



# Board of Retirement Regular Meeting

## Sacramento County Employees' Retirement System

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### Agenda Item 27

**MEETING DATE:** August 17, 2022

**SUBJECT:** Quarterly Investment Performance Report –  
Second Quarter 2022

**SUBMITTED FOR:**  Consent  Deliberation and Action  Receive and File

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#### **RECOMMENDATION**

Staff and Verus recommend the Board receive and file the SCERS Total Fund Investment Performance Review report, prepared by Verus, for the second quarter ending June 30, 2022.

#### **PURPOSE**

This agenda item complies with SCERS' investment policy statement reporting requirements and contributes to the effective management and oversight of investment activities.

#### **SCERS TOTAL FUND RETURNS**

This item summarizes SCERS' Total Fund investment returns as presented in Verus' Investment Performance Review for the period ending June 30, 2022. Please note that returns for SCERS' private equity, private credit, non-core real estate, and real assets portfolios are lagged one quarter. The Verus quarterly performance report has been updated to reflect and incorporate the changes to SCERS' strategic asset allocation that were approved in August 2021.

Please note that performance of the asset category composites (Growth, Diversifying, Real Return) have an inception of March 2017 and this quarterly report reflects the full 5-Year historical track record for the asset categories.

**SCERS TOTAL FUND PERFORMANCE SUMMARY**  
**Quarter Reporting Periods Ending June 30, 2022**

SCERS ASSET CLASS	Quarter	Year-to-Date	1-Year	3-Year	5-Year	Since Inception	Since Inception Date
<b>SCERS TOTAL FUND Return w/Overlay</b>	<b>-7.0%</b>	<b>-8.8%</b>	<b>-3.3%</b>	<b>8.4%</b>	<b>8.6%</b>	<b>8.4%</b>	Jun-86
Policy Index	-6.7%	-8.3%	-3.6%	6.8%	7.0%	8.4%	
InvestorForce Public DB > \$1B	-9.0%	-11.9%	-7.4%	6.5%	6.9%	8.1%	
<b>SCERS TOTAL FUND Return w/o Overlay</b>	<b>-6.5%</b>	<b>-8.2%</b>	<b>-2.4%</b>	<b>8.4%</b>	<b>8.6%</b>	<b>8.3%</b>	Jun-86
Policy Index	-6.7%	-8.3%	-3.6%	6.8%	7.0%	8.4%	
<b>GROWTH ASSET CATEGORY</b>	<b>-10.8%</b>	<b>-14.4%</b>	<b>-8.3%</b>	<b>10.3%</b>	<b>10.4%</b>	<b>10.8%</b>	Mar-17
Custom Benchmark	-11.1%	-13.7%	-8.6%	8.5%	8.7%	9.0%	
<b>DIVERSIFYING ASSET CATEGORY</b>	<b>-3.5%</b>	<b>-6.6%</b>	<b>-6.4%</b>	<b>1.3%</b>	<b>2.1%</b>	<b>2.3%</b>	Mar-17
Custom Benchmark	-3.4%	-7.5%	-7.3%	0.5%	1.7%	1.9%	
<b>REAL RETURN ASSET CATEGORY</b>	<b>1.6%</b>	<b>8.3%</b>	<b>21.4%</b>	<b>10.7%</b>	<b>10.3%</b>	<b>10.2%</b>	Mar-17
Custom Benchmark	4.5%	11.4%	22.5%	9.8%	8.5%	8.3%	

SCERS' portfolio performance was negative in the second quarter of 2022, as equity markets sold off sharply during the quarter and bond markets continued to decline. SCERS' Total Fund return was -7.0% for the quarter, slightly underperforming the Policy Index return of -6.7%, but outperforming the median public fund return of -9.0%. For the fiscal year ending June 30, SCERS' portfolio was down -3.3% and slightly outperformed the Policy Index return of -3.6%, while delivering significant outperformance versus the median public fund return of -7.4%. Despite the decline, SCERS' Total Fund performance is in the top quartile (and near the top decile) for the trailing 1-, 3-, and 5-Years.

Continued concerns around high inflation and growing recession risks weighed on markets during the quarter and first half of the year. As inflation remained at elevated levels, the U.S. Federal Reserve raised interest rates by 75 basis points in June, the largest single increase in rates since 1994. Rising interest rates contributed to recessionary concerns, which led U.S. equity markets to suffer the worst six months to start the year since 1970. International and emerging equity markets also declined significantly during the quarter and first half of the year, as inflation concerns were not limited to the U.S., and other global central banks raised rates in an attempt to contain inflation. With rising interest rates, fixed income markets also fell sharply to start the year, as market participants began to price in expectations for higher rates over the course of the year.

Geopolitical concerns also continued to impact global markets during the quarter, as the Russia-Ukraine war continued with no clear signs of resolution. Europe is particularly impacted by the events in Ukraine, as concerns mounted around Russia limiting energy supply, forcing Europe to contend with high inflation and potential recession. Tensions between China and Taiwan also continued during the quarter, with the Russia-Ukraine war bringing attention to other potential global conflicts.

SCERS' Real Return asset category continued to be the top performing segment during the quarter and first half of the year, as Real Assets and Real Estate prices benefited from significant increases in inflation. Despite energy prices declining in June, they increased overall during the second quarter and remain up significantly from the start of the year. Inflation increased during the second quarter, with the U.S. Consumer Price Index (CPI) up +9.1% year-over-year (YoY)

during June, prompting the U.S. Federal Reserve to raise rates by 75 basis points at their June meeting and another 75 basis points in July. Energy continued to be the largest contributor to inflation, up over 40% YoY in June, but food and automobiles were also up significantly, registering double-digit YoY increases in June. SCERS' Real Return asset category was up +1.6% for the quarter and +21.4% for the trailing 1-Year.

SCERS' Growth asset category declined -10.8% for the quarter, led lower by public equity markets, which declined significantly across both U.S. and International equity markets. SCERS' Private Equity portfolio, which is lagged by one quarter, also declined slightly during the quarter, but posted strong 1-year returns. For the trailing 1-Year, the Growth asset category was down -8.3%, slightly outperforming the category benchmark return of -8.6%. The Diversifying asset category was down -3.5% in the quarter, driven lower by both core fixed income and U.S. treasury markets. Absolute Return declined slightly during the quarter (-0.7%), but remains positive YTD and over the trailing 1-year periods.

### Growth Asset Category

SCERS GROWTH Performance Summary for the periods ending 6/30/22	Quarter	Year-to-Date	1-Year	Since Inception	Since Inception Date
<b>SCERS GROWTH ASSET CATEGORY</b>	<b>-10.8%</b>	<b>-14.4%</b>	<b>-8.3%</b>	<b>10.8%</b>	Mar-17
Custom Benchmark	-11.1%	-13.7%	-8.6%	9.0%	
<b>Global Public Equity</b>	<b>-15.5%</b>	<b>-21.3%</b>	<b>-18.1%</b>	<b>8.1%</b>	Jun-11
MSCI ACWI	-15.7%	-20.2%	-15.8%	7.3%	
<b>Private Equity (lagged 1 quarter)</b>	<b>-1.5%</b>	<b>2.1%</b>	<b>21.7%</b>	<b>8.0%</b>	Feb-08
Cambridge All PE	-0.9%	4.4%	22.8%	12.7%	
<b>Public Credit</b>	<b>-7.0%</b>	<b>-8.1%</b>	<b>-5.2%</b>	<b>4.1%</b>	Nov-13
Custom Benchmark	-7.1%	-9.3%	-7.7%	3.4%	
<b>Private Credit (lagged 1 quarter)</b>	<b>0.2%</b>	<b>2.6%</b>	<b>7.6%</b>	<b>7.7%</b>	Mar-17
Credit Suisse Leveraged Loan + 2%	0.4%	1.6%	5.2%	6.4%	
<b>Growth Absolute Return</b>	<b>-2.2%</b>	<b>-10.7%</b>	<b>-8.2%</b>	<b>4.8%</b>	Aug-04
HFRI FoF Composite +1%	-3.6%	-6.1%	-4.5%	5.8%	

The Growth asset category was down significantly the quarter, as equity markets posted sharp declines. For the quarter, the category was down -10.8%, slightly outperforming the benchmark return of -11.1%. Negative performance was driven primarily by Global Public Equity, which declined -15.5% versus the MSCI ACWI benchmark return of -15.7%. Growth-oriented strategies continued to underperform Value during the quarter, highlighted by the Russell 1000 Growth index down -21% compared to the Russell 1000 Value index down -12% during the quarter (-28% vs -13% YTD). Large cap stocks just slightly outperformed small cap stocks during the quarter, with the Russell 1000 index down -17.0% versus the Russell 2000 index down -17.5%. Year to date, both large cap and small cap stocks are down over 20%, with Russell 1000 and Russell 2000 indices down -21.5% and -23.9%, respectively. International equity markets also declined significantly during the quarter, although not quite as much as the U.S., with the MSCI ACWI ex U.S. index down -13.5%. Emerging markets outperformed International Developed markets during the quarter, with the MSCI Emerging Markets index down -11.3% versus the

MSCI World ex U.S. index down -14.4%. SCERS' growth oriented active equity managers, both U.S. and International, have faced significant pressure during the first half of 2022, while value oriented strategies have held up better during the market downturn. This is consistent with the performance of the broader equity markets, as growth strategies have declined significantly relative to value, reversing a multi-year trend of growth outperforming value.

SCERS' Private Equity portfolio, where returns are lagged by one quarter, was down slightly during the quarter (-1.5%) but is still positive YTD and shows strong positive results for the trailing 1-year (+21.7%), despite slightly trailing the benchmark return of +22.8%. SCERS' Private Credit portfolio, where performance is also lagged one quarter, continued to show positive results for the quarter and YTD, up +0.2% and 2.6%, respectively. The Public Credit portfolio declined -7.0% in the quarter, slightly below the benchmark return of -7.1%.

### Diversifying Asset Category

SCERS DIVERSIFYING Performance Summary for the periods ending 6/30/22	Quarter	Year-to-Date	1-Year	Since Inception	Since Inception Date
<b>SCERS DIVERSIFYING ASSET CATEGORY</b>	<b>-3.5%</b>	<b>-6.6%</b>	<b>-6.4%</b>	<b>2.3%</b>	Mar-17
Custom Benchmark	-3.4%	-7.5%	-7.3%	1.9%	
<b>Core/Core Plus Fixed Income</b>	<b>-5.0%</b>	<b>-10.7%</b>	<b>-10.4%</b>	<b>2.6%</b>	Jun-11
Bloomberg Barclays US Aggregate TR	-4.7%	-10.3%	-10.3%	2.1%	
<b>U.S. Treasury</b>	<b>-3.7%</b>	<b>-8.9%</b>	<b>-8.7%</b>	<b>1.3%</b>	Feb-18
Bloomberg Barclays US Treasury TR	-3.8%	-9.1%	-8.9%	1.2%	
<b>Diversifying Absolute Return</b>	<b>-0.7%</b>	<b>0.5%</b>	<b>2.1%</b>	<b>2.7%</b>	Nov-11
HFRI FoF Conservative Index	-1.5%	-1.4%	0.3%	4.6%	
<b>Dedicated Cash</b>	<b>0.2%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>0.6%</b>	Jun-19
Secured Overnight Financing Rate	0.2%	0.2%	0.2%	0.5%	

Fixed income markets continued to face significant headwinds during the quarter, pressured by rising interest rates and high inflation. SCERS' Diversifying Asset Category was down -3.5% during the quarter and -6.6% YTD. As noted previously, the U.S. Federal Reserve Bank raised interest rates by 75 basis points in June, as inflation exceeded expectations throughout the quarter and was up 9.1% year-over-year in June (as measured by the U.S. Consumer Price Index). The 10-year treasury reached nearly 3.5% during June, up from 2.45% to start the quarter, but settled lower from its high point and ended the quarter at 3.01%. The Bloomberg Barclays Aggregate index was down -4.7% during the quarter, while the U.S. Treasury index was down -3.8%. SCERS' Core/Core Plus managers slightly underperformed the index for the quarter and year-to-date. During the quarter, SCERS transitioned the Core/Core Plus Fixed Income portfolios for the addition of two new managers, Reams and Brandywine. SCERS also wound down the Global Fixed Income segment of the portfolio, which was eliminated as part of the revised Strategic Asset Allocation.

The Diversifying Absolute Return portfolio was down -0.7% in the quarter, outperforming the benchmark return of -1.5%. Performance across strategies were mostly in the +/- 2% range, with a just few notable positive and negative outliers. Most strategies have done a good job at protecting capital, particularly considering the significant negative returns across both equity and

fixed income. Trend following strategies continued to post strong returns in the second quarter, with SCERS' trend following manager up 11% in the quarter and 37% YTD. For the trailing 1-Year period, the Absolute Return portfolio was up +2.1%, outperforming the benchmark return of +0.3%.

### Real Return Asset Category

SCERS REAL RETURN Performance Summary	Quarter	Year-to-Date	1-Year	Since Inception	Since Inception Date
<b>SCERS REAL RETURN ASSET CATEGORY</b>					
<b>SCERS Real Return w/ SSgA Proxy</b>	<b>1.6%</b>	<b>8.3%</b>	<b>21.4%</b>	<b>10.2%</b>	<b>Mar-17</b>
SCERS Real Return w/o SSgA Proxy	1.6%	8.3%	21.4%	10.8%	Mar-17
Custom Benchmark	4.5%	11.4%	22.5%	8.3%	Mar-17
<b>SCERS Real Estate</b>	<b>3.0%</b>	<b>10.8%</b>	<b>27.7%</b>	<b>12.2%</b>	<b>Jun-11</b>
Custom Benchmark	5.8%	14.5%	29.3%	10.6%	
<b>Core Real Estate (as of 6/30/22)</b>					
Commingled Funds	4.0%	12.6%	31.5%	7.5%	Sep-08
NFI-ODCE	4.8%	12.5%	29.5%	7.1%	Sep-08
<b>Non-Core Real Estate (as of 3/31/22)</b>					
Opportunistic	-0.5%	5.3%	19.7%	17.0%	Feb-14
Value Add	1.4%	5.0%	11.8%	1.0%	Sep-08
NFI-ODCE net +1%	7.4%	17.9%	28.3%	10.9%	Feb-14
				8.7%	Sep-08
<b>SCERS Real Assets (as of 3/31/22)</b>	<b>5.3%</b>	<b>12.6%</b>	<b>27.6%</b>	<b>6.8%</b>	<b>Jan-13</b>
Custom Benchmark	6.2%	12.1%	21.5%	7.1%	
<b>SCERS Liquid Real Return (as of 6/30/22)</b>	<b>-8.2%</b>	<b>-4.5%</b>	<b>0.4%</b>	<b>4.7%</b>	<b>Jun-19</b>
SSgA Real Assets	-7.6%	-3.1%	1.9%	4.8%	

Real Return posted positive returns for the second quarter, up +1.6%, but trailing the benchmark return of +4.5%. Performance was led by SCERS' Real Assets portfolio, which was up +5.3% during the quarter and +27.6% over the past year. Energy and Commodities continued to be the top performing sectors across financial markets during the second quarter, despite energy prices declining in June. For the quarter, the Bloomberg Energy index was up 7%, with the broader S&P GSCI index up 2%. Oil prices remained over \$100 per barrel at the end of the second quarter, with energy prices contributing significantly to higher inflation, especially compared to price levels one year ago.

SCERS' Real Estate portfolio, which is a mix of Core Real Estate liquid commingled funds valued as of 6/30/22 and Non-Core Real Estate investments in closed end funds valued as of 3/31/22, was up +3.0% in the quarter, trailing the benchmark return of +5.8%. SCERS' Core Real Estate portfolio was up +4.0%, while the performance of Non-Core Value Add and Opportunistic portfolios trailed, returning +1.4% and -0.5%, respectively. Real estate prices, as measured by the NFI-ODCE benchmark, held up well during the quarter, benefiting from the inflationary environment and despite increasing interest rates. For the trailing 1-Year, SCERS' Real Estate

portfolio has posted strong returns, up +27.7%, benefiting from the inflationary environment despite increasing interest rates.

SCERS' Liquid Real Return declined during the quarter, down -8.2% and underperformed the SSgA benchmark return of -7.6%. Certain commodities (excluding energy), publicly traded REITs, and TIPS posted negative returns during the quarter, contributing to the decline 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. The second quarter Verus report was updated to reflect revisions to the policy index benchmark to incorporate the revised strategic asset allocation and subsequent asset class changes.

<b>SCERS BENCHMARK SUMMARY</b>	
<b>As of June 30, 2022</b>	
<b>Asset Class</b>	<b>Policy Index Benchmark</b>
<b>Growth Asset Category</b>	Blended Weighted Average of Asset Class Benchmarks
Global Public Equity	MSCI ACWI IMI
Private Equity	Cambridge All PE
Public Credit	50% (BofA High Yield) + 50% (CS High Yield)
Private Credit	CS Leveraged Loan + 2%
<b>Diversifying Asset Category</b>	Blended Weighted Average of Asset Class Benchmarks
Core/Core Plus Fixed Income	Bloomberg Barclays U.S. Aggregate
U.S. Treasury	Bloomberg Barclays U.S. Treasury
Diversifying Absolute Return	HFRI FoF Conservative Index
Dedicated Cash	Secured Overnight Financing Rate (SOFR)
<b>Real Return Asset Category</b>	Blended Weighted Average of Asset Class Benchmarks
Real Estate	60% (NFI-ODCE) + 40% (NFI-ODCE +1%)
Real Assets	60% (Cambridge Infrastructure) + 30% (Cambridge Energy) + 10% (NCREIF Farmland)
Liquid Real Return	30% (Barclays U.S. TIPS) + 25% (S&P Global Infrastructure Index) + 15% (Global REITs) + 10% (S&P Global Natural Resources Index) + 10% (Bloomberg Commodity Index) + 10% (U.S. Dollar Floating Rate Notes)

**ATTACHMENT**

- Board Order
- Verus' Investment Performance Review for SCERS for the period ending June 30, 2022.

Prepared by:

/S/

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Brian Miller  
Senior Investment Officer

Reviewed by:

/S/

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Steve Davis  
Chief Investment Officer

/S/

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Eric Stern  
Chief Executive Officer



# Retirement Board Order

## Sacramento County Employees' Retirement System

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Before the Board of Retirement  
August 17, 2022

AGENDA ITEM:

**Quarterly Investment Performance Report –  
Second Quarter 2022**

THE BOARD OF RETIREMENT hereby accepts the recommendation of staff to receive and file the SCERS Quarterly Investment Performance Review report, prepared by Verus, for the second quarter ending June 30, 2022.

I HEREBY CERTIFY that the above order was passed and adopted on August 17, 2022 by the following vote of the Board of Retirement, to wit:

AYES:

NOES:

ABSENT:

ABSTAIN:

ALTERNATES (Present but not voting):

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Board President

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Eric Stern  
Chief Executive Officer and  
Board Secretary





**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



**PERIOD ENDING: JUNE 30, 2022**

Investment Performance Review for

**Sacramento County Employees' Retirement System**

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Investment Landscape

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Total Fund

TAB II

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Policy Index and  
Benchmark History

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**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**

3<sup>RD</sup> QUARTER 2022  
Investment Landscape

# Recent Verus research

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

## Topics of interest papers

### A CLOSER LOOK AT CHINA

China's ascension over the past twenty years to the second largest economy in the world has changed the global landscape in a variety of ways. As China's economic size and market capitalization grows, many investors have reasonably been pondering how to treat their allocations to Chinese assets. In this Topic of Interest white paper, we offer some potential opportunities and threats around Chinese investment that should help provide context to investors in their decisions around this market.

### A PRIMER: TIMBERLAND & FARMLAND

In this Topic of Interest white paper, we will aim to inform readers of the investment thesis for timberland and agriculture, detailing the return drivers and characteristics unique to each asset class. Next, we cover historical performance and how these asset classes might fit within institutional portfolios and contribute to portfolio return objectives. Here we touch on the commonly acknowledged issues around interpreting the volatility of private market assets, due to data lag and appraisal-smoothing effects. Last, we conclude with a Verus outlook on both Timberland and Agriculture in the current market environment.

## Annual research

### 2022 REAL ASSETS OUTLOOK

For the first time in decades, high inflation has emerged and is creating challenges for consumers and investors. We believe inflation will likely begin falling later in 2022, though notable inflationary and deflationary forces are in play, and it is difficult to gauge which of these forces will have greater impacts. While inflation remains the topic most discussed in the media, and among many investors, how the Fed responds and whether the tightening path overcorrects is an issue we are discussing more today. Learning from history and the actions of the Volker Fed, we would not rule out the possibility that this inflation cycle quickly turns into deflation as recessionary forces take hold.

# Verus business update

## Since our last Investment Landscape webinar:

- Verus hired several new employees. **John Santopadre, CFA**, Director | Portfolio Management; **Colleen Flannery**, Associate Director | Public Markets; **Lukas Seeley**, Performance Analyst; **James Wadner**, Performance Analyst; **Jonah Coffee**, Performance Analyst; and **Nicholas Pecache**, Performance Analyst.
- The firm continues to grow with new clients that stretch from Hawaii to South Carolina. We now proudly serve clients in 26 states in every domestic time zone.
- Recent research found at [verusinvestments.com/insights](https://verusinvestments.com/insights)
  - In May, we released our **2022 Real Assets Outlook**
  - In June, we published a **Primer on Mortgage Income** and **A Primer: Timberland & Farmland**
  - Earlier this month, we released a *Topics of Interest* paper on **A Closer Look at China**

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# 2<sup>nd</sup> quarter summary

## THE ECONOMIC CLIMATE

- U.S. real GDP fell again during Q2, down -0.9% annualized (+1.6% over the past full year). This stoked broad fears of recession, as two consecutive quarters of negative growth is a common definition of technical recession. **p. 8**
- U.S. real personal consumption slowed to pre-COVID rates of growth, coming in at 2.1% year-over-year in May. The buying habits of consumers appear to have transitioned back towards services and away from goods, reversing the unprecedented spending shift that had occurred during the pandemic. This trend should help mitigate strained supply chains, as fewer goods require shipping. **p. 13**

## PORTFOLIO IMPACTS

- U.S. core CPI slowed to 5.9% year-over-year in June. Headline inflation, which includes food and energy prices, came in surprisingly hot at 9.1% year-over-year, exceeding expectations. Higher energy prices were a major driver of the inflation print, with energy commodities and gasoline moving more than 10% higher from May to June. **p. 10**
- Credit markets sold off during Q2, impacted by concerns of a slowing economy and possibility of recession as the Fed signaled a willingness to raise rates until inflation slows. Bank loans performed the best at -4.4% and outperformed longer duration bonds such as investment grade and high yield (-7.3% and -9.8%, respectively). **p. 23**

## THE INVESTMENT CLIMATE

- Russia's invasion of Ukraine continued, resulting in heavy losses on both sides. Most fighting has taken place in the east, as Russia gradually advances. Both Finland and Sweden are in the process of joining NATO—a landmark move and result of war likely unforeseen by Russia. **p. 16**
- Early in 2022 many investors feared a potential global commodity shortage—a product of underinvestment in production capacity in recent years. Russia's invasion of Ukraine further amplified these concerns, pushing commodities higher. This trend appears to have reversed, as recession is a notable possibility, and many commodities have seen sharp losses. **p. 36**

## ASSET ALLOCATION ISSUES

- Nearly every asset class delivered moderate to deeply negative returns during Q2. Global equities saw a -15.7% pullback (MSCI ACWI), fixed income experienced losses as interest rates rose and credit spreads widened (BBG US Aggregate -4.7%, BBG US High Yield -9.8%), and commodities saw a reversal (BBG Commodity -5.7%). **p. 46**
- Value stocks outperformed Growth stocks by a wide margin again during Q2 (Russell 1000 Value -12.2% vs Russell 1000 Growth -20.9%) as many Growth stocks with lofty valuations were hit by rising rates and risk-off sentiment. Large capitalization stocks slightly outperformed small cap stocks (Russell 1000 -16.7%, Russell 2000 -17.2%). **p. 29**

Most asset classes delivered further losses during Q2 over fears of inflation and recession

# What drove the market in Q2?

## “Inflation Surges Heap Pressure on Global Policy Makers”

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

Jan	Feb	Mar	Apr	May	Jun
7.5%	7.9%	8.5%	8.3%	8.6%	9.1%

Article Source: Financial Times, April 13<sup>th</sup>, 2022

## “Fed Raises Rates by 0.75%, Largest Increase Since 1994”

### FED FUNDS RATE EXPECTED AT YEAR-END 2022

Jan	Feb	Mar	Apr	May	Jun
1.4%	1.4%	2.4%	2.9%	2.7%	3.4%

Article Source: Wall Street Journal, June 15<sup>th</sup>, 2022

## “Risk of Global Recession by End of Year Rises on High Inflation”

### IMF U.S. 2022 GDP GROWTH PROJECTIONS

Jul 21	Oct 21	Jan 22	Apr 22	Jun 22	Jul 22
4.9%	5.2%	4.0%	3.7%	2.9%	2.3%

Article Source: Bloomberg, April 11<sup>th</sup>, 2022

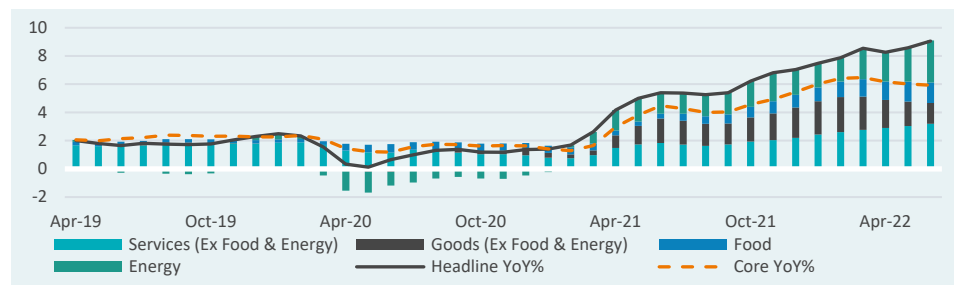
## “Consumer Sentiment Plunges to Record Low Amid Surging Inflation”

### UNIVERSITY OF MICHIGAN CONSUMER SENTIMENT INDEX

Jan	Feb	Mar	Apr	May	Jun
67.2	62.8	59.4	65.2	58.4	50.0

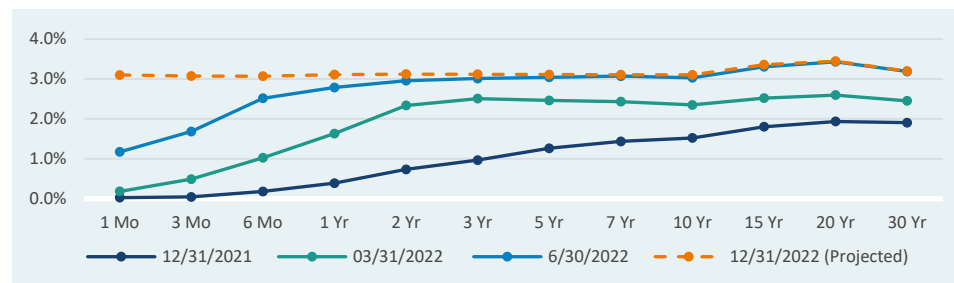
Article Source: CNN, June 10<sup>th</sup>, 2022

## CONTRIBUTION TO HEADLINE CONSUMER PRICE INFLATION



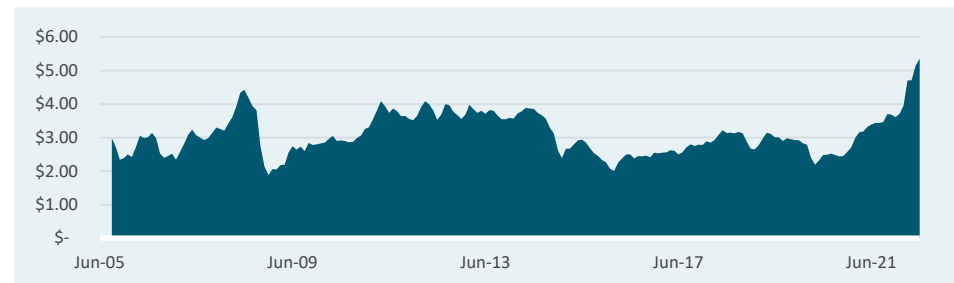
Source: Bureau of Labor Statistics, as of 6/30/22

## U.S. TREASURY CURVE MOVEMENT



Source: Bloomberg, as of 6/30/22

## AVERAGE U.S. GASOLINE PRICES (PER GALLON)



Source: Bloomberg, as of 6/30/22



# Economic environment

# U.S. economics summary

- U.S. real GDP fell -0.9% annualized during Q2 (+1.6% over the past full year). Most aspects of economic activity showed decline, including private investment (-2.7%), government spending (-0.3%), and imports (-0.5%). This stoked fears of recession, as two quarters of negative growth is a common definition of technical recession.
- The Federal Reserve’s objective of a “soft landing” for the economy appears to have failed. An increasingly aggressive stance during the first half of the year contributed to a broad market selloff. The negative wealth effect of the market selloff, paired with a slowdown in big ticket purchases, has slowed the economy.
- U.S. core CPI, which excludes food & energy prices, slowed to 5.9% year-over-year in June. However, headline inflation which includes food and energy prices, came in surprisingly hot at 9.1% year-over-year, exceeding expectations.

Higher energy prices were a major driver of the inflation print, with energy commodities and gasoline moving more than 10% higher just from May to June.

- Unemployment was unchanged at 3.6% during Q2. The broader U-6 unemployment rate tightened from 6.9% to 6.7%. A strong job market likely emboldens the Federal Reserve in its fight against high inflation, as the Fed holds a dual mandate to maximize employment and keep prices stable.
- Consumer sentiment collapsed to the lowest reading on record, according to the University of Michigan survey, which moved from 59.4 to 50.0. Survey respondents across all income, age, education, region, and political affiliation groups displayed deterioration in their outlook for the economy. Nearly half of respondents feel that inflation is damaging living standards.

	Most Recent	12 Months Prior
Real GDP (YoY)	1.6% 6/30/22	12.2% 6/30/21
Inflation (CPI YoY, Core)	5.9% 6/30/22	4.4% 6/30/21
Expected Inflation (5yr-5yr forward)	2.1% 6/30/22	2.2% 6/30/21
Fed Funds Target Range	1.50% – 1.75% 6/30/22	0.00% – 0.25% 6/30/21
10-Year Rate	2.89% 6/30/22	1.45% 6/30/21
U-3 Unemployment	3.6% 6/30/22	5.9% 6/30/21
U-6 Unemployment	6.7% 6/30/22	9.8% 6/30/21

# GDP growth

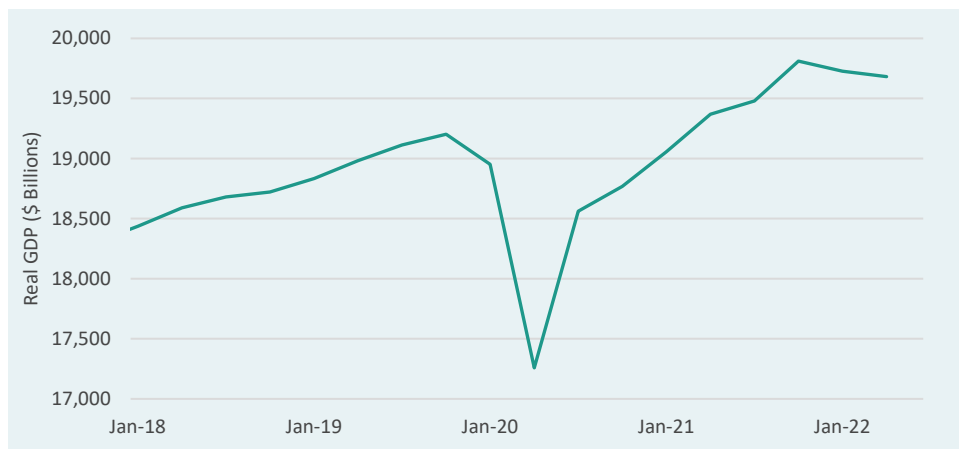
U.S. real GDP fell again in Q2, down -0.9% annualized (+1.6% over the past full year). Most aspects of economic activity showed decline, including private investment (-2.7%), government spending (-0.3%), and imports (-0.5%). This stoked fears of recession, as two consecutive quarters of negative growth is a common definition of technical recession. Interestingly, the definition of “recession” has become hotly debated, with some arguing that the relatively strong labor market suggests no recession. However, every instance of two consecutive quarters of negative GDP growth in modern history has ultimately been classified as an official recession. In other words, it would be extremely unusual if 2022 was not eventually

labeled as an official recession.

A variety of economic data indicates further deceleration, and sentiment remains very poor across citizens and businesses. In July, the IMF cut its U.S. 2022 GDP growth forecast from 2.9% to 2.3%. The Federal Reserve’s objective of a “soft landing” for the economy appears to have failed. An increasingly aggressive stance throughout the first half of the year contributed to a bear market for equities and other risk assets, as well as sharp losses for bonds. The negative wealth effect of market losses, paired with a slowdown in bigger ticket purchases such as homes and automobiles has created a drop in economic activity.

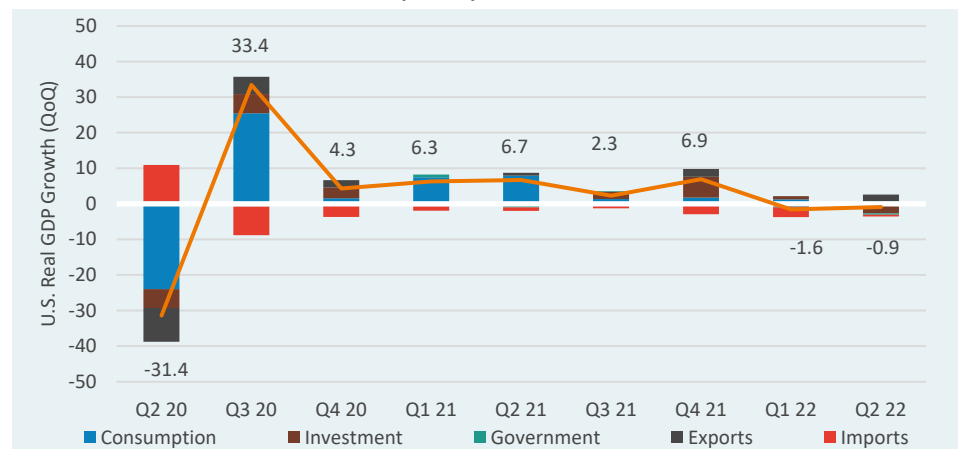
The U.S. has likely entered recession

U.S. REAL GROSS DOMESTIC PRODUCT



Source: FRED, as of 6/30/22

U.S. REAL GDP COMPONENTS (QOQ)



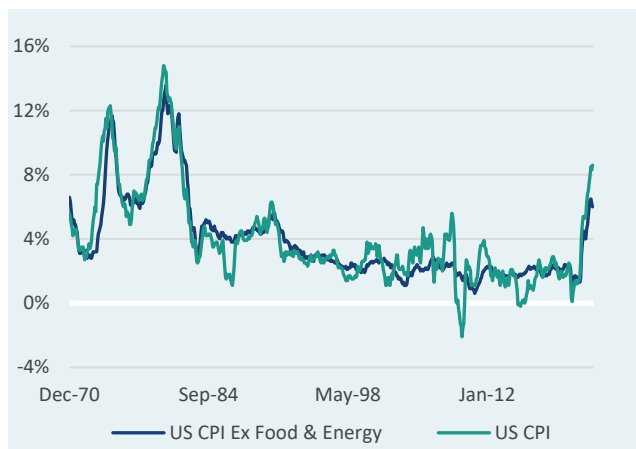
Source: FRED, as of 6/30/22

# Inflation

U.S. core CPI, which excludes food & energy prices, slowed to 5.9% year-over-year in June. However, headline inflation which includes food and energy prices, came in surprisingly hot at 9.1% year-over-year, exceeding expectations. Higher energy prices were a major driver of the inflation print, with energy commodities and gasoline moving more than 10% higher from May to June. Inflation has been mixed during the quarter, with April showing very moderate price growth, May showing a hot print across almost all price categories, and then June also surprising to the upside.

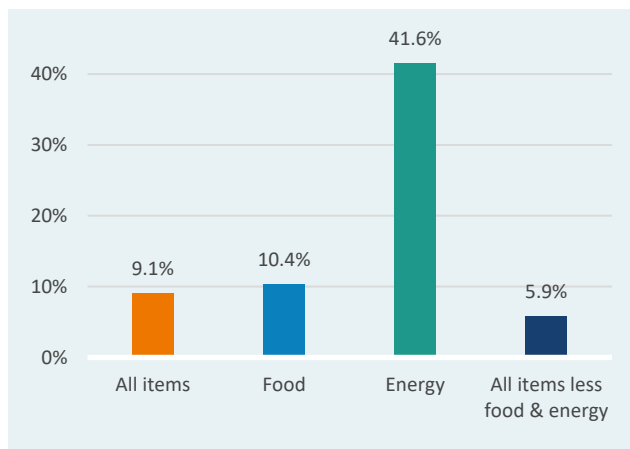
We believe there is a rising chance of economic deceleration coinciding with a drop in inflation. There appear to be a variety of forces that could contribute to this scenario, such as: the recent sharp fall in commodity prices, Federal Reserve tightening which has contributed to a slowdown in consumer demand, further easing of supply chain and shipping problems which reduces cost burdens on businesses, and reports that many businesses have *overbought* inventories which could lead to excesses and the need to offer more attractive pricing for quicker inventory liquidation.

U.S. CPI (YOY)



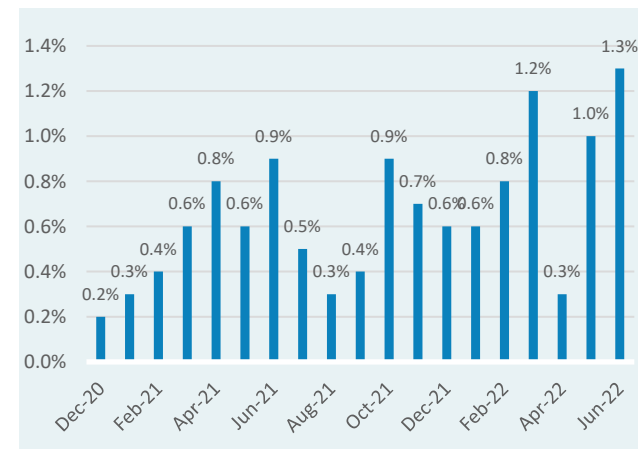
Source: BLS, as of 6/30/22

U.S. CPI (YOY)



Source: BLS, as of 6/30/22

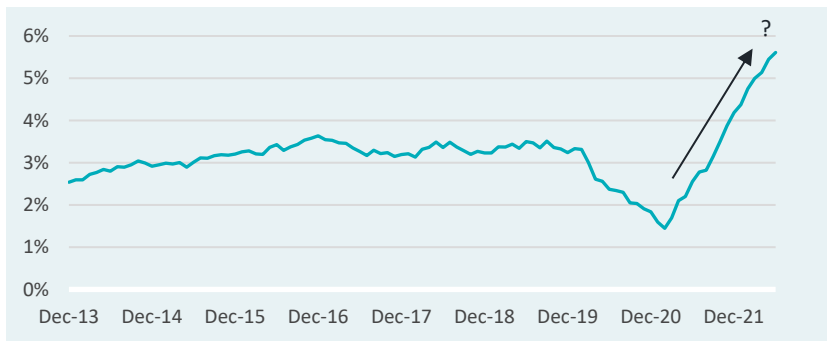
MONTHLY PRICE MOVEMENT



Source: BLS, as of 6/30/22

# How are inflation conditions evolving?

**CPI SHELTER COSTS (YEAR-OVER-YEAR)**



Shelter costs, which account for 32% of CPI gauge, have moved considerably higher along with the broader real estate boom. The continuation of this trend could result in a higher floor for inflation near-term. This is possible since shelter CPI is survey-based and slow moving as consumers tend to anchor their survey responses on recent data.

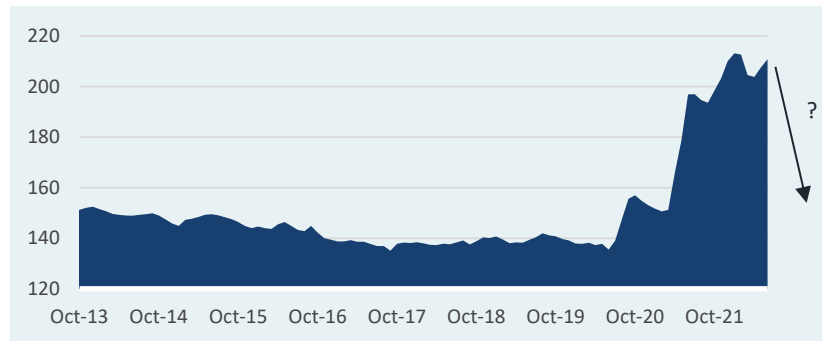
**BLOOMBERG COMMODITY SPOT INDEX**



Fears of a recession which would hinder the demand for commodities, and likely some easing of uncertainty around Ukraine, have contributed to a sharp drop in commodity prices. If weaker prices persist, the reversal in commodity markets should have a deflationary impact on broader consumer prices, though this effect may take time to flow through to broader prices.

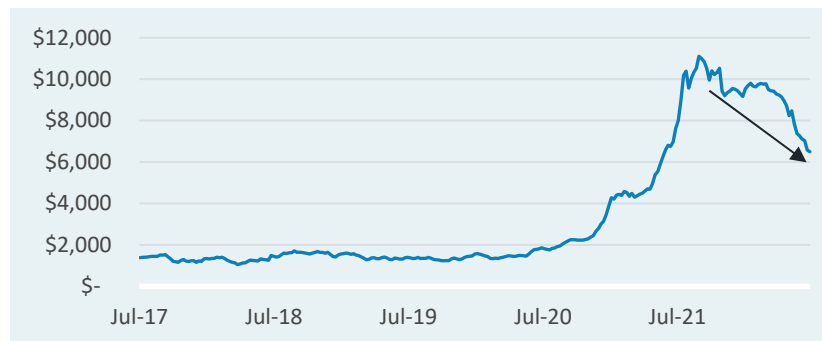
Source: FRED, as of 6/30/22 (upper), Bloomberg, as of 6/30/22 (lower)

**USED CAR & TRUCK PRICES**



Used auto prices remain high as the shortage of cars continues. If this pandemic-related price rise reverses, it could bring inflation down materially.

**FREIGHTOS SHIPPING CONTAINER COST INDEX**



Pandemic-related supply and demand complexities contributed to many supply shortages and price spikes. These shipping costs are quickly falling back towards pre-pandemic levels. We would expect the mitigation of shipping problems to have a deflationary effect on prices, assuming businesses begin to pass these cost savings on to customers.

Source: FRED, as of 6/30/22 (upper), Freightos, as of 7/10/22 (lower)

Inflation dynamics are complex. On this slide we take a look at a few potentially *inflationary* forces and *deflationary* forces

# Labor market

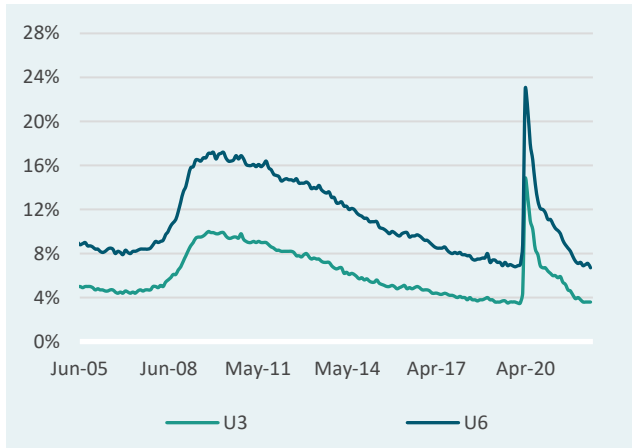
The U.S. labor market continues to be strong. Unemployment was unchanged at 3.6% during the quarter. Meanwhile, the broader U-6 unemployment rate, which includes workers who are underemployed and those who are unemployed but have given up looking for work, tightened from 6.9% to 6.7%. Weekly *initial jobless claims* — a measure of the number of workers who filed for unemployment during any given week — moved higher during the quarter from a low of 166,000 in mid-March to 244,000 in early July.

A strong job market likely emboldens the Federal Reserve in

its fight against high inflation, as the Fed holds a *dual mandate* to maximize employment and keep prices stable.

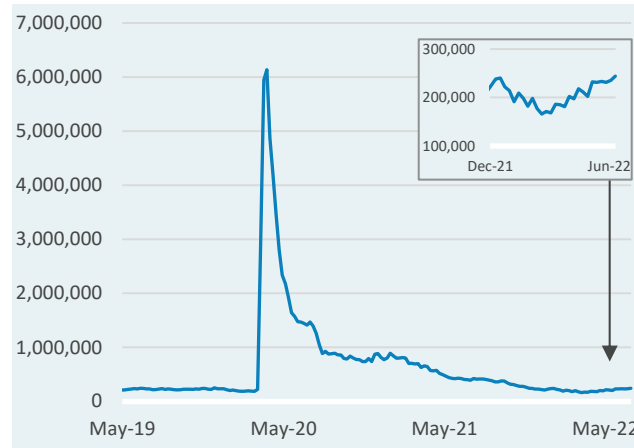
Abnormally early retirements of older workers during the pandemic had a large impact on the overall U.S. labor participation rate. While workers younger than age 55 have gradually gone back to work, much of the age 55+ cohort has not returned to the job market. In fact, more workers in the 55+ age cohort have dropped out of the labor force in 2022 than returned. Overall, there are materially fewer workers available nationwide now relative to pre-pandemic times.

## U.S. UNEMPLOYMENT



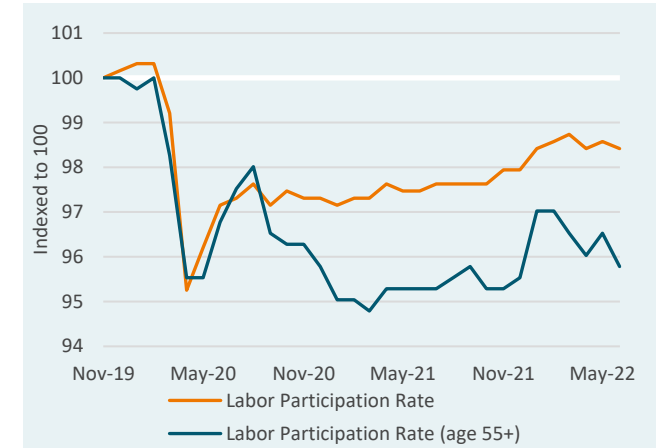
Source: FRED, as of 6/30/22

## INITIAL JOBLESS CLAIMS



Source: FRED, as of 7/9/22

## U.S. LABOR PARTICIPATION RATE



Source: FRED, as of 6/30/22

# The consumer

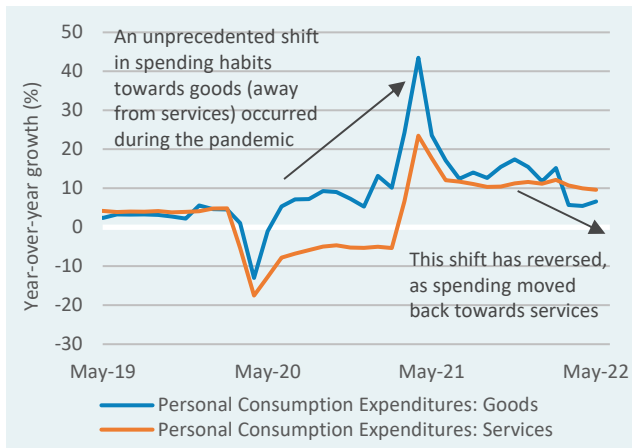
U.S. real (inflation-adjusted) personal consumption expenditures slowed to pre-COVID rates of growth, coming in at 2.1% year-over-year in May. The buying habits of consumers appear to have transitioned back towards services and away from goods, reversing the unprecedented spending shift that had occurred during the pandemic. This trend should help mitigate strained supply chains, as fewer goods require shipping.

At the same time overall spending has slowed, savings rates have also dropped to 5.4%—the lowest level since 2009. Less saving but also less spending (inflation-adjusted) may

indicate that household budgets are being squeezed by the higher prices of goods and services.

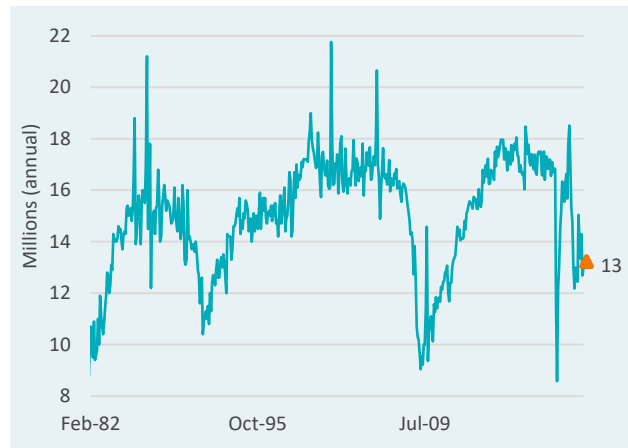
Auto sales activity remains very weak, at levels that have historically occurred during recession. The long-lasting semiconductor shortage has created widespread difficulties for auto manufacturers and has led to skyrocketing used vehicle prices. We also suspect that stimulus checks and heightened spending habits during the pandemic are contributing to the current slowdown, as this spending may have effectively *pulled forward* spending that would have otherwise occurred in years subsequent to the pandemic.

## PERSONAL CONSUMPTION EXPENDITURES



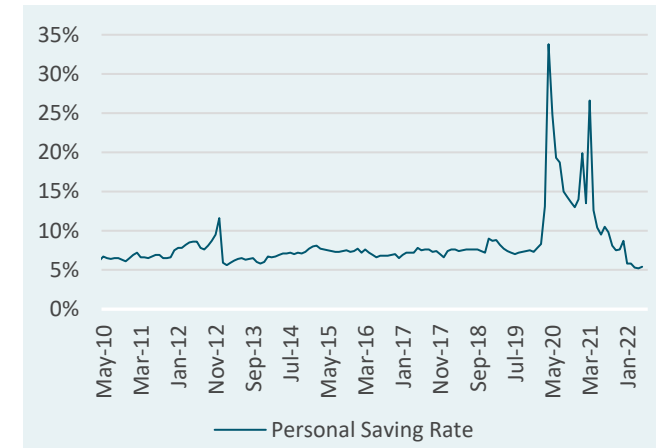
Source: FRED, as of 5/31/22

## AUTO SALES



Source: Federal Reserve, as of 6/30/22

## PERSONAL SAVINGS RATE



Source: FRED, as of 5/31/22

# Sentiment

Consumer sentiment collapsed to the lowest reading on record, according to the University of Michigan survey, which fell from 59.4 to 50.0 during Q2. Survey respondents across all income, age, education, region, and political affiliation groups showed deterioration in their outlook for the economy. Nearly half of respondents pointed to inflation as damaging living standards. Around 79% of respondents expected bad times over the next year for business conditions, which was the highest reading since 2009.

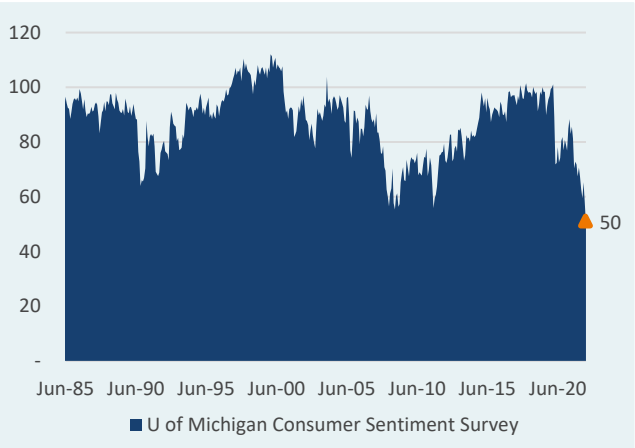
In a June Economist/YouGov Poll, more than half of respondents said they believe the U.S. is in recession. Of those respondents, 43% called the recession moderate and 38% called it serious (only

19% called it mild). Interestingly, the survey suggested that most Americans view *the prices they pay for goods and services* as the most important indicator of recession. Much of the blame was generally placed on supply chain issues and COVID-19 for economic woes.

The NFIB Small Business Optimism index dropped substantially to the weakest level in 48 years. According to NFIB, expected business conditions have further weakened in every month of 2022. Twenty-eight percent of small businesses reported that inflation was the greatest problem to business operations. Owners remain pessimistic about the second half of 2022 and foresee supply chain issues, higher input prices, and labor shortages.

Sentiment, by most measures, is extremely poor

### CONSUMER SENTIMENT



Source: University of Michigan, as of 6/30/22

### WHAT TO BLAME FOR ECONOMIC PROBLEMS?



Source: The Economist / YouGov, June 11-14, 2022

Survey asked "How much, if at all, do you attribute economic problems in the U.S. to the following?"

### NFIB SMALL BUSINESS SENTIMENT



Source: NFIB, as of 5/31/22



# Housing

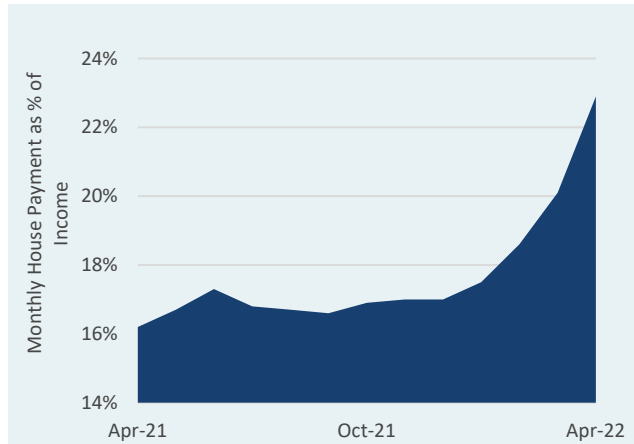
U.S. home prices rose 2.1% from March to April, continuing steady appreciation. Home prices were 7.9% higher year-to-date, as of April, and 20.3% higher year-over-year. The average 30-year fixed rate mortgage began the year at 2.67% and ended June at 5.70%.

High home prices coupled with a material jump in mortgage interest rates has acted as a double whammy for potential homebuyers. According to the National Association of Realtors, the cost for a family with an average income to buy an average priced home jumped from around 16% of that family's income one year ago, to more than 22% of that family's income in April

(a 38% increase in overall cost). Housing and rent prices have contributed to higher inflation.

Historically, larger jumps in interest rates resulted in a softening of the real estate market and placed downward pressure on home values, all else equal. This effect appears to be occurring somewhat in recent months, as home sales have fallen to pre-pandemic levels and bidding wars have become less frequent. Conditions may result in a moderation of the real estate market, though continued tight inventory levels could act as an ongoing support to high prices.

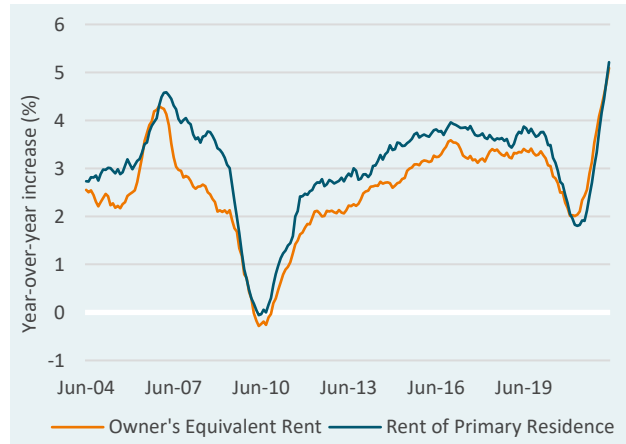
## CHANGE IN HOUSING AFFORDABILITY



Source: National Association of Realtors, as of 4/30/22

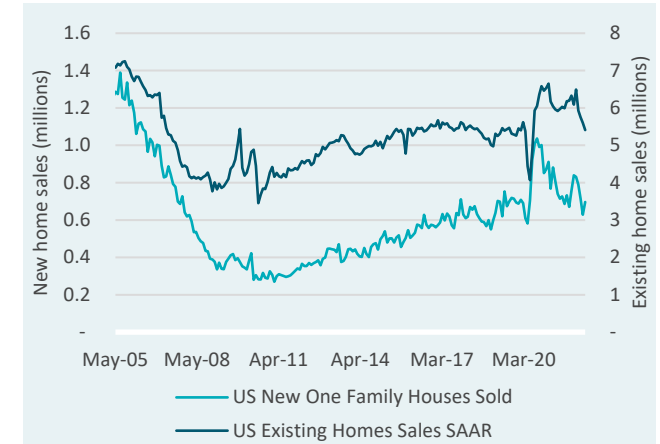
Census Bureau median family income is compared here to the monthly cost (principal + interest) of an average priced home

## HOUSING & RENT COSTS



Source: FRED, as of 5/31/22

## HOME SALES ACTIVITY



Source: Bloomberg, as of 5/31/22

# International economics summary

- Economic growth has moderated in most countries, moving toward average levels. Higher inflation continues to erode growth figures as GDP is typically quoted as *inflation-adjusted* growth.
- Inflation trends continue to be disparate around the world. Japan and China are experiencing very low inflation and muted price pressures, while Europe and the United States are coping with multidecade-high inflation. Countries with low inflation and countries with high inflation all appear to have experienced an uptick during the second quarter.
- Labor markets have been relatively stable in developed markets, with conditions in the Eurozone strengthening. Unemployment in emerging markets were mixed—Brazil and Russia experienced improvement, while India and China saw slight weakening.
- Russia’s invasion of Ukraine continued in the second quarter, leading to heavy loss of life on both sides. Most fighting has taken place in the east, as Russia generally gradually pushing forward. Concerns around food shortages in nearby countries that depend on Ukrainian agriculture persist, though many commodity prices that had shot higher in March and April have eased, falling closer to pre-invasion costs.
- During the first week of July, millions of Chinese citizens were put back into lockdown, and subjected to mass testing, as small outbreaks have led to renewed restrictions. China continues to stick to a “zero COVID” approach, which is increasingly at odds with the recognition by most nations that civilization will have to live *with* the virus for the long-term, while moving back to normal life.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	1.6% 6/30/22	9.1% 6/30/22	3.6% 6/30/22
Eurozone	5.4% 3/31/22	8.6% 6/30/22	6.6% 5/31/22
Japan	0.4% 3/31/22	2.3% 6/30/22	2.6% 5/31/22
BRICS Nations	4.4% 3/31/22	4.6% 6/30/22	5.2% 12/31/21
Brazil	1.7% 3/31/22	11.9% 6/30/22	9.8% 5/31/22
Russia	3.5% 3/31/22	15.9% 6/30/22	3.9% 5/31/22
India	4.1% 3/31/22	7.0% 6/30/22	7.8% 6/30/22
China	4.8% 3/31/22	2.5% 6/30/22	5.9% 5/31/22

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

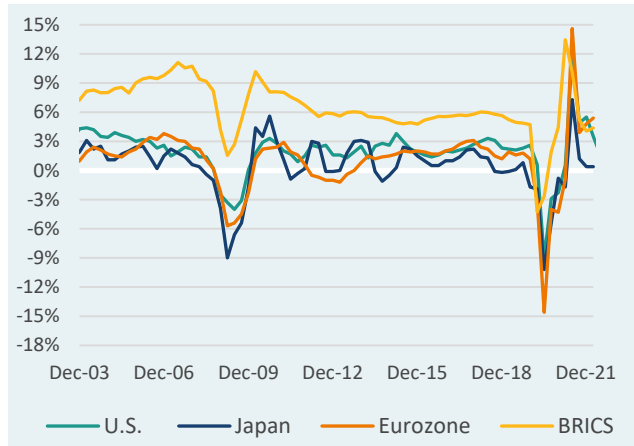
Economic growth has moderated in most countries, moving toward average levels. Inflation trends remain disparate across geographies. Japan and China are experiencing very low inflation and muted price pressures, while Europe and the United States are coping with multidecade-high inflation. Countries with low inflation and countries with high inflation all appear to have experienced an uptick during Q2.

For some central banks, the issue of fighting inflation has been made more challenging given economic deceleration,

as overly aggressive monetary policy might quickly send an economy into recession. Inflation has become a lightning rod for political leaders, as rising prices squeeze household budgets and standards of living.

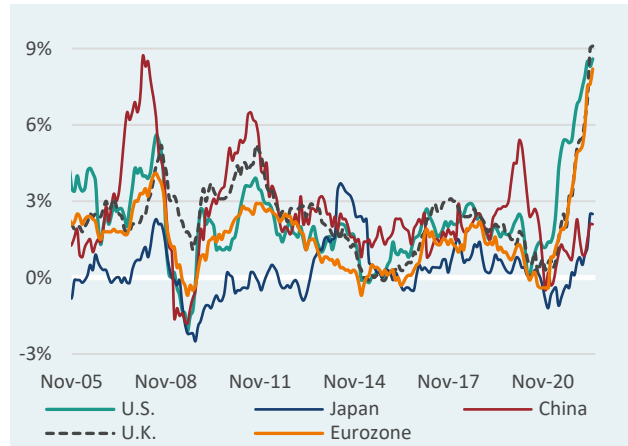
Unemployment rates were relatively stable in developed markets, with conditions in the Eurozone strengthening. Joblessness in emerging markets was mixed—Brazil and Russia experienced improvement, while India and China saw a slight weakening.

**REAL GDP GROWTH (YOY)**



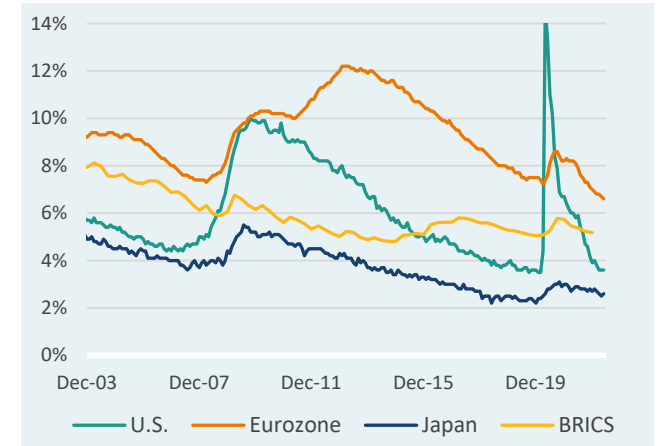
Source: Bloomberg, as of 6/30/22

**INFLATION (CPI YOY)**



Source: Bloomberg, as of 5/31/22 – or most recent release

**UNEMPLOYMENT**



Source: Bloomberg, as of 6/30/22 – or most recent release

# Fixed income rates & credit

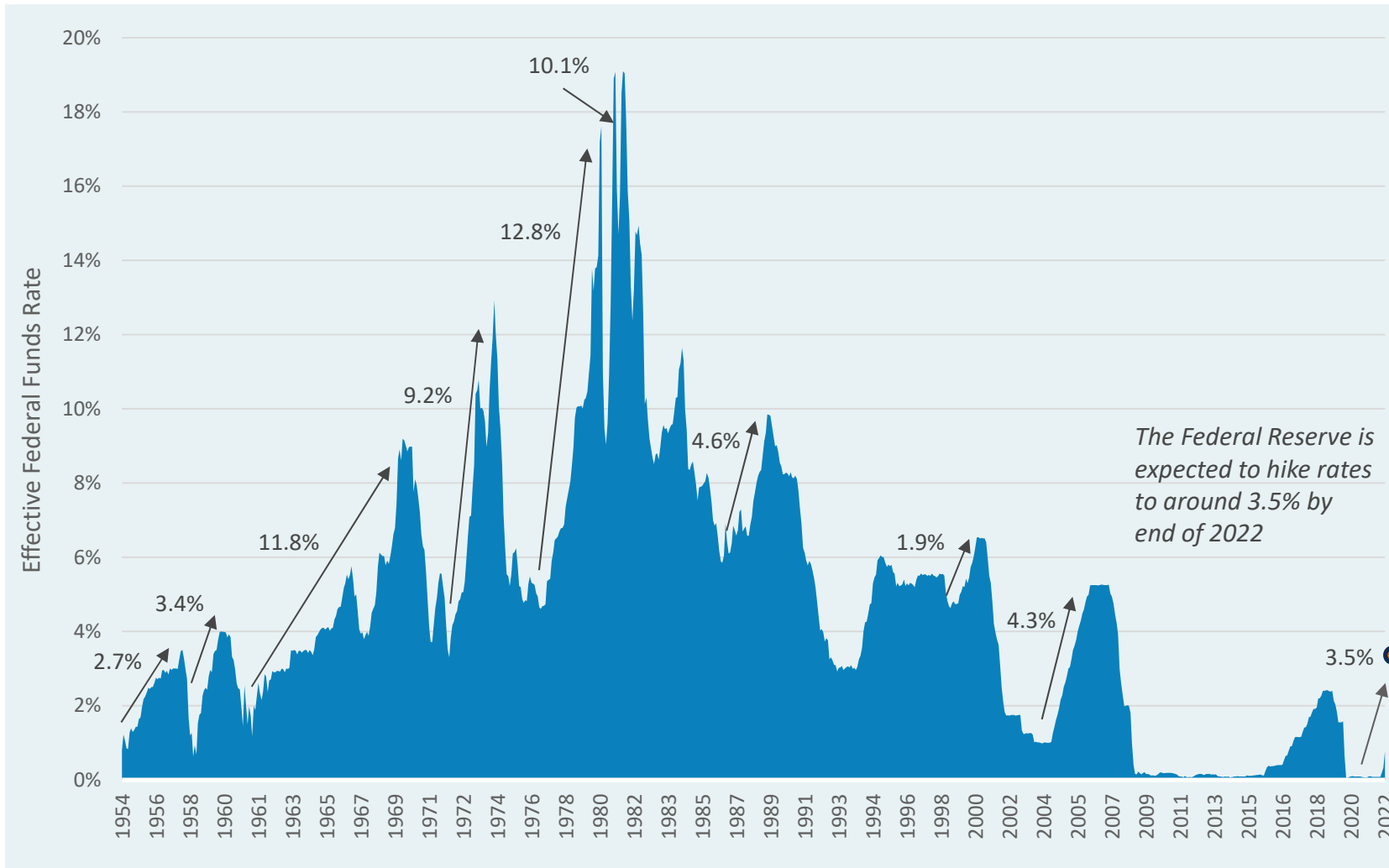
# Fixed income environment

- The 10-year U.S. Treasury yield jumped during Q2 from 2.34% to nearly 3.50%, ending the quarter at 2.89%. Yields have fallen from their highs as recession fears mount. The Federal Reserve has a history of cutting interest rates during recession. This implies a higher chance of rate cuts as it appears the U.S. may currently be in recession.
- Credit markets sold off during Q2, impacted by concerns of a slowing economy and recession as the Fed signaled a willingness to raise rates until inflation slows. Bank loans performed the best at -4.4% and outperformed longer duration bonds such as investment grade and high yield (-7.3% and -9.8%, respectively).
- Credit spreads jumped considerably alongside the broader market selloff. U.S. high yield spreads increased from 3.4% to 5.6% and U.S. investment grade spreads headed from 1.2% to 1.6%. In contrast to the recent low yield environment, fixed income now offers investors more robust yields.
- The U.S. yield curve remained fairly flat during the second quarter. The 10-year minus 2-year yield spread fluctuated between -0.05% and 0.4%. Markets continue to price a flat or inverted yield curve, which is generally recognized as a sign of incoming recession.
- In June, the U.S. Federal Reserve began to unwind its \$9 trillion balance sheet. Initially this action involved *not purchasing new bonds* and letting existing bonds mature and roll off. The Fed signaled plans to allow \$30 billion of U.S. Treasuries and \$17.5 billion of mortgage-backed securities to fall off the balance sheet by end of month. Leadership has admitted that this size of divestment program is essentially the first of its kind and that the committee will be moving with caution.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	(4.7%)	(10.3%)
Core Plus Fixed Income (Bloomberg U.S. Universal)	(5.1%)	(10.9%)
U.S. Treasuries (Bloomberg U.S. Treasury)	(3.8%)	(8.9%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	(9.8%)	(12.8%)
Bank Loans (S&P/LSTA Leveraged Loan)	(4.4%)	(2.7%)
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	(8.6%)	(19.3%)
Emerging Market Debt Hard (JPM EMBI Global Diversified)	(11.4%)	(21.1%)
Mortgage-Backed Securities (Bloomberg MBS)	(4.0%)	(9.0%)

Source: Bloomberg, as of 6/30/22

# How does this tightening cycle stack up?



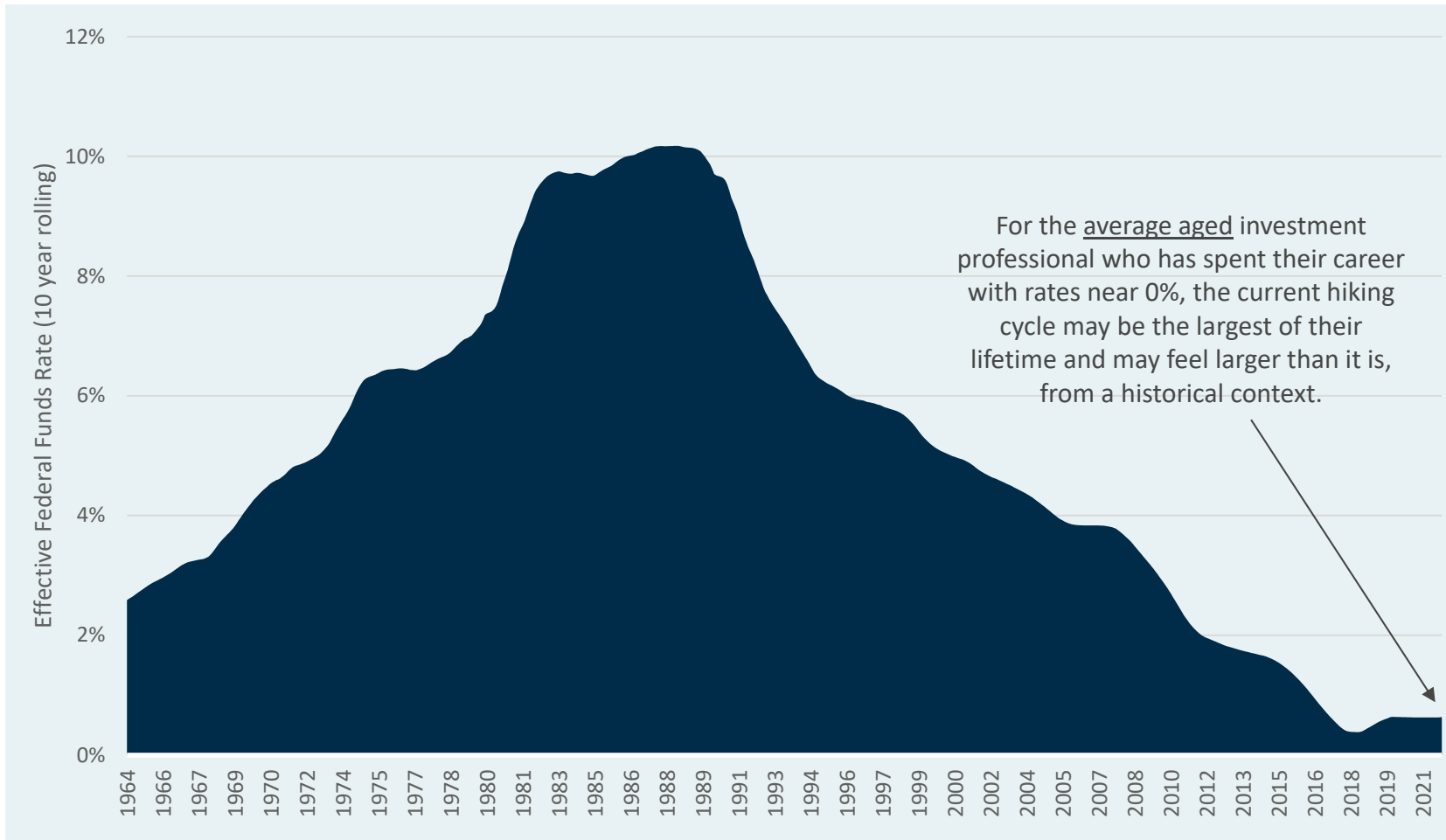
This tightening cycle is milder than most, in terms of total magnitude of hikes

The Fed's plans to reduce their large balance sheet does pose a unique challenge relative to past cycles, however

Source: FRED, as of 6/30/22 - rate hiking cycle of each economic cycle shown

# How does this tightening cycle stack up?

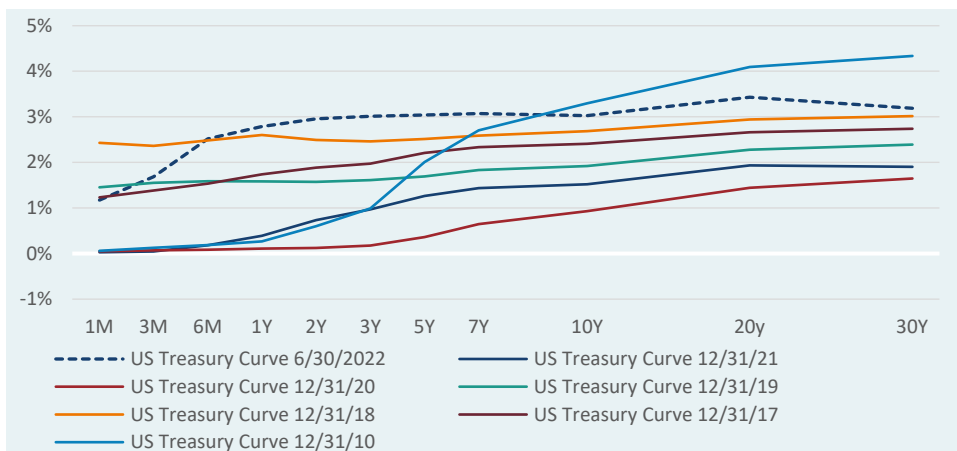
## 10 YEAR ROLLING AVERAGE FED FUNDS LEVEL



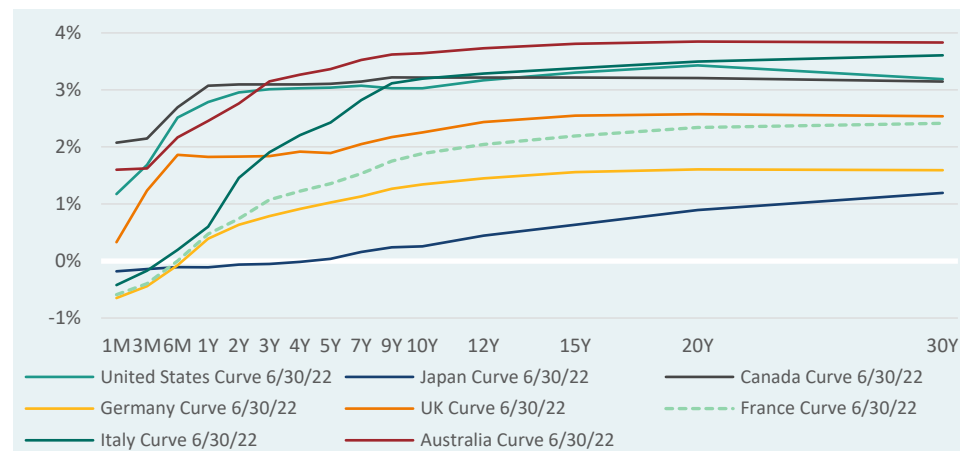
Source: FRED, Verus, as of 6/30/22

# Yield environment

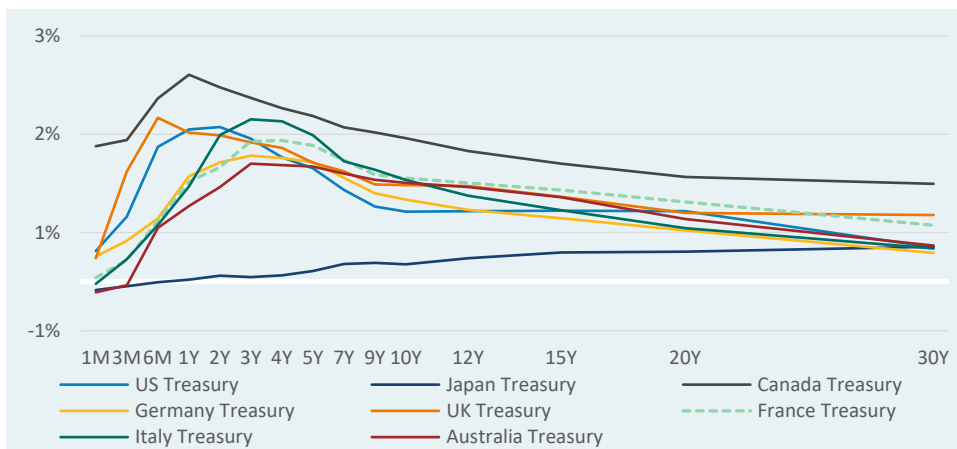
## U.S. YIELD CURVE



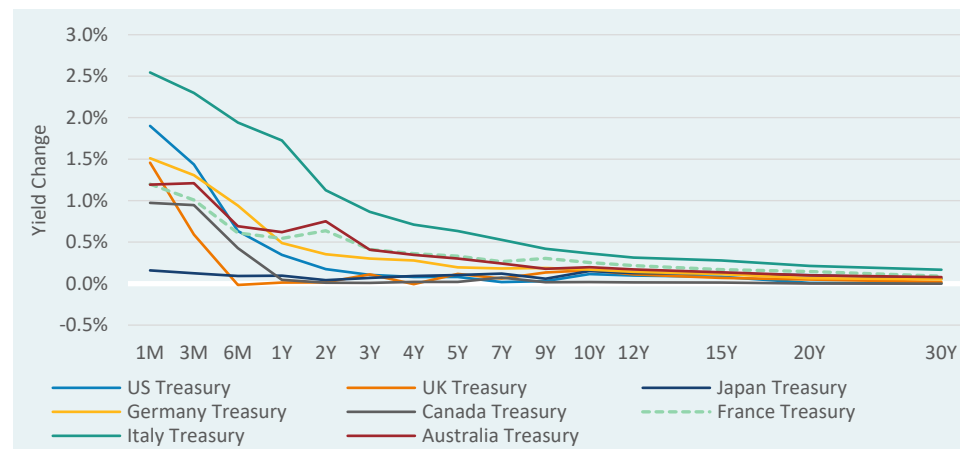
## GLOBAL GOVERNMENT YIELD CURVES



## YIELD CURVE CHANGES OVER LAST FIVE YEARS



## IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 6/30/22



# Credit environment

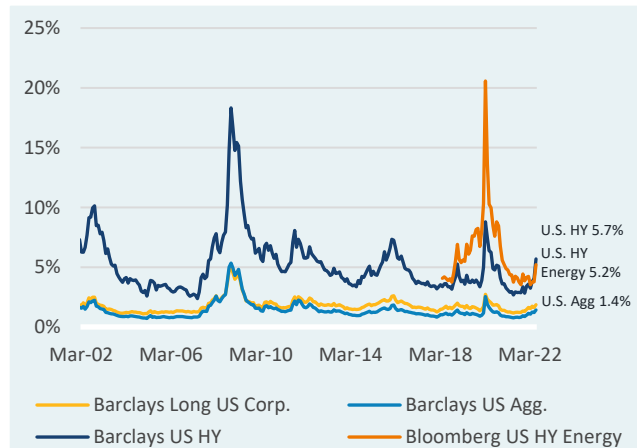
Credit markets experienced a broad selloff over the quarter impacted by concerns of slowing economic growth and recession as the Fed signaled a willingness to raise rates until inflation slows. Bank loans performed the best, returning -4.4% and outperforming higher duration exposures such as investment grade and high yield corporate credit which returned -7.3% and -9.8%, respectively. The decline in high yield was the third worst quarterly decline since 2000, behind the 18% decline experienced during Q4 of 2008 and the 13% decline experienced during Q1 of 2020.

Risk-off sentiment and elevated concerns over economic growth prospects contributed to spread widening during the quarter. Investment grade credit spreads increased 39 basis points to end the quarter at 155

bps. High yield spreads increased 163 basis points to end the quarter and 569 bps which was above the long term non-recessionary average of 454 bps.

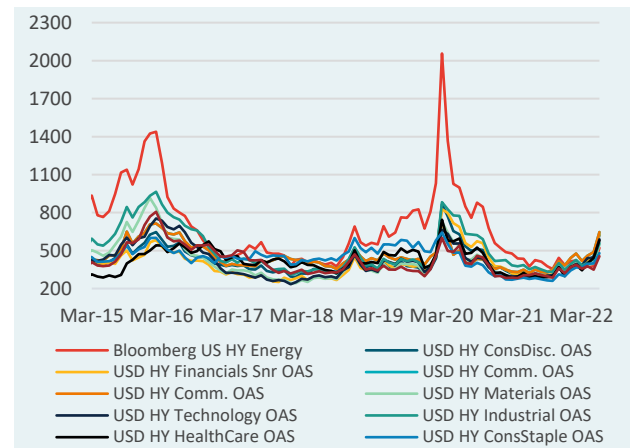
At the end of June, the Bloomberg US High Yield Index offered a yield just shy of 9%, up more than 4% from the beginning of the year. While these levels appear attractive in the context of the recent low yield environment, there is still potential for spreads to widen from these levels if recession concerns worsen.

## SPREADS



Source: Barclays, Bloomberg, as of 6/30/22

## HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 6/30/22

Market	Credit Spread (OAS)	
	6/30/22	6/30/21
Long U.S. Corp	1.9%	1.2%
U.S. Inv Grade Corp	1.6%	0.8%
U.S. High Yield	5.7%	2.7%
U.S. Bank Loans*	5.9%	4.3%

Source: Barclays, Credit Suisse, Bloomberg, as of 6/30/22

\*Discount margin (4-year life)

# Default & issuance

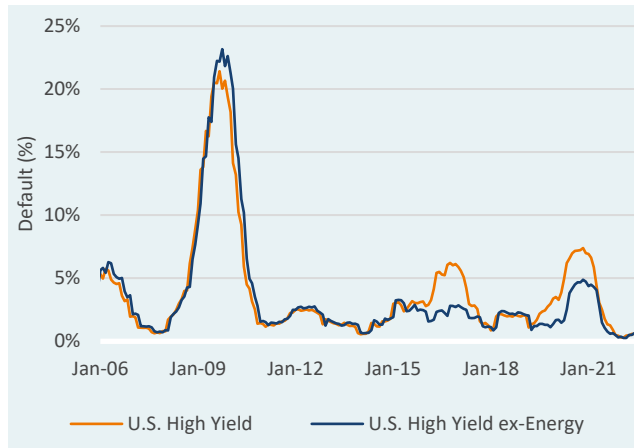
Default activity picked up in the second quarter with seven companies defaulting on loans and bonds, totaling \$15.6 billion. While default volumes have increased from the \$1.2 billion experienced last quarter and \$9.8 billion experienced throughout 2021, the volumes are in line with the 5-year quarterly average of \$16 billion.

Default rates for par-weighted US high yield and bank loans ended the quarter at 0.76% and 0.74%, respectively—well below the longer-term historical averages of 3.2% and 3.1%. The default rate is expected to rise modestly over the remainder of 2022 and throughout 2023, given the prospects for lower growth, more restrictive financing rates, and an expected surge in rising stars exiting the high yield index. While modest

increases in default rates are expected, record bond and loan refinancing activity totaling over \$1 trillion in 2020 and 2021 has led to relatively healthy issuer fundamentals and very limited near-term financing needs.

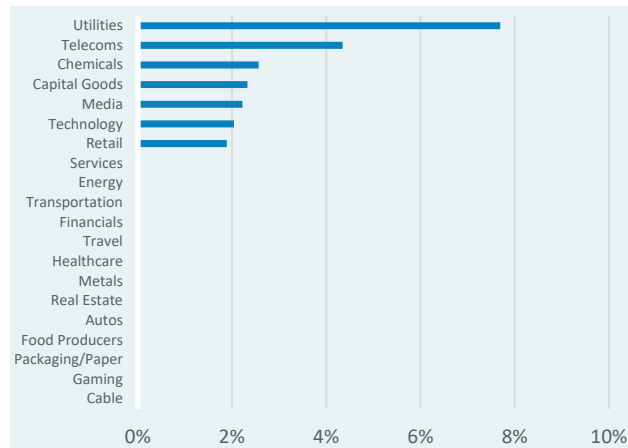
Leveraged credit issuance continued to be light amid high market volatility. The \$24.6 billion of high yield bonds issued over the quarter was the lowest issuance since the fourth quarter of 2018 and second lowest total since 2009. Similarly, bank loan issuance totaled \$60.6 billion, which was down from \$120.5 billion issued in the first quarter. Notably, nearly all of the loans issued over the quarter were SOFR-linked deals as the discontinuation of LIBOR is expected to occur at the end of June 2023.

**HY DEFAULT RATE (ROLLING 1-YEAR)**



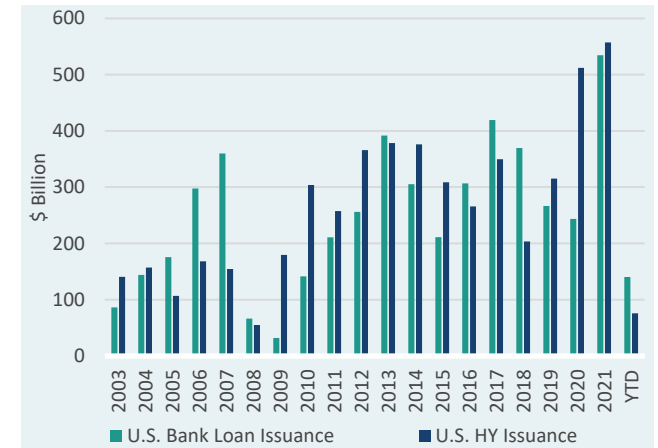
Source: BofA Merrill Lynch, as of 6/30/22

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



Source: BofA Merrill Lynch, as of 6/30/22 – par weighted

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



Source: BofA Merrill Lynch, as of 6/30/22

# Alternative credit

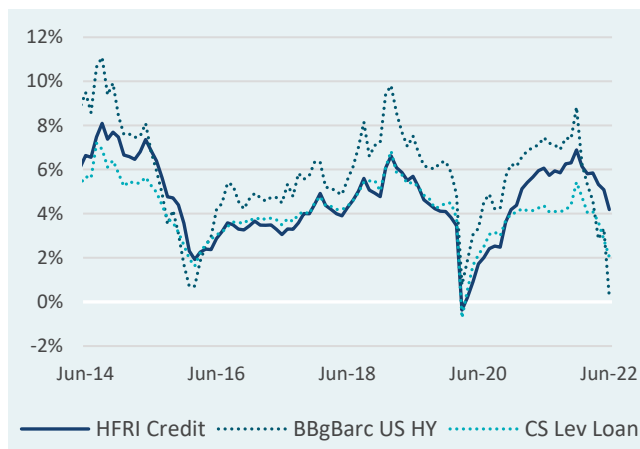
Credit hedge fund strategies succumbed to overwhelming risk-off moves in fixed income markets during the quarter. The HFRI Credit Index lost 3.2% for Q2, slightly outperforming loan markets as hedges helped offset spread widening. On a three-year rolling basis, alternative credit strategies outperformed high yield bonds by nearly 4% annualized. The only other time since 2008 (the inception of the index) that HFRI Credit outperformed high yield on a three-year basis was a brief period after the 2015 energy sector sell-off.

Looking closer within hedge fund credit, managers focused on structured credit remained the bright spot with only slightly negative returns for the

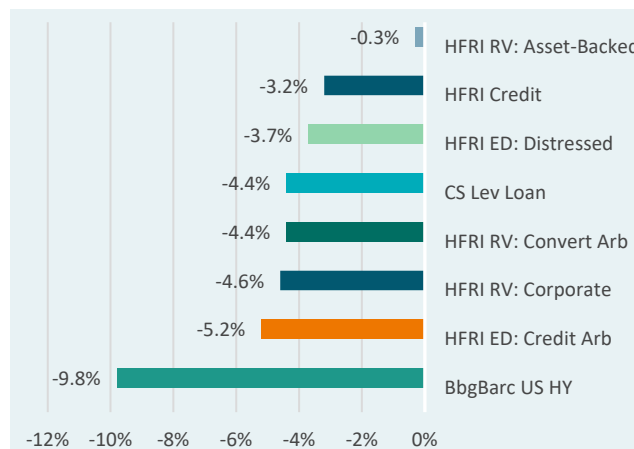
quarter and continued outperformance relative to other credit strategies and fixed income markets.

The magnitude of losses in traditional credit markets began to impact even those strategies which try to minimize duration and credit spread risk, such as convertible arbitrage and credit arbitrage. These strategies typically involve substantial leverage or basis risk, and are susceptible to large down moves in extreme stress periods.

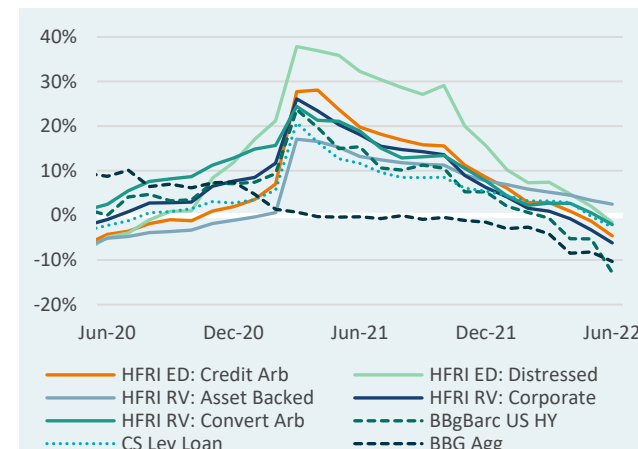
**3 YEAR ROLLING ANNUALIZED RETURN**



**2Q 2022 QUARTERLY RETURN**



**1 YEAR ROLLING RETURN**



Source: HFR, MPI, Morningstar, as of 6/30/22

# Equity

# Equity environment

- U.S. equities suffered large losses during the second quarter (S&P 500 -16.1%), as many highly priced growth stocks took an exceptionally large hit due to interest rate rises and risk-off sentiment. International developed equities (MSCI EAFE -14.5%) experienced similar losses, while emerging market equities (MSCI Emerging Markets -11.4%) outperformed materially, on an unhedged currency basis.
- As mentioned during Q2 earnings calls, a rising number of S&P 500 companies were concerned about material & commodity costs, COVID costs, and oil & gas prices. A decreasing number of companies were concerned about labor costs & shortages, supply chain disruptions, transport & freight costs, and Russia/Ukraine.
- Currency movement generated large losses for investors who do not hedge their foreign currency exposure. Investors in international

developed markets would have seen a loss of approximately -7.3% with a currency hedging program, rather than the -14.5% loss of unhedged investors. Over the past full year, losses from currency movement were -12.4%.

- Value stocks outperformed Growth stocks by a wide margin again in Q2 (Russell 1000 Value -12.2% vs Russell 1000 Growth -20.9%) as many Growth stocks with lofty valuations suffered due to rising interest rates and broader risk-off sentiment. Large capitalization stocks outperformed small cap stocks slightly (Russell 1000 -16.7%, Russell 2000 -17.2%).
- The Cboe VIX Index rose during the quarter from 20.6% to 28.7%, as risk assets sold-off and investors began focusing on potential recession. Investors remain acutely focused on the path of inflation, and market volatility may ease if inflation does in fact begin to moderate in future months.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	(16.1%)		(10.6%)	
U.S. Small Cap (Russell 2000)	(17.1%)		(25.2%)	
U.S. Equity (Russell 3000)	(16.7%)		(13.9%)	
U.S. Large Value (Russell 1000 Value)	(12.2%)		(6.8%)	
US Large Growth (Russell 1000 Growth)	(20.9%)		(18.8%)	
Global Equity (MSCI ACWI)	(15.7%)	(13.5%)	(15.8%)	(12.1%)
International Large (MSCI EAFE)	(14.5%)	(7.3%)	(17.8%)	(5.4%)
Eurozone (Euro Stoxx 50)	(15.3%)	(9.2%)	(23.1%)	(11.3%)
U.K. (FTSE 100)	(11.2%)	(3.6%)	(7.1%)	6.2%
Japan (NIKKEI 225)	(14.8%)	(4.2%)	(23.8%)	(6.0%)
Emerging Markets (MSCI Emerging Markets)	(11.4%)	(8.2%)	(25.3%)	(21.5%)

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 6/30/22

# Domestic equity

U.S. equities saw sharp losses during the second quarter (S&P 500 -16.1%), underperforming global markets (MSCI ACWI ex-US -13.7%). U.S. sector dispersion was wide, with consumer discretionary stocks suffering the worst pain (-26.2%) and consumer staples faring the best (-4.6%).

Calendar year 2022 bottom-up earnings estimates for the S&P 500 improved slightly during the quarter, despite the equity bear market. A rosier earnings outlook was fueled mostly by the energy and materials sectors, while consumer discretionary and communication services sectors saw worsening expectations. According to Factset, an increased

number of companies issued negative earnings guidance during the quarter, though the balance of companies offering positive and negative guidance remains in a relatively normal range.

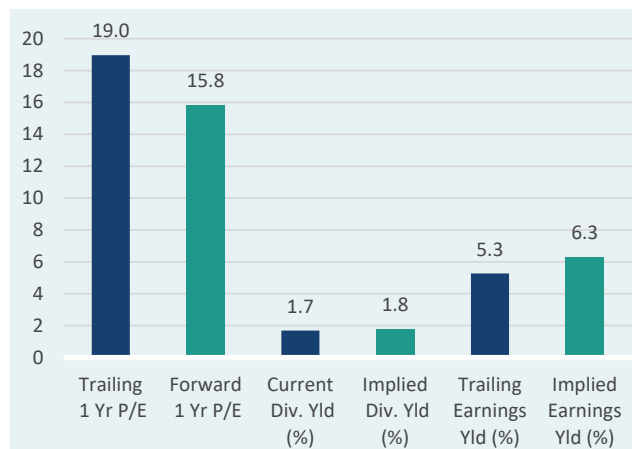
According to Q2 earnings calls, a rising number of S&P 500 companies were concerned about material & commodity costs, COVID costs, and oil & gas prices. A decreasing number of S&P 500 companies were concerned about labor costs & shortages, supply chain disruptions, transport & freight costs, and the economic impacts of Russia's invasion of Ukraine.

## S&P 500 PRICE INDEX



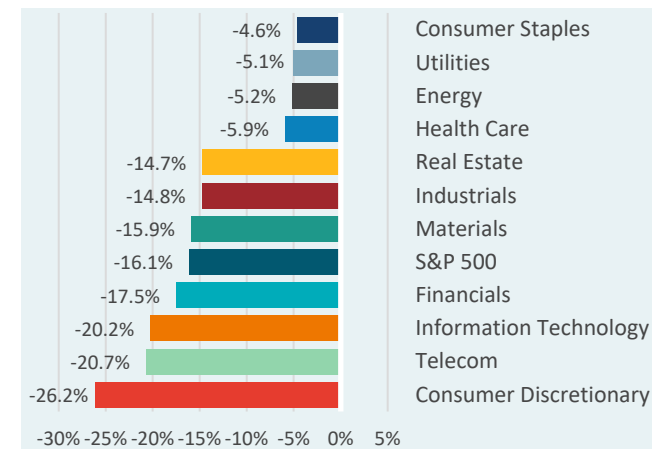
Source: Standard & Poor's, as of 6/30/22

## S&P VALUATION SNAPSHOT



Source: Bloomberg, as of 6/30/22

## Q2 SECTOR PERFORMANCE



Source: Morningstar, as of 6/30/22

# Domestic equity size & style

Value stocks outperformed Growth stocks by a wide margin once again in the second quarter (Russell 1000 Value -12.2% vs Russell 1000 Growth -20.9%) as many Growth stocks with lofty valuations suffered due to rising interest rates and broader risk-off sentiment. Large capitalization stocks outperformed small capitalization stocks slightly (Russell 1000 -16.7%, Russell 2000 -17.2%).

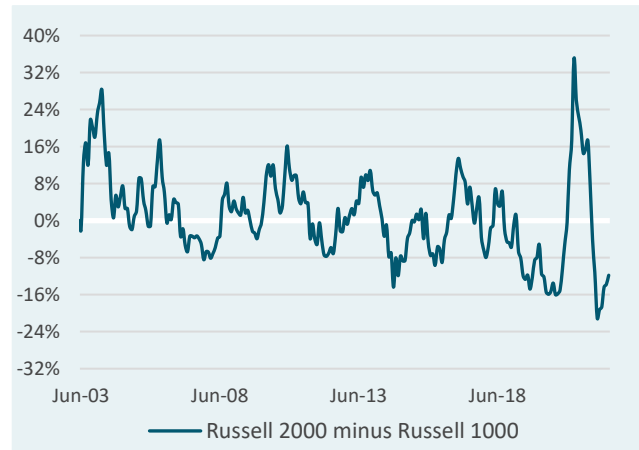
The recent drawdown of Growth stocks has helped partially close the historically wide price gap between Value and Growth, as reflected in the bottom right chart. Sector trends contributed to style performance during the quarter. The energy sector

outperformed, and information technology was a poor performer. Other Value-concentrated sectors such as financials and materials performed closely in line with the overall index.

In last quarter's research commentary we mentioned that further tightening of Fed policy and interest rate hikes would likely impact Value and Growth stock behavior. This foresight was valid and we believe will remain so. Further Fed hawkishness and market risk-off behavior may lead to additional Growth underperformance, but a reversal by the Federal Reserve and easing of interest rates may bolster the returns of Growth, all else equal.

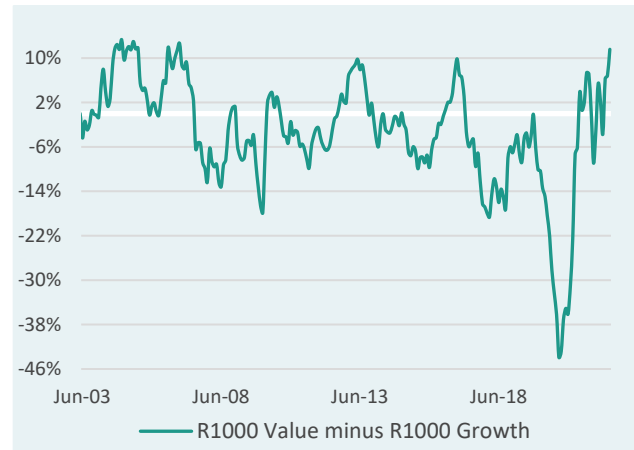
A rebound in Value continued during Q2

SMALL CAP VS LARGE CAP (YOY)



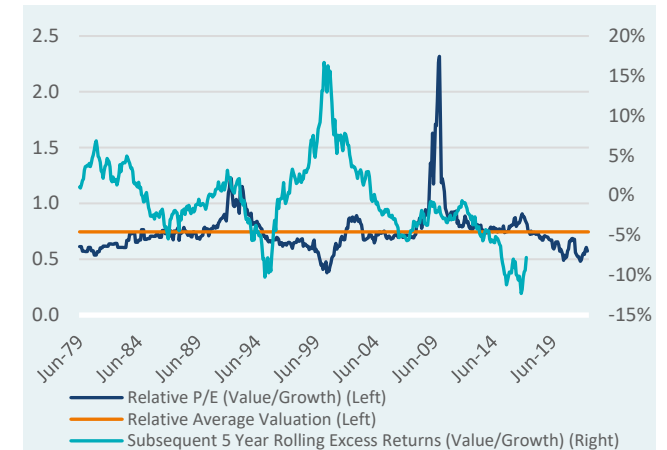
Source: FTSE, as of 6/30/22

VALUE VS GROWTH (YOY)



Source: FTSE, as of 6/30/22

VALUE VS. GROWTH RELATIVE VALUATIONS



Source: Standard & Poor's, as of 6/30/22

# International developed equity

International developed equities fell during the quarter (MSCI EAFE -14.5%), mildly outperforming U.S. equities (S&P 500 -16.1%) and materially underperforming emerging market equities (MSCI Emerging Markets -11.4%), on an unhedged currency basis.

Currency movement during the quarter generated large losses for investors who do not hedge foreign currency exposure. Investors in international developed markets would have seen a loss of approximately -7.3% with a currency hedging program, rather than the -14.5% loss if

currency was left unhedged. Over the past year, investors in international equities with a currency hedging program would have experienced roughly a -5.4% return, compared to a return of -17.8% if currency was left unhedged.

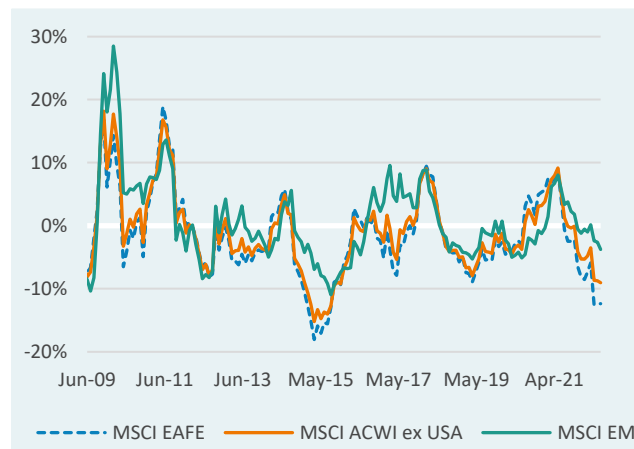
Eurozone equities provided the poorest performers during the quarter (MSCI Euro -11.1%), as EUR/USD reached parity for the first time in nearly 20 years. The United Kingdom market (MSCI UK 1.8%) and Japanese market (MSCI Japan -6.6%) lifted the overall MSCI EAFE Index.

**INTERNATIONAL DEVELOPED EQUITY**



Source: MSCI, as of 6/30/22

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



Source: MSCI, as of 6/30/22

**PRICE OF 1 EUR IN USD**



Source: Bloomberg, as of 7/14/22



# Emerging market equity

Emerging market equities have delivered broad outperformance throughout the global risk asset drawdown (MSCI EM -11.4%, MSCI ACWI -15.7%) on an unhedged currency basis. A bounce-back in Chinese equities over the quarter (MSCI China 3.5%) from their sharp recent losses helped lift overall performance of the asset class. Latin American markets lagged Asian markets (MSCI EM Latin America -21.9%, MSCI EM Asia -9.3%), reversing last quarter's gains.

Strong returns from the consumer discretionary sector (12.9%)—the largest sector in the MSCI China Index—propelled

Chinese equity performance forward. Outside of Chinese equities, emerging markets struggled, as central banks around the world tightened policy to fight inflation. Emerging market countries whose economies are reliant on raw goods exports were particularly impacted by tightening, as global commodity prices have drawn down from peaks seen earlier in the year.

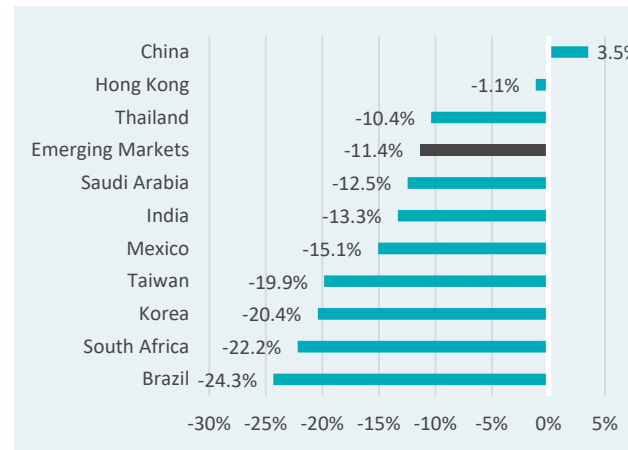
The strong dollar also provided a headwind to emerging market equity returns, as currency movement resulted in a -3.2% loss. Emerging market currencies remain far weaker than the historical average, which may allow performance upside if mean reversion were to occur.

## EMERGING MARKET EQUITY



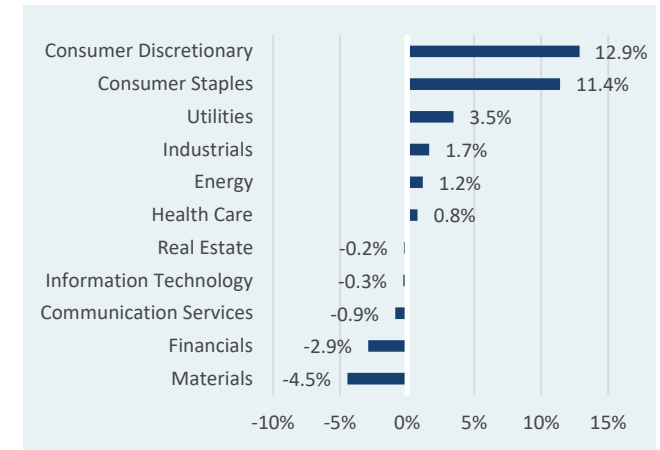
Source: MSCI, as of 6/30/22

## Q2 PERFORMANCE – TOP 10 EM CONSTITUENTS



Source: Bloomberg, MSCI as of 6/30/22, performance in USD terms

## MSCI CHINA Q2 SECTOR PERFORMANCE



Source: Bloomberg, MSCI as of 6/30/22, performance in USD terms

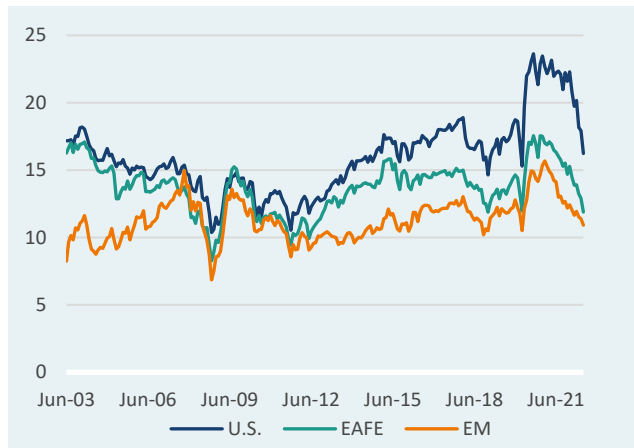
# Equity valuations

Valuations fell substantially during the market selloff, bringing multiples closer in line with long-term historical averages. U.S. earnings forecasts have held strong, and analysts expect 2022 calendar year earnings growth of 10.4%. However, these earnings forecasts arguably contain greater uncertainty, given higher interest rates, higher input prices, and weakening consumer demand. The path of corporate earnings in 2022 will be a key variable in determining whether equity markets recover, remain subdued, or fall further. The bottom-up S&P 500 12-month analyst price target was 4,987 as of June 23<sup>rd</sup>.

Domestic equity valuations remain elevated relative to international developed and emerging markets, which translates to U.S. equities offering a lower yield and likely lower prospective total performance over the longer-term. Domestic equities trade at roughly a 50% valuation premium over international developed equities on a trailing price/earnings basis, and a 75% valuation premium over emerging market equities. While we are more pessimistic around the outlook for international developed equities and believe cheaper prices are justified, we are bullish around emerging markets which appear to offer attractive returns in the current environment.

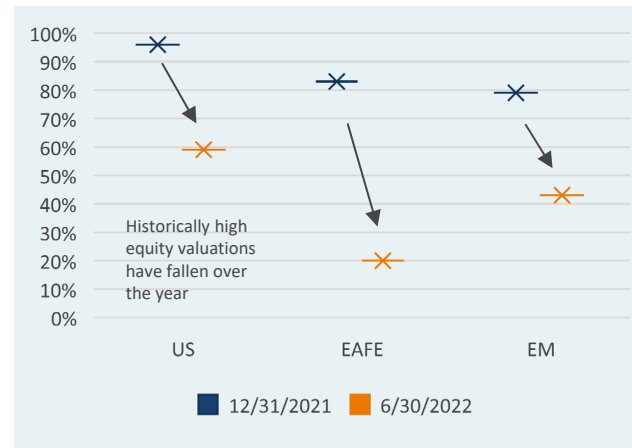
Most equity valuations have moved back towards normal levels, though U.S. prices remain rich

## FORWARD P/E RATIOS



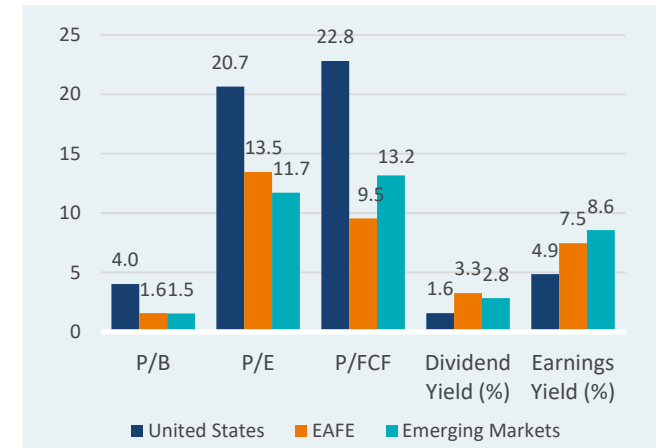
Source: MSCI, 12m forward P/E, as of 6/30/22

## FORWARD P/E PERCENTILE RANKINGS



Source: Bloomberg, MSCI, as of 6/30/22

## VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI as of 6/30/22 - trailing P/E

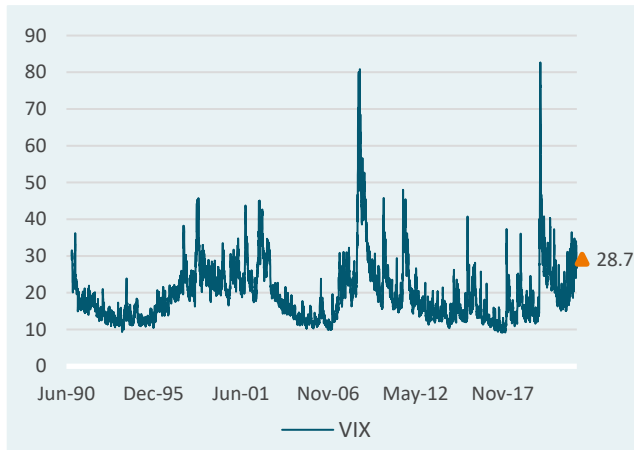
# Equity volatility

The Cboe VIX Index rose during the quarter from 20.6% to 28.7%, as risk assets sold-off and investors began focusing on potential recession. Investors have been acutely focused on the path of inflation, and market volatility may ease if inflation does in fact begin to moderate in future months.

Realized volatility of equity markets over the past year has remained within an average range. U.S. markets were the most volatile relative to developed and emerging markets. This dynamic has been rare historically, and is likely driven in part by inflation and recession risks that are especially high in the United States.

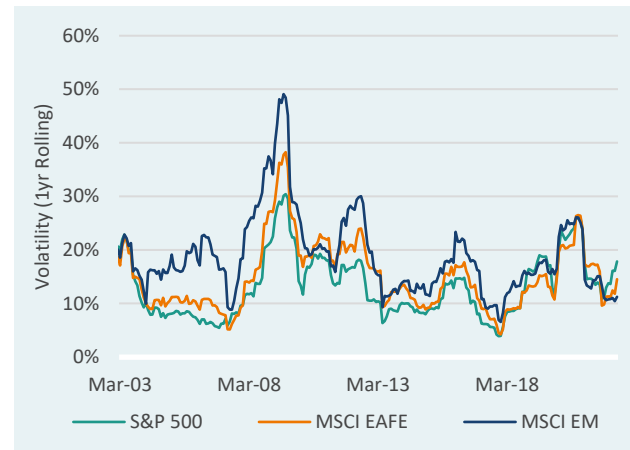
The 2022 equity bear market, while fairly moderate in speed and magnitude by historical standards, may justifiably feel severe for investors due to the broad-based nature of the selloff. Fixed income has delivered notable losses, failing to provide the diversification which investors expect. Commodities were a bright spot in Q1, but a sharp reversal in June led to quarterly Q2 loss of -5.7%. Currency markets also moved against investors, as U.S. dollar appreciation further compounded losses for unhedged international asset exposure. It seems there was nowhere to hide except for cash during the second quarter.

## U.S. IMPLIED VOLATILITY (VIX)



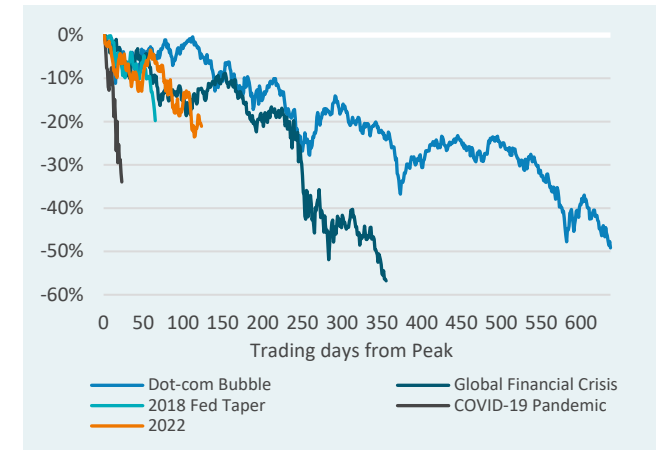
Source: Cboe, as of 6/30/22

## REALIZED VOLATILITY



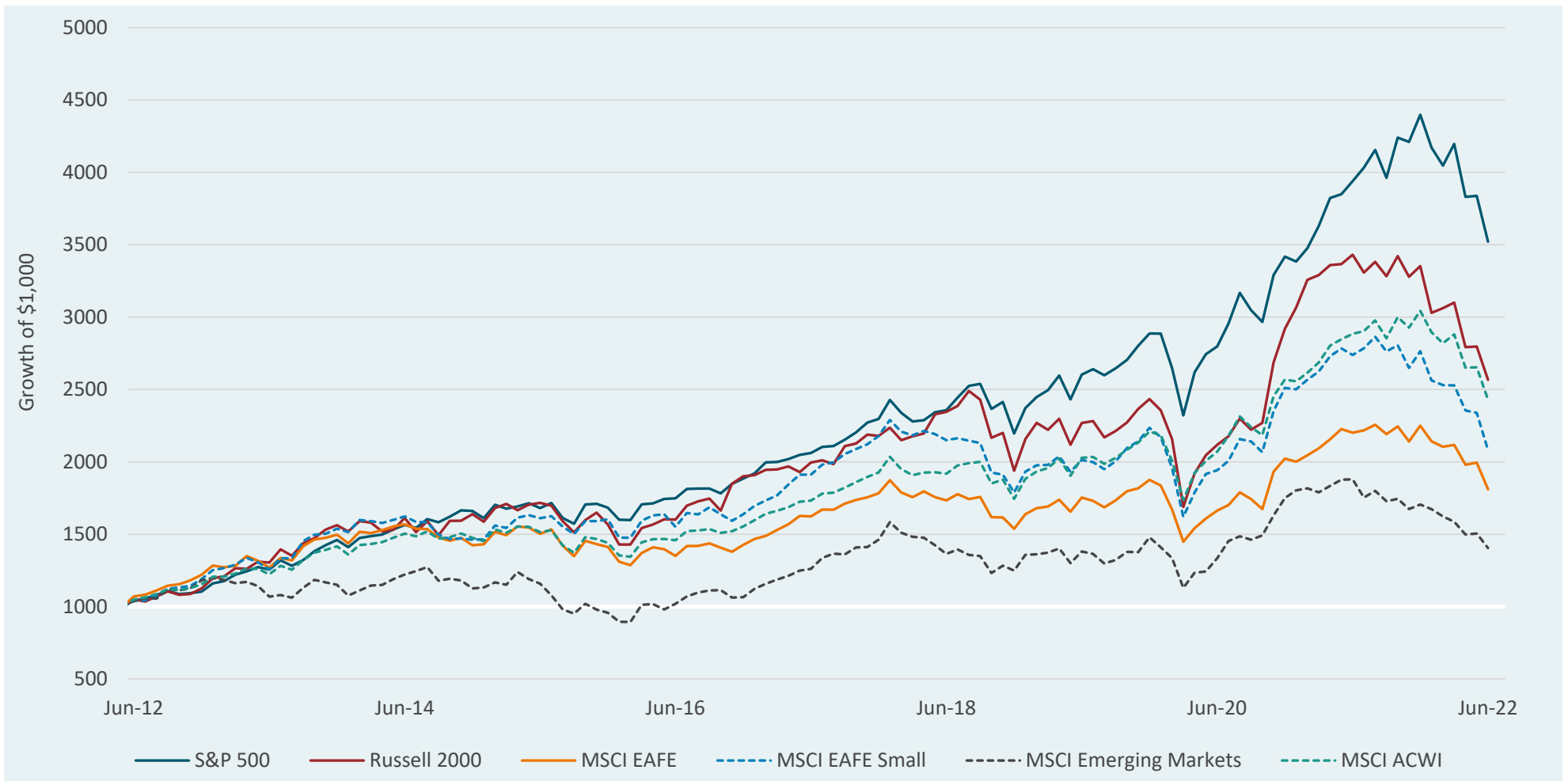
Source: Standard & Poor's, MSCI, as of 6/30/22

## S&P 500 PEAK DRAWDOWNS



Source: Bloomberg, as of 6/30/22

# Long-term equity performance



Source: Morningstar, as of 6/30/22

# Other assets

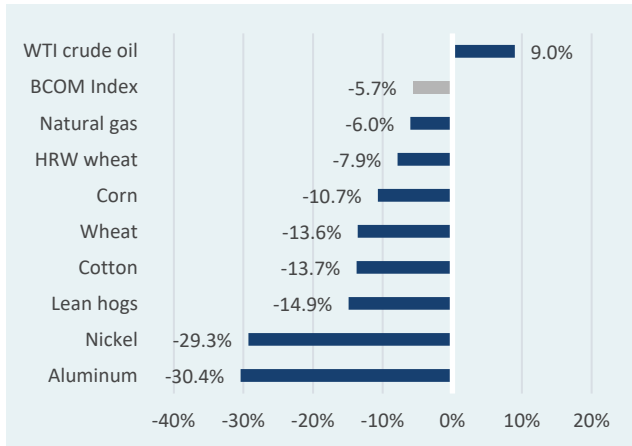
# Commodities

The Bloomberg Commodity Index fell -10.8% during June, bringing the second quarter return to -5.7%. Industrial metals (-26.4%) and precious metals (-10.5%) experienced the largest losses, while energy (7.0%) and petroleum (13.7%) marched higher around fears of a potential global energy shortage, though many prices reversed their gains in June.

Early in 2022 many investors expressed fears about a potential global commodity supply shortage, perhaps fueled by underinvestment in production capacity preceding and throughout the COVID-19 recession. Russia's invasion of

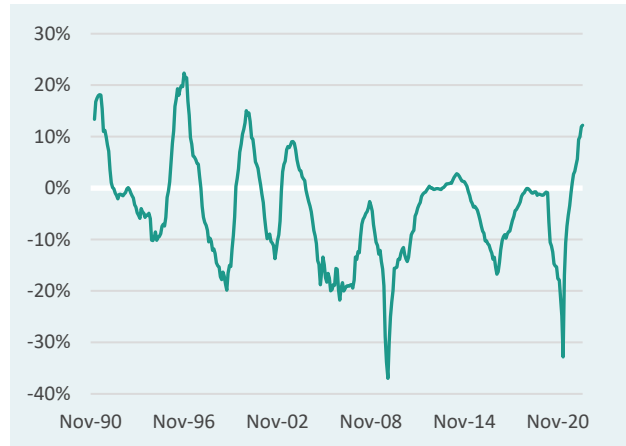
Ukraine further amplified these fears and commodity price growth accelerated further. Later in the second quarter this trend appears to have reversed. Fears of a recession which would hinder the demand for commodities, and likely some easing of uncertainty around Ukraine, have contributed to a sharp drop in commodity prices. If weaker prices persist, the reversal in commodity markets should have a deflationary impact on broader consumer prices, though this effect may take time to flow through to broader prices. For example, lower oil prices have far-reaching impacts on the U.S. economy, such as on the transportation of goods, ground transportation and taxis, air travel, and the production of plastics.

## BLOOMBERG COMMODITY INDEX – Q2 2022



Source: Bloomberg, as of 6/30/22

## S&P GSCI INDEX ROLL YIELD (LAST 12 MONTHS)



Source: Standard & Poor's, Bloomberg, as of 6/30/22

## INDEX AND SECTOR PERFORMANCE

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg Commodity	(10.8)	(5.7)	18.4	24.3	14.3	8.4	(0.8)
Bloomberg Agriculture	(9.1)	(5.7)	13.0	18.9	18.8	6.9	(1.2)
Bloomberg Energy	(14.6)	7.0	58.3	66.6	11.7	10.0	(4.7)
Bloomberg Grains	(11.7)	(7.1)	16.1	16.6	17.5	6.2	(2.1)
Bloomberg Industrial Metals	(16.0)	(26.4)	(9.6)	0.2	11.9	7.5	1.2
Bloomberg Livestock	(0.3)	(8.7)	(3.4)	(3.6)	(6.8)	(6.6)	(4.3)
Bloomberg Petroleum	(4.0)	13.7	63.5	79.4	19.5	18.1	(1.2)
Bloomberg Precious Metals	(3.1)	(10.5)	(4.4)	(4.8)	7.2	5.6	(0.8)
Bloomberg Softs	(5.9)	(4.3)	3.3	27.2	16.8	5.3	(3.2)

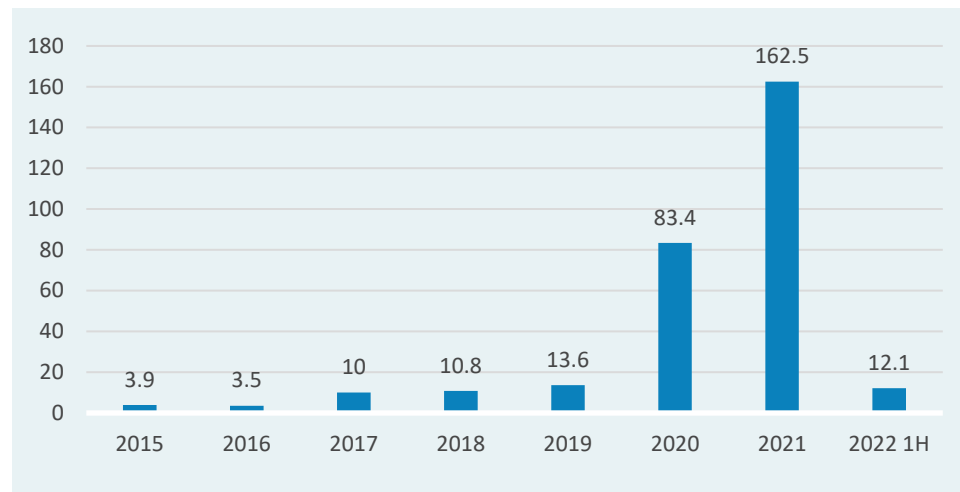
Source: Morningstar, as of 6/30/22

# SPACs development

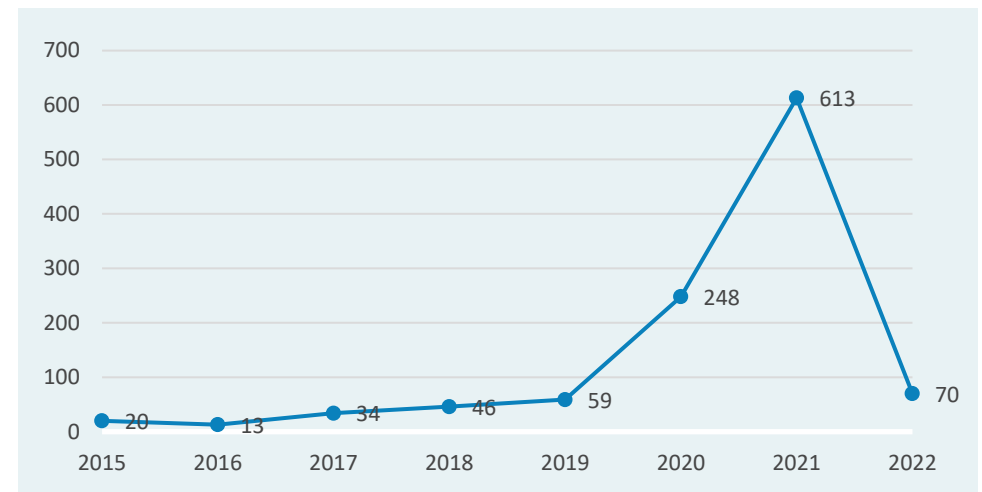
While SPACs proliferated between 2020 through 2021, coinciding with record retail investor trading volume, this activity has subsided notably in 2022.

Market volatility year-to-date and reduced market liquidity have rendered speculative areas of the markets, including SPACs, less attractive. Existing SPAC sponsors from 2020-2021 are struggling to source target deals for their mergers, rendering a large volume of SPAC sponsors at risk of returning their capital to investors without a successful deal executed. The required holding lock-up period after SPACs go public, as well as the impact of market volatility, have led many venture capital and private equity funds to reevaluate the viability of SPAC as an exit channel.

U.S. SPAC AMOUNT RAISED (\$BILLIONS)



NUMBER OF SPAC IPOs

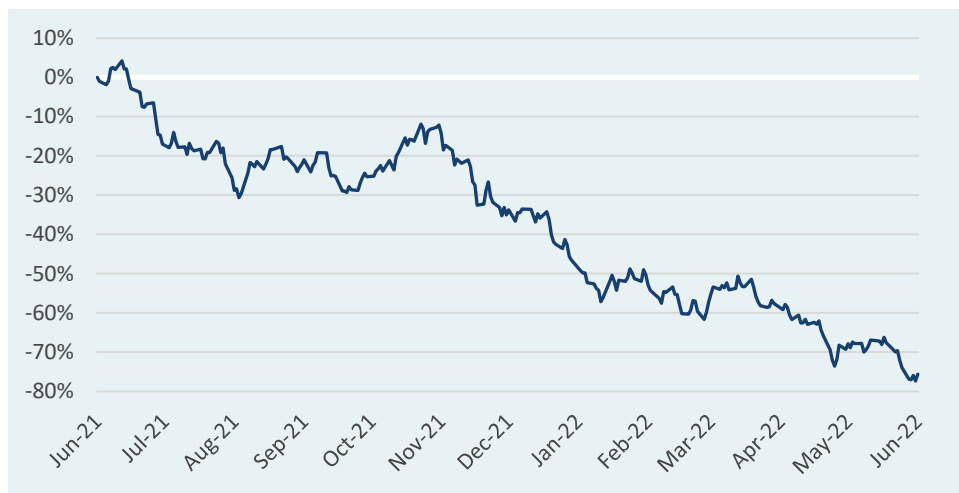


Source: SPAC Research, as of 6/30/22

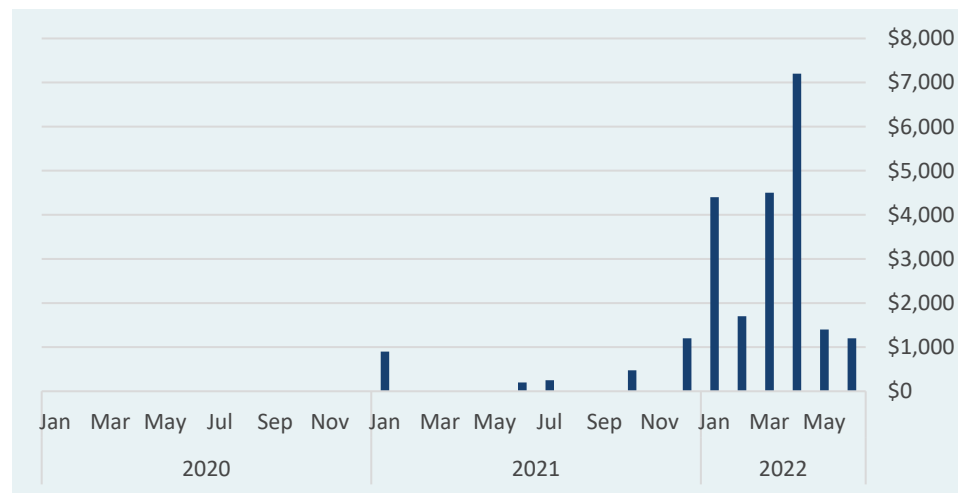
# SPACs return analysis

- For **institutional investors**: A number of companies that initially went public via a merger with a SPAC have seen very large share price declines and have since been acquired by a competitor at a far lower price.
- For **retail investors**: Declining share prices of SPACs have eroded billions of dollars of value for shareholders who held SPACs after their acquisition deals.
- Blank check companies have a history of surging and subsiding. During the 1980s, SPACs had boomed, and many were eventually wiped out when Congress passed more stringent regulations. The Securities Exchange Commission is currently tightening regulations around SPACs amid the resurgence.

DE-SPAC INDEX - CHANGE SINCE JUNE 17, 2021



WITHDRAWN SPACs - VALUE OF FILINGS PULLED BY SPONSORS (\$M)

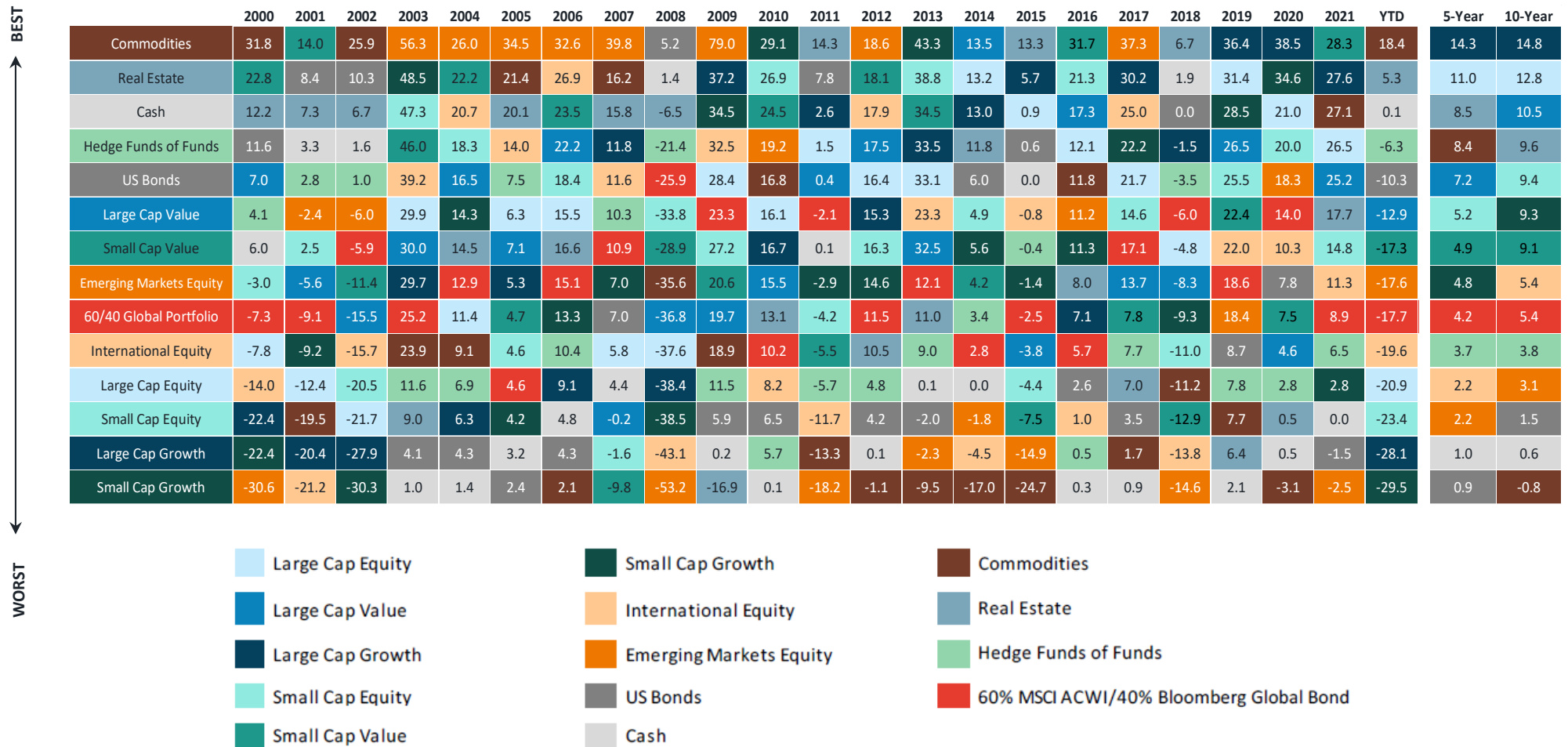


Source: Bloomberg, as of 6/30/22



# Appendix

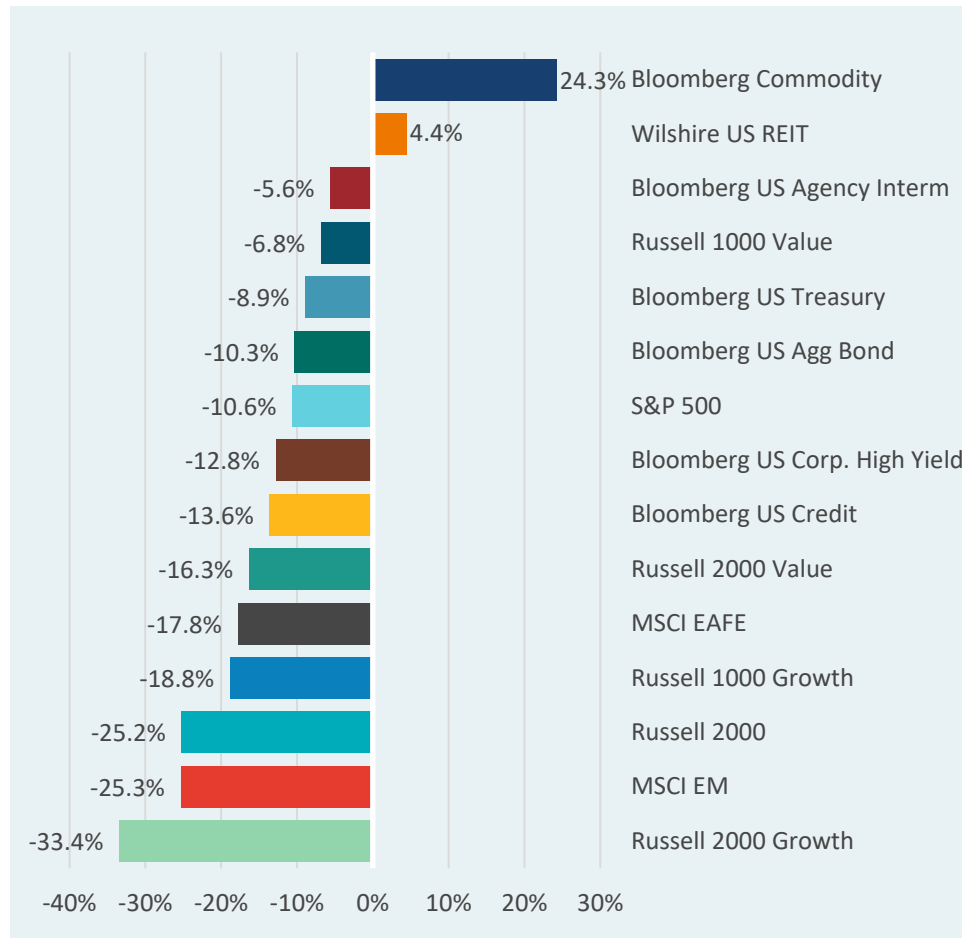
# Periodic table of returns



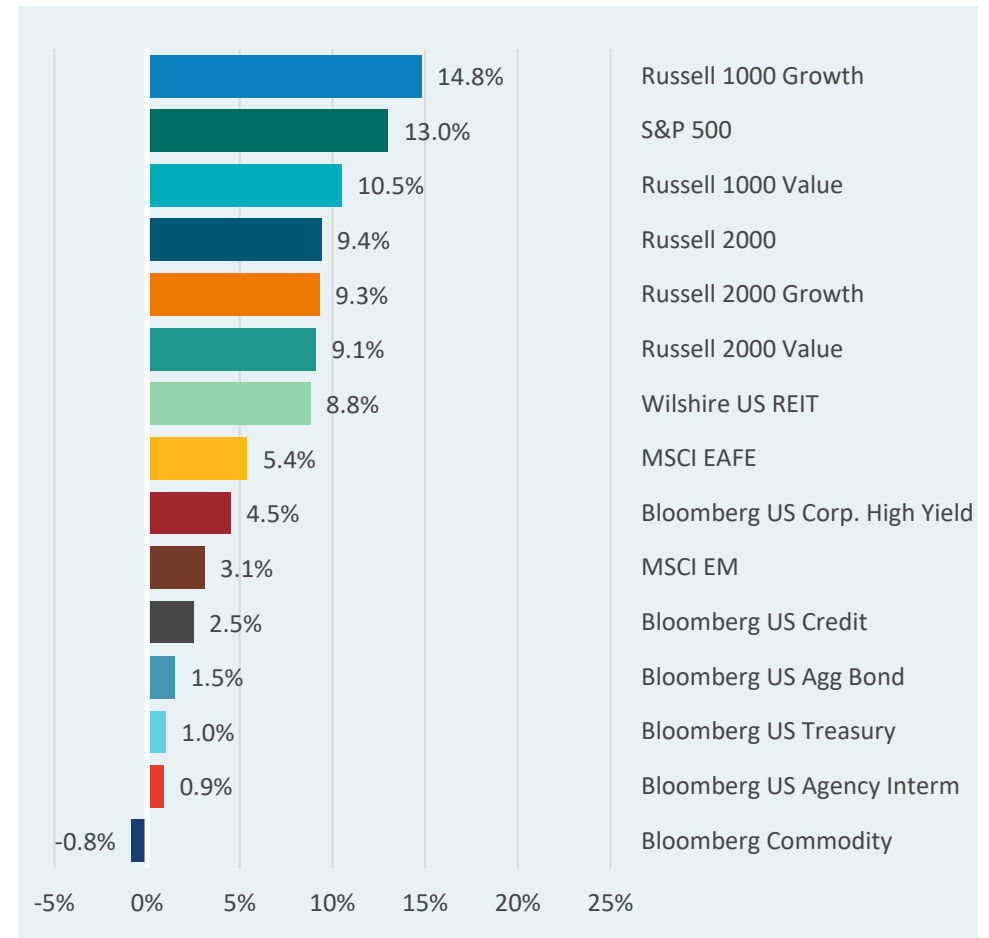
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 3/31/22.

# Major asset class returns

ONE YEAR ENDING JUNE



TEN YEARS ENDING JUNE



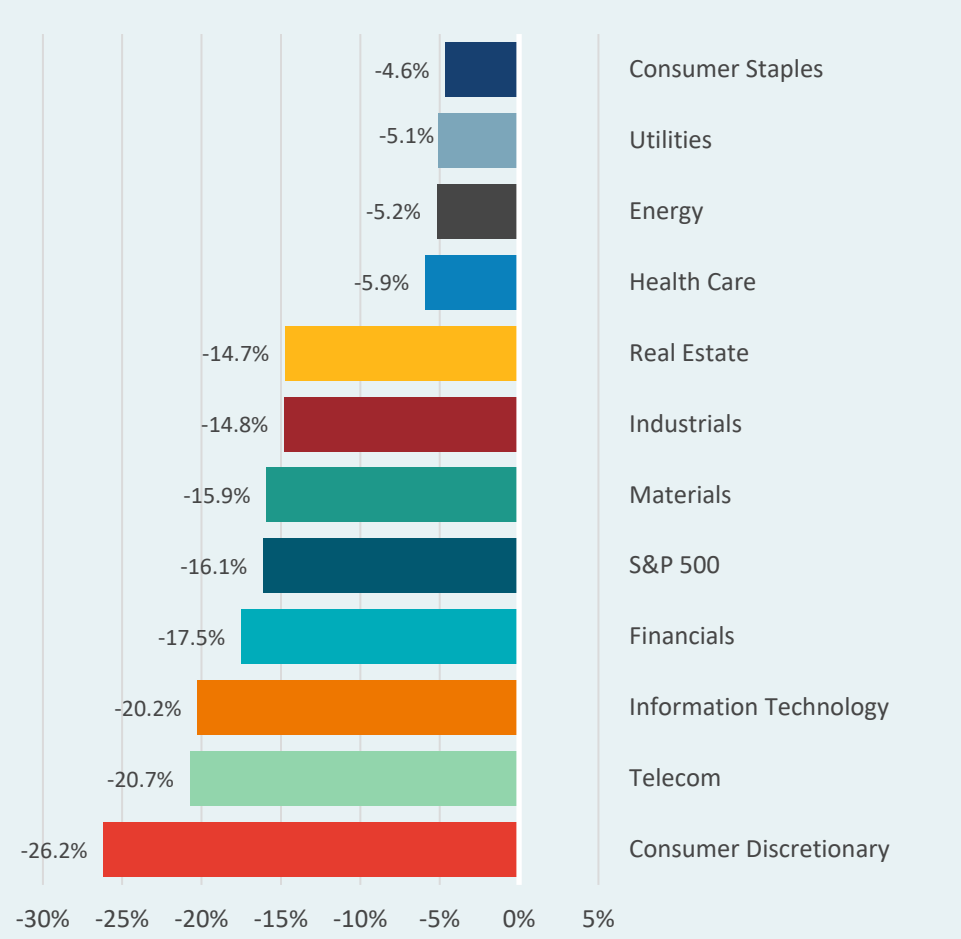
\*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 6/30/22

Source: Morningstar, as of 6/30/22

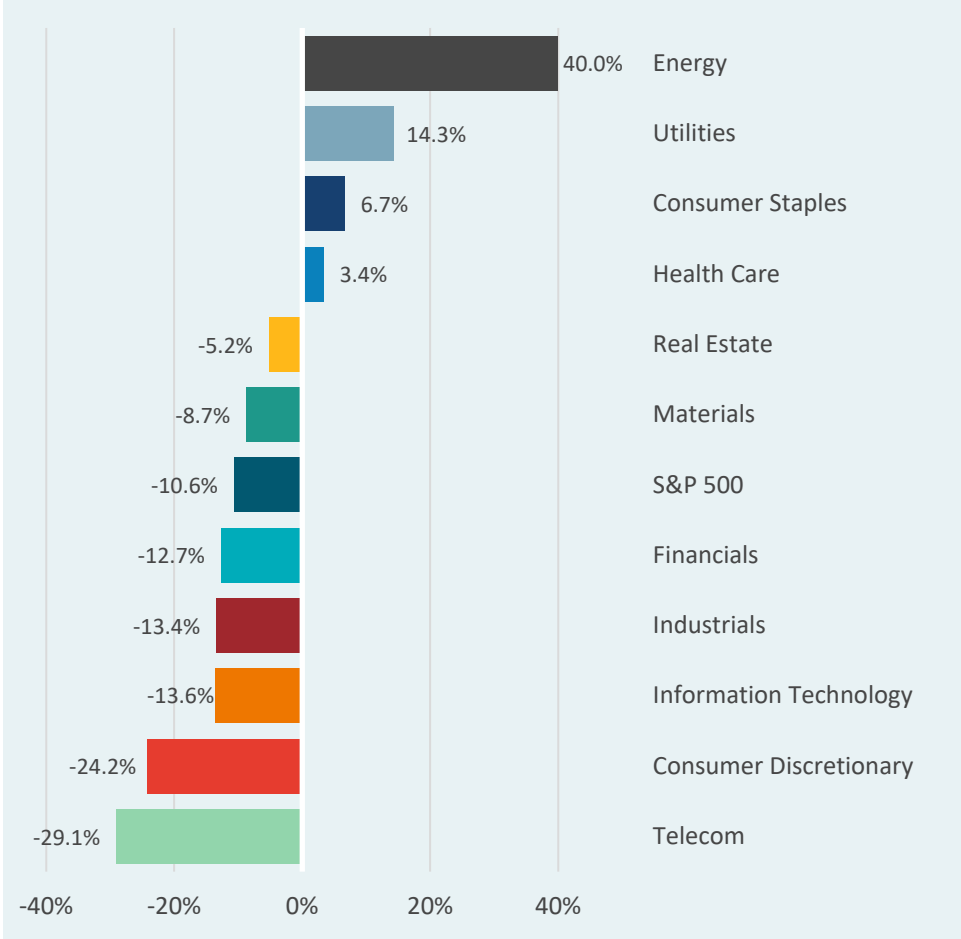
# S&P 500 sector returns

QTD



Source: Morningstar, as of 6/30/22

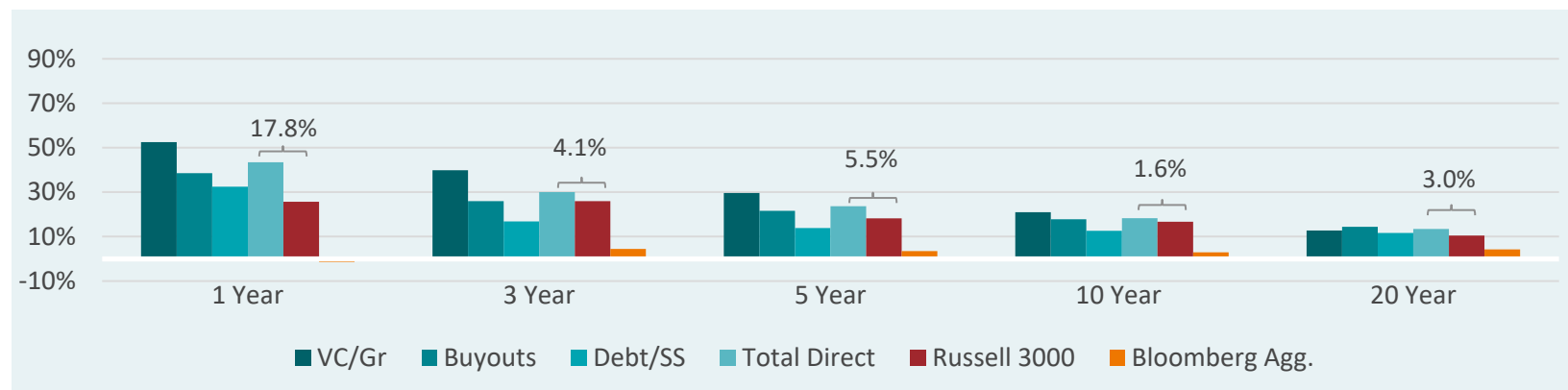
ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/22

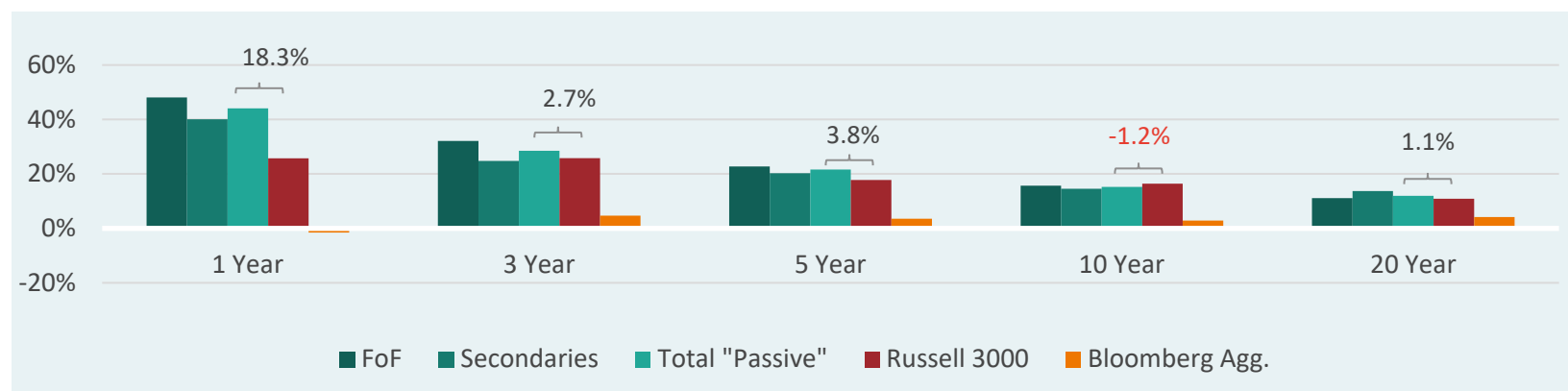
# Private equity vs. traditional assets performance

## DIRECT PRIVATE EQUITY FUND INVESTMENTS



Direct P.E Fund Investments outperformed comparable public equities across all time periods.

## “PASSIVE” STRATEGIES

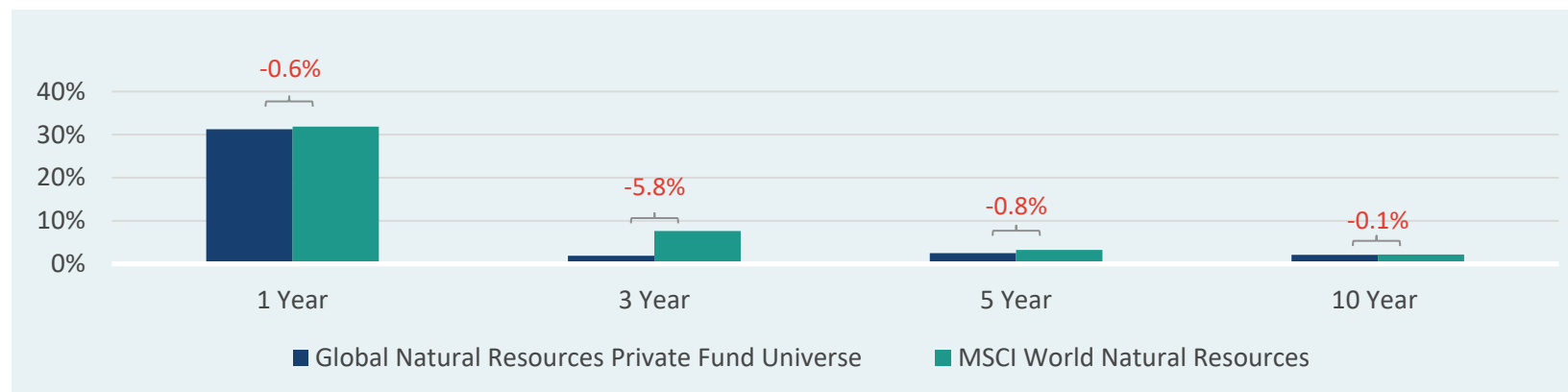


“Passive” strategies outperformed comparable public equities across all time periods, aside from the 10-year basis.

Sources: Refinitiv PME: U.S. Private Equity Funds sub asset classes as of December 31 2021. Public Market Equivalent returns resulted from “Total Passive” and Total Direct’s identical cash flows invested into and distributed from respective traditional asset comparable.

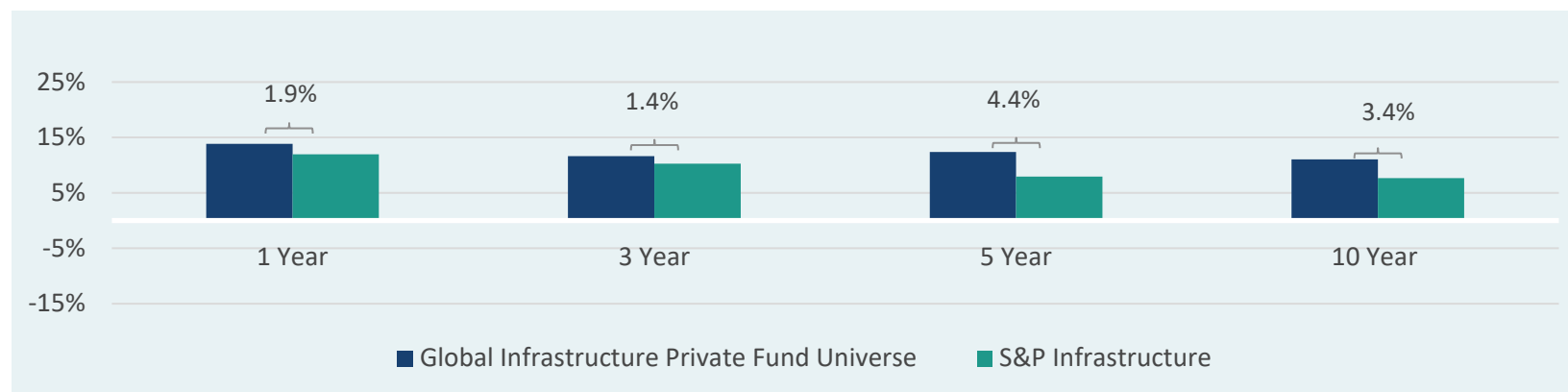
# Private vs. liquid real assets performance

## GLOBAL NATURAL RESOURCES FUNDS



N.R. funds underperformed the MSCI World Natural Resources benchmark across all time periods.

## GLOBAL INFRASTRUCTURE FUNDS

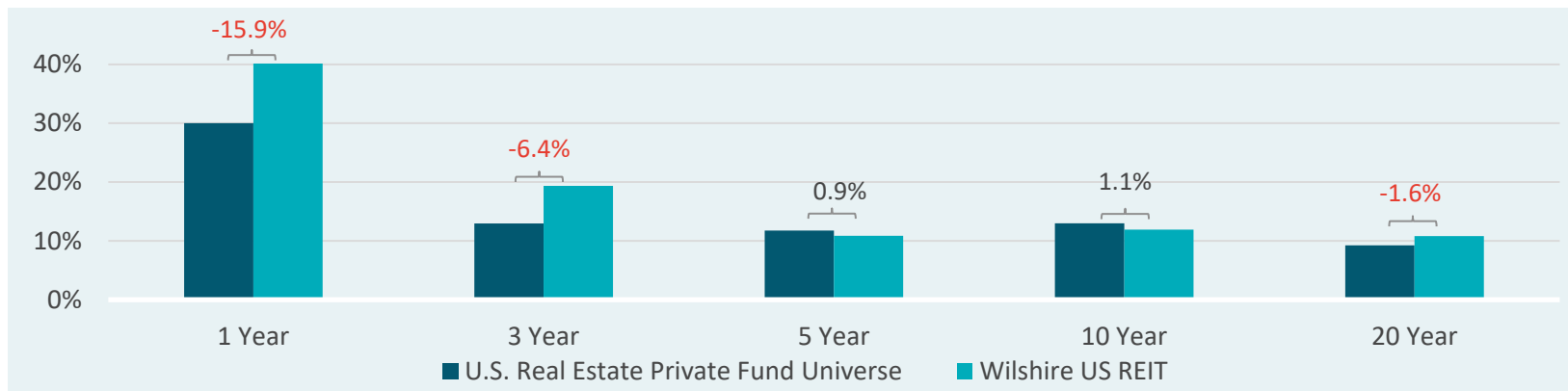


Infra. funds outperformed the S&P Infra. across all periods.

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 December 31, 2021. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

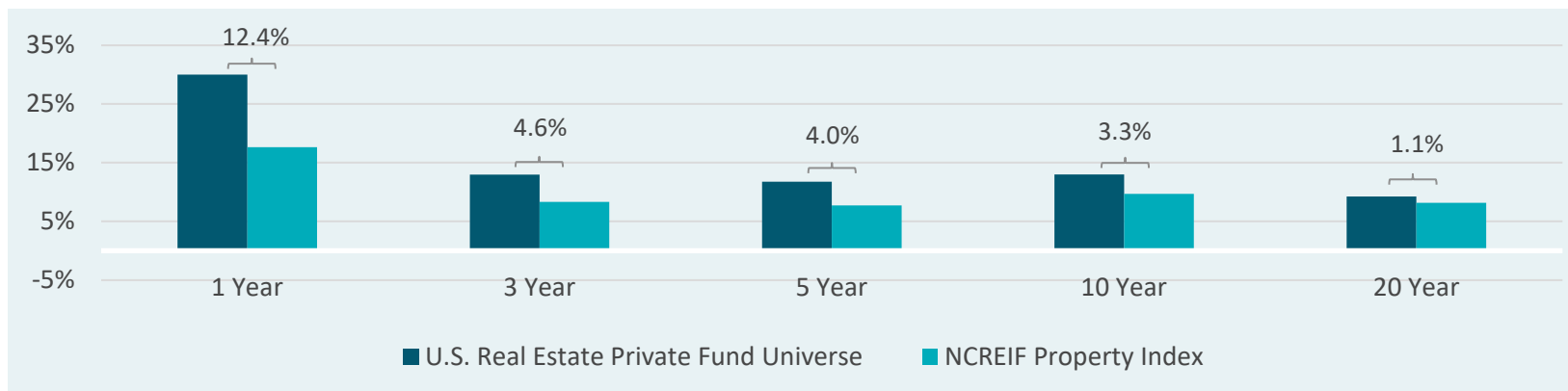
# Private vs. liquid and core real estate performance

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



U.S. Private R.E. funds underperformed the Wilshire U.S. REIT Index across all time periods, aside on a 5 and 10 -year basis.

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



U.S. Private R.E. Funds outperformed the NCREIF Property Index across all time periods.

Sources: Refinitiv PME: U.S. Real Estate universes as of December 31, 2021. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real estate universes.

# Detailed index returns

## DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Core Index</b>							
S&P 500	(8.3)	(16.1)	(20.0)	(10.6)	10.6	11.3	13.0
S&P 500 Equal Weighted	(9.4)	(14.4)	(16.7)	(9.4)	9.7	9.9	12.7
DJ Industrial Average	(6.6)	(10.8)	(14.4)	(9.1)	7.2	10.0	11.7
Russell Top 200	(7.8)	(16.6)	(20.7)	(11.5)	11.5	12.2	13.4
Russell 1000	(8.4)	(16.7)	(20.9)	(13.0)	10.2	11.0	12.8
Russell 2000	(8.2)	(17.2)	(23.4)	(25.2)	4.2	5.2	9.4
Russell 3000	(8.4)	(16.7)	(21.1)	(13.9)	9.8	10.6	12.6
Russell Mid Cap	(10.0)	(16.8)	(21.6)	(17.3)	6.6	8.0	11.3
<b>Style Index</b>							
Russell 1000 Growth	(7.9)	(20.9)	(28.1)	(18.8)	12.6	14.3	14.8
Russell 1000 Value	(8.7)	(12.2)	(12.9)	(6.8)	6.9	7.2	10.5
Russell 2000 Growth	(6.2)	(19.3)	(29.5)	(33.4)	1.4	4.8	9.3
Russell 2000 Value	(9.9)	(15.3)	(17.3)	(16.3)	6.2	4.9	9.1

## INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Broad Index</b>							
MSCI ACWI	(8.4)	(15.7)	(20.2)	(15.8)	6.2	7.0	8.8
MSCI ACWI ex US	(8.6)	(13.7)	(18.4)	(19.4)	1.4	2.5	4.8
MSCI EAFE	(9.3)	(14.5)	(19.6)	(17.8)	1.1	2.2	5.4
MSCI EM	(6.6)	(11.4)	(17.6)	(25.3)	0.6	2.2	3.1
MSCI EAFE Small Cap	(11.0)	(17.7)	(24.7)	(24.0)	1.1	1.7	7.2
<b>Style Index</b>							
MSCI EAFE Growth	(8.6)	(16.9)	(26.8)	(23.8)	1.3	3.5	6.3
MSCI EAFE Value	(10.0)	(12.4)	(12.1)	(11.9)	0.2	0.5	4.2
<b>Regional Index</b>							
MSCI UK	(8.6)	(10.5)	(8.8)	(4.0)	1.2	2.2	3.7
MSCI Japan	(7.9)	(14.6)	(20.3)	(19.9)	1.0	1.8	5.6
MSCI Euro	(11.3)	(15.8)	(25.2)	(23.8)	(1.1)	0.4	5.3
MSCI EM Asia	(4.8)	(9.3)	(17.2)	(25.9)	3.1	3.4	5.5
MSCI EM Latin American	(17.0)	(21.9)	(0.6)	(16.1)	(6.3)	(0.6)	(2.2)

## FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Broad Index</b>							
Bloomberg US TIPS	(3.2)	(6.1)	(8.9)	(5.1)	3.0	3.2	1.7
Bloomberg US Treasury Bills	(0.0)	0.1	0.0	0.0	0.6	1.1	0.6
Bloomberg US Agg Bond	(1.6)	(4.7)	(10.3)	(10.3)	(0.9)	0.9	1.5
Bloomberg US Universal	(2.0)	(5.1)	(10.9)	(10.9)	(0.9)	0.9	1.8
<b>Duration</b>							
Bloomberg US Treasury 1-3 Yr	(0.6)	(0.5)	(3.0)	(3.5)	0.2	0.9	0.8
Bloomberg US Treasury Long	(1.5)	(11.9)	(21.3)	(18.5)	(2.9)	0.5	1.6
Bloomberg US Treasury	(0.9)	(3.8)	(9.1)	(8.9)	(0.9)	0.7	1.0
<b>Issuer</b>							
Bloomberg US MBS	(1.6)	(4.0)	(8.8)	(9.0)	(1.4)	0.4	1.2
Bloomberg US Corp. High Yield	(6.7)	(9.8)	(14.2)	(12.8)	0.2	2.1	4.5
Bloomberg US Agency Interm	(0.6)	(1.3)	(5.0)	(5.6)	(0.3)	0.8	0.9
Bloomberg US Credit	(2.6)	(6.9)	(13.8)	(13.6)	(1.0)	1.2	2.5

## OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Index</b>							
Bloomberg Commodity	(10.8)	(5.7)	18.4	24.3	14.3	8.4	(0.8)
Wilshire US REIT	(7.3)	(5.4)	(14.9)	4.4	7.4	7.5	8.8
CS Leveraged Loans	(2.1)	(4.4)	(4.4)	(2.7)	2.0	3.0	3.9
S&P Global Infrastructure	(7.7)	(7.4)	(0.5)	5.6	3.5	4.8	7.2
Alerian MLP	(14.0)	(7.4)	10.1	4.1	(1.2)	(1.2)	0.8
<b>Regional Index</b>							
JPM EMBI Global Div	(6.2)	(11.4)	(20.3)	(21.2)	(5.2)	(1.2)	2.2
JPM GBI-EM Global Div	(4.5)	(8.6)	(14.5)	(19.3)	(5.8)	(2.3)	(1.5)
<b>Hedge Funds</b>							
HFRI Composite	(3.1)	(4.9)	(5.9)	(5.8)	6.1	5.0	5.0
HFRI FOF Composite	(0.9)	(3.6)	(6.3)	(5.2)	4.1	3.7	3.8
<b>Currency (Spot)</b>							
Euro	(2.4)	(6.0)	(8.1)	(11.8)	(2.8)	(1.7)	(1.9)
Pound Sterling	(3.6)	(7.8)	(10.3)	(12.1)	(1.5)	(1.3)	(2.5)
Yen	(5.3)	(10.7)	(15.2)	(18.3)	(7.4)	(3.7)	(5.2)

Source: Morningstar, HFRI, as of 6/30/22.



# Definitions

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

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

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

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

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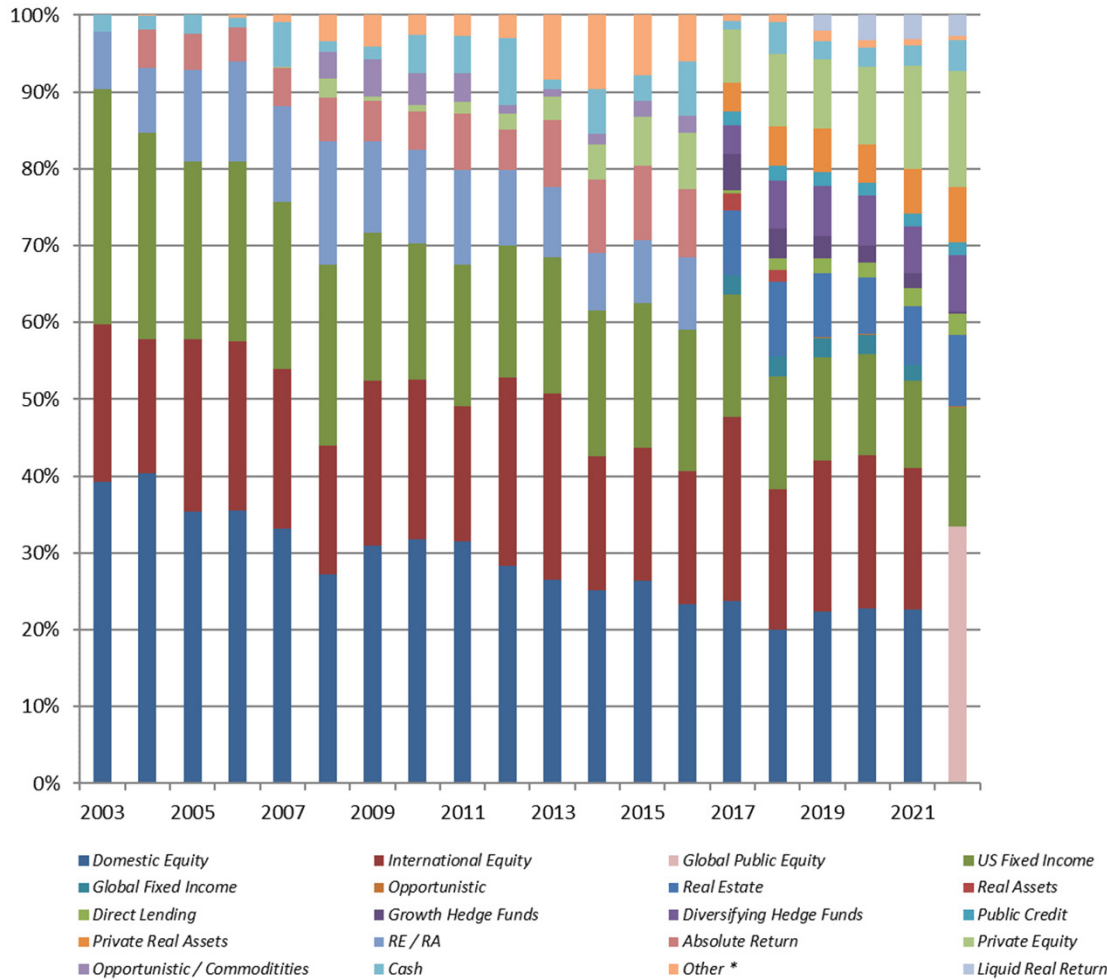
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# Total Fund

## Actual Yearly and Quarterly Asset Allocation

Period Ending: June 30, 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	2Q22
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	-	-	-	-	-	33.4
US Fixed Income	16.0	14.6	13.6	13.2	11.4	15.6
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	9.4
Real Assets	2.1	1.4	-	-	-	-
Private Real Assets	3.7	5.2	5.7	4.9	5.8	7.2
Liquid Real Return	-	-	2.0	3.3	3.2	2.7
Absolute Return	-	-	-	-	-	-
Growth Hedge Funds	4.6	3.9	3.0	2.3	2.0	0.2
Diversifying Hedge Funds	3.8	6.2	6.4	6.4	6.0	7.4
Private Equity	6.9	9.3	9.0	10.1	13.4	15.1
Direct Lending	0.5	1.5	2.0	1.9	2.3	2.8
Opportunistic / Commodities	-	-	-	-	-	-
Opportunistic	0.1	0.1	0.1	0.0	0.0	0.0
Cash	1.1	4.3	2.4	2.5	2.6	4.0
Other *	0.8	0.9	1.4	1.0	0.8	0.6

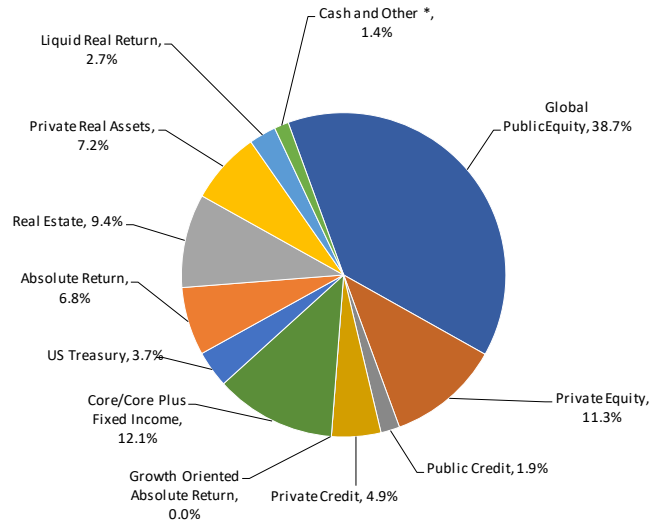
\* Allocations without overlay.

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

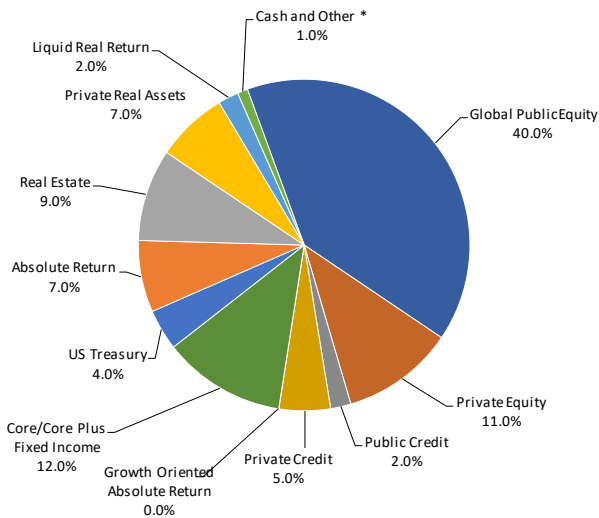
# Total Fund Asset Allocation Analysis

Period Ending: June 30, 2022

Current w/Overlay



Target



ASSET ALLOCATION	MARKET VALUE W/OVERLAY	W/ OVERLAY	W/O OVERLAY
Global PublicEquity	4,580,945,113	38.7%	33.4%
Private Equity	1,333,693,688	11.3%	15.1%
Public Credit	223,002,230	1.9%	1.7%
Private Credit	581,522,945	4.9%	2.8%
Growth Oriented Absolute Return	-276,587	0.0%	0.2%
Core/Core Plus Fixed Income	1,428,350,256	12.1%	11.9%
US Treasury	433,001,785	3.7%	3.7%
Absolute Return	806,438,866	6.8%	7.4%
Real Estate	1,106,998,519	9.4%	9.4%
Private Real Assets	852,991,429	7.2%	7.2%
Liquid Real Return	320,259,863	2.7%	2.7%
Cash and Other *	168,900,684	1.4%	4.6%
<b>TOTAL</b>	<b>11,835,828,791</b>	<b>100.0%</b>	<b>100.0%</b>

ASSET ALLOCATION	ACTUAL	TARGET	DIFF
Global PublicEquity	38.7%	40.0%	-1.3%
Private Equity	11.3%	11.0%	0.3%
Public Credit	1.9%	2.0%	-0.1%
Private Credit	4.9%	5.0%	-0.1%
Growth Oriented Absolute Return	0.0%	0.0%	0.0%
Core/Core Plus Fixed Income	12.1%	12.0%	0.1%
US Treasury	3.7%	4.0%	-0.3%
Absolute Return	6.8%	7.0%	-0.2%
Real Estate	9.4%	9.0%	0.4%
Private Real Assets	7.2%	7.0%	0.2%
Liquid Real Return	2.7%	2.0%	0.7%
Cash and Other *	1.4%	1.0%	0.4%

\* Other includes closing accounts (Heitman), Transition Account and SSgA Overlay.

- The Total Plan returned -7.1% net in the second quarter of 2022 and ranked in the top quartile among other public funds greater than \$1 billion. The Plan underperformed its policy index by 40 bps over this time period. Longer-term, the three-year return of 8.2% ranks in the top quartile of large public plan peer group which returned 6.5%. The five-year return of 8.4% also ranks in the top quartile of the large public plan peer group.
- Second quarter results (net) were enhanced by the following factors:
  1. The Real Return category returned 1.6% for the quarter, led by private real assets which returned 5.3% and real estate returning 3.0%. With inflation continuing to move higher, the positive results from your inflation protection portfolio reaffirmed the role it plays in SCERS' plan.
  2. Absolute Return was down slightly in the second quarter (-0.7%), but on a relative basis, outperforming public fixed income and public equities by a substantial margin.
  3. Private credit was up 0.2% for the quarter which led performance among the growth asset category investments. Some of that outperformance could be a result of lagged valuations, however.
- Second quarter results (net) were hindered by the following factors:
  1. The Growth Asset Category was down 10.9% during the second quarter, led by public equities which fell 15.6%, as fears around slowing economic growth and raising interest rates hit risk assets, broadly.
  2. Diversifying Fixed Income was down during the second quarter as interest rates continued to move higher, pushing prices lower. Core Plus Fixed Income was down 5.0% and U.S. Treasuries were down 3.7% leaving few places to hide in the quarter as credit spreads widened and safe haven assets like Treasuries facing interest rate pressure.

# Total Fund Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date <sup>+</sup>
<b>Total Fund - Gross*</b>	<b>11,835,828,791</b>	<b>100.0</b>	<b>-7.0</b>	<b>21</b>	<b>-8.8</b>	<b>15</b>	<b>-3.3</b>	<b>17</b>	<b>8.4</b>	<b>14</b>	<b>8.6</b>	<b>11</b>	<b>8.7</b>	<b>16</b>	<b>8.4</b>	<b>Jun-86</b>
<b>Total Fund - Net</b>			<b>-7.1</b>	<b>23</b>	<b>-8.9</b>	<b>17</b>	<b>-3.5</b>	<b>21</b>	<b>8.2</b>	<b>23</b>	<b>8.4</b>	<b>15</b>	<b>8.4</b>	<b>35</b>	<b>8.2</b>	
<i>Policy Index<sup>1</sup></i>			-6.7	18	-8.3	12	-3.6	22	6.8	44	7.0	49	7.7	69	8.4	Jun-86
<i>InvMetrics Public DB &gt; \$1B Gross Median</i>			-9.0		-11.9		-7.4		6.5		6.9		8.2		8.1	Jun-86
<b>Total Fund ex Overlay - Gross**</b>	<b>11,768,047,537</b>	<b>99.4</b>	<b>-6.5</b>	<b>17</b>	<b>-8.2</b>	<b>12</b>	<b>-2.4</b>	<b>8</b>	<b>8.4</b>	<b>14</b>	<b>8.6</b>	<b>11</b>	<b>8.7</b>	<b>20</b>	<b>8.3</b>	<b>Jun-86</b>
<b>Total Fund ex Overlay - Net</b>			<b>-6.6</b>	<b>17</b>	<b>-8.3</b>	<b>12</b>	<b>-2.7</b>	<b>10</b>	<b>8.2</b>	<b>22</b>	<b>8.4</b>	<b>15</b>	<b>8.4</b>	<b>37</b>	<b>8.1</b>	
<i>Policy Index</i>			-6.7	18	-8.3	12	-3.6	22	6.8	44	7.0	49	7.7	69	8.4	Jun-86
<b>Growth Asset Category - Gross</b>	<b>6,300,913,223</b>	<b>53.2</b>	<b>-10.8</b>	<b>--</b>	<b>-14.4</b>	<b>--</b>	<b>-8.3</b>	<b>--</b>	<b>10.3</b>	<b>--</b>	<b>10.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>10.8</b>	<b>Mar-17</b>
<b>Growth Asset Category - Net</b>			<b>-10.9</b>	<b>--</b>	<b>-14.5</b>	<b>--</b>	<b>-8.6</b>	<b>--</b>	<b>10.0</b>	<b>--</b>	<b>10.1</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>10.5</b>	
<i>Growth Custom<sup>1</sup></i>			-11.1	--	-13.7	--	-8.6	--	8.5	--	8.7	--	--	--	9.0	Mar-17
<b>Global Public Equity - Gross</b>	<b>3,958,076,657</b>	<b>33.4</b>	<b>-15.5</b>	<b>--</b>	<b>-21.3</b>	<b>--</b>	<b>-18.1</b>	<b>--</b>	<b>5.9</b>	<b>--</b>	<b>7.2</b>	<b>--</b>	<b>9.5</b>	<b>--</b>	<b>8.1</b>	<b>Jun-11</b>
<b>Global Public Equity - Net</b>			<b>-15.6</b>	<b>--</b>	<b>-21.5</b>	<b>--</b>	<b>-18.5</b>	<b>--</b>	<b>5.5</b>	<b>--</b>	<b>6.8</b>	<b>--</b>	<b>9.1</b>	<b>--</b>	<b>7.7</b>	
<i>MSCI ACWI IMI<sup>1</sup></i>			-15.7	--	-20.2	--	-15.8	--	6.2	--	7.0	--	8.8	--	7.3	Jun-11
<b>Domestic Equity - Gross</b>	<b>2,050,716,201</b>	<b>17.3</b>	<b>-17.1</b>	<b>93</b>	<b>-21.9</b>	<b>82</b>	<b>-15.1</b>	<b>79</b>	<b>9.4</b>	<b>36</b>	<b>10.4</b>	<b>30</b>	<b>12.4</b>	<b>30</b>	<b>10.1</b>	<b>Jun-86</b>
<b>Domestic Equity - Net</b>			<b>-17.2</b>	<b>94</b>	<b>-22.0</b>	<b>84</b>	<b>-15.3</b>	<b>81</b>	<b>9.2</b>	<b>49</b>	<b>10.2</b>	<b>43</b>	<b>12.0</b>	<b>50</b>	<b>9.9</b>	
<i>Russell 3000<sup>1</sup></i>			-16.7	81	-21.1	67	-13.9	61	9.8	19	10.6	22	12.6	21	10.2	Jun-86
<i>InvMetrics All DB US Eq Gross Median</i>			-15.8		-20.4		-13.1		9.1		10.0		12.0		9.9	Jun-86
<b>Large Cap - Gross</b>	<b>1,854,983,097</b>	<b>15.7</b>	<b>-17.0</b>	<b>--</b>	<b>-21.4</b>	<b>--</b>	<b>-13.8</b>	<b>--</b>	<b>9.9</b>	<b>--</b>	<b>10.8</b>	<b>--</b>	<b>12.7</b>	<b>--</b>	<b>6.9</b>	<b>Mar-98</b>
<b>Large Cap - Net</b>			<b>-17.1</b>	<b>--</b>	<b>-21.4</b>	<b>--</b>	<b>-14.0</b>	<b>--</b>	<b>9.7</b>	<b>--</b>	<b>10.6</b>	<b>--</b>	<b>12.5</b>	<b>--</b>	<b>6.7</b>	
<i>Russell 1000</i>			-16.7	--	-20.9	--	-13.0	--	10.2	--	11.0	--	12.8	--	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: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Large Cap - Index - Gross	1,032,096,546	8.7	-16.6	--	-20.8	--	-12.9	--	10.2	--	11.0	--	12.8	--	11.2	Sep-08
Large Cap - Index - Net			-16.6	--	-20.8	--	-13.0	--	10.2	--	11.0	--	12.8	--	11.1	
<i>Russell 1000</i>			-16.7	--	-20.9	--	-13.0	--	10.2	--	11.0	--	12.8	--	11.2	Sep-08
AB - Gross	1,032,096,546	8.7	-16.6	64	-20.8	66	-12.9	74	10.2	70	11.0	66	12.8	72	10.1	Apr-89
AB - Net			-16.6	65	-20.8	66	-13.0	74	10.2	74	11.0	67	12.8	72	10.1	
<i>Russell 1000<sup>1</sup></i>			-16.7	75	-20.9	75	-13.0	81	10.2	74	11.0	63	12.8	68	--	Apr-89
<i>eV US Passive Large Cap Equity Gross Median</i>			-16.1		-20.0		-10.6		10.6		11.3		12.9		10.1	Apr-89
Large Cap - Enhanced - Gross	284,047,128	2.4	-15.9	--	-18.6	--	-10.2	--	10.9	--	--	--	--	--	9.0	Jul-18
Large Cap - Enhanced - Net			-16.0	--	-18.7	--	-10.4	--	10.6	--	--	--	--	--	8.8	
<i>Russell 1000</i>			-16.7	--	-20.9	--	-13.0	--	10.2	--	11.0	--	12.8	--	9.4	Jul-18
AQR US Enhanced Equity - Gross	284,047,128	2.4	-15.9	49	-18.6	23	-10.2	33	10.9	29	--	--	--	--	9.0	Jul-18
AQR US Enhanced Equity - Net			-16.0	49	-18.7	23	-10.4	36	10.6	34	--	--	--	--	8.8	
<i>Russell 1000</i>			-16.7	77	-20.9	72	-13.0	73	10.2	50	11.0	46	12.8	53	9.4	Jul-18
<i>eV US Enh Equity Gross Median</i>			-16.0		-20.0		-11.1		10.1		10.9		12.8		9.2	Jul-18
Large Cap (130/30) - Gross	280,093,798	2.4	-16.9	--	-20.6	--	-11.6	--	11.3	--	11.1	--	13.8	--	11.8	Sep-08
Large Cap (130/30) - Net			-16.9	--	-20.8	--	-11.9	--	10.8	--	10.5	--	13.1	--	11.1	
<i>Russell 1000</i>			-16.7	--	-20.9	--	-13.0	--	10.2	--	11.0	--	12.8	--	11.2	Sep-08
JP Morgan 130/30 - Gross	143,528,496	1.2	-16.9	87	-22.1	90	-11.8	89	12.9	10	12.3	27	14.4	17	12.0	Jul-08
JP Morgan 130/30 - Net			-16.9	87	-22.2	91	-12.2	91	12.3	13	11.6	35	13.7	39	11.2	
<i>Russell 1000</i>			-16.7	81	-20.9	87	-13.0	92	10.2	57	11.0	38	12.8	80	10.3	Jul-08
<i>eV Extended US Equity Gross Median</i>			-13.1		-15.4		-4.4		11.0		10.2		13.3		11.2	Jul-08
DE Shaw Broad Mkt Core Alpha Ext - Gross	136,565,302	1.2	-16.9	91	-19.1	72	-11.4	81	9.5	67	--	--	--	--	10.7	Jan-19
DE Shaw Broad Mkt Core Alpha Ext - Net			-17.0	91	-19.2	73	-11.7	88	9.1	72	--	--	--	--	10.3	
<i>Russell 1000</i>			-16.7	81	-20.9	87	-13.0	92	10.2	57	11.0	38	12.8	80	11.9	Jan-19
<i>eV Extended US Equity Gross Median</i>			-13.1		-15.4		-4.4		11.0		10.2		13.3		11.4	Jan-19

1. See Policy Index and Benchmark History.

Total Fund  
Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Large Cap Active - Gross	258,745,625	2.2	-19.9	--	-26.6	--	-22.1	--	6.4	--	8.7	--	11.6	--	10.1	Sep-08
Large Cap Active - Net			-20.0	--	-27.0	--	-22.8	--	5.6	--	7.9	--	10.7	--	9.4	
<i>Russell 1000<sup>1</sup></i>			-16.7	--	-20.9	--	-13.0	--	10.2	--	9.5	--	11.7	--	9.6	Sep-08
Eagle Capital - Gross	258,725,342	2.2	-19.9	99	-26.6	99	-22.1	99	6.4	96	9.3	83	12.5	63	12.3	Feb-12
Eagle Capital - Net			-20.0	99	-27.0	99	-22.8	99	5.6	98	8.5	92	11.7	80	11.5	
<i>Russell 1000<sup>1</sup></i>			-16.7	85	-20.9	73	-13.0	77	10.2	49	9.5	80	11.7	80	11.4	Feb-12
<i>eV US Large Cap Core Equity Gross Median</i>			-14.8		-18.9		-10.2		10.1		11.0		12.8		12.3	Feb-12
Small Cap - Gross	195,733,104	1.7	-18.4	--	-26.5	--	-26.3	--	4.9	--	7.8	--	10.8	--	11.3	Dec-90
Small Cap - Net			-18.5	--	-26.9	--	-27.1	--	4.3	--	7.1	--	10.1	--	10.6	
<i>Russell 2000</i>			-17.2	--	-23.4	--	-25.2	--	4.2	--	5.2	--	9.4	--	10.0	Dec-90
Small Cap - Growth - Gross	88,562,416	0.7	-26.5	--	-37.8	--	-39.2	--	3.2	--	10.8	--	12.2	--	10.9	Sep-08
Small Cap - Growth - Net			-26.6	--	-38.2	--	-39.9	--	2.5	--	10.1	--	11.5	--	10.3	
<i>Russell 2000 Growth</i>			-19.3	--	-29.5	--	-33.4	--	1.4	--	4.8	--	9.3	--	8.9	Sep-08
Weatherbie - Gross	88,562,416	0.7	-26.5	96	-37.8	90	-39.2	86	3.2	78	11.3	30	14.1	15	12.1	Dec-02
Weatherbie - Net			-26.6	96	-38.2	93	-39.9	89	2.5	84	10.6	39	13.3	23	11.3	
<i>Russell 2000 Growth</i>			-19.3	47	-29.5	46	-33.4	69	1.4	90	4.8	96	9.3	96	9.5	Dec-02
<i>eV US Small Cap Growth Equity Gross Median</i>			-19.7		-30.0		-30.2		5.7		9.9		12.2		12.0	Dec-02
Small Cap - Value - Gross	107,170,689	0.9	-10.3	--	-13.2	--	-9.9	--	4.7	--	3.5	--	8.8	--	8.0	Sep-08
Small Cap - Value - Net			-10.5	--	-13.5	--	-10.7	--	4.2	--	2.9	--	8.0	--	7.2	
<i>Russell 2000 Value</i>			-15.3	--	-17.3	--	-16.3	--	6.2	--	4.9	--	9.1	--	7.6	Sep-08
Snyder Capital Management - Gross	107,170,689	0.9	-10.3	13	-13.2	19	-9.9	36	--	--	--	--	--	--	0.1	Jan-21
Snyder Capital Management - Net			-10.5	15	-13.5	23	-10.7	44	--	--	--	--	--	--	-0.6	
<i>Russell 2000 Value</i>			-15.3	75	-17.3	67	-16.3	81	6.2	75	4.9	80	9.1	88	0.5	Jan-21
<i>eV US Small Cap Value Equity Gross Median</i>			-13.4		-15.7		-11.1		7.8		6.5		10.6		5.4	Jan-21

1. See Policy Index and Benchmark History.

# Total Fund Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>International Equity - Gross</b>	<b>1,844,377,761</b>	<b>15.6</b>	-13.8	67	-20.8	70	-21.6	74	1.8	54	3.6	18	6.0	33	6.0	Dec-87
<b>International Equity - Net</b>			-14.0	73	-21.0	74	-22.2	80	1.2	72	3.0	29	5.5	48	5.7	
<i>MSCI ACWI ex US<sup>1</sup></i>			-13.5	60	-18.2	22	-19.0	33	1.8	54	3.0	29	5.3	60	5.8	Dec-87
<i>InvMetrics All DB ex-US Eq Gross Median</i>			-13.3		-19.5		-20.1		1.8		2.6		5.5		6.4	Dec-87
<b>International - Developed - Gross</b>	<b>1,479,845,098</b>	<b>12.5</b>	-14.3	83	-20.9	64	-19.4	37	2.3	45	3.9	40	6.8	56	4.4	Mar-98
<b>International - Developed - Net</b>			-14.6	85	-21.3	66	-20.1	49	1.6	49	3.3	49	6.2	64	3.9	
<i>MSCI World ex US Gross</i>			-14.4	84	-18.4	48	-16.3	11	2.2	45	3.2	50	5.9	69	4.4	Mar-98
<i>InvMetrics All DB Dev Mkt ex-US Eq Gross Median</i>			-12.6		-18.8		-20.3		1.6		3.1		6.9		4.5	Mar-98
<b>Large Cap - Gross</b>	<b>1,303,571,093</b>	<b>11.0</b>	-13.6	45	-19.4	48	-17.6	50	2.7	53	4.3	25	6.8	37	4.6	Dec-04
<b>Large Cap - Net</b>			-13.8	49	-19.7	52	-18.3	57	2.1	60	3.6	40	6.3	50	4.1	
<i>MSCI World ex US Gross</i>			-14.4	59	-18.4	42	-16.3	37	2.2	59	3.2	52	5.9	72	4.6	Dec-04
<i>eV EAFE Large Cap Equity Gross Median</i>			-13.9		-19.5		-17.6		2.8		3.2		6.3		5.1	Dec-04
<b>Lazard - Gross</b>	<b>302,788,242</b>	<b>2.6</b>	-12.8	25	-18.7	35	-19.9	45	1.0	78	3.4	54	6.7	49	6.7	Jun-12
<b>Lazard - Net</b>			-12.9	27	-18.9	35	-20.1	47	0.7	83	3.1	62	6.4	61	6.4	
<i>MSCI World ex US Gross<sup>1</sup></i>			-14.4	45	-19.0	36	-19.9	45	1.5	71	2.8	69	5.2	85	5.2	Jun-12
<i>eV All ACWI ex-US Equity Gross Median</i>			-14.9		-21.5		-21.0		2.8		3.6		6.6		6.6	Jun-12
<b>Walter Scott &amp; Partners Limited - Gross</b>	<b>522,439,223</b>	<b>4.4</b>	-15.3	40	-25.7	52	-21.1	39	2.9	63	6.0	28	--	--	7.3	Mar-17
<b>Walter Scott &amp; Partners Limited - Net</b>			-15.8	51	-26.3	62	-22.3	41	1.9	75	5.0	44	--	--	6.3	
<i>MSCI World ex USA Growth GR USD</i>			-17.1	69	-26.2	61	-23.1	48	1.9	75	4.0	75	6.5	80	5.2	Mar-17
<i>eV EAFE Large Cap Growth Gross Median</i>			-15.8		-25.3		-23.6		3.2		4.8		7.5		6.1	Mar-17
<b>LSV - Gross</b>	<b>478,343,628</b>	<b>4.0</b>	-12.1	63	-11.5	33	-11.1	36	3.9	24	3.0	38	7.0	5	4.4	Dec-04
<b>LSV - Net</b>			-12.2	65	-11.7	34	-11.4	40	3.5	38	2.6	48	6.6	23	3.9	
<i>MSCI World ex US Value Gross</i>			-12.1	63	-10.6	25	-9.6	26	1.8	66	1.9	69	5.1	71	3.9	Dec-04
<i>eV EAFE Large Cap Value Gross Median</i>			-11.5		-13.6		-12.7		2.9		2.5		5.9		4.4	Dec-04

1. See Policy Index and Benchmark History.



Total Fund  
Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Small Cap - Gross</b>	<b>176,274,005</b>	<b>1.5</b>	<b>-19.3</b>	<b>86</b>	<b>-31.2</b>	<b>89</b>	<b>-31.0</b>	<b>87</b>	<b>-0.5</b>	<b>84</b>	<b>1.4</b>	<b>70</b>	<b>6.1</b>	<b>93</b>	<b>6.9</b>	<b>Sep-08</b>
<b>Small Cap - Net</b>			<b>-19.4</b>	<b>87</b>	<b>-31.5</b>	<b>90</b>	<b>-31.5</b>	<b>91</b>	<b>-1.2</b>	<b>86</b>	<b>0.6</b>	<b>85</b>	<b>5.3</b>	<b>97</b>	<b>6.1</b>	
<i>MSCI World ex US Small Cap GD</i>			-17.8	71	-23.6	49	-22.7	51	2.4	47	2.6	47	7.1	83	6.9	Sep-08
<i>eV EAFE Small Cap Equity Gross Median</i>			-16.5		-23.9		-22.2		2.2		2.4		8.0		7.7	Sep-08
Mondrian Dev Small Cap - Gross	91,845,523	0.8	-15.7	27	-24.6	49	-26.7	59	-1.2	92	1.4	82	5.7	99	6.4	Aug-10
Mondrian Dev Small Cap - Net			-15.8	30	-24.9	49	-27.2	61	-1.9	93	0.8	86	5.0	99	5.7	
<i>MSCI World ex US Small Cap GD</i>			-17.8	62	-23.6	46	-22.7	41	2.4	60	2.6	72	7.1	59	6.8	Aug-10
<i>eV ACWI ex-US Small Cap Equity Gross Median</i>			-16.9		-25.4		-24.0		2.9		3.6		8.4		8.2	Aug-10
William Blair Dev Small Cap - Gross	84,428,482	0.7	-22.8	84	-37.0	87	-35.0	87	0.3	83	1.3	83	6.5	90	7.1	Sep-08
William Blair Dev Small Cap - Net			-23.0	85	-37.3	88	-35.6	88	-0.6	92	0.4	88	5.5	99	6.2	
<i>MSCI World ex US Small Cap GD</i>			-17.8	62	-23.6	46	-22.7	41	2.4	60	2.6	72	7.1	59	6.9	Sep-08
<i>eV ACWI ex-US Small Cap Equity Gross Median</i>			-16.9		-25.4		-24.0		2.9		3.6		8.4		8.9	Sep-08
<b>International - Emerging - Gross</b>	<b>364,528,721</b>	<b>3.1</b>	<b>-11.6</b>	<b>--</b>	<b>-20.1</b>	<b>--</b>	<b>-30.1</b>	<b>--</b>	<b>-0.2</b>	<b>--</b>	<b>2.3</b>	<b>--</b>	<b>3.0</b>	<b>--</b>	<b>5.5</b>	<b>Jan-00</b>
<b>International - Emerging - Net</b>			<b>-11.6</b>	<b>--</b>	<b>-20.3</b>	<b>--</b>	<b>-30.3</b>	<b>--</b>	<b>-0.4</b>	<b>--</b>	<b>2.0</b>	<b>--</b>	<b>2.8</b>	<b>--</b>	<b>5.1</b>	
<i>MSCI Emerging Markets Gross</i>			-11.3	--	-17.5	--	-25.0	--	0.9	--	2.5	--	3.4	--	6.0	Jan-00
Baillie Gifford Emg All Cap - Gross	190,061,464	1.6	-13.4	65	-24.8	86	-35.3	96	-1.1	87	3.1	49	--	--	7.3	Mar-16
Baillie Gifford Emg All Cap - Net			-13.4	65	-24.8	86	-35.3	96	-1.1	87	3.1	49	--	--	7.3	
<i>MSCI Emerging Markets Gross</i>			-11.3	33	-17.5	41	-25.0	52	0.9	61	2.5	62	3.4	79	5.8	Mar-16
<i>eV Emg Mkts Equity Gross Median</i>			-12.3		-18.7		-24.6		1.5		3.1		4.4		6.5	Mar-16
Mondrian Emg All Cap - Gross	174,467,257	1.5	-9.5	10	-14.3	15	-23.3	41	0.9	62	1.7	82	--	--	4.2	Mar-16
Mondrian Emg All Cap - Net			-9.6	11	-14.6	17	-23.8	44	0.3	71	1.1	88	--	--	3.5	
<i>MSCI Emerging Markets Gross</i>			-11.3	33	-17.5	41	-25.0	52	0.9	61	2.5	62	3.4	79	5.8	Mar-16
<i>eV Emg Mkts Equity Gross Median</i>			-12.3		-18.7		-24.6		1.5		3.1		4.4		6.5	Mar-16

# Total Fund Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Global/Unconstrained Equity - Gross	62,982,695	0.5	-9.1	3	--	--	--	--	--	--	--	--	--	--	-9.1	Apr-22
Global/Unconstrained Equity - Net			-9.1	3	--	--	--	--	--	--	--	--	--	--	-9.1	
MSCI ACWI IMI			-15.7	91	-20.2	82	-15.8	79	6.2	50	7.0	31	8.8	85	-15.7	Apr-22
InvMetrics All DB Gbl Eq Net Median			-13.4		-18.2		-15.0		6.1		6.7		10.3		-13.4	Apr-22
Third Point Offshore Fund - Gross*	62,982,695	0.5	-9.1	--	-19.6	--	-13.8	--	8.2	--	6.3	--	9.3	--	8.9	Apr-12
Third Point Offshore Fund - Net			-9.1	--	-19.6	--	-13.8	--	8.2	--	6.3	--	9.3	--	8.9	
MSCI ACWI IMI			-15.7	--	-20.2	--	-16.1	--	6.5	--	7.2	--	9.3	--	8.6	Apr-12
Private Equity - Gross***	1,785,980,213	15.1	-1.5	75	2.1	38	21.7	21	27.6	16	25.6	1	19.3	8	8.0	Feb-08
Private Equity - Net			-1.5	75	2.1	38	21.7	21	27.6	16	25.6	1	19.3	8	8.2	
Cambridge Associates All PE 1 Qtr Lag <sup>1</sup>			-0.9	66	4.4	20	22.8	17	22.4	51	18.8	51	17.1	34	12.7	Feb-08
Russell 3000 +3% 1Q Lag			-4.2	99	5.4	18	14.9	43	21.3	55	18.4	52	17.3	25	13.3	Feb-08
InvMetrics All DB Private Eq Net Median			-0.2		1.2		12.2		22.5		19.1		14.8		9.0	Feb-08
Abbott VI - Gross	34,980,022	0.3	-4.5	--	-1.4	--	17.2	--	22.5	--	20.9	--	16.5	--	8.4	Jul-08
Abbott VI - Net			-4.5	--	-1.4	--	17.2	--	22.5	--	20.9	--	16.5	--	--	
Cambridge Associates All PE 1 Qtr Lag			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	13.5	Jul-08
Accel-KKR V - Gross	28,769,659	0.2	3.9	--	11.6	--	32.9	--	43.0	--	27.1	--	--	--	27.0	Jan-17
Accel-KKR V - Net			3.9	--	11.6	--	32.9	--	43.0	--	27.1	--	--	--	27.0	
Cambridge Associates All PE 1 Qtr Lag			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	19.3	Jan-17
Accel-KKR VI - Gross	12,672,843	0.1	2.7	--	8.3	--	-6.8	--	--	--	--	--	--	--	-39.0	Feb-21
Accel-KKR VI - Net			2.7	--	8.3	--	-6.8	--	--	--	--	--	--	--	-39.0	
Cambridge Associates All PE 1 Qtr Lag			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	38.4	Feb-21
Accel-KKR Growth Partners II - Gross	12,172,185	0.1	1.4	--	5.1	--	50.8	--	57.9	--	41.9	--	--	--	20.4	Feb-15
Accel-KKR Growth Partners II - Net			1.4	--	5.1	--	50.8	--	57.9	--	41.9	--	--	--	20.4	
Cambridge Associates All PE 1 Qtr Lag			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	15.7	Feb-15

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 Athyrum Opportunities up to 4/1/17.

++ Private Equity 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: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Accel-KKR Growth Partners III - Gross	32,953,399	0.3	-3.2	--	1.7	--	26.1	--	--	--	--	--	--	--	4.7	Jul-19
Accel-KKR Growth Partners III - Net			-3.2	--	1.7	--	26.1	--	--	--	--	--	--	--	4.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	23.1	Jul-19
Accel-KKR Growth Partners IV - Gross	1,681,735	0.0	--	--	--	--	--	--	--	--	--	--	--	--	--	Jun-22
Accel-KKR Growth Partners IV - Net			--	--	--	--	--	--	--	--	--	--	--	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	--	Jun-22
Atalaya Special Opp VI - Gross	3,856,259	0.0	-15.2	--	-6.7	--	-1.0	--	17.7	--	15.3	--	--	--	12.9	Apr-16
Atalaya Special Opp VI - Net			-15.2	--	-6.7	--	-1.0	--	17.7	--	15.3	--	--	--	12.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	19.2	Apr-16
Atalaya Special Opp V - Gross*	1,498,547	0.0	-3.0	--	-3.6	--	-2.2	--	7.0	--	4.7	--	--	--	5.6	Jul-13
Atalaya Special Opp V - Net			-3.0	--	-3.6	--	-2.2	--	7.0	--	4.7	--	--	--	5.6	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	17.0	Jul-13
Canvas Ventures III - Gross	9,970,114	0.1	5.2	--	25.0	--	17.5	--	--	--	--	--	--	--	3.0	Nov-20
Canvas Ventures III - Net			5.2	--	25.0	--	17.5	--	--	--	--	--	--	--	3.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	39.4	Nov-20
Cortec Group Fund VII - Gross	27,463,867	0.2	-0.4	--	4.4	--	32.2	--	--	--	--	--	--	--	29.5	Dec-19
Cortec Group Fund VII - Net			-0.4	--	4.4	--	32.2	--	--	--	--	--	--	--	29.5	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	25.3	Dec-19
CRV Select Fund I - Gross	18,982,586	0.2	-6.9	--	-1.4	--	10.1	--	--	--	--	--	--	--	9.3	May-21
CRV Select Fund I - Net			-6.9	--	-1.4	--	10.1	--	--	--	--	--	--	--	9.3	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	31.3	May-21
CRV Select Fund II - Gross	3,410,846	0.0	-8.1	--	--	--	--	--	--	--	--	--	--	--	-8.1	Mar-22
CRV Select Fund II - Net			-8.1	--	--	--	--	--	--	--	--	--	--	--	-8.1	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	-0.9	Mar-22
CRV XVIII LP - Gross	18,296,148	0.2	7.9	--	14.7	--	21.9	--	--	--	--	--	--	--	12.3	Feb-21
CRV XVIII LP - Net			7.9	--	14.7	--	21.9	--	--	--	--	--	--	--	12.3	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	38.4	Feb-21

\* Account converted to Private Equity from Opportunities Category in April 2022. Reflects linked historical returns up to March 2022.

Total Fund  
Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
CRV XIX LP - Gross	2,025,000	0.0	--	--	--	--	--	--	--	--	--	--	--	--	--	Jun-22
CRV XIX LP - Net			--	--	--	--	--	--	--	--	--	--	--	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	--	Jun-22
Davidson Kempner LT Dist Opp IV - Gross	41,510,181	0.4	11.8	--	21.8	--	35.8	--	15.5	--	--	--	--	--	15.1	Mar-18
Davidson Kempner LT Dist Opp IV - Net			11.8	--	21.8	--	35.8	--	15.5	--	--	--	--	--	15.1	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	19.4	Mar-18
Davidson Kempner LT Dist Opp V - Gross	30,582,509	0.3	2.9	--	5.9	--	13.7	--	--	--	--	--	--	--	23.0	May-20
Davidson Kempner LT Dist Opp V - Net			2.9	--	5.9	--	13.7	--	--	--	--	--	--	--	23.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	28.4	May-20
Digital Colony Partners II - Gross	21,290,145	0.2	-0.1	--	3.3	--	6.7	--	--	--	--	--	--	--	6.1	May-21
Digital Colony Partners II - Net			-0.1	--	3.3	--	6.7	--	--	--	--	--	--	--	6.1	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	31.3	May-21
Dyal Capital Partners II - Gross	32,646,647	0.3	1.2	--	-0.4	--	36.6	--	22.7	--	6.9	--	--	--	1.9	Dec-14
Dyal Capital Partners II - Net			1.2	--	-0.4	--	36.6	--	22.7	--	6.9	--	--	--	1.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	16.1	Dec-14
Dyal Capital Partners III - Gross	24,790,387	0.2	2.6	--	5.2	--	17.0	--	28.3	--	25.1	--	--	--	24.5	Dec-16
Dyal Capital Partners III - Net			2.6	--	5.2	--	17.0	--	28.3	--	25.1	--	--	--	24.5	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	18.6	Dec-16
Garrison Investment Group - Gross	10,216,697	0.1	15.4	--	40.5	--	57.7	--	13.9	--	10.0	--	4.7	--	4.7	May-12
Garrison Investment Group - Net			15.4	--	40.5	--	57.7	--	13.9	--	10.0	--	4.7	--	4.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	17.3	May-12
Gridiron Capital Fund IV - Gross	36,495,633	0.3	3.5	--	7.7	--	44.8	--	--	--	--	--	--	--	34.1	May-20
Gridiron Capital Fund IV - Net			3.5	--	7.7	--	44.8	--	--	--	--	--	--	--	34.1	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	28.4	May-20
Harbourvest VIII - Gross	9,033,538	0.1	1.1	--	1.8	--	15.7	--	20.1	--	18.1	--	17.9	--	12.0	Dec-07
Harbourvest VIII - Net			1.1	--	1.8	--	15.7	--	20.1	--	18.1	--	17.9	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	12.4	Dec-07

# Total Fund Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Harbourvest Intl VI - Gross	26,589,341	0.2	-7.8	--	-8.7	--	-5.1	--	16.0	--	16.6	--	13.4	--	-2.2	Mar-09
Harbourvest Intl VI - Net			-7.8	--	-8.7	--	-5.1	--	16.0	--	16.6	--	13.4	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	17.6	Mar-09
H.I.G. Bayside Loan III - Gross	3,942,871	0.0	-6.2	--	-10.9	--	0.1	--	-3.0	--	2.1	--	--	--	3.7	Jan-13
H.I.G. Bayside Loan III - Net			-6.2	--	-10.9	--	0.1	--	-3.0	--	2.1	--	--	--	3.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	17.9	Jan-13
H.I.G. Capital V - Gross	13,490,552	0.1	3.1	--	11.9	--	42.1	--	27.1	--	29.9	--	--	--	15.0	Jul-13
H.I.G. Capital V - Net			3.1	--	11.9	--	42.1	--	27.1	--	29.9	--	--	--	15.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	17.0	Jul-13
H.I.G. Europe Capital II - Gross*	10,365,389	0.1	-7.0	--	-3.6	--	7.8	--	18.1	--	18.7	--	--	--	--	Jan-14
H.I.G. Europe Capital II - Net			-7.0	--	-3.6	--	7.8	--	18.1	--	18.7	--	--	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	16.4	Jan-14
Khosla IV - Gross	20,879,120	0.2	-15.0	--	-13.9	--	9.2	--	38.5	--	39.5	--	27.8	--	23.9	Jul-11
Khosla IV - Net			-15.0	--	-13.9	--	9.2	--	38.5	--	39.5	--	27.8	--	23.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	16.3	Jul-11
Khosla V - Gross	47,458,941	0.4	-10.9	--	-2.7	--	37.2	--	46.7	--	33.3	--	--	--	22.6	Nov-14
Khosla V - Net			-10.9	--	-2.7	--	37.2	--	46.7	--	33.3	--	--	--	22.6	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	15.7	Nov-14
Khosla VI - Gross	53,704,048	0.5	6.0	--	23.6	--	49.6	--	20.1	--	--	--	--	--	13.3	Aug-18
Khosla VI - Net			6.0	--	23.6	--	49.6	--	20.1	--	--	--	--	--	13.3	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	20.8	Aug-18
Khosla VII - Gross	10,985,123	0.1	-3.6	--	13.7	--	20.1	--	--	--	--	--	--	--	-4.7	Jan-21
Khosla VII - Net			-3.6	--	13.7	--	20.1	--	--	--	--	--	--	--	-4.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	35.8	Jan-21
Linden Capital III - Gross	47,942,070	0.4	-13.4	--	-12.0	--	22.4	--	38.3	--	35.6	--	--	--	27.9	Jun-16
Linden Capital III - Net			-13.4	--	-12.0	--	22.4	--	38.3	--	35.6	--	--	--	27.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	18.4	Jun-16

\* 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: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Linden Capital Partners IV - Gross	46,560,250	0.4	7.7	--	15.2	--	34.4	--	13.3	--	--	--	--	--	14.7	Sep-18
Linden Capital Partners IV - Net			7.7	--	15.2	--	34.4	--	13.3	--	--	--	--	--	14.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	19.7	Sep-18
Marlin Equity IV - Gross	11,340,629	0.1	0.0	--	1.1	--	8.3	--	11.9	--	12.0	--	--	--	7.0	Nov-13
Marlin Equity IV - Net			0.0	--	1.1	--	8.3	--	11.9	--	12.0	--	--	--	7.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	17.1	Nov-13
Marlin Equity V - Gross	28,643,878	0.2	6.6	--	15.7	--	26.7	--	30.6	--	--	--	--	--	22.7	Feb-18
Marlin Equity V - Net			6.6	--	15.7	--	26.7	--	30.6	--	--	--	--	--	22.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	20.1	Feb-18
Marlin Heritage - Gross	7,522,365	0.1	-0.1	--	5.2	--	14.3	--	23.7	--	31.3	--	--	--	24.2	Jul-14
Marlin Heritage - Net			-0.1	--	5.2	--	14.3	--	23.7	--	31.3	--	--	--	24.2	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	16.1	Jul-14
Marlin Heritage II - Gross	13,855,386	0.1	7.9	--	16.7	--	29.9	--	22.7	--	--	--	--	--	9.4	Oct-17
Marlin Heritage II - Net			7.9	--	16.7	--	29.9	--	22.7	--	--	--	--	--	9.4	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	19.4	Oct-17
Marlin Heritage Europe - Gross	32,923,330	0.3	3.9	--	23.4	--	70.9	--	46.1	--	--	--	--	--	31.5	Aug-17
Marlin Heritage Europe - Net			3.9	--	23.4	--	70.9	--	46.1	--	--	--	--	--	31.5	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	19.5	Aug-17
New Enterprise 14 - Gross	55,298,769	0.5	-6.1	--	-5.2	--	-4.8	--	30.7	--	24.5	--	18.8	--	18.7	May-12
New Enterprise 14 - Net			-6.1	--	-5.2	--	-4.8	--	30.7	--	24.5	--	18.8	--	18.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	17.3	May-12
New Enterprise 15 - Gross	46,049,633	0.4	-3.8	--	-21.3	--	-24.9	--	12.1	--	16.7	--	--	--	14.9	Apr-15
New Enterprise 15 - Net			-3.8	--	-21.3	--	-24.9	--	12.1	--	16.7	--	--	--	14.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	16.5	Apr-15
New Enterprise 16 - Gross	46,060,909	0.4	-0.5	--	-3.8	--	-2.9	--	16.8	--	11.9	--	--	--	11.7	May-17
New Enterprise 16 - Net			-0.5	--	-3.8	--	-2.9	--	16.8	--	11.9	--	--	--	11.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	19.2	May-17

# Total Fund Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
New Enterprise 17 - Gross	22,768,826	0.2	0.5	--	2.1	--	10.0	--	--	--	--	--	--	--	21.9	Jul-19
New Enterprise 17 - Net			0.5	--	2.1	--	10.0	--	--	--	--	--	--	--	21.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	23.1	Jul-19
Oaktree Power Opp Fund VI - Gross	4,988,084	0.0	--	--	--	--	--	--	--	--	--	--	--	--	0.0	May-22
Oaktree Power Opp Fund VI - Net			--	--	--	--	--	--	--	--	--	--	--	--	0.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	-0.9	May-22
OrbiMed Private Investments VIII, LP - Gross	6,634,616	0.1	-0.6	--	0.6	--	4.1	--	--	--	--	--	--	--	-3.8	Dec-20
OrbiMed Private Investments VIII, LP - Net			-0.6	--	0.6	--	4.1	--	--	--	--	--	--	--	-3.8	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	33.5	Dec-20
Private Equity X - Gross*	22,202,710	0.2	-5.8	--	-6.7	--	4.2	--	10.6	--	12.8	--	12.7	--	1.3	Jun-08
Private Equity X - Net			-5.8	--	-6.7	--	4.2	--	10.6	--	12.8	--	12.7	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	13.8	Jun-08
RCP Multi-Fund Feeder - Gross	69,893,068	0.6	4.1	--	12.8	--	30.2	--	16.8	--	--	--	--	--	10.4	Nov-18
RCP Multi-Fund Feeder - Net			4.1	--	12.8	--	30.2	--	16.8	--	--	--	--	--	10.4	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	20.7	Nov-18
RRJ Capital Master Fund II - Gross	9,559,473	0.1	-7.4	--	-0.3	--	16.3	--	12.1	--	14.7	--	--	--	13.5	May-13
RRJ Capital Master Fund II - Net			-7.4	--	-0.3	--	16.3	--	12.1	--	14.7	--	--	--	13.5	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	17.4	May-13
RRJ Capital Master Fund III - Gross	8,797,668	0.1	-35.6	--	-35.5	--	-25.3	--	-10.4	--	-0.4	--	--	--	-10.5	Dec-15
RRJ Capital Master Fund III - Net			-35.6	--	-35.5	--	-25.3	--	-10.4	--	-0.4	--	--	--	-10.5	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	18.5	Dec-15
Shamrock Capital II - Gross	6,769,999	0.1	1.8	--	0.5	--	9.2	--	--	--	--	--	--	--	-89.7	Jul-20
Shamrock Capital II - Net			1.8	--	0.5	--	9.2	--	--	--	--	--	--	--	-89.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	37.6	Jul-20
Shamrock Capital Growth Fund V - Gross	1,784,114	0.0	-10.5	--	-25.5	--	--	--	--	--	--	--	--	--	-49.9	Jul-21
Shamrock Capital Growth Fund V - Net			-10.5	--	-25.5	--	--	--	--	--	--	--	--	--	-49.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	22.8	Jul-21

\* Preliminary quarterly returns as of 6/30/2022.

# Total Fund Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Sixth Street Opp Partners V - Gross	5,127,208	0.0	--	--	--	--	--	--	--	--	--	--	--	--	--	Jun-22
Sixth Street Opp Partners V - Net			--	--	--	--	--	--	--	--	--	--	--	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	--	Jun-22
Spectrum Equity VII - Gross	54,036,894	0.5	-14.5	--	-30.1	--	-3.4	--	51.0	--	52.6	--	--	--	26.3	Dec-14
Spectrum Equity VII - Net			-14.5	--	-30.1	--	-3.4	--	51.0	--	52.6	--	--	--	26.3	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	16.1	Dec-14
Spectrum Equity Fund VIII - Gross	31,332,064	0.3	-6.7	--	-5.9	--	18.4	--	46.3	--	--	--	--	--	-13.8	Jun-18
Spectrum Equity Fund VIII - Net			-6.7	--	-5.9	--	18.4	--	46.3	--	--	--	--	--	-13.8	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	19.9	Jun-18
Spectrum Equity Fund IX - Gross	15,040,188	0.1	-1.2	--	-0.4	--	-5.4	--	--	--	--	--	--	--	-12.0	Sep-20
Spectrum Equity Fund IX - Net			-1.2	--	-0.4	--	-5.4	--	--	--	--	--	--	--	-12.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	35.1	Sep-20
Strategic Value Spl Fund V - Gross	10,682,253	0.1	2.3	--	13.3	--	--	--	--	--	--	--	--	--	10.2	Aug-21
Strategic Value Spl Fund V - Net			2.3	--	13.3	--	--	--	--	--	--	--	--	--	10.2	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	22.8	Aug-21
Summit EUR Growth Equity II - Gross	35,592,640	0.3	10.6	--	63.3	--	144.3	--	65.9	--	--	--	--	--	89.7	Jan-18
Summit EUR Growth Equity II - Net			10.6	--	63.3	--	144.3	--	65.9	--	--	--	--	--	89.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	19.7	Jan-18
Summit EUR Growth Equity III - Gross	10,391,799	0.1	-1.7	--	1.5	--	-1.6	--	--	--	--	--	--	--	-14.7	Jan-21
Summit EUR Growth Equity III - Net			-1.7	--	1.5	--	-1.6	--	--	--	--	--	--	--	-14.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	35.8	Jan-21
Summit Ventures III - Gross	3,572,857	0.0	8.6	--	28.0	--	24.3	--	22.0	--	21.0	--	15.0	--	15.0	Jun-12
Summit Ventures III - Net			8.6	--	28.0	--	24.3	--	22.0	--	21.0	--	15.0	--	15.0	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	17.1	Jun-12
Summit Ventures IV - Gross	55,477,840	0.5	-7.3	--	25.9	--	46.5	--	49.9	--	50.4	--	--	--	44.2	May-16
Summit Ventures IV - Net			-7.3	--	25.9	--	46.5	--	49.9	--	50.4	--	--	--	44.2	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	19.5	May-16



# Total Fund Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Summit Ventures V - Gross	8,023,790	0.1	2.5	--	4.1	--	-5.0	--	--	--	--	--	--	--	-4.6	May-21
Summit Ventures V - Net			2.5	--	4.1	--	-5.0	--	--	--	--	--	--	--	-4.6	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	31.3	May-21
Thoma Bravo XI - Gross	45,720,493	0.4	-11.6	--	-21.5	--	-9.1	--	33.2	--	38.0	--	--	--	24.9	Jun-14
Thoma Bravo XI - Net			-11.6	--	-21.5	--	-9.1	--	33.2	--	38.0	--	--	--	24.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	16.1	Jun-14
Thoma Bravo XII - Gross	43,944,346	0.4	2.2	--	5.2	--	16.1	--	20.1	--	18.7	--	--	--	11.7	May-16
Thoma Bravo XII - Net			2.2	--	5.2	--	16.1	--	20.1	--	18.7	--	--	--	11.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	19.5	May-16
Thoma Bravo XIII - Gross	65,228,010	0.6	-0.2	--	0.7	--	11.7	--	39.7	--	--	--	--	--	34.5	Feb-19
Thoma Bravo XIII - Net			-0.2	--	0.7	--	11.7	--	39.7	--	--	--	--	--	34.5	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	21.1	Feb-19
Threshold Ventures III - Gross	29,787,629	0.3	25.9	--	28.8	--	123.5	--	--	--	--	--	--	--	28.5	Oct-19
Threshold Ventures III - Net			25.9	--	28.8	--	123.5	--	--	--	--	--	--	--	28.5	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	23.8	Oct-19
TPG Opp Partners III - Gross	11,638,258	0.1	-1.6	--	1.0	--	18.1	--	12.2	--	11.9	--	--	--	-6.3	Mar-14
TPG Opp Partners III - Net			-1.6	--	1.0	--	18.1	--	12.2	--	11.9	--	--	--	-6.3	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	15.9	Mar-14
Trinity Ventures XI - Gross	61,180,629	0.5	-3.0	--	1.3	--	30.7	--	16.0	--	20.9	--	--	--	10.9	Apr-13
Trinity Ventures XI - Net			-3.0	--	1.3	--	30.7	--	16.0	--	20.9	--	--	--	10.9	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	17.4	Apr-13
Trinity Ventures XII - Gross	74,239,657	0.6	-4.6	--	-7.5	--	26.7	--	38.0	--	37.5	--	--	--	30.2	Apr-16
Trinity Ventures XII - Net			-4.6	--	-7.5	--	26.7	--	38.0	--	37.5	--	--	--	30.2	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	19.2	Apr-16
TSG7 A LP - Gross*	28,798,864	0.2	1.8	--	8.5	--	89.0	--	43.9	--	30.6	--	--	--	--	Mar-16
TSG7 A LP - Net			1.8	--	8.5	--	89.0	--	43.9	--	30.6	--	--	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	18.0	Mar-16

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

Total Fund  
Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
TSG7 B LP - Gross	4,914,228	0.0	-4.4	--	-15.0	--	35.5	--	25.0	--	6.2	--	--	--	-2.7	Jan-16
TSG7 B LP - Net			-4.4	--	-15.0	--	35.5	--	25.0	--	6.2	--	--	--	-2.7	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	17.3	Jan-16
TSG8 LP - Gross*	27,799,272	0.2	-1.0	--	0.9	--	-0.8	--	--	--	--	--	--	--	--	Jan-19
TSG8 LP - Net			-1.0	--	0.9	--	-0.8	--	--	--	--	--	--	--	--	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	20.5	Jan-19
TSSP Opportunities Partners IV - Gross	31,076,576	0.3	5.0	--	6.6	--	10.5	--	14.5	--	--	--	--	--	14.2	Jan-19
TSSP Opportunities Partners IV - Net			5.0	--	6.6	--	10.5	--	14.5	--	--	--	--	--	14.2	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	20.5	Jan-19
Waterland V - Gross	4,327,006	0.0	4.2	--	27.9	--	35.1	--	24.2	--	29.8	--	38.2	--	24.4	Aug-11
Waterland V - Net			4.2	--	27.9	--	35.1	--	24.2	--	29.8	--	38.2	--	24.4	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	16.6	Aug-11
Waterland VI - Gross	22,153,879	0.2	3.2	--	8.0	--	33.4	--	35.6	--	31.0	--	--	--	9.8	Jul-15
Waterland VI - Net			3.2	--	8.0	--	33.4	--	35.6	--	31.0	--	--	--	9.8	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	16.2	Jul-15
Wayzata Opportunities III - Gross	3,705,782	0.0	-0.4	--	4.0	--	9.7	--	-3.2	--	-3.4	--	--	--	-4.5	Feb-13
Wayzata Opportunities III - Net			-0.4	--	4.0	--	9.7	--	-3.2	--	-3.4	--	--	--	-4.5	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	17.9	Feb-13
Wynnchurch Capital Partners V - Gross	9,877,942	0.1	8.9	--	10.9	--	22.4	--	--	--	--	--	--	--	-11.8	Apr-20
Wynnchurch Capital Partners V - Net			8.9	--	10.9	--	22.4	--	--	--	--	--	--	--	-11.8	
<i>Cambridge Associates All PE 1 Qtr Lag</i>			-0.9	--	4.4	--	22.8	--	22.4	--	18.8	--	17.1	--	27.2	Apr-20
<b>Public Credit - Gross</b>	<b>205,108,056</b>	<b>1.7</b>	<b>-7.0</b>	<b>--</b>	<b>-8.1</b>	<b>--</b>	<b>-5.2</b>	<b>--</b>	<b>4.0</b>	<b>--</b>	<b>3.7</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>4.1</b>	<b>Nov-13</b>
<b>Public Credit - Net</b>			<b>-7.0</b>	<b>--</b>	<b>-8.1</b>	<b>--</b>	<b>-5.2</b>	<b>--</b>	<b>4.0</b>	<b>--</b>	<b>3.7</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>4.1</b>	
<i>Brigade Custom<sup>1</sup></i>			-7.1	--	-9.3	--	-7.7	--	1.0	--	2.5	--	--	--	3.4	Nov-13

1. See Policy Index and Benchmark History.

\* 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: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Brigade Capital - Gross	205,108,056	1.7	-7.0	19	-8.1	16	-5.2	10	4.0	3	3.7	10	--	--	4.1	Nov-13
Brigade Capital - Net			-7.0	19	-8.1	16	-5.2	10	4.0	3	3.7	10	--	--	4.1	
<i>Brigade Custom<sup>1</sup></i>			-7.1	20	-9.3	21	-7.7	21	1.0	44	2.5	51	--	--	3.4	Nov-13
<i>eV US High Yield Fixed Inc Gross Median</i>			-9.3		-12.8		-11.2		0.8		2.5		4.7		3.7	Nov-13
<b>Private Credit - Gross<sup>++</sup></b>	<b>329,563,560</b>	<b>2.8</b>	<b>0.2</b>	<b>--</b>	<b>2.6</b>	<b>--</b>	<b>7.6</b>	<b>--</b>	<b>9.7</b>	<b>--</b>	<b>8.2</b>	<b>--</b>	<b>8.7</b>	<b>--</b>	<b>7.7</b>	<b>Oct-11</b>
<b>Private Credit - Net</b>			<b>0.2</b>	<b>--</b>	<b>2.6</b>	<b>--</b>	<b>7.6</b>	<b>--</b>	<b>9.7</b>	<b>--</b>	<b>8.2</b>	<b>--</b>	<b>8.7</b>	<b>--</b>	<b>7.7</b>	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	6.4	Oct-11
Ares Capital Europe Fund V - Gross	20,103,522	0.2	2.3	--	4.9	--	--	--	--	--	--	--	--	--	14.2	Jul-21
Ares Capital Europe Fund V - Net			2.3	--	4.9	--	--	--	--	--	--	--	--	--	14.2	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	4.6	Jul-21
Athyrium Opp II - Gross	10,478,247	0.1	-1.1	--	-4.1	--	-4.8	--	8.6	--	8.5	--	--	--	7.3	Jun-15
Athyrium Opp II - Net			-1.1	--	-4.1	--	-4.8	--	8.6	--	8.5	--	--	--	7.3	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	6.1	Jun-15
Athyrium Opp III - Gross	11,804,363	0.1	-9.3	--	-9.8	--	-10.8	--	3.2	--	0.5	--	--	--	0.5	May-17
Athyrium Opp III - Net			-9.3	--	-9.8	--	-10.8	--	3.2	--	0.5	--	--	--	0.5	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	6.0	May-17
Benefit St Pr Sr Secure Opp - Gross	29,431,954	0.2	1.4	--	2.9	--	6.4	--	6.4	--	--	--	--	--	5.9	Jan-18
Benefit St Pr Sr Secure Opp - Net			1.4	--	2.9	--	6.4	--	6.4	--	--	--	--	--	5.9	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	6.0	Jan-18
Benefit St Pr Sr Secure Opp II - Gross	28,540,181	0.2	2.4	--	4.8	--	21.3	--	--	--	--	--	--	--	8.3	Dec-19
Benefit St Pr Sr Secure Opp II - Net			2.4	--	4.8	--	21.3	--	--	--	--	--	--	--	8.3	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	5.9	Dec-19
IFM US Infrastructure DB FD LP - Gross	22,479,991	0.2	0.5	--	2.5	--	9.7	--	--	--	--	--	--	--	7.7	Mar-21
IFM US Infrastructure DB FD LP - Net			0.5	--	2.5	--	9.7	--	--	--	--	--	--	--	7.7	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	6.2	Mar-21

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: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
MCP Private Capital IV - Gross	14,721,225	0.1	-10.1	--	-8.0	--	-6.8	--	--	--	--	--	--	--	-5.4	Apr-20
MCP Private Capital IV - Net			-10.1	--	-8.0	--	-6.8	--	--	--	--	--	--	--	-5.4	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	5.5	Apr-20
OrbiMed Royalty & Credit Opp III - Gross	10,934,983	0.1	-3.6	--	-5.2	--	-16.5	--	--	--	--	--	--	--	17.8	Sep-19
OrbiMed Royalty & Credit Opp III - Net			-3.6	--	-5.2	--	-16.5	--	--	--	--	--	--	--	17.8	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	5.9	Sep-19
Shamrock Capital Debt Fund I - Gross	1,917,484	0.0	1.2	--	0.2	--	--	--	--	--	--	--	--	--	-73.7	Jul-21
Shamrock Capital Debt Fund I - Net			1.2	--	0.2	--	--	--	--	--	--	--	--	--	-73.7	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	4.6	Jul-21
Silver Point Specialty Credit Fund II - Gross	32,605,705	0.3	0.8	--	3.1	--	7.9	--	--	--	--	--	--	--	17.0	Jul-20
Silver Point Specialty Credit Fund II - Net			0.8	--	3.1	--	7.9	--	--	--	--	--	--	--	17.0	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	11.8	Jul-20
Summit Credit - Gross	403,840	0.0	0.0	--	0.0	--	1.1	--	5.5	--	3.7	--	7.0	--	6.2	Oct-11
Summit Credit - Net			0.0	--	0.0	--	1.1	--	5.5	--	3.7	--	7.0	--	6.2	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	6.4	Oct-11
Summit Credit II - Gross	14,467,034	0.1	-1.2	--	9.8	--	14.0	--	6.2	--	6.8	--	--	--	6.4	Nov-14
Summit Credit II - Net			-1.2	--	9.8	--	14.0	--	6.2	--	6.8	--	--	--	6.4	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	5.9	Nov-14
Summit Credit III - Gross	26,395,093	0.2	2.5	--	7.5	--	18.5	--	18.2	--	--	--	--	--	16.1	Oct-18
Summit Credit III - Net			2.5	--	7.5	--	18.5	--	18.2	--	--	--	--	--	16.1	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	5.8	Oct-18
Summit Credit IV - Gross	6,398,322	0.1	2.8	--	1.4	--	--	--	--	--	--	--	--	--	1.4	Nov-21
Summit Credit IV - Net			2.8	--	1.4	--	--	--	--	--	--	--	--	--	1.4	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	2.5	Nov-21
TCP Direct Lending VIII - Gross	98,881,616	0.8	1.3	--	4.1	--	10.8	--	10.1	--	--	--	--	--	8.1	Feb-18
TCP Direct Lending VIII - Net			1.3	--	4.1	--	10.8	--	10.1	--	--	--	--	--	8.1	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			0.4	--	1.6	--	5.2	--	6.1	--	6.0	--	6.5	--	6.1	Feb-18

# Total Fund Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Growth Oriented Absolute Return - Gross<sup>++</sup></b>	<b>22,184,737</b>	<b>0.2</b>	<b>-2.2</b>	<b>--</b>	<b>-10.7</b>	<b>--</b>	<b>-8.2</b>	<b>--</b>	<b>5.2</b>	<b>--</b>	<b>4.4</b>	<b>--</b>	<b>5.8</b>	<b>--</b>	<b>4.8</b>	<b>Aug-04</b>
<b>Growth Oriented Absolute Return - Net</b>			<b>-2.2</b>	<b>--</b>	<b>-10.7</b>	<b>--</b>	<b>-8.2</b>	<b>--</b>	<b>5.2</b>	<b>--</b>	<b>4.4</b>	<b>--</b>	<b>5.8</b>	<b>--</b>	<b>4.8</b>	
<i>HFRI FoF Composite Index + 1%<sup>1</sup></i>			<b>-3.6</b>	<b>--</b>	<b>-6.1</b>	<b>--</b>	<b>-4.5</b>	<b>--</b>	<b>5.0</b>	<b>--</b>	<b>4.7</b>	<b>--</b>	<b>4.9</b>	<b>--</b>	<b>5.8</b>	<i>Aug-04</i>
Grosvenor SCARF Growth - Gross	22,184,737	0.2	-2.2	45	-6.9	54	-7.0	55	2.4	74	3.1	76	4.7	67	4.8	Nov-11
Grosvenor SCARF Growth - Net			-2.2	45	-6.9	54	-7.0	55	2.4	74	3.1	76	4.7	67	4.8	
<i>HFRI FoF Composite Index + 1%</i>			<b>-3.6</b>	<b>55</b>	<b>-6.1</b>	<b>51</b>	<b>-4.5</b>	<b>47</b>	<b>5.0</b>	<b>51</b>	<b>4.7</b>	<b>52</b>	<b>4.9</b>	<b>62</b>	<b>4.9</b>	<i>Nov-11</i>
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>			<b>-3.2</b>		<b>-5.8</b>		<b>-5.7</b>		<b>5.0</b>		<b>4.8</b>		<b>5.5</b>		<b>5.3</b>	<i>Nov-11</i>
<b>Diversifying Asset Category - Gross</b>	<b>2,811,797,431</b>	<b>23.8</b>	<b>-3.5</b>	<b>--</b>	<b>-6.6</b>	<b>--</b>	<b>-6.4</b>	<b>--</b>	<b>1.3</b>	<b>--</b>	<b>2.1</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2.3</b>	<b>Mar-17</b>
<b>Diversifying Asset Category - Net</b>			<b>-3.6</b>	<b>--</b>	<b>-6.7</b>	<b>--</b>	<b>-6.5</b>	<b>--</b>	<b>1.2</b>	<b>--</b>	<b>1.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2.1</b>	
<i>Diversifying Custom<sup>1</sup></i>			<b>-3.4</b>	<b>--</b>	<b>-7.5</b>	<b>--</b>	<b>-7.3</b>	<b>--</b>	<b>0.5</b>	<b>--</b>	<b>1.7</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>1.9</b>	<i>Mar-17</i>
<b>Core/Core Plus Fixed Income - Gross</b>	<b>1,411,445,968</b>	<b>11.9</b>	<b>-5.0</b>	<b>--</b>	<b>-10.7</b>	<b>--</b>	<b>-10.4</b>	<b>--</b>	<b>0.0</b>	<b>--</b>	<b>1.7</b>	<b>--</b>	<b>2.3</b>	<b>--</b>	<b>2.6</b>	<b>Jun-11</b>
<b>Core/Core Plus Fixed Income - Net</b>			<b>-5.0</b>	<b>--</b>	<b>-10.8</b>	<b>--</b>	<b>-10.6</b>	<b>--</b>	<b>-0.2</b>	<b>--</b>	<b>1.6</b>	<b>--</b>	<b>2.2</b>	<b>--</b>	<b>2.4</b>	
<i>Bloomberg US Aggregate TR</i>			<b>-4.7</b>	<b>--</b>	<b>-10.3</b>	<b>--</b>	<b>-10.3</b>	<b>--</b>	<b>-0.9</b>	<b>--</b>	<b>0.9</b>	<b>--</b>	<b>1.5</b>	<b>--</b>	<b>2.1</b>	<i>Jun-11</i>
Prudential - Gross	351,556,775	3.0	-6.4	98	-12.4	98	-12.0	97	-0.6	70	1.5	28	--	--	2.6	Jul-14
Prudential - Net			-6.4	98	-12.5	98	-12.2	97	-0.8	89	1.3	48	--	--	2.4	
<i>Bloomberg US Aggregate TR</i>			<b>-4.7</b>	<b>39</b>	<b>-10.3</b>	<b>48</b>	<b>-10.3</b>	<b>53</b>	<b>-0.9</b>	<b>93</b>	<b>0.9</b>	<b>94</b>	<b>1.5</b>	<b>95</b>	<b>1.5</b>	<i>Jul-14</i>
<i>eV US Core Fixed Inc Gross Median</i>			<b>-4.8</b>		<b>-10.4</b>		<b>-10.3</b>		<b>-0.4</b>		<b>1.3</b>		<b>2.1</b>		<b>2.0</b>	<i>Jul-14</i>
TCW MetWest Fixed - Gross	353,659,436	3.0	-4.7	38	-10.1	35	-9.9	26	0.2	13	1.8	11	2.6	10	5.1	Dec-01
TCW MetWest Fixed - Net			-4.7	42	-10.2	38	-10.1	40	0.0	19	1.6	20	2.4	19	4.9	
<i>Bloomberg US Aggregate TR</i>			<b>-4.7</b>	<b>39</b>	<b>-10.3</b>	<b>48</b>	<b>-10.3</b>	<b>53</b>	<b>-0.9</b>	<b>93</b>	<b>0.9</b>	<b>94</b>	<b>1.5</b>	<b>95</b>	<b>3.7</b>	<i>Dec-01</i>
<i>eV US Core Fixed Inc Gross Median</i>			<b>-4.8</b>		<b>-10.4</b>		<b>-10.3</b>		<b>-0.4</b>		<b>1.3</b>		<b>2.1</b>		<b>4.2</b>	<i>Dec-01</i>
Brandywine US FI - Gross	354,149,213	3.0	--	--	--	--	--	--	--	--	--	--	--	--	-0.4	May-22
Brandywine US FI - Net			--	--	--	--	--	--	--	--	--	--	--	--	-0.4	
<i>Bloomberg US Aggregate TR</i>			<b>-4.7</b>	<b>12</b>	<b>-10.3</b>	<b>26</b>	<b>-10.3</b>	<b>29</b>	<b>-0.9</b>	<b>96</b>	<b>0.9</b>	<b>98</b>	<b>1.5</b>	<b>99</b>	<b>-1.6</b>	<i>May-22</i>
<i>eV US Core Plus Fixed Inc Gross Median</i>			<b>-5.7</b>		<b>-11.1</b>		<b>-10.8</b>		<b>-0.1</b>		<b>1.6</b>		<b>2.6</b>		<b>-2.2</b>	<i>May-22</i>

1. See Policy Index and Benchmark History.

<sup>++</sup> Absolute Return managers are ranked in the eVest net of fee universe.

<sup>\*\*</sup> Composite reflects net returns from Cliffwater up to March 2017.

# Total Fund Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Reams Core Plus FI - Gross	352,080,544	3.0	--	--	--	--	--	--	--	--	--	--	--	--	-1.5	May-22
Reams Core Plus FI - Net			--	--	--	--	--	--	--	--	--	--	--	--	-1.5	
<i>Bloomberg US Aggregate TR</i>			-4.7	12	-10.3	26	-10.3	29	-0.9	96	0.9	98	1.5	99	-1.6	May-22
<i>eV US Core Plus Fixed Inc Gross Median</i>			-5.7		-11.1		-10.8		-0.1		1.6		2.6		-2.2	May-22
<b>U.S. Treasury - Gross</b>	<b>433,001,785</b>	<b>3.7</b>	<b>-3.7</b>	<b>--</b>	<b>-8.9</b>	<b>--</b>	<b>-8.7</b>	<b>--</b>	<b>-0.7</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>1.3</b>	<b>Feb-18</b>
<b>U.S. Treasury - Net</b>			<b>-3.7</b>	<b>--</b>	<b>-8.9</b>	<b>--</b>	<b>-8.7</b>	<b>--</b>	<b>-0.8</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>1.3</b>	
<i>Bloomberg US Treasury TR</i>			-3.8	--	-9.1	--	-8.9	--	-0.9	--	0.7	--	1.0	--	1.2	Feb-18
Neuberger Berman - Gross <sup>+</sup>	433,001,785	3.7	-3.7	65	-8.9	71	-8.7	61	-0.7	78	1.0	67	1.7	10	5.8	Jun-88
Neuberger Berman - Net			-3.7	65	-8.9	72	-8.7	67	-0.8	82	0.9	70	1.7	12	5.7	
<i>Bloomberg US Govt TR</i>			-3.7	65	-9.0	76	-8.8	69	-0.8	88	0.8	89	1.0	80	5.2	Jun-88
<i>eV US Government Fixed Inc Gross Median</i>			-3.5		-8.2		-8.2		-0.4		1.1		1.4		5.6	Jun-88
<b>Absolute Return - Gross<sup>++</sup></b>	<b>870,771,079</b>	<b>7.4</b>	<b>-0.7</b>	<b>--</b>	<b>0.5</b>	<b>--</b>	<b>2.1</b>	<b>--</b>	<b>4.5</b>	<b>--</b>	<b>3.1</b>	<b>--</b>	<b>2.9</b>	<b>--</b>	<b>2.7</b>	<b>Nov-11</b>
<b>Absolute Return - Net</b>			<b>-0.7</b>	<b>--</b>	<b>0.4</b>	<b>--</b>	<b>2.0</b>	<b>--</b>	<b>4.4</b>	<b>--</b>	<b>3.1</b>	<b>--</b>	<b>2.8</b>	<b>--</b>	<b>2.7</b>	
<i>HFRI FoF Conservative Index<sup>1</sup></i>			-1.5	--	-1.4	--	0.3	--	4.7	--	4.1	--	4.6	--	4.6	Nov-11
Aristeia Partners LP - Gross	48,443,151	0.4	0.1	58	-0.5	66	1.8	50	--	--	--	--	--	--	5.0	Dec-20
Aristeia Partners LP - Net			0.1	58	-0.5	66	1.8	50	--	--	--	--	--	--	5.0	
<i>HFRI FoF Conservative Index</i>			-1.5	66	-1.4	68	0.3	52	4.7	47	4.1	45	4.6	20	4.1	Dec-20
<i>eV Alt Relative Value - Multi-Market Arbitrage Median</i>			0.7		1.5		1.5		4.3		1.9		2.6		3.7	Dec-20
BlackRock Event Driven Equity Fund - Gross	52,641,147	0.4	-1.8	20	-1.4	21	-1.3	28	--	--	--	--	--	--	4.1	Feb-20
BlackRock Event Driven Equity Fund - Net			-2.1	23	-2.0	27	-2.6	40	--	--	--	--	--	--	2.6	
<i>HFRI FoF Conservative Index</i>			-1.5	18	-1.4	21	0.3	18	4.7	47	4.1	50	4.6	60	5.6	Feb-20
<i>eV Alt All Event Driven Median</i>			-4.9		-4.5		-4.2		3.7		4.0		5.8		4.6	Feb-20

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: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Davidson Kempner Instl Partners LP - Gross	57,108,275	0.5	-2.8	46	-2.7	45	-2.7	52	4.7	50	--	--	--	--	4.6	Apr-19
Davidson Kempner Instl Partners LP - Net			-2.8	46	-2.7	45	-2.7	52	4.7	50	--	--	--	--	4.6	
<i>HFRI FoF Conservative Index</i>			-1.5	38	-1.4	41	0.3	41	4.7	50	4.1	54	4.6	55	4.6	Apr-19
<i>eV Alt All Multi-Strategy Median</i>			-4.0		-4.0		-2.5		4.5		4.4		5.2		4.7	Apr-19
Eisler Capital Fund LP - Gross	41,168,807	0.3	-4.5	54	-3.6	49	-8.5	68	--	--	--	--	--	--	-8.5	Jun-21
Eisler Capital Fund LP - Net			-4.5	54	-3.6	49	-8.5	68	--	--	--	--	--	--	-8.5	
<i>HFRI FoF Conservative Index</i>			-1.5	38	-1.4	41	0.3	41	4.7	50	4.1	54	4.6	55	0.3	Jun-21
<i>eV Alt All Multi-Strategy Median</i>			-4.0		-4.0		-2.5		4.5		4.4		5.2		-2.5	Jun-21
Elliott Associates - Gross <sup>+</sup>	77,891,715	0.7	-0.1	6	5.0	4	12.8	4	11.2	15	9.1	13	9.0	18	8.5	Apr-12
Elliott Associates - Net			-0.1	6	5.0	4	12.8	4	11.2	15	9.1	13	9.0	18	8.5	
<i>HFRI FoF Conservative Index</i>			-1.5	18	-1.4	21	0.3	18	4.7	47	4.1	50	4.6	60	4.6	Apr-12
<i>eV Alt All Event Driven Median</i>			-4.9		-4.5		-4.2		3.7		4.0		5.8		5.6	Apr-12
Graham Global Inv II - Gross	51,247,881	0.4	11.2	14	37.4	6	32.3	9	15.0	31	9.3	43	--	--	7.6	Feb-17
Graham Global Inv II - Net			11.2	14	37.4	6	32.3	9	15.0	31	9.3	43	--	--	7.6	
<i>HFRI FoF Conservative Index</i>			-1.5	75	-1.4	84	0.3	79	4.7	73	4.1	72	4.6	49	4.2	Feb-17
<i>eV Alt All Managed Futures Median</i>			3.5		13.6		14.7		10.9		7.4		4.3		6.7	Feb-17
Grosvenor SCARF Diversifying - Gross	218,779,861	1.8	-0.4	26	-0.4	29	2.6	28	4.9	51	2.9	77	2.6	88	2.5	Nov-11
Grosvenor SCARF Diversifying - Net			-0.4	26	-0.4	29	2.6	28	4.9	51	2.9	77	2.6	88	2.5	
<i>HFRI FoF Conservative Index</i>			-1.5	36	-1.4	36	0.3	37	4.7	55	4.1	60	4.6	70	4.6	Nov-11
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>			-3.2		-5.8		-5.7		5.0		4.8		5.5		5.3	Nov-11
Laurion Capital - Gross	58,103,538	0.5	0.4	39	-6.8	63	-15.1	69	12.1	31	10.5	30	--	--	8.4	Mar-14
Laurion Capital - Net			0.4	39	-6.8	63	-15.1	69	12.1	31	10.5	30	--	--	8.4	
<i>HFRI FoF Conservative Index</i>			-1.5	50	-1.4	45	0.3	46	4.7	61	4.1	72	4.6	75	4.5	Mar-14
<i>eV Alt Relative Value - Equity Relative Value Median</i>			-1.6		-6.3		-8.3		8.7		6.5		5.7		5.8	Mar-14
LMR Fund LTD - Gross	51,242,893	0.4	0.8	26	3.1	26	9.2	21	--	--	--	--	--	--	5.0	Oct-19
LMR Fund LTD - Net			0.8	26	3.1	26	9.2	21	--	--	--	--	--	--	5.0	
<i>HFRI FoF Conservative Index</i>			-1.5	38	-1.4	41	0.3	41	4.7	50	4.1	54	4.6	55	5.3	Oct-19
<i>eV Alt All Multi-Strategy Median</i>			-4.0		-4.0		-2.5		4.5		4.4		5.2		4.9	Oct-19

+ Preliminary quarterly returns as of 6/30/2022.

# Total Fund Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
MW Global Opportunities Fund - Gross	52,960,214	0.4	-1.9	21	1.2	13	2.3	18	5.3	53	--	--	--	--	5.3	Dec-18
MW Global Opportunities Fund - Net			-1.9	21	1.2	13	2.3	18	5.3	53	--	--	--	--	5.3	
<i>HFRI FoF Conservative Index</i>			-1.5	20	-1.4	18	0.3	20	4.7	58	4.1	63	4.6	77	5.4	Dec-18
<i>eV Alt Fundamental - Long/Short Equity Median</i>			-8.5		-12.0		-11.6		6.0		5.5		6.9		7.7	Dec-18
PSquared Event Driven Opp Fund - Gross	53,584,337	0.5	2.7	3	1.9	8	5.3	8	--	--	--	--	--	--	3.8	Jul-20
PSquared Event Driven Opp Fund - Net			2.7	3	1.9	8	5.3	8	--	--	--	--	--	--	3.8	
<i>HFRI FoF Conservative Index</i>			-1.5	18	-1.4	21	0.3	18	4.7	47	4.1	50	4.6	60	6.9	Jul-20
<i>eV Alt All Event Driven Median</i>			-4.9		-4.5		-4.2		3.7		4.0		5.8		6.4	Jul-20
Sculptor Domestic II - Gross	58,134,230	0.5	-9.5	79	-12.0	79	-12.6	79	4.2	54	5.2	43	6.3	42	6.5	Dec-11
Sculptor Domestic II - Net			-9.5	79	-12.0	79	-12.6	79	4.2	54	5.2	43	6.3	42	6.5	
<i>HFRI FoF Conservative Index</i>			-1.5	38	-1.4	41	0.3	41	4.7	50	4.1	54	4.6	55	4.6	Dec-11
<i>eV Alt All Multi-Strategy Median</i>			-4.0		-4.0		-2.5		4.5		4.4		5.2		5.5	Dec-11
Two Sigma Risk Premia Enhanced - Gross	49,358,286	0.4	-1.3	36	0.5	33	11.3	18	--	--	--	--	--	--	3.4	Sep-19
Two Sigma Risk Premia Enhanced - Net			-1.3	36	0.5	33	11.3	18	--	--	--	--	--	--	3.4	
<i>HFRI FoF Conservative Index</i>			-1.5	38	-1.4	41	0.3	41	4.7	50	4.1	54	4.6	55	5.2	Sep-19
<i>eV Alt All Multi-Strategy Median</i>			-4.0		-4.0		-2.5		4.5		4.4		5.2		5.0	Sep-19
Dedicated Cash Allocation - Gross	96,578,599	0.8	0.2	--	0.2	--	0.2	--	0.6	--	--	--	--	--	0.6	Jun-19
Dedicated Cash Allocation - Net			0.2	--	0.2	--	0.2	--	0.6	--	--	--	--	--	0.6	
<i>Secured Overnight Financing Rate</i>			0.2	--	0.2	--	0.2	--	0.5	--	1.1	--	0.6	--	0.5	Jun-19
Real Return (with SSgA RA Overlay Proxy) - Gross	2,280,249,811	19.3	1.6	--	8.3	--	21.4	--	10.7	--	10.3	--	--	--	10.2	Mar-17
Real Return (with SSgA RA Overlay Proxy) - Net			1.6	--	8.3	--	21.3	--	10.5	--	10.1	--	--	--	10.0	
<i>Real Return Custom<sup>1</sup></i>			4.5	--	11.4	--	22.5	--	9.8	--	8.5	--	--	--	8.3	Mar-17
Real Return Asset Category - Gross	2,280,249,811	19.3	1.6	--	8.3	--	21.4	--	10.7	--	10.7	--	--	--	10.8	Mar-17
Real Return Asset Category - Net			1.6	--	8.3	--	21.3	--	10.5	--	10.5	--	--	--	10.6	
<i>Real Return Custom</i>			4.5	--	11.4	--	22.5	--	9.8	--	8.5	--	--	--	8.3	Mar-17

1. See Policy Index and Benchmark History.



# Total Fund Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Real Estate - Gross</b>	<b>1,106,998,519</b>	<b>9.4</b>	<b>3.0</b>	<b>78</b>	<b>10.8</b>	<b>56</b>	<b>27.7</b>	<b>50</b>	<b>14.3</b>	<b>1</b>	<b>12.4</b>	<b>1</b>	<b>12.0</b>	<b>1</b>	<b>12.2</b>	<b>Jun-11</b>
<b>Real Estate - Net</b>			<b>3.0</b>	<b>80</b>	<b>10.7</b>	<b>58</b>	<b>27.6</b>	<b>51</b>	<b>14.1</b>	<b>1</b>	<b>12.1</b>	<b>1</b>	<b>11.4</b>	<b>5</b>	<b>11.6</b>	
<i>Real Estate Custom<sup>1</sup></i>			5.8	30	14.5	2	29.3	29	12.3	29	10.4	15	10.4	22	10.6	Jun-11
<i>InvMetrics All DB Real Estate Priv Net Median</i>			4.3		11.1		27.7		11.6		9.5		9.5		9.8	Jun-11
<b>Core RE -Limited Partnership - Gross</b>	<b>831,250,507</b>	<b>7.0</b>	<b>4.0</b>	<b>--</b>	<b>12.6</b>	<b>--</b>	<b>31.5</b>	<b>--</b>	<b>16.2</b>	<b>--</b>	<b>14.1</b>	<b>--</b>	<b>12.8</b>	<b>--</b>	<b>7.5</b>	<b>Sep-08</b>
<b>Core RE -Limited Partnership - Net</b>			<b>3.9</b>	<b>--</b>	<b>12.5</b>	<b>--</b>	<b>31.3</b>	<b>--</b>	<b>16.0</b>	<b>--</b>	<b>13.8</b>	<b>--</b>	<b>12.3</b>	<b>--</b>	<b>6.9</b>	
<i>NFI-ODCE</i>			4.8	--	12.5	--	29.5	--	12.7	--	10.5	--	11.2	--	7.1	Sep-08
Brookfield Premier RE Partners - Gross*	137,905,444	1.2	6.1	--	15.0	--	32.5	--	14.6	--	--	--	--	--	13.3	Sep-18
Brookfield Premier RE Partners - Net			6.1	--	15.0	--	32.5	--	14.6	--	--	--	--	--	13.3	
<i>NFI-ODCE</i>			4.8	--	12.5	--	29.5	--	12.7	--	10.5	--	11.2	--	11.2	Sep-18
Clarion Lion Properties - Gross	142,072,013	1.2	7.3	--	14.9	--	31.4	--	14.5	--	--	--	--	--	13.1	Sep-18
Clarion Lion Properties - Net			7.1	--	14.4	--	30.4	--	13.6	--	--	--	--	--	12.2	
<i>NFI-ODCE</i>			4.8	--	12.5	--	29.5	--	12.7	--	10.5	--	11.2	--	11.2	Sep-18
Metlife Core Property - Gross	91,904,624	0.8	4.5	--	12.9	--	31.5	--	14.6	--	12.4	--	--	--	12.7	Dec-13
Metlife Core Property - Net			4.4	--	12.6	--	30.9	--	14.0	--	11.9	--	--	--	12.1	
<i>NFI-ODCE</i>			4.8	--	12.5	--	29.5	--	12.7	--	10.5	--	11.2	--	10.9	Dec-13
Principal US Property - Gross	66,200,340	0.6	3.0	--	10.5	--	27.7	--	12.0	--	10.2	--	--	--	10.0	Oct-15
Principal US Property - Net			3.0	--	10.5	--	27.7	--	12.0	--	10.2	--	--	--	10.0	
<i>NFI-ODCE</i>			4.8	--	12.5	--	29.5	--	12.7	--	10.5	--	11.2	--	10.3	Oct-15
Prologis Targeted Euro Logistics - Gross	78,595,716	0.7	0.3	--	4.4	--	15.0	--	17.2	--	18.1	--	--	--	14.5	Oct-15
Prologis Targeted Euro Logistics - Net			0.3	--	4.4	--	15.0	--	17.2	--	18.1	--	--	--	14.5	
<i>NFI-ODCE</i>			4.8	--	12.5	--	29.5	--	12.7	--	10.5	--	11.2	--	10.3	Oct-15
Prologis Targeted US Logistics - Gross	142,833,886	1.2	5.8	--	18.4	--	49.8	--	28.4	--	23.9	--	--	--	21.6	Jul-15
Prologis Targeted US Logistics - Net			5.8	--	18.4	--	49.8	--	28.4	--	23.9	--	--	--	21.6	
<i>NFI-ODCE</i>			4.8	--	12.5	--	29.5	--	12.7	--	10.5	--	11.2	--	10.5	Jul-15

1. See Policy and Benchmark History .

+ Preliminary quarterly returns as of 6/30/2022.

# Total Fund Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Townsend Real Estate - Gross*	171,738,484	1.5	0.0	--	9.2	--	27.8	--	14.1	--	11.9	--	--	--	11.7	Mar-16
Townsend Real Estate - Net			0.0	--	9.2	--	27.8	--	14.1	--	11.9	--	--	--	11.7	
<i>NFI-ODCE</i>			4.8	--	12.5	--	29.5	--	12.7	--	10.5	--	11.2	--	10.0	Mar-16
<b>Non-Core RE -Opportunistic - Gross**</b>	<b>179,901,990</b>	<b>1.5</b>	<b>-0.5</b>	<b>--</b>	<b>5.3</b>	<b>--</b>	<b>19.7</b>	<b>--</b>	<b>8.5</b>	<b>--</b>	<b>6.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>17.0</b>	<b>Feb-14</b>
<b>Non-Core RE -Opportunistic - Net</b>			<b>-0.5</b>	<b>--</b>	<b>5.3</b>	<b>--</b>	<b>19.7</b>	<b>--</b>	<b>8.5</b>	<b>--</b>	<b>6.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>16.5</b>	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	--	--	10.9	Feb-14
Carlyle China Realty - Gross	8,496,987	0.1	-0.6	--	-3.3	--	0.2	--	1.7	--	-1.5	--	--	--	-1.5	Jun-17
Carlyle China Realty - Net			-0.6	--	-3.3	--	0.2	--	1.7	--	-1.5	--	--	--	-1.5	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	--	--	9.9	Jun-17
Carlyle China Rome Logistics - Gross	37,741,351	0.3	-0.5	--	-3.1	--	0.7	--	-0.7	--	-1.0	--	--	--	-1.0	Jun-17
Carlyle China Rome Logistics - Net			-0.5	--	-3.1	--	0.7	--	-0.7	--	-1.0	--	--	--	-1.0	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	--	--	9.9	Jun-17
CIM Opportunity VIII - Gross	29,723,353	0.3	-1.7	--	-1.2	--	-4.8	--	-9.3	--	-2.8	--	--	--	0.2	Feb-15
CIM Opportunity VIII - Net			-1.7	--	-1.2	--	-4.8	--	-9.3	--	-2.8	--	--	--	-0.5	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	--	--	10.7	Feb-15
Kohlberg Kravis Roberts - Gross	1,734,952	0.0	-11.1	--	-19.2	--	5.2	--	-12.9	--	-19.4	--	--	--	1.0	Feb-14
Kohlberg Kravis Roberts - Net			-11.1	--	-19.2	--	5.2	--	-12.9	--	-19.4	--	--	--	0.8	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	--	--	10.9	Feb-14
Lasalle China Logistics Venture LP - Gross	2,733,205	0.0	-4.0	--	10.6	--	--	--	--	--	--	--	--	--	-38.3	Sep-21
Lasalle China Logistics Venture LP - Net			-4.0	--	10.6	--	--	--	--	--	--	--	--	--	-38.3	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	--	--	23.0	Sep-21
NREP Nordic Strat II - Gross	30,329,127	0.3	2.5	--	13.1	--	64.9	--	31.6	--	29.8	--	--	--	22.8	Jun-16
NREP Nordic Strat II - Net			2.5	--	13.1	--	64.9	--	31.6	--	29.8	--	--	--	22.8	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	--	--	9.7	Jun-16

\* Preliminary quarterly returns as of 6/30/2022.

+ 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: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
NREP Nordic Strat III - Gross	40,965,223	0.3	-2.8	--	9.7	--	19.1	--	17.8	--	--	--	--	--	7.6	Jul-18
NREP Nordic Strat III - Net			-2.8	--	9.7	--	19.1	--	17.8	--	--	--	--	--	7.6	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	--	--	10.6	Jul-18
NREP Nordic Strat IV - Gross	14,901,644	0.1	-4.2	--	13.6	--	31.0	--	--	--	--	--	--	--	22.8	Jul-20
NREP Nordic Strat IV - Net			-4.2	--	13.6	--	31.0	--	--	--	--	--	--	--	22.8	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	--	--	15.3	Jul-20
Sculptor Real Estate Fund III - Gross	5,323,684	0.0	10.7	--	16.6	--	31.7	--	18.1	--	20.3	--	--	--	11.0	Sep-14
Sculptor Real Estate Fund III - Net			10.7	--	16.6	--	31.7	--	18.1	--	20.3	--	--	--	8.3	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	--	--	10.5	Sep-14
Sculptor Real Estate Fund IV - Gross	7,691,043	0.1	1.3	--	4.5	--	21.7	--	--	--	--	--	--	--	5.0	Jun-20
Sculptor Real Estate Fund IV - Net			1.3	--	4.5	--	21.7	--	--	--	--	--	--	--	5.0	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	--	--	14.6	Jun-20
<b>Non-Core RE -Value Added - Gross<sup>++</sup></b>	<b>95,846,022</b>	<b>0.8</b>	<b>1.4</b>	<b>--</b>	<b>5.0</b>	<b>--</b>	<b>11.8</b>	<b>--</b>	<b>11.4</b>	<b>--</b>	<b>10.1</b>	<b>--</b>	<b>11.1</b>	<b>--</b>	<b>1.0</b>	<b>Sep-08</b>
<b>Non-Core RE -Value Added - Net</b>			<b>1.4</b>	<b>--</b>	<b>5.0</b>	<b>--</b>	<b>11.8</b>	<b>--</b>	<b>11.4</b>	<b>--</b>	<b>10.1</b>	<b>--</b>	<b>10.5</b>	<b>--</b>	<b>0.0</b>	
<i>NFI-ODCE net +1% 1Q Lag<sup>1</sup></i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	11.2	--	8.7	Sep-08
Asana Partners Fund II - Gross*	23,884,877	0.2	2.8	--	10.0	--	38.4	--	--	--	--	--	--	--	--	Apr-19
Asana Partners Fund II - Net			2.8	--	10.0	--	38.4	--	--	--	--	--	--	--	--	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	11.2	--	11.2	Apr-19
Asana Partners Fund III - Gross	1,250,289	0.0	--	--	--	--	--	--	--	--	--	--	--	--	0.0	Apr-22
Asana Partners Fund III - Net			--	--	--	--	--	--	--	--	--	--	--	--	0.0	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	11.2	--	7.3	Apr-22
ECE Euro Prime Shopping II - Gross	34,405,249	0.3	-1.7	--	0.9	--	-1.4	--	0.8	--	4.4	--	--	--	8.4	Jul-15
ECE Euro Prime Shopping II - Net			-1.7	--	0.9	--	-1.4	--	0.8	--	4.4	--	--	--	7.8	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	11.2	--	10.3	Jul-15

1. See Policy Index 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: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
European RE Debt II - Gross	1,906,526	0.0	21.4	--	-24.3	--	-16.5	--	-33.1	--	-17.5	--	--	--	-10.0	Nov-13
European RE Debt II - Net			21.4	--	-24.3	--	-16.5	--	-33.1	--	-17.5	--	--	--	-10.0	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	11.2	--	11.2	Nov-13
Hammes II - Gross	3,254,730	0.0	4.3	--	14.1	--	24.7	--	249.0	--	123.7	--	--	--	87.5	Jul-15
Hammes II - Net			4.3	--	14.1	--	24.7	--	249.0	--	123.7	--	--	--	85.0	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	11.2	--	10.3	Jul-15
Hammes III - Gross	19,952,257	0.2	3.3	--	9.5	--	14.7	--	14.6	--	--	--	--	--	-5.5	Oct-18
Hammes III - Net			3.3	--	9.5	--	14.7	--	14.6	--	--	--	--	--	-5.5	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	11.2	--	10.7	Oct-18
Seven Seas Japan Opp Fund - Gross	11,192,094	0.1	1.1	--	--	--	--	--	--	--	--	--	--	--	1.1	Mar-22
Seven Seas Japan Opp Fund - Net			1.1	--	--	--	--	--	--	--	--	--	--	--	1.1	
<i>NFI-ODCE net +1% 1Q Lag</i>			7.4	--	17.9	--	28.3	--	11.3	--	9.9	--	11.2	--	7.4	Mar-22
<b>Private Real Assets - Gross<sup>++</sup></b>	<b>852,991,429</b>	<b>7.2</b>	<b>5.3</b>	<b>--</b>	<b>12.6</b>	<b>--</b>	<b>27.6</b>	<b>--</b>	<b>9.8</b>	<b>--</b>	<b>11.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>6.8</b>	<b>Jan-13</b>
<b>Private Real Assets - Net</b>			<b>5.3</b>	<b>--</b>	<b>12.6</b>	<b>--</b>	<b>27.6</b>	<b>--</b>	<b>9.8</b>	<b>--</b>	<b>11.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>6.8</b>	
<i>Private Real Assets Custom<sup>1</sup></i>			6.2	--	12.1	--	21.5	--	8.2	--	7.9	--	--	--	7.1	Jan-13
<i>CPI-U Headline +5%</i>			4.1	--	7.8	--	14.1	--	10.0	--	8.9	--	7.4	--	7.6	Jan-13
ACM II - Gross	17,618,678	0.1	-0.4	--	-1.8	--	-5.6	--	-8.9	--	-6.9	--	--	--	-7.1	Sep-16
ACM II - Net			-0.4	--	-1.8	--	-5.6	--	-8.9	--	-6.9	--	--	--	-7.1	
<i>NCREIF Farmland 1 Qtr Lag</i>			2.6	--	6.5	--	9.7	--	5.9	--	6.2	--	9.6	--	6.2	Sep-16
ArcLight Energy VI - Gross	23,151,086	0.2	1.7	--	8.8	--	9.5	--	-7.4	--	1.3	--	--	--	1.9	Aug-15
ArcLight Energy VI - Net			1.7	--	8.8	--	9.5	--	-7.4	--	1.3	--	--	--	1.9	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	12.5	Aug-15
Brookfield Infra III - Gross	37,185,322	0.3	7.3	--	10.6	--	20.3	--	13.2	--	11.7	--	--	--	12.4	May-16
Brookfield Infra III - Net			7.3	--	10.6	--	20.3	--	13.2	--	11.7	--	--	--	12.4	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	12.3	May-16

1. See Policy and Benchmark History .

++ Private Real Assets 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: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Brookfield Infra IV - Gross	32,503,471	0.3	5.8	--	8.7	--	15.8	--	--	--	--	--	--	--	10.0	Sep-19
Brookfield Infra IV - Net			5.8	--	8.7	--	15.8	--	--	--	--	--	--	--	10.0	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	11.9	Sep-19
Carlyle Power II - Gross	38,395,863	0.3	5.0	--	6.2	--	18.2	--	11.0	--	12.2	--	--	--	4.7	Oct-15
Carlyle Power II - Net			5.0	--	6.2	--	18.2	--	11.0	--	12.2	--	--	--	4.7	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	11.9	Oct-15
EnCap Energy IX - Gross	14,722,909	0.1	21.0	--	28.3	--	85.9	--	5.0	--	4.3	--	--	--	1.8	Jan-13
EnCap Energy IX - Net			21.0	--	28.3	--	85.9	--	5.0	--	4.3	--	--	--	1.8	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			10.6	--	17.9	--	34.6	--	4.8	--	4.1	--	2.3	--	2.6	Jan-13
EnCap Energy X - Gross	40,851,424	0.3	29.8	--	55.8	--	103.4	--	22.1	--	15.9	--	--	--	8.6	Apr-15
EnCap Energy X - Net			29.8	--	55.8	--	103.4	--	22.1	--	15.9	--	--	--	8.6	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			10.6	--	17.9	--	34.6	--	4.8	--	4.1	--	2.3	--	2.3	Apr-15
EnCap Flatrock Midstream III - Gross	13,896,774	0.1	3.2	--	6.0	--	16.2	--	2.1	--	8.3	--	--	--	6.2	Jul-14
EnCap Flatrock Midstream III - Net			3.2	--	6.0	--	16.2	--	2.1	--	8.3	--	--	--	6.2	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	11.0	Jul-14
EnCap Flatrock Midstream IV - Gross	8,960,063	0.1	7.1	--	6.1	--	11.9	--	6.7	--	--	--	--	--	2.7	Feb-18
EnCap Flatrock Midstream IV - Net			7.1	--	6.1	--	11.9	--	6.7	--	--	--	--	--	2.7	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	11.5	Feb-18
EQT Infrastructure Fund IV - Gross	33,609,646	0.3	6.6	--	11.4	--	22.2	--	2.6	--	--	--	--	--	2.6	Jun-19
EQT Infrastructure Fund IV - Net			6.6	--	11.4	--	22.2	--	2.6	--	--	--	--	--	2.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	11.7	Jun-19

Total Fund  
Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
First Reserve - Gross	13,834,931	0.1	-1.8	--	-1.7	--	-7.6	--	-1.2	--	2.9	--	--	--	-1.4	Dec-14
First Reserve - Net			-1.8	--	-1.7	--	-7.6	--	-1.2	--	2.9	--	--	--	-1.4	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	11.2	Dec-14
Harrison St Social Infra Fd - Gross	79,042,048	0.7	2.0	--	4.3	--	--	--	--	--	--	--	--	--	6.1	Jul-21
Harrison St Social Infra Fd - Net			2.0	--	4.3	--	--	--	--	--	--	--	--	--	6.1	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	17.0	Jul-21
IFM Global Infrastructure US LP - Gross	147,754,194	1.2	1.2	--	4.9	--	17.2	--	11.0	--	12.6	--	--	--	12.2	Apr-17
IFM Global Infrastructure US LP - Net			1.2	--	4.9	--	17.2	--	11.0	--	12.6	--	--	--	12.2	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	12.6	Apr-17
ISQ Global Infrastructure Fund II - Gross	52,060,487	0.4	1.6	--	6.1	--	14.9	--	14.2	--	--	--	--	--	13.5	Oct-18
ISQ Global Infrastructure Fund II - Net			1.6	--	6.1	--	14.9	--	14.2	--	--	--	--	--	13.5	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	11.5	Oct-18
ISQ Global Infrastructure Fund III - Gross	3,228,636	0.0	4.4	--	6.0	--	--	--	--	--	--	--	--	--	6.0	Dec-21
ISQ Global Infrastructure Fund III - Net			4.4	--	6.0	--	--	--	--	--	--	--	--	--	6.0	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	10.3	Dec-21
Meridiam Infra N America III - Gross	21,496,572	0.2	23.5	--	24.5	--	157.7	--	-5.5	--	--	--	--	--	-63.4	Sep-17
Meridiam Infra N America III - Net			23.5	--	24.5	--	157.7	--	-5.5	--	--	--	--	--	-63.4	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	11.5	Sep-17
Meridiam Sa Infra Euro IV - Gross	4,298,488	0.0	-5.9	--	-38.3	--	--	--	--	--	--	--	--	--	-80.1	Jul-21
Meridiam Sa Infra Euro IV - Net			-5.9	--	-38.3	--	--	--	--	--	--	--	--	--	-80.1	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	17.0	Jul-21

Total Fund  
Performance Summary

Period Ending: June 30, 2022

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
NGP Royalty Partners - Gross	24,793,056	0.2	26.9	--	41.3	--	72.8	--	--	--	--	--	--	--	40.5	Aug-20
NGP Royalty Partners - Net			26.9	--	41.3	--	72.8	--	--	--	--	--	--	--	40.5	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			10.6	--	17.9	--	34.6	--	4.8	--	4.1	--	2.3	--	30.6	Aug-20
Paine Schwartz Food Chain V - Gross	34,618,432	0.3	6.7	--	30.4	--	57.1	--	--	--	--	--	--	--	10.0	Jan-20
Paine Schwartz Food Chain V - Net			6.7	--	30.4	--	57.1	--	--	--	--	--	--	--	10.0	
<i>NCREIF Farmland 1 Qtr Lag</i>			2.6	--	6.5	--	9.7	--	5.9	--	6.2	--	9.6	--	6.6	Jan-20
Pantheon Ventures - Gross	52,130,588	0.4	5.2	--	9.8	--	20.1	--	8.6	--	10.7	--	--	--	17.5	Jul-14
Pantheon Ventures - Net			5.2	--	9.8	--	20.1	--	8.6	--	10.7	--	--	--	17.5	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	11.0	Jul-14
Quantum Energy VI - Gross	45,013,053	0.4	-0.1	--	15.6	--	54.7	--	19.1	--	23.9	--	--	--	22.9	Nov-14
Quantum Energy VI - Net			-0.1	--	15.6	--	54.7	--	19.1	--	23.9	--	--	--	22.9	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			10.6	--	17.9	--	34.6	--	4.8	--	4.1	--	2.3	--	0.2	Nov-14
Quantum Energy VII - Gross	34,407,032	0.3	6.3	--	25.5	--	62.4	--	21.8	--	--	--	--	--	12.7	Aug-17
Quantum Energy VII - Net			6.3	--	25.5	--	62.4	--	21.8	--	--	--	--	--	12.7	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			10.6	--	17.9	--	34.6	--	4.8	--	4.1	--	2.3	--	4.3	Aug-17
Tailwater Energy Fund III - Gross	31,863,429	0.3	0.5	--	11.0	--	21.9	--	0.5	--	--	--	--	--	0.8	Sep-18
Tailwater Energy Fund III - Net			0.5	--	11.0	--	21.9	--	0.5	--	--	--	--	--	0.8	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			10.6	--	17.9	--	34.6	--	4.8	--	4.1	--	2.3	--	2.9	Sep-18
Tailwater Energy IV - Gross	27,241,001	0.2	4.3	--	21.5	--	42.3	--	--	--	--	--	--	--	-1.8	Oct-19
Tailwater Energy IV - Net			4.3	--	21.5	--	42.3	--	--	--	--	--	--	--	-1.8	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			10.6	--	17.9	--	34.6	--	4.8	--	4.1	--	2.3	--	6.4	Oct-19
Wastewater Opportunity - Gross	20,314,246	0.2	-0.4	--	24.6	--	26.4	--	8.3	--	4.4	--	--	--	-11.3	Dec-15
Wastewater Opportunity - Net			-0.4	--	24.6	--	26.4	--	8.3	--	4.4	--	--	--	-11.3	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			4.7	--	10.3	--	17.0	--	11.7	--	11.8	--	10.4	--	11.9	Dec-15

Total Fund  
Performance Summary

Period Ending: June 30, 2022

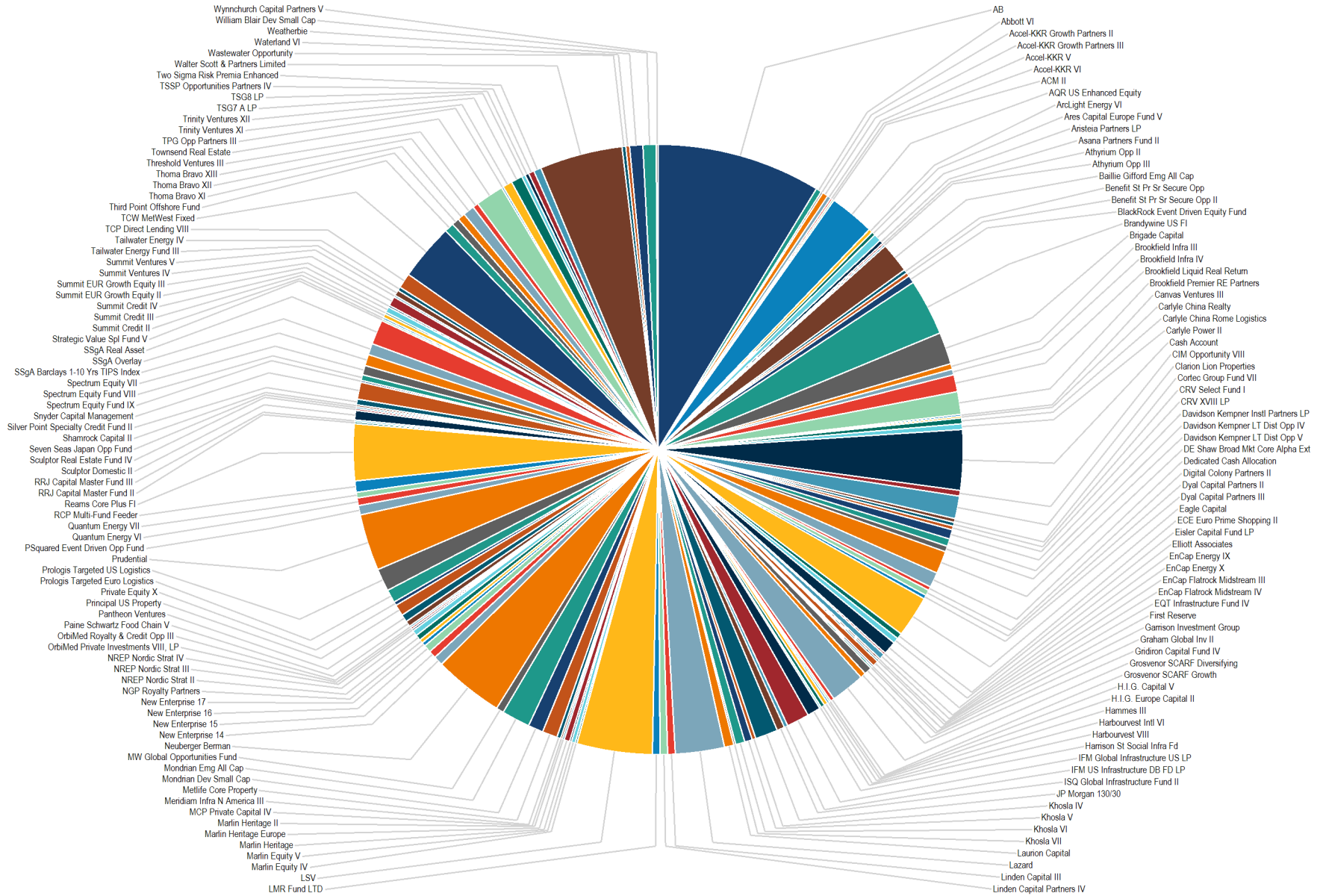
	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Liquid Real Return - Gross	320,259,863	2.7	-8.2	--	-4.5	--	0.4	--	4.7	--	--	--	--	--	4.7	Jun-19
Liquid Real Return - Net			-8.3	--	-4.7	--	0.1	--	4.4	--	--	--	--	--	4.4	
SSgA Real Asset <sup>1</sup>			-7.6	--	-3.1	--	1.9	--	4.8	--	4.9	--	3.2	--	4.8	Jun-19
Brookfield Liquid Real Return - Gross	106,256,606	0.9	-10.0	--	-9.1	--	-4.7	--	--	--	--	--	--	--	3.1	Nov-19
Brookfield Liquid Real Return - Net			-10.1	--	-9.4	--	-5.3	--	--	--	--	--	--	--	2.5	
Brookfield Real Return Custom <sup>1</sup>			-9.7	--	-12.3	--	-8.3	--	--	--	--	--	--	--	0.6	Nov-19
SSgA Passive Real Return Proxy - Gross	214,003,257	1.8	-7.6	--	-2.8	--	2.2	--	5.1	--	5.2	--	3.4	--	2.4	Jan-08
SSgA Passive Real Return Proxy - Net			-7.7	--	-2.9	--	2.0	--	4.9	--	4.9	--	3.2	--	2.2	
SSgA Real Asset			-7.6	--	-3.1	--	1.9	--	4.8	--	4.9	--	3.2	--	--	Jan-08
Cash - Gross	375,073,691	3.2	0.2	--	0.3	--	0.6	--	1.2	--	1.6	--	1.3	--	3.0	Jun-92
Cash - Net			0.2	--	0.3	--	0.6	--	1.2	--	1.6	--	1.3	--	--	
Secured Overnight Financing Rate <sup>1</sup>			0.2	--	0.2	--	0.2	--	0.5	--	1.1	--	0.6	--	2.3	Jun-92
Cash Account - Gross	375,073,691	3.2	0.2	--	0.3	--	0.7	--	1.5	--	1.8	--	1.4	--	3.1	Jun-92
Cash Account - Net			0.2	--	0.3	--	0.7	--	1.5	--	1.8	--	1.4	--	--	
Secured Overnight Financing Rate			0.2	--	0.2	--	0.2	--	0.5	--	1.1	--	0.6	--	2.3	Jun-92

1. See Policy and Benchmark History .



# Total Fund Manager Allocation Analysis

Period Ending: June 30, 2022



Total Fund  
 Manager Allocation Analysis

Period Ending: June 30, 2022

	Current	%
AB	\$1,032,096,546	8.7%
AQR US Enhanced Equity	\$284,047,128	2.4%
JP Morgan 130/30	\$143,528,496	1.2%
DE Shaw Broad Mkt Core Alpha Ext	\$136,565,302	1.2%
Eagle Capital	\$258,725,342	2.2%
Huber Capital	\$20,283	0.0%
Weatherbie	\$88,562,416	0.7%
Snyder Capital Management	\$107,170,689	0.9%
Lazard	\$302,788,242	2.6%
Walter Scott & Partners Limited	\$522,439,223	4.4%
LSV	\$478,343,628	4.0%
Mondrian Dev Small Cap	\$91,845,523	0.8%
William Blair Dev Small Cap	\$84,428,482	0.7%
Baillie Gifford Emg All Cap	\$190,061,464	1.6%
Mondrian Emg All Cap	\$174,467,257	1.5%
CBRE Clarion	\$3,942	0.0%
Third Point Offshore Fund	\$62,982,695	0.5%
Abbott VI	\$34,980,022	0.3%
Accel-KKR V	\$28,769,659	0.2%
Accel-KKR VI	\$12,672,843	0.1%
Accel-KKR Growth Partners II	\$12,172,185	0.1%
Accel-KKR Growth Partners III	\$32,953,399	0.3%
Accel-KKR Growth Partners IV	\$1,681,735	0.0%
Atalaya Special Opp VI	\$3,856,259	0.0%
Atalaya Special Opp V	\$1,498,547	0.0%
Canvas Ventures III	\$9,970,114	0.1%
Cortec Group Fund VII	\$27,463,867	0.2%
CRV Select Fund I	\$18,982,586	0.2%

Total Fund  
 Manager Allocation Analysis

Period Ending: June 30, 2022

	Current	%
CRV Select Fund II	\$3,410,846	0.0%
CRV XVIII LP	\$18,296,148	0.2%
CRV XIX LP	\$2,025,000	0.0%
Davidson Kempner LT Dist Opp IV	\$41,510,181	0.4%
Davidson Kempner LT Dist Opp V	\$30,582,509	0.3%
Digital Colony Partners II	\$21,290,145	0.2%
Dyal Capital Partners II	\$32,646,647	0.3%
Dyal Capital Partners III	\$24,790,387	0.2%
Garrison Investment Group	\$10,216,697	0.1%
Gridiron Capital Fund IV	\$36,495,633	0.3%
Harbourvest VIII	\$9,033,538	0.1%
Harbourvest Intl VI	\$26,589,341	0.2%
H.I.G. Bayside Loan III	\$3,942,871	0.0%
H.I.G. Capital V	\$13,490,552	0.1%
H.I.G. Europe Capital II	\$10,365,389	0.1%
Khosla IV	\$20,879,120	0.2%
Khosla V	\$47,458,941	0.4%
Khosla VI	\$53,704,048	0.5%
Khosla VII	\$10,985,123	0.1%
Linden Capital III	\$47,942,070	0.4%
Linden Capital Partners IV	\$46,560,250	0.4%
Marlin Equity IV	\$11,340,629	0.1%
Marlin Equity V	\$28,643,878	0.2%
Marlin Heritage	\$7,522,365	0.1%
Marlin Heritage II	\$13,855,386	0.1%
Marlin Heritage Europe	\$32,923,330	0.3%
New Enterprise 14	\$55,298,769	0.5%
New Enterprise 15	\$46,049,633	0.4%

Total Fund  
 Manager Allocation Analysis

Period Ending: June 30, 2022

	Current	%
New Enterprise 16	\$46,060,909	0.4%
New Enterprise 17	\$22,768,826	0.2%
Oaktree Power Opp Fund VI	\$4,988,084	0.0%
OrbiMed Private Investments VIII, LP	\$6,634,616	0.1%
Private Equity X	\$22,202,710	0.2%
RCP Multi-Fund Feeder	\$69,893,068	0.6%
RRJ Capital Master Fund II	\$9,559,473	0.1%
RRJ Capital Master Fund III	\$8,797,668	0.1%
Shamrock Capital II	\$6,769,999	0.1%
Shamrock Capital Growth Fund V	\$1,784,114	0.0%
Sixth Street Opp Partners V	\$5,127,208	0.0%
Spectrum Equity VII	\$54,036,894	0.5%
Spectrum Equity Fund VIII	\$31,332,064	0.3%
Spectrum Equity Fund IX	\$15,040,188	0.1%
Strategic Value Spl Fund V	\$10,682,253	0.1%
Summit EUR Growth Equity II	\$35,592,640	0.3%
Summit EUR Growth Equity III	\$10,391,799	0.1%
Summit Ventures III	\$3,572,857	0.0%
Summit Ventures IV	\$55,477,840	0.5%
Summit Ventures V	\$8,023,790	0.1%
Thoma Bravo XI	\$45,720,493	0.4%
Thoma Bravo XII	\$43,944,346	0.4%
Thoma Bravo XIII	\$65,228,010	0.6%
Threshold Ventures III	\$29,787,629	0.3%
TPG Opp Partners III	\$11,638,258	0.1%
Trinity Ventures XI	\$61,180,629	0.5%
Trinity Ventures XII	\$74,239,657	0.6%
TSG7 A LP	\$28,798,864	0.2%

Total Fund  
 Manager Allocation Analysis

Period Ending: June 30, 2022

	Current	%
TSG7 B LP	\$4,914,228	0.0%
TSG8 LP	\$27,799,272	0.2%
TSSP Opportunities Partners IV	\$31,076,576	0.3%
Waterland V	\$4,327,006	0.0%
Waterland VI	\$22,153,879	0.2%
Wayzata Opportunities III	\$3,705,782	0.0%
Wynnchurch Capital Partners V	\$9,877,942	0.1%
Brigade Capital	\$205,108,056	1.7%
Ares Capital Europe Fund V	\$20,103,522	0.2%
Athyrium Opp II	\$10,478,247	0.1%
Athyrium Opp III	\$11,804,363	0.1%
Benefit St Pr Sr Secure Opp	\$29,431,954	0.2%
Benefit St Pr Sr Secure Opp II	\$28,540,181	0.2%
IFM US Infrastructure DB FD LP	\$22,479,991	0.2%
MCP Private Capital IV	\$14,721,225	0.1%
OrbiMed Royalty & Credit Opp III	\$10,934,983	0.1%
Shamrock Capital Debt Fund I	\$1,917,484	0.0%
Silver Point Specialty Credit Fund II	\$32,605,705	0.3%
Summit Credit	\$403,840	0.0%
Summit Credit II	\$14,467,034	0.1%
Summit Credit III	\$26,395,093	0.2%
Summit Credit IV	\$6,398,322	0.1%
TCP Direct Lending VIII	\$98,881,616	0.8%
Grosvenor SCARF Growth	\$22,184,737	0.2%
Prudential	\$351,556,775	3.0%
TCW MetWest Fixed	\$353,659,436	3.0%
Brandywine US FI	\$354,149,213	3.0%
Reams Core Plus FI	\$352,080,544	3.0%

Total Fund  
 Manager Allocation Analysis

Period Ending: June 30, 2022

	Current	%
Neuberger Berman	\$433,001,785	3.7%
Aristeia Partners LP	\$48,443,151	0.4%
BlackRock Event Driven Equity Fund	\$52,641,147	0.4%
Davidson Kempner Instl Partners LP	\$57,108,275	0.5%
Eisler Capital Fund LP	\$41,168,807	0.3%
Elliott Associates	\$77,891,715	0.7%
Graham Global Inv II	\$51,247,881	0.4%
Grosvenor SCARF Diversifying	\$218,779,861	1.8%
Grosvenor SCARF B Diversifying	\$106,745	0.0%
Laurion Capital	\$58,103,538	0.5%
LMR Fund LTD	\$51,242,893	0.4%
MW Global Opportunities Fund	\$52,960,214	0.4%
PSquared Event Driven Opp Fund	\$53,584,337	0.5%
Sculptor Domestic II	\$58,134,230	0.5%
Two Sigma Risk Premia Enhanced	\$49,358,286	0.4%
Dedicated Cash Allocation	\$96,578,599	0.8%
Brookfield Premier RE Partners	\$137,905,444	1.2%
Clarion Lion Properties	\$142,072,013	1.2%
Metlife Core Property	\$91,904,624	0.8%
Principal US Property	\$66,200,340	0.6%
Prologis Targeted Euro Logistics	\$78,595,716	0.7%
Prologis Targeted US Logistics	\$142,833,886	1.2%
Townsend Real Estate	\$171,738,484	1.5%
Carlyle China Realty	\$8,496,987	0.1%
Carlyle China Rome Logistics	\$37,741,351	0.3%
CIM Opportunity VIII	\$29,723,353	0.3%
Kohlberg Kravis Roberts	\$1,734,952	0.0%
Lasalle China Logistics Venture LP	\$2,733,205	0.0%

Total Fund  
 Manager Allocation Analysis

Period Ending: June 30, 2022

	Current	%
NREP Nordic Strat FCP-FIS	\$261,421	0.0%
NREP Nordic Strat II	\$30,329,127	0.3%
NREP Nordic Strat III	\$40,965,223	0.3%
NREP Nordic Strat IV	\$14,901,644	0.1%
Sculptor Real Estate Fund III	\$5,323,684	0.0%
Sculptor Real Estate Fund IV	\$7,691,043	0.1%
Asana Partners Fund II	\$23,884,877	0.2%
Asana Partners Fund III	\$1,250,289	0.0%
ECE Euro Prime Shopping II	\$34,405,249	0.3%
European RE Debt II	\$1,906,526	0.0%
Hammes II	\$3,254,730	0.0%
Hammes III	\$19,952,257	0.2%
Seven Seas Japan Opp Fund	\$11,192,094	0.1%
ACM II	\$17,618,678	0.1%
ArcLight Energy VI	\$23,151,086	0.2%
Brookfield Infra III	\$37,185,322	0.3%
Brookfield Infra IV	\$32,503,471	0.3%
Carlyle Power II	\$38,395,863	0.3%
EnCap Energy IX	\$14,722,909	0.1%
EnCap Energy X	\$40,851,424	0.3%
EnCap Flatrock Midstream III	\$13,896,774	0.1%
EnCap Flatrock Midstream IV	\$8,960,063	0.1%
EQT Infrastructure Fund IV	\$33,609,646	0.3%
First Reserve	\$13,834,931	0.1%
Harrison St Social Infra Fd	\$79,042,048	0.7%
IFM Global Infrastructure US LP	\$147,754,194	1.2%
ISQ Global Infrastructure Fund II	\$52,060,487	0.4%
ISQ Global Infrastructure Fund III	\$3,228,636	0.0%

Total Fund  
 Manager Allocation Analysis

Period Ending: June 30, 2022

	Current	%
Meridiam Infra N America III	\$21,496,572	0.2%
Meridiam Sa Infra Euro IV	\$4,298,488	0.0%
NGP Royalty Partners	\$24,793,056	0.2%
Paine Schwartz Food Chain V	\$34,618,432	0.3%
Pantheon Ventures	\$52,130,588	0.4%
Quantum Energy VI	\$45,013,053	0.4%
Quantum Energy VII	\$34,407,032	0.3%
Tailwater Energy Fund III	\$31,863,429	0.3%
Tailwater Energy IV	\$27,241,001	0.2%
Wastewater Opportunity	\$20,314,246	0.2%
Brookfield Liquid Real Return	\$106,256,606	0.9%
SSgA Barclays 1-10 Yrs TIPS Index	\$65,713,860	0.6%
SSgA Real Asset	\$148,289,397	1.3%
Cash Account	\$375,073,691	3.2%
Transition Account	\$4,992	0.0%
Heitman Adv JMB V	\$8,390	0.0%
SSgA Overlay	\$67,781,254	0.6%
<b>Total</b>	<b>\$11,835,828,791</b>	<b>100.0%</b>



**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	8.4%	14	8.9%	16	0.9	14	0.5	28	3.5%	99
Policy Index	6.8%	44	8.3%	4	0.8	28	--	--	0.0%	1
Total Fund ex Overlay	8.4%	14	8.8%	15	0.9	11	0.5	27	3.6%	99
Policy Index	6.8%	44	8.3%	4	0.8	28	--	--	0.0%	1

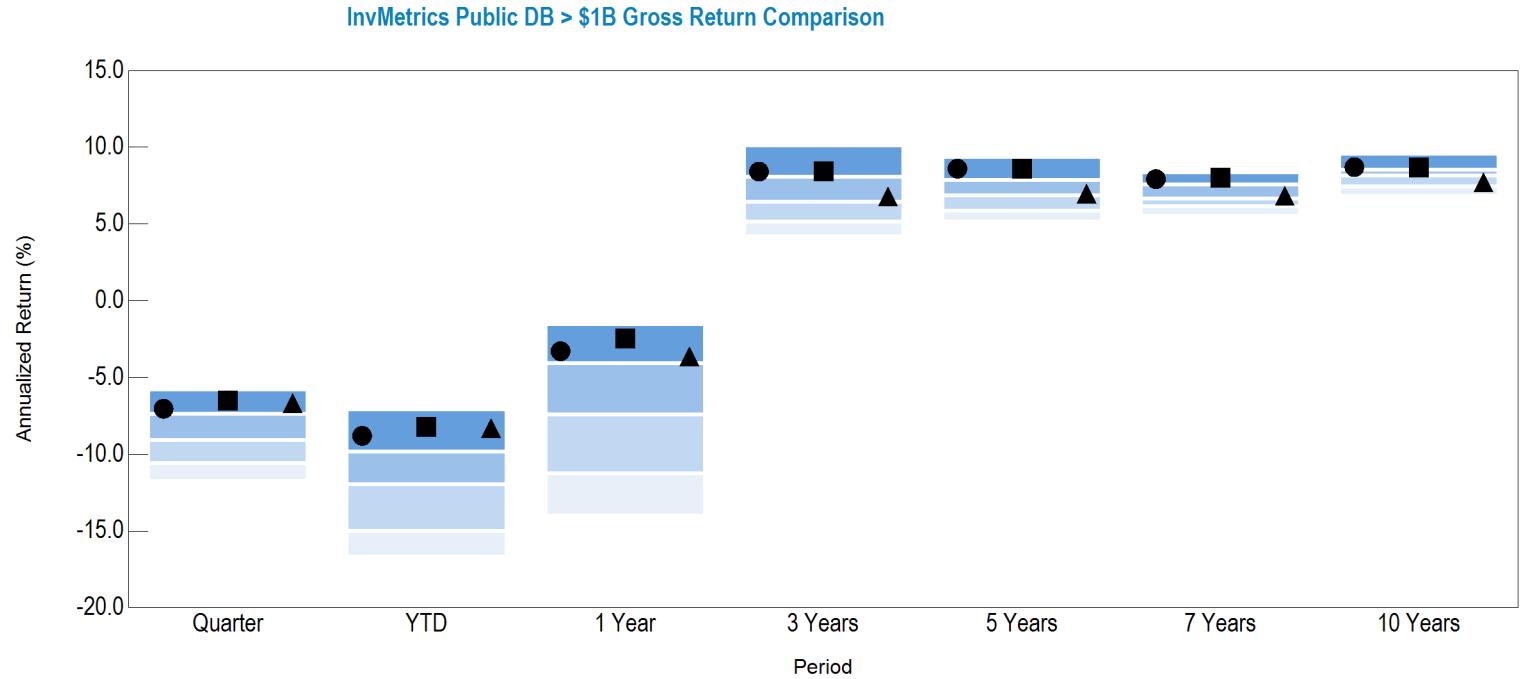
**Statistics Summary**

**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	8.6%	11	8.0%	15	0.9	5	0.6	13	2.9%	99
Policy Index	7.0%	49	7.4%	5	0.8	25	--	--	0.0%	1
Total Fund ex Overlay	8.6%	11	7.9%	10	1.0	4	0.6	13	2.9%	99
Policy Index	7.0%	49	7.4%	5	0.8	25	--	--	0.0%	1

Total Fund  
Peer Universe Comparison

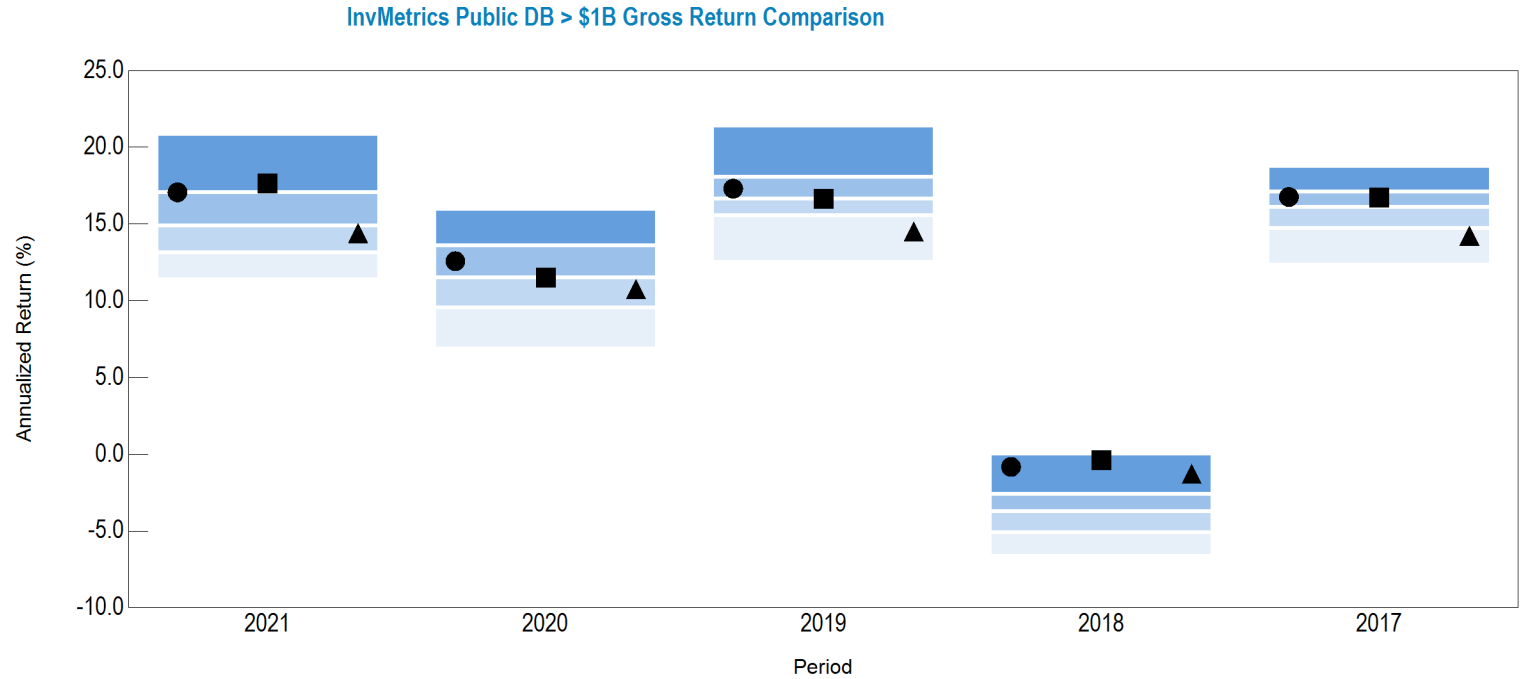
Period Ending: June 30, 2022



	Quarter		YTD		1 Year		3 Years		5 Years		7 Years		10 Years	
<b>5th Percentile</b>	-5.8		-7.1		-1.5		10.1		9.4		8.4		9.5	
<b>25th Percentile</b>	-7.3		-9.8		-4.0		8.1		7.9		7.6		8.6	
<b>Median</b>	-9.0		-11.9		-7.4		6.5		6.9		6.7		8.2	
<b>75th Percentile</b>	-10.5		-15.0		-11.2		5.2		5.9		6.2		7.5	
<b>95th Percentile</b>	-11.7		-16.6		-14.0		4.2		5.2		5.5		6.9	
<b># of Portfolios</b>	31		31		31		30		30		30		30	
<b>● Total Fund</b>	-7.0	(21)	-8.8	(15)	-3.3	(17)	8.4	(14)	8.6	(11)	7.9	(10)	8.7	(16)
<b>■ Total Fund ex Overlay</b>	-6.5	(17)	-8.2	(12)	-2.4	(8)	8.4	(14)	8.6	(11)	8.0	(7)	8.7	(20)
<b>▲ Policy Index</b>	-6.7	(18)	-8.3	(12)	-3.6	(22)	6.8	(44)	7.0	(49)	6.8	(45)	7.7	(69)

Total Fund  
Peer Universe Comparison (Calendar Years)

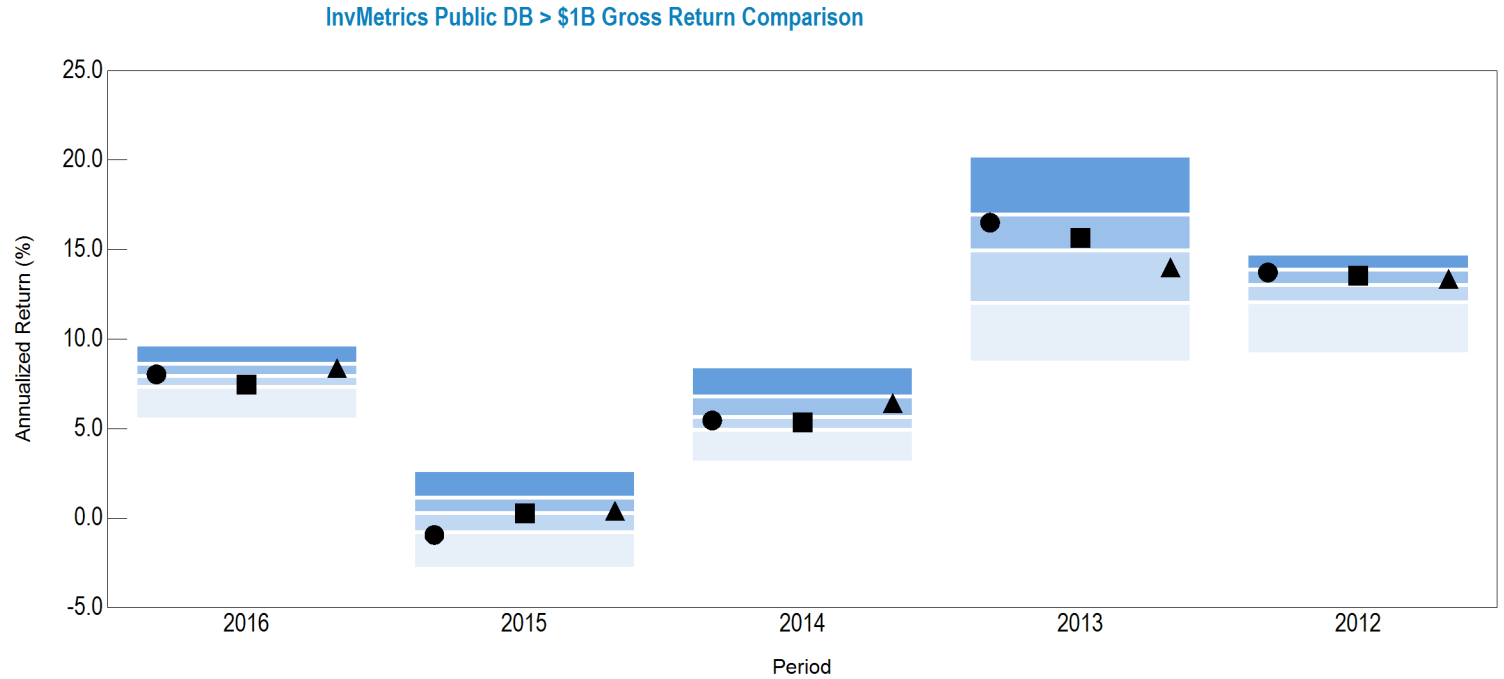
Period Ending: June 30, 2022



	2021		2020		2019		2018		2017	
<b>Return (Rank)</b>										
5th Percentile	20.9		16.0		21.4		0.0		18.8	
25th Percentile	17.1		13.6		18.1		-2.6		17.2	
Median	14.9		11.5		16.7		-3.7		16.2	
75th Percentile	13.2		9.6		15.6		-5.1		14.8	
95th Percentile	11.4		6.9		12.5		-6.6		12.4	
# of Portfolios	84		94		81		71		98	
● Total Fund	17.1	(27)	12.6	(36)	17.3	(40)	-0.8	(7)	16.8	(38)
■ Total Fund ex Overlay	17.6	(15)	11.5	(51)	16.6	(52)	-0.4	(6)	16.7	(39)
▲ Policy Index	14.4	(59)	10.8	(61)	14.5	(88)	-1.3	(10)	14.2	(82)

Total Fund  
Peer Universe Comparison (Calendar Years)

Period Ending: June 30, 2022



	2016		2015		2014		2013		2012	
<b>Return (Rank)</b>	9.7	(46)	2.7	(83)	8.5	(61)	20.2	(31)	14.7	(36)
5th Percentile	9.7		2.7		8.5		20.2		14.7	
25th Percentile	8.6		1.1		6.8		17.0		13.9	
Median	8.0		0.3		5.7		15.0		13.0	
75th Percentile	7.4		-0.7		4.9		12.0		12.1	
95th Percentile	5.5		-2.8		3.1		8.7		9.2	
# of Portfolios	92		98		79		67		74	
● Total Fund	8.0	(46)	-0.9	(83)	5.5	(61)	16.5	(31)	13.7	(36)
■ Total Fund ex Overlay	7.5	(73)	0.3	(51)	5.3	(65)	15.6	(43)	13.6	(41)
▲ Policy Index	8.4	(34)	0.4	(46)	6.4	(34)	14.0	(64)	13.4	(42)

# Policy Index and Benchmark History

Period Ending: June 30, 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: June 30, 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: June 30, 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 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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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