



A large, semi-transparent white triangle is positioned on the left side of the slide, overlapping the abstract geometric graphic. Inside this triangle, the text "PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS" is displayed in a bold, sans-serif font, with each word on a new line.

# PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



**PERIOD ENDING: DECEMBER 31, 2020**

Investment Performance Review for

**Sacramento County Employees' Retirement System**

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Investment Landscape

TAB I

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Total Fund

TAB II

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Policy Index and  
Benchmark History

TAB III

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**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**

1<sup>ST</sup> QUARTER 2021  
Investment Landscape

# Recent Verus research

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

## Topics of interest

### IS PAINLESS DIVERSIFICATION DEAD?

Interest rates have collapsed in developed economies in past years, and more recently at home in the United States, which has greatly dampened investors' performance outlook for diversified portfolios. These events have led many investors to question the traditional role of fixed income. In this Topic of Interest white paper, we outline some issues that investors must come to terms with, and we begin to unpick ways of thinking about diversification and preservation of capital in the new market environment.

### INTEGRATING ESG INTO ACTIVE PORTFOLIOS

In this paper, we address how environmental, social, and governance (ESG) considerations are integrated into our manager research process. We address Verus' approach to ESG issues when advising clients and link that to what ESG due diligence looks like in researching investment managers. Next, we consider the spectrum of ESG integration as defined by the primary objective of the product. Finally, we address the challenges that ESG considerations pose for hedge fund managers and private equity general partners.

### QUANTIFYING ESG IN PORTFOLIO CONSTRUCTION

Environmental, social, and governance (ESG) investing is a wide-ranging field that encompasses many different approaches. Investors are integrating ESG into the creation of their policies, investment beliefs, strategic asset allocations, manager selection decisions, and much more. ESG ratings and scores allow investors to understand and compare the ESG profile of companies and managers. ESG screens can serve as an effective tool for investors to identify exposures that may conflict with their institutional values.

### AGREEING ON ESG

This paper sheds light on the difficulty institutional investors face as they embark on their journey toward implementing a thoughtful ESG policy that fits their specific organization and is designed to help them cut through the clutter by providing a detailed, practical "soup-to-nuts" methodology to determine the best policy for their organization.

## Annual research

### 2021 CAPITAL MARKET ASSUMPTIONS

Learn about the 2020 market movements and how these shifts have affected our long-term outlook.

## Sound thinking

### FINDING COMFORT IN AN UNCOMFORTABLE WORLD

An outline of various topics that an investor might want to add to their agenda for the coming year.

## Up and coming event

### EMERGING & DIVERSE MANAGERS DILIGENCE DAYS

For the third consecutive year, Verus is inviting qualified managers to participate in one-on-one meetings with its senior staff during its 3rd Emerging and Diverse Manager Diligence Days.

- March 16-18
- March 22
- March 24
- March 26

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

## THE ECONOMIC CLIMATE

- Real GDP grew at a -2.8% rate year-over-year in the third quarter (+33.4% quarterly annualized rate) as the U.S. economy recovered much of the economic activity lost in the second quarter. **p. 11**
- Joe Biden was elected President of the United States. The market seemed to interpret a Biden win as a mild positive for risk assets, on the expectation of larger economic stimulus. Democrats also took both seats in the Georgia run-off election, completing the party's "Blue Wave". **p. 7**
- Several new, more-infectious strains of COVID-19 emerged and spread around the world, though experts remain confident in the efficacy of the currently-approved arsenal of vaccines. **p. 7**

## PORTFOLIO IMPACTS

- Emerging market equities (+19.7%) outperformed U.S. (+12.1%) and international developed equities (+16.0%) once again in Q4. Latin American equities showed significant outperformance (+34.8%), after years of lagging behind other emerging markets. **p. 32**
- The U.S. 10-year TIPS breakeven inflation rate headed notably higher over the quarter, from 1.6% in September to 2.0% in December. Although U.S. inflation is lower than pre-pandemic levels, market pricing for inflation is the highest since 2018. **p. 12**

## THE INVESTMENT CLIMATE

- Congress passed an omnibus spending bill, including \$900 billion earmarked for COVID-19 relief. Key features of the package included a re-up of the Paycheck Protection Program, \$600 stimulus checks for most individuals, and \$300 per week in additional unemployment benefits over a 10-week period. **p. 11**
- According to FactSet, S&P 500 Q4 earnings are expected to be down -8.8%. This estimate improved from the -12.7% drop expected on September 30th. For full year 2020, analysts are expecting a -13.3% earnings decline. **p. 26**

## ASSET ALLOCATION ISSUES

- U.S. equities delivered +12.1% during the quarter, ending the year at an all-time-high. The S&P 500 was one of the strongest equity markets in 2020, up +18.4% despite an earnings recession and considerable uncertainty. **p. 28**
- Weakness in the U.S. dollar remained a theme in Q4, and the Bloomberg Dollar Spot Index fell to a two and a half year low. Analysts attributed some of the weakness in the US dollar to lower relative real yields in the U.S. **p. 37**
- Within the U.S. market, a sizable rotation occurred in Q4 as certain sectors that had been beaten-down during the pandemic performed strongly. Rising energy prices boosted the Energy sector, while higher interest rates improved the outlook for Financials. **p. 28**

A more neutral risk positioning may be warranted in the current environment

There seems to be a high degree of uncertainty regarding the future market path

# What drove the market in Q4?

**"The Mass Distribution of Covid-19 Vaccines Is Under Way. 'Everything Has to Come Together.'"**

## COVID-19 U.S. HOSPITALIZATION RATE

7/25	8/29	9/26	10/31	11/28	12/26
7.6%	4.4%	4.1%	8.7%	16.6%	10.4%

Article Source: Wall Street Journal, December 13<sup>th</sup>, 2020

**"Congress agrees to \$900 billion Covid stimulus deal after months of failed negotiations"**

## U.S. TOTAL PUBLIC DEBT OUTSTANDING (TRILLIONS)

Jul	Aug	Sep	Oct	Nov	Dec
\$26.5	\$26.7	\$26.9	\$27.1	\$27.4	\$27.7

Article Source: CNBC, December 20<sup>th</sup>, 2020

**"Powell says stock prices are not necessarily high considering the low level of interest rates"**

## TEN-YEAR U.S. REAL YIELD (NOMINAL YIELD MINUS BREAK-EVEN INFLATION)

Jul	Aug	Sep	Oct	Nov	Dec
-1.03%	-1.10%	-0.95%	-0.83%	-0.95%	-1.07%

Article Source: CNBC, December 16<sup>th</sup>, 2020

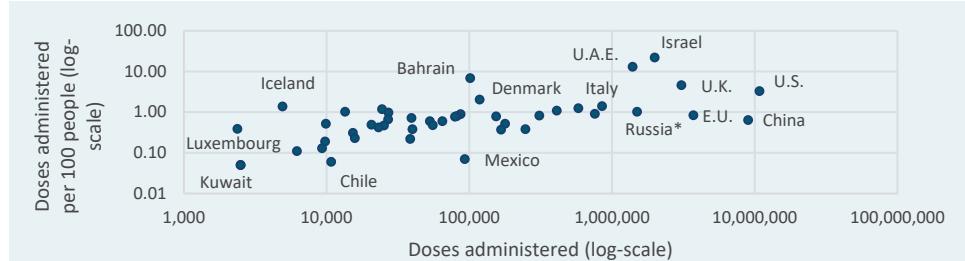
**"Dollar's Slump Propels Global Peers Toward Multi-Year Peaks"**

## BLOOMBERG DOLLAR SPOT INDEX

Jul	Aug	Sep	Oct	Nov	Dec
1179	1161	1177	1172	1145	1120

Article Source: Bloomberg, November 29<sup>th</sup>, 2020

## GLOBAL VACCINATION CAMPAIGN



Source: Bloomberg, as of 1/13/21, or most recent release

## MOST RECENT FISCAL STIMULUS PACKAGE ALLOCATIONS (BILLIONS)



Source: U.S. House of Representatives, as of 12/21/20

## S&P 500 INDEX



Source: Standard & Poor's, Bloomberg, as of 12/31/20

# Economic environment



# U.S. economics summary

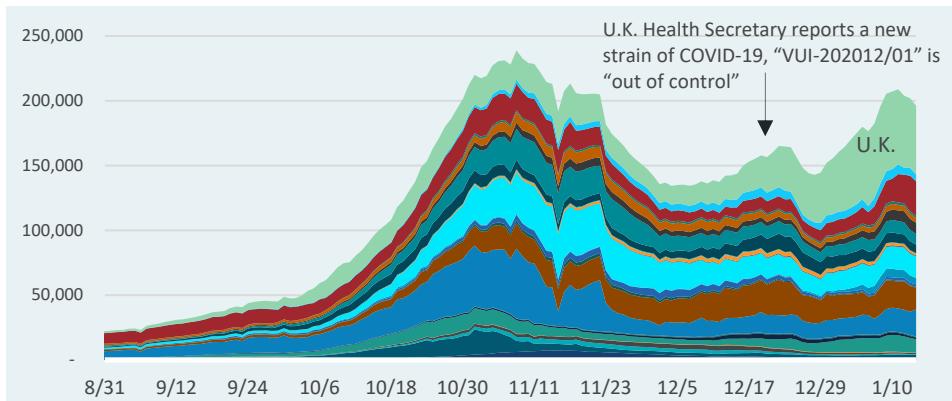
- Real GDP grew at a -2.8% rate year-over-year in the third quarter (+33.4% quarterly annualized rate) as the U.S. economy recovered much of the economic activity lost in the second quarter.
- The Atlanta Fed's forecast for fourth quarter growth was 7.4% quarter-over-quarter, as of January 15<sup>th</sup>, suggesting further economy expansion.
- Joe Biden was elected President of the United States in November. Jon Ossoff and Raphael Warnock both won in the Georgia Senate runoff elections in January, which ensured democratic control of both the White House and the Senate with V.P.-elect Kamala Harris as the swing vote. The wins completed the democratic "Blue Wave" many have associated with extensive fiscal support. Slim democratic majorities in both chambers of Congress, however, may constrain Biden's policy scope.

- After impressive employment gains in Q3, the recovery appeared to be stalling in recent months. Unemployment fell from 7.8% in September to 6.7% in December.
- Consumer sentiment remained stubbornly low, despite broad recoveries in consumer spending, auto sales, and the housing market.
- Home sales activity continued to grow at an extremely fast pace in the fourth quarter, as record-low interest rates and the work-from-home environment fueled demand. Existing home sales were 25.8% higher than one-year prior.
- Several new, more-infectious strains of COVID-19 emerged and spread around the world, though experts remain confident in the efficacy of the currently-approved arsenal of vaccines. The global vaccination campaign began in December, and 44 million doses have been distributed so far.

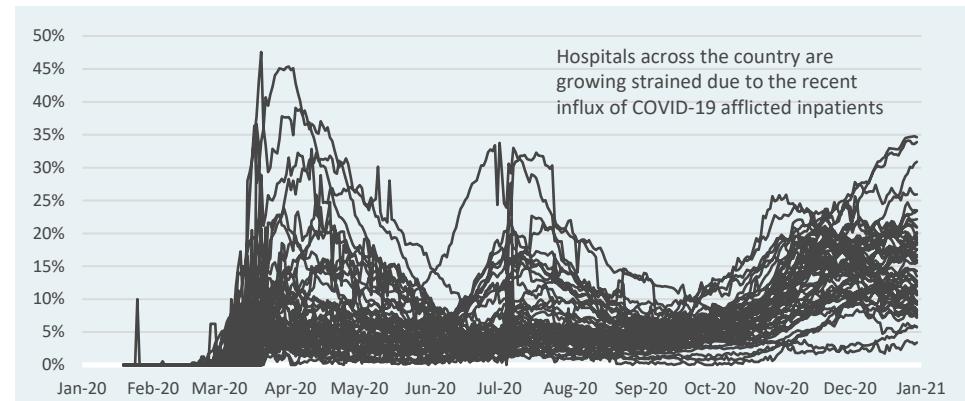
	<b>Most Recent</b>	<b>12 Months Prior</b>
GDP ( <i>YoY</i> )	(2.8%) 9/30/20	2.1% 9/30/19
Inflation ( <i>CPI YoY, Core</i> )	1.6% 12/31/20	2.3% 12/31/19
Expected Inflation ( <i>5yr-5yr forward</i> )	2.0% 12/31/20	1.8% 12/31/19
Fed Funds Target Range	0% – 0.25% 12/31/20	1.50% – 1.75% 12/31/19
10-Year Rate	0.9% 12/31/20	1.9% 12/31/19
U-3 Unemployment	6.7% 12/31/20	3.5% 12/31/19
U-6 Unemployment	11.7% 12/31/20	6.7% 12/31/19

# COVID-19 update

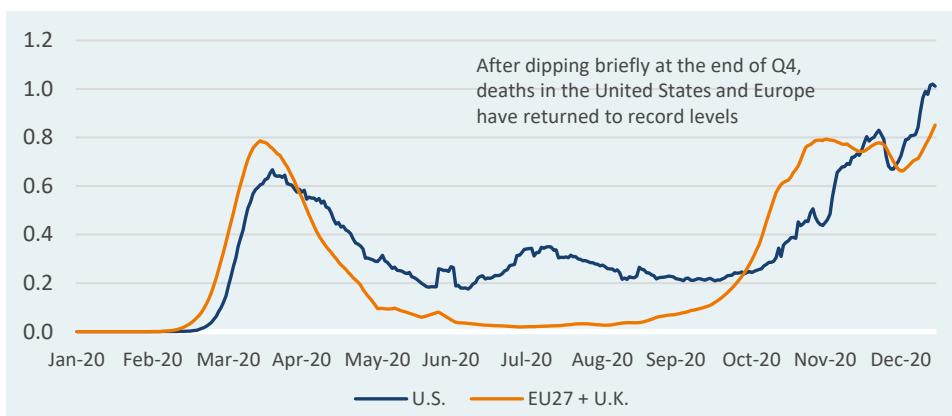
## SEVEN-DAY AVERAGE DAILY CASE GROWTH – EUROPE AND THE U.K.



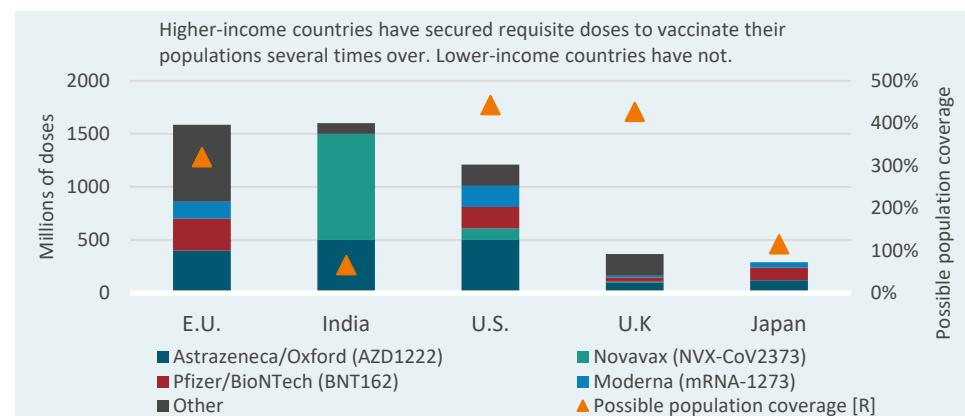
## COVID-19 INPATIENTS BY U.S. STATE (%)



## SEVEN-DAY AVERAGE DAILY DEATHS PER 100,000 IN POPULATION

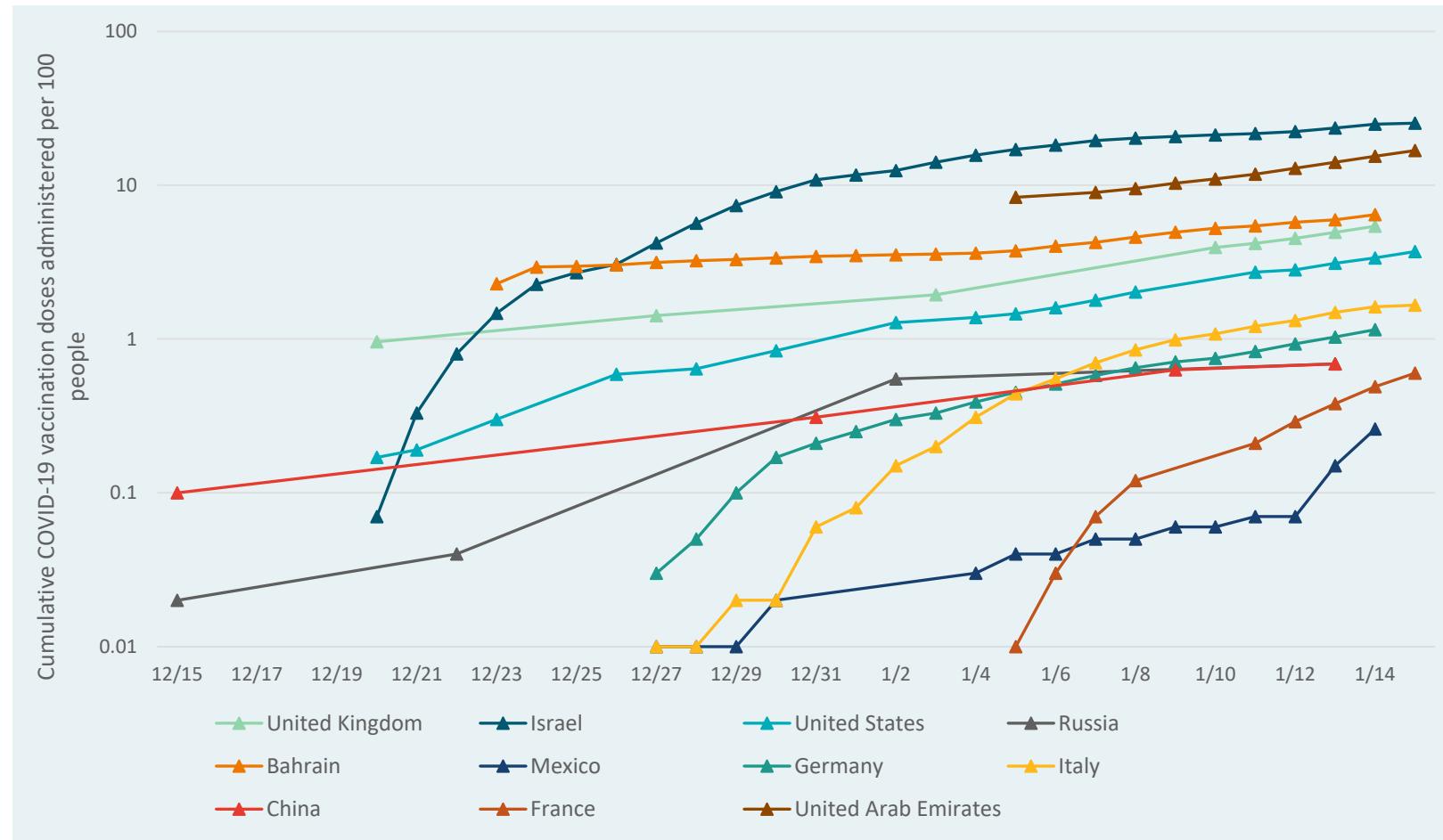


## VACCINE COVERAGE BY COUNTRY



# Global vaccination campaign

CUMULATIVE COVID-19 VACCINE DOSES ADMINISTERED PER 100 PEOPLE

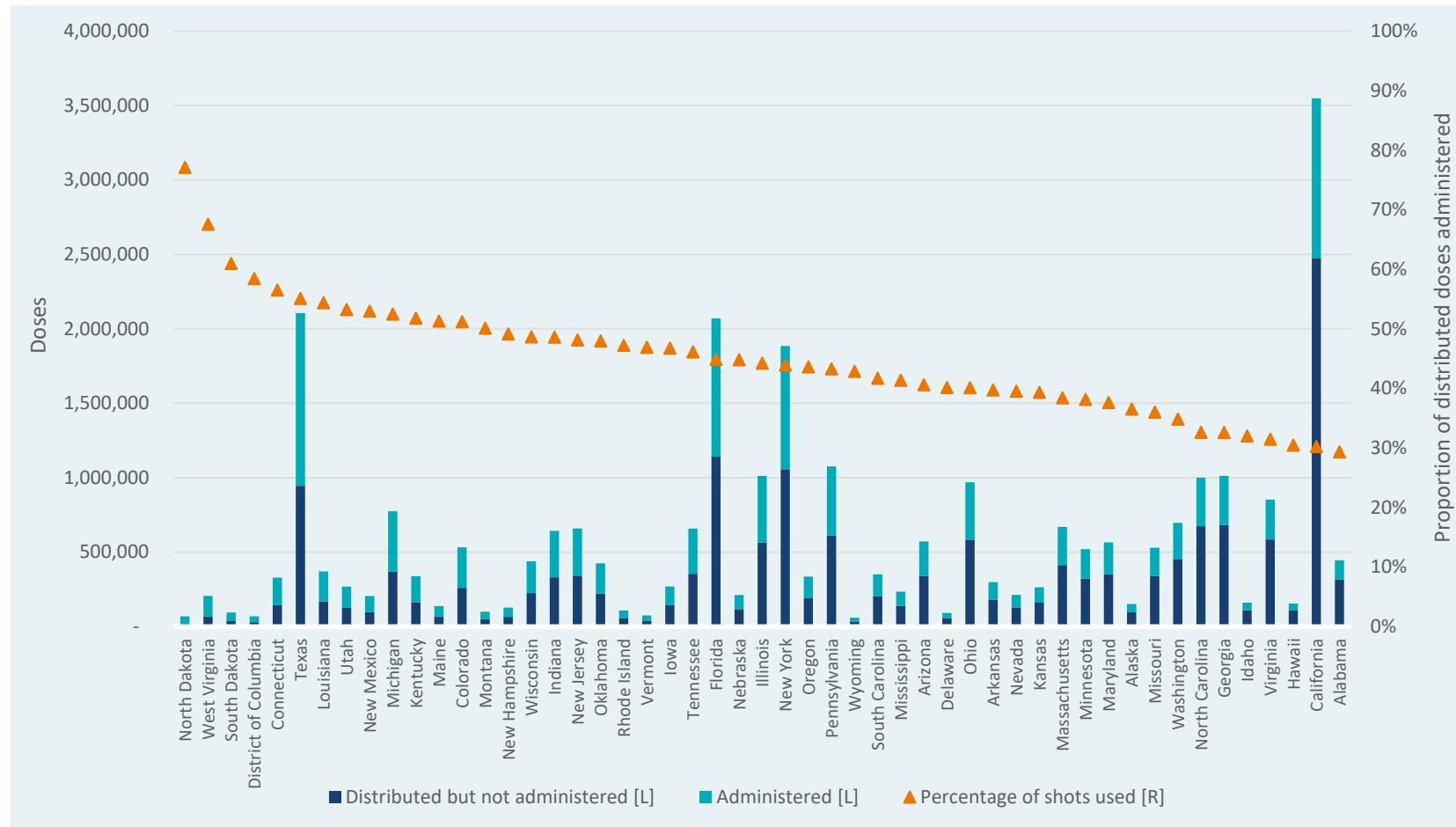


Israel has led the way so far, but it is a country with a size and population comparable to New Jersey

Source: Our World in Data, as of 1/15/21

# Administration issues in the U.S.

## THE GAP BETWEEN DISTRIBUTED AND ADMINISTERED VACCINE DOSES



As of January 15<sup>th</sup>, roughly 13 million doses had been administered nationwide, accounting for roughly 42% of all doses distributed

President Biden is aiming to achieve 100 million vaccine dose administrations in his first 100 days in office

Source: Bloomberg, as of 1/15/21

# GDP growth

Real GDP grew at a -2.8% rate year-over-year in the third quarter (+33.4% quarterly annualized rate) as the U.S. economy recovered much of the economic activity lost during the depths of the pandemic. Personal consumption expenditures expanded at a quarterly annualized pace of -25.4%. Growth was broad-based, and included strong private investment, exports, and inventory builds.

Not only was this bounce-back a product of pent-up demand released by the economic reopening, it was also the result of a coordinated and historic stimulus effort by the U.S.

government. After the Federal Reserve took interest rates to zero and flooded the markets with liquidity, Congress passed an omnibus spending bill, including \$900 billion earmarked for COVID-19 relief. Key features of the package included a re-up of the Paycheck Protection Program, \$600 stimulus checks for most individuals, and \$300 per week in additional unemployment benefits over a 10-week period.

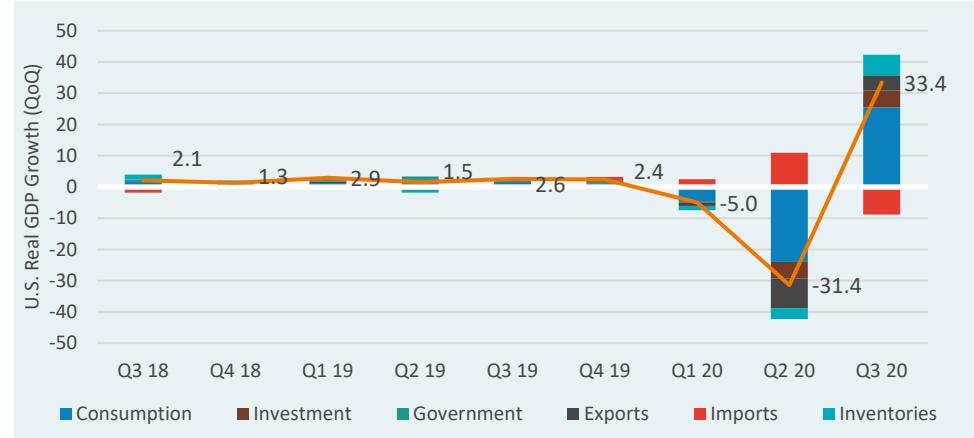
The Atlanta Fed's forecast for Q4 growth was 7.4% on a quarter-over-quarter annualized basis (-1.7% year-over-year) as of January 15<sup>th</sup>, suggesting further economic recovery.

U.S. REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 9/30/20

U.S. GDP GROWTH ATTRIBUTION



Source: BEA, annualized quarterly rate, as of 9/30/20

# Inflation

Headline inflation stayed relatively stable during Q4, at 1.4% year-over-year in December. Energy prices have acted as a drag on inflation, with gasoline (-15.2%) and fuel oil (-20.0%) showing the largest moves. Food (+3.9%), as well as used cars & trucks (+10.0%), had a lifting effect on inflation during the year. Inflation excluding volatile food and energy prices increased 1.6%.

The U.S. 10-year TIPS breakeven inflation rate headed notably higher over the quarter, from 1.6% in September to

2.0% in December. Although U.S. inflation is lower than pre-pandemic levels, market pricing for inflation is the highest since 2018.

Consumer inflation expectations, as indicated by the University of Michigan survey, proved volatile throughout the year. After starting 2020 at an expected 2.3% rate of inflation, expectations fell to 2.1% in April before spiking to 3.2% in May. Expectations fell in the fourth quarter and settled at 2.5% in December.

U.S. CPI (YOY)



Source: Bloomberg, as of 12/31/20

CONSUMER INFLATION EXPECTATIONS



Source: University of Michigan, as of 12/31/20

BREAK EVEN INFLATION RATES



Source: Bloomberg, as of 12/31/20

# Labor market

After impressive employment gains in Q3, the recovery appeared to be stalling in recent months. Unemployment fell from 7.8% in September to 6.7% in December—a small improvement compared to previous months. Additionally, while the current unemployment rate does not seem exceptionally weak from a historical perspective, this metric masks the fact that the U.S. labor force participation rate also fell during COVID-19. In simpler terms, since the pandemic, roughly 3% of workers are now unemployed and seeking work, and an additional 2% of workers are now unemployed and *not* seeking work.

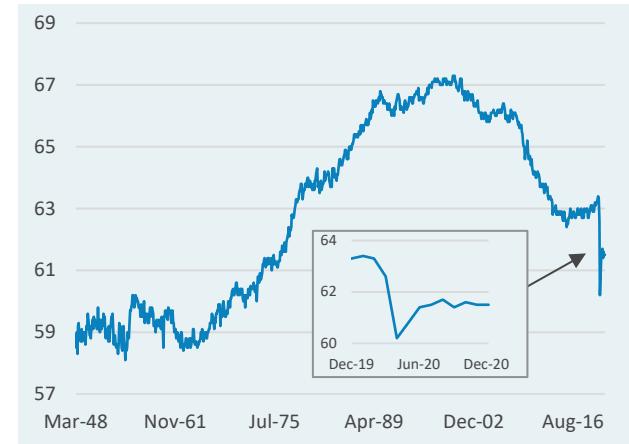
During an economic recession, it is important to understand the portion of newly unemployed workers who seek to quickly rejoin the workforce (cyclical unemployment), relative to the portion of workers who lose their jobs and end up more permanently out of work due to lack of opportunities or discouragement (structural unemployment). As shown in the chart below, a growing share of unemployed workers have remained out of work since the onset of the economic recession.

The U.S. employment recovery appears to be stalling

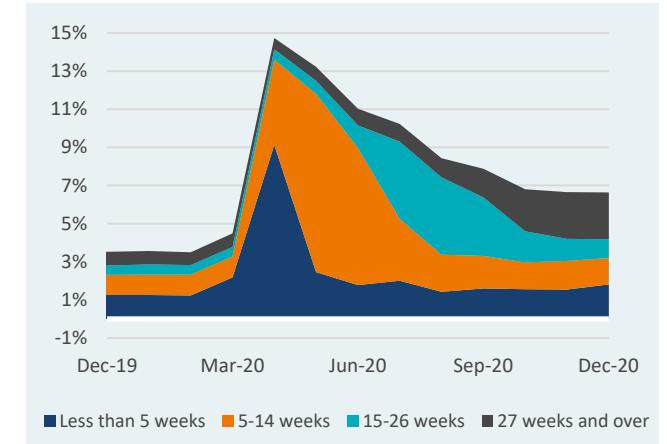
**U.S. UNEMPLOYMENT**



**LABOR PARTICIPATION RATE**



**UNEMPLOYMENT DECOMPOSITION BY DURATION**



Source: FRED, as of 12/31/20

Source: FRED, as of 12/31/20

Source: BLS, as of 12/31/20

# U-3 unemployment rates relative to peaks

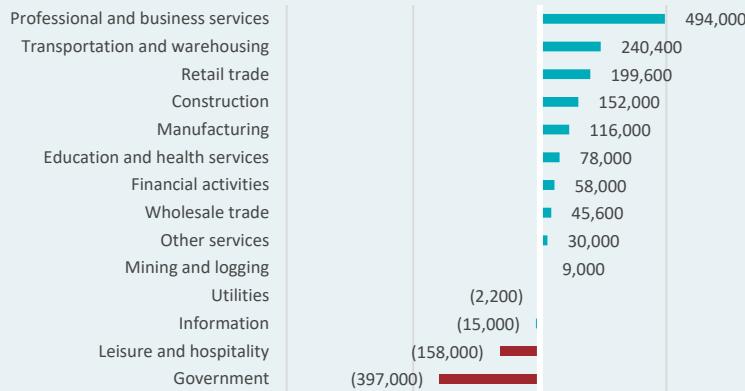


The Covid-19 recession features a historically-abrupt loss and subsequent rebound in broad unemployment

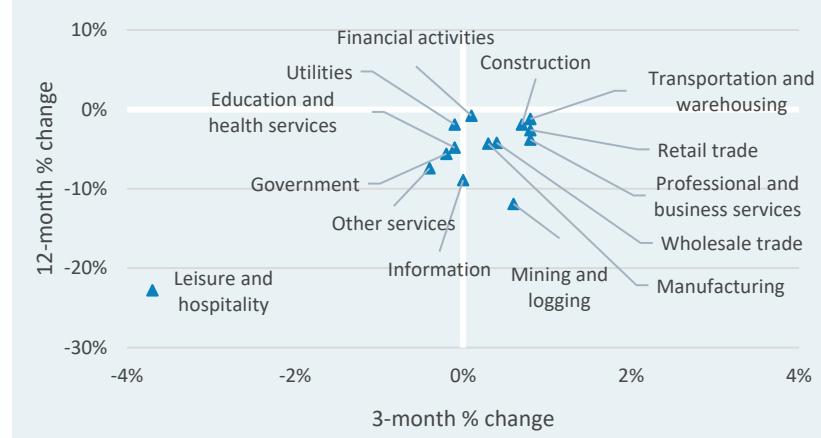
Source: Bloomberg, BLS, as of 12/31/20

# Employment conditions

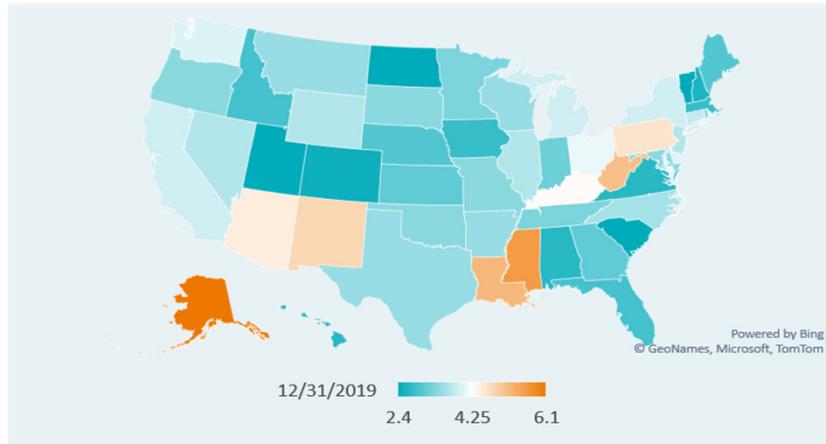
## Q4 2020 NONFARM PAYROLLS CHANGES



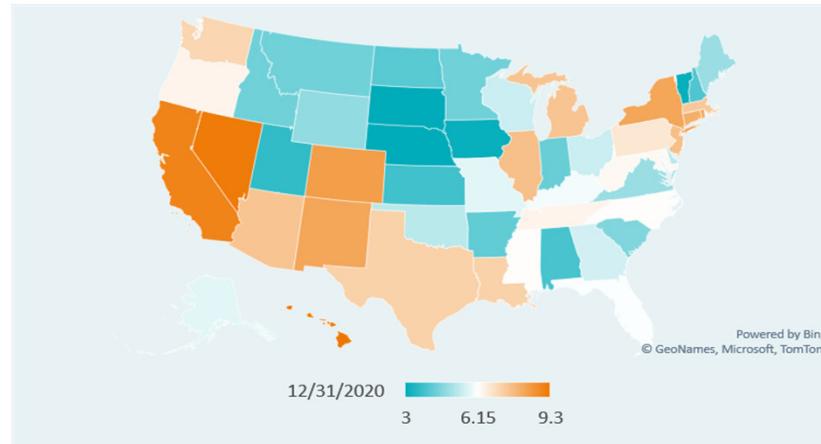
## NONFARM PAYROLL GROWTH BY SECTOR



## U-3 UNEMPLOYMENT (12/31/2019)



## U-3 UNEMPLOYMENT (12/31/2020)



Source: BLS, as of 12/31/20 – or most recent release

While employment in many sectors bounced back in Q4, jobs in the leisure and hospitality sector dipped as the impact of state lockdowns began to show up in the payrolls data

Despite the broad gains in the 4<sup>th</sup> quarter, nonfarm payrolls shrunk in every sector over the full calendar year

# The consumer

U.S. retail sales have shown a surprising recovery after falling -20% year-over-year in April. Retail sales, after adjusting for inflation, increased 1.6% in December. Spending patterns have shown resiliency despite the economic slowdown. Automobile and home sale activity, for example, has recovered to previous levels.

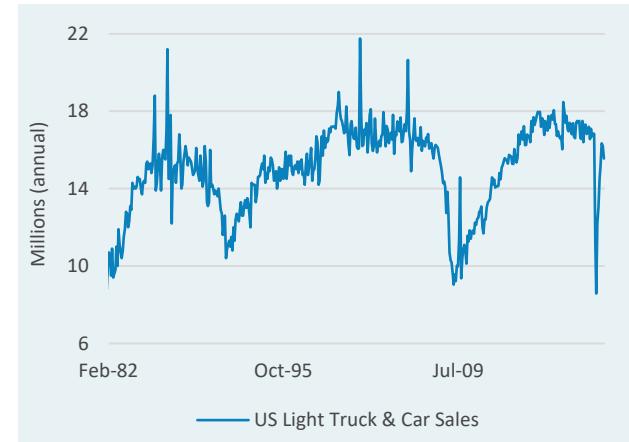
However, recent spending patterns have been vastly affected by unprecedented government stimulus. Because this expansion was far from a “natural” recovery, it will be worth watching how consumption trends change as the various economic stimulus programs end. This effect may already be apparent as retail sales growth slowed from 4.6% in September to 1.6% in December.

According to anonymized cellular phone data collected by Google for COVID-19 public health research, Americans began returning to their daily routines through late spring and summer, as activity began moving back to normalcy. However, these improvements plateaued across certain types of activities such as workplace travel, retail & recreation, and transit station usage, and this activity has slowed down once again. Continued weak activity, or even a further slowdown due to renewed government restrictions, could cast doubt on the U.S. economic recovery.

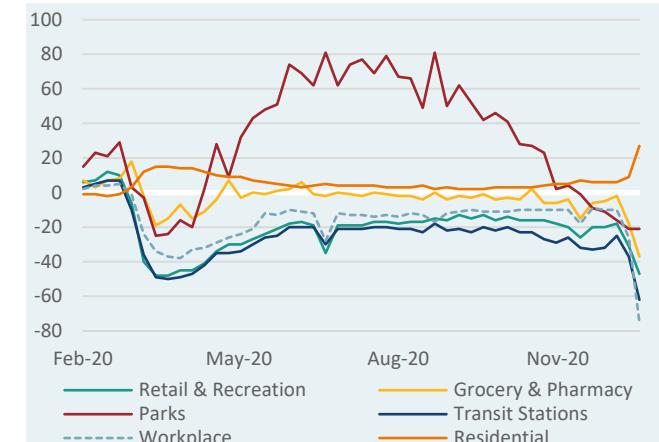
REAL RETAIL SALES GROWTH (YOY)



AUTO SALES



GOOGLE U.S. ACTIVITY TRACKER



Source: FRED, as of 12/31/20

Source: Federal Reserve, as of 11/30/20

Source: Google anonymized U.S. citizen mobility, as of 12/31/20

# Sentiment

Consumer sentiment remained stubbornly low during the fourth quarter, despite broad recoveries in consumer spending, auto sales, and the housing market.

The Bloomberg Consumer Comfort Index attempts to gauge Americans' views on the economy, their personal financial situation, and buying conditions. The index fell from 49.3 to 44.6 during the quarter. The University of Michigan Consumer Sentiment Survey attempts to gauge attitudes about the business climate, personal finances, and spending conditions. The index was flat at 80.7 in Q4—down from a

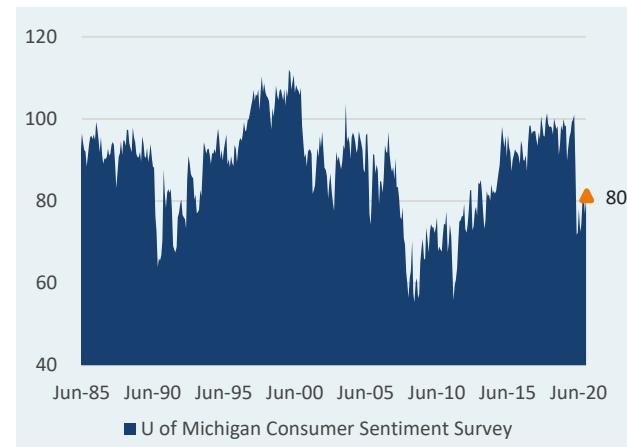
cycle high of 101.0 in February.

The NFIB Small Business Optimism Index exhibited a sharp decline to 95.9 in Q4, bringing the index back towards pandemic lows. The survey suggested that most business owners expect deteriorating conditions over the next six months. The survey also showed that concerns exist regarding government-mandated business closures due to COVID-19, and that the new U.S. administration may be less friendly toward the business community.

**CONSUMER COMFORT**



**CONSUMER SENTIMENT**



**SMALL BUSINESS OPTIMISM**



Source: Bloomberg, as of 12/31/20

Source: University of Michigan, as of 12/31/20

Source: NFIB, as of 12/31/20

# Housing

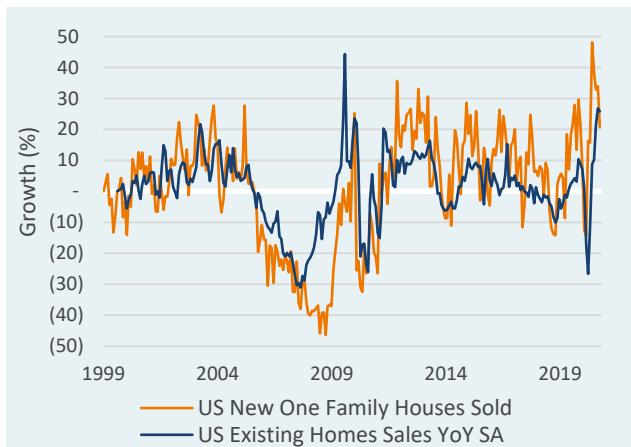
Home sales activity continued to grow at an extremely fast pace in the fourth quarter, as record-low interest rates and the work-from-home environment fueled demand. It remains to be seen the degree to which business work-from-home policies become permanent, post-pandemic. The direction of these trends may have a far-reaching impact on home sales as workers seek more space for home offices, and perhaps also feel greater freedom to move outside of major urban areas. Existing home sales were 25.8% higher than one-year prior, an overall rate of growth not experienced in over a decade.

Despite a gradual bounce-back of U.S. Treasury interest rates,

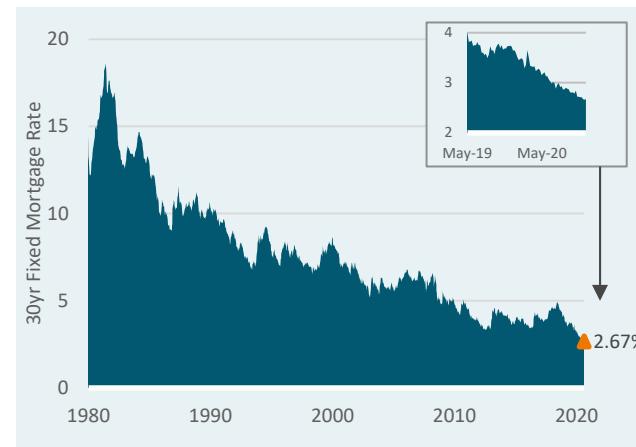
the 30-year U.S. Fixed Mortgage Rate has continued to move lower. The direction of mortgage rates from here will likely have a material impact on home prices.

It is important to note that the overall cost of owning a home is a combination of home prices and borrowing rates (among many other variables, of course). While the price of a new home in the U.S. is, on average, higher than ever before, record-low interest rates have compensated for higher prices. As suggested by the Housing Affordability Index, the overall cost of owning a home today is below-average, historically speaking.

**U.S. HOME SALES (YOY)**



**30-YEAR FIXED MORTGAGE RATE (AVERAGE)**



**HOUSING AFFORDABILITY INDEX**



Source: FRED, as of 11/30/20

Source: FRED, as of 12/31/20

Source: National Association of Realtors, as of 9/30/20

# International economics summary

- Economic growth in Q3, although negative on a year-over-year basis, painted an optimistic picture of the recovery. Consumers and businesses around the world have attempted to continue on, despite recent lockdowns, restrictions, and safety concerns. GDP growth figures have improved markedly from the depths of Q2. Most economies have recovered more than half of lost activity experienced during the prior quarter.
- European Union leaders agreed on a historic €1.8 trillion budget-and-recovery plan for 2021-2027, paving the way for a €750-billion pandemic relief package which will be financed by joint debt issuance.
- U.K. and E.U. officials reached an official trade deal at the 11<sup>th</sup> hour before the December 31<sup>st</sup>, 2020 conclusion of the transition period following Britain's official cutting of ties with the E.U. last January. The agreement marked the beginning of a new chapter in the history of British relations with Europe.
- Governments have taken different approaches to supporting workers, and while many approaches have had similar economic effects, they have often had drastically different impacts on official unemployment figures. We believe official unemployment figures are of limited value in this environment—more in-depth analysis is likely required.
- The pandemic placed downward pressure on inflation. Since then, inflation levels have generally remained muted in developed markets while recovering moderately in emerging economies. China appears to be an outlier, as inflation has recently dipped below zero. This move was fueled by falling pork prices, which had been moving higher in recent years and pushing up inflation.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	(2.8%) 9/30/20	1.4% 12/31/20	6.7% 12/31/20
Eurozone	(4.3%) 9/30/20	(0.3%) 12/31/20	8.3% 11/30/20
Japan	(5.7%) 9/30/20	(1.3%) 12/31/20	2.8% 11/30/20
BRICS Nations	1.9% 9/30/20	1.5% 12/31/20	5.1% 12/31/20
Brazil	(3.9%) 9/30/20	4.5% 12/31/20	14.3% 10/31/20
Russia	(3.4%) 9/30/20	4.9% 12/31/20	6.1% 11/30/20
India	(7.5%) 9/30/20	4.6% 12/31/20	9.1% 12/31/20
China	2.3% 12/31/20	0.2% 12/31/20	4.2% 12/31/20

*NOTE: India lacks reliable government unemployment data. Unemployment rate shown above is estimated from the Centre for Monitoring Indian Economy*

# International economics

Economic growth in Q3, although negative on a year-over-year basis, painted an optimistic picture of the recovery. Consumers and businesses around the world have attempted to continue on, despite recent lockdowns, restrictions, and safety concerns. GDP growth figures have improved markedly from the depths of Q2. Most economies have recovered more than half of lost activity seen during the prior quarter. The direction of recovery was similar across the emerging markets, and these economies have maintained their growth “premium” over developed markets throughout the crisis.

Unemployment in the Eurozone has fallen slightly to 8.3%

from a high of 8.7% in July. Governments around the world have taken different approaches to supporting workers. One approach, as taken by the U.S., was to provide greater financial support to workers who had lost their jobs. Another approach, such as that taken by the UK, was for government to effectively pay workers’ wages to keep them on payroll. These approaches, which may be very similar in overall economic effect, can appear drastically different in the official rate of unemployment statistics (shown below). In short, official unemployment figures may be of limited value in this environment—more in-depth analysis is required.

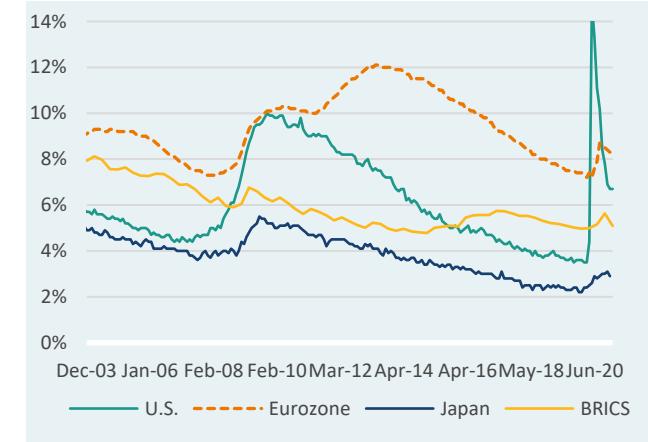
REAL GDP GROWTH (YOY)



INFLATION (CPI YOY)



UNEMPLOYMENT



Source: Bloomberg, as of 9/30/20

Source: Bloomberg, as of 12/31/20 – or most recent release

Source: Bloomberg, as of 12/31/20 – or most recent release

# Fixed income rates & credit

# Interest rate environment

- Longer-dated U.S. Treasury yields moved upward in the fourth quarter, with the U.S. 10-year rising above 1.0% to begin 2021. Higher interest rates may place pressure on equity valuations if this trend continues. The yield of shorter-dated bonds and cash has not moved and is expected to stay near zero.
- Ten-year breakeven inflation rates rallied from 1.6% to 2.0% in Q4, likely propelled higher by expectations that Biden's fiscal approach paired with vaccine rollouts will result in higher longer-term growth and inflation. The rise in priced inflation outpaced the rise in nominal Treasury yields, leading the 10-year U.S. real yield to decline from -0.95% to -1.07%, near record lows.
- Officials at the Federal Reserve remained committed to a \$120 billion monthly pace of bond purchases until there is "substantial progress" toward employment and

inflation objectives. Fed Chair Powell left the door open to adjusting the pace of those purchases as necessary, and stated that the Fed would "let the world know...well in advance of active consideration of beginning a gradual taper of asset purchases."

— The European Central Bank expanded the size of its Pandemic Emergency Purchase Program (PEPP) by €500 billion, bringing the new total to €1.85 trillion. The ECB also extended the horizon for purchases under PEPP to March 2022, and the timeline for reinvestment of maturing PEPP assets to the end of 2023.

— Joe Biden nominated Janet Yellen, Jerome Powell's predecessor, as U.S. Treasury Secretary. Throughout the pandemic, central bankers have been calling for further coordination of fiscal and monetary action, and Yellen's nomination could represent the next step down that path.

Area	Short Term (3M)	10-Year
United States	0.06%	0.91%
Germany	(0.83%)	(0.57%)
France	(0.77%)	(0.34%)
Spain	(0.83%)	0.04%
Italy	(0.65%)	0.54%
Greece	(0.38%)	0.62%
U.K.	(0.06%)	0.20%
Japan	(0.12%)	0.02%
Australia	0.02%	0.97%
China	2.28%	3.14%
Brazil	2.00%	6.91%
Russia	3.54%	6.01%

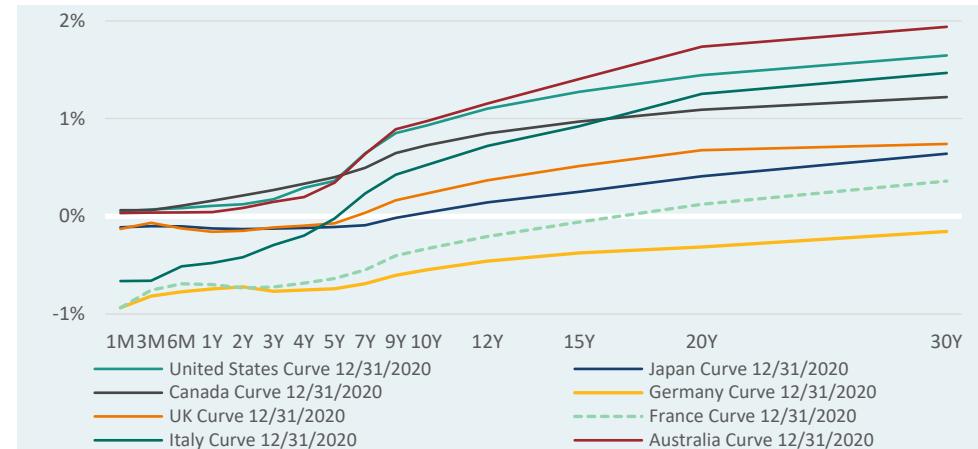
*Source: Bloomberg, as of 12/31/20*

# Yield environment

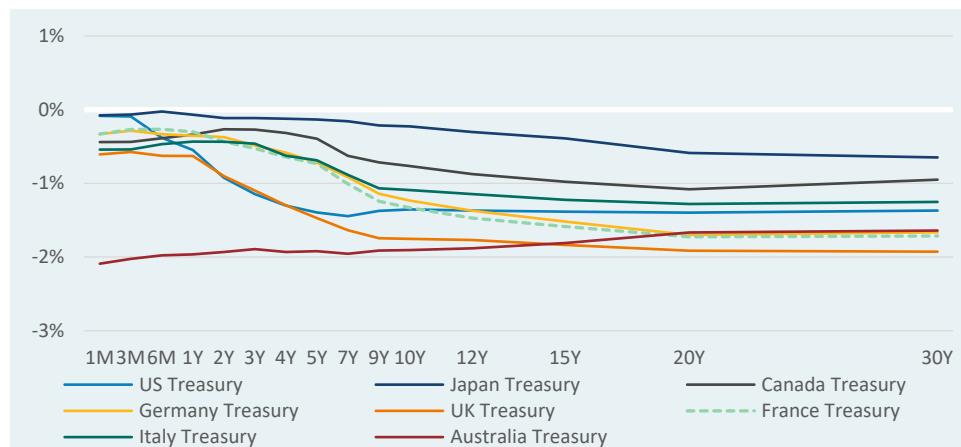
**U.S. YIELD CURVE**



**GLOBAL GOVERNMENT YIELD CURVES**



**YIELD CURVE CHANGES OVER LAST FIVE YEARS**



**IMPLIED CHANGES OVER NEXT YEAR**

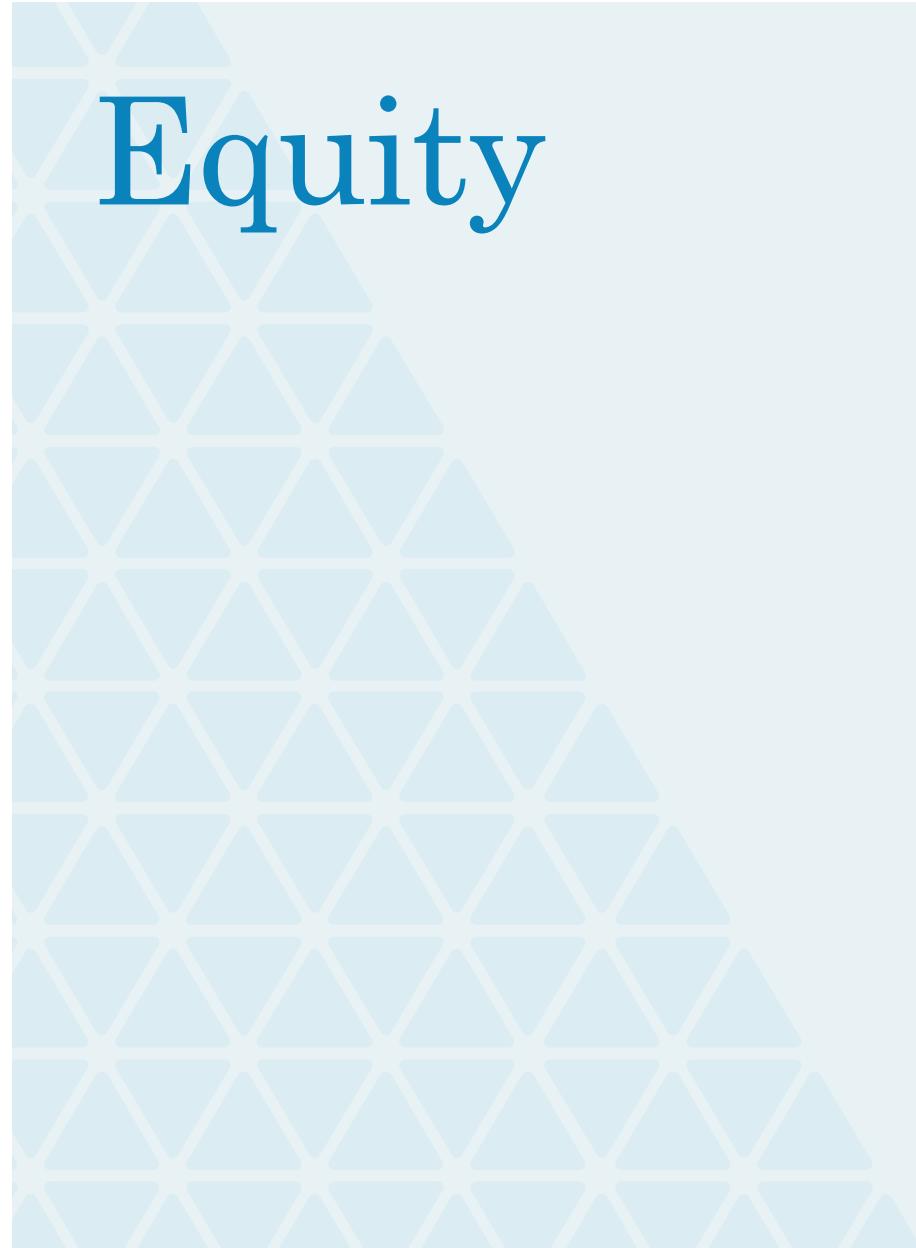


Source: Bloomberg, as of 12/31/20





# Equity



# Equity environment

- U.S. equities delivered +12.1% during the quarter, ending the year at an all-time-high. The S&P 500 was one of the strongest equity markets in 2020, up +18.4% despite an earnings recession and considerable economic uncertainty.
- Emerging market equities (MSCI EM +19.7%) once again outperformed U.S. (S&P 500 +12.1%) and international developed equities (MSCI EAFE +16.0%) in Q4. Latin American equities showed significant outperformance during the quarter (MSCI Latin America +34.8%), after years of lagging behind other emerging markets.
- According to FactSet, S&P 500 Q4 earnings are expected to be down -8.8%. This estimate improved materially from the -12.7% drop expected on September 30<sup>th</sup>. Analysts are expecting a -13.3% earnings decline for full-year 2020.

- The Cboe VIX Index remained rangebound in the fourth quarter, ending the year at 22.8. Priced volatility is moderately elevated relative to the longer-term average of 19.
- Weakness in the U.S. dollar relative to both emerging market and developed market currencies remained a theme during the fourth quarter, as the Bloomberg Dollar Spot Index fell to a two and a half year low. Analysts attributed some of the weakness in the greenback to lower relative real yields in the United States, as nominal Treasury yields picked up.
- Within the index, a sizable rotation occurred in Q4 as certain sectors that had been beaten-down during the pandemic performed strongly. Rising energy prices boosted the Energy sector, while higher interest rates on the longer end of the yield curve improved the outlook for Financials.

	QTD TOTAL RETURN (unhedged)	QTD TOTAL RETURN (hedged)	1 YEAR TOTAL RETURN (unhedged)	1 YEAR TOTAL RETURN (hedged)
US Large Cap (S&P 500)	12.1%		18.4%	
US Small Cap (Russell 2000)	31.4%		20.0%	
US Large Value (Russell 1000 Value)	16.3%		2.8%	
US Large Growth (Russell 1000 Growth)	11.4%		38.5%	
International Large (MSCI EAFE)	16.0%	11.9%	7.8%	2.5%
Eurozone (Euro Stoxx 50)	16.2%	12.2%	5.5%	(1.2%)
U.K. (FTSE 100)	17.2%	11.4%	(8.9%)	(10.2%)
Japan (NIKKEI 225)	21.1%	18.8%	24.2%	19.4%
Emerging Markets (MSCI Emerging Markets)	19.7%	16.0%	18.3%	19.6%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 12/31/20

# Domestic equity

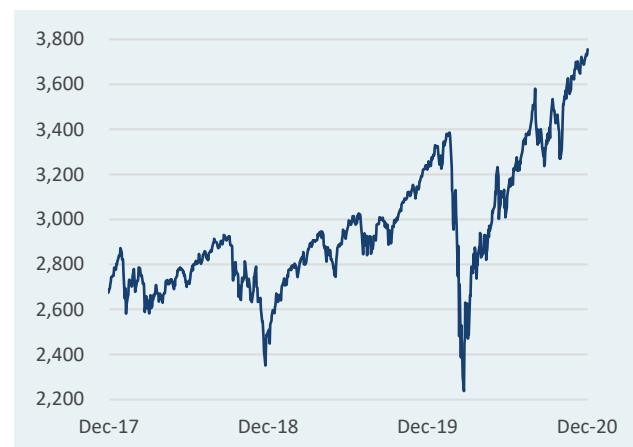
U.S. equities delivered +12.1% during the quarter, ending the year at an all-time-high. The S&P 500 was one of the strongest equity markets in 2020, up +18.4% despite an earnings recession and considerable economic uncertainty.

Within the index, a sizable rotation occurred in Q4 as certain sectors that had been beaten-down during the pandemic performed strongly. Rising energy prices boosted the Energy sector, while higher interest rates improved the outlook for Financials. It remains to be seen whether certain consumer habits displayed during the pandemic (online shopping and heightened social media usage, for example) begin reverting to previous levels as the world moves back to normalcy or if

instead, these new habits become more permanent in nature. The answer to this question has important implications for future intra-sector performance.

As equities move higher, it is difficult not to notice a disconnect between the US. market and the economy. We believe this rally is the result of a confluence of forces. Ultra-low interest rates, extremely accommodative monetary and fiscal policy, plus the implicit guarantee that further economic weakness will be met with more support and stimulus, seems to be creating a new type of "Goldilocks market" that harkens back to the post-Global Financial Crisis market expansion.

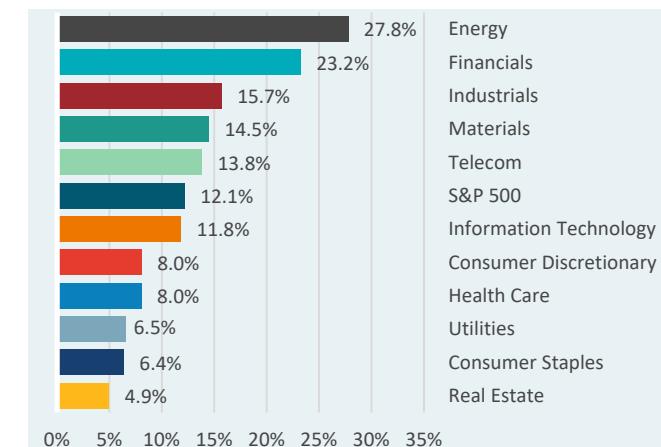
S&P 500 INDEX



DIVIDEND YIELD VS BOND YIELD



Q4 SECTOR PERFORMANCE



Source: Standard & Poor's, as of 12/31/20

Source: Standard & Poor's, as of 12/31/20

Source: Standard & Poor's, as of 12/31/20

# Domestic equity size & style

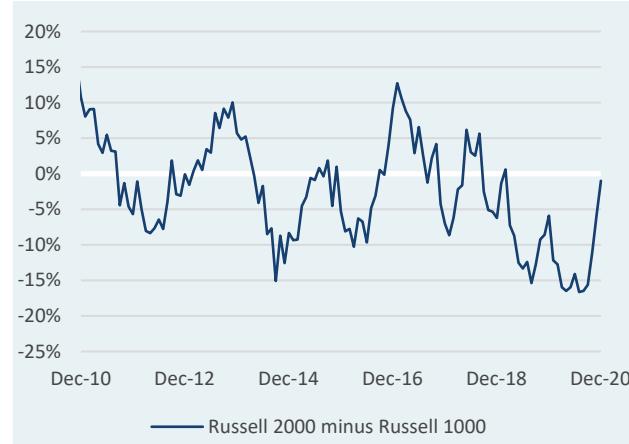
U.S. value stocks beat growth stocks during the fourth quarter (Russell 1000 Value +16.3%, Russell 1000 Growth +11.4%), reversing an extended run of value underperformance. The moderate bounce in value stock performance appeared to be partly driven by sector movements. Energy, Financials, and Materials sectors tend to contain an outsized number of value stocks. These sectors were among the top performers in Q4. Small cap stocks delivered sizable outperformance over large cap stocks (Russell 2000 +31.4%, Russell 1000 +13.7%).

A variety of risks seem to be boiling up around large U.S. technology companies. Given the significant market role that

these businesses play, along with their *growth* rather than *value* characteristics, this regulatory risk could have implications for 2021. First, it is easy to argue that firms such as Google, Amazon, and Facebook have exercised some degree of monopoly power (the FTC recently sued Facebook for alleged illegal monopolistic conduct, and numerous other investigations abound). Further anti-trust actions are likely to come. Second, in recent years there has been a degree of bipartisan consensus that social media companies are doing a poor job of moderating content (though each political party has very different ideas as to the appropriate solution). These risks, which rest perhaps solely on the shoulders of “growth stocks”, will be worth watching in 2021.

**Sector performance has fueled dramatic negative performance of the value premium**

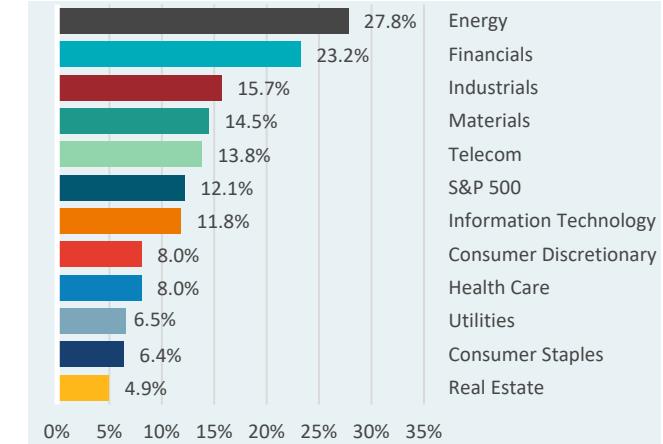
SMALL CAP VS LARGE CAP (YOY)



VALUE VS GROWTH (YOY)



Q4 SECTOR PERFORMANCE



Source: FTSE, as of 12/31/20

Source: FTSE, as of 12/31/20

Source: Standard & Poor's, as of 12/31/20

# Factor portfolios in 2020

After a quiet October, factor results significantly diverged in November as investors strongly reacted to positive COVID-19 vaccine news. Anticipating a path toward post-pandemic normalcy, investors rotated into stocks with higher betas and higher volatility (long/short, sector-neutral, S&P 500 Index quintiles). Small-cap stocks also performed well while the value factor modestly gained ground, mostly due to strong results from stocks with attractive price-to-book ratios. Investors funded this rotation by selling large-cap and high-quality positions. Poor price momentum results were further evidence of the strength of the move.

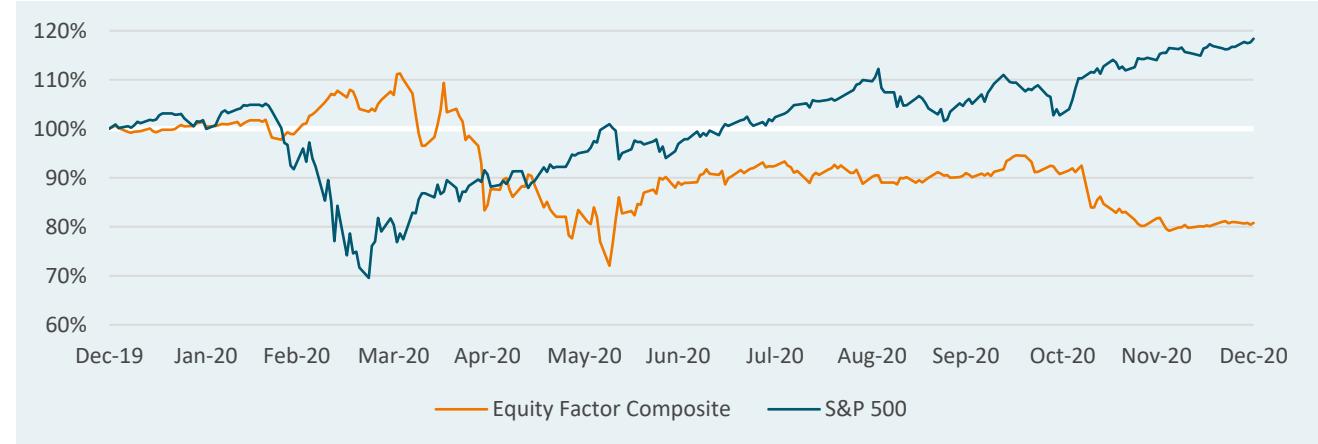
Equity factors had a very difficult year in 2020 and subsequently trailed the equity market by a very wide margin. Quality factors provided some protection during the periods of market turmoil. However other market neutral risk premia strategies did not enjoy consistent recoveries, particularly as market preferences quickly reversed back and forth during the pandemic.

Q4 2020 PERFORMANCE



Source: J.P. Morgan, as of 12/31/20

CUMULATIVE RETURN (INDEXED 12/31/19=100%)



Source: J.P. Morgan, as of 12/31/20; Equity Factor Composite represents the performance of a 10-factor model designed as a simple proxy for quant performance. The factors are combined so that the long and short portfolios contain the most- and least-attractive quant stocks.

# International developed equity

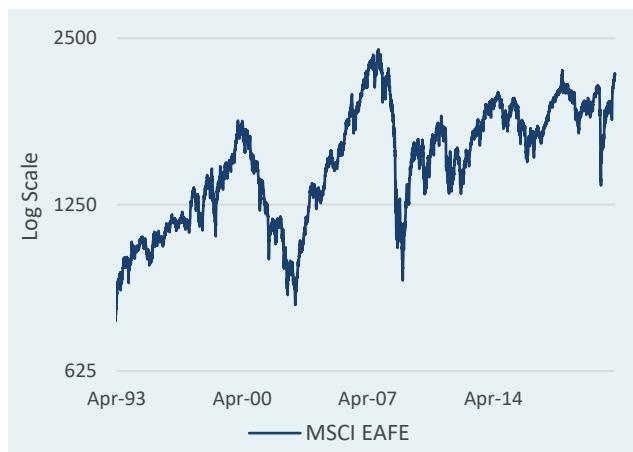
International equities delivered exceptional performance in the fourth quarter, as most global markets have now fully recovered from the March drawdown. The MSCI EAFE Index (+16.0%) outperformed the S&P 500 Index (+12.1%) while lagging the MSCI Emerging Markets Index (+19.7). Continuing U.S. dollar weakness was a notable theme, boosting international equity performance by 5% over the past year.

The recent depreciation of the U.S. dollar has acted as a tailwind to many unhedged international investments. The MSCI EAFE Index unhedged returned 16.0% in Q4, compared

to 11.9% if currency had been hedged. The three largest currency exposures embedded in the MSCI EAFE Index—the euro (32%), the yen (26%), and the pound sterling (13-)—appreciated +4.3%, +2.2%, and +5.7% relative to the U.S. dollar during the quarter, respectively.

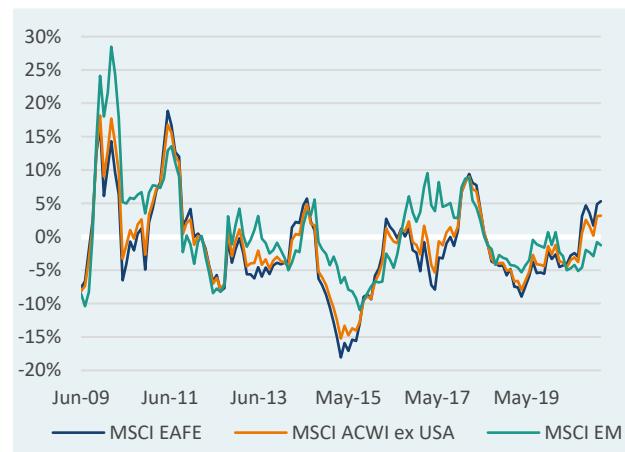
European equities (+17.2%) outperformed Hong Kong (+15.5%) and Japanese (+15.3%) equities in Q4, supported by strong performance in Austria (+47.3%) and Spain (+27.7%). In Oceania, Australia posted solid returns (+22.9%), which were bolstered by a firmer Australian dollar.

INTERNATIONAL DEVELOPED EQUITIES



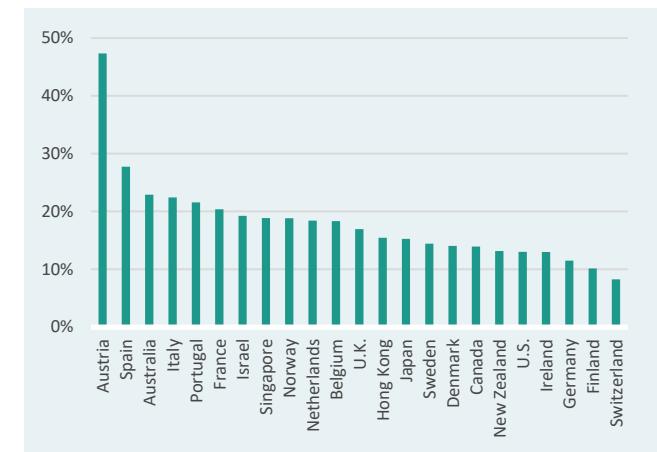
Source: MSCI, as of 12/31/20

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 12/31/20

Q4 2020 PERFORMANCE (ALL IN USD)



Source: MSCI, Bloomberg, as of 12/31/20

# Emerging market equity

Emerging market equities (MSCI EM +19.7%) outperformed U.S. (S&P 500 +12.1%) and international developed equities (MSCI EAFE +16.0%) once again in Q4. Latin American equities showed significant outperformance during the quarter (MSCI Latin America +34.8%), after years of lagging behind other emerging markets.

The pandemic placed downward pressure on inflation earlier in 2020. Since then, the rate of price movement has recovered in many markets. China appears to be an outlier, as inflation recently dipped below zero. This move was fueled by falling pork prices, which had been moving higher

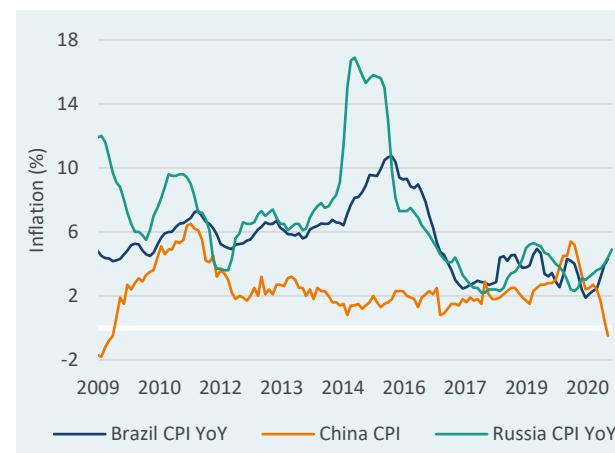
in recent years and causing above-average levels of inflation.

Emerging market currencies sold off significantly during the beginning of the year as investors bid up safe-haven currencies, including the U.S. dollar, amid unprecedented economic and market uncertainty. Since March, however, the embedded currency portfolio of the MSCI Emerging Markets Index began to recover significantly and ended the year nearly on par with where it had started. Continued appreciation of emerging market currencies could provide tailwinds for unhedged U.S. investors in the asset class.

EMERGING MARKET EQUITY



INFLATION (YOY)



Source: MSCI, as of 12/31/20

Source: Bloomberg, as of 12/31/20 or most recent data

MSCI EM INDEX EMBEDDED CURRENCY



Source: Bloomberg, as of 12/31/20

# Equity valuations

Particularly during the last two months of the year, valuations shot higher alongside equity prices as markets digested news that several COVID-19 vaccine candidates proved more effective than anticipated. Today, price-to-earnings multiples appear stretched relative to long-term averages.

Markets have shown a remarkable ability to look past the pandemic-related disruptions and focus on the light at the end of the tunnel. Some in the industry have viewed the exceptional performance of U.S. equities in 2020 as the “check” that fundamentals will need to “cash” next year, and that if sales and earnings do not recover at the strong pace

they are expected (+8.2%/+22.6%), there could be room for a correction.

On a trailing-earnings basis, international developed equities appear most expensive as the second series of lockdowns which swept over the continent toward the end of the year have severely impacted earnings. The question in Europe, however, is largely the same one we are grappling with in the U.S.: are earnings temporarily depressed and ripe for a quick rebound next year, or are the earnings streams impaired and equity prices less justified?

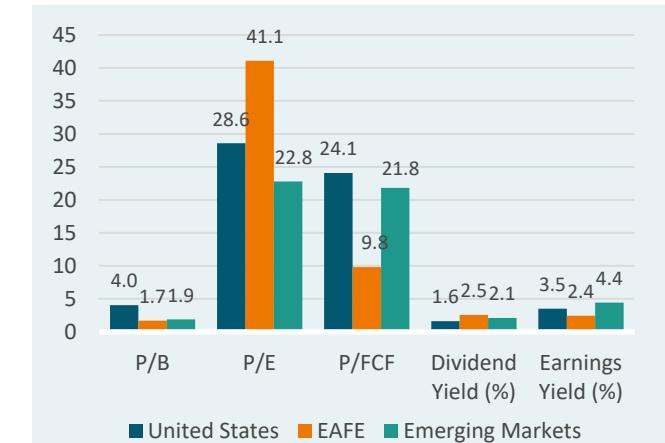
FORWARD P/E RATIOS



BLENDED 12-MONTH EARNINGS EXPECTATIONS



VALUATION METRICS (3-MONTH AVERAGE)



Source: MSCI, 12m forward P/E, as of 12/31/20

Source: Bloomberg, as of 12/31/20

Source: Bloomberg, MSCI as of 12/31/20 - trailing P/E

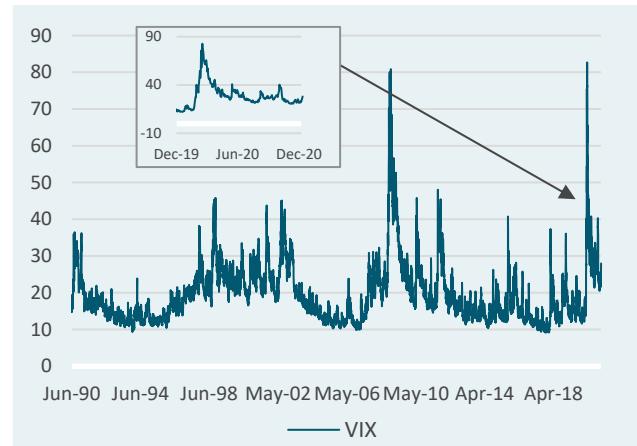
# Equity volatility

The Cboe VIX Index remained rangebound in the fourth quarter, ending the year at 22.8. Priced volatility is moderately elevated relative to the longer-term average of 19.

The U.S. equity market exhibited surprisingly high volatility in 2020 relative to other global markets. The domestic market has typically been a lowest risk market. In recent years, this relationship has flipped, with U.S. stocks showing higher volatility than developed market stocks, and nearly on par with emerging market equities.

Since implied and realized volatility spiked in the first quarter, options-implied volatility has receded significantly, back toward more normal levels. As equity markets climbed to new highs in the final few months of the year, the U.S. implied volatility curve began to steepen. During the fourth quarter, the implied volatility of deeply out-of-the-money puts was little changed, while the implied volatility of deeply out-of-the-money call options declined to more-average levels. The steepening of the implied volatility curve likely demonstrates the market's marginal preference for downside protection over upside participation at current price levels.

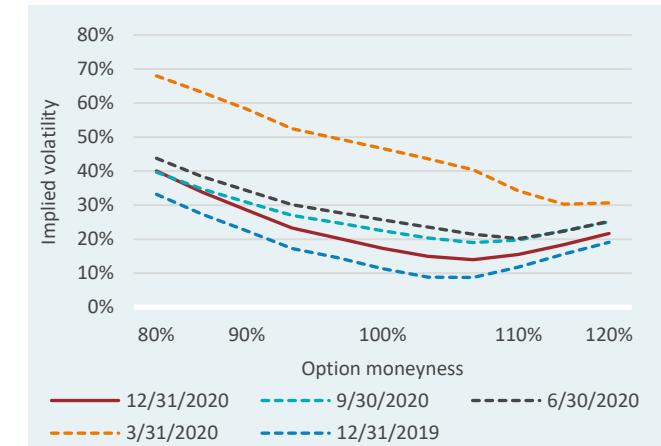
**U.S. IMPLIED VOLATILITY (VIX)**



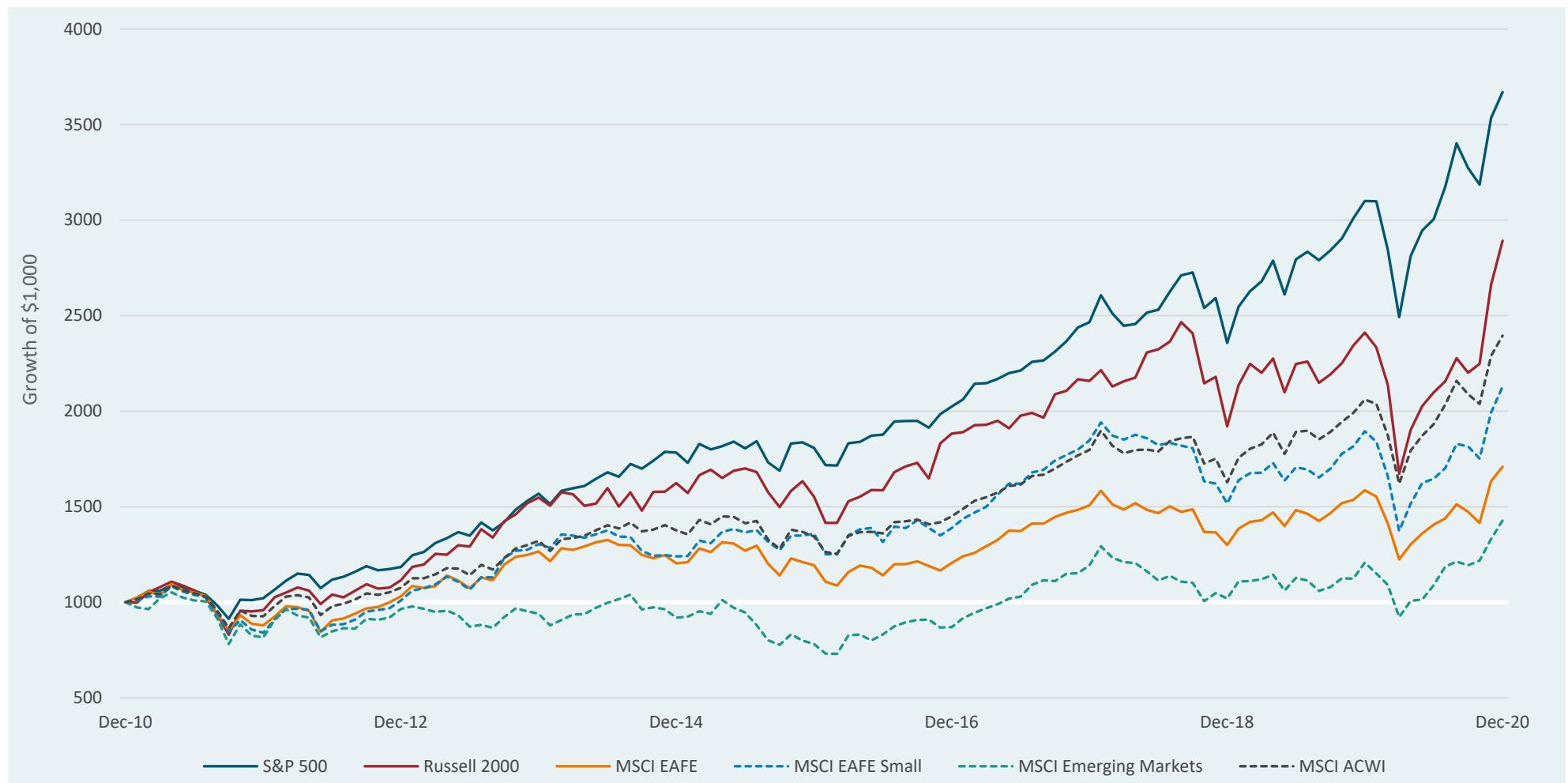
**REALIZED VOLATILITY**



**1-MONTH U.S. IMPLIED VOLATILITY CURVE**



# Long-term equity performance



Source: Morningstar, as of 12/31/20

# Other assets

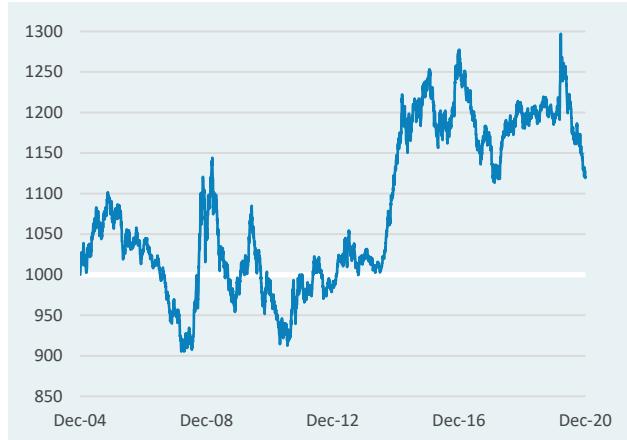


# Currency

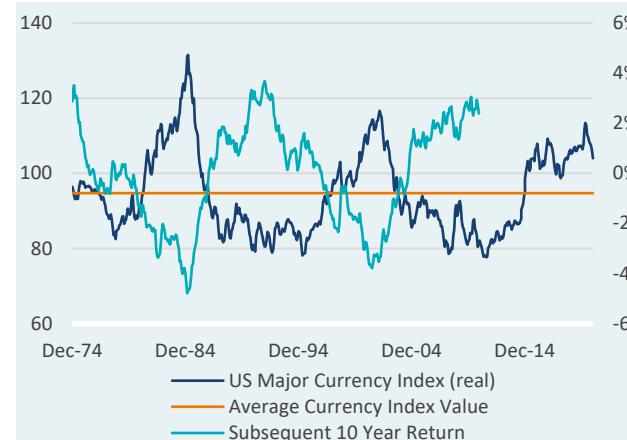
Weakness in the U.S. dollar relative to both emerging market and developed market currencies remained a theme in the fourth quarter, as the Bloomberg Dollar Spot Index fell to a two and a half year low. Analysts attributed some of the weakness of the greenback to lower relative real yields in the United States, as nominal Treasury yields rose less than inflation expectations. Many in the industry have made calls for a continuation of dollar weakness into 2021. If that weakness were to materialize, it would supply significant tailwinds for unhedged U.S. investors in non-U.S. equities. We continue to believe that unhedged currency exposure results in uncompensated risk, which is a suboptimal approach for many investors.

The onshore Chinese renminbi rallied significantly over the fourth quarter. The strength has been primarily credited to the apparently-blistering pace of China's recovery from pandemic-related disruptions, which has fueled capital inflows from offshore investors. Looking ahead, the election of Joe Biden has been viewed largely as constructive for the yuan, as the expectation remains that Biden's stance on China will be less confrontational than his predecessor's, reducing trade tensions. On the other hand, the rising value of the yuan may make China's exports less-affordable for Europeans still recovering from the pandemic. This dynamic has stoked speculation that the People's Bank of China might soon step in to cool the rally.

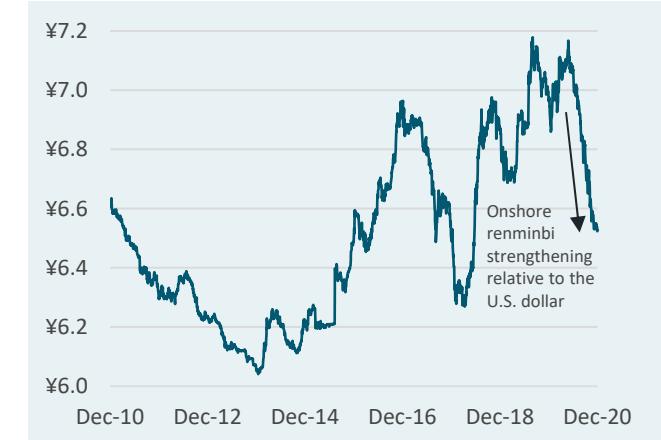
BLOOMBERG DOLLAR SPOT INDEX



USD CURRENCY LEVEL & SUBSEQUENT RETURN



USD/CNY CROSS RATE



Source: Bloomberg, as of 12/31/20

Source: Federal Reserve, as of 12/31/20

Source: Bloomberg, as of 12/31/20

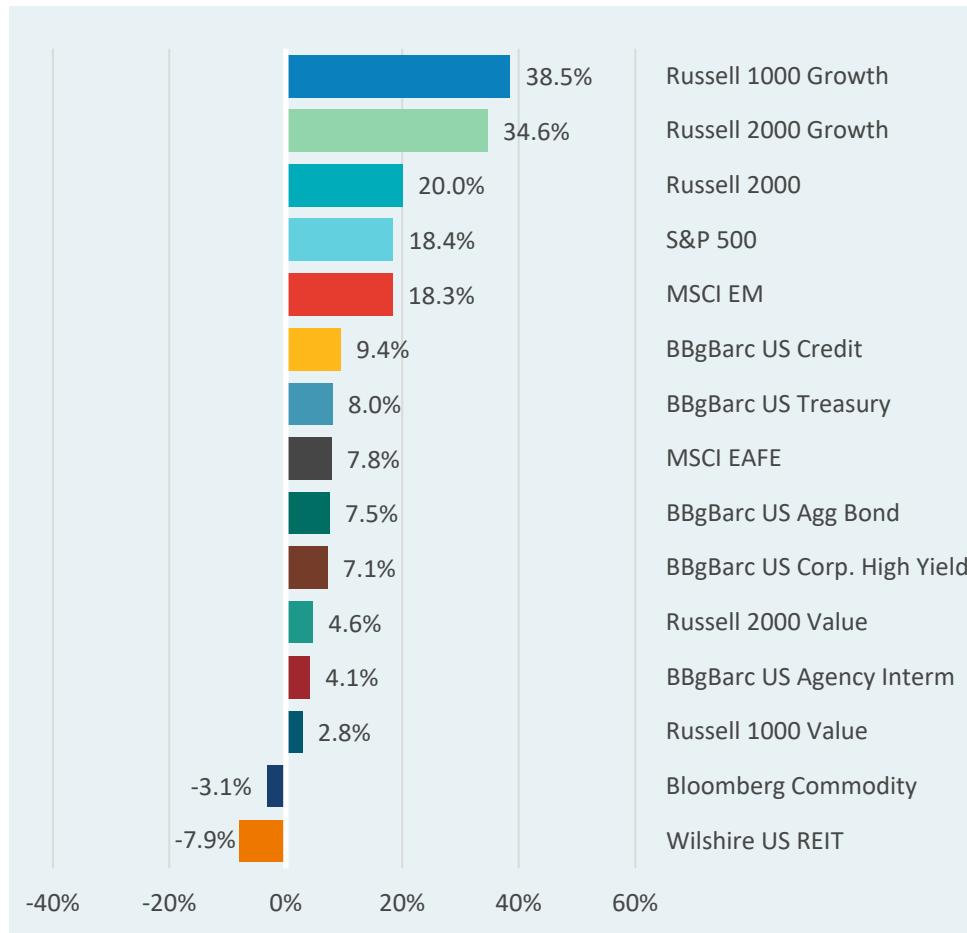
# Appendix



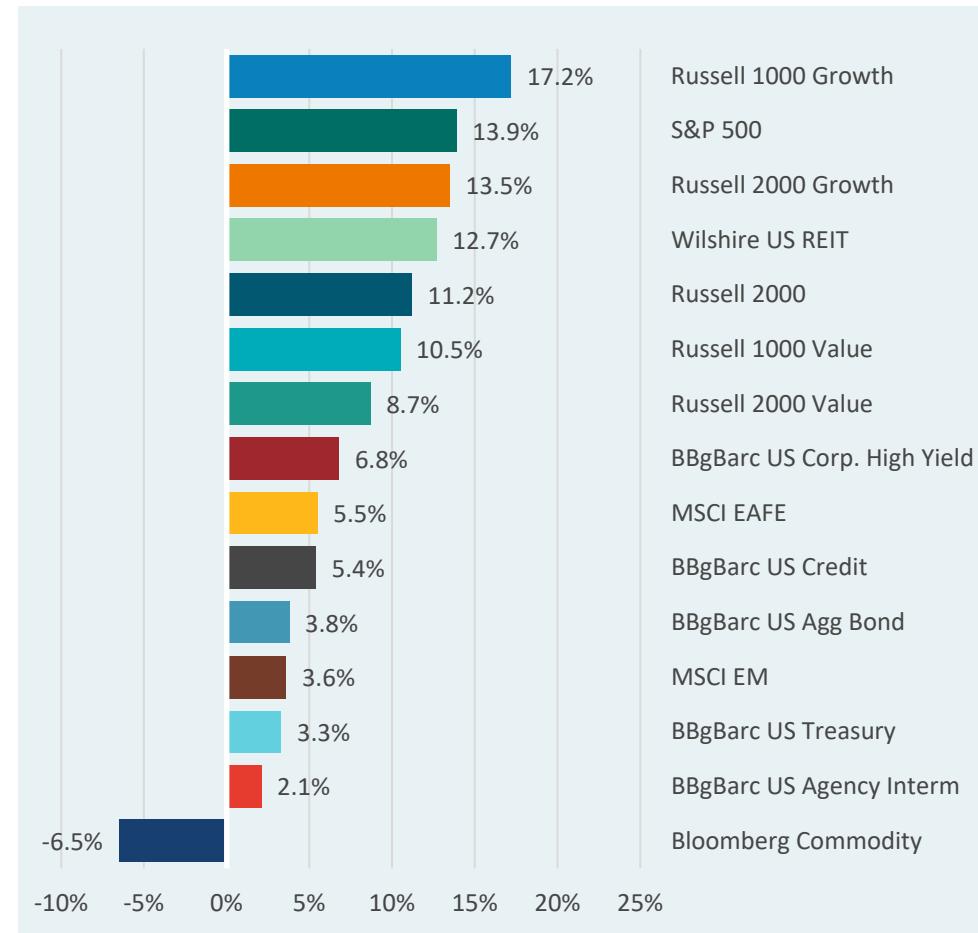


# Major asset class returns

ONE YEAR ENDING DECEMBER



TEN YEARS ENDING DECEMBER



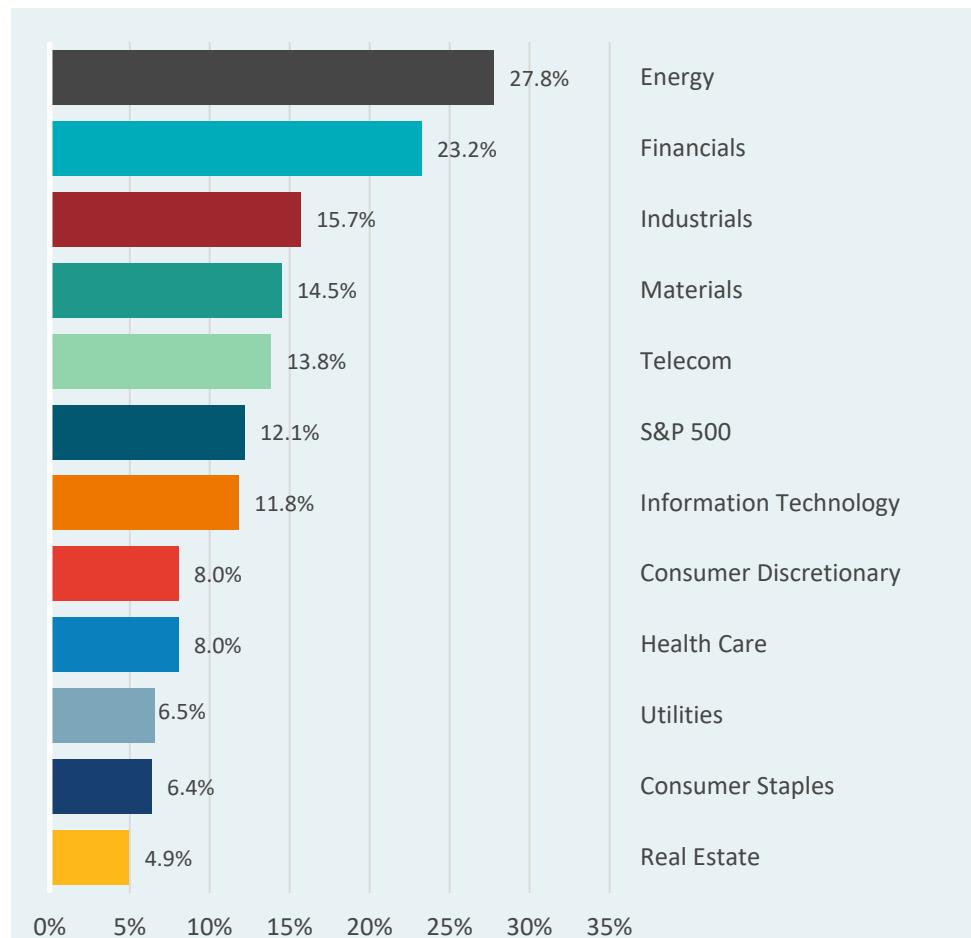
\*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 12/31/20

Source: Morningstar, as of 12/31/20

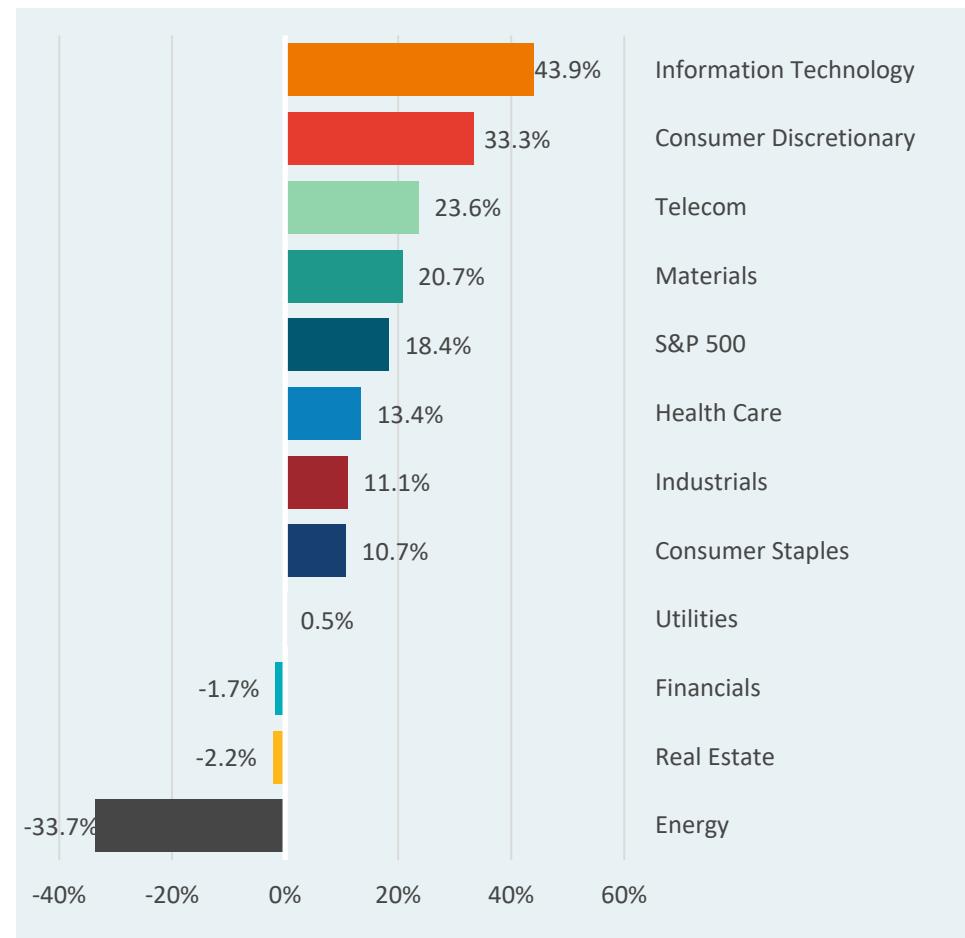
# S&P 500 sector returns

Q4 2020



Source: Morningstar, as of 12/31/20

ONE YEAR ENDING DECEMBER

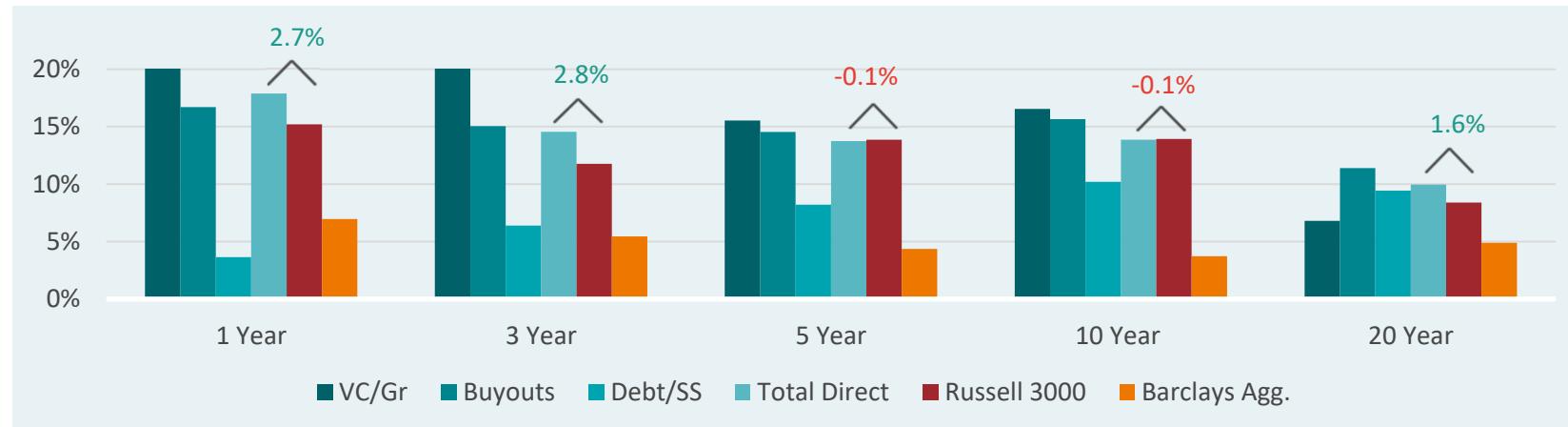


Source: Morningstar, as of 12/31/20

# Private equity vs. public performance

As of 9/30/2020

## DIRECT PRIVATE EQUITY FUND INVESTMENTS



Direct private equity fund investments outperformed comparable public equities across most time periods

Sources: Thomson Reuters Cambridge Universe's PME Module: U.S. Private Equity Funds sub asset classes as of September 30, 2020. Public Market Equivalent returns resulted from "Total Direct's" identical cash flows invested into and distributed from respective traditional asset comparable.

# Private equity vs. liquid real assets performance

As of 9/30/2020

## GLOBAL NATURAL RESOURCES FUNDS



Natural resource funds outperformed the MSCI World Natural Resources benchmark across all time periods

## GLOBAL INFRASTRUCTURE FUNDS



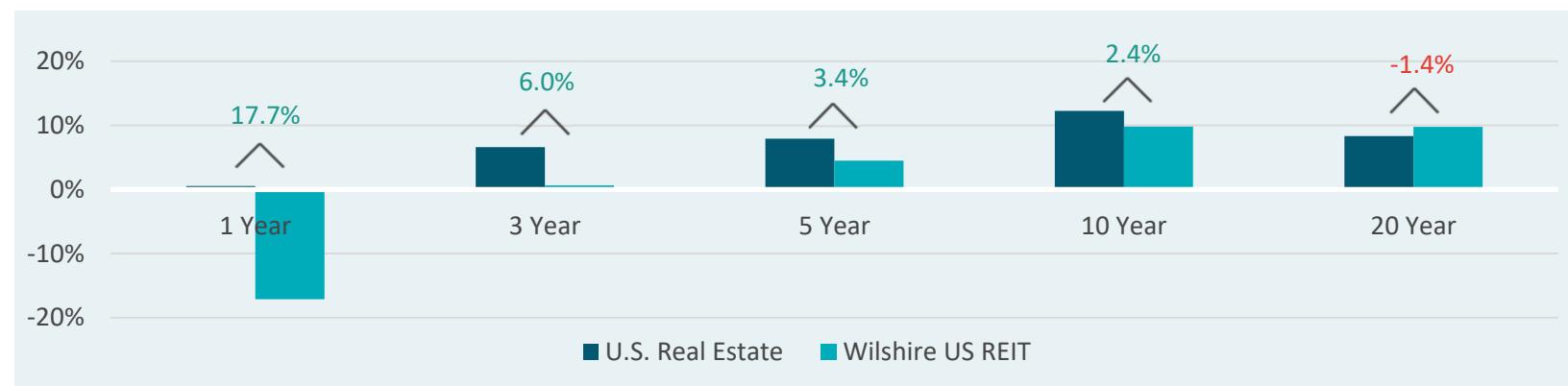
Infrastructure funds outperformed the S&P Infra. Index across all periods

Sources: Thomson Reuters C/A 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 September 30, 2020. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

# Private vs. liquid & core real estate performance

As of 9/30/2020

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



U.S. private real estate funds outperformed the Wilshire U.S. REIT Index across most time periods

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



U.S. private real estate funds outperformed the NCREIF Property Index over all time periods, aside from the past year

Sources: Thomson Reuters C/A PME: U.S. Real Estate universes as of September 30, 2020. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real estate universes.



# 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.langerresearch.com](http://www.langerresearch.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 Federation 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 "(Good-Poor + 100)/2" to the present and future sales series and "(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.

# Notices & disclosures

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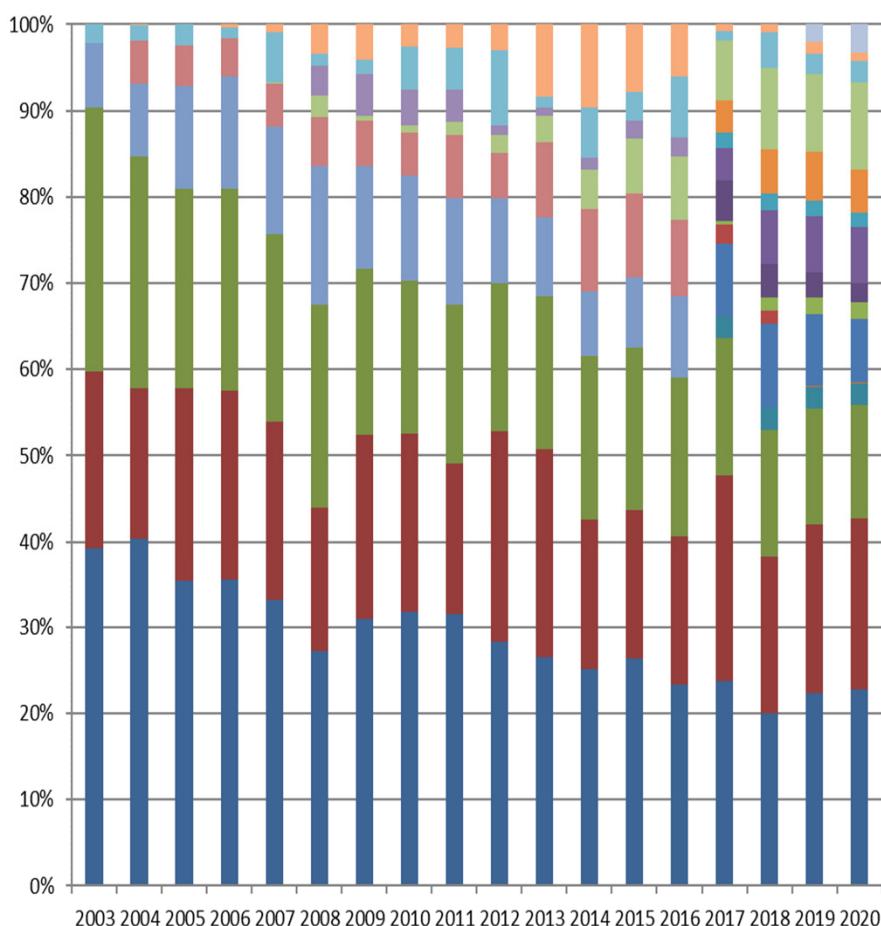
**Verus<sup>TM</sup>**

**Investment Landscape**  
1st Quarter 2021

# Total Fund

## Actual Yearly and Quarterly Asset Allocation

Period Ending: December 31, 2020



■ US Equity	■ Int'l Equities	■ US Fixed Income	■ Global Fixed Income
■ Opportunistic	■ Real Estate	■ Real Assets	■ Direct Lending
■ Growth Hedge Funds	■ Diversifying Hedge Funds	■ Public Credit	■ Private Real Assets
■ RE / RA	■ Absolute Return	■ Private Equity	■ Opportunistic / Commodities
■ Cash	■ Other *	■ Liquid Real Return	

	2003	2004	2005	2006	2007	2008
US Equity	39.2	40.4	35.4	35.5	33.1	27.2
International Equity	20.6	17.5	22.3	22.0	20.9	16.8
US Fixed Income	30.6	26.9	23.1	23.3	21.7	23.5
Real Estate / Real Assets	7.5	8.5	11.9	13.1	12.4	16.1
Absolute Return	-	4.9	4.8	4.4	5.1	5.6
Private Equity	-	-	-	-	0.1	2.5
Opportunistic / Commodities	-	-	-	-	-	3.5
Cash	2.1	1.8	2.4	1.2	5.8	1.4
Other *	-	0.1	-	0.4	0.9	3.4
	2009	2010	2011	2012	2013	2014
US Equity	30.9	31.7	31.4	28.4	26.5	25.2
International Equity	21.5	20.7	17.6	24.5	24.3	17.5
US Fixed Income	19.3	17.8	18.4	17.1	17.7	18.9
Real Estate / Real Assets	11.9	12.2	12.4	9.9	9.0	7.6
Absolute Return	5.3	4.9	7.3	5.2	8.8	9.4
Private Equity	0.5	0.9	1.6	2.2	3.0	4.6
Opportunistic / Commodities	4.8	4.1	3.7	1.1	1.0	1.4
Cash	1.7	5.0	4.9	8.8	1.2	5.9
Other *	4.1	2.6	2.7	2.9	8.4	9.6
	2015	2016	2017	2018	2019	2020
US Equity	26.4	23.4	23.8	20.0	22.4	22.8
International Equity	17.3	17.2	23.9	18.3	19.6	19.9
US Fixed Income	18.7	18.5	16.0	14.6	13.6	13.2
Global Fixed Income	-	-	2.4	2.6	2.5	2.5
Public Credit	-	-	1.8	1.9	1.8	1.7
Real Estate / Real Assets	8.3	9.3	-	-	-	-
Real Estate	-	-	8.4	9.7	8.3	7.3
Real Assets	-	-	2.1	1.4	-	-
Private Real Assets	-	-	3.7	5.2	5.7	4.9
Liquid Real Return	-	-	-	-	2.0	3.3
Absolute Return	9.7	8.8	-	-	-	-
Growth Hedge Funds	-	-	4.6	3.9	3.0	2.3
Diversifying Hedge Funds	-	-	3.8	6.2	6.4	6.4
Private Equity	6.3	7.4	6.9	9.3	9.0	10.1
Direct Lending	-	-	0.5	1.5	2.0	1.9
Opportunistic / Commodities	2.1	2.2	-	-	-	-
Opportunistic	-	-	0.1	0.1	0.1	0.0
Cash	3.2	7.1	1.1	4.3	2.4	2.5
Other *	7.9	6.0	0.8	0.9	1.4	1.0

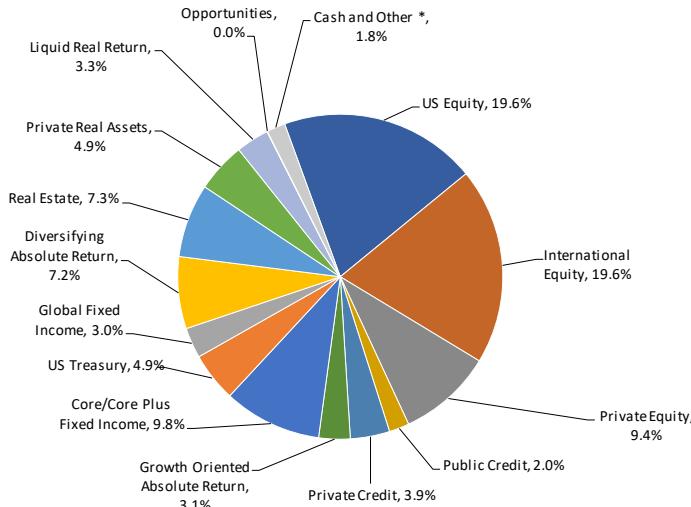
\* Allocations without overlay.

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

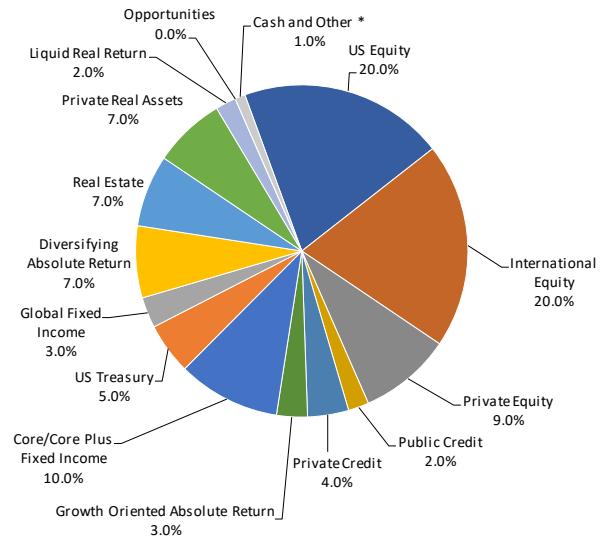
# Total Fund Asset Allocation Analysis

Period Ending: December 31, 2020

Current w/Overlay



Target



## ASSET ALLOCATION

## MARKET VALUE W/OVERLAY

## W/O OVERLAY

## W/O OVERLAY

	MARKET VALUE W/OVERLAY	W/O OVERLAY	W/O OVERLAY
US Equity	2,626,645,279	19.6%	22.8%
International Equity	2,291,706,615	19.6%	19.9%
Private Equity	1,162,421,389	9.4%	10.1%
Public Credit	196,649,479	2.0%	1.7%
Private Credit	222,201,208	3.9%	1.9%
Growth Oriented Absolute Return	261,940,773	3.1%	2.3%
Core/Core Plus Fixed Income	1,018,717,947	9.8%	8.9%
US Treasury	497,592,352	4.9%	4.3%
Global Fixed Income	289,470,056	3.0%	2.5%
Diversifying Absolute Return	741,586,983	7.2%	6.4%
Real Estate	843,865,688	7.3%	7.3%
Private Real Assets	568,973,256	4.9%	4.9%
Liquid Real Return	379,128,488	3.3%	3.3%
Opportunities	5,366,068	0.0%	0.0%
Cash and Other *	401,171,782	1.8%	3.5%
<b>TOTAL</b>	<b>11,507,437,362</b>	<b>100.0%</b>	<b>100.0%</b>

## ASSET ALLOCATION

## ACTUAL

## TARGET

## DIFF

	ACTUAL	TARGET	DIFF
US Equity	19.6%	20.0%	-0.4%
International Equity	19.6%	20.0%	-0.4%
Private Equity	9.4%	9.0%	0.4%
Public Credit	2.0%	2.0%	0.0%
Private Credit	3.9%	4.0%	-0.1%
Growth Oriented Absolute Return	3.1%	3.0%	0.1%
Core/Core Plus Fixed Income	9.8%	10.0%	-0.2%
US Treasury	4.9%	5.0%	-0.1%
Global Fixed Income	3.0%	3.0%	0.0%
Diversifying Absolute Return	7.2%	7.0%	0.2%
Real Estate	7.3%	7.0%	0.3%
Private Real Assets	4.9%	7.0%	-2.1%
Liquid Real Return	3.3%	2.0%	1.3%
Opportunities	0.0%	0.0%	0.0%
Cash and Other *	1.8%	1.0%	0.8%

\* Other includes closing accounts (Heitman), Transition Account and SSGA Overlay of \$113.7 million.

- The Total Plan returned 9.8% net in the fourth quarter of 2020 and ranked in the third quartile among other public funds greater than \$1 billion (10.3% median). The Fund beat its policy index (8.7%) during this time period. The Total Plan w/o Overlay returned 9.6% for the quarter, net of fees. Longer term, the three-year return of 9.1% beat the median large public plan peer group (7.8%) and ranked in the top quartile. The five-year returns of 10.3% ranked in the first quartile of the large public plan peer group.
- Fourth quarter results (net) were enhanced by the following factors:
  1. Eagle Capital gained 20.4% beating the Russell 1000 which rose 13.7%. Eagle benefited from investors pivoting towards companies that will likely benefit from a recovery of the pandemic.
  2. DE Shaw Broad Market Core Alpha gained 17.6% beating the Russell 1000 (13.7%). This brought the 1-year return to 20.2% slightly underperforming the index but ranking in the top quartile of its peers.
  3. Baillie Gifford Emerging All Cap beat the MSCI EM Index for a second quarter in a row bringing the 1-year excess return to 11% over the MSCI EM Index. Several portfolio companies with improving competitive positions led the outperformance in Q4, as did their investment in cyclical companies.
  4. Brandywine beat its benchmark (10.6% vs 4.1%). Brandywine's overweight position in U.S. corporate bonds and underweighting the U.S. dollar both contributed to the quarter's outperformance.
  5. Brigade rose 8.2% beating its index (5.1%). Bank Loans and High Yield positions contributed to outperformance gaining 3.1% and 4.2% respectively.
- Fourth quarter results (net) were hindered by the following factors:
  1. Walter Scott trailed the MSCI World ex US Growth index (10.2% vs 12.7%). The underperformance came from the Utilities, Materials, and Communication Services sectors, primarily in the UK, Canada, and the Pacific ex Japan.









# Total Fund Performance Summary

Period Ending: December 31, 2020

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
William Blair Dev Small Cap - Gross	124,401,887	1.1	16.3	59	32.8	33	27.3	34	10.1	39	11.9	50	11.3	Sep-08
William Blair Dev Small Cap - Net			16.0	62	32.3	35	26.2	38	8.9	42	10.9	63	10.3	
<i>MSCI World ex US Small Cap GD</i>			17.6	45	29.6	62	13.2	63	5.5	60	10.1	70	9.2	Sep-08
<i>eV ACWI ex-US Small Cap Equity Gross Median</i>					30.6		17.3		7.2		11.8		11.2	Sep-08
<b>International - Emerging - Gross</b>	<b>490,402,926</b>	<b>4.3</b>	<b>23.4</b>	<b>12</b>	<b>39.1</b>	<b>1</b>	<b>23.4</b>	<b>23</b>	<b>9.4</b>	<b>16</b>	<b>14.1</b>	<b>22</b>	<b>7.4</b>	<b>Jan-00</b>
<b>International - Emerging - Net</b>			<b>23.3</b>	<b>12</b>	<b>38.9</b>	<b>1</b>	<b>23.1</b>	<b>24</b>	<b>9.1</b>	<b>18</b>	<b>13.7</b>	<b>23</b>	<b>7.0</b>	
<i>MSCI Emerging Markets Gross</i>			19.8	48	31.4	42	18.7	45	6.6	37	13.2	28	7.6	Jan-00
<i>InvMetrics All DB Emg Mkt Eq Gross Median</i>					30.4		18.1		5.8		12.4		8.5	Jan-00
Baillie Gifford Emg All Cap - Gross	277,851,770	2.4	25.2	12	41.7	5	29.7	17	12.2	12	--	--	18.8	Mar-16
Baillie Gifford Emg All Cap - Net			25.2	12	41.7	5	29.7	17	12.2	12	--	--	18.8	
<i>MSCI Emerging Markets Gross</i>			19.8	55	31.4	56	18.7	47	6.6	48	13.2	47	12.6	Mar-16
<i>eV Emg Mkts Equity Gross Median</i>					32.1		18.2		6.3		13.0		12.9	Mar-16
Mondrian Emg All Cap - Gross	212,551,156	1.8	21.0	42	35.7	25	16.1	62	6.3	52	--	--	10.0	Mar-16
Mondrian Emg All Cap - Net			20.8	44	35.4	28	15.4	65	5.6	62	--	--	9.3	
<i>MSCI Emerging Markets Gross</i>			19.8	55	31.4	56	18.7	47	6.6	48	13.2	47	12.6	Mar-16
<i>eV Emg Mkts Equity Gross Median</i>					32.1		18.2		6.3		13.0		12.9	Mar-16

















**Total Fund  
Performance Summary**

**Period Ending: December 31, 2020**

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date	
MCP Private Capital IV - Gross	1,887,494	0.0	-5.7	--	-13.7	--	--	--	--	--	--	--	--	-13.7	Apr-20
MCP Private Capital IV - Net			-5.7	--	-13.7	--	--	--	--	--	--	--	--	-13.7	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			4.6	--	15.0	--	2.8	--	5.2	--	6.1	--	--	-0.1	Apr-20
OrbiMed Royalty & Credit Opp III - Gross	10,770,241	0.1	33.1	--	37.3	--	31.5	--	--	--	--	--	--	19.4	Sep-19
OrbiMed Royalty & Credit Opp III - Net			33.1	--	37.3	--	31.5	--	--	--	--	--	--	19.4	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			4.6	--	15.0	--	2.8	--	5.2	--	6.1	--	--	3.5	Sep-19
Silver Point Specialty Credit Fund II - Gross	11,075,853	0.1	16.8	--	--	--	--	--	--	--	--	--	--	16.8	Jul-20
Silver Point Specialty Credit Fund II - Net			16.8	--	--	--	--	--	--	--	--	--	--	16.8	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			4.6	--	15.0	--	2.8	--	5.2	--	6.1	--	--	10.3	Jul-20
Summit Credit - Gross	510,776	0.0	2.0	--	4.0	--	-5.0	--	0.2	--	4.4	--	--	5.4	Oct-11
Summit Credit - Net			2.0	--	4.0	--	-5.0	--	0.2	--	4.4	--	--	5.4	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			4.6	--	15.0	--	2.8	--	5.2	--	6.1	--	--	6.2	Oct-11
Summit Credit II - Gross	23,398,656	0.2	-1.2	--	-0.4	--	-5.1	--	2.8	--	6.3	--	--	4.6	Nov-14
Summit Credit II - Net			-1.2	--	-0.4	--	-5.1	--	2.8	--	6.3	--	--	4.6	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			4.6	--	15.0	--	2.8	--	5.2	--	6.1	--	--	5.4	Nov-14
Summit Credit III - Gross	17,852,638	0.2	3.7	--	8.4	--	12.4	--	--	--	--	--	--	11.1	Oct-18
Summit Credit III - Net			3.7	--	8.4	--	12.4	--	--	--	--	--	--	11.1	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			4.6	--	15.0	--	2.8	--	5.2	--	6.1	--	--	4.3	Oct-18
TCP Direct Lending VIII - Gross	68,160,215	0.6	5.7	--	15.4	--	7.7	--	--	--	--	--	--	5.8	Feb-18
TCP Direct Lending VIII - Net			5.7	--	15.4	--	7.7	--	--	--	--	--	--	5.8	
<i>Credit Suisse Leveraged Loan + 2% 1 Qtr Lag</i>			4.6	--	15.0	--	2.8	--	5.2	--	6.1	--	--	5.1	Feb-18
<b>Growth Oriented Absolute Return - Gross<sup>++</sup>**</b>	<b>261,940,773</b>	<b>2.3</b>	<b>11.3</b>	<b>--</b>	<b>18.5</b>	<b>--</b>	<b>10.9</b>	<b>--</b>	<b>5.6</b>	<b>--</b>	<b>6.5</b>	<b>--</b>	<b>5.2</b>	<b>Aug-04</b>	
<b>Growth Oriented Absolute Return - Net</b>			<b>11.3</b>	<b>--</b>	<b>18.5</b>	<b>--</b>	<b>10.9</b>	<b>--</b>	<b>5.6</b>	<b>--</b>	<b>6.5</b>	<b>--</b>	<b>5.2</b>		
HFRi FoF Composite Index + 1%			8.2	--	13.1	--	11.8	--	5.9	--	6.2	--	--	6.3	Aug-04

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

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

# Total Fund Performance Summary

Period Ending: December 31, 2020

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Grosvenor SCARF Growth - Gross	91,066,911	0.8	8.9	39	14.7	39	9.3	68	4.9	65	6.1	46	6.1	Nov-11
Grosvenor SCARF Growth - Net			8.9	39	14.7	39	9.3	68	4.9	65	6.1	46	6.1	
HFRI FoF Composite Index + 1%			8.2	43	13.1	47	11.8	57	5.9	54	6.2	45	5.7	Nov-11
eV Alt Fund of Funds - Multi-Strategy Median					12.4		13.0		6.4		5.8		6.1	Nov-11
Lakewood - Gross	44,787,025	0.4	17.5	34	19.8	48	-8.7	93	-0.5	85	3.5	81	4.4	Jun-13
Lakewood - Net			17.5	34	19.8	48	-8.7	93	-0.5	85	3.5	81	4.4	
HFRI FoF Composite Index + 1%			8.2	68	13.1	64	11.8	57	5.9	55	6.2	63	5.8	Jun-13
eV Alt Fundamental - Long/Short Equity Median					18.6		14.8		6.6		8.1		7.1	Jun-13
Sculptor Domestic II - Gross	62,861,633	0.5	6.1	53	12.3	42	18.9	17	10.4	12	9.3	26	8.6	Dec-11
Sculptor Domestic II - Net			6.1	53	12.3	42	18.9	17	10.4	12	9.3	26	8.6	
HFRI FoF Composite Index + 1%			8.2	40	13.1	39	11.8	31	5.9	37	6.2	44	5.7	Dec-11
eV Alt All Multi-Strategy Median					10.1		6.4		3.6		5.3		5.1	Dec-11
Third Point Offshore Fund - Gross	63,225,204	0.5	16.4	14	30.8	6	22.4	12	8.6	22	9.9	20	10.5	Apr-12
Third Point Offshore Fund - Net			16.4	14	30.8	6	22.4	12	8.6	22	9.9	20	10.5	
HFRI FoF Composite Index + 1%			8.2	44	13.1	44	11.8	29	5.9	39	6.2	41	5.7	Apr-12
eV Alt All Event Driven Median					11.6		6.6		5.0		5.4		5.4	Apr-12
<b>Diversifying Asset Category - Gross</b>	<b>2,547,367,337</b>	<b>22.1</b>	3.3	--	5.1	--	8.2	--	4.9	--	--	--	4.9	Mar-17
<b>Diversifying Asset Category - Net</b>			3.3	--	5.0	--	8.0	--	4.8	--	--	--	4.8	
Diversifying Custom <sup>1</sup>			2.2	--	3.6	--	7.6	--	4.9	--	--	--	4.8	Mar-17
<b>Core/Core Plus Fixed Income - Gross</b>	<b>1,018,717,947</b>	<b>8.9</b>	2.0	--	3.6	--	9.5	--	6.5	--	5.7	--	4.3	Jun-11
<b>Core/Core Plus Fixed Income - Net</b>			2.0	--	3.5	--	9.3	--	6.3	--	5.5	--	4.2	
BBgBarc US Aggregate TR			0.7	--	1.3	--	7.5	--	5.3	--	4.4	--	3.8	Jun-11
Prudential - Gross	528,964,273	4.6	2.6	3	4.6	4	9.2	29	6.6	10	6.4	4	5.5	Jul-14
Prudential - Net			2.6	4	4.5	4	9.1	35	6.4	16	6.2	4	5.3	
BBgBarc US Aggregate TR			0.7	81	1.3	87	7.5	86	5.3	90	4.4	91	3.9	Jul-14
eV US Core Fixed Inc Gross Median					2.2		8.6		5.9		5.0		4.4	Jul-14

1. See Policy Index and Benchmark History.

# Total Fund Performance Summary

Period Ending: December 31, 2020

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
TCW MetWest Fixed - Gross	489,753,674	4.3	1.4	28	2.6	34	9.7	16	6.5	14	5.3	23	6.1	Dec-01
TCW MetWest Fixed - Net			1.4	31	2.5	38	9.5	21	6.3	21	5.1	41	5.9	
BBgBarc US Aggregate TR			0.7	81	1.3	87	7.5	86	5.3	90	4.4	91	4.6	Dec-01
eV US Core Fixed Inc Gross Median			1.1		2.2		8.6		5.9		5.0		5.2	Dec-01
<b>U.S. Treasury - Gross</b>	<b>497,592,352</b>	<b>4.3</b>	<b>-0.8</b>	--	<b>-0.6</b>	--	<b>7.9</b>	--	--	--	--	--	<b>6.3</b>	<b>Feb-18</b>
<b>U.S. Treasury - Net</b>			<b>-0.8</b>	--	<b>-0.6</b>	--	<b>7.9</b>	--	--	--	--	--	<b>6.2</b>	
BBgBarc US Treasury TR			-0.8	--	-0.7	--	8.0	--	5.2	--	3.8	--	6.3	Feb-18
Neuberger Berman - Gross <sup>+</sup>	497,592,352	4.3	-0.8	97	-0.6	99	7.9	29	5.2	30	4.4	1	6.5	Jun-88
Neuberger Berman - Net			-0.8	98	-0.6	99	7.9	30	5.1	31	4.4	1	6.4	
BBgBarc US Govt TR			-0.8	99	-0.6	99	7.9	29	5.2	30	3.8	55	5.9	Jun-88
eV US Government Fixed Inc Gross Median			0.0		0.5		6.4		4.8		3.9		--	Jun-88
<b>Global Fixed Income - Gross</b>	<b>289,470,056</b>	<b>2.5</b>	<b>10.6</b>	--	<b>14.6</b>	--	<b>12.2</b>	--	<b>5.4</b>	--	<b>7.0</b>	--	<b>4.0</b>	<b>May-13</b>
<b>Global Fixed Income - Net</b>			<b>10.6</b>	--	<b>14.4</b>	--	<b>11.7</b>	--	<b>5.0</b>	--	<b>6.6</b>	--	<b>3.6</b>	
Brandywine Custom <sup>1</sup>			4.1	--	6.7	--	8.8	--	4.7	--	5.2	--	2.4	May-13
Brandywine Global - Gross	289,470,056	2.5	10.6	6	14.6	10	12.2	21	5.4	55	7.0	30	4.0	May-13
Brandywine Global - Net			10.6	7	14.4	11	11.7	24	5.0	65	6.6	37	3.6	
Brandywine Custom			4.1	58	6.7	65	8.8	50	4.7	74	5.2	69	2.4	May-13
eV All Global Fixed Inc Gross Median			4.6		8.1		8.7		5.6		6.1		4.0	May-13
<b>Diversifying Absolute Return - Gross<sup>++**</sup></b>	<b>741,586,983</b>	<b>6.4</b>	<b>5.5</b>	--	<b>7.8</b>	--	<b>4.9</b>	--	<b>2.0</b>	--	<b>1.9</b>	--	<b>2.4</b>	<b>Nov-11</b>
<b>Diversifying Absolute Return - Net</b>			<b>5.4</b>	--	<b>7.7</b>	--	<b>4.9</b>	--	<b>1.9</b>	--	<b>1.9</b>	--	<b>2.4</b>	
HFRI FoF Conservative Index			5.8	--	8.6	--	6.4	--	3.9	--	4.5	--	4.7	Nov-11
AQR DELTA II - Gross	1,721,895	0.0	0.0	88	0.0	88	-20.3	96	-15.2	99	-8.2	98	-2.9	May-13
AQR DELTA II - Net			0.0	88	0.0	88	-20.3	96	-15.2	99	-8.2	98	-2.9	
HFRI FoF Conservative Index			5.8	57	8.6	57	6.4	51	3.9	48	4.5	58	4.7	May-13
eV Alt All Multi-Strategy Median			6.3		10.1		6.4		3.6		5.3		4.3	May-13

1. See Policy Index and Benchmark History.

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

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

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

# Total Fund Performance Summary

Period Ending: December 31, 2020

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Aristea Partners LP - Gross*	45,000,000	0.4	--	--	--	--	--	--	--	--	--	--	--	Dec-20
Aristea Partners LP - Net			--	--	--	--	--	--	--	--	--	--	--	
HFRI FoF Conservative Index			5.8	19	8.6	33	6.4	67	3.9	57	4.5	54	--	Dec-20
eV Alt Relative Value - Multi-Market Arbitrage Median			1.9		3.0		9.1		6.5		6.1		--	Dec-20
BlackRock Event Driven Equity Fund - Gross	47,837,156	0.4	4.1	71	6.7	69	--	--	--	--	--	--	7.6	Feb-20
BlackRock Event Driven Equity Fund - Net			3.7	72	5.9	70	--	--	--	--	--	--	6.3	
HFRI FoF Conservative Index			5.8	60	8.6	59	6.4	51	3.9	64	4.5	69	6.9	Feb-20
eV Alt All Event Driven Median			7.3		11.6		6.6		5.0		5.4		7.1	Feb-20
Davidson Kempner Instl Partners LP - Gross	50,172,209	0.4	5.0	63	9.6	53	7.2	48	--	--	--	--	6.2	Apr-19
Davidson Kempner Instl Partners LP - Net			5.0	63	9.6	53	7.2	48	--	--	--	--	6.2	
HFRI FoF Conservative Index			5.8	57	8.6	57	6.4	51	3.9	48	4.5	58	5.1	Apr-19
eV Alt All Multi-Strategy Median			6.3		10.1		6.4		3.6		5.3		5.8	Apr-19
Elliot Associates - Gross*	65,035,539	0.6	3.3	73	6.4	69	12.6	28	7.1	33	8.4	27	7.8	Apr-12
Elliot Associates - Net			3.3	73	6.4	69	12.6	28	7.1	33	8.4	27	7.8	
HFRI FoF Conservative Index			5.8	60	8.6	59	6.4	51	3.9	64	4.5	69	4.7	Apr-12
eV Alt All Event Driven Median			7.3		11.6		6.6		5.0		5.4		5.4	Apr-12
Graham Global Inv II - Gross	36,381,010	0.3	8.4	30	11.8	28	1.7	65	1.0	65	--	--	1.3	Feb-17
Graham Global Inv II - Net			8.4	30	11.8	28	1.7	65	1.0	65	--	--	1.3	
HFRI FoF Conservative Index			5.8	48	8.6	43	6.4	49	3.9	49	4.5	39	4.2	Feb-17
eV Alt All Managed Futures Median			5.1		6.9		5.8		3.7		3.5		3.1	Feb-17
Grosvenor SCARF Diversifying - Gross	213,434,912	1.9	5.7	71	9.6	71	10.1	61	4.4	74	2.2	93	2.6	Nov-11
Grosvenor SCARF Diversifying - Net			5.7	71	9.6	71	10.1	61	4.4	74	2.2	93	2.6	
HFRI FoF Conservative Index			5.8	70	8.6	77	6.4	80	3.9	78	4.5	64	4.7	Nov-11
eV Alt Fund of Funds - Multi-Strategy Median			7.4		12.4		13.0		6.4		5.8		6.1	Nov-11

\* Funded December 2020.

+ Preliminary quarterly returns as of 12/31/2020 (Market Values estimated based on preliminary performance numbers provided by the manager.)

# Total Fund Performance Summary

Period Ending: December 31, 2020

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Grosvenor SCARF B Diversifying - Gross	2,078,984	0.0	2.4	98	5.2	93	6.7	79	3.0	84	0.4	98	1.6	Jan-13
Grosvenor SCARF B Diversifying - Net			2.4	98	5.2	93	6.7	79	3.0	84	0.4	98	1.6	
HFRI FoF Conservative Index			5.8	70	8.6	77	6.4	80	3.9	78	4.5	64	4.7	Jan-13
eV Alt Fund of Funds - Multi-Strategy Median			7.4		12.4		13.0		6.4		5.8		5.6	Jan-13
KLS Diversified Fund - Gross	37,162,028	0.3	4.4	27	8.5	33	-7.6	95	--	--	--	--	-3.6	Dec-18
KLS Diversified Fund - Net			4.4	27	8.5	33	-7.6	95	--	--	--	--	-3.6	
HFRI FoF Conservative Index			5.8	19	8.6	33	6.4	67	3.9	57	4.5	54	6.4	Dec-18
eV Alt Relative Value - Multi-Market Arbitrage Median			1.9		3.0		9.1		6.5		6.1		7.4	Dec-18
Laurion Capital - Gross	62,902,458	0.5	9.8	28	6.8	66	31.8	1	13.5	2	8.9	14	9.0	Mar-14
Laurion Capital - Net			9.8	28	6.8	66	31.8	1	13.5	2	8.9	14	9.0	
HFRI FoF Conservative Index			5.8	48	8.6	61	6.4	71	3.9	68	4.5	79	4.6	Mar-14
eV Alt Relative Value - Equity Relative Value Median			4.2		8.9		8.0		7.2		5.8		6.3	Mar-14
LMR Fund LTD - Gross	43,238,606	0.4	5.8	56	11.5	45	-5.8	85	--	--	--	--	-3.4	Oct-19
LMR Fund LTD - Net			5.8	56	11.5	45	-5.8	85	--	--	--	--	-3.4	
HFRI FoF Conservative Index			5.8	57	8.6	57	6.4	51	3.9	48	4.5	58	6.8	Oct-19
eV Alt All Multi-Strategy Median			6.3		10.1		6.4		3.6		5.3		7.4	Oct-19
MW Global Opportunities Fund - Gross	50,573,610	0.4	9.2	63	14.1	62	18.7	42	--	--	--	--	12.4	Dec-18
MW Global Opportunities Fund - Net			9.2	63	14.1	62	18.7	42	--	--	--	--	12.4	
HFRI FoF Conservative Index			5.8	75	8.6	81	6.4	69	3.9	65	4.5	76	6.4	Dec-18
eV Alt Fundamental - Long/Short Equity Median			12.7		18.6		14.8		6.6		8.1		14.4	Dec-18
PSquared Event Driven Opp Fund - Gross	45,914,296	0.4	2.1	82	--	--	--	--	--	--	--	--	2.0	Jul-20
PSquared Event Driven Opp Fund - Net			2.1	82	--	--	--	--	--	--	--	--	2.0	
HFRI FoF Conservative Index			5.8	60	8.6	59	6.4	51	3.9	64	4.5	69	7.0	Jul-20
eV Alt All Event Driven Median			7.3		11.6		6.6		5.0		5.4		8.7	Jul-20
Two Sigma Risk Premia Enhanced - Gross	40,134,279	0.3	5.5	58	3.1	77	-11.2	90	--	--	--	--	-8.7	Sep-19
Two Sigma Risk Premia Enhanced - Net			5.5	58	3.1	77	-11.2	90	--	--	--	--	-8.7	
HFRI FoF Conservative Index			5.8	57	8.6	57	6.4	51	3.9	48	4.5	58	6.5	Sep-19
eV Alt All Multi-Strategy Median			6.3		10.1		6.4		3.6		5.3		7.3	Sep-19

# Total Fund Performance Summary

Period Ending: December 31, 2020

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Real Return (with SSgA RA Overlay Proxy) - Gross	1,797,517,328	15.6	3.2	--	5.2	--	-0.7	--	5.0	--	--	--	6.4	Mar-17
Real Return (with SSgA RA Overlay Proxy) - Net			3.1	--	5.1	--	-0.8	--	4.8	--	--	--	6.2	
Real Return Custom <sup>1</sup>			2.3	--	4.0	--	-0.9	--	3.0	--	--	--	3.8	Mar-17
Real Return Asset Category - Gross	1,797,517,328	15.6	3.2	--	5.2	--	-0.7	--	5.7	--	--	--	7.1	Mar-17
Real Return Asset Category - Net			3.1	--	5.1	--	-0.8	--	5.5	--	--	--	6.9	
Real Return Custom			2.3	--	4.0	--	-0.9	--	3.0	--	--	--	3.8	Mar-17
Real Estate - Gross	843,865,688	7.3	2.5	5	4.0	4	3.9	4	6.2	5	8.4	2	10.5	Jun-11
Real Estate - Net			2.5	5	3.8	4	3.7	4	5.8	8	8.0	4	9.7	
Real Estate Custom <sup>1</sup>			0.3	75	0.2	76	1.3	14	5.0	21	5.9	40	8.7	Jun-11
InvMetrics All DB Real Estate Priv Net Median			0.8		1.0		0.5		4.4		5.6		8.3	Jun-11
Core RE -Limited Partnership - Gross	634,903,570	5.5	2.5	--	4.1	--	3.7	--	7.3	--	8.7	--	5.2	Sep-08
Core RE -Limited Partnership - Net			2.4	--	3.9	--	3.4	--	7.0	--	8.4	--	4.6	
NFI-ODCE			1.3	--	1.8	--	1.2	--	4.9	--	6.2	--	5.2	Sep-08
Brookfield Premier RE Partners - Gross*	104,013,122	0.9	2.3	--	1.6	--	2.1	--	--	--	--	--	5.5	Sep-18
Brookfield Premier RE Partners - Net			2.3	--	1.6	--	2.1	--	--	--	--	--	5.5	
NFI-ODCE			1.3	--	1.8	--	1.2	--	4.9	--	6.2	--	3.7	Sep-18
Clarion Lion Properties - Gross	116,777,244	1.0	2.0	--	2.7	--	2.2	--	--	--	--	--	5.1	Sep-18
Clarion Lion Properties - Net			1.8	--	2.3	--	1.4	--	--	--	--	--	4.3	
NFI-ODCE			1.3	--	1.8	--	1.2	--	4.9	--	6.2	--	3.7	Sep-18
Metlife Core Property - Gross	64,169,755	0.6	1.4	--	1.1	--	1.0	--	5.7	--	6.9	--	9.7	Dec-13
Metlife Core Property - Net			1.3	--	0.8	--	0.5	--	5.2	--	6.4	--	9.2	
NFI-ODCE			1.3	--	1.8	--	1.2	--	4.9	--	6.2	--	8.3	Dec-13
Prime Property - Gross	34,504,882	0.3	1.7	--	3.0	--	2.1	--	6.1	--	7.7	--	10.1	Sep-13
Prime Property - Net			1.5	--	2.6	--	1.3	--	5.1	--	6.6	--	9.0	
NFI-ODCE			1.3	--	1.8	--	1.2	--	4.9	--	6.2	--	8.5	Sep-13

1. See Policy Index and Benchmark History.

\* Preliminary quarterly returns as of 12/31/2020 (Market Values estimated based on preliminary performance numbers provided by the manager.)

# Total Fund Performance Summary

Period Ending: December 31, 2020

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Principal US Property - Gross	48,855,912	0.4	1.7	--	1.7	--	0.6	--	4.9	--	6.3	--	6.7	Oct-15
Principal US Property - Net			1.7	--	1.7	--	0.6	--	4.9	--	6.3	--	6.7	
NFI-ODCE			1.3	--	1.8	--	1.2	--	4.9	--	6.2	--	6.7	Oct-15
Prologis Targeted Euro Logistics - Gross*	61,902,865	0.5	5.8	--	14.2	--	14.9	--	12.4	--	13.4	--	12.9	Oct-15
Prologis Targeted Euro Logistics - Net			5.8	--	14.2	--	14.9	--	12.4	--	13.4	--	12.9	
NFI-ODCE			1.3	--	1.8	--	1.2	--	4.9	--	6.2	--	6.7	Oct-15
Prologis Targeted US Logistics - Gross*	84,284,326	0.7	6.8	--	11.6	--	10.7	--	14.1	--	15.4	--	15.8	Jul-15
Prologis Targeted US Logistics - Net			6.8	--	11.6	--	10.7	--	14.1	--	15.4	--	15.8	
NFI-ODCE			1.3	--	1.8	--	1.2	--	4.9	--	6.2	--	7.1	Jul-15
Townsend Real Estate - Gross*	120,395,464	1.0	0.0	--	1.2	--	0.3	--	5.4	--	--	--	7.3	Mar-16
Townsend Real Estate - Net			0.0	--	1.2	--	0.3	--	5.4	--	--	--	7.3	
NFI-ODCE			1.3	--	1.8	--	1.2	--	4.9	--	6.2	--	6.1	Mar-16
Non-Core RE -Opportunistic - Gross***	152,236,824	1.3	3.8	--	4.3	--	2.7	--	0.8	--	7.8	--	17.5	Feb-14
Non-Core RE -Opportunistic - Net			3.8	--	4.3	--	2.7	--	0.8	--	7.5	--	16.8	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.3	--	8.5	Feb-14
Carlyle China Realty - Gross	8,188,158	0.1	5.1	--	4.7	--	5.5	--	3.5	--	--	--	-2.5	Jun-17
Carlyle China Realty - Net			5.1	--	4.7	--	5.5	--	3.5	--	--	--	-2.5	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.3	--	5.0	Jun-17
Carlyle China Rome Logistics - Gross	36,325,307	0.3	5.4	--	5.2	--	-2.3	--	1.1	--	--	--	-1.9	Jun-17
Carlyle China Rome Logistics - Net			5.4	--	5.2	--	-2.3	--	1.1	--	--	--	-1.9	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.3	--	5.0	Jun-17
CIM Opportunity VIII - Gross	33,172,434	0.3	-3.0	--	-10.3	--	-16.7	--	-1.8	--	1.8	--	2.1	Feb-15
CIM Opportunity VIII - Net			-3.0	--	-10.3	--	-16.7	--	-1.8	--	1.3	--	1.1	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.3	--	7.9	Feb-15

\* Preliminary quarterly returns as of 12/31/2020. (Returns are not available at reporting period.)

++ Returns are one-quarter lag.

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

Total Fund  
Performance Summary

Period Ending: December 31, 2020

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Kohlberg Kravis Roberts - Gross	2,701,990	0.0	-8.9	--	-19.0	--	-33.1	--	-32.9	--	-12.8	--	1.4	Feb-14
Kohlberg Kravis Roberts - Net			-8.9	--	-19.0	--	-33.1	--	-32.9	--	-12.8	--	1.2	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.3	--	8.5	Feb-14
NREP Nordic Strat FCP-FIS - Gross	1,395,678	0.0	10.8	--	19.9	--	49.6	--	16.1	--	21.4	--	21.9	Dec-14
NREP Nordic Strat FCP-FIS - Net			10.8	--	19.9	--	49.6	--	16.1	--	21.4	--	21.9	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.3	--	7.7	Dec-14
NREP Nordic Strat II - Gross	30,899,335	0.3	8.7	--	15.4	--	20.4	--	18.7	--	--	--	15.0	Jun-16
NREP Nordic Strat II - Net			8.7	--	15.4	--	20.4	--	18.7	--	--	--	15.0	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.3	--	5.8	Jun-16
NREP Nordic Strat III - Gross	23,096,609	0.2	7.5	--	18.6	--	33.2	--	--	--	--	--	0.6	Jul-18
NREP Nordic Strat III - Net			7.5	--	18.6	--	33.2	--	--	--	--	--	0.6	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.3	--	3.9	Jul-18
NREP Nordic Strat IV - Gross**	1,773,773	0.0	0.2	--	--	--	--	--	--	--	--	--	0.2	Jul-20
NREP Nordic Strat IV - Net			0.2	--	--	--	--	--	--	--	--	--	0.2	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.3	--	-2.8	Jul-20
Sculptor Real Estate Fund III - Gross	11,687,959	0.1	4.1	--	7.1	--	8.2	--	16.9	--	17.7	--	7.6	Sep-14
Sculptor Real Estate Fund III - Net			4.1	--	7.1	--	8.2	--	16.9	--	16.2	--	4.3	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.3	--	7.9	Sep-14
Sculptor Real Estate Fund IV - Gross	2,995,581	0.0	-5.6	--	-19.8	--	--	--	--	--	--	--	-19.8	Jun-20
Sculptor Real Estate Fund IV - Net			-5.6	--	-19.8	--	--	--	--	--	--	--	-19.8	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.3	--	-2.8	Jun-20
<b>Core RE -Value Added - Gross***</b>	<b>56,725,295</b>	<b>0.5</b>	<b>-0.1</b>	<b>--</b>	<b>2.1</b>	<b>--</b>	<b>13.6</b>	<b>--</b>	<b>9.7</b>	<b>--</b>	<b>10.1</b>	<b>--</b>	<b>0.0</b>	<b>Sep-08</b>
<b>Non-Core RE -Value Added - Net</b>			<b>-0.1</b>	<b>--</b>	<b>2.1</b>	<b>--</b>	<b>13.6</b>	<b>--</b>	<b>9.7</b>	<b>--</b>	<b>9.9</b>	<b>--</b>	<b>-1.1</b>	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.4	--	7.1	Sep-08

\*\* Preliminary quarterly returns as of 12/31/2020. (Returns are not available at reporting period.)

++ Returns are one-quarter lag.

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

# Total Fund Performance Summary

Period Ending: December 31, 2020

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date	
Asana Partners Fund II - Gross*	9,641,483	0.1	-3.6	--	-9.0	--	-44.1	--	--	--	--	--	--	--	Apr-19
Asana Partners Fund II - Net			-3.6	--	-9.0	--	-44.1	--	--	--	--	--	--	--	
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.4	--	2.1	Apr-19	
ECE Euro Prime Shopping II - Gross	35,437,756	0.3	-1.5	--	1.5	--	5.7	--	5.6	--	12.8	--	11.7	Jul-15	
ECE Euro Prime Shopping II - Net			-1.5	--	1.5	--	5.7	--	5.6	--	11.8	--	10.9		
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.4	--	7.3	Jul-15	
European RE Debt II - Gross	6,791,912	0.1	5.6	--	7.9	--	8.5	--	6.5	--	6.0	--	5.3	Nov-13	
European RE Debt II - Net			5.6	--	7.9	--	8.5	--	6.5	--	6.0	--	5.3		
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.4	--	8.9	Nov-13	
Hammes II - Gross**	-304,001	0.0	1.9	--	6.1	--	152.5	--	58.4	--	38.7	--	38.1	Jul-15	
Hammes II - Net			1.9	--	6.1	--	152.5	--	58.4	--	36.9	--	35.7		
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.4	--	7.3	Jul-15	
Hammes III - Gross	5,158,145	0.0	3.5	--	4.0	--	4.1	--	--	--	--	--	-25.6	Oct-18	
Hammes III - Net			3.5	--	4.0	--	4.1	--	--	--	--	--	-25.6		
NFI-ODCE net +1% 1Q Lag			-1.7	--	-2.8	--	1.5	--	5.3	--	6.4	--	3.4	Oct-18	
<b>Private Real Assets - Gross***</b>	<b>574,523,152</b>	<b>5.0</b>	<b>1.5</b>	<b>--</b>	<b>4.2</b>	<b>--</b>	<b>-7.7</b>	<b>--</b>	<b>4.7</b>	<b>--</b>	<b>8.6</b>	<b>--</b>	<b>3.6</b>	<b>Jan-13</b>	
<b>Private Real Assets - Net</b>			<b>1.5</b>	<b>--</b>	<b>4.2</b>	<b>--</b>	<b>-7.7</b>	<b>--</b>	<b>4.7</b>	<b>--</b>	<b>8.6</b>	<b>--</b>	<b>3.6</b>		
Private Real Assets Custom <sup>1</sup>			2.4	--	5.5	--	-4.3	--	1.7	--	4.0	--	4.7	Jan-13	
CPI-U Headline +5%			2.1	--	4.3	--	6.4	--	6.9	--	6.9	--	6.5	Jan-13	
ACM II - Gross	17,428,329	0.2	-0.5	--	-4.6	--	-11.1	--	-6.6	--	--	--	-7.0	Sep-16	
ACM II - Net			-0.5	--	-4.6	--	-11.1	--	-6.6	--	--	--	-7.0		
NCREIF Farmland 1 Qtr Lag			1.0	--	1.6	--	3.8	--	5.3	--	6.1	--	5.5	Sep-16	

1. See Policy and Benchmark History .

\* Unable to calculate a since inception and 1-Year return due to system limitations when account experienced 2 quarter of negative fund value in 2019.

\*\* Liquidating.

++ Returns are one-quarter lag.

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

**Total Fund  
Performance Summary**

**Period Ending: December 31, 2020**

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
ArcLight Energy VI - Gross	26,050,885	0.2	-1.9	--	3.6	--	-26.1	--	-2.5	--	0.4	--	0.3	Aug-15
ArcLight Energy VI - Net			-1.9	--	3.6	--	-26.1	--	-2.5	--	0.4	--	0.3	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	11.2	Aug-15
Atalaya SMA - Gross	17,811,913	0.2	3.6	--	5.9	--	8.6	--	11.4	--	9.3	--	9.2	May-15
Atalaya SMA - Net			3.6	--	5.9	--	8.6	--	11.4	--	9.3	--	9.2	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	10.3	May-15
Brookfield Infra III - Gross	30,615,162	0.3	3.0	--	5.4	--	4.2	--	9.5	--	--	--	10.8	May-16
Brookfield Infra III - Net			3.0	--	5.4	--	4.2	--	9.5	--	--	--	10.8	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	10.8	May-16
Brookfield Infra IV - Gross	19,071,251	0.2	8.9	--	13.3	--	5.1	--	--	--	--	--	3.6	Sep-19
Brookfield Infra IV - Net			8.9	--	13.3	--	5.1	--	--	--	--	--	3.6	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	6.0	Sep-19
Carlyle Power II - Gross	28,575,719	0.2	4.8	--	10.6	--	-2.3	--	11.8	--	1.1	--	1.1	Oct-15
Carlyle Power II - Net			4.8	--	10.6	--	-2.3	--	11.8	--	1.1	--	1.1	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	10.5	Oct-15
EnCap Energy IX - Gross	8,521,216	0.1	-4.5	--	4.9	--	-52.8	--	-24.3	--	-6.3	--	-10.8	Jan-13
EnCap Energy IX - Net			-4.5	--	4.9	--	-52.8	--	-24.3	--	-6.3	--	-10.8	
Cambridge Associates Private Energy 1 Qtr Lag			1.2	--	5.2	--	-20.9	--	-8.0	--	-2.9	--	-2.5	Jan-13
EnCap Energy X - Gross	25,594,180	0.2	-0.4	--	8.7	--	-30.1	--	-7.7	--	-2.6	--	-6.4	Apr-15
EnCap Energy X - Net			-0.4	--	8.7	--	-30.1	--	-7.7	--	-2.6	--	-6.4	
Cambridge Associates Private Energy 1 Qtr Lag			1.2	--	5.2	--	-20.9	--	-8.0	--	-2.9	--	-4.8	Apr-15
EnCap Flatrock Midstream III - Gross	15,446,966	0.1	-3.4	--	0.4	--	-15.4	--	1.8	--	16.9	--	4.1	Jul-14
EnCap Flatrock Midstream III - Net			-3.4	--	0.4	--	-15.4	--	1.8	--	16.9	--	4.1	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	9.6	Jul-14
EnCap Flatrock Midstream IV - Gross	9,277,670	0.1	-1.2	--	3.8	--	-4.7	--	--	--	--	--	-1.7	Feb-18
EnCap Flatrock Midstream IV - Net			-1.2	--	3.8	--	-4.7	--	--	--	--	--	-1.7	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	8.7	Feb-18

# Total Fund Performance Summary

Period Ending: December 31, 2020

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
EQT Infrastructure Fund IV - Gross	20,977,064	0.2	-1.1	--	7.1	--	9.8	--	--	--	--	--	-14.2	Jun-19
EQT Infrastructure Fund IV - Net			-1.1	--	7.1	--	9.8	--	--	--	--	--	-14.2	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	6.6	Jun-19
First Reserve - Gross	21,756,836	0.2	3.5	--	4.3	--	-0.7	--	8.4	--	19.8	--	0.2	Dec-14
First Reserve - Net			3.5	--	4.3	--	-0.7	--	8.4	--	19.8	--	0.2	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	9.8	Dec-14
IFM Global Infrastructure US LP - Gross	127,360,868	1.1	1.9	--	3.0	--	4.1	--	11.9	--	--	--	11.0	Apr-17
IFM Global Infrastructure US LP - Net			1.9	--	3.0	--	4.1	--	11.9	--	--	--	11.0	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	10.8	Apr-17
ISQ Global Infrastructure Fund II - Gross	34,103,326	0.3	5.5	--	6.3	--	10.7	--	--	--	--	--	11.2	Oct-18
ISQ Global Infrastructure Fund II - Net			5.5	--	6.3	--	10.7	--	--	--	--	--	11.2	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	7.9	Oct-18
Meridiam Infra N America III - Gross	2,506,432	0.0	-9.2	--	-18.1	--	-44.1	--	-81.6	--	--	--	-82.7	Sep-17
Meridiam Infra N America III - Net			-9.2	--	-18.1	--	-44.1	--	-81.6	--	--	--	-82.7	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	9.1	Sep-17
NGP Royalty Partners - Gross	6,462,853	0.1	-12.3	--	--	--	--	--	--	--	--	--	-12.3	Aug-20
NGP Royalty Partners - Net			-12.3	--	--	--	--	--	--	--	--	--	-12.3	
Cambridge Associates Private Energy 1 Qtr Lag			1.2	--	5.2	--	-20.9	--	-8.0	--	-2.9	--	5.2	Aug-20
Paine Schwartz Food Chain V - Gross	5,549,896	0.0	11.4	--	8.1	--	--	--	--	--	--	--	-20.8	Jan-20
Paine Schwartz Food Chain V - Net			11.4	--	8.1	--	--	--	--	--	--	--	-20.8	
NCREIF Farmland 1 Qtr Lag			1.0	--	1.6	--	3.8	--	5.3	--	6.1	--	3.8	Jan-20
Pantheon Ventures - Gross	64,443,354	0.6	2.9	--	4.6	--	-4.9	--	4.1	--	7.6	--	16.6	Jul-14
Pantheon Ventures - Net			2.9	--	4.6	--	-4.9	--	4.1	--	7.6	--	16.6	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	9.6	Jul-14
Quantum Energy VI - Gross	28,190,152	0.2	-0.2	--	11.9	--	-17.5	--	11.6	--	21.1	--	16.9	Nov-14
Quantum Energy VI - Net			-0.2	--	11.9	--	-17.5	--	11.6	--	21.1	--	16.9	
Cambridge Associates Private Energy 1 Qtr Lag			1.2	--	5.2	--	-20.9	--	-8.0	--	-2.9	--	-6.7	Nov-14

# Total Fund Performance Summary

Period Ending: December 31, 2020

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Quantum Energy VII - Gross	19,235,218	0.2	-1.0	--	15.7	--	-19.0	--	-4.0	--	--	--	-7.1	Aug-17
Quantum Energy VII - Net			-1.0	--	15.7	--	-19.0	--	-4.0	--	--	--	-7.1	
Cambridge Associates Private Energy 1 Qtr Lag			1.2	--	5.2	--	-20.9	--	-8.0	--	-2.9	--	-6.9	Aug-17
Tailwater Energy Fund III - Gross	21,844,097	0.2	-4.4	--	-0.6	--	-14.4	--	--	--	--	--	-6.5	Sep-18
Tailwater Energy Fund III - Net			-4.4	--	-0.6	--	-14.4	--	--	--	--	--	-6.5	
Cambridge Associates Private Energy 1 Qtr Lag			1.2	--	5.2	--	-20.9	--	-8.0	--	-2.9	--	-13.7	Sep-18
Tailwater Energy IV - Gross	4,320,818	0.0	10.7	--	5.1	--	-35.6	--	--	--	--	--	-31.4	Oct-19
Tailwater Energy IV - Net			10.7	--	5.1	--	-35.6	--	--	--	--	--	-31.4	
Cambridge Associates Private Energy 1 Qtr Lag			1.2	--	5.2	--	-20.9	--	-8.0	--	-2.9	--	-20.9	Oct-19
Wastewater Opportunity - Gross	19,378,947	0.2	-0.6	--	-17.5	--	-13.6	--	-4.3	--	-21.0	--	-21.0	Dec-15
Wastewater Opportunity - Net			-0.6	--	-17.5	--	-13.6	--	-4.3	--	-21.0	--	-21.0	
Cambridge Associates Private Infrastructure 1 Qtr Lag			4.2	--	7.8	--	6.4	--	8.2	--	10.5	--	10.5	Dec-15
Liquid Real Return - Gross	379,128,488	3.3	8.9	--	11.9	--	2.5	--	--	--	--	--	3.8	Jun-19
Liquid Real Return - Net			8.8	--	11.7	--	2.1	--	--	--	--	--	3.4	
SSgA Real Asset <sup>1</sup>			9.2	--	12.1	--	1.0	--	2.7	--	5.9	--	2.9	Jun-19
Brookfield Liquid Real Return - Gross	103,849,105	0.9	8.3	--	11.1	--	2.7	--	--	--	--	--	4.4	Nov-19
Brookfield Liquid Real Return - Net			8.2	--	10.8	--	2.0	--	--	--	--	--	3.8	
Brookfield Real Return Custom			7.5	--	10.9	--	2.4	--	--	--	--	--	4.1	Nov-19
SSgA Passive Real Return Proxy - Gross	275,279,383	2.4	9.2	--	12.1	--	1.8	--	2.9	--	6.1	--	1.8	Jan-08
SSgA Passive Real Return Proxy - Net			9.2	--	12.0	--	1.5	--	2.6	--	5.8	--	1.6	
SSgA Real Asset			9.2	--	12.1	--	1.0	--	2.7	--	5.9	--	--	Jan-08
Opportunities Asset Category - Gross <sup>**</sup>	5,366,068	0.0	3.5	--	2.2	--	0.1	--	3.2	--	4.9	--	13.8	Oct-07
Opportunities Asset Category - Net			3.5	--	2.2	--	0.1	--	3.2	--	4.9	--	13.8	
Policy Index			8.7	--	14.3	--	10.7	--	7.8	--	9.2	--	8.1	Oct-07

1. See Policy and Benchmark History.

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

\*\* Returns are one-quarter lag.

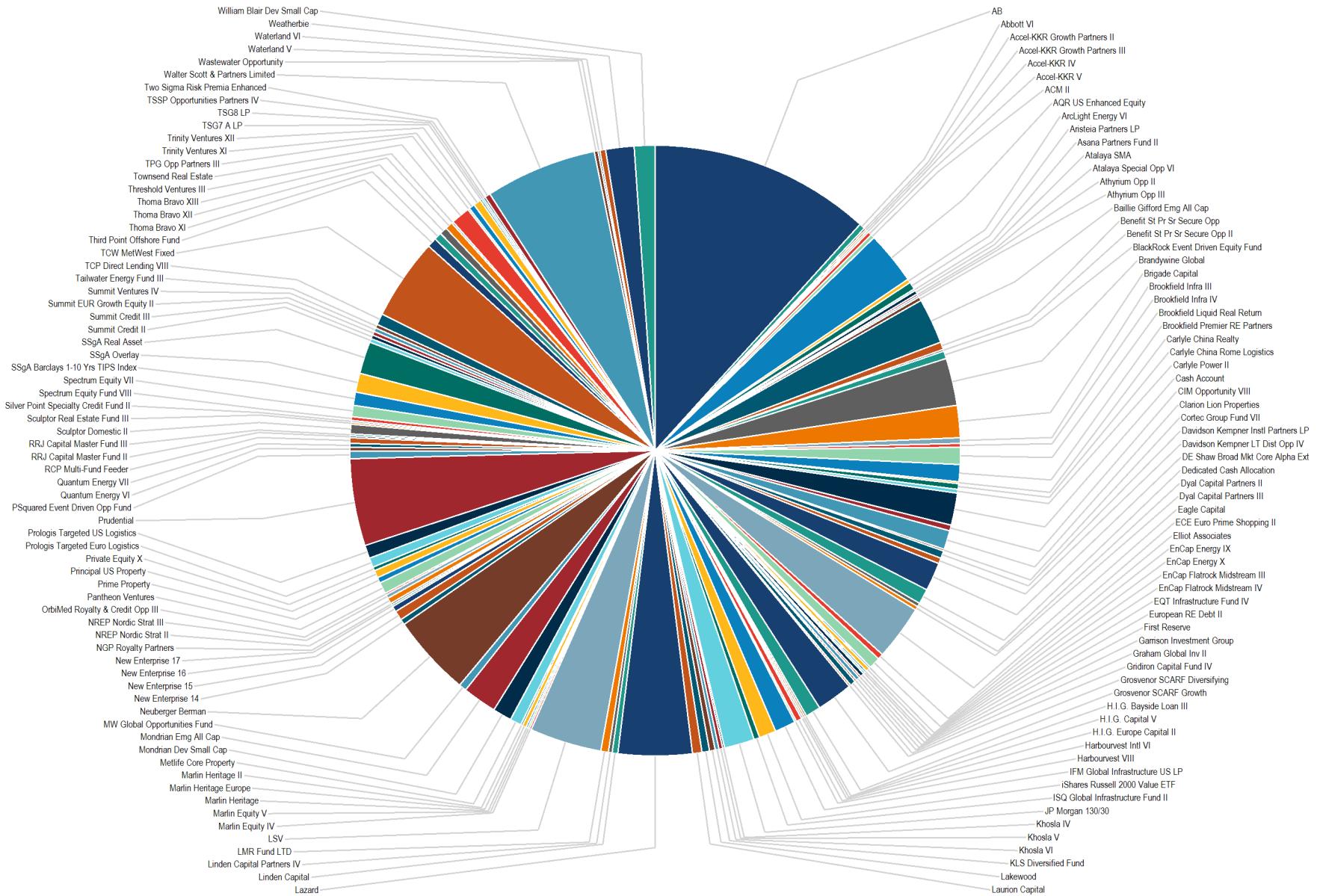
Total Fund  
Performance Summary

Period Ending: December 31, 2020

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Atalaya Special Opportunities V - Gross	5,366,068	0.0	3.5	--	2.2	--	0.1	--	3.2	--	4.7	--	4.9	Jul-13
Atalaya Special Opportunities V - Net			3.5	--	2.2	--	0.1	--	3.2	--	4.7	--	4.9	
Thomson Reuters C A All PE 1 Qtr Lag			9.7	--	19.5	--	13.9	--	12.8	--	14.3	--	13.9	Jul-13
<b>Cash - Gross</b>	<b>287,498,430</b>	<b>2.5</b>	<b>0.1</b>	<b>--</b>	<b>0.6</b>	<b>--</b>	<b>1.5</b>	<b>--</b>	<b>1.8</b>	<b>--</b>	<b>1.9</b>	<b>--</b>	<b>3.1</b>	<b>Jun-92</b>
<b>Cash - Net</b>			<b>0.1</b>	<b>--</b>	<b>0.6</b>	<b>--</b>	<b>1.5</b>	<b>--</b>	<b>1.8</b>	<b>--</b>	<b>1.9</b>	<b>--</b>		
91 Day T-Bills			0.0	--	0.0	--	0.5	--	1.5	--	1.1	--	2.4	Jun-92
Cash Account - Gross	191,189,978	1.7	0.1	--	0.7	--	2.0	--	2.0	--	2.1	--	3.2	Jun-92
Cash Account - Net			0.1	--	0.7	--	2.0	--	2.0	--	2.1	--	--	
91 Day T-Bills			0.0	--	0.0	--	0.5	--	1.5	--	1.1	--	2.4	Jun-92
Dedicated Cash Allocation - Gross	96,308,452	0.8	0.0	--	0.0	--	0.8	--	--	--	--	--	0.9	Jun-19
Dedicated Cash Allocation - Net			0.0	--	0.0	--	0.8	--	--	--	--	--	0.9	
ICE LIBOR Spot/Next Overnight USD			0.0	--	0.0	--	0.4	--	1.5	--	1.2	--	0.9	Jun-19

# Total Fund Manager Allocation Analysis

Period Ending: December 31, 2020



Total Fund  
Manager Allocation Analysis

Period Ending: December 31, 2020

	Current	%
AB	\$1,347,716,086	11.7%
AQR US Enhanced Equity	\$317,203,023	2.8%
JP Morgan 130/30	\$187,040,620	1.6%
DE Shaw Broad Mkt Core Alpha Ext	\$168,835,537	1.5%
Eagle Capital	\$330,642,640	2.9%
Huber Capital	\$20,264	0.0%
Weatherbie	\$175,110,501	1.5%
iShares Russell 2000 Value ETF	\$100,076,607	0.9%
Lazard	\$448,226,800	3.9%
Walter Scott & Partners Limited	\$677,478,682	5.9%
LSV	\$435,334,803	3.8%
Mondrian Dev Small Cap	\$115,856,063	1.0%
William Blair Dev Small Cap	\$124,401,887	1.1%
Baillie Gifford Emg All Cap	\$277,851,770	2.4%
Mondrian Emg All Cap	\$212,551,156	1.8%
CBRE Clarion	\$5,454	0.0%
Abbott VI	\$37,559,664	0.3%
Accel-KKR IV	\$14,078,068	0.1%
Accel-KKR V	\$18,231,233	0.2%
Accel-KKR Growth Partners II	\$10,252,643	0.1%
Accel-KKR Growth Partners III	\$10,236,825	0.1%
Atalaya Special Opp VI	\$12,129,523	0.1%
Canvas Ventures III	\$949,398	0.0%
Cortec Group Fund VII	\$9,253,760	0.1%
Davidson Kempner LT Dist Opp IV	\$32,595,619	0.3%
Davidson Kempner LT Dist Opp V	\$5,309,675	0.0%
Dyal Capital Partners II	\$21,747,698	0.2%
Dyal Capital Partners III	\$19,596,033	0.2%

**Total Fund  
Manager Allocation Analysis**

**Period Ending: December 31, 2020**

	Current	%
Garrison Investment Group	\$10,213,627	0.1%
Gridiron Capital Fund IV	\$15,904,788	0.1%
Harbourvest VIII	\$9,994,140	0.1%
Harbourvest Intl VI	\$31,196,811	0.3%
H.I.G. Bayside Loan III	\$6,590,337	0.1%
H.I.G. Capital V	\$15,699,895	0.1%
H.I.G. Europe Capital II	\$12,121,532	0.1%
Khosla IV	\$14,364,611	0.1%
Khosla V	\$25,994,013	0.2%
Khosla VI	\$21,895,243	0.2%
Linden Capital	\$35,855,750	0.3%
Linden Capital Partners IV	\$23,607,249	0.2%
Marlin Equity IV	\$15,355,874	0.1%
Marlin Equity V	\$14,926,649	0.1%
Marlin Heritage	\$8,279,945	0.1%
Marlin Heritage II	\$9,316,592	0.1%
Marlin Heritage Europe	\$19,300,183	0.2%
New Enterprise 14	\$28,864,276	0.3%
New Enterprise 15	\$54,214,581	0.5%
New Enterprise 16	\$35,102,220	0.3%
New Enterprise 17	\$9,642,352	0.1%
OrbiMed Private Investments VIII, LP	\$750,000	0.0%
Private Equity X	\$21,546,799	0.2%
RCP Multi-Fund Feeder	\$31,438,295	0.3%
RRJ Capital Master Fund II	\$11,723,551	0.1%
RRJ Capital Master Fund III	\$10,476,641	0.1%
Shamrock Capital II	\$1,558,864	0.0%
Spectrum Equity VII	\$67,506,943	0.6%

**Total Fund  
Manager Allocation Analysis**

**Period Ending: December 31, 2020**

	Current	%
Spectrum Equity Fund VIII	\$21,432,842	0.2%
Spectrum Equity Fund IX	\$1,449,357	0.0%
Summit EUR Growth Equity II	\$23,414,960	0.2%
Summit Ventures III	\$3,386,338	0.0%
Summit Ventures IV	\$28,680,250	0.2%
Thoma Bravo XI	\$47,399,946	0.4%
Thoma Bravo XII	\$40,799,519	0.4%
Thoma Bravo XIII	\$40,438,095	0.4%
Threshold Ventures III	\$6,227,339	0.1%
TPG Opp Partners III	\$14,958,867	0.1%
Trinity Ventures XI	\$35,450,186	0.3%
Trinity Ventures XII	\$44,876,816	0.4%
TSG7 A LP	\$16,821,879	0.1%
TSG7 B LP	\$3,025,336	0.0%
TSG8 LP	\$6,307,628	0.1%
TSSP Opportunities Partners IV	\$13,114,517	0.1%
Waterland V	\$13,573,549	0.1%
Waterland VI	\$32,691,510	0.3%
Wayzata Opportunities III	\$5,181,833	0.0%
Wynnchurch Capital Partners V	\$2,258,826	0.0%
Brigade Capital	\$196,649,479	1.7%
Athyrium Opp II	\$16,430,381	0.1%
Athyrium Opp III	\$19,949,008	0.2%
Benefit St Pr Sr Secure Opp	\$43,041,471	0.4%
Benefit St Pr Sr Secure Opp II	\$9,124,475	0.1%
MCP Private Capital IV	\$1,887,494	0.0%
OrbiMed Royalty & Credit Opp III	\$10,770,241	0.1%
Silver Point Specialty Credit Fund II	\$11,075,853	0.1%

Total Fund  
Manager Allocation Analysis

Period Ending: December 31, 2020

	Current	%
Summit Credit	\$510,776	0.0%
Summit Credit II	\$23,398,656	0.2%
Summit Credit III	\$17,852,638	0.2%
TCP Direct Lending VIII	\$68,160,215	0.6%
Grosvenor SCARF Growth	\$91,066,911	0.8%
Lakewood	\$44,787,025	0.4%
Sculptor Domestic II	\$62,861,633	0.5%
Third Point Offshore Fund	\$63,225,204	0.5%
Prudential	\$528,964,273	4.6%
TCW MetWest Fixed	\$489,753,674	4.3%
Neuberger Berman	\$497,592,352	4.3%
Brandywine Global	\$289,470,056	2.5%
AQR DELTA II	\$1,721,895	0.0%
Aristeia Partners LP	\$45,000,000	0.4%
BlackRock Event Driven Equity Fund	\$47,837,156	0.4%
Davidson Kempner Instl Partners LP	\$50,172,209	0.4%
Elliot Associates	\$65,035,539	0.6%
Graham Global Inv II	\$36,381,010	0.3%
Grosvenor SCARF Diversifying	\$213,434,912	1.9%
Grosvenor SCARF B Diversifying	\$2,078,984	0.0%
KLS Diversified Fund	\$37,162,028	0.3%
Laurion Capital	\$62,902,458	0.5%
LMR Fund LTD	\$43,238,606	0.4%
MW Global Opportunities Fund	\$50,573,610	0.4%
PSquared Event Driven Opp Fund	\$45,914,296	0.4%
Two Sigma Risk Premia Enhanced	\$40,134,279	0.3%
Brookfield Premier RE Partners	\$104,013,122	0.9%
Clarion Lion Properties	\$116,777,244	1.0%

Total Fund  
Manager Allocation Analysis

Period Ending: December 31, 2020

	Current	%
Metlife Core Property	\$64,169,755	0.6%
Prime Property	\$34,504,882	0.3%
Principal US Property	\$48,855,912	0.4%
Prologis Targeted Euro Logistics	\$61,902,865	0.5%
Prologis Targeted US Logistics	\$84,284,326	0.7%
Townsend Real Estate	\$120,395,464	1.0%
Carlyle China Realty	\$8,188,158	0.1%
Carlyle China Rome Logistics	\$36,325,307	0.3%
CIM Opportunity VIII	\$33,172,434	0.3%
Kohlberg Kravis Roberts	\$2,701,990	0.0%
NREP Nordic Strat FCP-FIS	\$1,395,678	0.0%
NREP Nordic Strat II	\$30,899,335	0.3%
NREP Nordic Strat III	\$23,096,609	0.2%
NREP Nordic Strat IV	\$1,773,773	0.0%
Sculptor Real Estate Fund III	\$11,687,959	0.1%
Sculptor Real Estate Fund IV	\$2,995,581	0.0%
Asana Partners Fund II	\$9,641,483	0.1%
ECE Euro Prime Shopping II	\$35,437,756	0.3%
European RE Debt II	\$6,791,912	0.1%
Hammes II	-\$304,001	0.0%
Hammes III	\$5,158,145	0.0%
ACM II	\$17,428,329	0.2%
ArcLight Energy VI	\$26,050,885	0.2%
Atalaya SMA	\$17,811,913	0.2%
Brookfield Infra III	\$30,615,162	0.3%
Brookfield Infra IV	\$19,071,251	0.2%
Carlyle Power II	\$28,575,719	0.2%
EnCap Energy IX	\$8,521,216	0.1%

Total Fund  
Manager Allocation Analysis

Period Ending: December 31, 2020

	Current	%
EnCap Energy X	\$25,594,180	0.2%
EnCap Flatrock Midstream III	\$15,446,966	0.1%
EnCap Flatrock Midstream IV	\$9,277,670	0.1%
EQT Infrastructure Fund IV	\$20,977,064	0.2%
First Reserve	\$21,756,836	0.2%
IFM Global Infrastructure US LP	\$127,360,868	1.1%
ISQ Global Infrastructure Fund II	\$34,103,326	0.3%
Meridiam Infra N America III	\$2,506,432	0.0%
NGP Royalty Partners	\$6,462,853	0.1%
Paine Schwartz Food Chain V	\$5,549,896	0.0%
Pantheon Ventures	\$64,443,354	0.6%
Quantum Energy VI	\$28,190,152	0.2%
Quantum Energy VII	\$19,235,218	0.2%
Tailwater Energy Fund III	\$21,844,097	0.2%
Tailwater Energy IV	\$4,320,818	0.0%
Wastewater Opportunity	\$19,378,947	0.2%
Brookfield Liquid Real Return	\$103,849,105	0.9%
SSgA Barclays 1-10 Yrs TIPS Index	\$82,489,221	0.7%
SSgA Real Asset	\$192,790,162	1.7%
Atalaya Special Opportunities V	\$5,366,068	0.0%
Cash Account	\$191,189,978	1.7%
Dedicated Cash Allocation	\$96,308,452	0.8%
Transition Account	\$0	0.0%
Heitman Adv JMB V	\$8,390	0.0%
SSgA Overlay	\$113,664,961	1.0%
<b>Total</b>	<b>\$11,507,437,362</b>	<b>100.0%</b>

Total Fund  
Risk vs. Return

Period Ending: December 31, 2020

**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	9.4%	16	8.8%	13	0.9	1	0.7	13	2.4%	83
Policy Index	7.8%	51	8.3%	6	0.8	15	--	--	0.0%	1
Total Fund ex Overlay	9.0%	22	8.7%	10	0.9	6	0.5	20	2.5%	84
Policy Index	7.8%	51	8.3%	6	0.8	15	--	--	0.0%	1

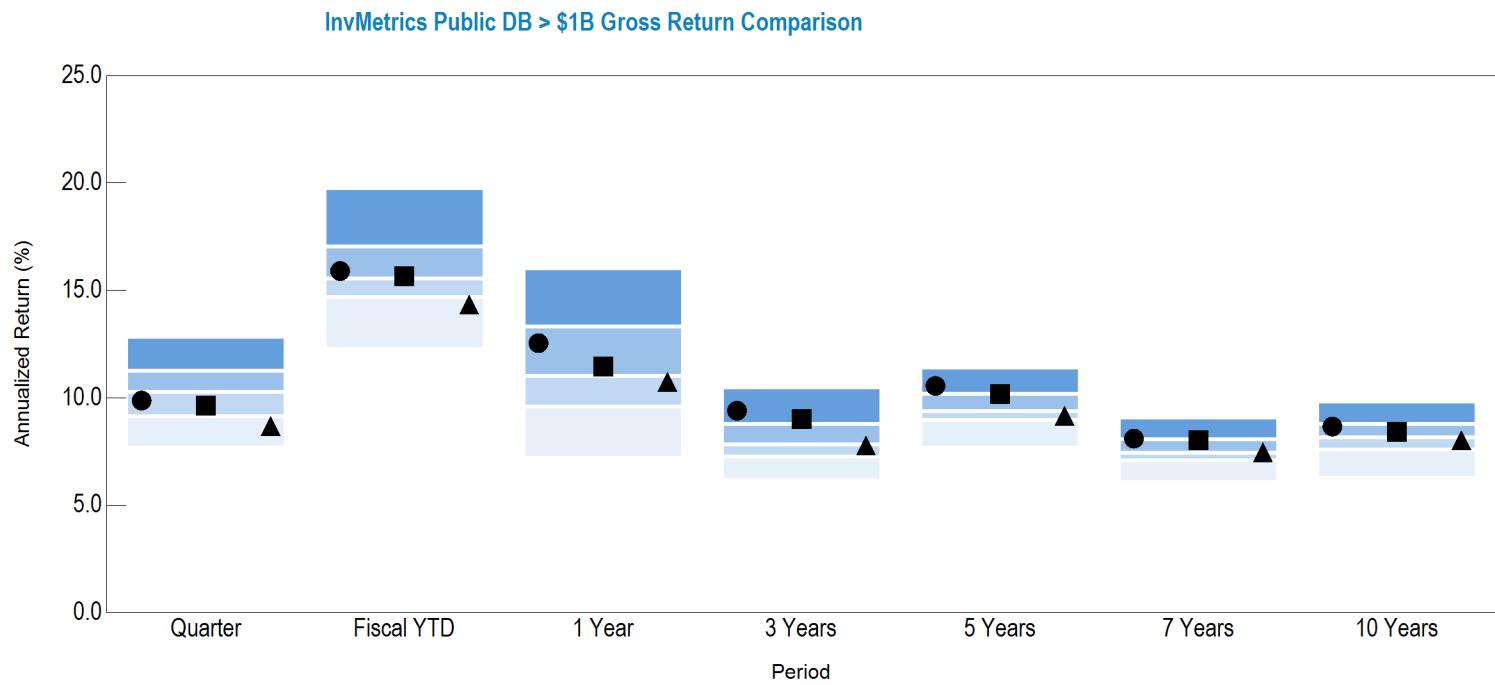
**Statistics Summary**

**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	10.6%	16	7.4%	16	1.3	3	0.6	15	2.2%	83
Policy Index	9.2%	61	6.8%	4	1.2	10	--	--	0.0%	1
Total Fund ex Overlay	10.2%	26	7.2%	9	1.3	5	0.5	20	2.2%	81
Policy Index	9.2%	61	6.8%	4	1.2	10	--	--	0.0%	1

Total Fund  
Peer Universe Comparison

Period Ending: December 31, 2020

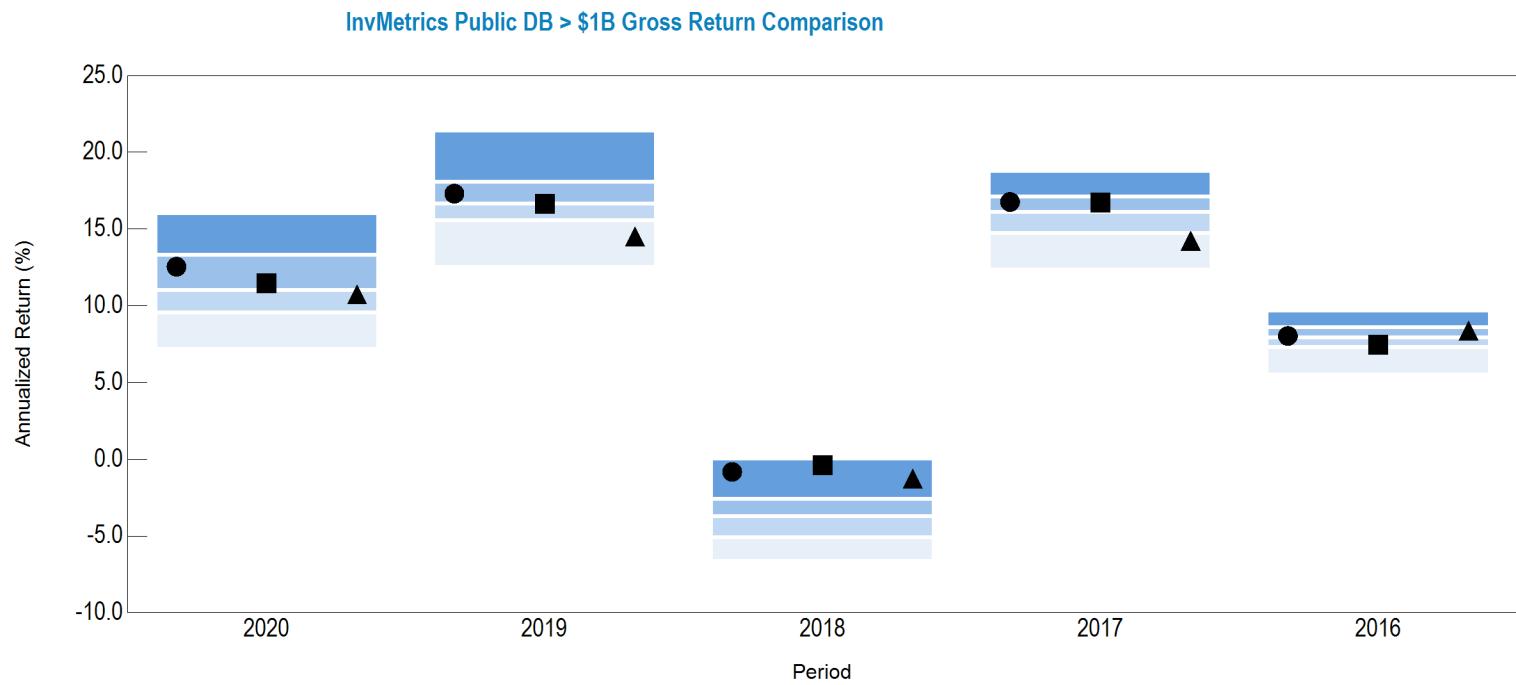


**Return (Rank)**

5th Percentile	12.8	19.8	16.0	10.5	11.4	9.1	9.8							
25th Percentile	11.3	17.1	13.3	8.8	10.2	8.1	8.8							
Median	10.3	15.6	11.1	7.8	9.4	7.5	8.2							
75th Percentile	9.2	14.7	9.6	7.3	9.0	7.1	7.6							
95th Percentile	7.7	12.3	7.2	6.2	7.7	6.1	6.3							
# of Portfolios	67	67	67	67	67	65	63							
● Total Fund	9.9	(63)	15.9	(48)	12.5	(29)	9.4	(16)	10.6	(16)	8.1	(24)	8.7	(32)
■ Total Fund ex Overlay	9.6	(70)	15.7	(50)	11.5	(46)	9.0	(22)	10.2	(26)	8.0	(32)	8.4	(40)
▲ Policy Index	8.7	(83)	14.3	(81)	10.7	(57)	7.8	(51)	9.2	(61)	7.5	(49)	8.0	(57)

Total Fund  
Peer Universe Comparison (Calender Years)

Period Ending: December 31, 2020

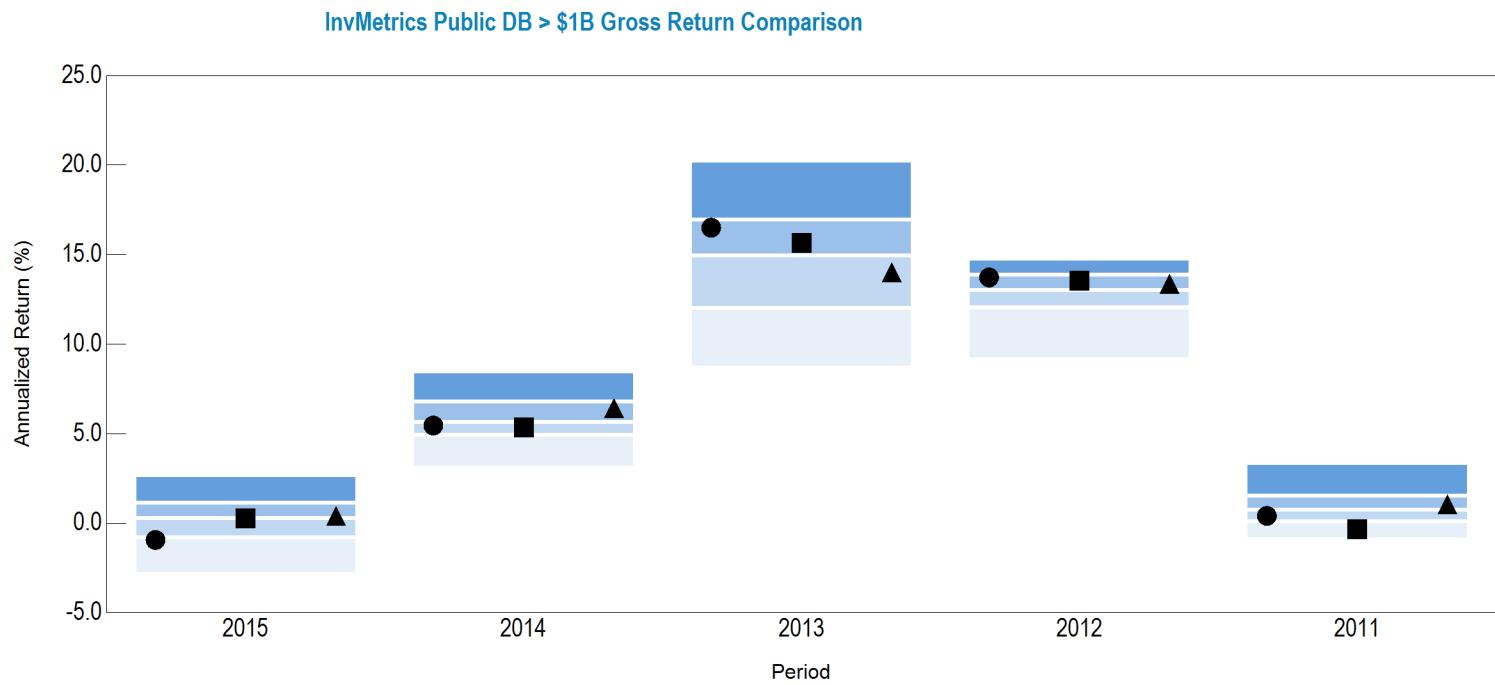


**Return (Rank)**

	2020	2019	2018	2017	2016					
5th Percentile	16.0	21.4	0.0	18.8	9.7					
25th Percentile	13.3	18.1	-2.6	17.2	8.6					
Median	11.1	16.7	-3.7	16.2	8.0					
75th Percentile	9.6	15.6	-5.1	14.8	7.4					
95th Percentile	7.2	12.5	-6.6	12.4	5.5					
# of Portfolios	67	81	71	98	92					
<b>Total Fund</b>	12.5	(29)	17.3	(40)	-0.8	(7)	16.8	(38)	8.0	(46)
<b>Total Fund ex Overlay</b>	11.5	(46)	16.6	(52)	-0.4	(6)	16.7	(39)	7.5	(73)
<b>Policy Index</b>	10.7	(57)	14.5	(88)	-1.3	(10)	14.2	(82)	8.4	(34)

Total Fund  
Peer Universe Comparison (Calender Years)

Period Ending: December 31, 2020



Return (Rank)

	2015	2014	2013	2012	2011			
5th Percentile	2.7	8.5	20.2	14.7	3.3			
25th Percentile	1.1	6.8	17.0	13.9	1.6			
Median	0.3	5.7	15.0	13.0	0.8			
75th Percentile	-0.7	4.9	12.0	12.1	0.1			
95th Percentile	-2.8	3.1	8.7	9.2	-0.9			
# of Portfolios	98	79	67	74	68			
● Total Fund	-0.9	(83)	5.5	(61)	16.5	(31)	13.7	(36)
■ Total Fund ex Overlay	0.3	(51)	5.3	(65)	15.6	(43)	13.6	(41)
▲ Policy Index	0.4	(46)	6.4	(34)	14.0	(64)	13.4	(42)

## Policy Index and Benchmark History

Period Ending: December 31, 2020

Total Plan Policy Index	As of:									
	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%	
BBgBarc Aggregate	10.0%	10.0%	10.0%	15.0%	20.0%	20.0%	25.0%	25.0%	30.0%	
BBgBarc US Treasury	5.0%	5.0%	5.0%							
ICE BofA ML High Yield II	1.0%	1.0%	1.0%	1.0%						
Bloomberg Commodity			2.0%	2.0%			5.0%			
Cambridge Associates Private Energy 1 Qtr Lag	2.5%	2.5%								
Cambridge Associates Private Infrastructure 1 Qtr Lag	3.2%	3.2%								
FTSE BIG										23.0%
FTSE WGBI ex US Unhedged	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%						
Credit Suisse Leveraged Loans +2% 1 Qtr Lag	4.0%	4.0%	4.0%							
JPM GBI EM Diversified	0.6%	0.6%	0.6%	0.6%						
HFRI FoF Composite Index + 1%	3.0%	3.0%								
HFRI FoF Conservative Index	7.0%	7.0%								
MSCI ACWI ex US	20.0%	20.0%	20.0%	22.5%	22.5%	20.0%				
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	4.6%	4.6%								
NFI-ODCE net +1% 1Q Lag	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%								
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%				
Thomson Reuters C A All PE 1 Qtr Lag	9.0%	9.0%	9.0%							
Bloomberg Roll Select Commodity Total Return	0.2%									
Bloomberg Barclays U.S. Floating Rate Note < 5 Yr	0.2%									
S&P Global LargeMidCap Commodity and Resources	0.2%									
S&P Global Infrastructure Index - Net of Tax on Dividend	0.5%									
Bloomberg Barclays U.S. Government Inflation-Linked 1-10 Yrs	0.6%									
FTSE EPRA Nareit Developed Liquid Index	0.3%									
ICE LIBOR Spot/Next Overnight USD	1.0%									
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

## Policy Index and Benchmark History

Period Ending: December 31, 2020

Growth Benchmark		As of:		
		7/1/19	7/1/17	4/1/17
91 Day T-Bill +5%				5.08%
ICE BofA ML High Yield II		1.73%	1.70%	1.70%
Credit Suisse Leveraged Loans		1.73%	1.70%	1.70%
Credit Suisse Leveraged Loan + 2% 1 Qtr Lag		6.90%	6.78%	6.78%
HFRI FoF Composite Index + 1%		5.17%	5.08%	
MSCI ACWI ex US		34.48%	33.90%	33.90%
Russell 3000		34.48%	35.59%	35.59%
Thomson Reuters C A All PE 1 Qtr Lag		15.52%	15.25%	15.25%
		100.0%	100.0%	100.0%
US Equity Benchmark		As of:		
		1/1/08	9/1/04	1/1/00
Russell 1000			85.71%	87.5%
Russell 2000			14.29%	12.5%
Russell 3000		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%
Thomson Reuters C A 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%		

Private Credit Benchmark		As of:	
		4/1/17	
Credit Suisse Leveraged Loan + 2% 1 Qtr Lag		100.0%	
		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:	
		7/1/17	4/1/17
91 Day T-Bill +5%			28.0%
BBgBarc US Aggregate		40.0%	40.0%
BBgBarc US Treasury		20.0%	20.0%
FTSE WGBI ex US Unhedged		9.6%	9.6%
HFRI FoF Conservative Index		28.0%	
JPM GBI EM Diversified		2.4%	2.4%
		100.0%	100.0%
Global Fixed Income Benchmark		As of:	
		6/1/13	
FTSE WGBI ex US Unhedged		80.0%	
JPM GBI EM Diversified		20.0%	
		100.0%	
Diversifying 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:	
		4/1/19	4/1/17
Real Estate Benchmark		43.75%	43.75%
Private Real Assets Benchmark		43.75%	43.75%
Bloomberg Commodity			12.50%
Liquid Real Return Custom Benchmark		12.50%	
		100.0%	100.0%
Real Estate Benchmark		As of:	
		7/1/17	7/1/2011
NCREIF			100.0%
NFI-ODCE		65.0%	
NFI-ODCE net +1% 1Q Lag		35.0%	
		100.0%	100.0%

## Policy Index and Benchmark History

Period Ending: December 31, 2020

RE-Value Added Benchmark	As of:		AllianceBernstein Benchmark		
	7/1/16	10/1/08	As of:		5/1/89
NCREIF +2% 1Q Lag		100.0%	Russell 1000	100.0%	
NFI-ODCE net +1% 1Q Lag	100.0%		Russell 3000		100.0%
	100.0%	100.0%	Wilshire 2500		100.0%
				100.0%	100.0%
				100.0%	100.0%
Private Real Assets Benchmark	As of:		Eagle Capital Benchmark		
	7/1/17	4/1/17	As of:		9/1/08
CPI-U Headline +5%		100.0%	Russell 1000 Value	100.0%	
Cambridge Associates Private Energy 1 Qtr Lag	35.0%		Russell 1000		100.0%
Cambridge Associates Private Infrastructure 1 Qtr Lag	45.0%			100.0%	100.0%
NCREIF Farmland 1 Qtr Lag	10.0%				
NCREIF Timberland Index Lagged	10.0%				
	100.0%	100.0%			
Liquid Real Return Custom Benchmark	As of:		Brandywine Benchmark		
	7/1/19		As of:		6/1/13
Bloomberg Roll Select Commodity Total Return	10.0%		FTSE WGBI ex US Unhedged	80.0%	
Bloomberg Barclays U.S. Floating Rate Note < 5 Yr	10.0%		JPM GBI EM Diversified	20.0%	
S&P Global LargeMidCap Commodity and Resources	10.0%			100.0%	
S&P Global Infrastructure Index - Net of Tax on Dividend	25.0%				
Bloomberg Barclays U.S. Government Inflation-Linked 1-10 Yrs	30.0%				
FTSE EPRA Nareit Developed Liquid Index	15.0%				
	100.0%				
Brigade Benchmark	As of:		Brookfield Real Return Custom		
			As of:		12/1/2019
ICE BofA ML High Yield II			FTSE Global Core Infrastructure 50/50 Index	30.0%	
Credit Suisse Leveraged Loans			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	As of:		
BBgBarc US Govt Inflation-Linked 1-10 Yrs			3/2/2018	10/1/15	2/1/08
BBgBarc US TIPS			BBgBarc US TIPS	10.0%	
BBgBarc 1-10 Yr US TIPS			BBgBarc 1-10 Yr US TIPS	30.0%	
BBgBarc Roll Select Commodity TR			BBgBarc Roll Select Commodity TR	10.0%	20.0%
BBgBarc USD Floating Rate Note <5yr			BBgBarc USD Floating Rate Note <5yr	10.0%	
DJ US Select REIT			DJ US Select REIT		30.0%
FTSE EPRA/NAREIT Developed Liquid			FTSE EPRA/NAREIT Developed Liquid	15.0%	10.0%
MSCI World Natural Resources			MSCI World Natural Resources		20.0%
S&P Global Large Mid Cap Commodity Resources			S&P Global Large Mid Cap Commodity Resources	10.0%	
S&P Global Infrastructure			S&P Global Infrastructure	25.0%	20.0%
S&P GS Commodities			S&P GS Commodities		25.0%
S&P MLP			S&P MLP	10.0%	
				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: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - 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: Portfolio Excess Return / 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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