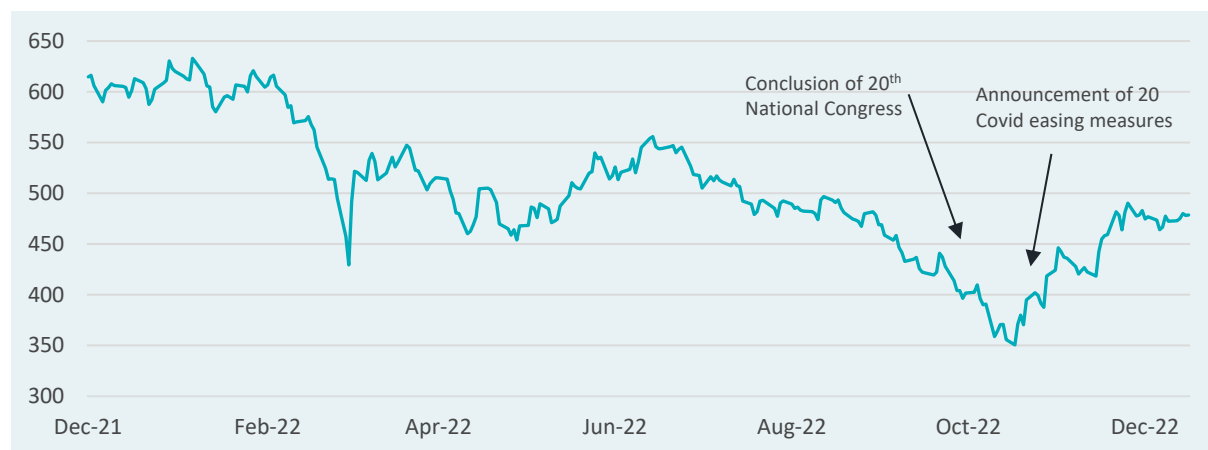
Source: Bloomberg, MSCI, as of 12/31/22 - performance in USD

Recent developments in China

China has continued to make global headlines, though two stories seemed to dominate the narrative. First, the 20th 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 20th 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

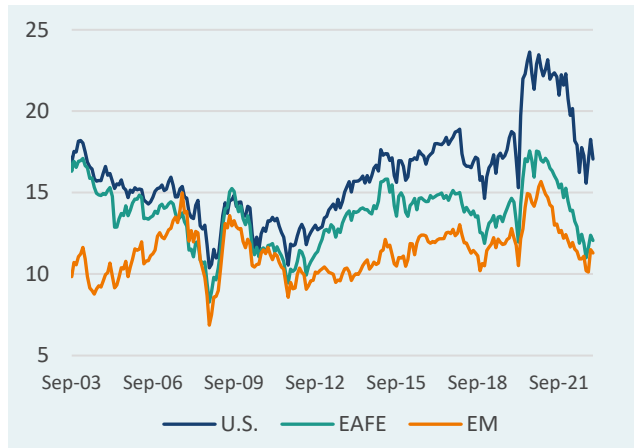
Many markets now trade at valuation levels near their historical average as inflation and rising interest rates have brought prices down. The S&P 500 forward P/E ratio of 17.1 is below the five- and ten-year averages of 18.6 and 20.2, respectively. The Federal Reserve remains in focus for U.S. investors 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.

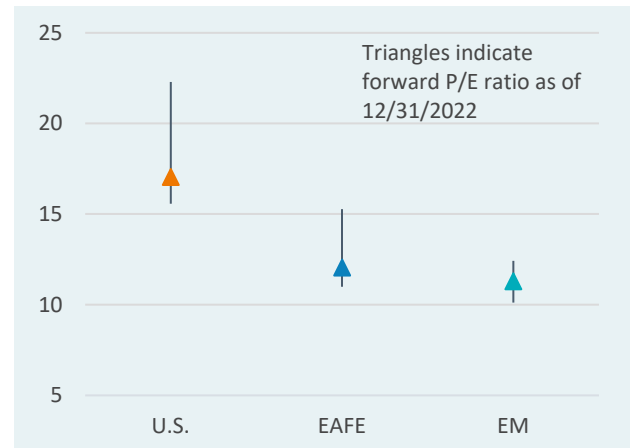
International developed equities remain extremely cheap relative to U.S. markets

FORWARD P/E RATIOS



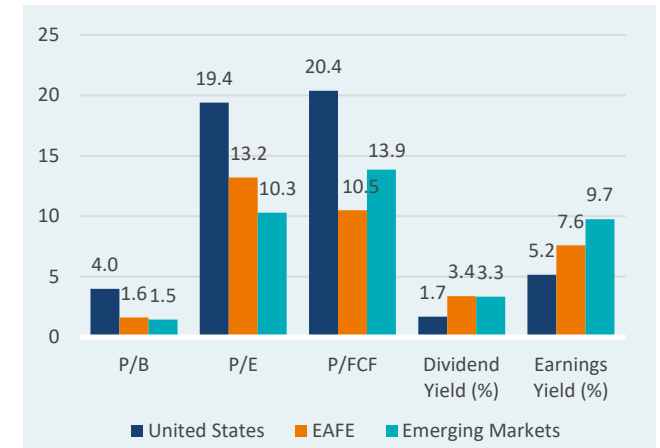
Source: MSCI, 12m forward P/E, as of 12/31/22

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

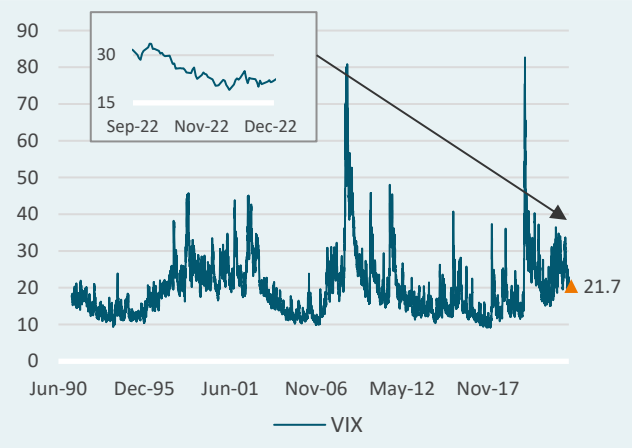
Implied volatility fell significantly over the quarter. The Cboe VIX Index moved from 31.6 to 21.7. Equity markets advanced on cooling inflation, potential for less aggressive central bank action, and perhaps optimism around China’s reopening.

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.

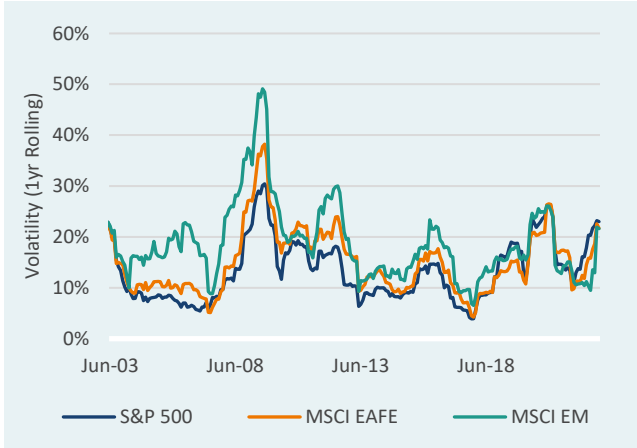
Historically speaking, the S&P 500 delivered exceptionally poor performance in line with some of the worst of the index’s history. Looking all the way back to 1929, this year was the seventh worst in the index’s history and the worst calendar year performance since 2008.

U.S. IMPLIED VOLATILITY (VIX)



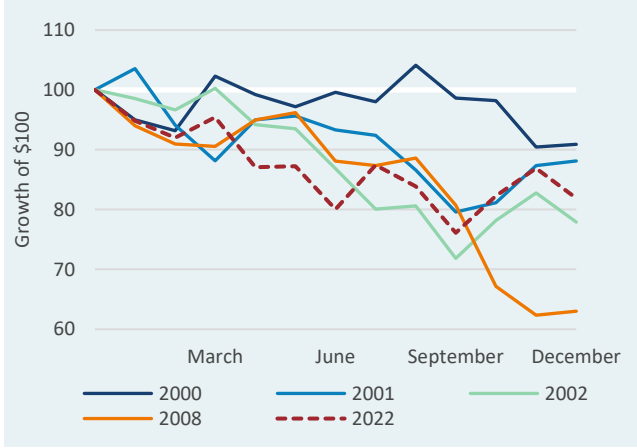
Source: Cboe, as of 12/31/22

REALIZED VOLATILITY



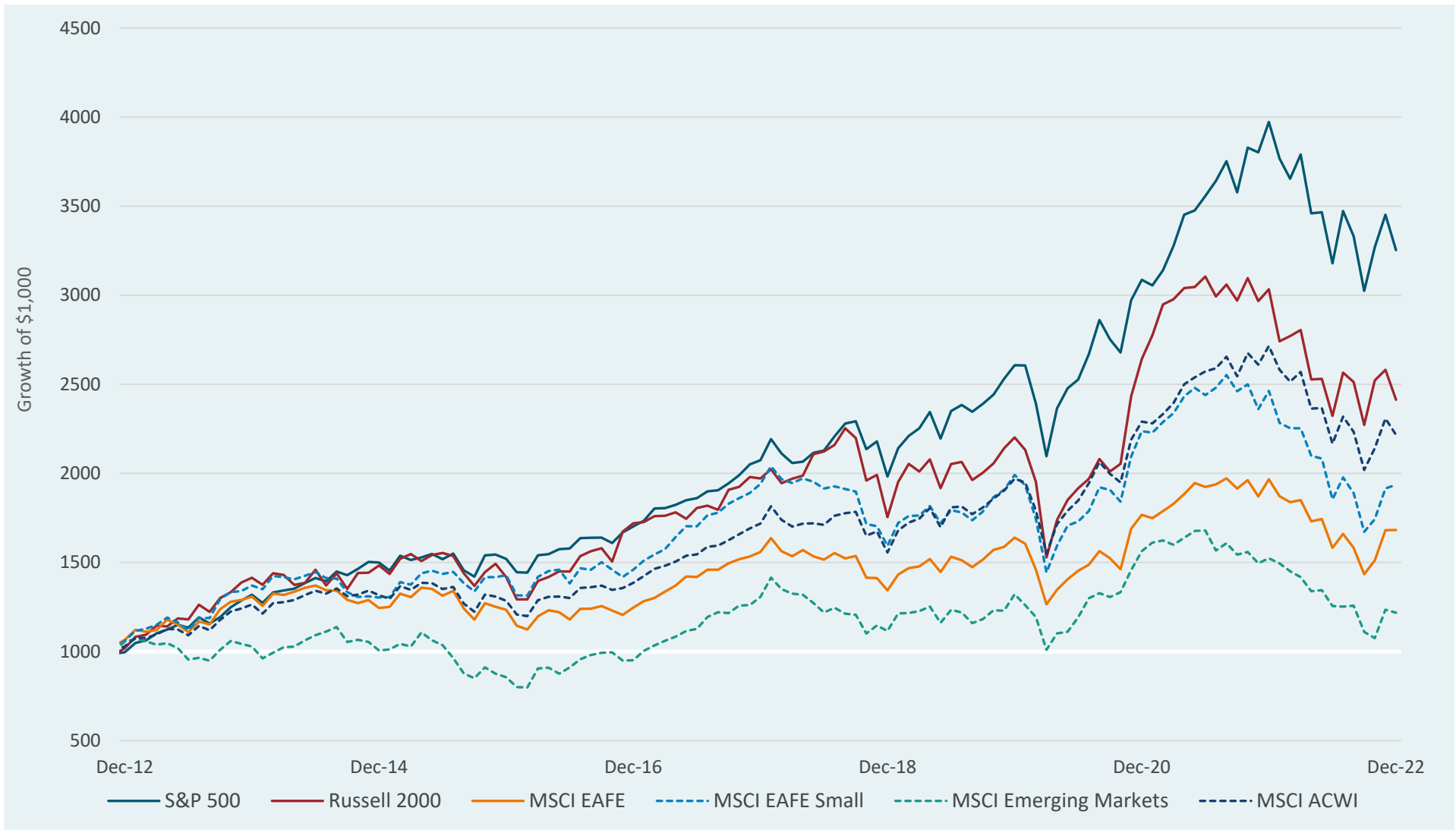
Source: S&P, MSCI, as of 12/31/22

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

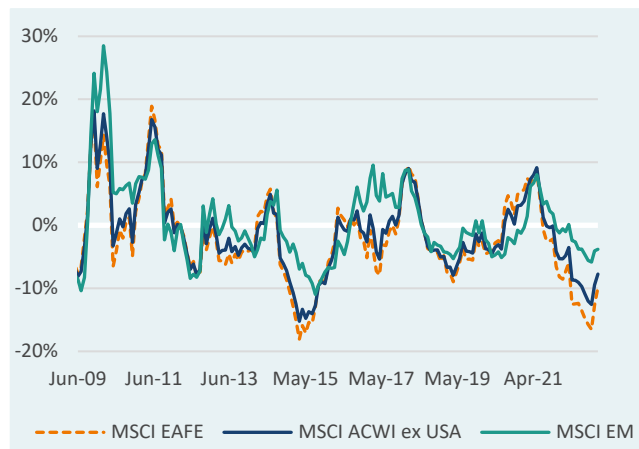
Currency volatility has translated to much higher portfolio volatility for investors with unhedged exposure to foreign currencies. The U.S. dollar depreciated relative to major currencies during the fourth quarter which resulted in large gains for investors with unhedged foreign currency exposure. These 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)



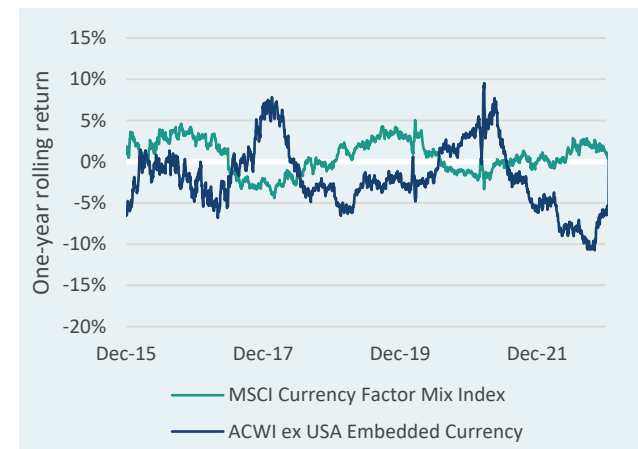
Source: MSCI, as of 12/31/22

BLOOMBERG DOLLAR SPOT INDEX



Source: Bloomberg, as of 12/31/22

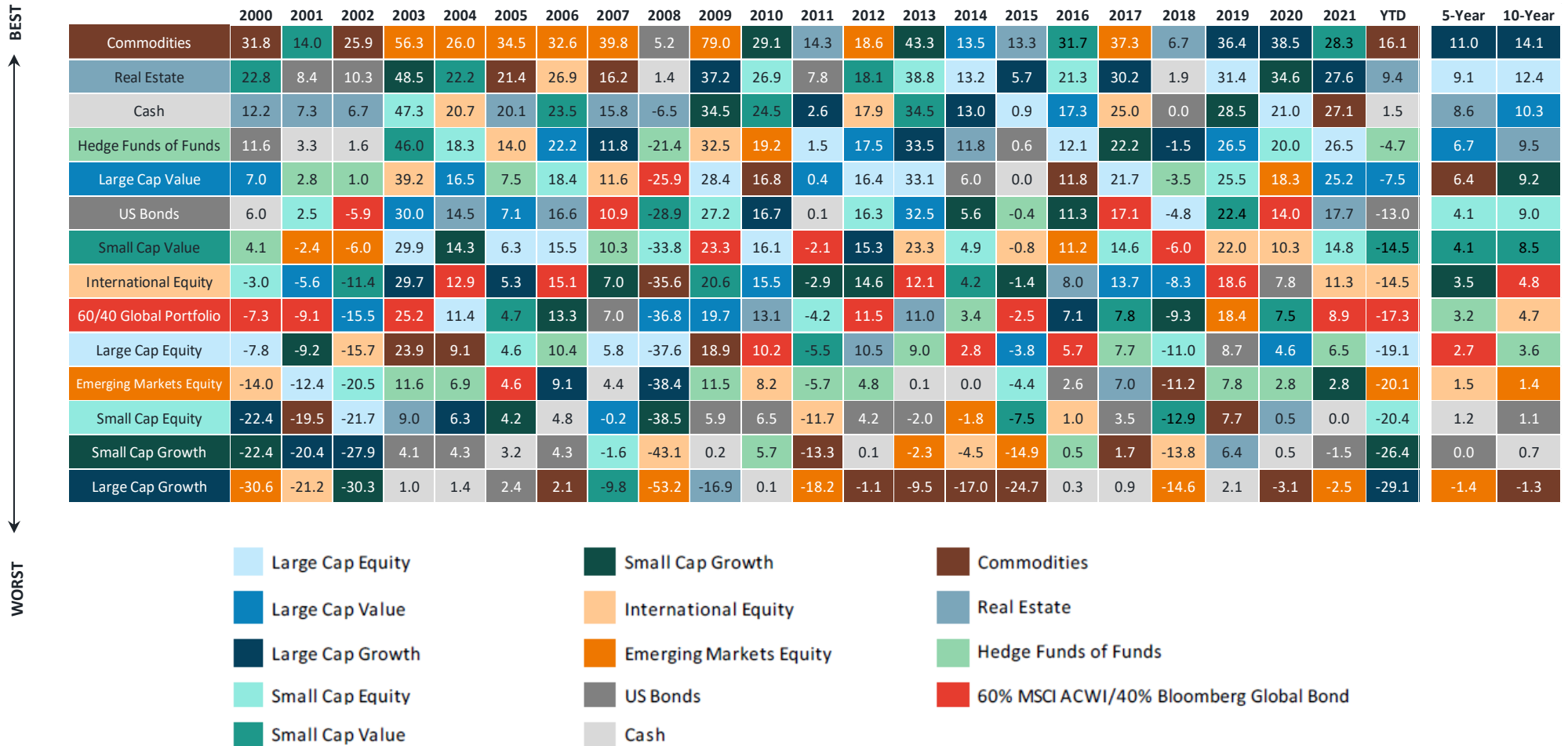
EMBEDDED CURRENCY VS CURRENCY FACTORS



Source: Bloomberg, as of 12/31/22

Appendix

Periodic table of returns



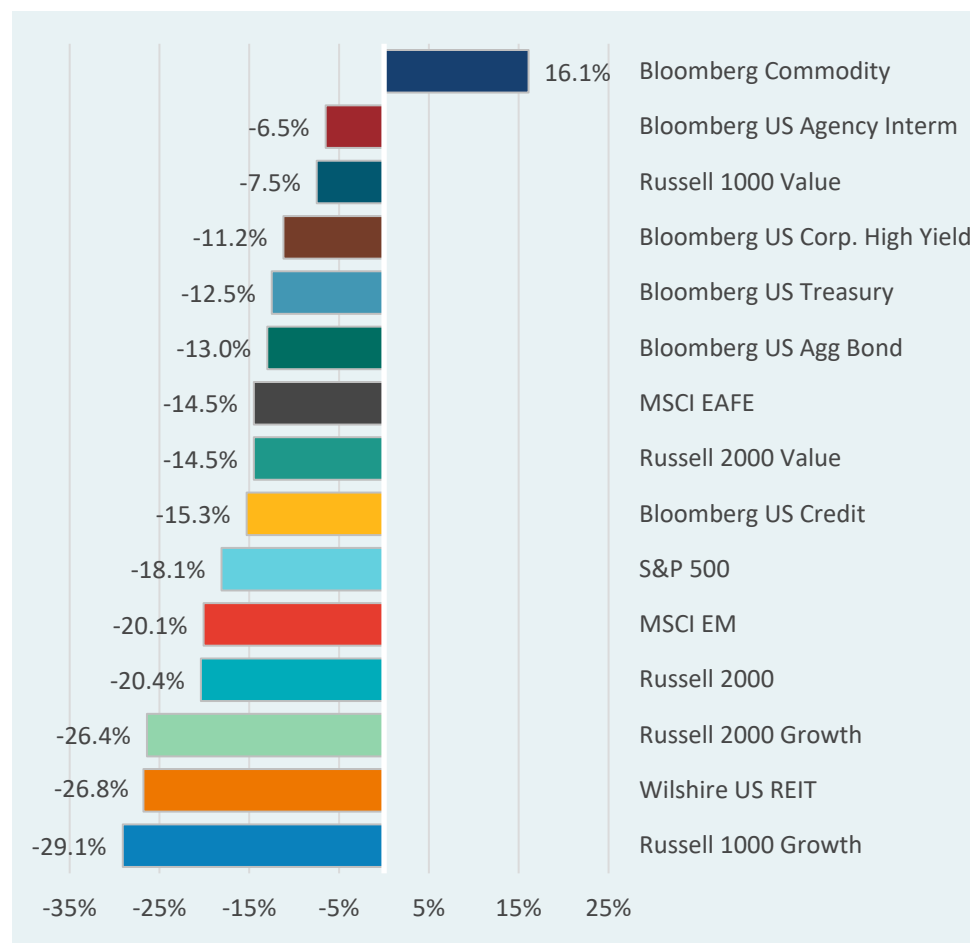
BEST
↑
↓
WORST



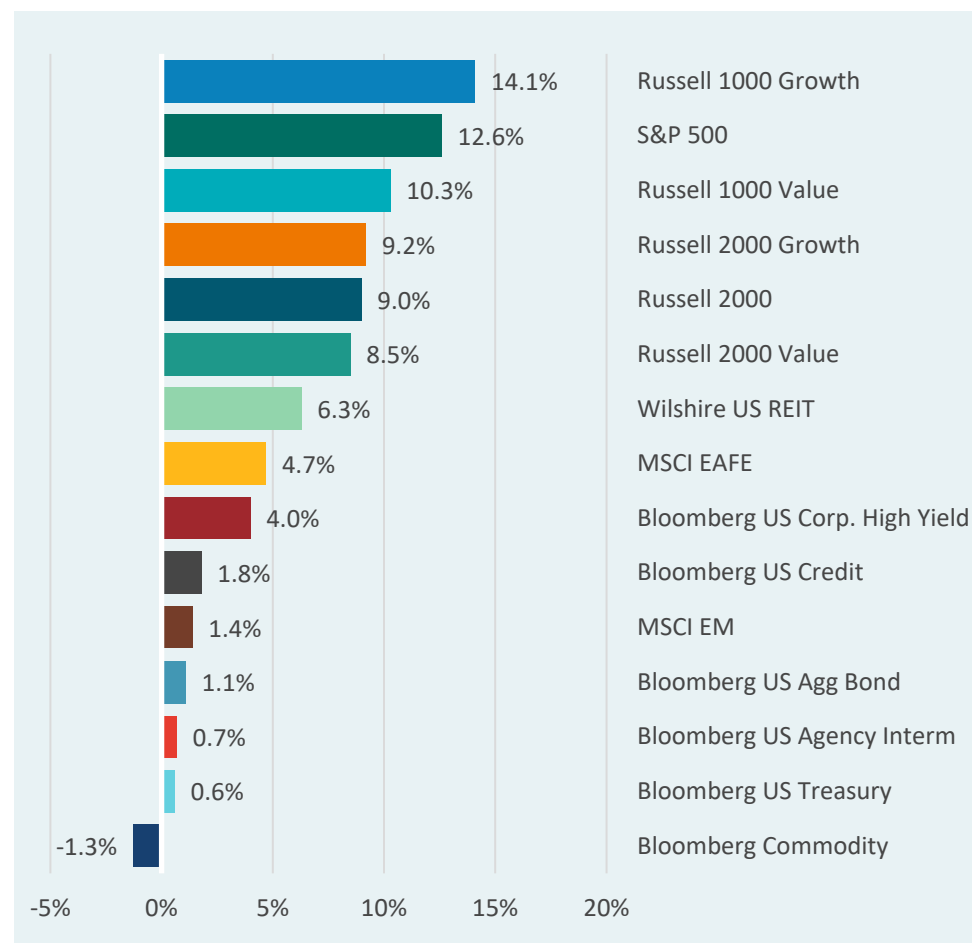
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 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



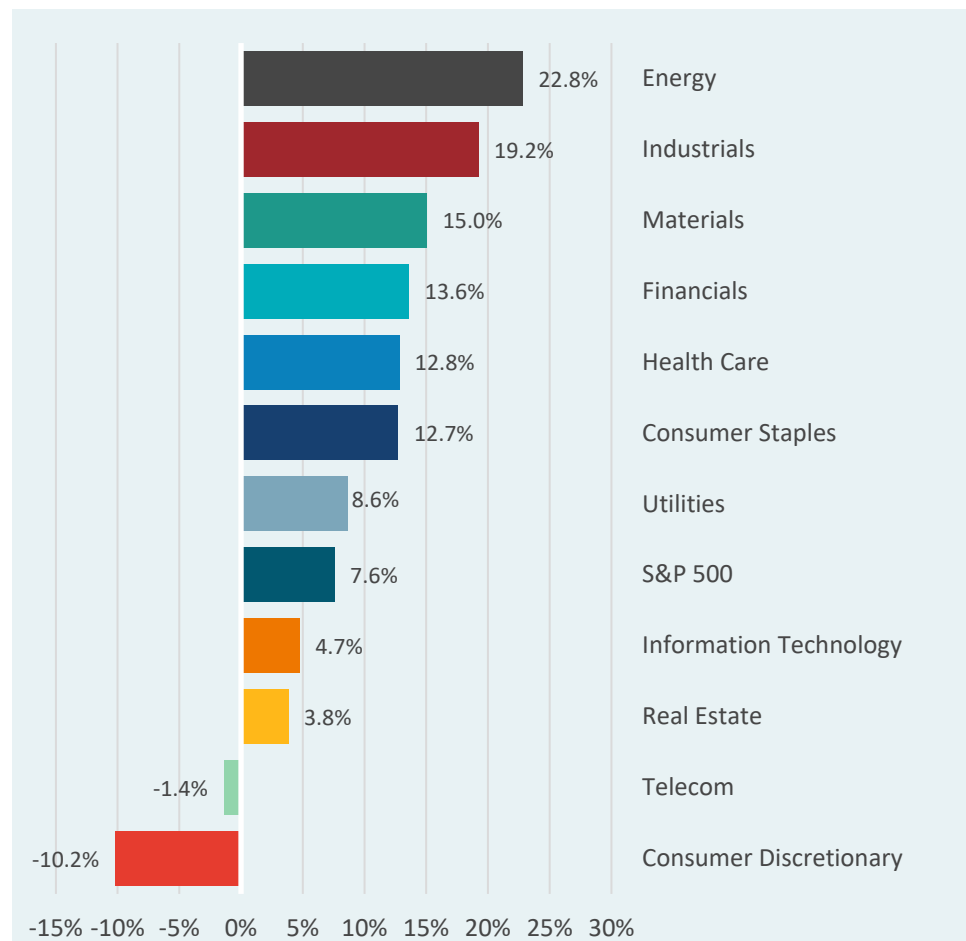
*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 12/31/22

Source: Morningstar, as of 12/31/22

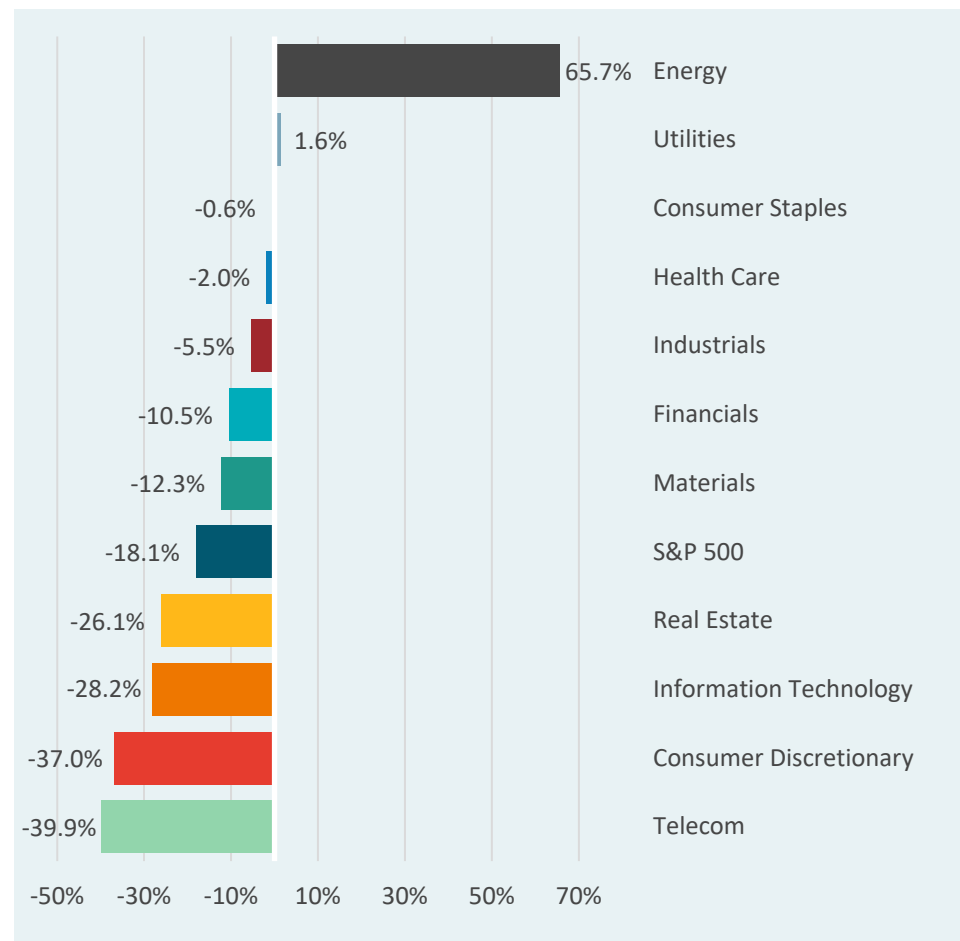
S&P 500 sector returns

QTD



Source: Morningstar, as of 12/31/22

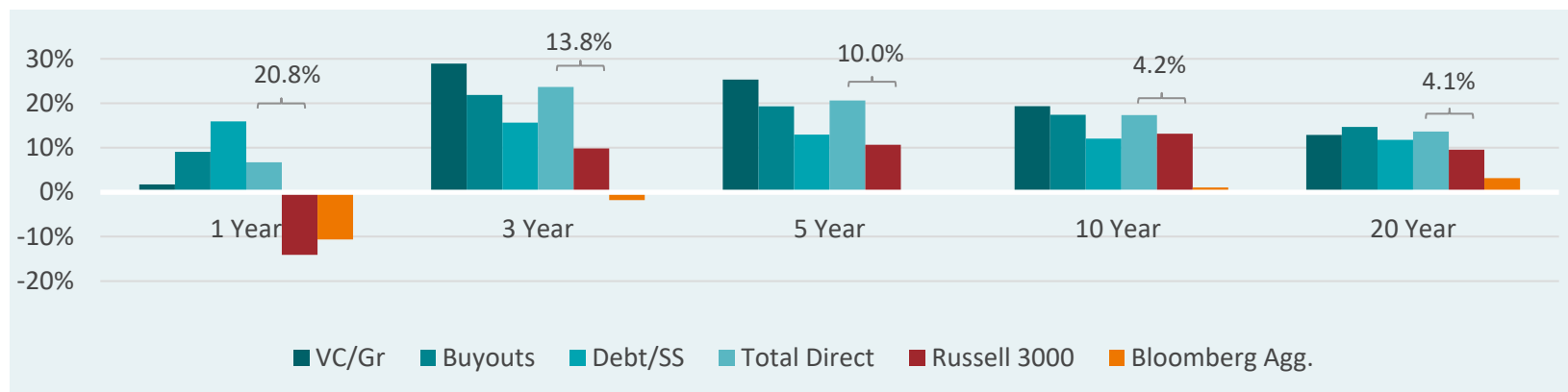
ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/22

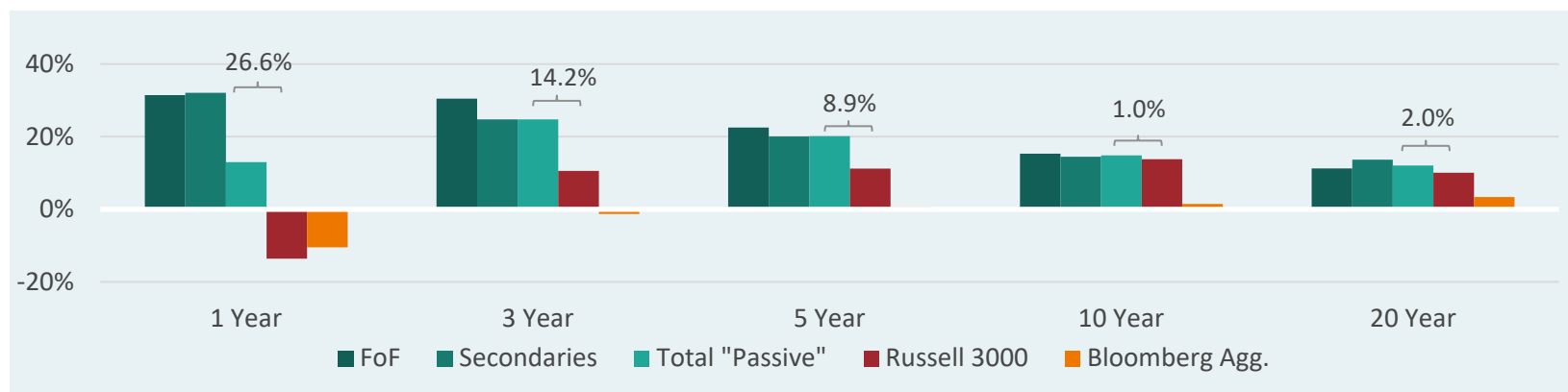
Private equity vs. traditional assets performance

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

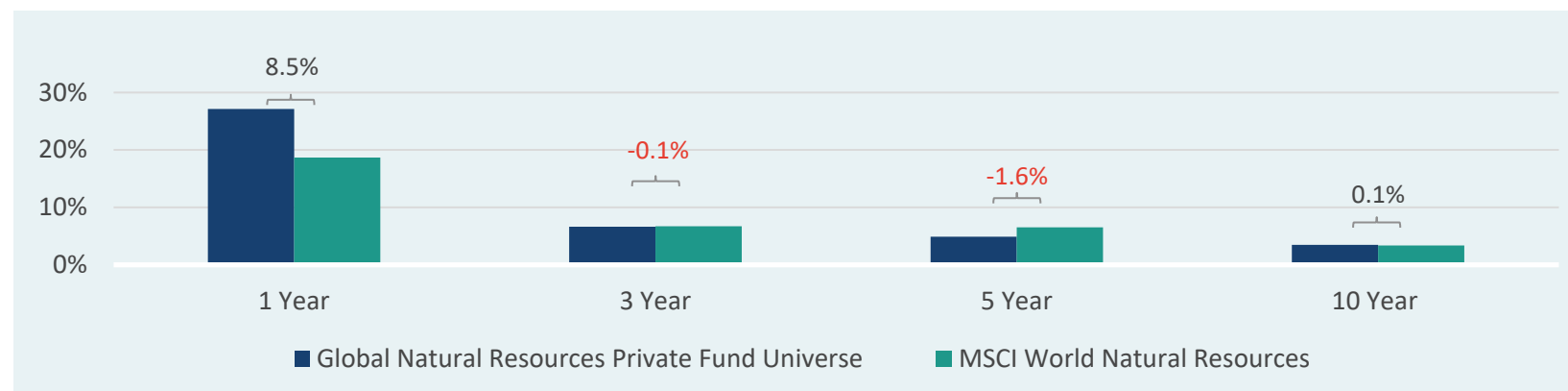


"Passive" strategies outperformed over all periods

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.

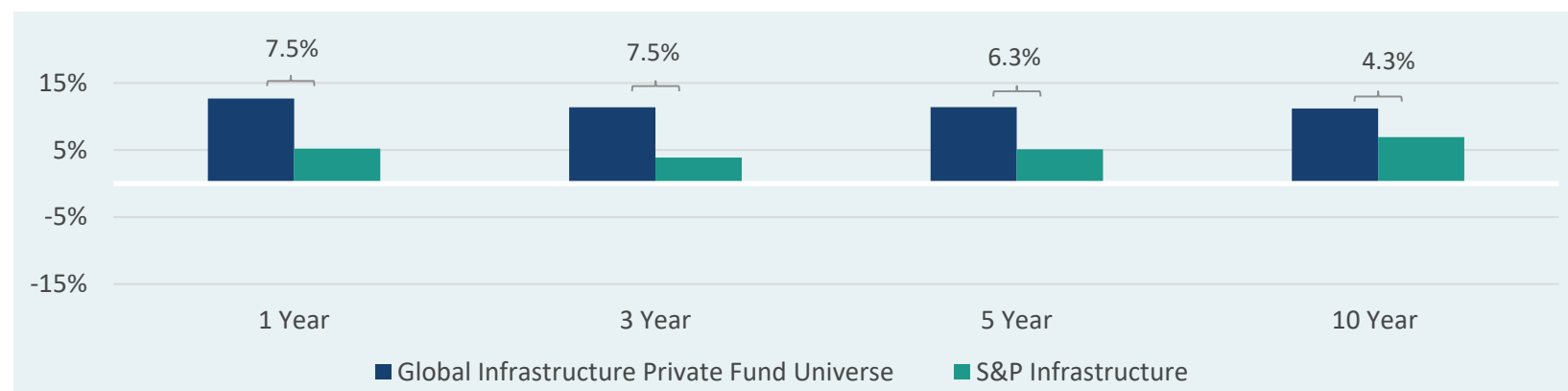
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



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

GLOBAL INFRASTRUCTURE FUNDS

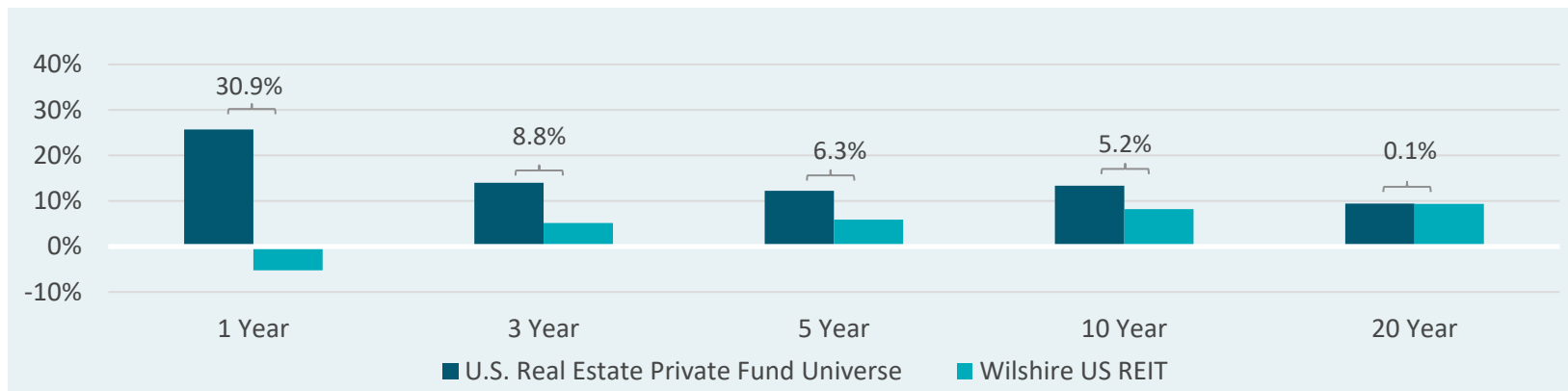


Infra. funds outperformed the S&P Infra. across all periods

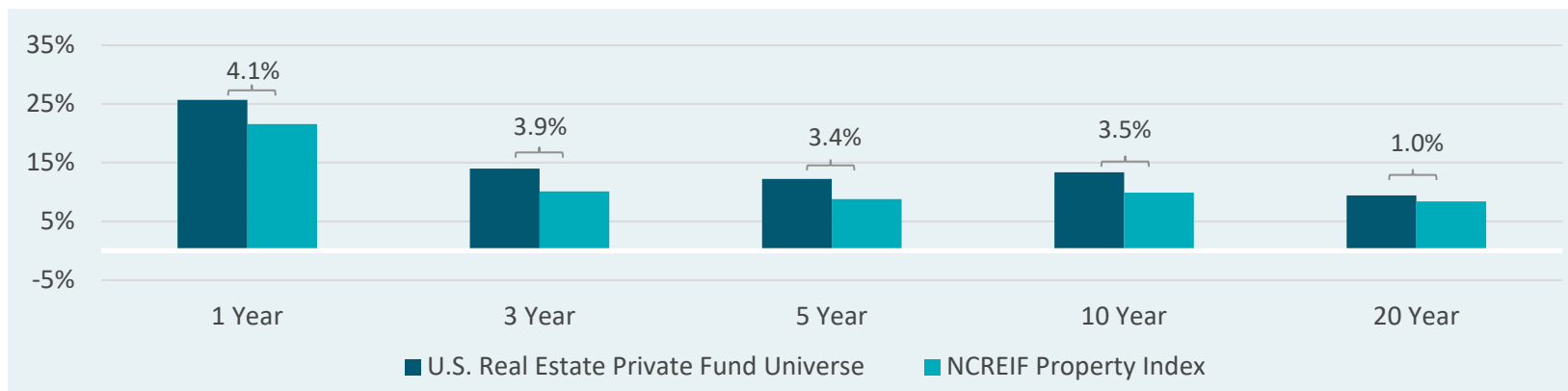
Sources: Refinitiv PME: Global Natural Resources (vintage 1999 and later, inception of MSCI World Natural Resources benchmark) and Global Infrastructure (vintage 2002 and later, inception of S&P Infrastructure benchmark) universes as of June 30, 2022. Public Market Equivalent returns resulted from identical 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 REAL ESTATE FUNDS VS. CORE FUNDS



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 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
Core Index							
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
Style Index							
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
Broad Index							
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
Style Index							
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
Regional Index							
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
Broad Index							
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
Duration							
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
Issuer							
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
Index							
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
Regional Index							
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)
Hedge Funds							
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
Currency (Spot)							
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)

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)

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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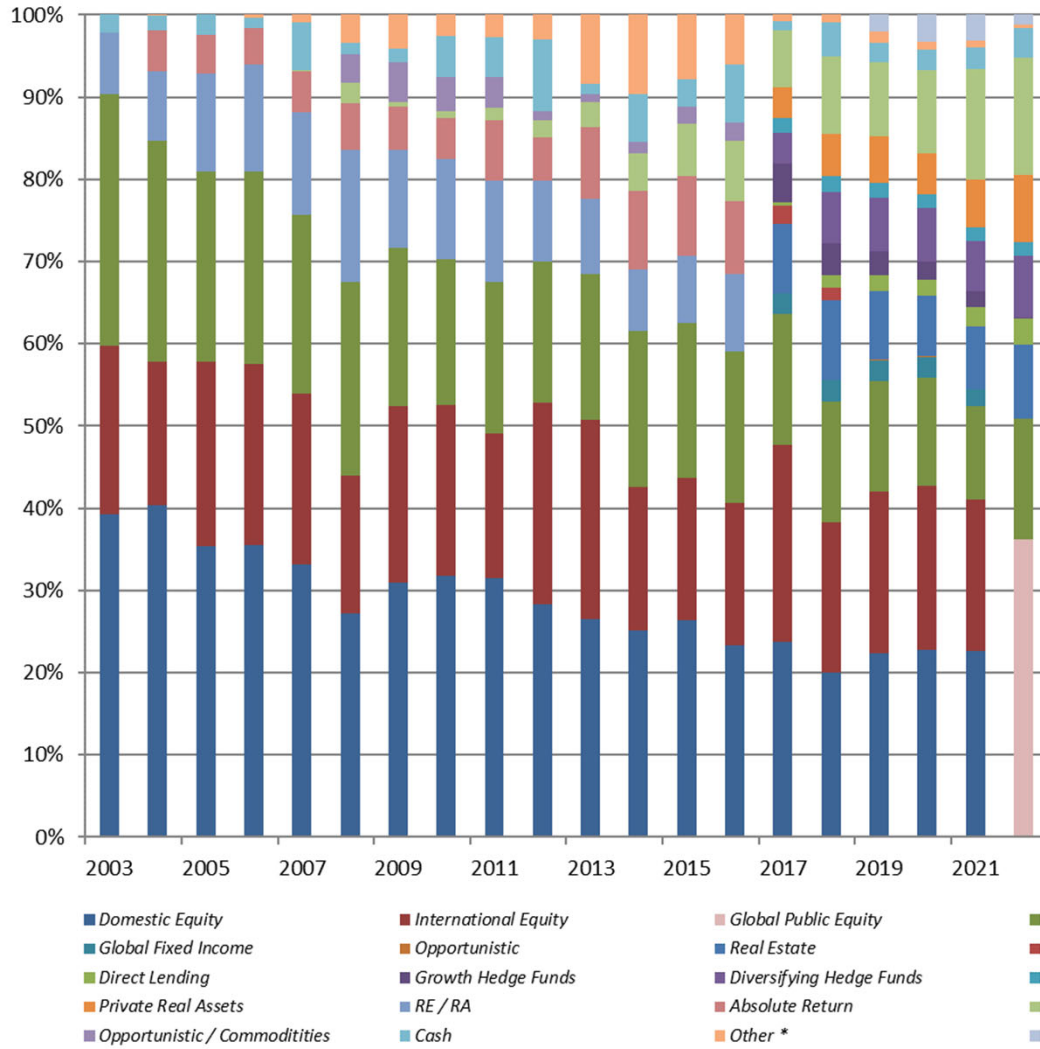
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Total Fund

Actual Yearly and Quarterly Asset Allocation

Period Ending: December 31, 2022



	2003	2004	2005	2006	2007	2008	2009
US Equity	39.2	40.4	35.4	35.5	33.1	27.2	30.9
International Equity	20.6	17.5	22.3	22.0	20.9	16.8	21.5
US Fixed Income	30.6	26.9	23.1	23.3	21.7	23.5	19.3
Real Estate / Real Assets	7.5	8.5	11.9	13.1	12.4	16.1	11.9
Absolute Return	-	4.9	4.8	4.4	5.1	5.6	5.3
Private Equity	-	-	-	-	0.1	2.5	0.5
Opportunistic / Commodities	-	-	-	-	-	3.5	4.8
Cash	2.1	1.8	2.4	1.2	5.8	1.4	1.7
Other *	-	0.1	-	0.4	0.9	3.4	4.1

	2010	2011	2012	2013	2014	2015	2016
US Equity	31.7	31.4	28.4	26.5	25.2	26.4	23.4
International Equity	20.7	17.6	24.5	24.3	17.5	17.3	17.2
US Fixed Income	17.8	18.4	17.1	17.7	18.9	18.7	18.5
Real Estate / Real Assets	12.2	12.4	9.9	9.0	7.6	8.3	9.3
Absolute Return	4.9	7.3	5.2	8.8	9.4	9.7	8.8
Private Equity	0.9	1.6	2.2	3.0	4.6	6.3	7.4
Opportunistic / Commodities	4.1	3.7	1.1	1.0	1.4	2.1	2.2
Cash	5.0	4.9	8.8	1.2	5.9	3.2	7.1
Other *	2.6	2.7	2.9	8.4	9.6	7.9	6.0

	2017	2018	2019	2020	2021	2022
Domestic Equity	23.8	20.0	22.4	22.8	22.6	-
International Equity	23.9	18.3	19.6	19.9	18.4	-
Global Public Equity	-	-	-	-	-	36.2
US Fixed Income	16.0	14.6	13.6	13.2	11.4	14.8
Global Fixed Income	2.4	2.6	2.5	2.5	2.1	-
Public Credit	1.8	1.9	1.8	1.7	1.7	1.7
Real Estate / Real Assets	-	-	-	-	-	-
Real Estate	8.4	9.7	8.3	7.3	7.6	9.0
Real Assets	2.1	1.4	-	-	-	-
Private Real Assets	3.7	5.2	5.7	4.9	5.8	8.2
Liquid Real Return	-	-	2.0	3.3	3.2	1.2
Absolute Return	-	-	-	-	-	-
Growth Hedge Funds	4.6	3.9	3.0	2.3	2.0	0.1
Diversifying Hedge Funds	3.8	6.2	6.4	6.4	6.0	7.5
Private Equity	6.9	9.3	9.0	10.1	13.4	14.2
Direct Lending	0.5	1.5	2.0	1.9	2.3	3.2
Opportunistic / Commodities	-	-	-	-	-	-
Opportunistic	0.1	0.1	0.1	0.0	0.0	-
Cash	1.1	4.3	2.4	2.5	2.6	3.7
Other *	0.8	0.9	1.4	1.0	0.8	0.4

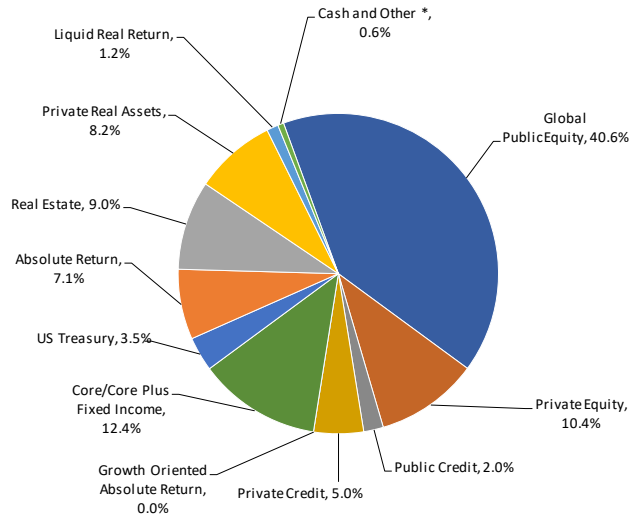
* Allocations without overlay.

* Other includes SSGA Overlay and closing accounts. Prior to Q2 2017 SSGA Real Assets is also included

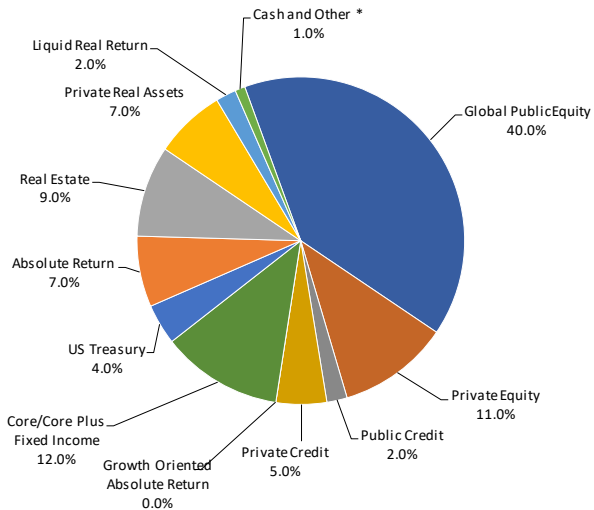
Total Fund Asset Allocation Analysis

Period Ending: December 31, 2022

Current w/Overlay



Target



ASSET ALLOCATION	MARKET VALUE W/OVERLAY	W/ OVERLAY	W/O OVERLAY
Global PublicEquity	4,837,989,317	40.6%	36.2%
Private Equity	1,238,559,385	10.4%	14.2%
Public Credit	237,677,498	2.0%	1.7%
Private Credit	598,263,084	5.0%	3.2%
Growth Oriented Absolute Return	43,658	0.0%	0.1%
Core/Core Plus Fixed Income	1,477,064,375	12.4%	11.3%
US Treasury	412,627,673	3.5%	3.5%
Absolute Return	843,721,800	7.1%	7.5%
Real Estate	1,074,813,135	9.0%	9.0%
Private Real Assets	978,629,573	8.2%	8.2%
Liquid Real Return	139,480,713	1.2%	1.2%
Cash and Other *	70,284,909	0.6%	4.1%
TOTAL	11,909,155,119	100.0%	100.0%

ASSET ALLOCATION	ACTUAL	TARGET	DIFF
Global PublicEquity	40.6%	40.0%	0.6%
Private Equity	10.4%	11.0%	-0.6%
Public Credit	2.0%	2.0%	0.0%
Private Credit	5.0%	5.0%	0.0%
Growth Oriented Absolute Return	0.0%	0.0%	0.0%
Core/Core Plus Fixed Income	12.4%	12.0%	0.4%
US Treasury	3.5%	4.0%	-0.5%
Absolute Return	7.1%	7.0%	0.1%
Real Estate	9.0%	9.0%	0.0%
Private Real Assets	8.2%	7.0%	1.2%
Liquid Real Return	1.2%	2.0%	-0.8%
Cash and Other *	0.6%	1.0%	-0.4%

* Other includes closing accounts (Heitman and SSgA Overlay).

- The Total Plan returned 4.2% net in the fourth quarter of 2022 and ranked in the bottom quartile among other public funds greater than \$1 billion. The Plan matched its policy index over this time period. Longer-term, the three-year return of 6.2% net ranks in the top quartile of the large public plan peer group which returned 5.0%. The five-year return of 6.7% net also ranks in the top quartile of the large public plan peer group.
- Fourth quarter results (net) were enhanced by the following factors:
 - The Growth Asset Category was up 6.6% during the quarter, led by public equities which returned 10.5% as inflation fears started to ease and consumer spending held steady.
- Fourth quarter results (net) were hindered by the following factors:
 - Diversifying Fixed Income was up during the quarter with core plus up 1.9% and U.S. Treasuries up 0.5%. A slight pull back in interest rates and a narrowing of credit spreads helped generate positive returns.
 - Diversifying Absolute Return was up slightly in the quarter at 0.3%, slightly underperforming Diversifying Fixed Income.
 - The Real Return category declined -0.1% for the quarter, led by private real estate which declined -2.5%. This decline was partially offset by private real assets and liquid real return, which returned 1.9% and 5.6%, respectively. Sustained higher interest rates and economic uncertainty are creating concerns for real estate valuations, which outperformed most other assets in the past few quarters.

Total Fund Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date ⁺
Total Fund - Gross*	11,909,155,119	100.0	4.2	92	0.1	89	-8.6	21	6.4	18	7.0	12	8.0	25	8.3	Jun-86
Total Fund - Net			4.2	92	0.1	91	-8.8	23	6.2	21	6.7	18	7.7	52	8.1	
<i>Policy Index¹</i>			4.1	92	0.2	85	-8.1	19	5.2	45	5.6	60	7.1	67	8.2	Jun-86
<i>InvMetrics Public DB > \$1B Gross Median</i>			5.2		1.1		-10.8		5.0		5.9		7.7		7.9	Jun-86
Total Fund ex Overlay - Gross	11,864,064,737	99.6	3.9	94	-0.1	93	-8.3	19	6.3	19	6.9	15	7.9	31	8.2	Jun-86
Total Fund ex Overlay - Net			3.8	94	-0.2	94	-8.5	20	6.1	23	6.7	19	7.6	53	8.0	
<i>Policy Index</i>			4.1	92	0.2	85	-8.1	19	5.2	45	5.6	60	7.1	67	8.2	Jun-86
Growth Asset Category - Gross	6,583,746,621	55.3	6.6	--	0.1	--	-14.2	--	7.4	--	8.2	--	--	--	9.9	Mar-17
Growth Asset Category - Net			6.6	--	0.0	--	-14.5	--	7.1	--	7.9	--	--	--	9.6	
<i>Growth Custom¹</i>			7.1	--	0.8	--	-13.1	--	6.3	--	6.9	--	--	--	8.4	Mar-17
Global Public Equity - Gross	4,305,321,775	36.2	10.6	--	2.9	--	-19.0	--	3.8	--	5.5	--	8.7	--	8.0	Jun-11
Global Public Equity - Net			10.5	--	2.7	--	-19.4	--	3.3	--	5.0	--	8.3	--	7.7	
<i>MSCI ACWI IMI¹</i>			10.0	--	2.8	--	-18.0	--	4.2	--	5.3	--	8.0	--	7.2	Jun-11
Domestic Equity - Gross	2,107,747,294	17.7	7.7	62	2.9	60	-19.6	81	7.1	47	8.7	37	11.9	40	10.0	Jun-86
Domestic Equity - Net			7.6	64	2.8	65	-19.8	83	6.8	62	8.5	56	11.6	58	9.8	
<i>Russell 3000¹</i>			7.2	80	2.4	81	-19.2	71	7.1	47	8.8	34	12.1	30	10.1	Jun-86
<i>InvMetrics All DB US Eq Gross Median</i>			8.0		3.1		-18.1		7.0		8.5		11.8		9.8	Jun-86
Large Cap - Gross	1,904,787,767	16.0	7.7	--	2.8	--	-19.1	--	7.4	--	9.0	--	12.3	--	6.8	Mar-98
Large Cap - Net			7.6	--	2.7	--	-19.3	--	7.1	--	8.8	--	12.0	--	6.6	
<i>Russell 1000</i>			7.2	--	2.3	--	-19.1	--	7.3	--	9.1	--	12.4	--	7.3	Mar-98

*Total Fund and asset class composites are ranked against InvestorForce universes. Managers are ranked against eVest manager universes. Net Returns are ranked against gross universe. Ranking of 1 is a top ranking and ranking of 100 is a bottom rating.

**Total Fund ex Overlay returns from 2/1/2006-12/31/2010 were calculated using the overlay impact provided by SSgA.

+ Since inception date denotes last day of the month.

1. See Policy Index and Benchmark History

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Large Cap - Index - Gross	1,056,072,159	8.9	7.3	--	2.3	--	-19.0	--	7.4	--	9.1	--	12.4	--	10.9	Sep-08
Large Cap - Index - Net			7.2	--	2.3	--	-19.0	--	7.4	--	9.1	--	12.3	--	10.9	
<i>Russell 1000</i>			7.2	--	2.3	--	-19.1	--	7.3	--	9.1	--	12.4	--	10.9	Sep-08
AB - Gross	1,056,072,159	8.9	7.3	65	2.3	34	-19.0	61	7.4	72	9.1	65	12.4	74	10.0	Apr-89
AB - Net			7.2	66	2.3	37	-19.0	61	7.4	74	9.1	72	12.3	75	10.0	
<i>Russell 1000¹</i>			7.2	68	2.3	56	-19.1	69	7.3	77	9.1	70	12.4	72	--	Apr-89
<i>eV US Passive Large Cap Equity Gross Median</i>			7.5		2.3		-18.2		7.7		9.4		12.5		10.1	Apr-89
Large Cap - Enhanced - Gross	291,465,170	2.4	8.6	--	2.7	--	-16.3	--	8.5	--	--	--	--	--	8.6	Jul-18
Large Cap - Enhanced - Net			8.6	--	2.6	--	-16.5	--	8.3	--	--	--	--	--	8.4	
<i>Russell 1000</i>			7.2	--	2.3	--	-19.1	--	7.3	--	9.1	--	12.4	--	8.9	Jul-18
AQR US Enhanced Equity - Gross	291,465,170	2.4	8.6	18	2.7	47	-16.3	27	8.5	18	--	--	--	--	8.6	Jul-18
AQR US Enhanced Equity - Net			8.6	20	2.6	50	-16.5	29	8.3	24	--	--	--	--	8.4	
<i>Russell 1000</i>			7.2	62	2.3	66	-19.1	75	7.3	52	9.1	46	12.4	60	8.9	Jul-18
<i>eV US Enh Equity Gross Median</i>			7.5		2.6		-17.9		7.5		8.9		12.5		8.7	Jul-18
Large Cap (130/30) - Gross	292,392,508	2.5	7.6	--	4.7	--	-16.9	--	9.2	--	9.6	--	13.3	--	11.7	Sep-08
Large Cap (130/30) - Net			7.5	--	4.4	--	-17.3	--	8.7	--	9.0	--	12.6	--	11.1	
<i>Russell 1000</i>			7.2	--	2.3	--	-19.1	--	7.3	--	9.1	--	12.4	--	10.9	Sep-08
JP Morgan 130/30 - Gross	150,920,376	1.3	8.5	54	5.7	24	-17.6	79	11.1	15	11.0	11	14.1	17	12.0	Jul-08
JP Morgan 130/30 - Net			8.4	55	5.2	37	-18.2	89	10.4	28	10.3	23	13.3	44	11.2	
<i>Russell 1000</i>			7.2	74	2.3	90	-19.1	91	7.3	61	9.1	34	12.4	84	10.1	Jul-08
<i>eV Extended US Equity Gross Median</i>			8.8		4.3		-12.8		8.2		8.5		13.1		11.2	Jul-08
DE Shaw Broad Mkt Core Alpha Ext - Gross	141,472,132	1.2	6.7	81	3.7	66	-16.1	71	7.2	63	--	--	--	--	10.3	Jan-19
DE Shaw Broad Mkt Core Alpha Ext - Net			6.7	81	3.6	68	-16.3	72	6.8	67	--	--	--	--	9.9	
<i>Russell 1000</i>			7.2	74	2.3	90	-19.1	91	7.3	61	9.1	34	12.4	84	10.9	Jan-19
<i>eV Extended US Equity Gross Median</i>			8.8		4.3		-12.8		8.2		8.5		13.1		10.9	Jan-19

1. See Policy Index and Benchmark History.

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Large Cap Active - Gross	264,857,929	2.2	8.2	--	2.7	--	-24.6	--	4.2	--	6.8	--	11.1	--	9.9	Sep-08
Large Cap Active - Net			8.0	--	2.4	--	-25.2	--	3.5	--	6.0	--	10.3	--	9.3	
<i>Russell 1000¹</i>			7.2	--	2.3	--	-19.1	--	7.3	--	8.2	--	11.1	--	9.5	Sep-08
Eagle Capital - Gross	264,837,646	2.2	8.2	59	2.7	61	-24.6	98	4.2	96	7.5	84	12.0	70	12.0	Feb-12
Eagle Capital - Net			8.0	62	2.4	67	-25.2	98	3.5	97	6.7	94	11.2	85	11.2	
<i>Russell 1000</i>			7.2	75	2.3	69	-19.1	78	7.3	65	8.2	73	11.1	86	11.1	Feb-12
<i>eV US Large Cap Core Equity Gross Median</i>			8.6		3.4		-16.0		8.0		9.4		12.5		12.1	Feb-12
Small Cap - Gross	202,959,527	1.7	7.6	--	4.0	--	-23.6	--	4.2	--	6.5	--	10.4	--	11.3	Dec-90
Small Cap - Net			7.5	--	3.7	--	-24.2	--	3.5	--	5.8	--	9.7	--	10.6	
<i>Russell 2000</i>			6.2	--	3.9	--	-20.4	--	3.1	--	4.1	--	9.0	--	9.9	Dec-90
Small Cap - Growth - Gross	90,033,503	0.8	3.3	--	1.8	--	-36.7	--	2.8	--	8.3	--	11.6	--	10.7	Sep-08
Small Cap - Growth - Net			3.3	--	1.7	--	-37.2	--	2.1	--	7.7	--	11.0	--	10.0	
<i>Russell 2000 Growth</i>			4.1	--	4.4	--	-26.4	--	0.6	--	3.5	--	9.2	--	8.9	Sep-08
Weatherbie - Gross	90,033,503	0.8	3.3	61	1.8	68	-36.7	87	2.8	79	8.3	52	13.5	17	11.9	Dec-02
Weatherbie - Net			3.3	63	1.7	68	-37.2	91	2.1	88	7.6	63	12.7	35	11.1	
<i>Russell 2000 Growth</i>			4.1	55	4.4	37	-26.4	42	0.6	94	3.5	95	9.2	96	9.5	Dec-02
<i>eV US Small Cap Growth Equity Gross Median</i>			4.4		3.4		-27.3		5.3		8.5		12.0		11.9	Dec-02
Small Cap - Value - Gross	112,926,023	0.9	11.4	--	5.8	--	-8.1	--	3.4	--	3.2	--	8.4	--	8.2	Sep-08
Small Cap - Value - Net			11.1	--	5.4	--	-8.9	--	2.8	--	2.6	--	7.6	--	7.4	
<i>Russell 2000 Value</i>			8.4	--	3.4	--	-14.5	--	4.7	--	4.1	--	8.5	--	7.6	Sep-08
Snyder Capital Management - Gross	112,926,023	0.9	11.4	46	5.8	48	-8.1	27	--	--	--	--	--	--	3.0	Jan-21
Snyder Capital Management - Net			11.1	49	5.4	53	-8.9	31	--	--	--	--	--	--	2.3	
<i>Russell 2000 Value</i>			8.4	83	3.4	78	-14.5	78	4.7	81	4.1	83	8.5	88	2.2	Jan-21
<i>eV US Small Cap Value Equity Gross Median</i>			11.1		5.5		-11.0		7.4		5.7		10.2		7.0	Jan-21

1. See Policy Index and Benchmark History.

Total Fund Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
International Equity - Gross	1,907,595,142	16.0	14.5	60	3.1	58	-18.3	73	0.1	68	1.8	33	4.9	37	6.0	Dec-87
International Equity - Net			14.5	63	2.9	65	-18.7	77	-0.5	81	1.2	48	4.4	57	5.7	
<i>MSCI ACWI ex US¹</i>			14.4	63	3.2	56	-15.6	26	0.5	54	1.4	45	4.3	67	5.8	Dec-87
<i>InvMetrics All DB ex-US Eq Gross Median</i>			14.7		3.2		-16.7		0.6		1.2		4.6		6.4	Dec-87
International - Developed - Gross	1,549,982,555	13.0	16.0	28	5.1	12	-16.9	57	1.2	38	2.7	35	5.9	45	4.5	Mar-98
International - Developed - Net			15.9	29	4.9	15	-17.4	67	0.5	44	2.0	43	5.4	55	4.0	
<i>MSCI World ex US Gross</i>			16.3	26	5.7	5	-13.8	11	1.8	24	2.3	41	5.1	62	4.6	Mar-98
<i>InvMetrics All DB Dev Mkt ex-US Eq Gross Median</i>			14.4		3.2		-16.6		0.1		1.0		5.6		5.2	Mar-98
Large Cap - Gross	1,366,932,616	11.5	16.0	64	5.1	60	-15.3	52	1.7	58	3.1	32	6.0	35	4.8	Dec-04
Large Cap - Net			15.9	65	4.9	63	-15.8	55	1.0	69	2.4	50	5.5	49	4.3	
<i>MSCI World ex US Gross</i>			16.3	60	5.7	45	-13.8	40	1.8	55	2.3	52	5.1	63	4.8	Dec-04
<i>eV EAFE Large Cap Equity Gross Median</i>			16.7		5.5		-15.0		1.9		2.3		5.4		5.2	Dec-04
Lazard - Gross	313,226,883	2.6	14.8	44	3.7	56	-15.7	36	0.0	74	1.7	60	5.6	54	6.7	Jun-12
Lazard - Net			14.7	48	3.4	60	-16.1	39	-0.4	79	1.4	66	5.3	65	6.4	
<i>MSCI World ex US Gross¹</i>			16.3	25	5.7	23	-14.4	29	1.0	60	1.6	61	4.4	83	5.5	Jun-12
<i>eV All ACWI ex-US Equity Gross Median</i>			14.6		4.0		-18.1		1.6		2.2		5.8		6.8	Jun-12
Walter Scott & Partners Limited - Gross	546,349,795	4.6	14.3	74	4.7	49	-22.2	56	1.8	56	4.8	32	--	--	7.5	Mar-17
Walter Scott & Partners Limited - Net			14.2	74	4.6	51	-22.9	58	0.9	72	3.8	41	--	--	6.6	
<i>MSCI World ex USA Growth GR USD</i>			14.3	74	5.1	40	-22.4	57	1.0	71	3.0	64	5.8	85	5.7	Mar-17
<i>eV EAFE Large Cap Growth Gross Median</i>			15.3		4.6		-21.0		2.0		3.3		6.4		6.4	Mar-17
LSV - Gross	507,355,939	4.3	18.8	51	6.3	54	-5.9	35	2.7	42	2.1	40	6.1	11	4.6	Dec-04
LSV - Net			18.7	54	6.1	55	-6.3	38	2.3	50	1.7	51	5.6	22	4.1	
<i>MSCI World ex US Value Gross</i>			18.2	64	6.3	54	-5.0	27	1.8	58	1.2	57	4.2	72	4.1	Dec-04
<i>eV EAFE Large Cap Value Gross Median</i>			18.8		6.6		-7.6		2.3		1.7		4.9		4.6	Dec-04

1. See Policy Index and Benchmark History.

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Small Cap - Gross	183,049,939	1.5	15.8	66	5.3	42	-27.5	87	-2.3	85	-0.1	65	5.2	95	7.1	Sep-08
Small Cap - Net			15.7	68	5.0	45	-28.1	88	-3.1	89	-1.0	78	4.4	96	6.2	
<i>MSCI World ex US Small Cap GD</i>			15.3	75	4.5	55	-20.2	51	0.3	53	0.9	54	6.2	83	7.0	Sep-08
<i>eV EAFE Small Cap Equity Gross Median</i>			16.4		4.9		-20.0		0.5		1.1		7.3		8.1	Sep-08
William Blair Dev Small Cap - Gross	90,205,793	0.8	13.8	61	6.8	17	-32.7	75	-1.7	81	-0.1	87	5.7	82	7.4	Sep-08
William Blair Dev Small Cap - Net			13.5	62	6.4	20	-33.3	79	-2.6	90	-1.1	96	4.8	99	6.4	
<i>MSCI World ex US Small Cap GD</i>			15.3	37	4.5	53	-20.2	42	0.3	64	0.9	65	6.2	60	7.0	Sep-08
<i>eV ACWI ex-US Small Cap Equity Gross Median</i>			14.6		4.6		-23.4		1.6		1.8		7.4		9.2	Sep-08
Total Return Swap - Gross	92,844,146	0.8	--	--	--	--	--	--	--	--	--	--	--	--	7.1	Oct-22
Total Return Swap - Net			--	--	--	--	--	--	--	--	--	--	--	--	7.1	
International - Emerging - Gross	357,608,563	3.0	9.4	--	-4.0	--	-23.3	--	-4.1	--	-1.4	--	1.3	--	5.2	Jan-00
International - Emerging - Net			9.4	--	-4.1	--	-23.5	--	-4.4	--	-1.6	--	1.1	--	4.8	
<i>MSCI Emerging Markets Gross</i>			9.8	--	-2.7	--	-19.7	--	-2.3	--	-1.0	--	1.8	--	5.8	Jan-00
Baillie Gifford Emg All Cap - Gross	186,163,759	1.6	11.6	31	-2.1	64	-26.4	87	-4.6	91	-1.1	69	--	--	6.4	Mar-16
Baillie Gifford Emg All Cap - Net			11.6	31	-2.1	64	-26.4	87	-4.6	91	-1.1	69	--	--	6.4	
<i>MSCI Emerging Markets Gross</i>			9.8	59	-2.7	72	-19.7	52	-2.3	67	-1.0	69	1.8	82	4.9	Mar-16
<i>eV Emg Mkts Equity Gross Median</i>			10.4		-0.6		-19.4		-1.2		-0.1		2.9		5.7	Mar-16
Interim IShares EM Core ETF - Gross	171,444,804	1.4	--	--	--	--	--	--	--	--	--	--	--	--	11.8	Oct-22
Interim IShares EM Core ETF - Net			--	--	--	--	--	--	--	--	--	--	--	--	11.8	
<i>MSCI Emerging Markets Gross</i>			9.8	59	-2.7	72	-19.7	52	-2.3	67	-1.0	69	1.8	82	13.3	Oct-22
<i>eV Emg Mkts Equity Gross Median</i>			10.4		-0.6		-19.4		-1.2		-0.1		2.9		12.0	Oct-22

Total Fund Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Global/Unconstrained Equity - Gross	289,979,339	2.4	7.6	97	-4.3	99	--	--	--	--	--	--	--	--	-13.0	Apr-22
Global/Unconstrained Equity - Net			7.6	97	-4.3	99	--	--	--	--	--	--	--	--	-13.0	
<i>MSCI ACWI IMI</i>			10.0	86	2.8	44	-18.0	73	4.2	49	5.3	51	8.0	76	-13.4	Apr-22
<i>InvMetrics All DB Gbl Eq Net Median</i>			10.2		2.5		-16.4		4.1		5.3		9.0		-11.4	Apr-22
Artisan Partners Global Opp - Gross	110,317,111	0.9	5.5	--	--	--	--	--	--	--	--	--	--	--	-5.6	Aug-22
Artisan Partners Global Opp - Net			5.5	--	--	--	--	--	--	--	--	--	--	--	-5.6	
<i>MSCI ACWI IMI</i>			10.0	--	2.8	--	-18.0	--	4.4	--	5.5	--	8.5	--	-0.6	Aug-22
Nikko Asset Management - Gross	117,600,000	1.0	13.2	--	--	--	--	--	--	--	--	--	--	--	3.3	Aug-22
Nikko Asset Management - Net			13.2	--	--	--	--	--	--	--	--	--	--	--	3.3	
<i>MSCI ACWI IMI</i>			10.0	--	2.8	--	-18.0	--	4.4	--	5.5	--	8.5	--	-0.6	Aug-22
Third Point Offshore Fund - Gross*	62,062,228	0.5	1.6	--	-1.5	--	-20.8	--	6.3	--	4.7	--	7.6	--	8.3	Apr-12
Third Point Offshore Fund - Net			1.6	--	-1.5	--	-20.8	--	6.3	--	4.7	--	7.6	--	8.3	
<i>MSCI ACWI IMI</i>			10.0	--	2.8	--	-18.0	--	4.4	--	5.5	--	8.5	--	8.5	Apr-12
Private Equity - Gross**+++	1,693,297,766	14.2	-0.5	75	-5.8	86	-3.8	75	21.7	31	21.7	3	17.7	5	7.3	Feb-08
Private Equity - Net			-0.5	75	-5.8	86	-3.8	75	21.7	31	21.7	3	17.7	5	7.4	
<i>Cambridge Associates All PE 1 Qtr Lag¹</i>			-1.7	81	-6.6	91	-2.6	72	17.9	51	15.6	45	15.8	12	11.7	Feb-08
<i>Russell 3000 +3% 1Q Lag</i>			-3.3	94	-19.0	99	-14.6	93	10.8	78	11.7	61	14.4	29	11.3	Feb-08
<i>InvMetrics All DB Private Eq Net Median</i>			0.1		-0.9		0.1		18.2		15.2		10.3		7.5	Feb-08
Abbott VI - Gross	28,963,126	0.2	-1.9	--	-11.9	--	-13.1	--	15.2	--	15.6	--	15.1	--	7.2	Jul-08
Abbott VI - Net			-1.9	--	-11.9	--	-13.1	--	15.2	--	15.6	--	15.1	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	12.5	Jul-08
Accel-KKR V - Gross	29,184,043	0.2	1.0	--	1.7	--	13.6	--	28.5	--	27.5	--	--	--	24.8	Jan-17
Accel-KKR V - Net			1.0	--	1.7	--	13.6	--	28.5	--	27.5	--	--	--	24.8	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.1	Jan-17

1. See Policy Index and Benchmark History.

* Account converted to Global/Unconstrained Equity from Growth Oriented Absolute Return in April 2022. Reflects linked historical returns up to March 2022.

** Private Equity Composite includes the historical returns of Summit Credit and Athyrium Opportunities up to 4/1/17.

+++ Returns are one-quarter lag.

+ Returns for private markets are shown on a time-weighted basis and may differ substantially from dollar-weighted returns.

Total Fund Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Accel-KKR VI - Gross	14,673,547	0.1	0.0	--	0.0	--	8.3	--	--	--	--	--	--	--	-30.2	Feb-21
Accel-KKR VI - Net			0.0	--	0.0	--	8.3	--	--	--	--	--	--	--	-30.2	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	22.0	Feb-21
Accel-KKR Growth Partners II - Gross	11,671,729	0.1	-1.3	--	-4.1	--	0.8	--	42.8	--	39.0	--	--	--	18.4	Feb-15
Accel-KKR Growth Partners II - Net			-1.3	--	-4.1	--	0.8	--	42.8	--	39.0	--	--	--	18.4	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	13.7	Feb-15
Accel-KKR Growth Partners III - Gross	31,889,160	0.3	-1.1	--	-3.2	--	-1.6	--	14.2	--	--	--	--	--	3.0	Jul-19
Accel-KKR Growth Partners III - Net			-1.1	--	-3.2	--	-1.6	--	14.2	--	--	--	--	--	3.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	17.0	Jul-19
Accel-KKR Growth Partners IV - Gross	6,220,347	0.1	-4.6	--	-31.5	--	--	--	--	--	--	--	--	--	-31.5	Jun-22
Accel-KKR Growth Partners IV - Net			-4.6	--	-31.5	--	--	--	--	--	--	--	--	--	-31.5	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	-6.6	Jun-22
Atalaya Special Opp VI - Gross	2,681,358	0.0	3.2	--	0.7	--	-6.0	--	15.8	--	14.6	--	--	--	12.0	Apr-16
Atalaya Special Opp VI - Net			3.2	--	0.7	--	-6.0	--	15.8	--	14.6	--	--	--	12.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.5	Apr-16
Atalaya Special Opp V - Gross*	963,903	0.0	14.9	--	6.8	--	2.9	--	6.9	--	6.0	--	--	--	6.0	Jul-13
Atalaya Special Opp V - Net			14.9	--	6.8	--	2.9	--	6.9	--	6.0	--	--	--	6.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.2	Jul-13
Canvas Ventures III - Gross	13,447,112	0.1	10.4	--	9.5	--	36.9	--	--	--	--	--	--	--	6.9	Nov-20
Canvas Ventures III - Net			10.4	--	9.5	--	36.9	--	--	--	--	--	--	--	6.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	24.5	Nov-20
Cortec Group Fund VII - Gross	36,039,468	0.3	-0.4	--	5.7	--	10.4	--	26.4	--	--	--	--	--	26.4	Dec-19
Cortec Group Fund VII - Net			-0.4	--	5.7	--	10.4	--	26.4	--	--	--	--	--	26.4	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	17.9	Dec-19
CRV Select Fund I - Gross	19,612,126	0.2	1.4	--	2.0	--	0.6	--	--	--	--	--	--	--	7.6	May-21
CRV Select Fund I - Net			1.4	--	2.0	--	0.6	--	--	--	--	--	--	--	7.6	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.4	May-21

* Account converted to Global/Unconstrained Equity from Growth Oriented Absolute Return in April 2022. Reflects linked historical returns up to March 2022.

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
CRV Select Fund II - Gross	5,168,185	0.0	8.1	--	3.4	--	--	--	--	--	--	--	--	--	-5.0	Mar-22
CRV Select Fund II - Net			8.1	--	3.4	--	--	--	--	--	--	--	--	--	-5.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	-7.5	Mar-22
CRV XVIII LP - Gross	18,849,263	0.2	-1.5	--	0.0	--	14.7	--	--	--	--	--	--	--	8.8	Feb-21
CRV XVIII LP - Net			-1.5	--	0.0	--	14.7	--	--	--	--	--	--	--	8.8	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	22.0	Feb-21
CRV XIX LP - Gross	2,569,339	0.0	-6.3	--	-13.6	--	--	--	--	--	--	--	--	--	-13.6	Jun-22
CRV XIX LP - Net			-6.3	--	-13.6	--	--	--	--	--	--	--	--	--	-13.6	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	-6.6	Jun-22
Davidson Kempner LT Dist Opp IV - Gross	40,871,725	0.3	10.4	--	11.5	--	35.8	--	19.1	--	--	--	--	--	16.0	Mar-18
Davidson Kempner LT Dist Opp IV - Net			10.4	--	11.5	--	35.8	--	19.1	--	--	--	--	--	16.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.5	Mar-18
Davidson Kempner LT Dist Opp V - Gross	29,662,724	0.2	-0.8	--	-3.0	--	2.7	--	--	--	--	--	--	--	16.7	May-20
Davidson Kempner LT Dist Opp V - Net			-0.8	--	-3.0	--	2.7	--	--	--	--	--	--	--	16.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	19.1	May-20
Digital Colony Partners II - Gross	31,988,808	0.3	1.7	--	2.5	--	5.9	--	--	--	--	--	--	--	5.8	May-21
Digital Colony Partners II - Net			1.7	--	2.5	--	5.9	--	--	--	--	--	--	--	5.8	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.4	May-21
Dyal Capital Partners II - Gross	35,343,928	0.3	8.1	--	16.7	--	16.2	--	28.3	--	10.6	--	--	--	3.7	Dec-14
Dyal Capital Partners II - Net			8.1	--	16.7	--	16.2	--	28.3	--	10.6	--	--	--	3.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	14.1	Dec-14
Dyal Capital Partners III - Gross	27,048,184	0.2	7.0	--	13.1	--	19.0	--	32.0	--	26.1	--	--	--	24.7	Dec-16
Dyal Capital Partners III - Net			7.0	--	13.1	--	19.0	--	32.0	--	26.1	--	--	--	24.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.6	Dec-16
Garrison Investment Group - Gross	2,367,500	0.0	104.7	--	108.1	--	192.3	--	44.9	--	27.6	--	13.0	--	11.9	May-12
Garrison Investment Group - Net			104.7	--	108.1	--	192.3	--	44.9	--	27.6	--	13.0	--	11.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.7	May-12

Total Fund Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Golden Capital Co Invest - Gross	7,440,000	0.1	--	--	--	--	--	--	--	--	--	--	--	--	0.0	Oct-22
Golden Capital Co Invest - Net			--	--	--	--	--	--	--	--	--	--	--	--	0.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	-1.7	Oct-22
Gridiron Capital Fund IV - Gross	49,715,750	0.4	3.5	--	27.6	--	37.4	--	--	--	--	--	--	--	39.2	May-20
Gridiron Capital Fund IV - Net			3.5	--	27.6	--	37.4	--	--	--	--	--	--	--	39.2	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	19.1	May-20
Harbourvest VIII - Gross	6,014,477	0.1	-2.3	--	-9.7	--	-8.1	--	15.1	--	13.7	--	14.3	--	10.8	Dec-07
Harbourvest VIII - Net			-2.3	--	-9.7	--	-8.1	--	15.1	--	13.7	--	14.3	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	11.4	Dec-07
Harbourvest Intl VI - Gross	20,909,406	0.2	-2.5	--	-10.5	--	-18.2	--	10.5	--	11.6	--	12.6	--	-2.9	Mar-09
Harbourvest Intl VI - Net			-2.5	--	-10.5	--	-18.2	--	10.5	--	11.6	--	12.6	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.4	Mar-09
H.I.G. Bayside Loan III - Gross	3,972,636	0.0	-7.4	--	0.8	--	-10.2	--	-3.1	--	1.6	--	--	--	3.6	Jan-13
H.I.G. Bayside Loan III - Net			-7.4	--	0.8	--	-10.2	--	-3.1	--	1.6	--	--	--	3.6	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.1	Jan-13
H.I.G. Capital V - Gross	11,761,013	0.1	7.2	--	2.5	--	14.7	--	22.4	--	25.3	--	--	--	14.5	Jul-13
H.I.G. Capital V - Net			7.2	--	2.5	--	14.7	--	22.4	--	25.3	--	--	--	14.5	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.2	Jul-13
H.I.G. Europe Capital II - Gross*	9,178,177	0.1	-1.8	--	-10.8	--	-14.0	--	11.3	--	12.4	--	--	--	--	Jan-14
H.I.G. Europe Capital II - Net			-1.8	--	-10.8	--	-14.0	--	11.3	--	12.4	--	--	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	14.5	Jan-14
Khosla IV - Gross	16,193,053	0.1	-0.6	--	-20.3	--	-31.4	--	27.9	--	27.4	--	23.5	--	20.3	Jul-11
Khosla IV - Net			-0.6	--	-20.3	--	-31.4	--	27.9	--	27.4	--	23.5	--	20.3	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	14.9	Jul-11
Khosla V - Gross	40,699,193	0.3	1.4	--	-13.0	--	-15.3	--	38.2	--	25.3	--	--	--	19.0	Nov-14
Khosla V - Net			1.4	--	-13.0	--	-15.3	--	38.2	--	25.3	--	--	--	19.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	13.7	Nov-14

* Unable to calculate a since inception return due to system limitations when HIG Europe Capital II experienced 2 quarters of negative fund values in 2016 .

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Khosla VI - Gross	60,262,513	0.5	10.7	--	12.2	--	38.7	--	23.7	--	--	--	--	--	14.7	Aug-18
Khosla VI - Net			10.7	--	12.2	--	38.7	--	23.7	--	--	--	--	--	14.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.4	Aug-18
Khosla VII - Gross	13,072,812	0.1	0.7	--	0.3	--	14.1	--	--	--	--	--	--	--	-3.4	Jan-21
Khosla VII - Net			0.7	--	0.3	--	14.1	--	--	--	--	--	--	--	-3.4	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	21.0	Jan-21
Linden Capital III - Gross	40,237,041	0.3	-1.6	--	-9.5	--	-20.4	--	24.8	--	29.7	--	--	--	23.6	Jun-16
Linden Capital III - Net			-1.6	--	-9.5	--	-20.4	--	24.8	--	29.7	--	--	--	23.6	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.7	Jun-16
Linden Capital Partners IV - Gross	45,807,281	0.4	2.1	--	14.0	--	31.3	--	19.3	--	--	--	--	--	16.4	Sep-18
Linden Capital Partners IV - Net			2.1	--	14.0	--	31.3	--	19.3	--	--	--	--	--	16.4	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.3	Sep-18
Linden Capital Partners V - Gross	7,281,368	0.1	-3.2	--	--	--	--	--	--	--	--	--	--	--	-3.2	Jul-22
Linden Capital Partners V - Net			-3.2	--	--	--	--	--	--	--	--	--	--	--	-3.2	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	-6.6	Jul-22
Marlin Equity IV - Gross	10,230,191	0.1	-11.1	--	-9.8	--	-8.8	--	6.7	--	9.1	--	--	--	5.4	Nov-13
Marlin Equity IV - Net			-11.1	--	-9.8	--	-8.8	--	6.7	--	9.1	--	--	--	5.4	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.2	Nov-13
Marlin Equity V - Gross	29,688,071	0.2	-0.2	--	1.7	--	17.7	--	25.0	--	--	--	--	--	20.6	Feb-18
Marlin Equity V - Net			-0.2	--	1.7	--	17.7	--	25.0	--	--	--	--	--	20.6	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.2	Feb-18
Marlin Heritage - Gross	4,842,955	0.0	-4.7	--	-20.8	--	-16.7	--	9.6	--	17.3	--	--	--	19.3	Jul-14
Marlin Heritage - Net			-4.7	--	-20.8	--	-16.7	--	9.6	--	17.3	--	--	--	19.3	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	14.2	Jul-14
Marlin Heritage II - Gross	14,126,406	0.1	1.0	--	2.0	--	19.1	--	20.8	--	9.2	--	--	--	8.9	Oct-17
Marlin Heritage II - Net			1.0	--	2.0	--	19.1	--	20.8	--	9.2	--	--	--	8.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.9	Oct-17

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Marlin Heritage III - Gross	610,966	0.0	--	--	--	--	--	--	--	--	--	--	--	--	--	Dec-22
Marlin Heritage III - Net			--	--	--	--	--	--	--	--	--	--	--	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	--	Dec-22
Marlin Heritage Europe - Gross	18,576,193	0.2	-2.2	--	-22.5	--	-4.3	--	29.2	--	23.8	--	--	--	22.2	Aug-17
Marlin Heritage Europe - Net			-2.2	--	-22.5	--	-4.3	--	29.2	--	23.8	--	--	--	22.2	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.0	Aug-17
New Enterprise 14 - Gross	40,370,582	0.3	1.2	--	-27.0	--	-30.8	--	15.6	--	16.4	--	15.7	--	14.3	May-12
New Enterprise 14 - Net			1.2	--	-27.0	--	-30.8	--	15.6	--	16.4	--	15.7	--	14.3	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.7	May-12
New Enterprise 15 - Gross	34,981,960	0.3	-4.5	--	-22.5	--	-39.0	--	0.4	--	8.7	--	--	--	10.1	Apr-15
New Enterprise 15 - Net			-4.5	--	-22.5	--	-39.0	--	0.4	--	8.7	--	--	--	10.1	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	14.4	Apr-15
New Enterprise 16 - Gross	39,352,168	0.3	-1.7	--	-14.6	--	-17.8	--	10.9	--	10.6	--	--	--	7.5	May-17
New Enterprise 16 - Net			-1.7	--	-14.6	--	-17.8	--	10.9	--	10.6	--	--	--	7.5	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.9	May-17
New Enterprise 17 - Gross	20,269,790	0.2	-0.4	--	-15.4	--	-13.6	--	15.9	--	--	--	--	--	12.7	Jul-19
New Enterprise 17 - Net			-0.4	--	-15.4	--	-13.6	--	15.9	--	--	--	--	--	12.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	17.0	Jul-19
Oaktree Power Opp Fund VI - Gross	6,582,445	0.1	-2.9	--	-9.6	--	--	--	--	--	--	--	--	--	-9.6	May-22
Oaktree Power Opp Fund VI - Net			-2.9	--	-9.6	--	--	--	--	--	--	--	--	--	-9.6	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	-7.5	May-22
OrbiMed Private Investments VIII - Gross	8,188,709	0.1	5.6	--	4.3	--	5.0	--	--	--	--	--	--	--	-0.8	Dec-20
OrbiMed Private Investments VIII - Net			5.6	--	4.3	--	5.0	--	--	--	--	--	--	--	-0.8	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	20.0	Dec-20
Orbimed Private Investments IX - Gross	1,250,000	0.0	--	--	--	--	--	--	--	--	--	--	--	--	0.0	Nov-22
Orbimed Private Investments IX - Net			--	--	--	--	--	--	--	--	--	--	--	--	0.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	-1.7	Nov-22

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Private Equity X - Gross	18,756,385	0.2	-2.9	--	-6.2	--	-12.8	--	8.3	--	9.2	--	11.4	--	0.8	Jun-08
Private Equity X - Net			-2.9	--	-6.2	--	-12.8	--	8.3	--	9.2	--	11.4	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	12.8	Jun-08
RCP Multi-Fund Feeder - Gross	73,565,777	0.6	3.2	--	7.8	--	21.7	--	19.5	--	--	--	--	--	11.1	Nov-18
RCP Multi-Fund Feeder - Net			3.2	--	7.8	--	21.7	--	19.5	--	--	--	--	--	11.1	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.0	Nov-18
RRJ Capital Master Fund II - Gross	6,624,302	0.1	-10.9	--	-26.1	--	-26.3	--	3.4	--	6.6	--	--	--	9.3	May-13
RRJ Capital Master Fund II - Net			-10.9	--	-26.1	--	-26.3	--	3.4	--	6.6	--	--	--	9.3	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.6	May-13
RRJ Capital Master Fund III - Gross	8,972,358	0.1	3.6	--	-8.0	--	-40.6	--	-15.1	--	-3.8	--	--	--	-10.8	Dec-15
RRJ Capital Master Fund III - Net			3.6	--	-8.0	--	-40.6	--	-15.1	--	-3.8	--	--	--	-10.8	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.9	Dec-15
Shamrock Capital II - Gross	13,923,054	0.1	2.7	--	7.5	--	8.0	--	--	--	--	--	--	--	-83.1	Jul-20
Shamrock Capital II - Net			2.7	--	7.5	--	8.0	--	--	--	--	--	--	--	-83.1	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	25.2	Jul-20
Shamrock Capital III - Gross	157,746	0.0	--	--	--	--	--	--	--	--	--	--	--	--	--	Dec-22
Shamrock Capital III - Net			--	--	--	--	--	--	--	--	--	--	--	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	--	Dec-22
Shamrock Capital Growth Fund V - Gross	8,711,802	0.1	-2.4	--	-11.2	--	-33.9	--	--	--	--	--	--	--	-43.6	Jul-21
Shamrock Capital Growth Fund V - Net			-2.4	--	-11.2	--	-33.9	--	--	--	--	--	--	--	-43.6	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	10.2	Jul-21
Sixth Street Opp Partners V - Gross	6,073,532	0.1	-2.2	--	-7.9	--	--	--	--	--	--	--	--	--	-7.9	Jun-22
Sixth Street Opp Partners V - Net			-2.2	--	-7.9	--	--	--	--	--	--	--	--	--	-7.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	-6.6	Jun-22
Spectrum Equity VII - Gross	40,339,567	0.3	-6.5	--	-23.7	--	-46.6	--	18.4	--	38.7	--	--	--	20.3	Dec-14
Spectrum Equity VII - Net			-6.5	--	-23.7	--	-46.6	--	18.4	--	38.7	--	--	--	20.3	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	14.1	Dec-14

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Spectrum Equity Fund VIII - Gross	24,527,905	0.2	-5.7	--	-16.1	--	-21.1	--	39.5	--	--	--	--	--	-15.7	Jun-18
Spectrum Equity Fund VIII - Net			-5.7	--	-16.1	--	-21.1	--	39.5	--	--	--	--	--	-15.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.7	Jun-18
Spectrum Equity Fund IX - Gross	19,078,509	0.2	-3.0	--	-5.2	--	-5.6	--	--	--	--	--	--	--	-11.6	Sep-20
Spectrum Equity Fund IX - Net			-3.0	--	-5.2	--	-5.6	--	--	--	--	--	--	--	-11.6	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	22.5	Sep-20
Strategic Value Spl Fund V - Gross	12,447,499	0.1	-5.1	--	-4.5	--	8.1	--	--	--	--	--	--	--	3.9	Aug-21
Strategic Value Spl Fund V - Net			-5.1	--	-4.5	--	8.1	--	--	--	--	--	--	--	3.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	10.8	Aug-21
Summit EUR Growth Equity II - Gross	36,966,710	0.3	9.1	--	3.3	--	68.7	--	54.2	--	--	--	--	--	78.9	Jan-18
Summit EUR Growth Equity II - Net			9.1	--	3.3	--	68.7	--	54.2	--	--	--	--	--	78.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.9	Jan-18
Summit EUR Growth Equity III - Gross	10,700,679	0.1	-9.6	--	-12.2	--	-10.9	--	--	--	--	--	--	--	-16.9	Jan-21
Summit EUR Growth Equity III - Net			-9.6	--	-12.2	--	-10.9	--	--	--	--	--	--	--	-16.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	21.0	Jan-21
Summit Ventures III - Gross	3,176,783	0.0	5.1	--	-11.1	--	13.8	--	15.6	--	14.3	--	14.3	--	13.0	Jun-12
Summit Ventures III - Net			5.1	--	-11.1	--	13.8	--	15.6	--	14.3	--	14.3	--	13.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.5	Jun-12
Summit Ventures IV - Gross	52,897,474	0.4	5.0	--	-5.2	--	19.3	--	43.1	--	39.0	--	--	--	39.1	May-16
Summit Ventures IV - Net			5.0	--	-5.2	--	19.3	--	43.1	--	39.0	--	--	--	39.1	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.7	May-16
Summit Ventures V - Gross	10,070,557	0.1	-1.9	--	-6.4	--	-2.6	--	--	--	--	--	--	--	-7.1	May-21
Summit Ventures V - Net			-1.9	--	-6.4	--	-2.6	--	--	--	--	--	--	--	-7.1	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.4	May-21

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Thoma Bravo XI - Gross	33,787,502	0.3	-8.6	--	-17.2	--	-35.0	--	17.2	--	30.8	--	--	--	20.6	Jun-14
Thoma Bravo XI - Net			-8.6	--	-17.2	--	-35.0	--	17.2	--	30.8	--	--	--	20.6	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	14.1	Jun-14
Thoma Bravo XII - Gross	29,723,279	0.2	3.0	--	2.1	--	7.4	--	17.6	--	18.1	--	--	--	11.2	May-16
Thoma Bravo XII - Net			3.0	--	2.1	--	7.4	--	17.6	--	18.1	--	--	--	11.2	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.7	May-16
Thoma Bravo XIII - Gross	62,970,253	0.5	-4.1	--	-5.8	--	-5.1	--	37.3	--	--	--	--	--	27.4	Feb-19
Thoma Bravo XIII - Net			-4.1	--	-5.8	--	-5.1	--	37.3	--	--	--	--	--	27.4	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.0	Feb-19
Threshold Ventures III - Gross	27,784,596	0.2	-6.1	--	-9.5	--	16.5	--	20.9	--	--	--	--	--	19.7	Oct-19
Threshold Ventures III - Net			-6.1	--	-9.5	--	16.5	--	20.9	--	--	--	--	--	19.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	17.1	Oct-19
Threshold Ventures IV - Gross	1,215,128	0.0	-87.0	--	-87.0	--	--	--	--	--	--	--	--	--	-87.0	Jun-22
Threshold Ventures IV - Net			-87.0	--	-87.0	--	--	--	--	--	--	--	--	--	-87.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	-6.6	Jun-22
TPG Opp Partners III - Gross	9,861,055	0.1	-0.4	--	-9.7	--	-8.8	--	8.9	--	8.7	--	--	--	-7.1	Mar-14
TPG Opp Partners III - Net			-0.4	--	-9.7	--	-8.8	--	8.9	--	8.7	--	--	--	-7.1	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	14.0	Mar-14
Trinity Ventures XI - Gross	47,675,680	0.4	-9.9	--	-18.2	--	-17.2	--	8.3	--	15.7	--	--	--	8.0	Apr-13
Trinity Ventures XI - Net			-9.9	--	-18.2	--	-17.2	--	8.3	--	15.7	--	--	--	8.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.6	Apr-13
Trinity Ventures XII - Gross	60,579,719	0.5	-10.0	--	-18.4	--	-24.6	--	26.1	--	32.4	--	--	--	23.8	Apr-16
Trinity Ventures XII - Net			-10.0	--	-18.4	--	-24.6	--	26.1	--	32.4	--	--	--	23.8	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.5	Apr-16

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
TSG7 A LP - Gross ⁺	19,153,485	0.2	-9.3	--	-26.4	--	-20.2	--	27.0	--	22.1	--	--	--	--	Mar-16
TSG7 A LP - Net			-9.3	--	-26.4	--	-20.2	--	27.0	--	22.1	--	--	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.4	Mar-16
TSG7 B LP - Gross	4,484,994	0.0	2.1	--	-9.2	--	-22.9	--	21.6	--	8.6	--	--	--	-3.9	Jan-16
TSG7 B LP - Net			2.1	--	-9.2	--	-22.9	--	21.6	--	8.6	--	--	--	-3.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	14.8	Jan-16
TSG8 LP - Gross ⁺⁺	30,306,656	0.3	-3.0	--	-4.9	--	-4.0	--	--	--	--	--	--	--	--	Jan-19
TSG8 LP - Net			-3.0	--	-4.9	--	-4.0	--	--	--	--	--	--	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.6	Jan-19
TSSP Opportunities Partners IV - Gross	31,154,972	0.3	1.6	--	-0.4	--	6.1	--	12.9	--	--	--	--	--	12.2	Jan-19
TSSP Opportunities Partners IV - Net			1.6	--	-0.4	--	6.1	--	12.9	--	--	--	--	--	12.2	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.6	Jan-19
Waterland V - Gross	1,277,523	0.0	-8.4	--	18.7	--	51.8	--	30.1	--	28.1	--	43.5	--	25.1	Aug-11
Waterland V - Net			-8.4	--	18.7	--	51.8	--	30.1	--	28.1	--	43.5	--	25.1	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	15.1	Aug-11
Waterland VI - Gross	18,306,641	0.2	-12.5	--	-22.0	--	-15.8	--	20.6	--	20.0	--	--	--	5.5	Jul-15
Waterland VI - Net			-12.5	--	-22.0	--	-15.8	--	20.6	--	20.0	--	--	--	5.5	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	14.0	Jul-15
Wayzata Opportunities III - Gross	3,827,282	0.0	18.1	--	25.2	--	30.2	--	7.7	--	1.0	--	--	--	-2.1	Feb-13
Wayzata Opportunities III - Net			18.1	--	25.2	--	30.2	--	7.7	--	1.0	--	--	--	-2.1	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	16.1	Feb-13
Wynnchurch Capital Partners V - Gross	13,367,630	0.1	-0.2	--	11.6	--	23.7	--	--	--	--	--	--	--	-5.9	Apr-20
Wynnchurch Capital Partners V - Net			-0.2	--	11.6	--	23.7	--	--	--	--	--	--	--	-5.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-1.7	--	-6.6	--	-2.6	--	17.9	--	15.6	--	15.8	--	18.5	Apr-20

+ Unable to calculate a since inception return due to system limitations when TSG7 A LP experienced 1 quarter of negative fund value in 2016.

++Unable to calculate a year to date, 1-year and since inception return due to system limitations when TSG8 LP experienced several months of negative fund value in 2019 and 2020.

Total Fund Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Public Credit - Gross	199,754,610	1.7	-0.7	--	-2.6	--	-10.5	--	2.1	--	2.9	--	--	--	3.6	Nov-13
Public Credit - Net			-0.7	--	-2.6	--	-10.5	--	2.1	--	2.9	--	--	--	3.6	
<i>Brigade Custom¹</i>			3.2	--	3.5	--	-6.2	--	1.1	--	2.7	--	--	--	3.6	Nov-13
Brigade Capital - Gross	199,754,610	1.7	-0.7	99	-2.6	99	-10.5	71	2.1	16	2.9	41	--	--	3.6	Nov-13
Brigade Capital - Net			-0.7	99	-2.6	99	-10.5	71	2.1	16	2.9	41	--	--	3.6	
<i>Brigade Custom</i>			3.2	85	3.5	69	-6.2	20	1.1	41	2.7	54	--	--	3.6	Nov-13
<i>eV US High Yield Fixed Inc Gross Median</i>			4.1		3.8		-9.5		0.8		2.8		4.3		3.9	Nov-13
Private Credit - Gross^{+ *}	376,622,806	3.2	1.5	--	1.0	--	4.0	--	8.8	--	7.9	--	8.4	--	7.5	Oct-11
Private Credit - Net			1.5	--	1.0	--	4.0	--	8.8	--	7.9	--	8.4	--	7.5	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	5.9	Oct-11
Ares Capital Europe Fund V - Gross	27,515,838	0.2	1.2	--	2.8	--	7.9	--	--	--	--	--	--	--	12.0	Jul-21
Ares Capital Europe Fund V - Net			1.2	--	2.8	--	7.9	--	--	--	--	--	--	--	12.0	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	1.6	Jul-21
Athyrium Opp II - Gross	8,662,406	0.1	-1.2	--	-7.4	--	-11.2	--	4.4	--	6.4	--	--	--	5.7	Jun-15
Athyrium Opp II - Net			-1.2	--	-7.4	--	-11.2	--	4.4	--	6.4	--	--	--	5.7	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	5.4	Jun-15
Athyrium Opp III - Gross	11,074,074	0.1	-3.5	--	-12.7	--	-21.2	--	-2.1	--	0.0	--	--	--	-1.9	May-17
Athyrium Opp III - Net			-3.5	--	-12.7	--	-21.2	--	-2.1	--	0.0	--	--	--	-1.9	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	5.0	May-17
Benefit St Pr Sr Secure Opp - Gross	27,413,977	0.2	0.9	--	0.3	--	3.2	--	5.5	--	--	--	--	--	5.4	Jan-18
Benefit St Pr Sr Secure Opp - Net			0.9	--	0.3	--	3.2	--	5.5	--	--	--	--	--	5.4	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	4.9	Jan-18
Benefit St Pr Sr Secure Opp II - Gross	32,691,080	0.3	2.6	--	3.2	--	8.1	--	8.0	--	--	--	--	--	8.0	Dec-19
Benefit St Pr Sr Secure Opp II - Net			2.6	--	3.2	--	8.1	--	8.0	--	--	--	--	--	8.0	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	4.1	Dec-19

1. See Policy Index and Benchmark History.

+ Private Credit returns are one-quarter lag.

* Returns for private markets are shown on a time-weighted basis and may differ substantially from dollar-weighted returns.

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
IFM US Infrastructure DB FD LP - Gross	38,599,603	0.3	1.6	--	1.8	--	4.4	--	--	--	--	--	--	--	6.5	Mar-21
IFM US Infrastructure DB FD LP - Net			1.6	--	1.8	--	4.4	--	--	--	--	--	--	--	6.5	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	3.1	Mar-21
MCP Private Capital IV - Gross	20,679,553	0.2	0.4	--	-1.5	--	0.4	--	--	--	--	--	--	--	-1.2	Apr-20
MCP Private Capital IV - Net			0.4	--	-1.5	--	0.4	--	--	--	--	--	--	--	-1.2	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	3.5	Apr-20
OrbiMed Royalty & Credit Opp III - Gross	19,527,820	0.2	3.1	--	8.7	--	3.1	--	21.5	--	--	--	--	--	17.8	Sep-19
OrbiMed Royalty & Credit Opp III - Net			3.1	--	8.7	--	3.1	--	21.5	--	--	--	--	--	17.8	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	4.3	Sep-19
Orbimed Royalty & Credit Opp IV - Gross	6,080,442	0.1	2.0	--	--	--	--	--	--	--	--	--	--	--	2.0	Sep-22
Orbimed Royalty & Credit Opp IV - Net			2.0	--	--	--	--	--	--	--	--	--	--	--	2.0	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	1.7	Sep-22
Shamrock Capital Debt Fund I - Gross	1,803,103	0.0	1.5	--	3.0	--	3.2	--	--	--	--	--	--	--	-60.2	Jul-21
Shamrock Capital Debt Fund I - Net			1.5	--	3.0	--	3.2	--	--	--	--	--	--	--	-60.2	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	1.6	Jul-21
Silver Point Specialty Credit Fund II - Gross	30,600,161	0.3	3.3	--	0.6	--	3.7	--	--	--	--	--	--	--	13.5	Jul-20
Silver Point Specialty Credit Fund II - Net			3.3	--	0.6	--	3.7	--	--	--	--	--	--	--	13.5	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	8.2	Jul-20
Summit Credit - Gross	404,262	0.0	0.1	--	0.1	--	0.1	--	3.7	--	3.3	--	6.6	--	5.9	Oct-11
Summit Credit - Net			0.1	--	0.1	--	0.1	--	3.7	--	3.3	--	6.6	--	5.9	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	5.9	Oct-11
Summit Credit II - Gross	11,512,187	0.1	-1.1	--	-2.6	--	6.9	--	4.0	--	5.2	--	--	--	5.7	Nov-14
Summit Credit II - Net			-1.1	--	-2.6	--	6.9	--	4.0	--	5.2	--	--	--	5.7	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	5.3	Nov-14

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Summit Credit III - Gross	22,031,385	0.2	1.7	--	9.3	--	17.5	--	19.1	--	--	--	--	--	16.5	Oct-18
Summit Credit III - Net			1.7	--	9.3	--	17.5	--	19.1	--	--	--	--	--	16.5	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	4.5	Oct-18
Summit Credit IV - Gross	8,654,729	0.1	2.4	--	4.5	--	6.0	--	--	--	--	--	--	--	5.5	Nov-21
Summit Credit IV - Net			2.4	--	4.5	--	6.0	--	--	--	--	--	--	--	5.5	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	0.2	Nov-21
TCP Direct Lending VIII - Gross	109,372,187	0.9	1.6	--	0.0	--	4.1	--	8.8	--	--	--	--	--	7.3	Feb-18
TCP Direct Lending VIII - Net			1.6	--	0.0	--	4.1	--	8.8	--	--	--	--	--	7.3	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			1.7	--	-2.2	--	-0.6	--	4.1	--	5.0	--	5.7	--	4.9	Feb-18
Growth Oriented Absolute Return - Gross⁺⁺ **	8,749,664	0.1	0.5	--	0.8	--	-10.1	--	4.1	--	3.7	--	5.2	--	4.7	Aug-04
Growth Oriented Absolute Return - Net			0.5	--	0.8	--	-10.1	--	4.1	--	3.7	--	5.2	--	4.7	
<i>HFRI FoF Composite Index + 1%¹</i>			1.9	--	1.8	--	-4.4	--	4.7	--	4.0	--	4.8	--	5.8	Aug-04
Grosvenor SCARF Growth - Gross	8,749,664	0.1	0.5	84	0.8	69	-6.2	56	1.7	77	2.1	80	4.2	80	4.6	Nov-11
Grosvenor SCARF Growth - Net			0.5	84	0.8	69	-6.2	56	1.7	77	2.1	80	4.2	80	4.6	
<i>HFRI FoF Composite Index + 1%</i>			1.9	49	1.8	57	-4.4	54	4.7	57	4.0	63	4.8	63	4.9	Nov-11
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>			1.9		2.4		-3.6		5.3		4.9		5.3		5.4	Nov-11
Diversifying Asset Category - Gross	2,745,397,201	23.1	1.2	--	-1.9	--	-8.4	--	-0.1	--	1.3	--	--	--	1.7	Mar-17
Diversifying Asset Category - Net			1.1	--	-1.9	--	-8.5	--	-0.2	--	1.1	--	--	--	1.6	
<i>Diversifying Custom¹</i>			1.5	--	-1.5	--	-9.0	--	-0.7	--	1.0	--	--	--	1.4	Mar-17
Core/Core Plus Fixed Income - Gross	1,346,567,589	11.3	1.9	--	-3.0	--	-13.4	--	-2.0	--	0.8	--	1.7	--	2.2	Jun-11
Core/Core Plus Fixed Income - Net			1.9	--	-3.1	--	-13.6	--	-2.2	--	0.6	--	1.6	--	2.0	
<i>Bloomberg US Aggregate TR</i>			1.9	--	-3.0	--	-13.0	--	-2.7	--	0.0	--	1.1	--	1.7	Jun-11
Prudential - Gross	335,272,875	2.8	1.9	43	-2.5	34	-14.6	97	-2.5	83	0.6	44	--	--	2.1	Jul-14
Prudential - Net			1.9	49	-2.6	42	-14.8	97	-2.7	93	0.4	68	--	--	2.0	
<i>Bloomberg US Aggregate TR</i>			1.9	49	-3.0	75	-13.0	66	-2.7	94	0.0	96	1.1	97	1.1	Jul-14
<i>eV US Core Fixed Inc Gross Median</i>			1.9		-2.7		-12.8		-2.1		0.5		1.5		1.5	Jul-14

1. See Policy Index and Benchmark History.

++Absolute Return managers are ranked in the eVest net of fee universe.

** Composite reflects net returns from Cliffwater up to March 2017.

Total Fund Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
TCW MetWest Fixed - Gross	336,149,327	2.8	2.0	38	-3.2	88	-13.0	66	-1.8	27	0.8	20	1.8	22	4.8	Dec-01
TCW MetWest Fixed - Net			2.0	42	-3.3	91	-13.1	70	-1.9	35	0.7	33	1.6	41	4.6	
<i>Bloomberg US Aggregate TR</i>			1.9	49	-3.0	75	-13.0	66	-2.7	94	0.0	96	1.1	97	3.4	Dec-01
<i>eV US Core Fixed Inc Gross Median</i>			1.9		-2.7		-12.8		-2.1		0.5		1.5		4.0	Dec-01
Brandywine US FI - Gross	333,226,864	2.8	0.4	99	-4.9	99	--	--	--	--	--	--	--	--	-5.2	May-22
Brandywine US FI - Net			0.4	99	-4.9	99	--	--	--	--	--	--	--	--	-5.2	
<i>Bloomberg US Aggregate TR</i>			1.9	66	-3.0	88	-13.0	49	-2.7	97	0.0	99	1.1	99	-4.5	May-22
<i>eV US Core Plus Fixed Inc Gross Median</i>			2.1		-2.3		-13.0		-1.7		0.8		2.0		-4.4	May-22
Reams Core Plus FI - Gross	341,918,522	2.9	3.3	6	-1.5	23	--	--	--	--	--	--	--	--	-3.0	May-22
Reams Core Plus FI - Net			3.3	6	-1.6	24	--	--	--	--	--	--	--	--	-3.0	
<i>Bloomberg US Aggregate TR</i>			1.9	66	-3.0	88	-13.0	49	-2.7	97	0.0	99	1.1	99	-4.5	May-22
<i>eV US Core Plus Fixed Inc Gross Median</i>			2.1		-2.3		-13.0		-1.7		0.8		2.0		-4.4	May-22
U.S. Treasury - Gross	411,950,989	3.5	0.5	--	-3.9	--	-12.4	--	-2.6	--	--	--	--	--	0.4	Feb-18
U.S. Treasury - Net			0.5	--	-3.9	--	-12.5	--	-2.6	--	--	--	--	--	0.3	
<i>Bloomberg US Treasury TR</i>			0.7	--	-3.7	--	-12.5	--	-2.6	--	-0.1	--	0.6	--	0.3	Feb-18
Neuberger Berman - Gross ⁺	411,950,989	3.5	0.5	95	-3.9	90	-12.4	77	-2.6	78	-0.1	89	1.1	24	5.6	Jun-88
Neuberger Berman - Net			0.5	95	-3.9	90	-12.5	77	-2.6	82	-0.1	90	1.0	39	5.5	
<i>Bloomberg US Govt TR</i>			0.7	92	-3.6	65	-12.3	76	-2.6	77	-0.1	89	0.6	92	5.0	Jun-88
<i>eV US Government Fixed Inc Gross Median</i>			1.1		-3.5		-11.4		-2.1		0.2		1.0		5.4	Jun-88
Absolute Return - Gross⁺⁺ **	888,893,658	7.5	0.3	--	0.5	--	0.9	--	4.1	--	2.6	--	2.6	--	2.6	Nov-11
Absolute Return - Net			0.3	--	0.5	--	0.9	--	4.1	--	2.6	--	2.6	--	2.6	
<i>HFRI FoF Conservative Index¹</i>			1.5	--	1.7	--	0.1	--	4.7	--	3.9	--	4.5	--	4.6	Nov-11

1. See Policy Index and Benchmark History.

⁺ Account converted to U.S. Treasury from Core Fixed Income in February 2018. Reflects linked historical returns up to February 2018.

⁺⁺ Absolute Return managers are ranked in the eVest net of fee universe.

^{**} Composite reflects net returns from Cliffwater up to March 2017.

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Aristeia Partners LP - Gross	49,129,941	0.4	-0.8	83	1.4	70	0.9	66	--	--	--	--	--	--	4.5	Dec-20
Aristeia Partners LP - Net			-0.8	83	1.4	70	0.9	66	--	--	--	--	--	--	4.5	
<i>HFRI FoF Conservative Index</i>			1.5	65	1.7	69	0.1	67	4.7	58	3.9	49	4.5	31	3.8	Dec-20
<i>eV Alt Relative Value - Multi-Market Arbitrage Median</i>			2.2		3.6		4.8		5.5		3.5		2.7		4.7	Dec-20
BlackRock Event Driven Equity Fund - Gross	53,727,777	0.5	1.7	62	2.1	57	0.0	35	--	--	--	--	--	--	2.9	Feb-20
BlackRock Event Driven Equity Fund - Net			1.7	62	2.1	57	0.0	35	--	--	--	--	--	--	2.9	
<i>HFRI FoF Conservative Index</i>			1.5	66	1.7	64	0.1	34	4.7	49	3.9	53	4.5	57	5.1	Feb-20
<i>eV Alt All Event Driven Median</i>			2.3		2.5		-2.8		4.6		4.1		5.1		5.3	Feb-20
Davidson Kempner Instl Partners LP - Gross	58,367,089	0.5	1.8	53	2.2	35	-0.6	45	4.5	50	--	--	--	--	4.5	Apr-19
Davidson Kempner Instl Partners LP - Net			1.8	53	2.2	35	-0.6	45	4.5	50	--	--	--	--	4.5	
<i>HFRI FoF Conservative Index</i>			1.5	56	1.7	41	0.1	43	4.7	47	3.9	51	4.5	57	4.4	Apr-19
<i>eV Alt All Multi-Strategy Median</i>			2.1		0.8		-1.6		4.3		4.0		5.6		4.5	Apr-19
Eisler Capital Fund LP - Gross	0	0.0	-10.5	99	-14.7	99	-17.8	87	--	--	--	--	--	--	-15.3	Jun-21
Eisler Capital Fund LP - Net			-10.5	99	-14.7	99	-17.8	87	--	--	--	--	--	--	-15.3	
<i>HFRI FoF Conservative Index</i>			1.5	56	1.7	41	0.1	43	4.7	47	3.9	51	4.5	57	1.2	Jun-21
<i>eV Alt All Multi-Strategy Median</i>			2.1		0.8		-1.6		4.3		4.0		5.6		-0.6	Jun-21
Elliott Associates - Gross	78,660,182	0.7	0.0	85	1.0	71	6.0	11	10.9	14	8.3	12	8.2	20	8.2	Apr-12
Elliott Associates - Net			0.0	85	1.0	71	6.0	11	10.9	14	8.3	12	8.2	20	8.2	
<i>HFRI FoF Conservative Index</i>			1.5	66	1.7	64	0.1	34	4.7	49	3.9	53	4.5	57	4.5	Apr-12
<i>eV Alt All Event Driven Median</i>			2.3		2.5		-2.8		4.6		4.1		5.1		5.4	Apr-12
Graham Global Inv II - Gross	51,086,054	0.4	-2.4	43	-0.3	46	36.9	4	12.6	33	7.7	34	--	--	6.9	Feb-17
Graham Global Inv II - Net			-2.4	43	-0.3	46	36.9	4	12.6	33	7.7	34	--	--	6.9	
<i>HFRI FoF Conservative Index</i>			1.5	22	1.7	27	0.1	75	4.7	66	3.9	70	4.5	53	4.1	Feb-17
<i>eV Alt All Managed Futures Median</i>			-3.3		-1.3		10.6		8.0		5.9		4.8		5.5	Feb-17

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Grosvenor SCARF Diversifying - Gross	221,869,104	1.9	1.9	51	1.4	60	1.0	43	4.6	57	3.4	71	2.4	94	2.5	Nov-11
Grosvenor SCARF Diversifying - Net			1.9	51	1.4	60	1.0	43	4.6	57	3.4	71	2.4	94	2.5	
<i>HFRI FoF Conservative Index</i>			1.5	60	1.7	57	0.1	44	4.7	57	3.9	64	4.5	70	4.6	Nov-11
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>			1.9		2.4		-3.6		5.3		4.9		5.3		5.4	Nov-11
Laurion Capital - Gross	57,869,669	0.5	0.8	66	-0.4	75	-7.2	81	12.5	16	9.6	31	--	--	7.9	Mar-14
Laurion Capital - Net			0.8	66	-0.4	75	-7.2	81	12.5	16	9.6	31	--	--	7.9	
<i>HFRI FoF Conservative Index</i>			1.5	51	1.7	48	0.1	51	4.7	64	3.9	72	4.5	70	4.4	Mar-14
<i>eV Alt Relative Value - Equity Relative Value Median</i>			1.6		1.4		0.1		6.9		6.1		5.9		5.1	Mar-14
LMR Fund LTD - Gross	52,848,109	0.4	1.9	53	3.1	25	6.3	27	4.8	47	--	--	--	--	5.2	Oct-19
LMR Fund LTD - Net			1.9	53	3.1	25	6.3	27	4.8	47	--	--	--	--	5.2	
<i>HFRI FoF Conservative Index</i>			1.5	56	1.7	41	0.1	43	4.7	47	3.9	51	4.5	57	4.9	Oct-19
<i>eV Alt All Multi-Strategy Median</i>			2.1		0.8		-1.6		4.3		4.0		5.6		5.1	Oct-19
MW Global Opportunities Fund - Gross	55,135,955	0.5	0.0	81	4.1	40	5.3	15	5.3	45	--	--	--	--	5.6	Dec-18
MW Global Opportunities Fund - Net			0.0	81	4.1	40	5.3	15	5.3	45	--	--	--	--	5.6	
<i>HFRI FoF Conservative Index</i>			1.5	71	1.7	56	0.1	23	4.7	49	3.9	52	4.5	70	5.1	Dec-18
<i>eV Alt Fundamental - Long/Short Equity Median</i>			4.9		2.4		-11.5		4.1		4.0		6.4		7.2	Dec-18
PSquared Event Driven Opp Fund - Gross	54,190,648	0.5	-1.8	92	1.1	70	3.0	20	--	--	--	--	--	--	3.5	Jul-20
PSquared Event Driven Opp Fund - Net			-1.8	92	1.1	70	3.0	20	--	--	--	--	--	--	3.5	
<i>HFRI FoF Conservative Index</i>			1.5	66	1.7	64	0.1	34	4.7	49	3.9	53	4.5	57	6.1	Jul-20
<i>eV Alt All Event Driven Median</i>			2.3		2.5		-2.8		4.6		4.1		5.1		6.7	Jul-20

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Sculptor Domestic II - Gross	58,380,049	0.5	1.5	56	0.4	56	-11.6	77	3.4	57	4.5	46	5.7	49	6.3	Dec-11
Sculptor Domestic II - Net			1.5	56	0.4	56	-11.6	77	3.4	57	4.5	46	5.7	49	6.2	
<i>HFRI FoF Conservative Index</i>			1.5	56	1.7	41	0.1	43	4.7	47	3.9	51	4.5	57	4.6	Dec-11
<i>eV Alt All Multi-Strategy Median</i>			2.1		0.8		-1.6		4.3		4.0		5.6		5.3	Dec-11
Tudor BVI Global Fund - Gross	50,000,000	0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	Dec-22
Tudor BVI Global Fund - Net			--	--	--	--	--	--	--	--	--	--	--	--	--	
<i>HFRI FOF: Conservative Index</i>			1.5	--	1.7	--	0.1	--	4.7	--	3.9	--	3.6	--	--	Dec-22
Two Sigma Risk Premia Enhanced - Gross	47,629,080	0.4	0.3	70	-3.5	87	-3.0	55	1.8	67	--	--	--	--	1.8	Sep-19
Two Sigma Risk Premia Enhanced - Net			0.3	70	-3.5	87	-3.0	55	1.8	67	--	--	--	--	1.8	
<i>HFRI FoF Conservative Index</i>			1.5	56	1.7	41	0.1	43	4.7	47	3.9	51	4.5	57	4.8	Sep-19
<i>eV Alt All Multi-Strategy Median</i>			2.1		0.8		-1.6		4.3		4.0		5.6		4.9	Sep-19
Dedicated Cash Allocation - Gross	97,984,965	0.8	0.9	--	1.5	--	1.7	--	0.8	--	--	--	--	--	0.9	Jun-19
Dedicated Cash Allocation - Net			0.9	--	1.5	--	1.7	--	0.8	--	--	--	--	--	0.9	
<i>Secured Overnight Financing Rate</i>			0.9	--	1.5	--	1.7	--	0.7	--	1.2	--	0.7	--	0.9	Jun-19
Real Return Asset Category - Gross	2,192,923,420	18.4	-0.1	--	1.0	--	9.7	--	9.9	--	9.6	--	--	--	10.0	Mar-17
Real Return Asset Category - Net			-0.1	--	0.9	--	9.5	--	9.8	--	9.4	--	--	--	9.9	
<i>Real Return Custom¹</i>			-0.9	--	0.1	--	11.5	--	9.4	--	7.6	--	--	--	7.6	Mar-17
Real Estate - Gross	1,074,813,135	9.0	-2.5	14	-2.5	16	8.6	28	12.1	4	10.2	5	11.1	1	11.5	Jun-11
Real Estate - Net			-2.5	15	-2.6	17	8.4	29	11.9	5	9.9	5	10.5	1	10.8	
<i>Real Estate Custom¹</i>			-3.6	17	-1.3	13	13.0	10	11.0	8	9.4	8	9.7	15	10.0	Jun-11
<i>InvMetrics All DB Real Estate Priv Net Median</i>			-4.9		-4.8		6.8		8.7		7.7		8.6		8.8	Jun-11
Core RE -Limited Partnership - Gross	814,715,467	6.8	-2.0	--	-2.0	--	11.2	--	14.1	--	12.1	--	12.1	--	7.1	Sep-08
Core RE -Limited Partnership - Net			-2.0	--	-2.1	--	11.0	--	13.8	--	11.8	--	11.7	--	6.6	
<i>NFI-ODCE</i>			-5.0	--	-4.5	--	7.5	--	9.9	--	8.7	--	10.1	--	6.5	Sep-08

1. See Policy and Benchmark History.

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Brookfield Premier RE Partners - Gross*	138,768,258	1.2	0.0	--	2.7	--	18.2	--	14.0	--	--	--	--	--	12.3	Sep-18
Brookfield Premier RE Partners - Net			0.0	--	2.7	--	18.2	--	14.0	--	--	--	--	--	12.3	
<i>NFI-ODCE</i>			-5.0	--	-4.5	--	7.5	--	9.9	--	8.7	--	10.1	--	8.7	Sep-18
Clarion Lion Properties - Gross	133,369,288	1.1	-5.1	--	-4.6	--	9.6	--	11.4	--	--	--	--	--	10.2	Sep-18
Clarion Lion Properties - Net			-5.3	--	-5.0	--	8.7	--	10.5	--	--	--	--	--	9.4	
<i>NFI-ODCE</i>			-5.0	--	-4.5	--	7.5	--	9.9	--	8.7	--	10.1	--	8.7	Sep-18
Metlife Core Property - Gross	88,967,977	0.7	-5.3	--	-2.9	--	9.6	--	12.2	--	10.5	--	--	--	11.6	Dec-13
Metlife Core Property - Net			-5.4	--	-3.2	--	9.0	--	11.6	--	10.0	--	--	--	11.0	
<i>NFI-ODCE</i>			-5.0	--	-4.5	--	7.5	--	9.9	--	8.7	--	10.1	--	9.7	Dec-13
Principal US Property - Gross	62,330,731	0.5	-6.2	--	-5.8	--	4.1	--	8.7	--	8.0	--	--	--	8.4	Oct-15
Principal US Property - Net			-6.2	--	-5.8	--	4.1	--	8.7	--	8.0	--	--	--	8.4	
<i>NFI-ODCE</i>			-5.0	--	-4.5	--	7.5	--	9.9	--	8.7	--	10.1	--	8.8	Oct-15
Prologis Targeted Euro Logistics - Gross*	69,047,766	0.6	0.0	--	-12.5	--	-8.7	--	9.8	--	10.4	--	--	--	11.3	Oct-15
Prologis Targeted Euro Logistics - Net			0.0	--	-12.5	--	-8.7	--	9.8	--	10.4	--	--	--	11.3	
<i>NFI-ODCE</i>			-5.0	--	-4.5	--	7.5	--	9.9	--	8.7	--	10.1	--	8.8	Oct-15
Prologis Targeted US Logistics - Gross*	141,808,592	1.2	0.0	--	0.1	--	18.5	--	24.7	--	21.1	--	--	--	20.1	Jul-15
Prologis Targeted US Logistics - Net			0.0	--	0.1	--	18.5	--	24.7	--	21.1	--	--	--	20.1	
<i>NFI-ODCE</i>			-5.0	--	-4.5	--	7.5	--	9.9	--	8.7	--	10.1	--	9.1	Jul-15
Townsend Real Estate - Gross*	180,422,855	1.5	0.0	--	1.3	--	14.7	--	14.6	--	11.9	--	--	--	11.6	Mar-16
Townsend Real Estate - Net			0.0	--	1.3	--	14.7	--	14.6	--	11.9	--	--	--	11.6	
<i>NFI-ODCE</i>			-5.0	--	-4.5	--	7.5	--	9.9	--	8.7	--	10.1	--	8.5	Mar-16
Non-Core RE -Opportunistic - Gross⁺ ⁺⁺	166,895,839	1.4	-4.9	--	-4.1	--	1.0	--	6.7	--	3.9	--	--	--	15.4	Feb-14
Non-Core RE -Opportunistic - Net			-4.9	--	-4.1	--	1.0	--	6.7	--	3.9	--	--	--	14.9	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	--	--	10.7	Feb-14

* Preliminary quarterly returns as of 12/31/2022

+ Returns for private markets are shown on a time-weighted basis and may differ substantially from dollar-weighted returns.

++ Non-Core RE returns are one-quarter lag.

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Carlyle China Realty - Gross	8,423,870	0.1	-2.0	--	-1.7	--	-4.9	--	1.7	--	2.0	--	--	--	-1.6	Jun-17
Carlyle China Realty - Net			-2.0	--	-1.7	--	-4.9	--	1.7	--	2.0	--	--	--	-1.6	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	--	--	9.6	Jun-17
Carlyle China Rome Logistics - Gross	37,417,390	0.3	-1.9	--	-1.5	--	-4.5	--	-0.6	--	0.7	--	--	--	-1.1	Jun-17
Carlyle China Rome Logistics - Net			-1.9	--	-1.5	--	-4.5	--	-0.6	--	0.7	--	--	--	-1.1	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	--	--	9.6	Jun-17
CIM Opportunity VIII - Gross	28,915,937	0.2	-2.1	--	-2.5	--	-3.7	--	-9.9	--	-3.6	--	--	--	-0.1	Feb-15
CIM Opportunity VIII - Net			-2.1	--	-2.5	--	-3.7	--	-9.9	--	-3.6	--	--	--	-0.8	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	--	--	10.4	Feb-15
Kohlberg Kravis Roberts - Gross	1,734,561	0.0	1.1	--	0.1	--	-19.1	--	-13.0	--	-21.6	--	--	--	0.9	Feb-14
Kohlberg Kravis Roberts - Net			1.1	--	0.1	--	-19.1	--	-13.0	--	-21.6	--	--	--	0.8	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	--	--	10.7	Feb-14
Lasalle China Logistics Venture LP - Gross	5,566,501	0.0	-13.2	--	-9.6	--	0.0	--	--	--	--	--	--	--	-37.3	Sep-21
Lasalle China Logistics Venture LP - Net			-13.2	--	-9.6	--	0.0	--	--	--	--	--	--	--	-37.3	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	--	--	21.2	Sep-21
NREP Nordic Strat II - Gross	14,696,949	0.1	-10.8	--	-17.1	--	-6.3	--	22.1	--	20.3	--	--	--	17.4	Jun-16
NREP Nordic Strat II - Net			-10.8	--	-17.1	--	-6.3	--	22.1	--	20.3	--	--	--	17.4	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	--	--	9.4	Jun-16
NREP Nordic Strat III - Gross	30,614,609	0.3	-8.9	--	-6.5	--	2.5	--	17.7	--	--	--	--	--	5.1	Jul-18
NREP Nordic Strat III - Net			-8.9	--	-6.5	--	2.5	--	17.7	--	--	--	--	--	5.1	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	--	--	10.2	Jul-18
NREP Nordic Strat IV - Gross	17,227,655	0.1	-7.9	--	-7.6	--	5.0	--	--	--	--	--	--	--	13.9	Jul-20
NREP Nordic Strat IV - Net			-7.9	--	-7.6	--	5.0	--	--	--	--	--	--	--	13.9	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	--	--	13.5	Jul-20

Total Fund Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
NREP Nordic Strat V - Gross	3,852,085	0.0	--	--	--	--	--	--	--	--	--	--	--	--	0.0	Oct-22
NREP Nordic Strat V - Net			--	--	--	--	--	--	--	--	--	--	--	--	0.0	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	--	--	-1.3	Oct-22
Sculptor Real Estate Fund III - Gross	7,298,797	0.1	6.7	--	56.7	--	82.6	--	34.2	--	29.0	--	--	--	16.5	Sep-14
Sculptor Real Estate Fund III - Net			6.7	--	56.7	--	82.6	--	34.2	--	29.0	--	--	--	13.8	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	--	--	10.3	Sep-14
Sculptor Real Estate Fund IV - Gross	10,948,306	0.1	0.4	--	1.6	--	6.2	--	--	--	--	--	--	--	4.7	Jun-20
Sculptor Real Estate Fund IV - Net			0.4	--	1.6	--	6.2	--	--	--	--	--	--	--	4.7	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	--	--	13.1	Jun-20
Non-Core RE -Value Added - Gross⁺⁺	93,201,829	0.8	-2.2	--	-4.5	--	0.3	--	7.2	--	7.5	--	9.7	--	0.6	Sep-08
Non-Core RE -Value Added - Net			-2.2	--	-4.5	--	0.3	--	7.2	--	7.5	--	9.1	--	-0.3	
<i>NFI-ODCE net +1% 1Q Lag¹</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	10.9	--	8.6	Sep-08
Asana Partners Fund II - Gross [*]	26,241,351	0.2	-1.1	--	-6.5	--	2.8	--	-5.7	--	--	--	--	--	--	Apr-19
Asana Partners Fund II - Net			-1.1	--	-6.5	--	2.8	--	-5.7	--	--	--	--	--	--	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	10.9	--	10.6	Apr-19
Asana Partners Fund III - Gross	2,394,818	0.0	-10.2	--	-21.4	--	--	--	--	--	--	--	--	--	-21.4	Apr-22
Asana Partners Fund III - Net			-10.2	--	-21.4	--	--	--	--	--	--	--	--	--	-21.4	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	10.9	--	11.0	Apr-22
ECE Euro Prime Shopping II - Gross	31,157,251	0.3	-6.0	--	-7.6	--	-6.8	--	-2.1	--	0.9	--	--	--	6.7	Jul-15
ECE Euro Prime Shopping II - Net			-6.0	--	-7.6	--	-6.8	--	-2.1	--	0.9	--	--	--	6.1	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	10.9	--	10.1	Jul-15
European RE Debt II - Gross	2,117,319	0.0	-7.4	--	11.1	--	-16.0	--	-30.3	--	-17.7	--	--	--	-8.4	Nov-13
European RE Debt II - Net			-7.4	--	11.1	--	-16.0	--	-30.3	--	-17.7	--	--	--	-8.4	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	10.9	--	10.9	Nov-13

1. See Policy and Benchmark History .

* Unable to calculate a since inception return due to system limitations when Asana Partners Fund II experienced a quarter of negative fund value in 2019.

+ Returns for private markets are shown on a time-weighted basis and may differ substantially from dollar-weighted returns.

++ Non-Core RE returns are one-quarter lag.

Total Fund Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Hammes II - Gross	3,060,950	0.0	0.0	--	0.8	--	15.0	--	224.9	--	122.0	--	--	--	79.9	Jul-15
Hammes II - Net			0.0	--	0.8	--	15.0	--	224.9	--	122.0	--	--	--	77.6	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	10.9	--	10.1	Jul-15
Hammes III - Gross	21,250,155	0.2	1.3	--	4.8	--	14.8	--	19.0	--	--	--	--	--	-3.8	Oct-18
Hammes III - Net			1.3	--	4.8	--	14.8	--	19.0	--	--	--	--	--	-3.8	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	10.9	--	10.3	Oct-18
Seven Seas Japan Opp Fund - Gross	6,979,984	0.1	3.5	--	-8.2	--	--	--	--	--	--	--	--	--	-7.2	Mar-22
Seven Seas Japan Opp Fund - Net			3.5	--	-8.2	--	--	--	--	--	--	--	--	--	-7.2	
<i>NFI-ODCE net +1% 1Q Lag</i>			-1.6	--	3.5	--	22.0	--	12.4	--	10.3	--	10.9	--	11.1	Mar-22
Private Real Assets - Gross⁺⁺	978,629,573	8.2	1.9	--	5.9	--	19.3	--	11.2	--	11.3	--	7.0	--	7.0	Jan-13
Private Real Assets - Net			1.9	--	5.9	--	19.3	--	11.2	--	11.3	--	7.0	--	7.0	
<i>Private Real Assets Custom¹</i>			0.6	--	1.9	--	14.2	--	9.0	--	7.3	--	--	--	6.9	Jan-13
<i>CPI-U Headline +5%</i>			2.0	--	3.4	--	11.5	--	9.9	--	8.8	--	7.4	--	7.6	Jan-13
ACM II - Gross	17,115,039	0.1	0.8	--	-2.9	--	-4.7	--	-8.3	--	-6.7	--	--	--	-7.0	Sep-16
ACM II - Net			0.8	--	-2.9	--	-4.7	--	-8.3	--	-6.7	--	--	--	-7.0	
<i>NCREIF Farmland 1 Qtr Lag</i>			2.0	--	3.5	--	10.2	--	6.5	--	6.3	--	9.5	--	6.3	Sep-16
ArcLight Energy VI - Gross	21,278,362	0.2	20.3	--	25.4	--	36.5	--	1.3	--	5.4	--	--	--	5.0	Aug-15
ArcLight Energy VI - Net			20.3	--	25.4	--	36.5	--	1.3	--	5.4	--	--	--	5.0	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	11.5	Aug-15
Brookfield Infra III - Gross	35,045,199	0.3	0.4	--	0.9	--	11.5	--	10.3	--	11.1	--	--	--	11.6	May-16
Brookfield Infra III - Net			0.4	--	0.9	--	11.5	--	10.3	--	11.1	--	--	--	11.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	11.2	May-16

1. See Policy and Benchmark History .

+ Returns for private markets are shown on a time-weighted basis and may differ substantially from dollar-weighted returns.

++ Private Real Assets returns are one-quarter lag.

++ Non-Core RE returns are one-quarter lag.

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Brookfield Infra IV - Gross	33,928,866	0.3	1.1	--	4.0	--	13.0	--	10.8	--	--	--	--	--	9.7	Sep-19
Brookfield Infra IV - Net			1.1	--	4.0	--	13.0	--	10.8	--	--	--	--	--	9.7	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	9.9	Sep-19
Brookfield Super Core Infra - Gross	100,373,833	0.8	1.0	--	--	--	--	--	--	--	--	--	--	--	1.0	Jul-22
Brookfield Super Core Infra - Net			1.0	--	--	--	--	--	--	--	--	--	--	--	1.0	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	-0.2	Jul-22
Carlyle Power II - Gross	44,823,330	0.4	15.4	--	20.6	--	28.1	--	14.9	--	16.8	--	--	--	7.2	Oct-15
Carlyle Power II - Net			15.4	--	20.6	--	28.1	--	14.9	--	16.8	--	--	--	7.2	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	11.0	Oct-15
EnCap Energy IX - Gross	13,333,637	0.1	0.5	--	8.3	--	38.9	--	14.2	--	6.4	--	--	--	2.5	Jan-13
EnCap Energy IX - Net			0.5	--	8.3	--	38.9	--	14.2	--	6.4	--	--	--	2.5	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			2.0	--	5.6	--	24.5	--	9.0	--	5.0	--	3.0	--	3.0	Jan-13
EnCap Energy X - Gross	38,039,312	0.3	-3.3	--	7.0	--	66.7	--	25.4	--	17.3	--	--	--	9.0	Apr-15
EnCap Energy X - Net			-3.3	--	7.0	--	66.7	--	25.4	--	17.3	--	--	--	9.0	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			2.0	--	5.6	--	24.5	--	9.0	--	5.0	--	3.0	--	2.9	Apr-15
EnCap Flatrock Midstream III - Gross	15,247,575	0.1	13.1	--	15.8	--	22.8	--	6.8	--	8.7	--	--	--	7.7	Jul-14
EnCap Flatrock Midstream III - Net			13.1	--	15.8	--	22.8	--	6.8	--	8.7	--	--	--	7.7	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	10.3	Jul-14
EnCap Flatrock Midstream IV - Gross	15,178,720	0.1	3.3	--	5.7	--	12.2	--	5.8	--	--	--	--	--	3.6	Feb-18
EnCap Flatrock Midstream IV - Net			3.3	--	5.7	--	12.2	--	5.8	--	--	--	--	--	3.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	10.2	Feb-18

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
EQT Infrastructure Fund IV - Gross	32,804,861	0.3	-4.2	--	-5.7	--	5.1	--	12.1	--	--	--	--	--	0.5	Jun-19
EQT Infrastructure Fund IV - Net			-4.2	--	-5.7	--	5.1	--	12.1	--	--	--	--	--	0.5	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	9.9	Jun-19
First Reserve - Gross	12,583,135	0.1	0.1	--	-1.0	--	-2.6	--	-4.3	--	2.4	--	--	--	-1.4	Dec-14
First Reserve - Net			0.1	--	-1.0	--	-2.6	--	-4.3	--	2.4	--	--	--	-1.4	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	10.5	Dec-14
Harrison St Social Infra Fd - Gross	81,783,780	0.7	1.7	--	4.5	--	9.1	--	--	--	--	--	--	--	7.6	Jul-21
Harrison St Social Infra Fd - Net			1.7	--	4.5	--	9.1	--	--	--	--	--	--	--	7.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	11.5	Jul-21
IFM Global Infrastructure US LP - Gross	151,353,175	1.3	0.2	--	2.7	--	7.8	--	9.8	--	12.3	--	--	--	11.6	Apr-17
IFM Global Infrastructure US LP - Net			0.2	--	2.7	--	7.8	--	9.8	--	12.3	--	--	--	11.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	11.4	Apr-17
ISQ Global Infrastructure Fund II - Gross	57,937,862	0.5	1.5	--	3.0	--	9.4	--	13.0	--	--	--	--	--	12.6	Oct-18
ISQ Global Infrastructure Fund II - Net			1.5	--	3.0	--	9.4	--	13.0	--	--	--	--	--	12.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	10.0	Oct-18
ISQ Global Infrastructure Fund III - Gross	4,901,188	0.0	3.0	--	4.2	--	10.5	--	--	--	--	--	--	--	10.5	Dec-21
ISQ Global Infrastructure Fund III - Net			3.0	--	4.2	--	10.5	--	--	--	--	--	--	--	10.5	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	10.0	Dec-21
Meridiam Infra N America III - Gross	36,862,414	0.3	-4.6	--	-3.4	--	20.3	--	11.0	--	-56.7	--	--	--	-60.0	Sep-17
Meridiam Infra N America III - Net			-4.6	--	-3.4	--	20.3	--	11.0	--	-56.7	--	--	--	-60.0	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	10.3	Sep-17

Total Fund
Performance Summary

Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Meridiam Sa Infra Euro IV - Gross	4,944,763	0.0	-11.4	--	-15.6	--	-47.9	--	--	--	--	--	--	--	-71.6	Jul-21
Meridiam Sa Infra Euro IV - Net			-11.4	--	-15.6	--	-47.9	--	--	--	--	--	--	--	-71.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	11.5	Jul-21
NGP Royalty Partners - Gross	27,207,578	0.2	11.7	--	25.7	--	77.6	--	--	--	--	--	--	--	44.1	Aug-20
NGP Royalty Partners - Net			11.7	--	25.7	--	77.6	--	--	--	--	--	--	--	44.1	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			2.0	--	5.6	--	24.5	--	9.0	--	5.0	--	3.0	--	26.3	Aug-20
NGP Royalty Partners II - Gross	1,844,983	0.0	--	--	--	--	--	--	--	--	--	--	--	--	--	Dec-22
NGP Royalty Partners II - Net			--	--	--	--	--	--	--	--	--	--	--	--	--	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			2.0	--	5.6	--	24.5	--	9.0	--	5.0	--	3.0	--	--	Dec-22
Paine Schwartz Food Chain V - Gross	40,815,133	0.3	4.5	--	9.1	--	42.3	--	--	--	--	--	--	--	11.5	Jan-20
Paine Schwartz Food Chain V - Net			4.5	--	9.1	--	42.3	--	--	--	--	--	--	--	11.5	
<i>NCREIF Farmland 1 Qtr Lag</i>			2.0	--	3.5	--	10.2	--	6.5	--	6.3	--	9.5	--	6.7	Jan-20
Pantheon Ventures - Gross	47,663,499	0.4	-2.9	--	-3.8	--	5.7	--	7.0	--	7.8	--	--	--	15.9	Jul-14
Pantheon Ventures - Net			-2.9	--	-3.8	--	5.7	--	7.0	--	7.8	--	--	--	15.9	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	10.3	Jul-14
Quantum Energy VI - Gross	52,207,829	0.4	-0.1	--	28.2	--	48.2	--	24.9	--	26.8	--	--	--	25.1	Nov-14
Quantum Energy VI - Net			-0.1	--	28.2	--	48.2	--	24.9	--	26.8	--	--	--	25.1	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			2.0	--	5.6	--	24.5	--	9.0	--	5.0	--	3.0	--	0.9	Nov-14
Quantum Energy VII - Gross	39,652,812	0.3	0.0	--	12.8	--	41.6	--	27.6	--	17.8	--	--	--	14.0	Aug-17
Quantum Energy VII - Net			0.0	--	12.8	--	41.6	--	27.6	--	17.8	--	--	--	14.0	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			2.0	--	5.6	--	24.5	--	9.0	--	5.0	--	3.0	--	4.9	Aug-17
Ridgewood Water & Strategy Infra II - Gross	1,025,292	0.0	--	--	--	--	--	--	--	--	--	--	--	--	--	Dec-22
Ridgewood Water & Strategy Infra II - Net			--	--	--	--	--	--	--	--	--	--	--	--	--	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	--	Dec-22

Total Fund Performance Summary

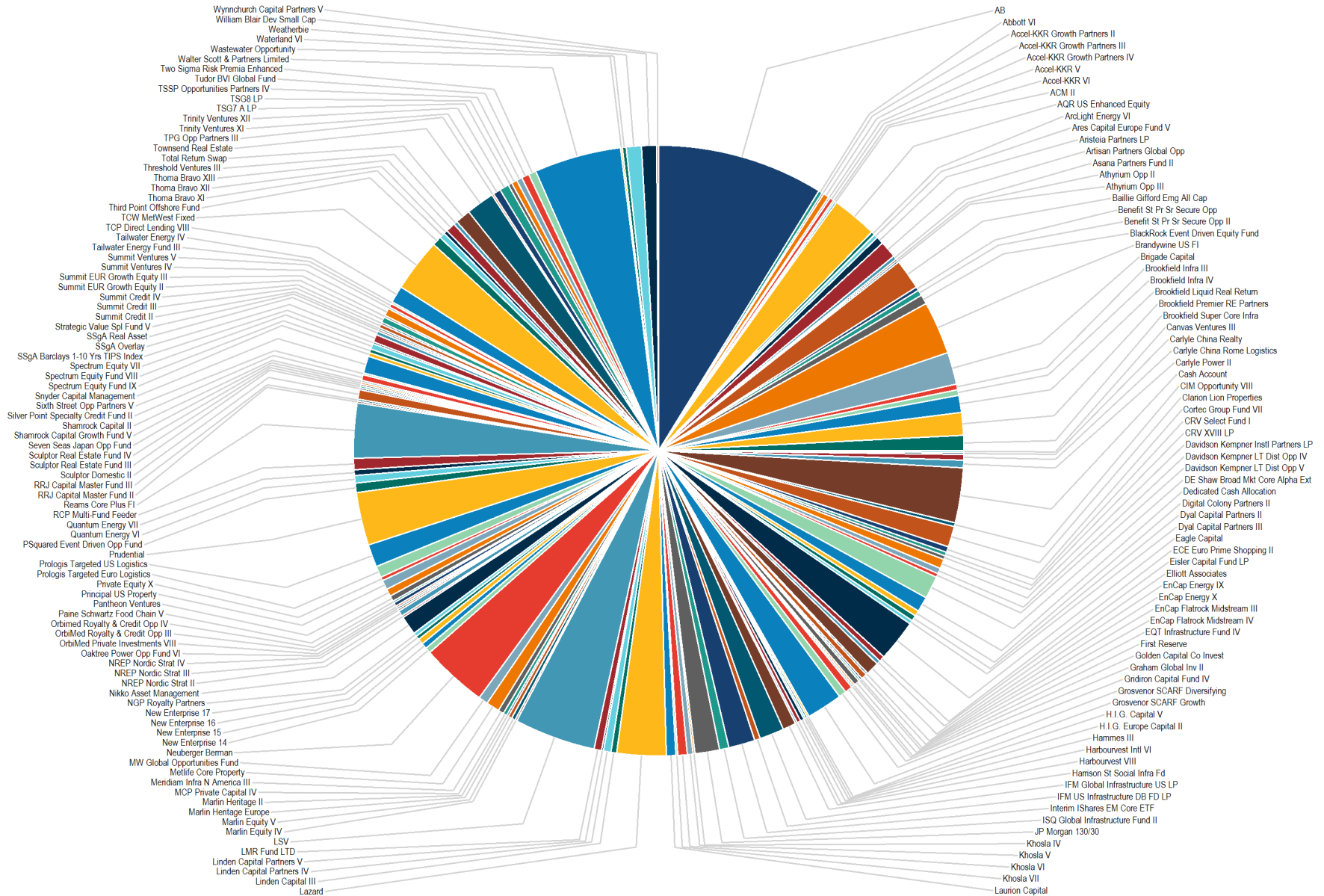
Period Ending: December 31, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Tailwater Energy Fund III - Gross	25,546,043	0.2	4.2	--	8.0	--	19.8	--	3.5	--	--	--	--	--	2.6	Sep-18
Tailwater Energy Fund III - Net			4.2	--	8.0	--	19.8	--	3.5	--	--	--	--	--	2.6	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			2.0	--	5.6	--	24.5	--	9.0	--	5.0	--	3.0	--	3.9	Sep-18
Tailwater Energy IV - Gross	16,975,505	0.1	11.9	--	11.3	--	35.2	--	2.0	--	--	--	--	--	1.9	Oct-19
Tailwater Energy IV - Net			11.9	--	11.3	--	35.2	--	2.0	--	--	--	--	--	1.9	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			2.0	--	5.6	--	24.5	--	9.0	--	5.0	--	3.0	--	7.2	Oct-19
Wastewater Opportunity - Gross	8,155,847	0.1	-0.5	--	-3.3	--	20.5	--	7.6	--	4.8	--	--	--	-11.0	Dec-15
Wastewater Opportunity - Net			-0.5	--	-3.3	--	20.5	--	7.6	--	4.8	--	--	--	-11.0	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			-0.4	--	-0.2	--	10.0	--	10.3	--	9.9	--	10.0	--	11.0	Dec-15
Liquid Real Return - Gross	139,480,713	1.2	5.7	--	-0.6	--	-5.1	--	3.5	--	--	--	--	--	3.9	Jun-19
Liquid Real Return - Net			5.6	--	-0.8	--	-5.4	--	3.1	--	--	--	--	--	3.5	
<i>SSgA Real Asset¹</i>			6.0	--	-0.2	--	-3.3	--	3.6	--	3.5	--	2.7	--	4.0	Jun-19
Brookfield Liquid Real Return - Gross	105,349,529	0.9	5.6	--	-0.7	--	-9.8	--	1.7	--	--	--	--	--	2.4	Nov-19
Brookfield Liquid Real Return - Net			5.6	--	-0.9	--	-10.2	--	1.2	--	--	--	--	--	1.8	
<i>Brookfield Real Return Custom</i>			5.5	--	-2.6	--	-14.6	--	-1.0	--	--	--	--	--	-0.3	Nov-19
SSgA Passive Real Return Proxy - Gross	34,131,184	0.3	6.1	--	-0.1	--	-3.0	--	4.0	--	3.8	--	2.9	--	2.3	Jan-08
SSgA Passive Real Return Proxy - Net			5.9	--	-0.4	--	-3.3	--	3.7	--	3.5	--	2.6	--	2.0	
<i>SSgA Real Asset</i>			6.0	--	-0.2	--	-3.3	--	3.6	--	3.5	--	2.7	--	--	Jan-08
Cash - Gross	341,989,104	2.9	1.1	--	1.7	--	2.0	--	1.4	--	1.6	--	1.5	--	3.0	Jun-92
Cash - Net			1.1	--	1.7	--	2.0	--	1.4	--	1.6	--	1.5	--	--	
<i>Secured Overnight Financing Rate¹</i>			0.9	--	1.5	--	1.7	--	0.7	--	1.2	--	0.7	--	2.3	Jun-92
Cash Account - Gross	341,989,104	2.9	1.1	--	1.7	--	2.0	--	1.7	--	1.8	--	1.5	--	3.1	Jun-92
Cash Account - Net			1.1	--	1.7	--	2.0	--	1.7	--	1.8	--	1.5	--	--	
<i>Secured Overnight Financing Rate</i>			0.9	--	1.5	--	1.7	--	0.7	--	1.2	--	0.7	--	2.3	Jun-92

1. See Policy and Benchmark History .

Total Fund Manager Allocation Analysis

Period Ending: December 31, 2022



Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2022

	Current	%
AB	\$1,056,072,159	8.9%
AQR US Enhanced Equity	\$291,465,170	2.4%
JP Morgan 130/30	\$150,920,376	1.3%
DE Shaw Broad Mkt Core Alpha Ext	\$141,472,132	1.2%
Eagle Capital	\$264,837,646	2.2%
Huber Capital	\$20,283	0.0%
Weatherbie	\$90,033,503	0.8%
Snyder Capital Management	\$112,926,023	0.9%
Lazard	\$313,226,883	2.6%
Walter Scott & Partners Limited	\$546,349,795	4.6%
LSV	\$507,355,939	4.3%
William Blair Dev Small Cap	\$90,205,793	0.8%
Total Return Swap	\$92,844,146	0.8%
Baillie Gifford Emg All Cap	\$186,163,759	1.6%
Interim IShares EM Core ETF	\$171,444,804	1.4%
CBRE Clarion	\$4,024	0.0%
Artisan Partners Global Opp	\$110,317,111	0.9%
Nikko Asset Management	\$117,600,000	1.0%
Third Point Offshore Fund	\$62,062,228	0.5%
Abbott VI	\$28,963,126	0.2%
Accel-KKR V	\$29,184,043	0.2%
Accel-KKR VI	\$14,673,547	0.1%
Accel-KKR Growth Partners II	\$11,671,729	0.1%
Accel-KKR Growth Partners III	\$31,889,160	0.3%
Accel-KKR Growth Partners IV	\$6,220,347	0.1%
Atalaya Special Opp VI	\$2,681,358	0.0%
Atalaya Special Opp V	\$963,903	0.0%
Canvas Ventures III	\$13,447,112	0.1%

Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2022

	Current	%
Cortec Group Fund VII	\$36,039,468	0.3%
CRV Select Fund I	\$19,612,126	0.2%
CRV Select Fund II	\$5,168,185	0.0%
CRV XVIII LP	\$18,849,263	0.2%
CRV XIX LP	\$2,569,339	0.0%
Davidson Kempner LT Dist Opp IV	\$40,871,725	0.3%
Davidson Kempner LT Dist Opp V	\$29,662,724	0.2%
Digital Colony Partners II	\$31,988,808	0.3%
Dyal Capital Partners II	\$35,343,928	0.3%
Dyal Capital Partners III	\$27,048,184	0.2%
Garrison Investment Group	\$2,367,500	0.0%
Golden Capital Co Invest	\$7,440,000	0.1%
Gridiron Capital Fund IV	\$49,715,750	0.4%
Harbourvest VIII	\$6,014,477	0.1%
Harbourvest Intl VI	\$20,909,406	0.2%
H.I.G. Bayside Loan III	\$3,972,636	0.0%
H.I.G. Capital V	\$11,761,013	0.1%
H.I.G. Europe Capital II	\$9,178,177	0.1%
Khosla IV	\$16,193,053	0.1%
Khosla V	\$40,699,193	0.3%
Khosla VI	\$60,262,513	0.5%
Khosla VII	\$13,072,812	0.1%
Linden Capital III	\$40,237,041	0.3%
Linden Capital Partners IV	\$45,807,281	0.4%
Linden Capital Partners V	\$7,281,368	0.1%
Marlin Equity IV	\$10,230,191	0.1%
Marlin Equity V	\$29,688,071	0.2%
Marlin Heritage	\$4,842,955	0.0%

Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2022

	Current	%
Marlin Heritage II	\$14,126,406	0.1%
Marlin Heritage III	\$610,966	0.0%
Marlin Heritage Europe	\$18,576,193	0.2%
New Enterprise 14	\$40,370,582	0.3%
New Enterprise 15	\$34,981,960	0.3%
New Enterprise 16	\$39,352,168	0.3%
New Enterprise 17	\$20,269,790	0.2%
Oaktree Power Opp Fund VI	\$6,582,445	0.1%
OrbiMed Private Investments VIII	\$8,188,709	0.1%
Orbimed Private Investments IX	\$1,250,000	0.0%
Private Equity X	\$18,756,385	0.2%
RCP Multi-Fund Feeder	\$73,565,777	0.6%
RRJ Capital Master Fund II	\$6,624,302	0.1%
RRJ Capital Master Fund III	\$8,972,358	0.1%
Shamrock Capital II	\$13,923,054	0.1%
Shamrock Capital III	\$157,746	0.0%
Shamrock Capital Growth Fund V	\$8,711,802	0.1%
Sixth Street Opp Partners V	\$6,073,532	0.1%
Spectrum Equity VII	\$40,339,567	0.3%
Spectrum Equity Fund VIII	\$24,527,905	0.2%
Spectrum Equity Fund IX	\$19,078,509	0.2%
Strategic Value Spl Fund V	\$12,447,499	0.1%
Summit EUR Growth Equity II	\$36,966,710	0.3%
Summit EUR Growth Equity III	\$10,700,679	0.1%
Summit Ventures III	\$3,176,783	0.0%
Summit Ventures IV	\$52,897,474	0.4%
Summit Ventures V	\$10,070,557	0.1%
Thoma Bravo XI	\$33,787,502	0.3%

Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2022

	Current	%
Thoma Bravo XII	\$29,723,279	0.2%
Thoma Bravo XIII	\$62,970,253	0.5%
Threshold Ventures III	\$27,784,596	0.2%
Threshold Ventures IV	\$1,215,128	0.0%
TPG Opp Partners III	\$9,861,055	0.1%
Trinity Ventures XI	\$47,675,680	0.4%
Trinity Ventures XII	\$60,579,719	0.5%
TSG7 A LP	\$19,153,485	0.2%
TSG7 B LP	\$4,484,994	0.0%
TSG8 LP	\$30,306,656	0.3%
TSSP Opportunities Partners IV	\$31,154,972	0.3%
Waterland V	\$1,277,523	0.0%
Waterland VI	\$18,306,641	0.2%
Wayzata Opportunities III	\$3,827,282	0.0%
Wynnchurch Capital Partners V	\$13,367,630	0.1%
Brigade Capital	\$199,754,610	1.7%
Ares Capital Europe Fund V	\$27,515,838	0.2%
Athyrium Opp II	\$8,662,406	0.1%
Athyrium Opp III	\$11,074,074	0.1%
Benefit St Pr Sr Secure Opp	\$27,413,977	0.2%
Benefit St Pr Sr Secure Opp II	\$32,691,080	0.3%
IFM US Infrastructure DB FD LP	\$38,599,603	0.3%
MCP Private Capital IV	\$20,679,553	0.2%
OrbiMed Royalty & Credit Opp III	\$19,527,820	0.2%
Orbimed Royalty & Credit Opp IV	\$6,080,442	0.1%
Shamrock Capital Debt Fund I	\$1,803,103	0.0%
Silver Point Specialty Credit Fund II	\$30,600,161	0.3%
Summit Credit	\$404,262	0.0%

Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2022

	Current	%
Summit Credit II	\$11,512,187	0.1%
Summit Credit III	\$22,031,385	0.2%
Summit Credit IV	\$8,654,729	0.1%
TCP Direct Lending VIII	\$109,372,187	0.9%
Grosvenor SCARF Growth	\$8,749,664	0.1%
Prudential	\$335,272,875	2.8%
TCW MetWest Fixed	\$336,149,327	2.8%
Brandywine US FI	\$333,226,864	2.8%
Reams Core Plus FI	\$341,918,522	2.9%
Neuberger Berman	\$411,950,989	3.5%
Aristeia Partners LP	\$49,129,941	0.4%
BlackRock Event Driven Equity Fund	\$53,727,777	0.5%
Davidson Kempner Instl Partners LP	\$58,367,089	0.5%
Eisler Capital Fund LP	\$0	0.0%
Elliott Associates	\$78,660,182	0.7%
Graham Global Inv II	\$51,086,054	0.4%
Grosvenor SCARF Diversifying	\$221,869,104	1.9%
Laurion Capital	\$57,869,669	0.5%
LMR Fund LTD	\$52,848,109	0.4%
MW Global Opportunities Fund	\$55,135,955	0.5%
PSquared Event Driven Opp Fund	\$54,190,648	0.5%
Sculptor Domestic II	\$58,380,049	0.5%
Tudor BVI Global Fund	\$50,000,000	0.4%
Two Sigma Risk Premia Enhanced	\$47,629,080	0.4%
Dedicated Cash Allocation	\$97,984,965	0.8%
Brookfield Premier RE Partners	\$138,768,258	1.2%
Clarion Lion Properties	\$133,369,288	1.1%
Metlife Core Property	\$88,967,977	0.7%

Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2022

	Current	%
Principal US Property	\$62,330,731	0.5%
Prologis Targeted Euro Logistics	\$69,047,766	0.6%
Prologis Targeted US Logistics	\$141,808,592	1.2%
Townsend Real Estate	\$180,422,855	1.5%
Carlyle China Realty	\$8,423,870	0.1%
Carlyle China Rome Logistics	\$37,417,390	0.3%
CIM Opportunity VIII	\$28,915,937	0.2%
Kohlberg Kravis Roberts	\$1,734,561	0.0%
Lasalle China Logistics Venture LP	\$5,566,501	0.0%
NREP Nordic Strat FCP-FIS	\$199,179	0.0%
NREP Nordic Strat II	\$14,696,949	0.1%
NREP Nordic Strat III	\$30,614,609	0.3%
NREP Nordic Strat IV	\$17,227,655	0.1%
NREP Nordic Strat V	\$3,852,085	0.0%
Sculptor Real Estate Fund III	\$7,298,797	0.1%
Sculptor Real Estate Fund IV	\$10,948,306	0.1%
Asana Partners Fund II	\$26,241,351	0.2%
Asana Partners Fund III	\$2,394,818	0.0%
ECE Euro Prime Shopping II	\$31,157,251	0.3%
European RE Debt II	\$2,117,319	0.0%
Hammes II	\$3,060,950	0.0%
Hammes III	\$21,250,155	0.2%
Seven Seas Japan Opp Fund	\$6,979,984	0.1%
ACM II	\$17,115,039	0.1%
ArcLight Energy VI	\$21,278,362	0.2%
Brookfield Infra III	\$35,045,199	0.3%
Brookfield Infra IV	\$33,928,866	0.3%
Brookfield Super Core Infra	\$100,373,833	0.8%
Carlyle Power II	\$44,823,330	0.4%

Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2022

	Current	%
EnCap Energy IX	\$13,333,637	0.1%
EnCap Energy X	\$38,039,312	0.3%
EnCap Flatrock Midstream III	\$15,247,575	0.1%
EnCap Flatrock Midstream IV	\$15,178,720	0.1%
EQT Infrastructure Fund IV	\$32,804,861	0.3%
First Reserve	\$12,583,135	0.1%
Harrison St Social Infra Fd	\$81,783,780	0.7%
IFM Global Infrastructure US LP	\$151,353,175	1.3%
ISQ Global Infrastructure Fund II	\$57,937,862	0.5%
ISQ Global Infrastructure Fund III	\$4,901,188	0.0%
Meridiam Infra N America III	\$36,862,414	0.3%
Meridiam Sa Infra Euro IV	\$4,944,763	0.0%
NGP Royalty Partners	\$27,207,578	0.2%
NGP Royalty Partners II	\$1,844,983	0.0%
Paine Schwartz Food Chain V	\$40,815,133	0.3%
Pantheon Ventures	\$47,663,499	0.4%
Quantum Energy VI	\$52,207,829	0.4%
Quantum Energy VII	\$39,652,812	0.3%
Ridgewood Water & Strategy Infra II	\$1,025,292	0.0%
Tailwater Energy Fund III	\$25,546,043	0.2%
Tailwater Energy IV	\$16,975,505	0.1%
Wastewater Opportunity	\$8,155,847	0.1%
Brookfield Liquid Real Return	\$105,349,529	0.9%
SSgA Barclays 1-10 Yrs TIPS Index	\$10,225,147	0.1%
SSgA Real Asset	\$23,906,037	0.2%
Cash Account	\$341,989,104	2.9%
Heitman Adv JMB V	\$8,390	0.0%
SSgA Overlay	\$45,090,382	0.4%
Total	\$11,909,155,119	100.0%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	6.4%	18	9.8%	13	0.6	15	0.3	39	3.6%	99
Policy Index	5.2%	45	9.5%	9	0.5	21	--	--	0.0%	1
Total Fund ex Overlay	6.3%	19	9.5%	9	0.6	15	0.3	45	3.7%	99
Policy Index	5.2%	45	9.5%	9	0.5	21	--	--	0.0%	1

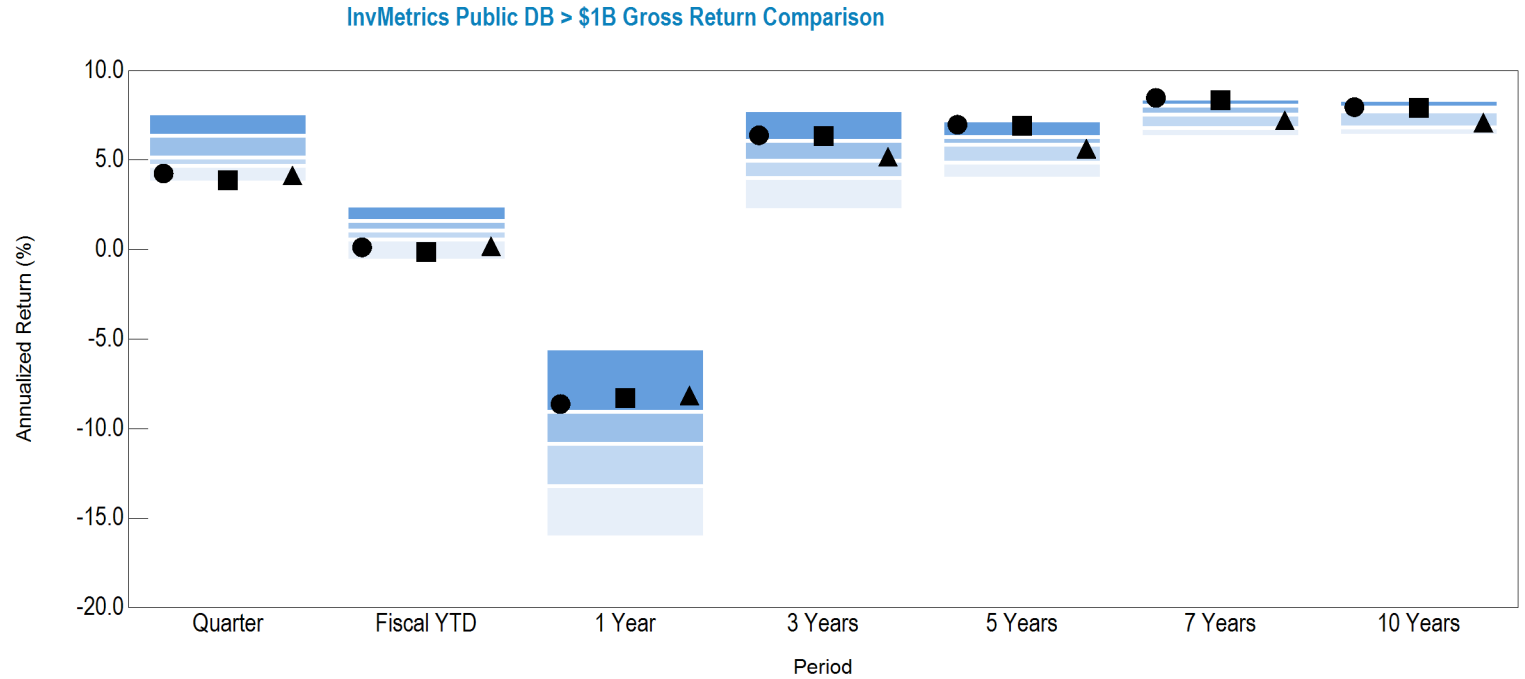
Statistics Summary

5 Years

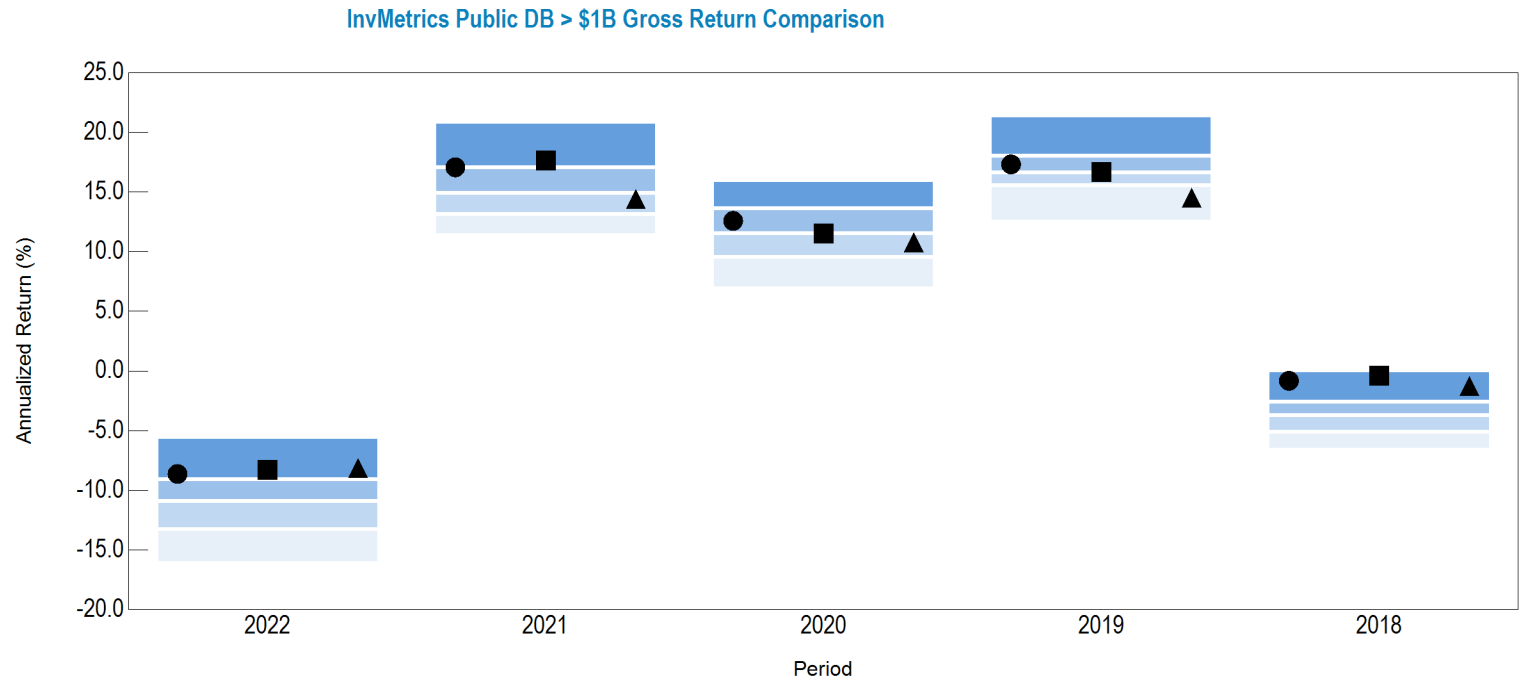
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	7.0%	12	8.6%	13	0.7	12	0.5	23	2.9%	99
Policy Index	5.6%	60	8.2%	8	0.5	23	--	--	0.0%	1
Total Fund ex Overlay	6.9%	15	8.4%	10	0.7	7	0.4	31	3.0%	99
Policy Index	5.6%	60	8.2%	8	0.5	23	--	--	0.0%	1

Total Fund
Peer Universe Comparison

Period Ending: December 31, 2022



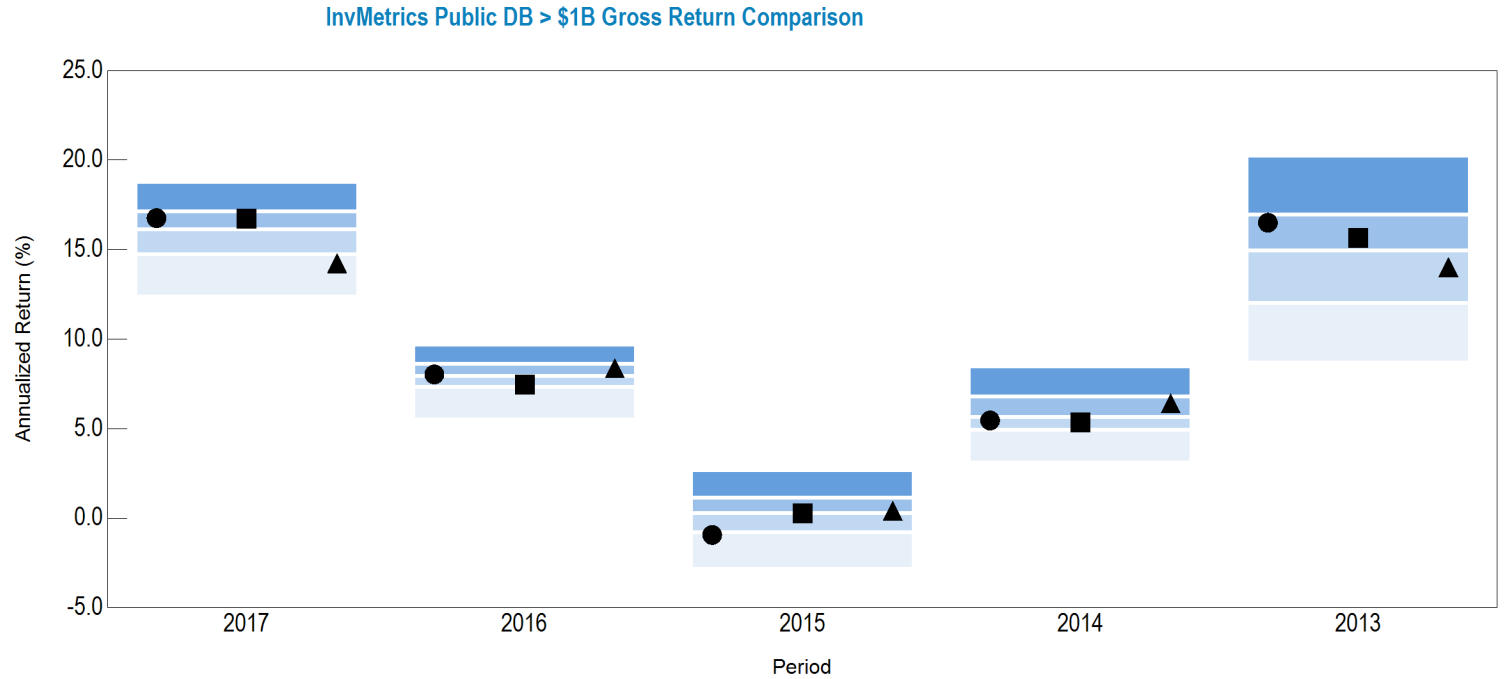
	Quarter		Fiscal YTD		1 Year		3 Years		5 Years		7 Years		10 Years	
5th Percentile	7.6		2.4		-5.5		7.8		7.2		8.4		8.4	
25th Percentile	6.4		1.6		-9.0		6.1		6.3		8.1		8.0	
Median	5.2		1.1		-10.8		5.0		5.9		7.6		7.7	
75th Percentile	4.7		0.6		-13.2		4.0		4.9		6.8		6.8	
95th Percentile	3.7		-0.6		-16.1		2.2		4.0		6.3		6.4	
# of Portfolios	35		35		35		35		35		35		30	
● Total Fund	4.2	(92)	0.1	(89)	-8.6	(21)	6.4	(18)	7.0	(12)	8.5	(3)	8.0	(25)
■ Total Fund ex Overlay	3.9	(94)	-0.1	(93)	-8.3	(19)	6.3	(19)	6.9	(15)	8.3	(12)	7.9	(31)
▲ Policy Index	4.1	(92)	0.2	(85)	-8.1	(19)	5.2	(45)	5.6	(60)	7.2	(63)	7.1	(67)



	Return (Rank)				
	2022	2021	2020	2019	2018
5th Percentile	-5.5	20.9	16.0	21.4	0.0
25th Percentile	-9.0	17.1	13.6	18.1	-2.6
Median	-10.8	14.9	11.5	16.7	-3.7
75th Percentile	-13.2	13.2	9.6	15.6	-5.1
95th Percentile	-16.1	11.4	6.9	12.5	-6.6
# of Portfolios	35	84	94	81	71
● Total Fund	-8.6 (21)	17.1 (27)	12.6 (36)	17.3 (40)	-0.8 (7)
■ Total Fund ex Overlay	-8.3 (19)	17.6 (15)	11.5 (51)	16.6 (52)	-0.4 (6)
▲ Policy Index	-8.1 (19)	14.4 (59)	10.8 (61)	14.5 (88)	-1.3 (10)

Total Fund
Peer Universe Comparison (Calendar Years)

Period Ending: December 31, 2022



	2017		2016		2015		2014		2013	
Return (Rank)	18.8		9.7		2.7		8.5		20.2	
5th Percentile	17.2		8.6		1.1		6.8		17.0	
25th Percentile	16.2		8.0		0.3		5.7		15.0	
Median	14.8		7.4		-0.7		4.9		12.0	
75th Percentile	12.4		5.5		-2.8		3.1		8.7	
95th Percentile	98		92		98		79		67	
# of Portfolios	16.8	(38)	8.0	(46)	-0.9	(83)	5.5	(61)	16.5	(31)
● Total Fund	16.7	(39)	7.5	(73)	0.3	(51)	5.3	(65)	15.6	(43)
■ Total Fund ex Overlay	14.2	(82)	8.4	(34)	0.4	(46)	6.4	(34)	14.0	(64)
▲ Policy Index										

Policy Index and Benchmark History

Period Ending: December 31, 2022

Total Plan Policy Index	As of:										
	4/1/22	7/1/19	7/1/17	4/1/17	1/1/14	1/1/12	1/1/08	2/1/06	9/1/04	1/1/00	7/1/86
91-day UST Bill +5% (AR)				10.0%	10.0%	10.0%	5.0%	5.0%	5.0%		
Bloomberg Aggregate	12.0%	10.0%	10.0%	10.0%	15.0%	20.0%	20.0%	25.0%	25.0%	30.0%	
Bloomberg US Treasury	4.0%	5.0%	5.0%	5.0%							
ICE BofA ML High Yield II	1.0%	1.0%	1.0%	1.0%	1.0%						
Bloomberg Commodity			2.0%	2.0%			5.0%				
Cambridge Associates Private Energy 1 Qtr Lag	2.1%	2.5%	2.5%								
Cambridge Associates Private Infrastructure 1 Qtr Lag	4.2%	3.2%	3.2%								
FTSE BIG											23.0%
FTSE WGBI ex US Unhedged	0.0%	2.4%	2.4%	2.4%	2.4%						
CPI-U +5% (PRA)				7.0%	15.0%	15.0%					
Credit Suisse Leveraged Loans	1.0%	1.0%	1.0%	1.0%	1.0%						
Credit Suisse Leveraged Loans +2% 1 Qtr Lag	5.0%	4.0%	4.0%	4.0%							
JPM GBI EM Diversified	0.0%	0.6%	0.6%	0.6%	0.6%						
HFRI FoF Composite Index + 1%	0.0%	3.0%	3.0%								
HFRI FoF Conservative Index	7.0%	7.0%	7.0%								
MSCI ACWI ex US		20.0%	20.0%	20.0%	22.5%	22.5%	20.0%				
MSCI ACWI IMI	40.0%										
MSCI EAFE								15.0%	15.0%	15.0%	15.0%
MSCI Emerging Markets								5.0%	5.0%	5.0%	
NAREIT							3.0%	3.0%			
NFI-ODCE	5.4%	4.6%	4.6%								
NFI-ODCE net +1% 1Q Lag	3.6%	2.5%	2.5%								
NCREIF				7.0%			12.0%	12.0%	15.0%	10.0%	15.0%
NCREIF Farmland 1 Qtr Lag	0.7%	0.7%	0.7%								
NCREIF Timberland Index Lagged		0.7%	0.7%								
Russell 1000								30.0%	30.0%	35.0%	
Russell 1000 +3% 1QL (PE)					10.0%	10.0%					
Russell 2000								5.0%	5.0%	5.0%	
Russell 3000		20.0%	21.0%	21.0%	22.5%	22.5%	30.0%				47.0%
S&P 500 +2% 1QL (PE)							5.0%				
Cambridge Associates All PE 1 Qtr Lag	11.0%	9.0%	9.0%	9.0%							
Bloomberg Roll Select Commodity Total Return	0.2%	0.2%									
Bloomberg U.S. Floating Rate Note < 5 Yr	0.2%	0.2%									
S&P Global LargeMidCap Commodity and Resources	0.2%	0.2%									
S&P Global Infrastructure Index - Net of Tax on Dividend	0.5%	0.5%									
Bloomberg U.S. Government Inflation-Linked 1-10 Yrs	0.6%	0.6%									
FTSE EPRA Nareit Developed Liquid Index	0.3%	0.3%									
ICE LIBOR Spot/Next Overnight USD		1.0%									
Secured Overnight Financing Rate	1.0%										
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Policy Index and Benchmark History

Period Ending: December 31, 2022

Growth Benchmark	As of:			
	4/1/22	7/1/19	7/1/17	4/1/17
91 Day T-Bill +5%				5.08%
ICE BofA ML High Yield II	1.73%	1.73%	1.70%	1.70%
Credit Suisse Leveraged Loans	1.73%	1.73%	1.70%	1.70%
Credit Suisse Leveraged Loan + 2% 1 Qtr Lag	8.62%	6.90%	6.78%	6.78%
HFRI FoF Composite Index + 1%		5.17%	5.08%	
MSCI ACWI ex US	27.58%	34.48%	33.90%	33.90%
MSCI ACWI IMI	6.90%			
Russell 3000	34.48%	34.48%	35.59%	35.59%
Cambridge Associates All PE 1 Qtr Lag	18.97%	15.52%	15.25%	15.25%
	100.0%	100.0%	100.0%	100.0%

Global Public Equity Benchmark	As of:	
	4/1/22	7/1/11
MSCI ACWI		100.0%
MSCI ACWI IMI	100.0%	
	100.0%	100.0%

Domestic Equity Benchmark	As of:			
	1/1/08	9/1/04	1/1/00	7/1/86
Russell 1000		85.71%	87.5%	
Russell 2000		14.29%	12.5%	
Russell 3000	100.0%			100.0%
	100.0%	100.0%	100.0%	100.0%

Large Cap Active Benchmark	As of:	
	2/1/19	9/1/08
Russell 1000 Value		100.0%
Russell 1000	100.0%	
	100.0%	100.0%

International Equity Benchmark	As of:		
	1/1/08	1/1/00	7/1/86
MSCI ACWI ex US	100.0%		
MSCI EAFE		75.0%	100.0%
MSCI Emerging Markets		25.0%	
	100.0%	100.0%	100.0%

Private Equity Benchmark	As of:		
	4/1/17	1/1/12	1/1/08
Russell 1000 +3% 1QL		100.0%	
S&P 500 +2% 1QL			100.0%
Cambridge Associates All PE 1 Qtr Lag	100.0%		
	100.0%	100.0%	100.0%

Public Credit Benchmark	As of:
	4/1/17
ICE BofA ML High Yield II	50.0%
Credit Suisse Leveraged Loans	50.0%
	100.0%

Growth Oriented Absolute Return Benchmark	As of:	
	7/1/17	4/1/17
91-day UST Bill +5%		100.0%
HFRI FoF Composite Index + 1%	100.0%	
	100.0%	100.0%

Diversifying Benchmark	As of:		
	4/1/22	7/1/17	4/1/17
91 Day T-Bill +5%			28.00%
Bloomberg US Aggregate	50.00%	40.00%	40.00%
Bloomberg US Treasury	16.67%	20.00%	20.00%
FTSE WGBI ex US Unhedged		9.60%	9.60%
HFRI FoF Conservative Index	29.17%	28.00%	
JPM GBI EM Diversified		2.40%	2.40%
Secured Overnight Financing Rate	4.16%		
	100.0%	100.0%	100.0%

Absolute Return Benchmark	As of:	
	7/1/17	4/1/17
91-day UST Bill +5%		100.0%
HFRI FoF Conservative Index	100.0%	
	100.0%	100.0%

Real Return Benchmark	As of:		
	4/1/22	4/1/19	4/1/17
Real Estate Benchmark	50.00%	43.75%	43.75%
Private Real Assets Benchmark	38.89%	43.75%	43.75%
Bloomberg Commodity			12.50%
Liquid Real Return Custom Benchmark	11.11%	12.50%	
	100.0%	100.0%	100.0%

Real Estate Benchmark	As of:		
	4/1/22	7/1/17	7/1/2011
NCREIF			100.0%
NFI-ODCE	60.0%	65.0%	
NFI-ODCE net +1% 1Q Lag	40.0%	35.0%	
	100.0%	100.0%	100.0%

Policy Index and Benchmark History

Period Ending: December 31, 2022

RE-Value Added Benchmark	As of:	
	7/1/16	10/1/08
NCREIF +2% 1Q Lag		100.0%
NFI-ODCE net +1% 1Q Lag	100.0%	
	100.0%	100.0%

Private Real Assets Benchmark	As of:		
	4/1/22	7/1/17	4/1/17
CPI-U Headline +5%			100.0%
Cambridge Associates Private Energy 1 Qtr Lag	30.0%	35.0%	
Cambridge Associates Private Infrastructure 1 Qtr Lag	60.0%	45.0%	
NCREIF Farmland 1 Qtr Lag	10.0%	10.0%	
NCREIF Timberland Index Lagged		10.0%	
	100.0%	100.0%	100.0%

Liquid Real Return Custom Benchmark	As of:
	7/1/19
Bloomberg Roll Select Commodity Total Return	10.0%
Bloomberg U.S. Floating Rate Note < 5 Yr	10.0%
S&P Global LargeMidCap Commodity and Resources	10.0%
S&P Global Infrastructure Index - Net of Tax on Dividend	25.0%
Bloomberg U.S. Government Inflation-Linked 1-10 Yrs	30.0%
FTSE EPRA Nareit Developed Liquid Index	15.0%
	100.0%

Cash Benchmark	As of:	
	4/1/22	7/1/92
91 Day T-Bills		100.0%
Secured Overnight Financing Rate	100.0%	
	100.0%	100.0%

AllianceBernstein Benchmark	As of:		
	1/1/01	1/1/98	5/1/89
Russell 1000	100.0%		
Russell 3000		100.0%	
Wilshire 2500			100.0%
	100.0%	100.0%	100.0%

Eagle Capital Benchmark	As of:	
	2/1/19	9/1/08
Russell 1000 Value		100.0%
Russell 1000	100.0%	
	100.0%	100.0%

Lazard Benchmark	As of:	
	4/1/22	7/1/12
MSCI ACWI ex USA		100.0%
MSCI World ex US	100.0%	
	100.0%	100.0%

Brigade Benchmark	As of:
	12/1/13
ICE BofA ML High Yield II	50.0%
Credit Suisse Leveraged Loans	50.0%
	100.0%

Brookfield Real Return Custom	As of:
	12/1/2019
FTSE Global Core Infrastructure 50/50 Index	30.0%
FTSE EPRA Nareit Developed Index	20.0%
ICE BofA 7% Constrained REIT Preferred Securities Index	10.0%
ICE BofA USD Real Asset High Yield Custom Index	16.0%
ICE BofA USD Real Asset Corporate Custom Index	24.0%
	100.0%

SSgA Real Asset Benchmark	As of:		
	3/2/2018	10/1/15	2/1/08
Bloomberg US Govt Inflation-Linked 1-10 Yrs		10.0%	
Bloomberg US TIPS		10.0%	20.0%
Bloomberg 1-10 Yr US TIPS	30.0%		
Bloomberg Roll Select Commodity TR	10.0%	20.0%	
Bloomberg USD Floating Rate Note <5yr	10.0%		
DJ US Select REIT			30.0%
FTSE EPRA/NAREIT Developed Liquid	15.0%	10.0%	
MSCI World Natural Resources		20.0%	25.0%
S&P Global Large Mid Cap Commodity Resources	10.0%		
S&P Global Infrastructure	25.0%	20.0%	
S&P GS Commodities			25.0%
S&P MLP		10.0%	
	100.0%	100.0%	100.0%

Cash Account Benchmark	As of:	
	4/1/22	7/1/92
91 Day T-Bills		100.0%
Secured Overnight Financing Rate	100.0%	
	100.0%	100.0%

Glossary

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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