



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



**PERIOD ENDING: SEPTEMBER 30, 2020**

Investment Performance Review for

**Western States Office and Professional Employees' International Union Pension Plan**

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Investment Landscape

TAB I

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Investment Performance  
Review

TAB II





**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**

4<sup>TH</sup> QUARTER 2020  
Investment Landscape



# Recent Verus research

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## Annual outlooks

### 2020 PRIVATE OUTLOOK

In the 2020 Private Equity Outlook, we focus attention on General Partner-led (GP-led) secondary transactions that have evolved and are no longer just associated with general partners trying to dispose of lingering assets that have become hard to sell. The outlook also addresses:

- The significant pull back in private equity in 2020
- Our expectations for a decline in both capital calls and distributions from buyout funds likely leading to negative net cash flows for the coming quarters
- Headwinds for perspective IPO's
- Impacts from Covid-19 on many portfolios
- Our view on how the secondary market is very different than it was during the last economic downturn

## Topics of interest

### BROADENING DIVERSITY CONSIDERATION

CIO Ian Toner, CFA, and Public Markets Managing Director Marianne Feeley, CFA, outline broader elements of diversity – beyond ownership – that may be used to characterize the demographic qualities of an investment firm. It frames the broader approach to understanding diversity that we are adapting at Verus, which is an integral part of our process of collecting and using information about investment managers.

### AEIOU > PPPPP

Manager research and selection have long been described in the language of Ps – people, process, etc. Verus believes the familiar Ps approach, while useful, leaves out important aspects of manager assessment and their products because of its focus on inputs. We outline a vowel-based approach that concentrates research on factors that are more likely to drive investment outcomes.

## Webinar replays

### BROADENING DIVERSITY CONSIDERATION

### AEIOU > PPPPP

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# 3<sup>rd</sup> quarter summary

## THE ECONOMIC CLIMATE

- Real GDP contracted at a -9.0% rate year-over-year in Q2 (-31.4% quarterly annualized rate)—likely the most sudden economic recession in American history. **p. 10**
- Europe is experiencing a drastic second wave of COVID-19 which has been sweeping across the continent. The seven-day average daily case growth of the EU and the U.K. combined rose from 4,699 to 48,807 during Q3. **p. 9**
- Election polls and the betting markets are indicating that Joe Biden is leading President Trump materially as we move into the final weeks pre-election. In 2016, the story was largely the same, as Clinton was expected to win up until the day before the election. **p. 18**

## PORTFOLIO IMPACTS

- U.S. and emerging markets have recovered most losses year-to-date, while international remain negative. Global equities are now positive for 2020 despite an earnings recession and considerable economic uncertainty. **p. 29**
- U.S. core inflation increased to a more normal level, rising 1.7% year-over-year in August from 1.2% in June. Inflation expectations also normalized. The 10yr U.S. TIPS inflation breakeven rate recovered to 1.6%, from a low of 0.5% on March 19th. The breakeven rate of inflation is now on par with actual year-over-year inflation. **p. 11**

## THE INVESTMENT CLIMATE

- The Federal Reserve announced a notable change to its inflation targeting approach, now aiming to achieve “inflation moderately above 2% for some time so that inflation averages 2% over time and longer-term inflation expectations remain well anchored at 2%.” This was a reversal from the prior goal of achieving 2% inflation. **p. 22**
- The Federal Reserve maintained an accommodative tone, and most members of the FOMC held their view that short rates are likely to stay near-zero through 2023—eventually moving to 2.50% over the longer-term. **p. 22**
- According to FactSet, S&P 500 Q3 earnings are expected to be down -20.5%. However, earnings in Q2 beat expectations by 12.5% (-31.6% YoY vs. -44.1%). Another large positive surprise in Q3 would be welcome news to investors. **p. 28**

## ASSET ALLOCATION ISSUES

- U.S. equities delivered +8.9% over the quarter, reaching a new high in September before giving back some gains. The S&P 500 is up +5.6% year-to-date, despite an earnings recession and considerable economic uncertainty. **p. 30**
- The U.S. dollar fell -3.5% in Q3, continuing a downward trend since a sudden jump in March on safe-haven buying. The dollar has now completely unwound the gains experienced during the market sell-off. **p. 38**

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 Q3?

“Europeans face prospect of 2nd lockdowns as COVID cases surge”

DAILY NEW CONFIRMED CASES IN THE EU27 AND THE U.K. COMBINED

4/30	5/31	6/30	7/31	8/31	9/30
14,261	5,985	4,699	9,127	22,225	48,807

Article Source: CBS News, September 21<sup>st</sup>, 2020

“Second \$1,200 stimulus checks had bipartisan support. Now they could be a longshot”

U.S. PERSONAL INCOME GROWTH (YEAR-OVER-YEAR)

Mar	Apr	May	Jun	Jul	Aug
1.8%	14.1%	9.3%	7.8%	8.1%	4.7%

Article Source: CNBC, September 9<sup>th</sup>, 2020

“The US job market is gradually recovering from the pandemic lockdown shock”

U-3 UNEMPLOYMENT RATE

Apr	May	Jun	Jul	Aug	Sep
14.7%	13.3%	11.1%	10.2%	8.4%	7.9%

Article Source: CNN Business, September 3<sup>rd</sup>, 2020

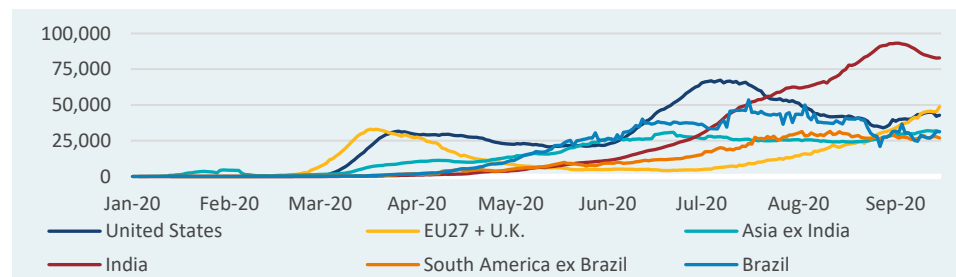
“The market isn’t convinced the Federal Reserve can achieve its inflation objective”

TEN-YEAR BREAK-EVEN INFLATION RATES

4/30	5/31	6/30	7/31	8/31	9/30
1.1%	1.1%	1.3%	1.6%	1.8%	1.6%

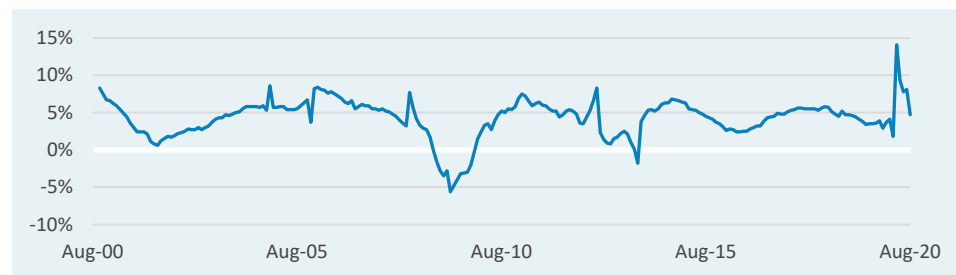
Article Source: CNBC, September 17<sup>th</sup>, 2020

SEVEN-DAY TRAILING AVERAGE DAILY CASE GROWTH BY REGION



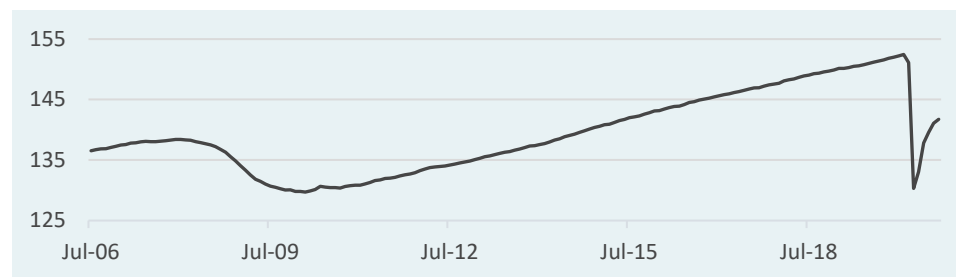
Source: Bloomberg, as of 9/30/20

U.S. PERSONAL INCOME GROWTH (YEAR-OVER-YEAR)



Source: Bureau of Economic Analysis, Bloomberg, as of 8/31/20

NON-FARM EMPLOYEES ON U.S. PAYROLLS (MILLIONS)



Source: Bureau of Labor Statistics, Bloomberg, as of 9/30/20

# Economic environment



# U.S. economics summary

— Real GDP contracted at a -9.0% rate year-over-year in the second quarter (-31.4% quarterly annualized rate)—likely the most sudden economic recession in American history.

— The Atlanta Fed’s forecast for third quarter growth is -10.7% year-over-year (+33.8% quarterly annualized rate). This projection was based on the expectations that consumption rebounds materially, household investment picks up, businesses begin re-stocking shelves that were allowed to run empty, and supporting fiscal policy.

— The U.S. labor market partially recovered from the recent shock. Unemployment fell from 14.7% in April to 7.9% in September. A report released in September indicated 60% of temporary business closures during the pandemic were now permanent.

— Correlation between election results and market performance

has been weak, and the outcome depends greatly on how the data is sliced and the timing of economic events. The S&P 500 has experienced stronger gains with a Democrat in power, though the results are skewed by extreme events such as the Great Depression.

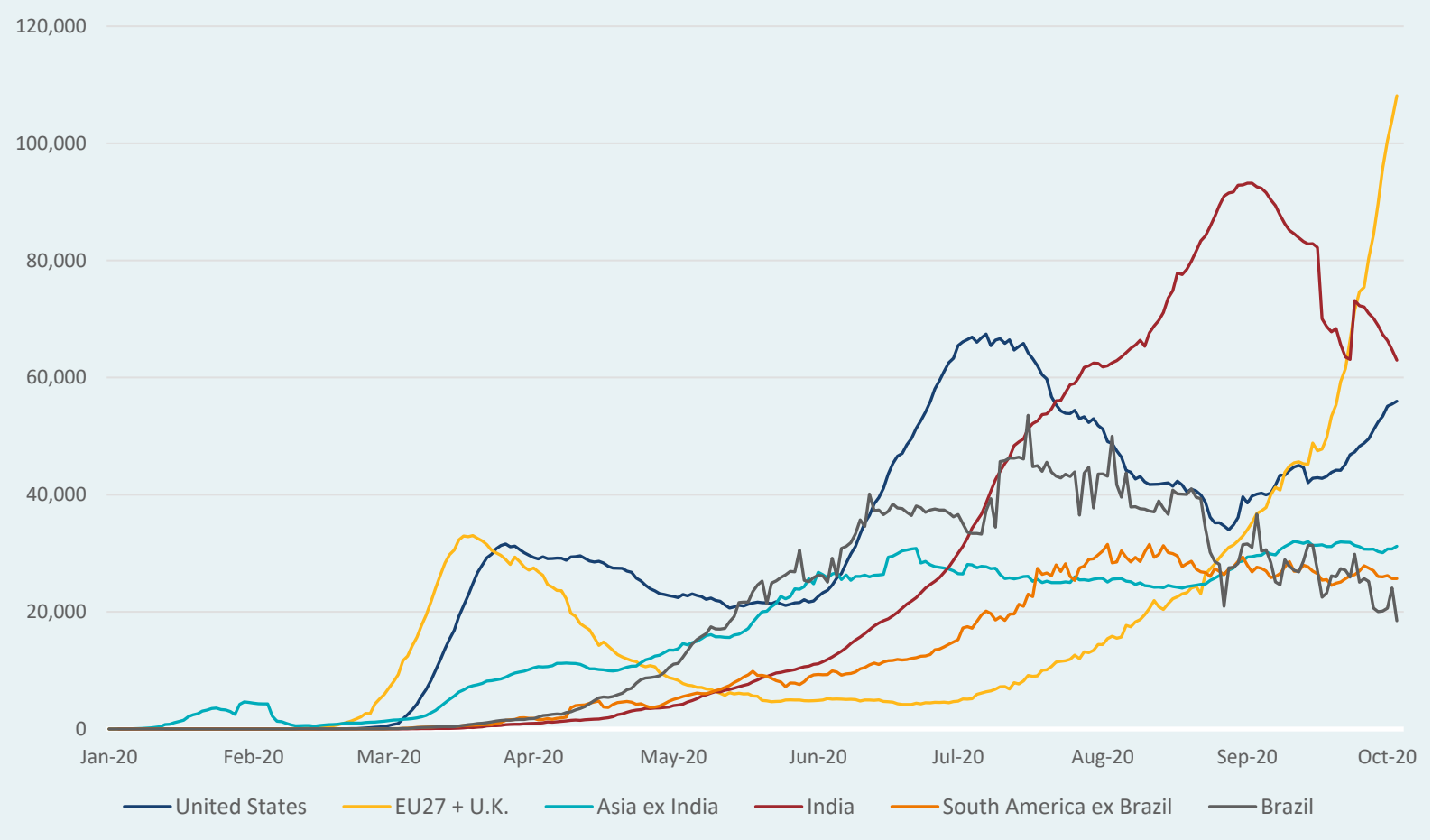
— The NFIB Small Business Optimism Index recovered to 104.0 in Q3, which was in line with pre-pandemic levels. The survey concluded that half of the jobs lost in March and April have been recouped, but that the pace of recovery has slowed.

— The median home price increased 11.1% year-over-year in September, according to Realtor.com. U.S. housing supply has reached record tightness. In August, 3.3 months worth of homes were on the market, which was the lowest inventory ever recorded since the government began tracking this data in 1963.

	Most Recent	12 Months Prior
GDP (YoY)	(9.0%) 6/30/20	2.0% 6/30/19
Inflation (CPI YoY, Core)	1.7% 8/31/20	2.4% 8/31/19
Expected Inflation (5yr-5yr forward)	1.7% 9/30/20	1.7% 9/30/19
Fed Funds Target Range	0% – 0.25% 9/30/20	1.75% – 2.00% 9/30/19
10-Year Rate	0.7% 9/30/20	1.7% 9/30/19
U-3 Unemployment	7.9% 9/30/20	3.5% 9/30/19
U-6 Unemployment	12.8% 9/30/20	6.9% 9/30/19

# COVID-19 update

## Seven-day trailing daily average case growth by region



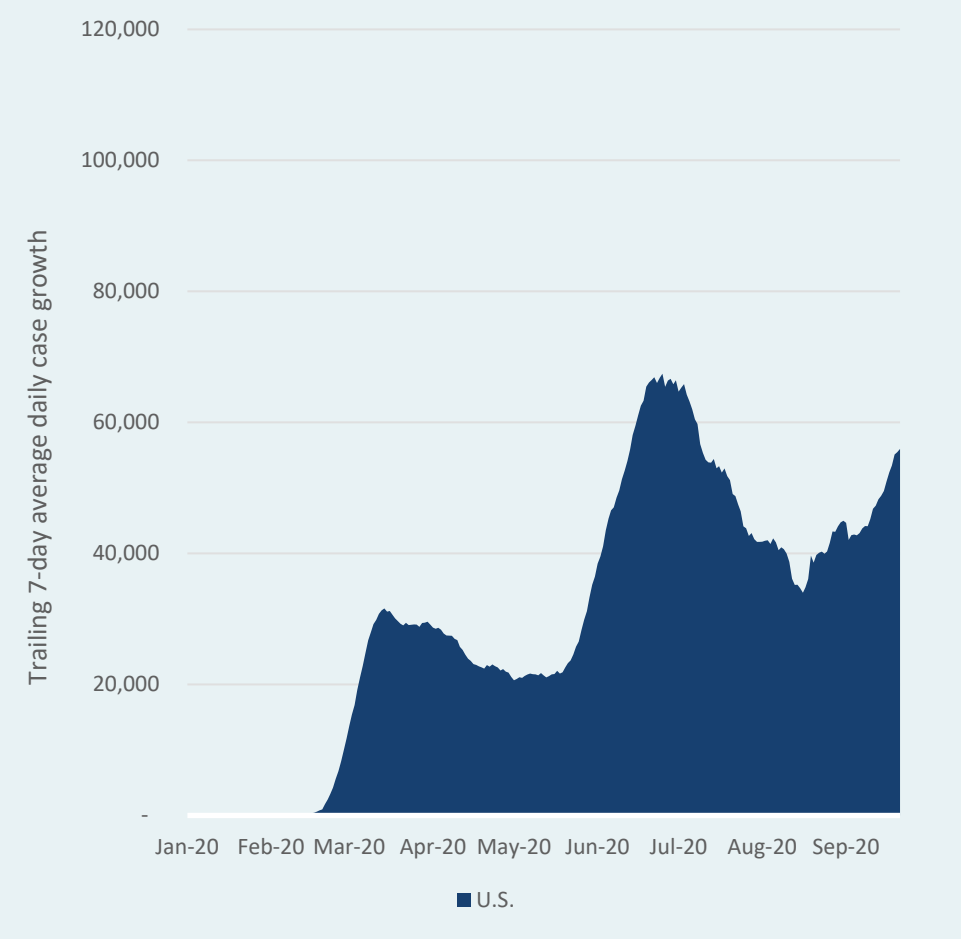
Case growth has increased exponentially across Europe over the past month, resulting in broad reimplementations of economically-restrictive social distancing controls

Deaths have begun to increase on a several-week lag to local case growth, as expected, but remain at lower levels than those seen earlier this year

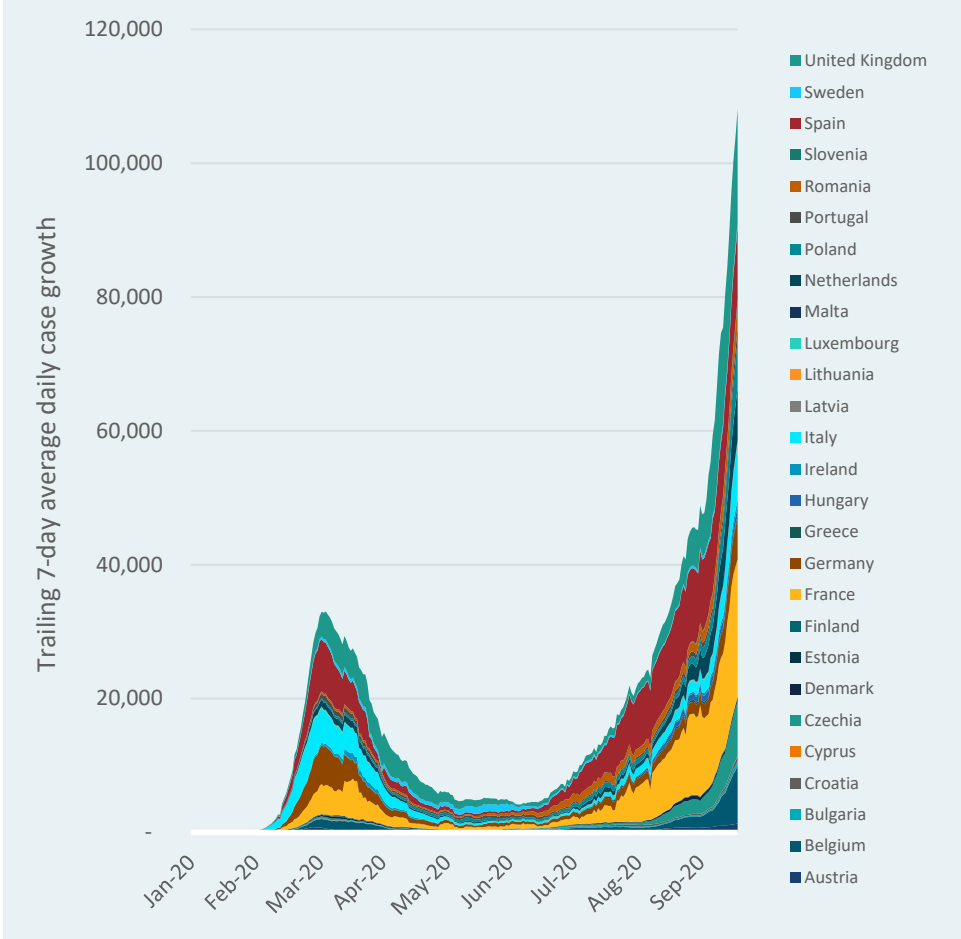
Source: Bloomberg, as of 10/18/20

# COVID-19 update

## UNITED STATES



## EU27 + UNITED KINGDOM



Source: Bloomberg, as of 10/18/20

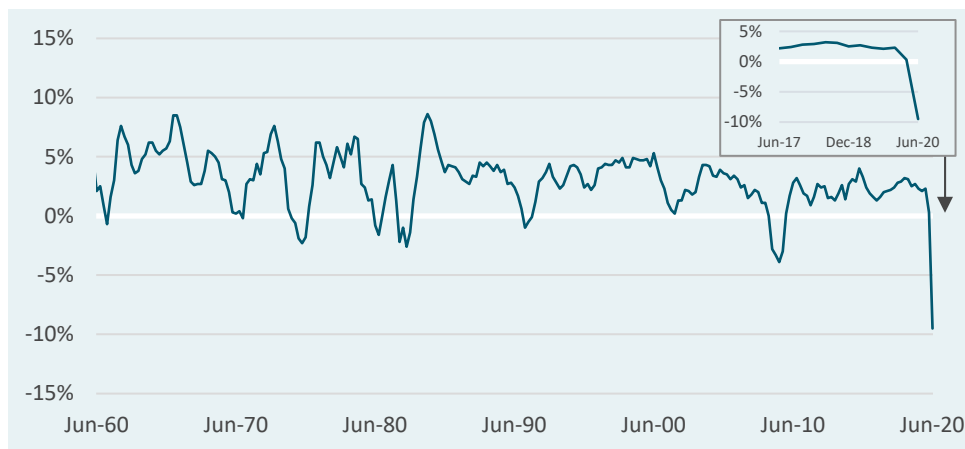


# GDP growth

Real GDP contracted -9.0% year-over-year in Q2 (-31.4% quarterly annualized rate)—likely the most sudden economic recession in American history. Personal consumption expenditures shrunk at a quarterly annualized pace of -24%. The decline was driven by a significant pullback in spending on services (-22%) as economic activity remained constrained. U.S. households and businesses exhibited conservatism in the face of an uncertain outlook on both the virus and policy response fronts. Fixed investment slumped -5.3% and private inventories fell -3.5% as companies appeared unwilling to proactively restock their shelves. Trade remained a tailwind to GDP as the value of imported goods declined more than the value of exported goods.

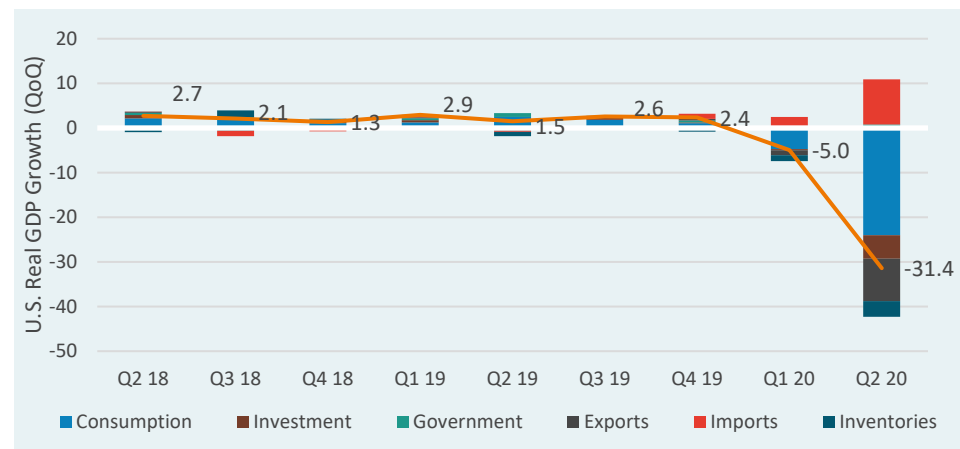
The Atlanta Fed’s forecast for third quarter-growth was +33.8% on a quarter-over-quarter annualized basis (-10.7% year-over-year), as of September 30<sup>th</sup>. This projection was based on an expectation for consumption to rebound materially, household investment to pick up, businesses to begin re-stocking shelves which were allowed to run empty in the second quarter, and a continuation of supportive fiscal policy. Looking ahead, the strength of the economic recovery will likely remain predicated on the willingness and ability of consumers to spend, the willingness of businesses to supply that demand, and the magnitude of fiscal support.

**U.S. REAL GDP GROWTH (YOY)**



Source: Bloomberg, as of 6/30/20

**U.S. GDP GROWTH ATTRIBUTION**



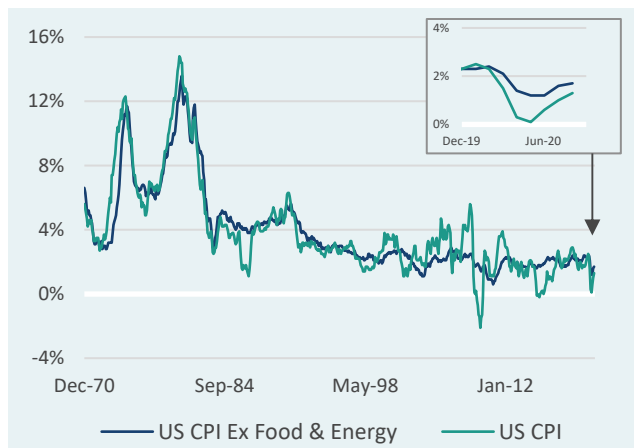
Source: BEA, annualized quarterly rate, as of 6/30/20

# Inflation

Growth in headline inflation continued to rebound toward more normal levels in Q3, reaching 1.4% year-over-year in September after bottoming at 0.1% in May. Food items—specifically meats, poultry, fish, eggs, and dairy-related products—continued to drive the recovery in demand for groceries due to COVID-driven restaurant closures. Core inflation, which excludes the more volatile food and energy components, picked up from 1.2% to 1.7% as price increases for used cars and trucks (+10.3%) and medical care services (+4.9%) outweighed a dip in airline fares (-25.0%).

Ten- and 30-year breakeven inflation rates recovered from 1.3% to 1.6% and from 1.6% to 1.8%, respectively, as market participants likely became slightly more bullish on longer-term growth and inflation outlooks. Still, there remains skepticism around the Fed’s ability to sustainably achieve its inflation target average of 2.0%. Year-over-year growth in core PCE inflation recovered to 1.6% in August but remained below the Fed’s target. Officials have stated that in the future they will be less likely to clamp down on rising inflation with restrictive policy and will be more likely to let inflation run above 2.0% for some time.

## U.S. CPI (YOY)



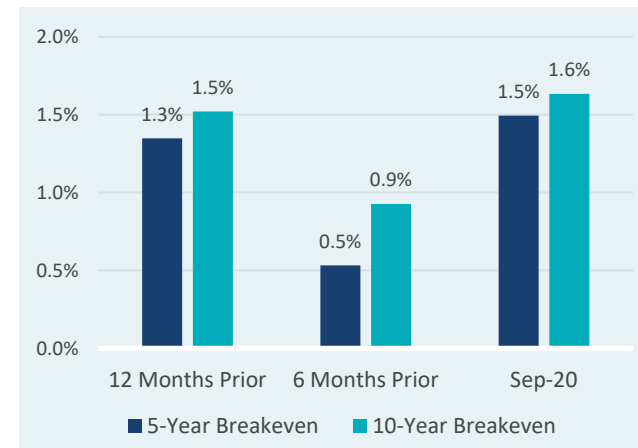
Source: Bloomberg, as of 8/31/20

## CONSUMER INFLATION EXPECTATIONS



Source: University of Michigan, as of 9/30/20

## BREAKEVEN INFLATION RATES



Source: Bloomberg, as of 9/30/20

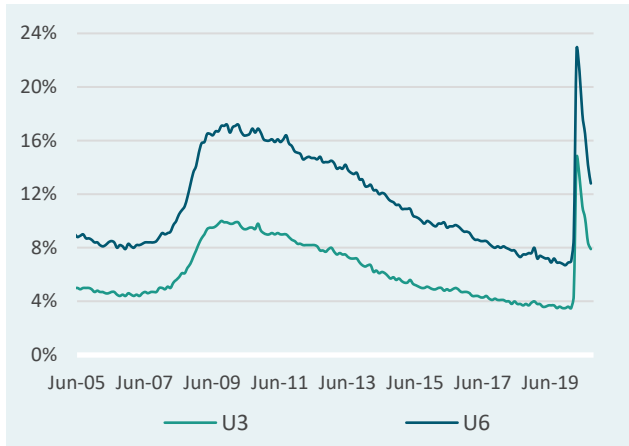
# Labor market

The U.S. labor market has partially recovered from the shock sustained in Q1 and Q2. Unemployment fell from 14.7% in April to 7.9% in September. During the economic contraction, the labor participation rate also fell rather dramatically. Most job losses during the pandemic were described by workers as temporary in nature. Most “temporary” job losses have in fact turned out to be temporary, as indicated below. A smaller portion of temporary job losses have unfortunately been reclassified as permanent. We remain watchful regarding how many temporary job losses transition into the “permanent” category in the coming months.

A report released by Yelp in September indicated 60% of businesses that had temporarily closed during the COVID-19 pandemic are now permanently closed. The businesses hit the hardest included: restaurants, bars, retail, fitness, and beauty services. It will be important to monitor whether workers come back to the labor force and once again search for employment as the U.S. economy recovers, or whether these trends result in longer-term unemployment.

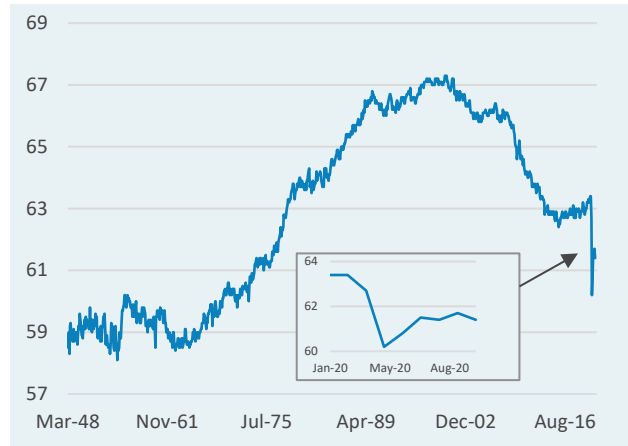
U.S. workers continue to come back to the labor force

## U.S. UNEMPLOYMENT



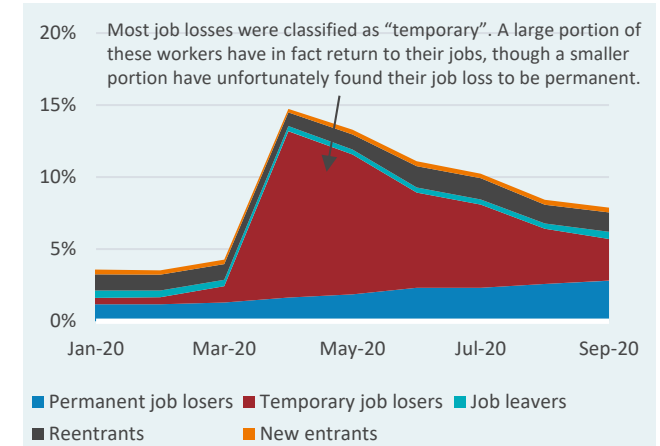
Source: FRED, as of 9/30/20

## LABOR PARTICIPATION RATE



Source: FRED, as of 9/30/20

## UNEMPLOYMENT DECOMPOSITION BY REASON



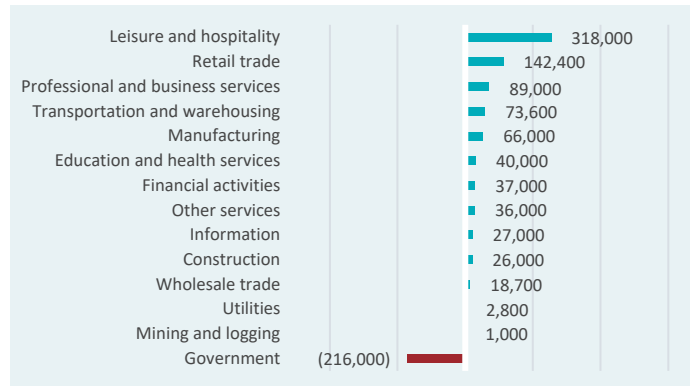
Source: BLS, as of 9/30/20



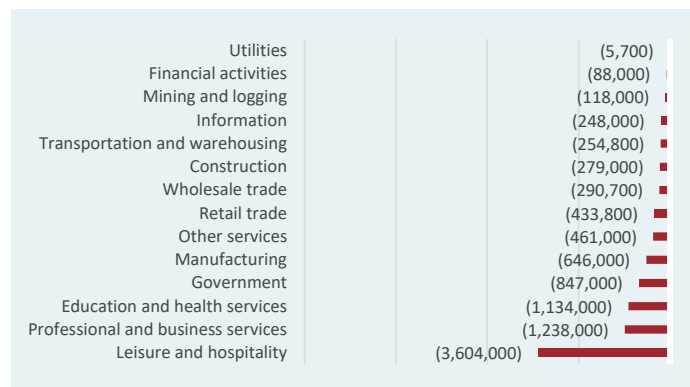
# September 2020 jobs report

+661,000 (exp. +859,000) - net revisions to prior two months = +145k

## 1-MONTH CHANGE



## 12-MONTH CHANGE



## TRAILING % CHANGE



Payrolls continued to recover in the harder-hit services sectors in the third quarter, but payrolls remain well below pre-pandemic levels

All major sectors still have lower payrolls relative to September 2019

Source: BLS, as of 9/30/20

# The consumer

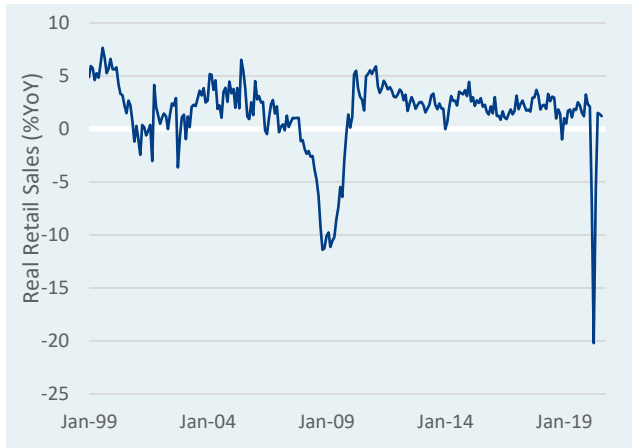
After collapsing -20% year-over-year in April, U.S. real retail sales have now fully recovered and were positive +1.2% in August. Larger purchases, such as automobiles and homes, also slowed considerably earlier in the year but have since rebounded.

The current combination of ultra-low interest rates and vast government fiscal stimulus appears to be supporting many parts of the economy. Despite the inability of households to spend on some traditional discretionary items, other types of purchases have swelled. Recent consumption patterns seem

to indicate that government support is having the intended effect and that the economy is stabilizing.

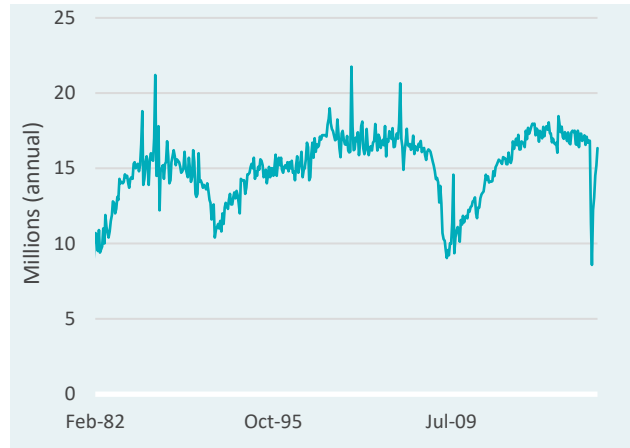
The U.S. personal savings rate fell to 14% in August, largely due to the ending of special unemployment benefits, which expired on July 31<sup>st</sup>. Broad economic uncertainty typically increases the desire for saving, which is likely the case in today's environment. But perhaps an even greater effect is the overall inability or unwillingness of households to spend on certain items such as vacations and restaurant dining.

**REAL RETAIL SALES GROWTH (YOY)**



Source: FRED, as of 8/31/20

**AUTO SALES**



Source: Federal Reserve, as of 9/30/20

**PERSONAL SAVINGS RATE**



Source: FRED, as of 8/31/20

# Sentiment

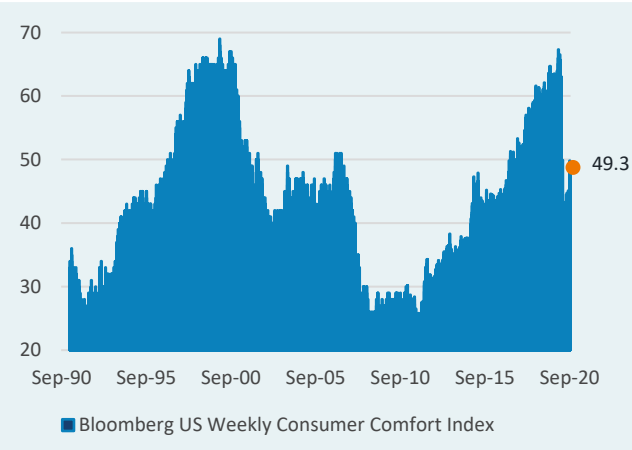
Despite the more optimistic picture painted by a recovery in consumer spending, auto sales, and the housing market, consumer sentiment remains far below the near record-highs of early 2020.

The Bloomberg Consumer Comfort Index attempts to gauge Americans' views on the economy, their personal financial situation, and buying conditions. The index sits at 49.3, compared to a high of 67.3 in January. The University of Michigan Consumer Sentiment Survey attempts to gauge attitudes about the business climate, personal finances, and

spending conditions. The index currently sits at 80.4, down from 101.0 in February.

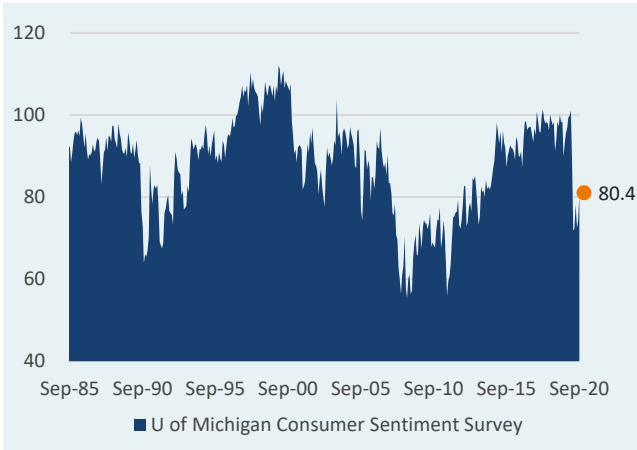
The NFIB Small Business Optimism Index recovered to 104.0 in Q3, which is in line with pre-pandemic levels. The survey concluded that half of the jobs lost in March and April have been recouped, but that the pace of recovery has slowed. Businesses generally expect the economy to continue growing, and hiring plans are now on track with pre-COVID levels.

**CONSUMER COMFORT**



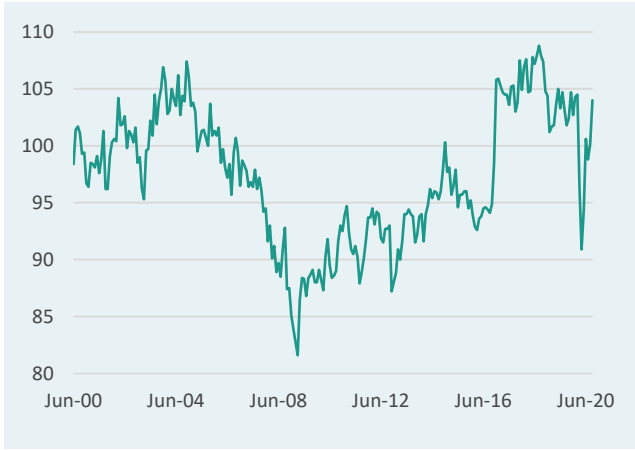
Source: Bloomberg, as of 9/30/20

**CONSUMER SENTIMENT**



Source: University of Michigan, as of 9/30/20

**SMALL BUSINESS OPTIMISM**



Source: NFIB, as of 9/30/20



# Housing

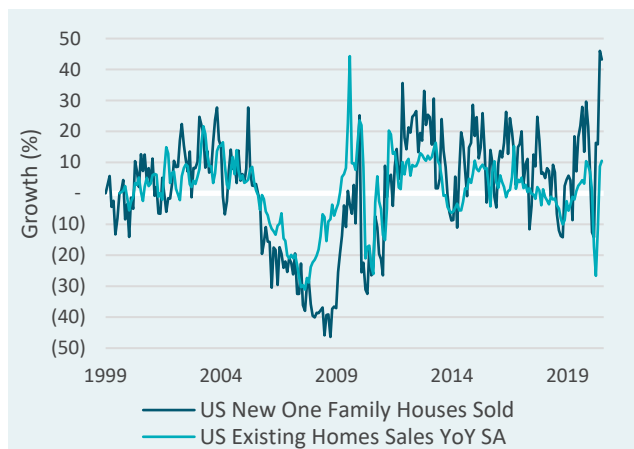
Existing home sales increased intensely over the summer, with existing home purchase activity up 10.5% year-over-year and new home sales higher by a whopping 43.2%. A variety of forces have likely aligned to deliver recent strength, including record-low mortgage interest rates, the desire of many Americans to increase their living space due to the new working-from-home environment, and a record-thin supply of homes on the market.

The portion of U.S. mortgages in the COVID-19 government forbearance program dropped significantly to 5.6% during

the first week of October. This compared to 6.8% the previous week and a high of 8.6% earlier in the year, according to mortgage data firm Black Knight. This positive news eases concerns that the COVID-19 slowdown might lead to another housing crisis.

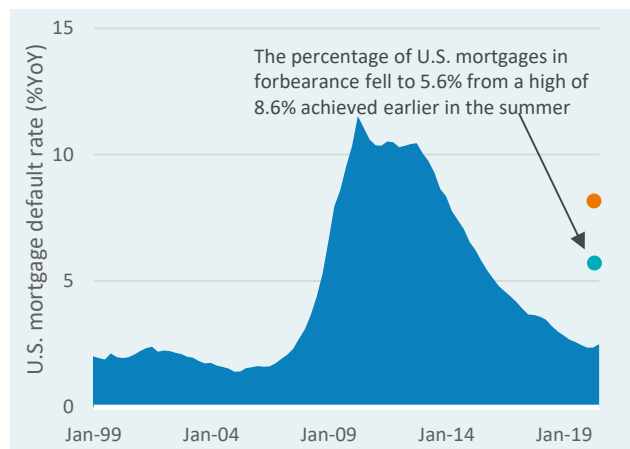
The extremely tight supply of homes has been a major contributor to the recent housing boom. In August, 3.3 months worth of homes were available on the market, which was the lowest inventory level ever recorded since the U.S. government began tracking this data in 1963.

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



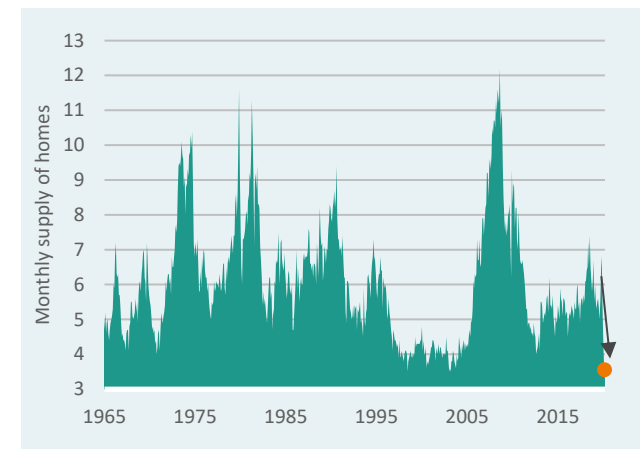
Source: FRED, as of 8/31/20

**MORTGAGE DEFAULT RATE (%)**



Source: FRED, as of 6/30/20, Black Knight as of 10/9/20

**U.S. HOME SUPPLY**



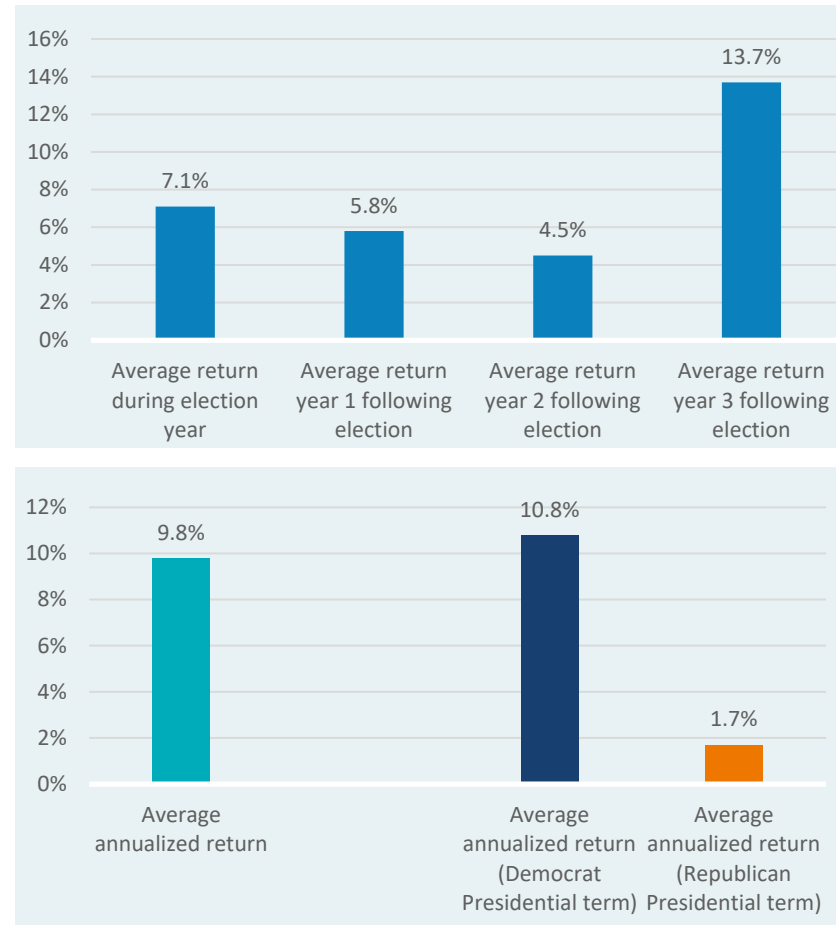
Source: FRED, as of 8/31/20

# U.S. presidential election

Correlation between election results and long-term market performance has generally been weak, and the outcome depends greatly on how the data is sliced, as well as the timing of economic and geopolitical events which are often unrelated to elections. The S&P 500 has experienced stronger gains with a Democrat in power, though the results are skewed by extreme events such as the Great Depression (Herbert Hoover saw a -77.1% total return during his presidency, followed by a +205.5% total return in Franklin D. Roosevelt's first term). These events have had a significant impact on the "average" market performance of Democrat and Republican Presidencies.

Markets seem to view a Donald Trump reelection as a positive for markets. But recently investors have also warmed to the idea of a Joe Biden victory, due to expectations for greater fiscal support to the economy which may counteract negative effects of Democratic Party proposals for higher corporate taxes and tax hikes on wealthier households.

**PRESIDENTIAL ELECTION & U.S. EQUITY PERFORMANCE (1928 – 2016)**



The relationship between election years and market performance has been muddy

Source: Schwab, Bloomberg – S&P 500 Index

Note: Stronger equity performance during one party or the other does not necessarily imply that the party's leadership led to that market performance. The timing of large and significant shocks to the economy such as the Great Depression, natural disasters, and geopolitical turmoil have influenced the performance figures above.

# How are we viewing the polling data?

The polls and the betting markets indicate that Biden is leading President Trump materially as we move into the final weeks pre-election. In 2016, the story was largely the same, as Clinton was expected to win up until the day before the election.

“Clinton has 90 percent chance of winning” – Reuters, 11/7/2016

“Election 2016: Hillary Clinton looks poised to lock it up” – Politico, 11/7/2016

“Odds of Clinton win jump on prediction markets” – Financial Times, 11/7/2016

“Polls: Hillary Clinton in position to win the election” – Business Insider, 11/7/2016

Several factors are likely to distort the picture painted by the polling data, including, but not limited to, the following:

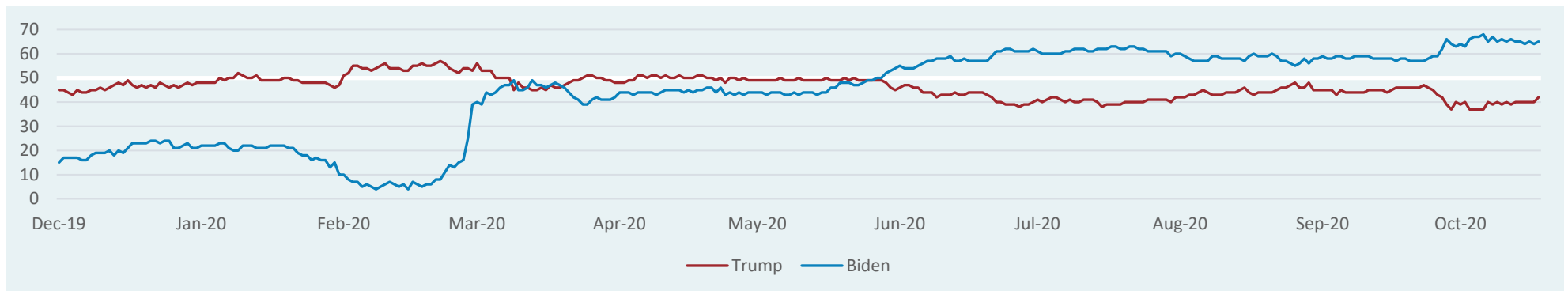
**Shy Trump factor:** Voters in certain parts of the country may be less willing to express that they would vote for Trump, and this dynamic may be even more prevalent than it was in 2016.

**Oversampling:** Pollsters do their best to build population samples representative of likely actual voter turnout, but these samples are often flawed. Back in 2016, Democrats were often over-represented in poll samples, which may have incorrectly skewed polling averages in favor of Hillary Clinton. There appears to be some evidence of this effect influencing polling averages this year as well.

**Mail-in voting:** The increase in reliance on mail-in ballots could delay the distribution of final election results and provide both candidates the opportunity to contest the election results in key swing states.

**Late deciding:** Voters may break for Trump or Biden in the final few days pre-election, but this is more likely to be a smaller factor than it was in 2016.

## PREDICTIT ODDS – WHO WILL WIN THE 2020 U.S. PRESIDENTIAL ELECTION?



Source: PredictIt, as of 10/21/20



# International economics summary

- Growth contracted sharply in international developed economies in Q2. Gross domestic product in the Eurozone contracted -14.7% from the prior year, and Japanese GDP sank -9.9% over the same period, despite the deployment of fiscal support to the tune of roughly 40% of Japan's GDP.
- European officials implemented stricter social distancing controls with hopes of stymying the second wave of COVID-19 sweeping across the continent. The seven-day average daily case growth of the EU27 and the United Kingdom combined rose from 4,699 to 48,807 over the third quarter.
- The IMF revised its global growth projections for 2020 and 2021 from -4.9% and 5.4% to -4.4% and 5.2%, respectively. The IMF's model assumes social distancing controls will continue to act as a drag on growth into 2021, and that local transmission of the virus will be falling everywhere by 2023.
- Inflation remained muted globally in the third quarter, supporting arguments that the pandemic's impact has been more disinflationary than inflationary over the short term. The Eurozone's consumer price index ended the quarter -0.3% below its level from September 2019, though most of the deflationary pressures were supplied by an -8.2% decline in energy prices.
- Eurozone retail sales volumes grew 3.7% from the prior year in August (exp. 2.2%), driven by a sharp surge in online purchases and clothing sales. The vigorous rebound in consumer spending has been attributed to pent-up demand and incomes, which have been largely stable due to furlough schemes. Many analysts expect a "normalization" of retail sales in the fourth quarter, under the assumption that current spending levels are unlikely to be sustainable.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	(9.0%) 6/30/20	1.3% 8/31/20	7.9% 9/30/20
Eurozone	(14.7%) 6/30/20	(0.3%) 9/30/20	8.1% 8/31/20
Japan	(9.9%) 6/30/20	0.2% 9/30/20	3.0% 8/31/20
BRICS Nations	(3.1%) 6/30/20	3.3% 6/30/20	5.3% 6/30/20
Brazil	(11.4%) 6/30/20	2.4% 8/31/20	13.8% 7/31/20
Russia	(8.0%) 6/30/20	3.3% 9/30/20	6.4% 8/31/20
India	(23.9%) 6/30/20	6.7% 8/31/20	8.5% 12/31/17
China	4.9% 9/30/20	2.4% 8/31/20	3.8% 6/30/20

# International economics

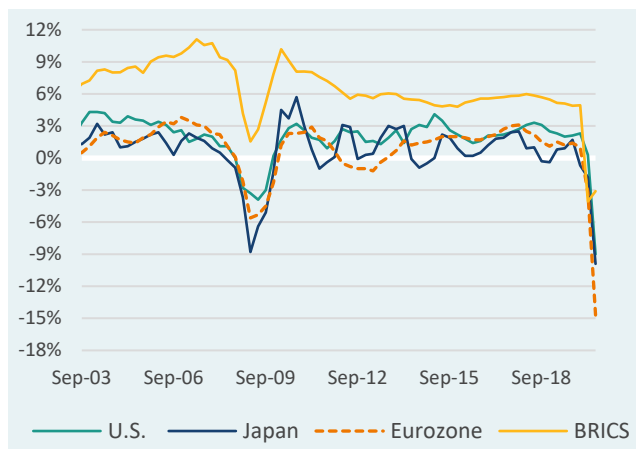
As expected, growth contracted sharply in international developed economies around the world in Q2. Eurozone gross domestic product contracted -14.7% from the prior year, and Japanese growth sank -9.9% over the same period, despite the deployment of fiscal support to the tune of roughly 40% of Japanese GDP.

Growth in most of the emerging markets complex also took a major hit. GDP contracted -11.4% in Brazil, -8.0% in Russia, and -23.9% in India which has been especially hard hit by the coronavirus. China stood out as an exception, and reportedly mustered year-over-year GDP growth of +4.9% in Q3. China's

growth was supported by the People's Bank of China, which cut its 1-year medium-term lending facility rate from 3.15% to 2.95%. Many emerging economies are in a better position to provide monetary stimulus, given higher interest rates.

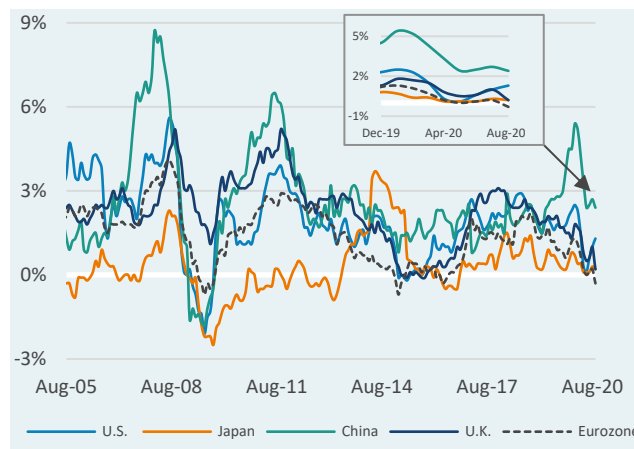
Unemployment in the Eurozone rose from 7.8% to 8.1%, just 0.2% above the quarter-end rate in the United States, as Europe contends with disinflationary pressures. Year-over-year growth of the harmonized consumer price index fell from +0.3% into negative territory at -0.3%. The Union's harmonized measure, however, does not include rents and house prices—a key distinction from the U.S. CPI basket.

**REAL GDP GROWTH (YOY)**



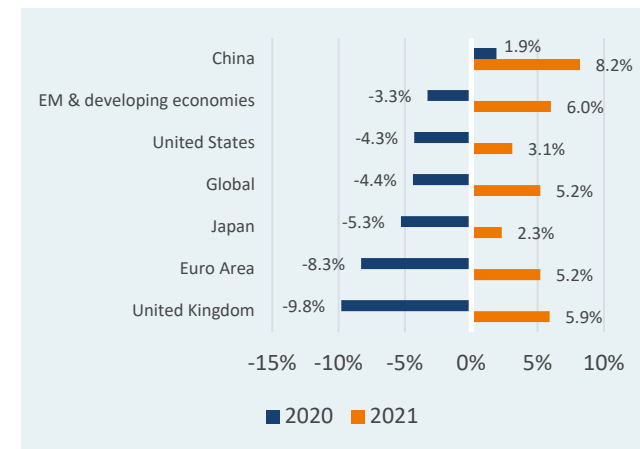
Source: Bloomberg, as of 6/30/20

**INFLATION (CPI YOY)**



Source: Bloomberg, as of 8/31/20

**IMF GLOBAL OUTLOOK GROWTH PROJECTIONS**



Source: International Monetary Fund, as of 10/13/20

# Fixed income rates & credit

# Interest rate environment

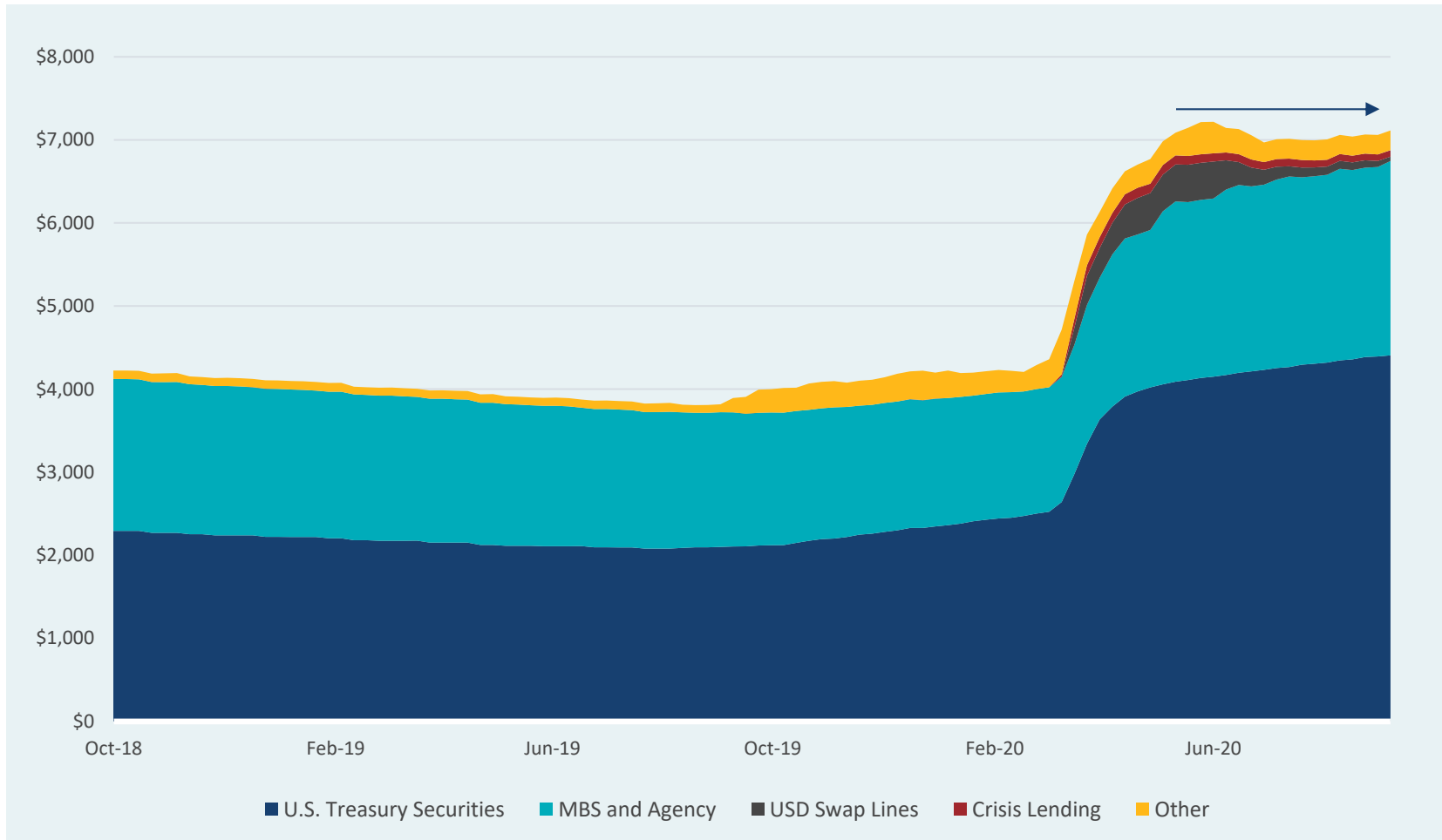
- Global interest rate levels remained extremely depressed relative to long-term averages in Q3, and the 10-year U.S. Treasury yield traded in a relatively narrow range between 0.50%-0.75%.
- The Federal Reserve maintained an accommodative tone, and most members of the Federal Open Market Committee remained of the view that short rates are likely to stay near-zero through 2023, and eventually move toward 2.50% over the longer-term. The Fed repeated that while it has the power to lend, it does not hold the power to spend, and additional fiscal support will likely be required from Congress.
- The U.S. Fed made an adjustment to its policy approach related to its inflation target. Instead of targeting stable prices, defined as 2% annual growth in personal consumption expenditures (PCE), the Fed will now implement an average inflation targeting approach aimed at achieving “inflation moderately above 2% for some time so that inflation averages 2% over time and longer-term inflation expectations remain well anchored at 2%.”
- Officials at the Bank of England (BOE) reportedly warmed to the idea of pursuing a negative interest rate policy, and markets are now pricing in negative overnight rates by May 2021. Many analysts have stated that the BOE is likely to remain extremely supportive and may provide additional monetary accommodation in the form of quantitative easing before year-end.
- Investors were paid for betting on longer-term reflation of growth and inflation, likely due to their expectations for further fiscal and monetary accommodation moving forward. Ten-year breakeven inflation rates recovered from 1.3% to 1.6%, and key term spreads indicated a moderate steepening in the U.S. yield curve.

Area	Short Term (3M)	10-Year
United States	0.09%	0.68%
Germany	(0.63%)	(0.52%)
France	(0.64%)	(0.24%)
Spain	(0.54%)	0.25%
Italy	(0.48%)	0.87%
Greece	(0.08%)	1.02%
U.K.	0.01%	0.23%
Japan	(0.15%)	0.01%
Australia	0.12%	0.79%
China	2.29%	3.13%
Brazil	1.93%	7.45%
Russia	4.09%	6.29%

Source: Bloomberg, as of 9/30/20

# Monetary stimulus

FED BALANCE SHEET, MILLIONS



Fed balance sheet levels have remained flat

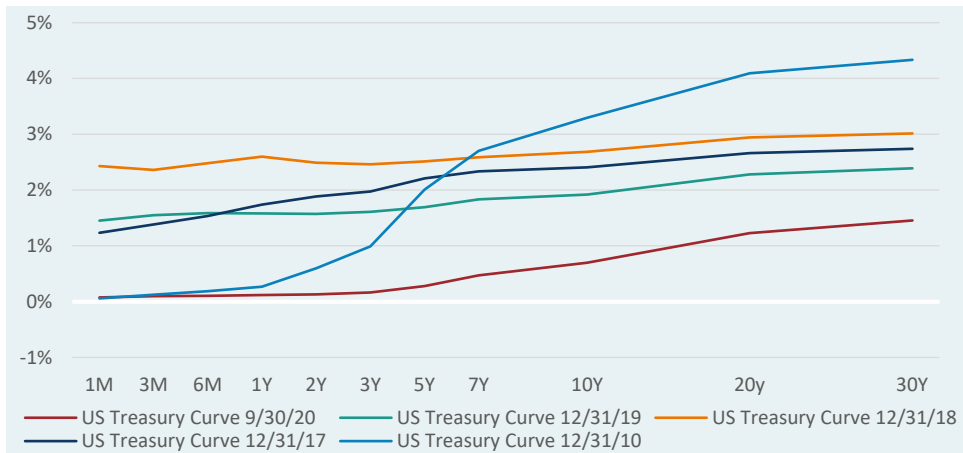
The Fed provided significant monetary accommodation in Q2. Officials have implied that further stimulus will likely need to come in the form of fiscal support

Source: FRED, Bloomberg, as of 9/16/20

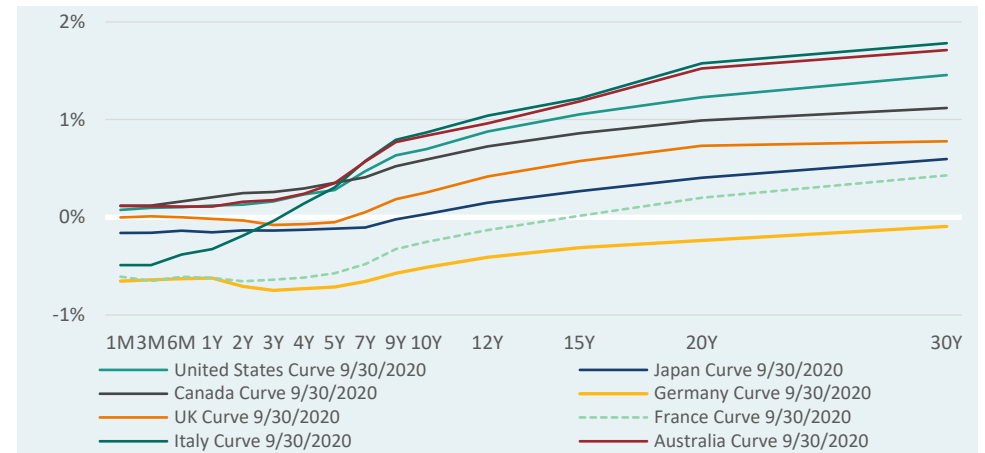


# Yield environment

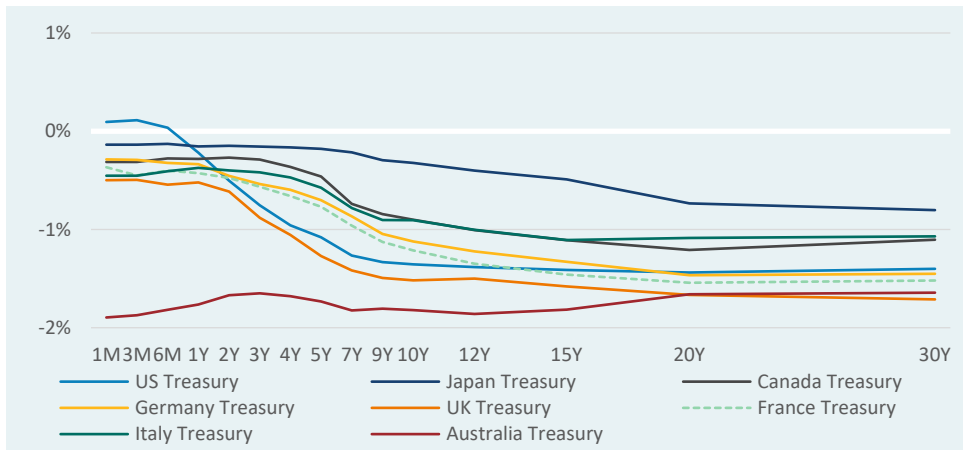
## U.S. YIELD CURVE



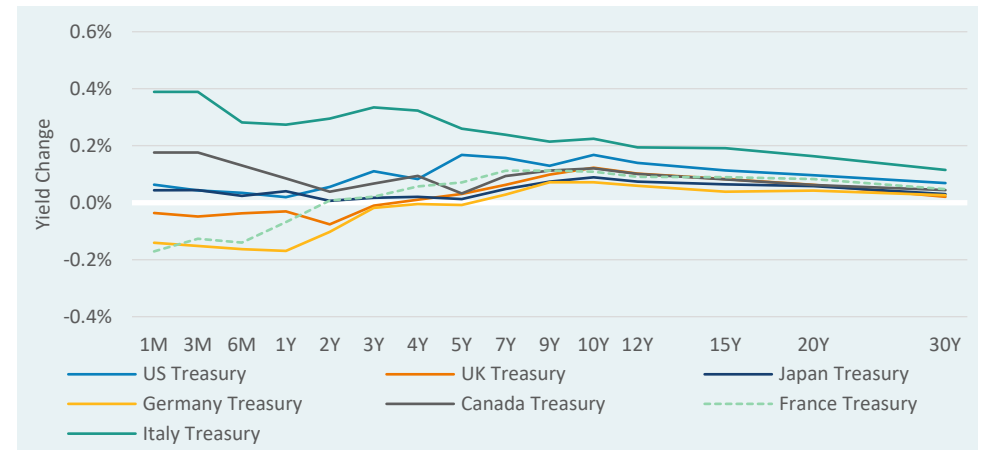
## GLOBAL GOVERNMENT YIELD CURVES



## YIELD CURVE CHANGES OVER LAST FIVE YEARS



## IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/20

# Credit environment

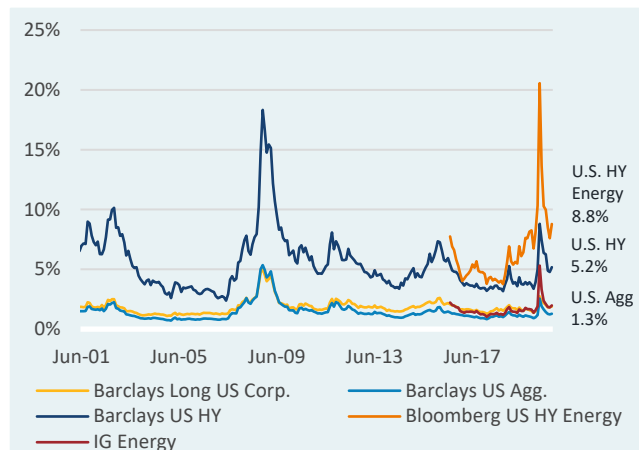
Credit markets performed positively in the third quarter as yields continued to fall from March highs. Buoyed by ongoing support from the Fed as well as increased investor demand for yield, investment grade credit returned 1.5% over the quarter while high yield and leveraged loans returned +4.6% and +4.1%, respectively. Within high yield, lower quality issues outperformed higher quality.

Investment-grade credit has now returned +6.4% year-to-date through September, while high yield performance turned positive at +0.6% and leveraged loans remained negative at -0.8% year-to-date.

Credit spreads fell across the board in Q3 but high yield led the way. Corporate investment grade spreads fell 14 bps through the quarter to 136 bps while high yield spreads fell 109 bps to 517 bps.

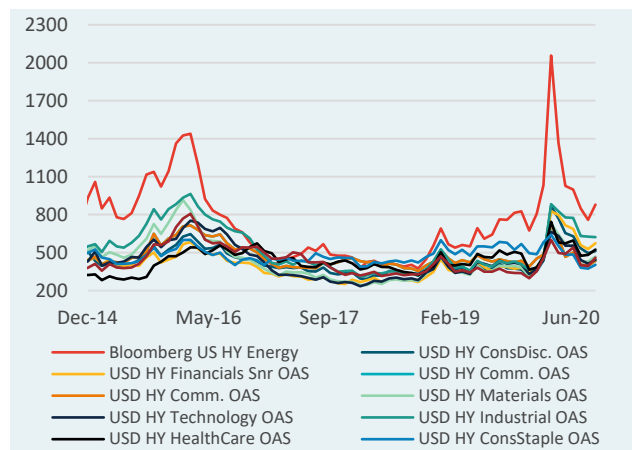
As a result of the post-March recovery, approximately two-thirds of global investment grade debt is now yielding less than 1%, and more debt is currently trading at a negative yield than at above the 2% level. While yields in the U.S. are still modestly higher than pre-pandemic levels, credit markets are priced similarly to how they were in January, despite a very different fundamental picture.

## SPREADS



Source: Barclays, Bloomberg, as of 9/30/20

## HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 9/30/20

Market	Credit Spread (OAS)	
	9/30/20	9/30/19
Long U.S. Corp	1.9%	1.7%
U.S. Inv Grade Corp	1.4%	1.2%
U.S. High Yield	5.2%	3.7%
U.S. Bank Loans*	5.3%	4.5%

Source: Barclays, Credit Suisse, Bloomberg, as of 9/30/20  
\*Discount margin (4-year life)

# Default & issuance

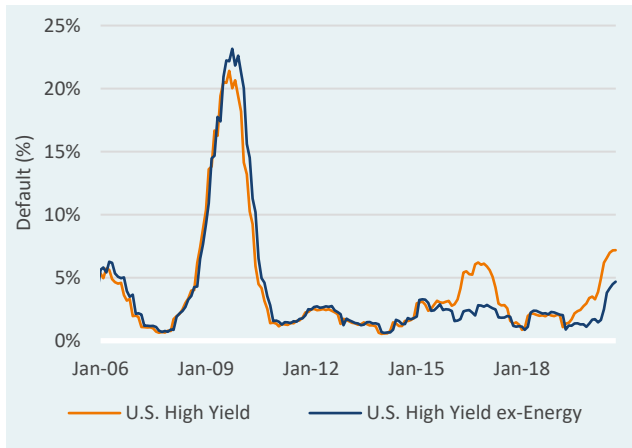
Default activity over the quarter slowed considerably from record numbers in Q2 but remained elevated relative to history. In the third quarter, 26 companies defaulted on \$19.3 billion, bringing the year-to-date default total to \$123.4 billion. This year-to-date figure would rank as the second highest annual default total on record.

The U.S. high yield default rate fell -0.4% in the quarter to 5.8% but remains 3.2% higher than the start of the year. Conversely, the U.S. leveraged loan default rate rose and hit a five-year-high at 4.3%, 2.6% higher year-to-date.

Certain high yield bond issuers took advantage of the low rate environment throughout Q3 and continued to come to market at a record pace. Gross issuance was \$131.9 billion over the quarter, which was second only to \$145.5 billion in Q2, the highest on record. Total gross issuance year-to-date has been \$350.3 billion.

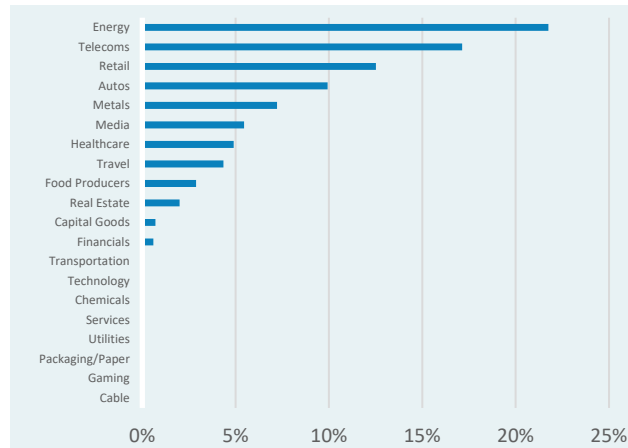
Investment grade issuance fell to nearly half the rate of the second quarter but remains elevated. New investment grade issuance totaled \$371 billion. A year-to-date \$1.54 trillion worth of new investment grade debt was nearly 70% higher than during the same period of 2019.

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



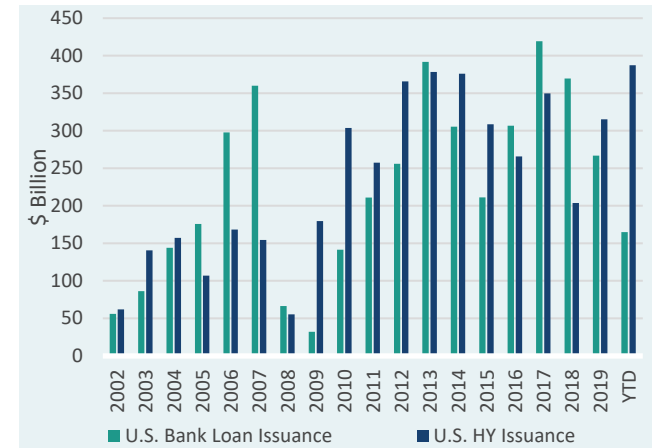
Source: BofA Merrill Lynch, as of 9/30/20

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



Source: BofA Merrill Lynch, as of 9/30/20 – par weighted

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



Source: BofA Merrill Lynch, as of 9/30/20

# Equity

# Equity environment

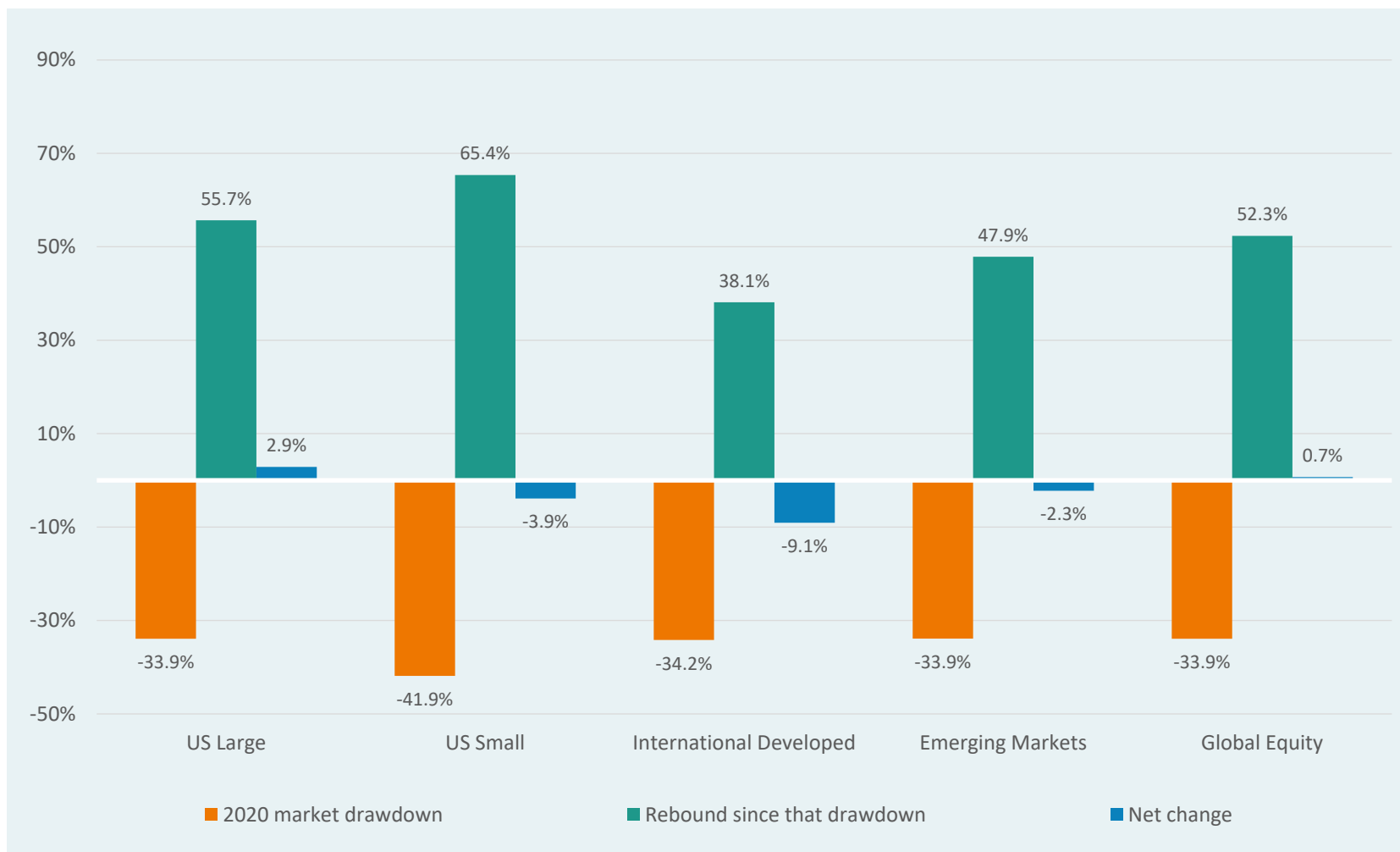
- U.S. equities reached a new high in September before pulling back later in the month. U.S. and emerging markets have recovered most losses year-to-date, while international developed equities remain more negative. Global equities are now positive for 2020 despite an earnings recession and considerable economic uncertainty.
- Emerging market equities outperformed during the quarter (MSCI Emerging Markets +9.6%) followed by domestic equities (S&P 500 +8.9%) and international developed (MSCI EAFE +4.8%).
- According to FactSet, S&P 500 Q3 earnings are expected to be down -20.5%. However, earnings in Q2 beat expectations by 12.5% (-31.6% YoY vs. -44.1%). Another large positive surprise in Q3 would be welcome news to investors. The Cboe VIX Index moderated in June
- from heightened levels and remained generally rangebound during the third quarter. The VIX ended the month of September at 26, higher than the long-term average of 19.
- The U.S. dollar fell -3.5% in the third quarter, continuing a downward trend since a sudden jump in March on safe-haven buying. The dollar has now completely unwound the gains experienced during the market sell-off.
- U.S. growth stocks beat value stocks in the third quarter, continuing an incredible run of market leadership (Russell 1000 Growth +13.2%, Russell 1000 Value +5.6%), while large cap stocks outperformed small cap stocks (Russell 1000 +9.5%, Russell 2000 +4.9%).

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (S&P 500)	8.9%		15.1%	
US Small Cap (Russell 2000)	4.9%		0.4%	
US Large Value (Russell 1000 Value)	5.6%		(5.0%)	
US Large Growth (Russell 1000 Growth)	13.2%		37.5%	
International Large (MSCI EAFE)	4.8%	1.3%	0.5%	(3.1%)
Eurozone (Euro Stoxx 50)	3.5%	(0.6%)	(1.7%)	(6.8%)
U.K. (FTSE 100)	0.1%	(4.1%)	(13.9%)	(17.0%)
Japan (NIKKEI 225)	6.8%	4.7%	10.9%	10.2%
Emerging Markets (MSCI Emerging Markets)	9.6%	8.5%	10.5%	12.8%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 9/30/20



# Equity market peak-to-trough



Equity markets around the world have recovered most of their losses

As of 10/15/20 - "Peak-to-trough" is defined as the total loss from the highest value achieved in 2020 to the lowest value achieved following the COVID-19 market drawdown. "Net change" is the difference between the market price on October 15<sup>th</sup> and the highest value achieved in 2020. Indexes include: S&P 500, Russell 2000, MSCI EAFE, MSCI Emerging Markets, MSCI ACWI.

# Domestic equity

U.S. equities delivered +8.9% in Q3, reaching a new high in September before pulling back later in the month. The S&P 500 is up +5.6% year-to-date, despite an earnings recession and considerable economic uncertainty.

Consumer Discretionary (+15.1%) and Materials (+13.3%) sectors led in Q3, with Energy (-19.7%) delivering further underperformance. Information Technology stocks have shown impressive performance year-to-date (+27.5%) and have captured headlines as some company valuations have

reached lofty levels. Large technology names have seen greater volatility recently, and exhibited a quick pullback during the first week of September. Growth stocks continue to be in vogue in the current low-growth environment.

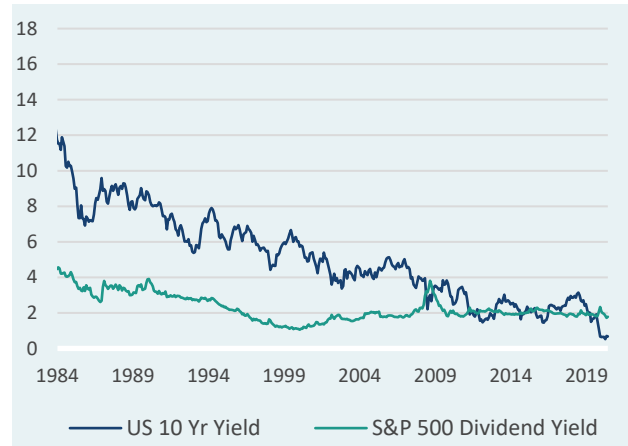
Many investors are justifiably questioning the rationale for such strong risk asset performance, at a time when so much uncertainty exists around public health and the economy, and at a time when some business models may no longer be viable due to COVID-19.

## S&P 500



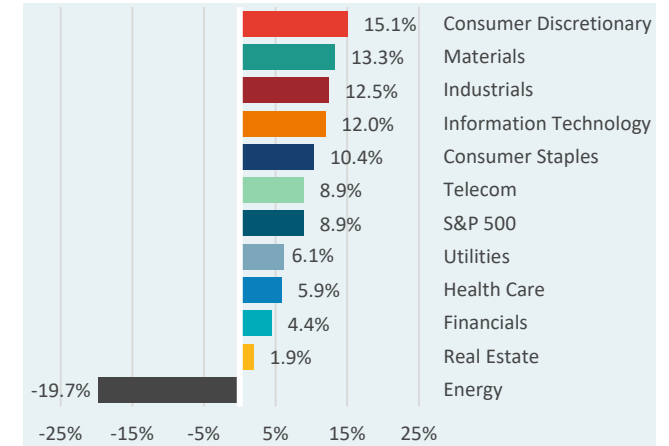
Source: Standard & Poor's, as of 9/30/20

## DIVIDEND YIELD VS BOND YIELD



Source: Standard & Poor's, as of 9/30/20

## Q3 SECTOR PERFORMANCE



Source: Standard & Poor's, as of 9/30/20

# Domestic equity size & style

U.S. growth stocks beat value stocks during Q3, continuing an incredible run of market leadership (Russell 1000 Growth +13.2%, Russell 1000 Value +5.6%), while large cap stocks outperformed small cap stocks (Russell 1000 +9.5%, Russell 2000 +4.9%).

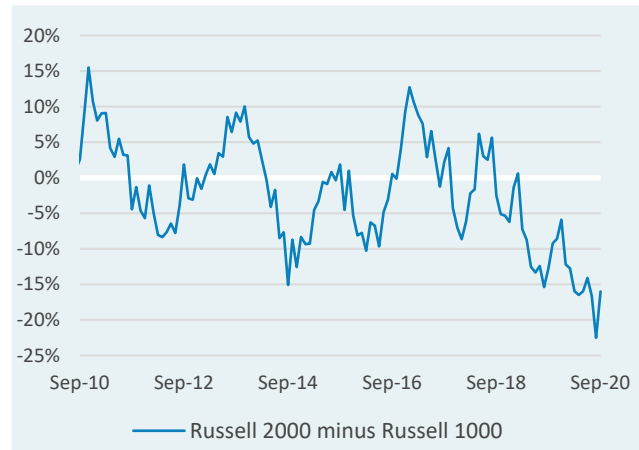
It seems that 2020 has been the perfect storm for value stocks. Commodities sectors were experiencing oversupply leading up to the onset of COVID-19, and the virus greatly accelerated these problems, resulting in a historic crash to prices (the Energy sector contains many value stocks). The Energy sector has delivered -45.2% over the past year. At the same time, the world has been rapidly changing in terms of technological progress, and COVID-19 appears to have accelerated these trends, contributing to extreme

outperformance of the growth-tilted Information Technology sector at +47.2% over the past year.

We recognize that recent value underperformance is anomalous, but we also recognize that much of this price action has been due to global trends that may not necessarily reverse over the short-term. It is very difficult to successfully make short-term bets on style factors, as factors can be incredibly noisy and vulnerable to sector randomness. Value is historically cheap, but a catalyst for a value turnaround is not yet evident. We continue to believe that a buy-and-hold approach to style investing is the best course of action, most of the time, but we are closely watching this space.

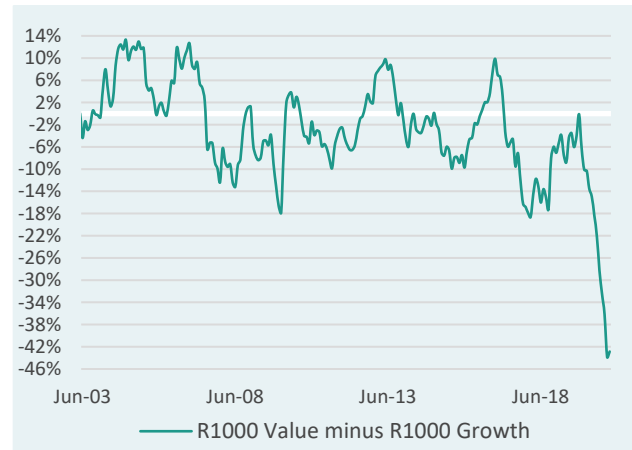
Sector performance has fueled dramatic negative performance of the value premium

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



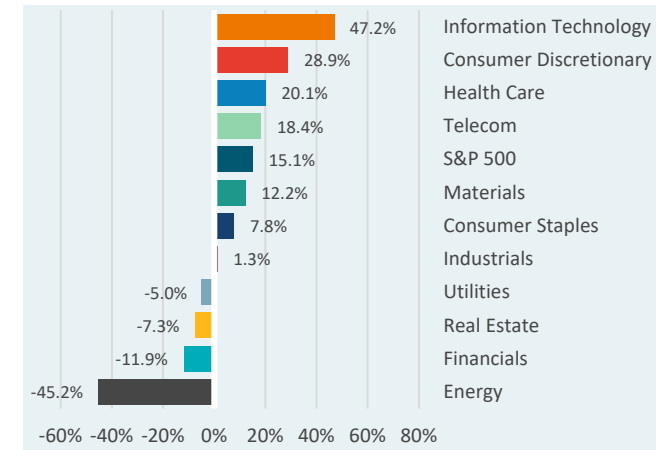
Source: FTSE, as of 9/30/20

**VALUE VS GROWTH (YOY)**



Source: FTSE, as of 9/30/20

**S&P 500 SECTOR PERFORMANCE (1-YEAR)**



Source: Standard & Poor's, as of 9/30/20

# International developed equity

International equities continued to recover through Q3, though the MSCI EAFE Index (+4.8%) materially lagged the MSCI Emerging Markets Index (+9.6%) and the S&P 500 Index (+8.9%). Dollar weakness coinciding with the risk recovery through the summer was a major theme and dampened the underperformance of international developed equities relative to U.S. equities in U.S. dollar terms. The three largest currency exposures embedded in the MSCI EAFE Index—the euro (32%), the yen (26%), and the pound sterling (13%)—appreciated +4.4%, +2.2%, and +4.6% relative to the greenback over the course of the quarter.

In the second quarter, MSCI EAFE Index revenues dropped nearly -20%, and earnings dropped nearly -60%, pushing certain valuation metrics including price/earnings ratios to historic highs. Moving into Q3 earnings season, analysts are anticipating a historic turnaround in corporate profits, which could help bring valuations back to more normal levels.

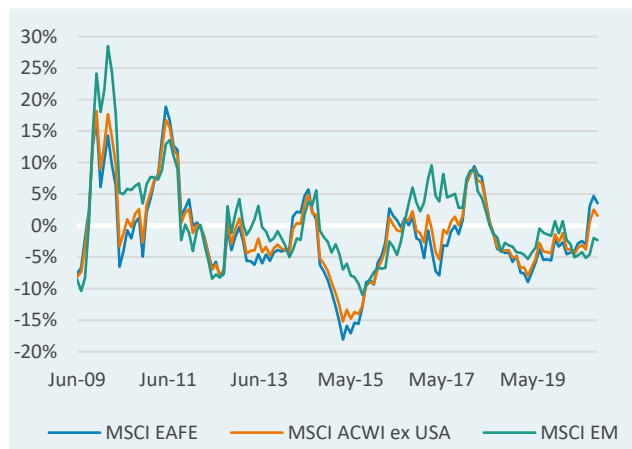
The MSCI EAFE Growth Index returned +8.4% over the third quarter, outpacing the MSCI EAFE Value Index (+1.2%) in U.S. dollar terms, extending its outperformance over the year-to-date to a staggering +23.6%.

## INTERNATIONAL DEVELOPED EQUITIES



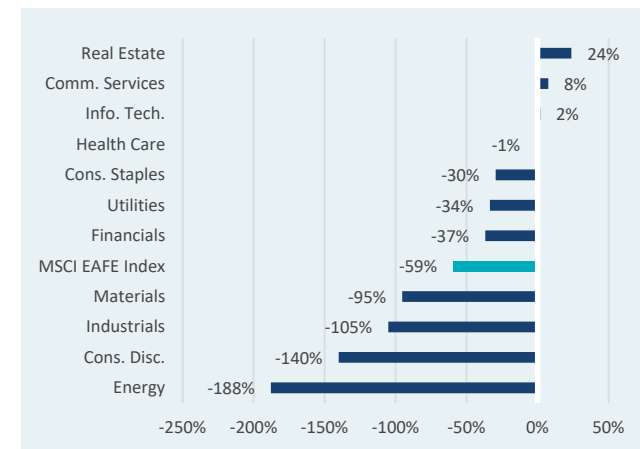
Source: MSCI, as of 9/30/20

## EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 9/30/20

## Q2 2020 EARNINGS GROWTH – MSCI EAFE INDEX



Source: MSCI, Bloomberg, as of 9/30/20

# Emerging market equity

Emerging market equities (MSCI EM +9.6%) outperformed U.S. (S&P 500 +8.9%) and international developed equities (MSCI EAFE +4.8%) over the quarter. Looking across the emerging market complex, Latin American equities underperformed (MSCI EM Latin American -1.3%) which was a continuation of a longer-term trend. Latin American stocks have drastically underperformed over the previous 10-year period (MSCI EM Latin America -5.7%, MSCI EM +2.5%).

Inflation remained subdued relative to longer-term averages, due in large part to energy prices remaining under pressure. The Emerging Markets Citi Inflation Surprise Index rose from

-28.8 to -6.6 over the quarter, implying that the magnitude of inflation data misses lessened between June and September.

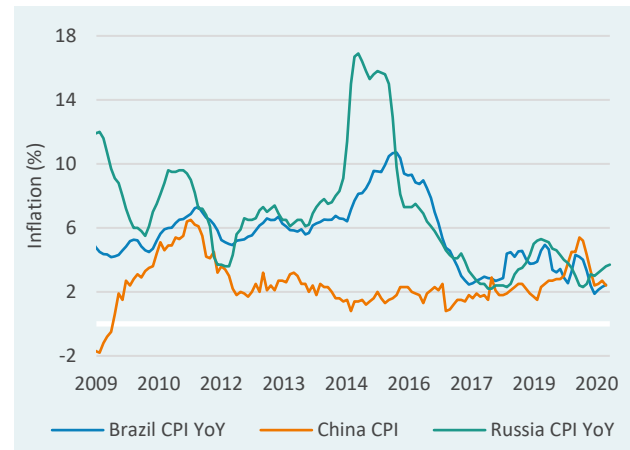
Emerging market currencies broadly appreciated relative to the U.S. dollar, and Asian currencies outperformed. The offshore Chinese renminbi rallied 4.2% versus the greenback to ¥6.78, its strongest level since mid-2019. Part of the rally in the yuan has been attributed to FTSE Russell's recent decision to add Chinese government bonds to its World Government Bond Index. This change would take effect in 2021, and would likely result in increased foreign capital inflows.

## EMERGING MARKET EQUITY



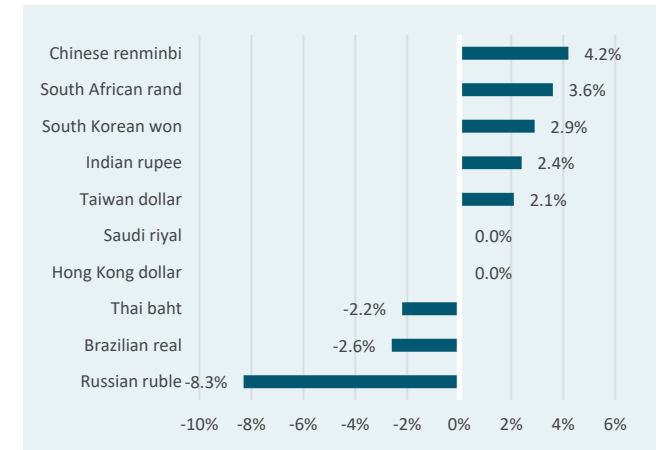
Source: MSCI, as of 9/30/20

## INFLATION (YOY)



Source: Bloomberg, as of 9/30/20

## Q3 CURRENCY PERFORMANCE – MSCI EM INDEX



Source: Bloomberg, as of 9/30/20



# Equity valuations

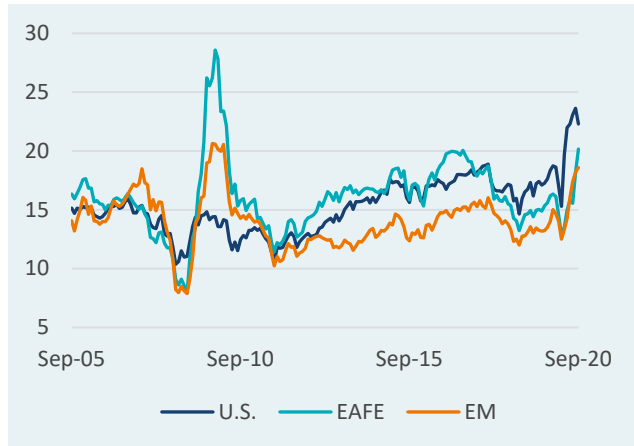
U.S. equity valuation levels moderated in September after continuing to rise through July and August. Prices ended the quarter little changed relative to 12-month earnings forecasts (22.3 Price/Earnings). The moderation of U.S. equity valuations was driven in part by a tech-driven sell-off across U.S. large-caps, and in part by improvement in the earnings growth and outlook.

The blended net profit margin for the S&P 500 Index in Q3, which combines actual reported results and estimated results for companies which have yet to report, is 9.7%. If the

blended net profit margin were to materialize, it would mark the first quarterly improvement in the profitability metric since the second quarter of 2019, and could provide further fundamental backing for current price levels. Analysts are expecting net profit margins to continue to improve. Estimated profit margins for Q4 2020, Q1 2021, and Q2 2021 ended the quarter at 9.8%, 10.4%, and 11.0%, respectively.

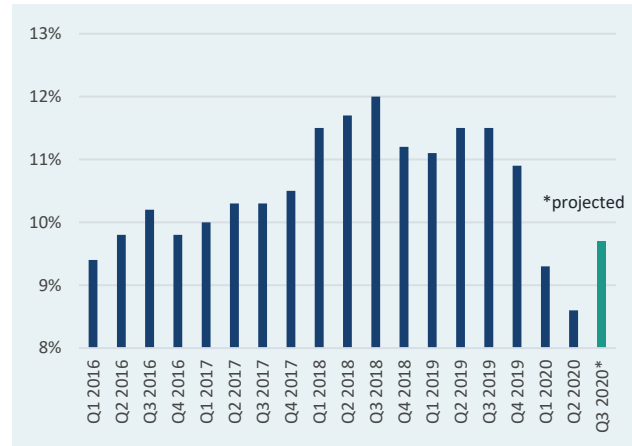
Equity dividend yields remain attractive relative to nominal government bond yields, especially in Europe, and could further entice investors to reach for yield through risk assets.

## FORWARD P/E RATIOS



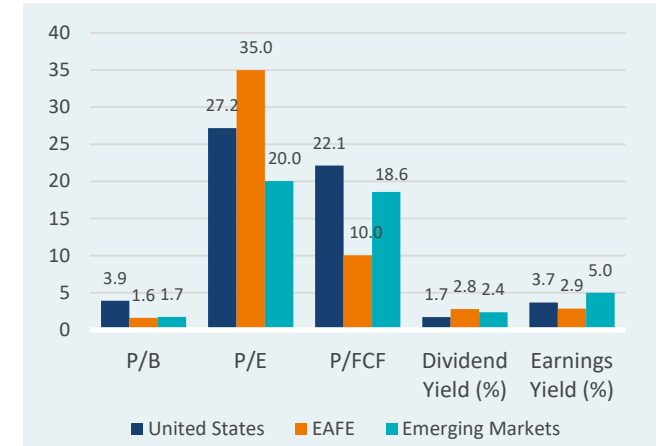
Source: MSCI, 12m forward P/E, as of 9/30/20

## S&P 500 NET PROFIT MARGINS



Source: FactSet, as of 9/30/20

## VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI as of 9/30/20 - trailing P/E

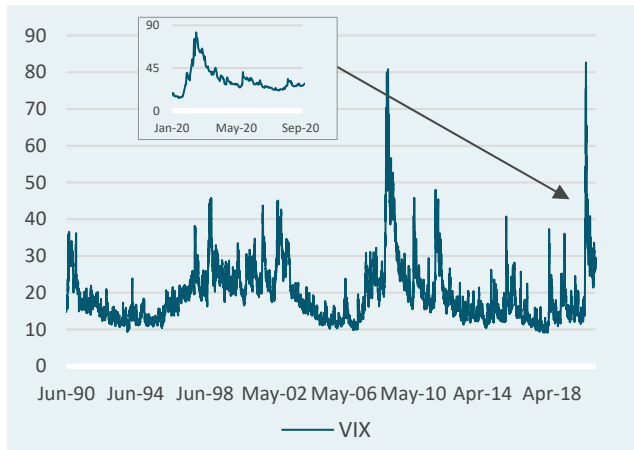
# Equity volatility

The Cboe VIX Index moderated in June from heightened levels, and remained generally rangebound during the third quarter. The VIX ended September at 26, but remains elevated relative to the long-term average of 19.

U.S. equities have historically exhibited the lowest risk among developed and emerging markets. 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.

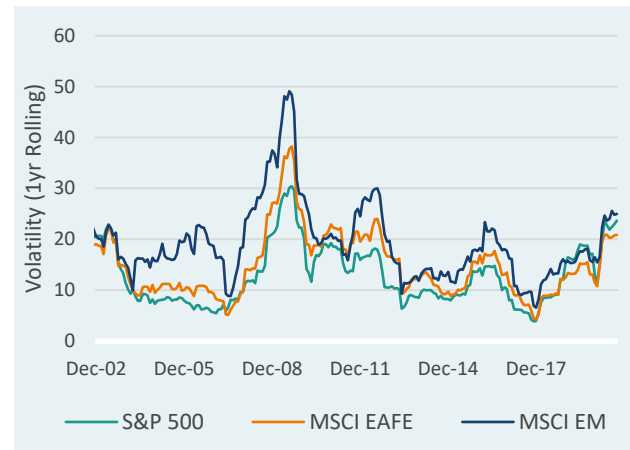
Expectations for short-term equity volatility faded through the summer. The VIX term structure continued to indicate an expectation for heightened volatility around the Presidential election in the beginning of November. Toward the end of the quarter, concerns over the impact of mail-in voting on the timeliness of electoral results reporting led some market participants to position around the prospect of a contested election and its consequences for equity markets. Polling data indicates a widening lead for Biden. The prospect of a “Blue Wave” appears to have emboldened some traders to sell longer-dated VIX futures contracts.

## U.S. IMPLIED VOLATILITY (VIX)



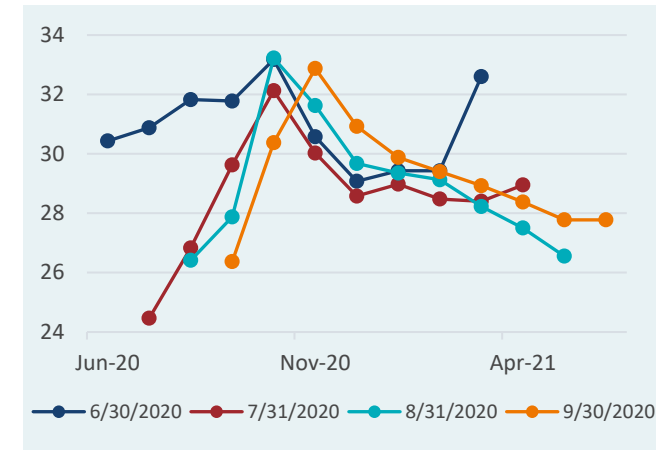
Source: Cboe, as of 9/30/20

## REALIZED VOLATILITY



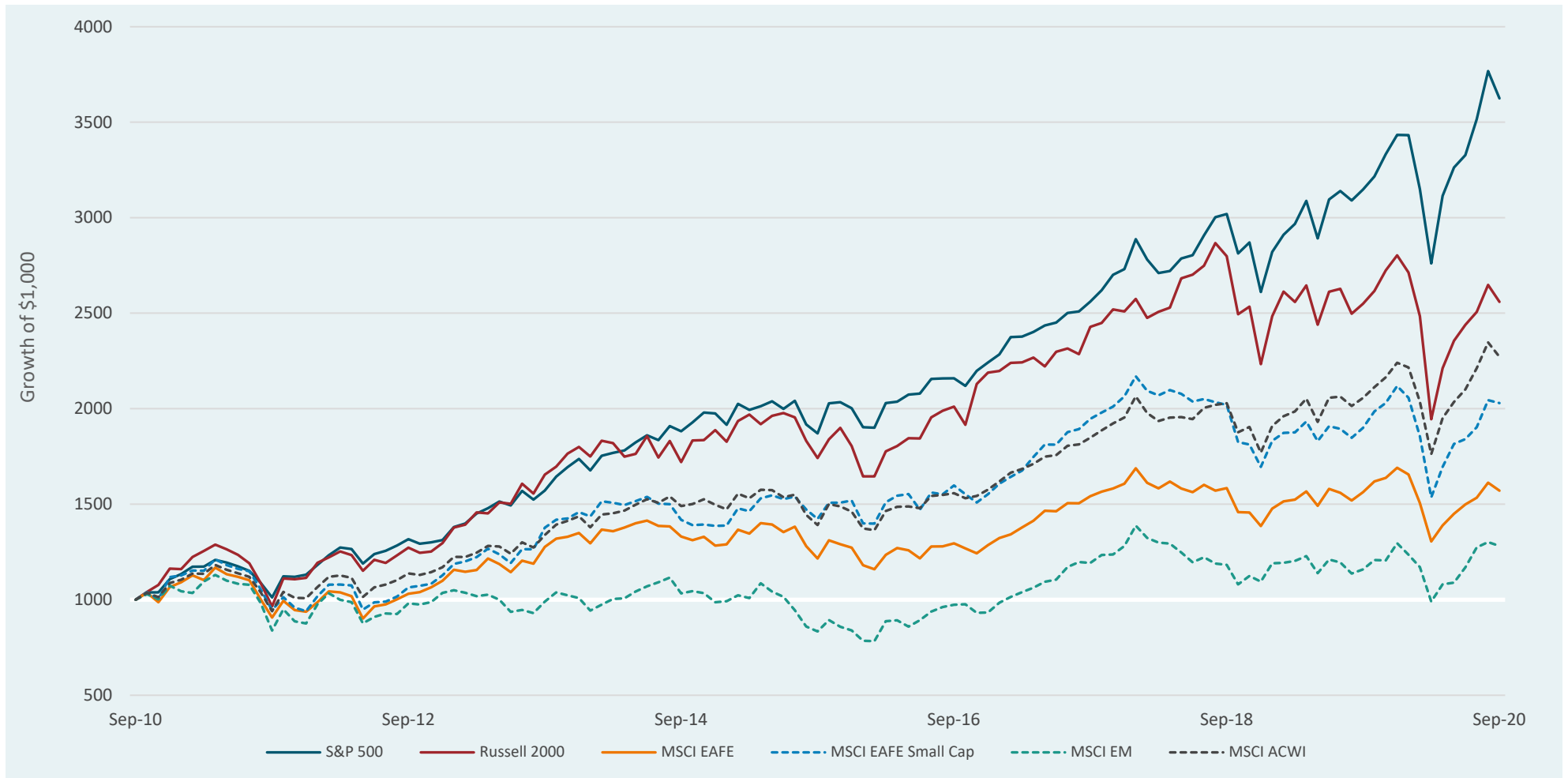
Source: Standard & Poor's, MSCI, as of 9/30/20

## HISTORICAL VIX TERM STRUCTURES



Source: Bloomberg, as of 9/30/20

# Long-term equity performance



Source: Morningstar, as of 9/30/20

# Other assets

# Currency

The U.S. dollar fell -3.5% in the third quarter, continuing a downward trend since a sudden jump in March on safe-haven buying. Though the dollar did show some signs of stabilization in September as equities took a step back, the Bloomberg Dollar Spot Index has now completely unwound the gains experienced during the market sell-off.

Interest rate differentials between U.S. Treasury bonds and international developed sovereign bonds have begun to separate once again. U.S. Treasury yields traded in a relatively narrow range while European yields

drifted lower, perhaps as a result of speculation on further quantitative easing from the European Central Bank. A continuation of this trend could be supportive of the dollar bull case, looking ahead.

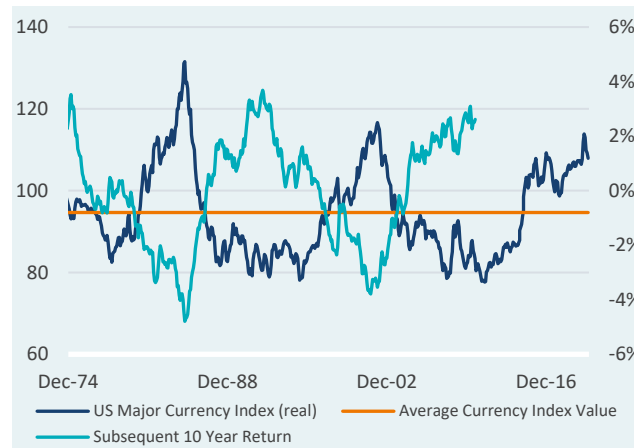
Despite the significant rally of the euro (+4.4%) relative to the greenback in Q3, the common currency remains cheap according to the OECD's purchasing power parity data. At quarter-end, the euro was -20.8% cheap relative to the U.S. dollar, which was significant but still at its least undervalued level since September 2018.

## BLOOMBERG DOLLAR SPOT INDEX



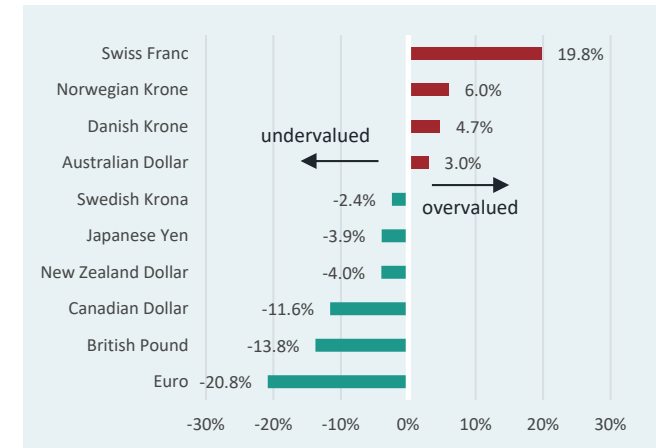
Source: Bloomberg, as of 9/30/20

## USD CURRENCY LEVEL & SUBSEQUENT RETURN



Source: Federal Reserve, as of 9/30/20

## G10 FX VALUATIONS – OECD PPP (VS USD)



Source: OECD, Bloomberg, as of 9/30/20

# Equity factors: A closer look

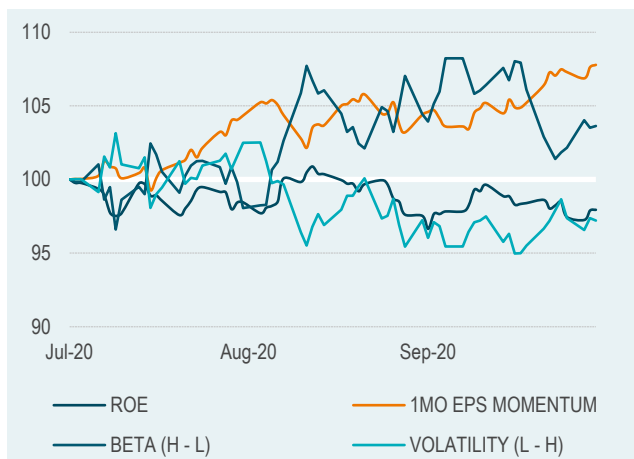
Investors rewarded stocks with improving earnings prospects during the third quarter as one-month earnings momentum (long/short, sector neutral, S&P 500) was the top performing factor for the period. Stocks with higher beta and higher historic volatility also continued to rally during most of the quarter. In contrast, higher quality stocks sold off during the period.

Over the trailing 5-year period, the respective growth, quality and price momentum factors finished with modestly negative results. These factors also showed some recent sensitivity to the dramatic market movements caused by the

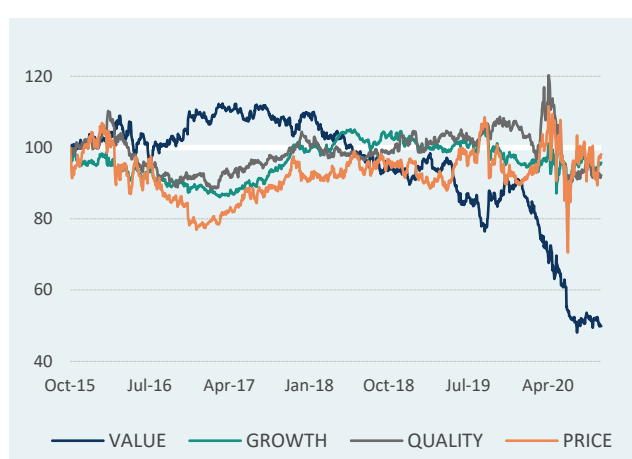
pandemic. In contrast, the value factor remains mired in a long-term drawdown.

The pandemic has caused significant dispersion as investors rushed into stocks perceived to benefit from the crisis. In contrast, the stocks thought to gain most from a potential recovery back to normalcy continue to lag both the beneficiaries and the broad market. The structural risk to the recovery theme is a potential permanent change in behavior as certain activities, such as travel and tourism, remain depressed relative to pre-COVID norms.

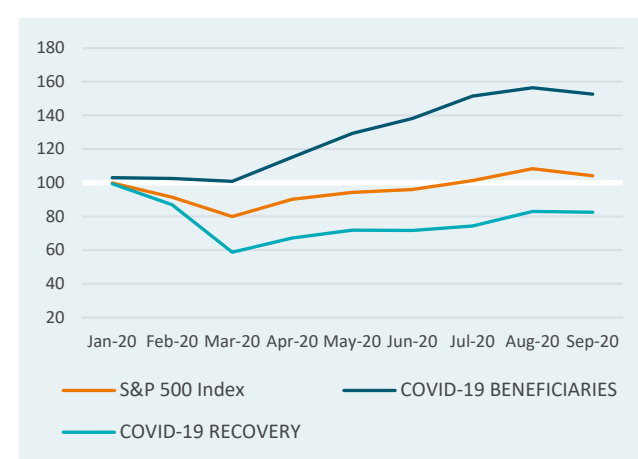
**2020 Q3 FACTOR PERFORMANCE**



**2015Q4 – 2020Q3 FACTOR PERFORMANCE**



**COVID-19 BASKETS**



Source: JP Morgan US Equity Strategy

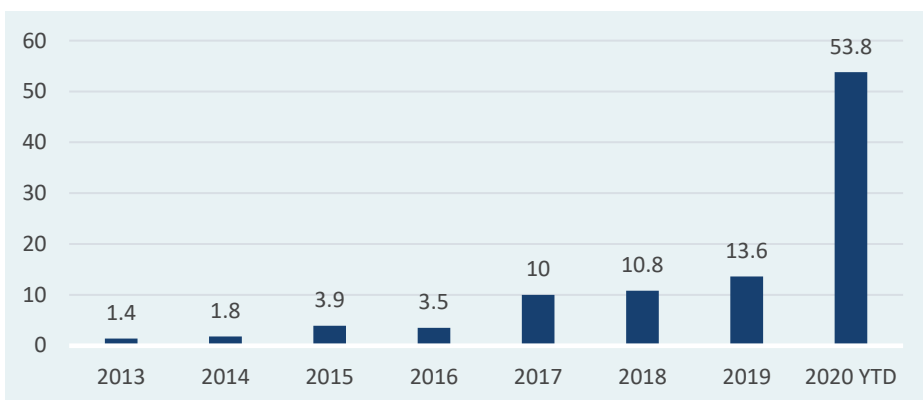


# SPACs at a glance

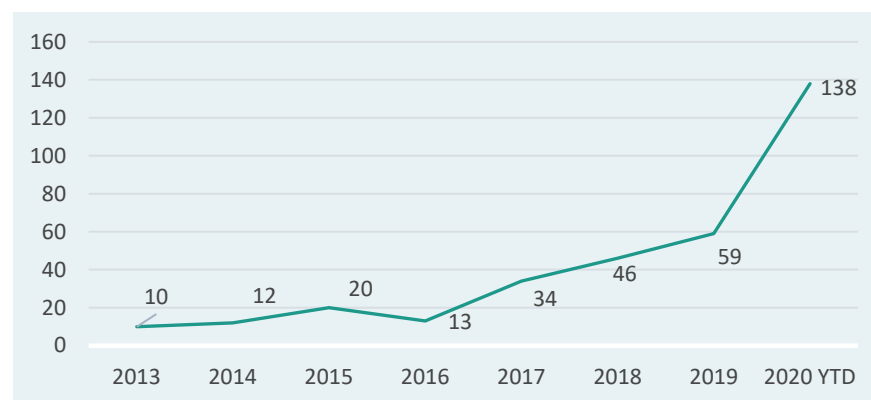
Special Purpose Acquisition Companies, commonly abbreviated as SPACs, have proliferated substantially in 2020, especially in the third quarter. This has been driven by recent market volatility, increasing initial public offering (IPO) risks and inefficiencies, coupled with record retail investor trading volume. The reputation of SPACs is improving as notable investors and operators continue to enter the space.

- A SPAC is a “blank check” shell company formed specifically to acquire a late-stage private company target. From the SPAC sponsor’s point of view, it is analogous to creating a Private Equity fund that renders only one investment, which becomes publicly traded upon the merger process known as “de-SPAC”.
- SPACs allow private companies to undergo public listing quicker, bypassing a traditional IPO process.

**TOTAL SPACS CAPITAL RAISED (\$BN)**



**NUMBER OF SPAC IPOs**



Source: SPAC Research, as of 10/9/20

# Implications for institutional investors

- SPACs have experienced significant volatility around a historic negative return level.

## SPAC RETURNS % POST-MERGER COMPLETION

Sample of SPAC transactions completed since January 2018



- We believe the rise of SPACs will continue to disrupt different asset classes in various ways.
  - In Venture Capital and Leveraged Buyouts, SPAC serves as a new potential exit channel for companies that pre-empts a traditional IPO, generating earlier liquidity for GPs and LPs.
  - SPACs have become a deal source for mutual funds, private markets and hedge fund managers to invest via a PIPE.
  - In SPACs, milestone-based compensation for the management team are more acceptable and normalized as compared to a traditional IPO. This could potentially lead to better alignment of company and GP incentives and interests.

SPACs have yet to be proven as an attractive asset class for prudent investors

We are currently assessing the longer-term impact of SPACs on the private & public markets

Source: Goldman Sachs Global Investment Research, Dealogic, UBS, as of 7/30/20.

# Appendix

# Periodic table of returns

BEST

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	YTD	5-Year	10-Year
Large Cap Growth	38.7	66.4	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	24.3	20.1	17.3
US Bonds	27.0	43.1	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	31.4	6.8	14.1	13.8
Large Cap Equity	20.3	33.2	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	28.5	6.4	11.4	12.3
Small Cap Growth	19.3	27.3	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	26.5	3.9	9.0	9.9
60/40 Global Portfolio	16.2	26.5	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	25.5	3.6	8.0	9.9
Hedge Funds of Funds	8.7	21.3	4.1	-2.4	-6.0	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	-6.0	22.4	2.5	8.0	9.3
Cash	15.6	24.3	6.0	2.5	-5.9	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	-4.8	22.0	0.4	7.7	7.1
Real Estate	4.9	20.9	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	18.6	-0.3	6.1	6.2
Emerging Markets Equity	1.2	13.2	-7.3	-9.1	-15.5	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	18.4	-1.2	5.3	4.6
International Equity	-2.5	11.4	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	8.7	-7.1	4.2	3.6
Small Cap Equity	-5.1	7.3	-14.0	-12.4	-20.5	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	7.8	-8.7	4.1	2.9
Large Cap Value	-6.5	4.8	-22.4	-19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	7.7	-11.6	3.1	2.5
Commodities	-25.3	-0.8	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	6.4	-12.1	1.1	0.6
Small Cap Value	-27.0	-1.5	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	2.1	-21.5	-3.1	-6.0

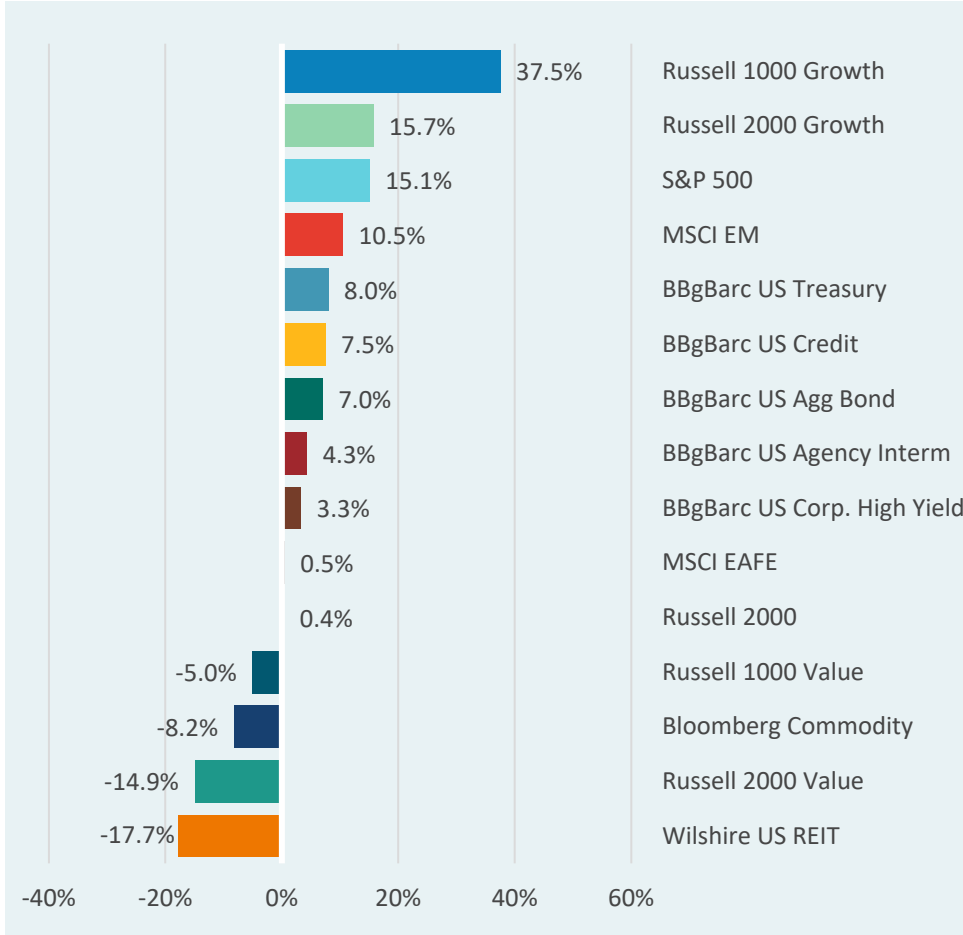
WORST

- Large Cap Equity
- Small Cap Growth
- Commodities
- Large Cap Value
- International Equity
- Real Estate
- Emerging Markets Equity
- Hedge Funds of Funds
- US Bonds
- 60% MSCI ACWI/40% BBgBarc Global Bond
- Cash

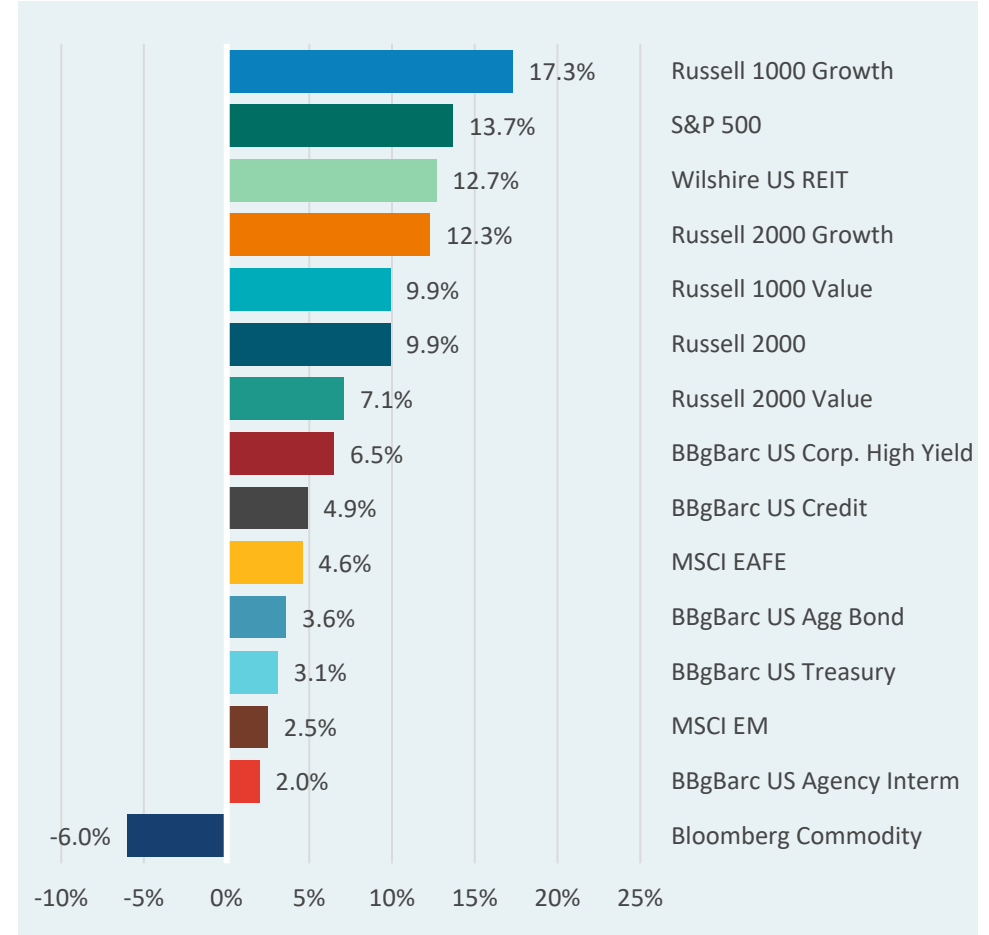
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 6/30/20.

# Major asset class returns

ONE YEAR ENDING SEPTEMBER



TEN YEARS ENDING SEPTEMBER



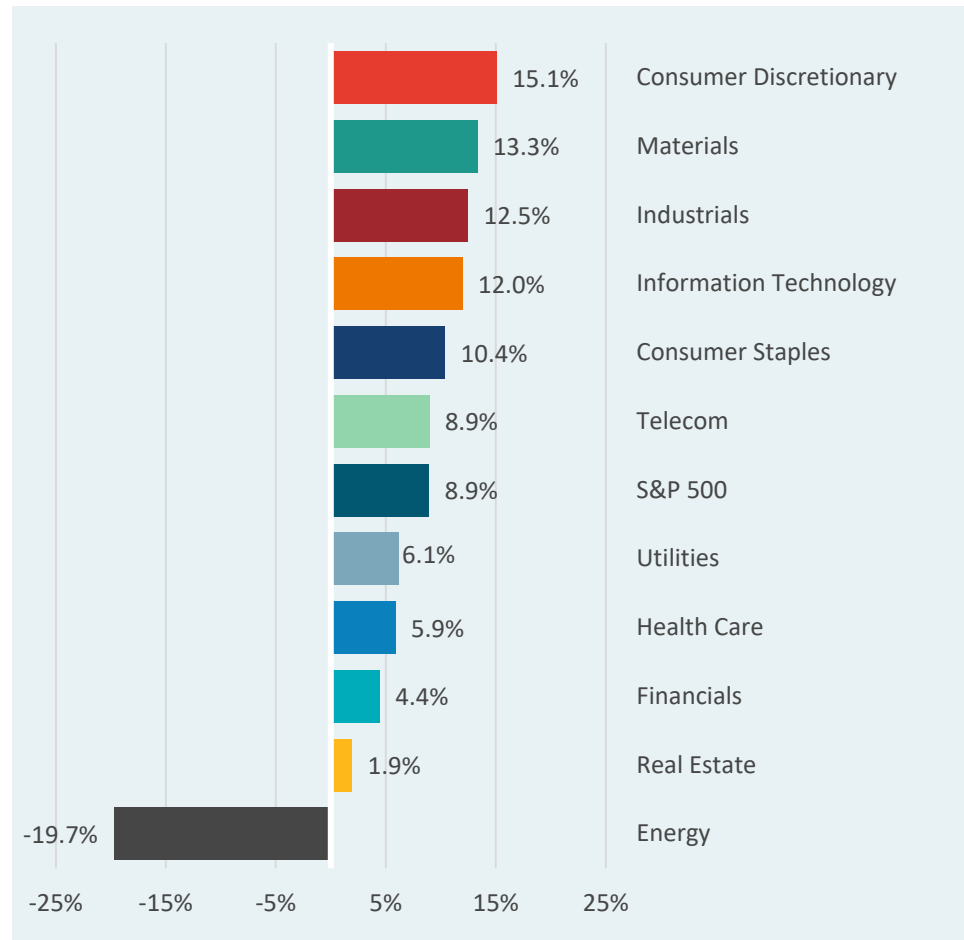
\*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 9/30/20

Source: Morningstar, as of 9/30/20

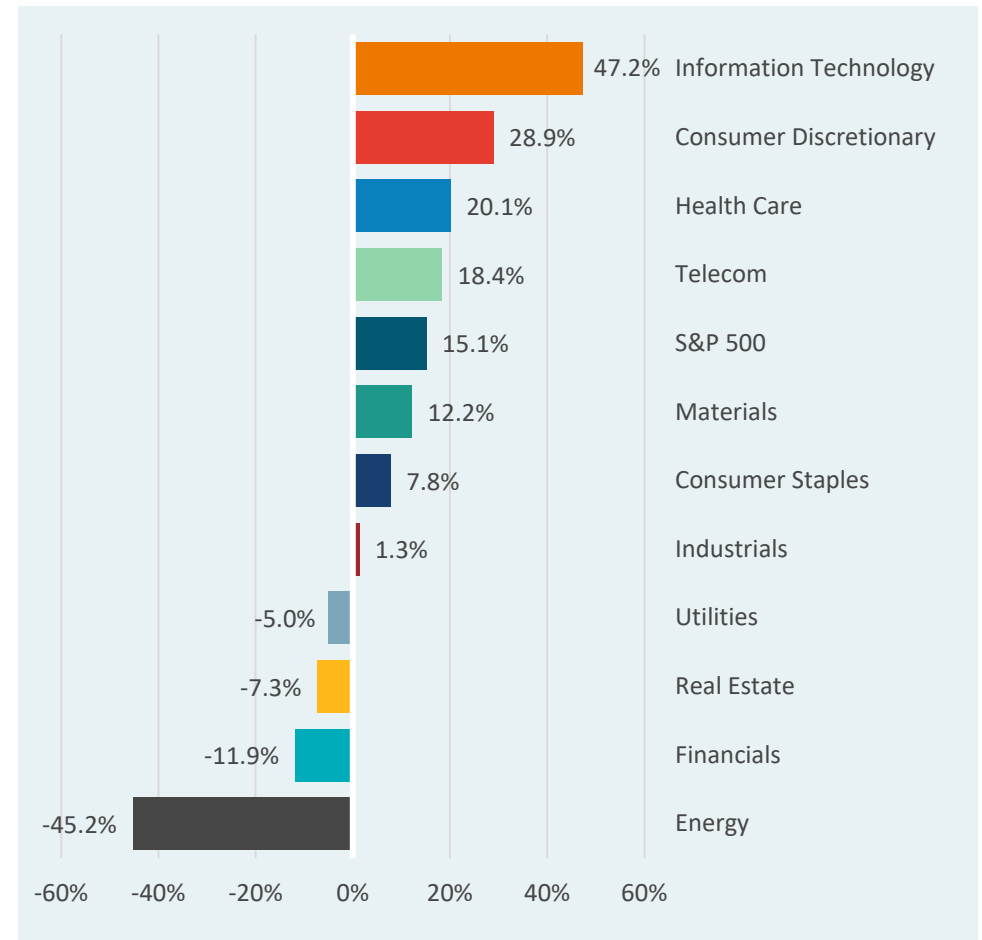
# S&P 500 sector returns

Q3 2020



Source: Morningstar, as of 9/30/20

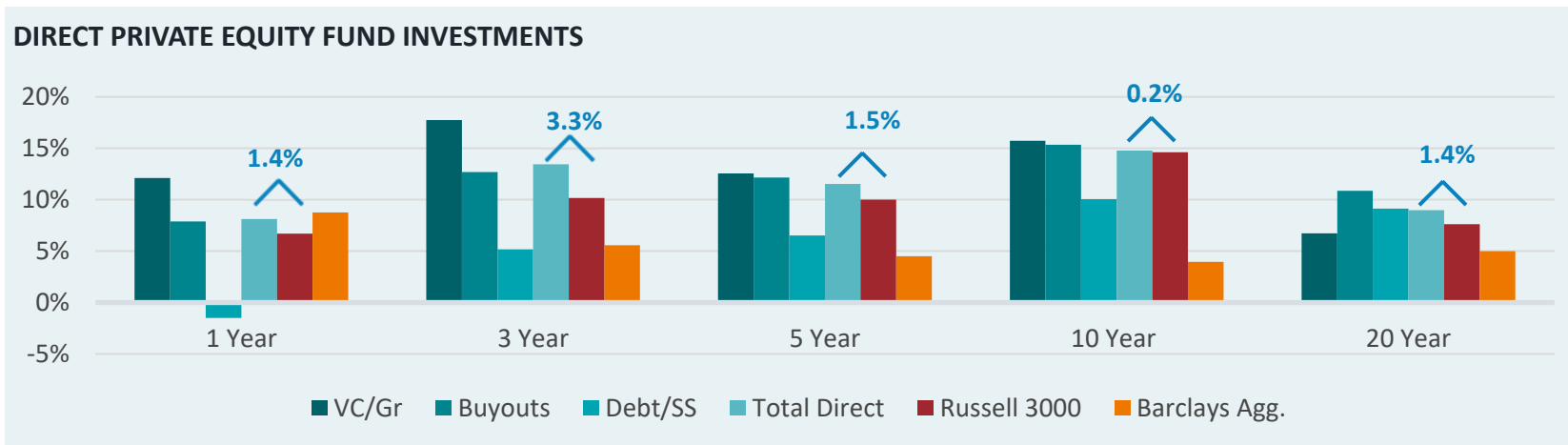
ONE YEAR ENDING SEPTEMBER



Source: Morningstar, as of 9/30/20

# Private equity vs. public performance

As of 6/30/2020



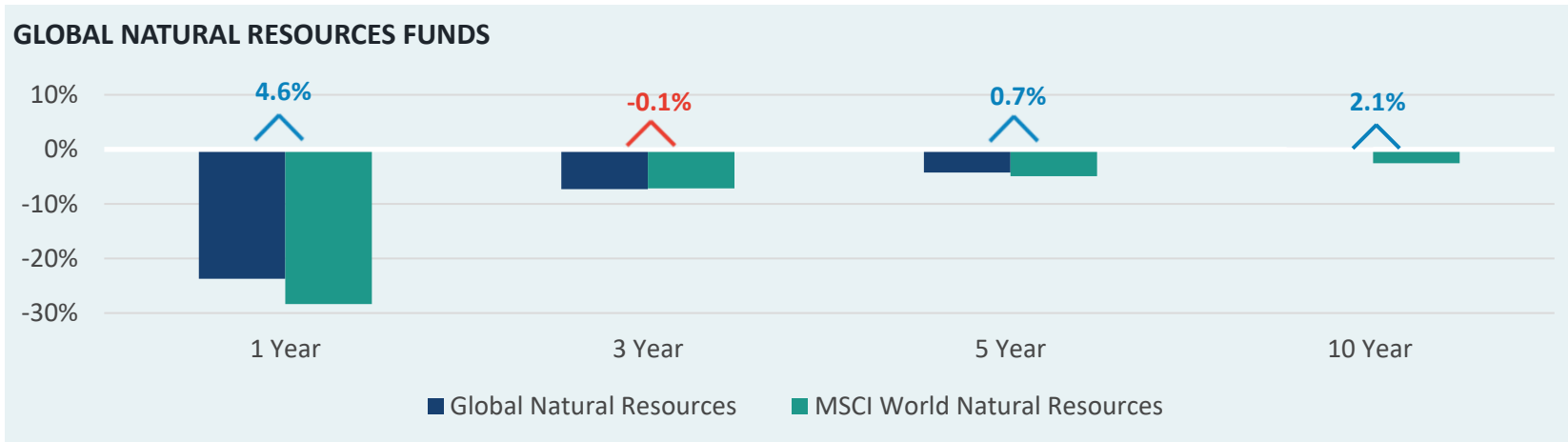
Direct P.E Fund Investments outperformed comparable public equities across all time periods.

Sources: Thomson Reuters Cambridge Universe's PME Module: U.S. Private Equity Funds sub asset classes as of June 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 6/30/2020



N.R. funds underperformed the MSCI World Natural Resources benchmark across all time periods, except on a 3 year basis

Sources: Thomson Reuters C|A PME: Global Natural Resources (vintage 1999 and later, inception of MSCI World Natural Resources benchmark) universes as of June 30, 2020. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

# Detailed index returns

## DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Core Index</b>							
S&P 500	(3.8)	8.9	5.6	15.1	12.3	14.1	13.7
S&P 500 Equal Weighted	(2.5)	6.7	(4.7)	2.5	6.5	10.3	12.0
DJ Industrial Average	(2.2)	8.2	(0.9)	5.7	10.0	14.0	12.7
Russell Top 200	(4.2)	10.2	9.6	20.3	14.3	15.6	14.5
Russell 1000	(3.7)	9.5	6.4	16.0	12.4	14.1	13.8
Russell 2000	(3.3)	4.9	(8.7)	0.4	1.8	8.0	9.9
Russell 3000	(3.6)	9.2	5.4	15.0	11.6	13.7	13.5
Russell Mid Cap	(1.9)	7.5	(2.3)	4.6	7.1	10.1	11.8
<b>Style Index</b>							
Russell 1000 Growth	(4.7)	13.2	24.3	37.5	21.7	20.1	17.3
Russell 1000 Value	(2.5)	5.6	(11.6)	(5.0)	2.6	7.7	9.9
Russell 2000 Growth	(2.1)	7.2	3.9	15.7	8.2	11.4	12.3
Russell 2000 Value	(4.7)	2.6	(21.5)	(14.9)	(5.1)	4.1	7.1

## INTERNATIONAL EQUITY

<b>Broad Index</b>							
MSCI ACWI	(3.2)	8.1	1.4	10.4	7.1	10.3	8.5
MSCI ACWI ex US	(2.5)	6.3	(5.4)	3.0	1.2	6.2	4.0
MSCI EAFE	(2.6)	4.8	(7.1)	0.5	0.6	5.3	4.6
MSCI EM	(1.6)	9.6	(1.2)	10.5	2.4	9.0	2.5
MSCI EAFE Small Cap	(0.7)	10.3	(4.2)	6.8	1.4	7.4	7.3
<b>Style Index</b>							
MSCI EAFE Growth	(0.7)	8.4	4.6	13.4	7.1	9.2	7.0
MSCI EAFE Value	(4.6)	1.2	(18.3)	(11.9)	(5.9)	1.1	2.1
<b>Regional Index</b>							
MSCI UK	(5.0)	(0.2)	(23.4)	(15.8)	(5.6)	(0.4)	2.0
MSCI Japan	1.0	6.9	(0.7)	6.9	3.9	7.5	6.2
MSCI Euro	(3.8)	4.2	(9.1)	(1.9)	(2.1)	4.4	3.5
MSCI EM Asia	(1.1)	11.9	8.0	21.5	5.7	11.3	5.5
MSCI EM Latin American	(5.1)	(1.3)	(36.1)	(29.4)	(11.8)	2.1	(5.7)

## FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Broad Index</b>							
BBgBarc US TIPS	(0.4)	3.0	9.2	10.1	5.8	4.6	3.6
BBgBarc US Treasury Bills	0.0	0.0	0.7	1.2	1.7	1.2	0.7
BBgBarc US Agg Bond	(0.1)	0.6	6.8	7.0	5.2	4.2	3.6
<b>Duration</b>							
BBgBarc US Treasury 1-3 Yr	0.0	0.1	3.1	3.6	2.7	1.8	1.3
BBgBarc US Treasury Long	0.4	0.1	21.3	16.3	11.9	8.2	7.2
BBgBarc US Treasury	0.1	0.2	8.9	8.0	5.5	3.7	3.1
<b>Issuer</b>							
BBgBarc US MBS	(0.1)	0.1	3.6	4.4	3.7	3.0	3.0
BBgBarc US Corp. High Yield	(1.0)	4.6	0.6	3.3	4.2	6.8	6.5
BBgBarc US Agency Interm	0.1	0.3	4.0	4.3	3.3	2.4	2.0
BBgBarc US Credit	(0.3)	1.5	6.4	7.5	6.2	5.7	4.9

## OTHER

<b>Index</b>							
Bloomberg Commodity	(3.4)	9.1	(12.1)	(8.2)	(4.2)	(3.1)	(6.0)
Wilshire US REIT	(3.4)	1.3	(16.7)	(17.7)	0.4	5.7	12.7
CS Leveraged Loans	0.7	4.1	(0.8)	0.8	3.2	4.6	5.0
Alerian MLP	(13.6)	(16.3)	(48.3)	(50.7)	(21.9)	(12.4)	(4.0)
<b>Regional Index</b>							
JPM EMBI Global Div	(1.9)	2.3	(0.5)	1.3	3.5	6.1	5.4
JPM GBI-EM Global Div	(2.0)	0.6	(6.3)	(1.4)	0.2	4.8	0.5
<b>Hedge Funds</b>							
HFRI Composite	(1.2)	4.1	0.5	4.0	2.7	4.0	3.6
HFRI FOF Composite	(0.4)	4.2	2.5	5.6	2.9	3.1	2.9
<b>Currency (Spot)</b>							
Euro	(1.9)	4.4	4.5	7.6	(0.3)	1.0	(1.5)
Pound	(3.4)	4.6	(2.4)	4.9	(1.2)	(3.1)	(2.0)
Yen	0.5	2.2	3.0	2.4	2.2	2.6	(2.3)

Source: Morningstar, HFR, as of 9/30/20

# Definitions

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

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

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

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

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# Western States Office & Professional Employees Pension Fund

Investment Performance Review  
Period Ending: September 30, 2020



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SAN FRANCISCO 415-362-3484

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# 3<sup>rd</sup> quarter summary

## THE ECONOMIC CLIMATE

- Real GDP contracted at a -9.0% rate year-over-year in Q2 (-31.4% quarterly annualized rate)—likely the most sudden economic recession in American history.
- Europe is experiencing a drastic second wave of COVID-19 which has been sweeping across the continent. The seven-day average daily case growth of the EU and the U.K. combined rose from 4,699 to 48,807 during Q3.
- Election polls and the betting markets are indicating that Joe Biden is leading President Trump materially as we move into the final weeks pre-election. In 2016, the story was largely the same, as Clinton was expected to win up until the day before the election.

## PORTFOLIO IMPACTS

- U.S. and emerging markets have recovered most losses year-to-date, while international remain negative. Global equities are now positive for 2020 despite an earnings recession and considerable economic uncertainty.
- U.S. core inflation increased to a more normal level, rising 1.7% year-over-year in August from 1.2% in June. Inflation expectations also normalized. The 10yr U.S. TIPS inflation breakeven rate recovered to 1.6%, from a low of 0.5% on March 19th. The breakeven rate of inflation is now on par with actual year-over-year inflation.

## THE INVESTMENT CLIMATE

- The Federal Reserve announced a notable change to its inflation targeting approach, now aiming to achieve “inflation moderately above 2% for some time so that inflation averages 2% over time and longer-term inflation expectations remain well anchored at 2%.” This was a reversal from the prior goal of achieving 2% inflation.
- The Federal Reserve maintained an accommodative tone, and most members of the FOMC held their view that short rates are likely to stay near-zero through 2023—eventually moving to 2.50% over the longer-term.
- According to FactSet, S&P 500 Q3 earnings are expected to be down -20.5%. However, earnings in Q2 beat expectations by 12.5% (-31.6% YoY vs. -44.1%). Another large positive surprise in Q3 would be welcome news to investors.

## ASSET ALLOCATION ISSUES

- U.S. equities delivered +8.9% over the quarter, reaching a new high in September before giving back some gains. The S&P 500 is up +5.6% year-to-date, despite an earnings recession and considerable economic uncertainty.
- The U.S. dollar fell -3.5% in Q3, continuing a downward trend since a sudden jump in March on safe-haven buying. The dollar has now completely unwound the gains experienced during the market sell-off.

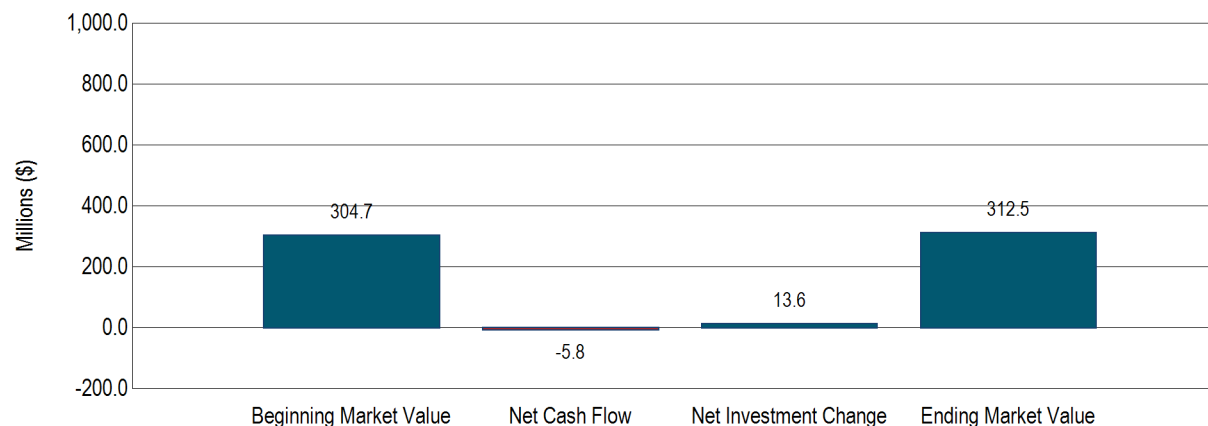
A more neutral risk positioning may be warranted in the current environment

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

Portfolio Reconciliation

	Last Three Months	Year-To-Date
Beginning Market Value	\$304,746,779	\$322,285,320
Net Cash Flow	-\$5,811,125	-\$19,088,211
Net Investment Change	\$13,587,202	\$9,325,748
Ending Market Value	\$312,522,857	\$312,522,857

Change in Market Value  
Last Three Months



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

Total Fund  
Cash Flow by Manager - Last Three Months

Period Ending: September 30, 2020

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
BlackRock Equity Index NL	\$32,026,693	\$0	-\$2,300,000	-\$2,300,000	\$2,861,843	\$32,588,536
INTECH US Adaptive Volatility	\$33,533,117	\$0	\$0	\$0	\$3,116,793	\$36,649,910
PanAgora US Small Cap Core Stock Selector	\$13,918,132	\$0	\$0	\$0	\$625,646	\$14,543,779
WCM Focused International Growth Fund, L.P.	\$37,310,502	\$0	\$0	\$0	\$3,269,677	\$40,580,179
Causeway International Value Ins	\$20,302,755	\$0	\$0	\$0	\$206,197	\$20,508,952
Loomis Sayles Core Plus	\$62,384,068	\$0	-\$1,700,000	-\$1,700,000	\$1,214,417	\$61,898,485
ASB Allegiance Real Estate	\$21,739,179	\$0	-\$55,787	-\$55,787	\$23,227	\$21,706,618
JPMorgan Special Situation Property	\$15,018,045	\$0	-\$60,248	-\$60,248	\$105,961	\$15,063,758
IFM Global Infrastructure (US) LP	\$9,908,677	\$0	\$0	\$0	\$185,589	\$10,094,266
JPMorgan IIF ERISA LP	\$7,663,444	\$0	\$0	\$0	\$0	\$7,663,444
Invesco Balanced-Risk Allocation	\$47,034,278	\$0	-\$1,700,000	-\$1,700,000	\$1,977,852	\$47,312,130
US Bank Checking Account	\$1,300,179	\$8,779,133	-\$8,758,017	\$21,116	\$0	\$1,321,294
US Bank Clearing Account	\$2,607,711	\$7,694,046	-\$7,710,251	-\$16,205	\$0	\$2,591,506
<b>Total</b>	<b>\$304,746,779</b>	<b>\$16,473,179</b>	<b>-\$22,284,304</b>	<b>-\$5,811,125</b>	<b>\$13,587,202</b>	<b>\$312,522,857</b>

Loomis Sayles Full Discretion liquidated 3/21/2017. Loomis Sayles Core Plus funded 3/21/2017. Parametric liquidated 4/21/2017. Mellon Dynamic liquidated 5/5/2017. Grosvenor Institutional liquidated 4/30/2018. Brandes International Small Cap Equity liquidated 8/31/2019. Invesco Real Estate II liquidated 9/1/2019. JPMorgan IIF ERISA LP as of 6/30/2020.

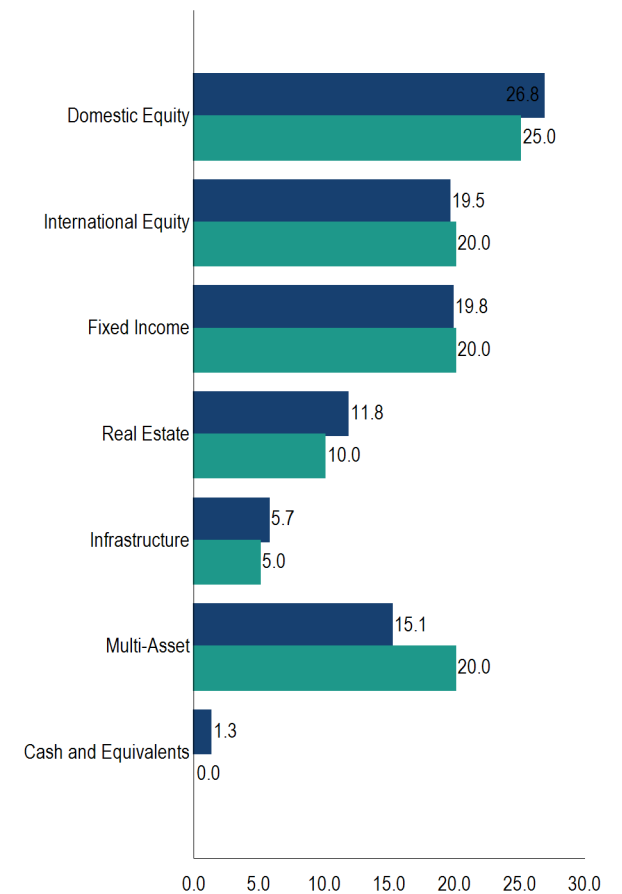


# Total Fund Executive Summary (Net of Fees)

Period Ending: September 30, 2020

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Total Fund</b>	<b>312,522,857</b>	<b>100.0</b>	<b>4.4</b>	<b>3.0</b>	<b>7.7</b>	<b>6.5</b>	<b>7.7</b>	<b>7.5</b>
<i>Total Fund Policy Index</i>			5.0	3.7	8.9	6.6	7.7	7.2
<i>Target Asset Allocation Policy Index</i>			5.4	4.4	9.9	7.6	8.6	8.1
<i>InvMetrics Tft-Hrtly DB \$250mm-\$1B Net Rank</i>			78	25	32	29	52	59
<b>Total Domestic Equity</b>	<b>83,782,225</b>	<b>26.8</b>	<b>8.3</b>	<b>3.0</b>	<b>9.3</b>	<b>8.9</b>	<b>11.6</b>	<b>12.7</b>
<i>Dow Jones U.S. Total Stock Market</i>			9.1	5.3	14.8	11.5	13.6	13.4
<i>InvMetrics Tft-Hrtly DB US Eq Net Rank</i>			49	41	64	62	59	23
<b>Total International Equity</b>	<b>61,089,131</b>	<b>19.5</b>	<b>6.0</b>	<b>0.9</b>	<b>11.4</b>	<b>5.5</b>	<b>8.2</b>	<b>4.5</b>
<i>Total Public Int'l Equity Benchmark (MSCI ACWI ex US IMI)</i>			6.8	-5.2	3.5	1.1	6.3	4.3
<i>InvMetrics Tft-Hrtly DB ex-US Eq Net Rank</i>			77	20	21	9	17	53
<b>Total Fixed Income</b>	<b>61,898,485</b>	<b>19.8</b>	<b>1.9</b>	<b>9.0</b>	<b>9.5</b>	<b>6.2</b>	<b>6.0</b>	<b>5.1</b>
<i>Total Fixed Income Benchmark (BBgBarc Aggregate)</i>			0.6	6.8	7.0	5.2	4.2	3.6
<i>InvMetrics Tft-Hrtly DB US Fix Inc Net Rank</i>			35	3	3	3	1	8
<b>Total Real Estate</b>	<b>36,770,376</b>	<b>11.8</b>	<b>0.2</b>	<b>0.8</b>	<b>2.0</b>	<b>5.0</b>	<b>5.6</b>	<b>9.9</b>
<i>NCREIF ODCE Net</i>			0.3	-0.7	0.5	4.3	5.7	9.3
<b>Total Infrastructure</b>	<b>17,757,710</b>	<b>5.7</b>	<b>1.1</b>	<b>-0.9</b>	<b>3.9</b>	<b>8.1</b>	<b>8.4</b>	<b>7.2</b>
<i>CPI + 5%</i>			2.2	5.1	6.4	6.9	6.9	6.8
<b>Total Multi-Asset</b>	<b>47,312,130</b>	<b>15.1</b>	<b>4.1</b>	<b>0.1</b>	<b>3.4</b>	<b>4.6</b>	<b>5.7</b>	<b>6.1</b>
<i>60% MSCI ACWI Net/40% FTSE WGBI</i>			6.1	4.2	9.6	6.4	8.0	6.1
<i>eV Global Balanced Net Rank</i>			83	55	58	39	81	75
<b>Total Cash</b>	<b>3,912,800</b>	<b>1.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.9</b>	<b>--</b>

Actual vs Target Allocation (%)



Actual Policy

Policy Index: 45% MSCI World, 25% BBgBarc Aggregate, 10% NCREIF-ODCE net, 20%(60% MSCI ACWI Net/40% CITI WGBI). Target Asset Allocation Policy Index: 25% Dow Jones US Total Stock, 20% MSCI ACWI ex US IMI, 20% BBgBarc Aggregate, 10% NCREIF-ODCE, 5% CPI + 5%, and 20% (60% MSCI ACWI Net/40% CITI WGBI). Data prior to 3Q 2015 is from previous consultant.

# Total Fund

## Risk Analysis - 3 & 5 Year (Net of Fees)

Period Ending: September 30, 2020

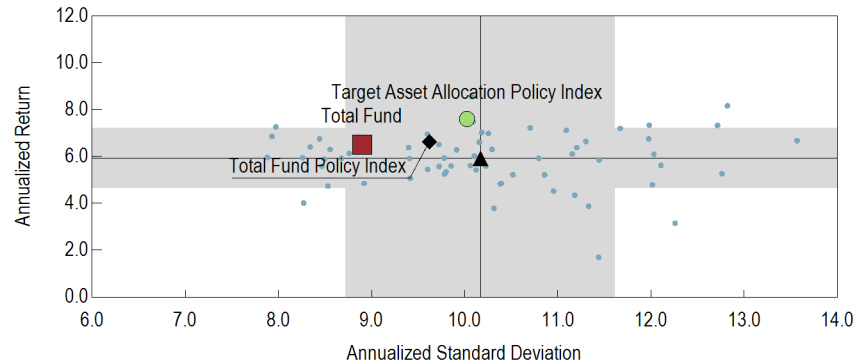
### 3 Year

	Anlzd Standard Deviation	Ann Excess BM Return	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio
Total Fund	8.90%	-0.13%	0.46%	0.91	0.97	88.70%	87.67%	-0.07	1.80%	0.55
Total Fund Policy Index	9.62%	0.00%	0.00%	1.00	1.00	100.00%	100.00%	--	0.00%	0.52
Target Asset Allocation Policy Index	10.02%	0.97%	0.71%	1.04	1.00	109.07%	102.00%	1.32	0.74%	0.60

### 5 Year

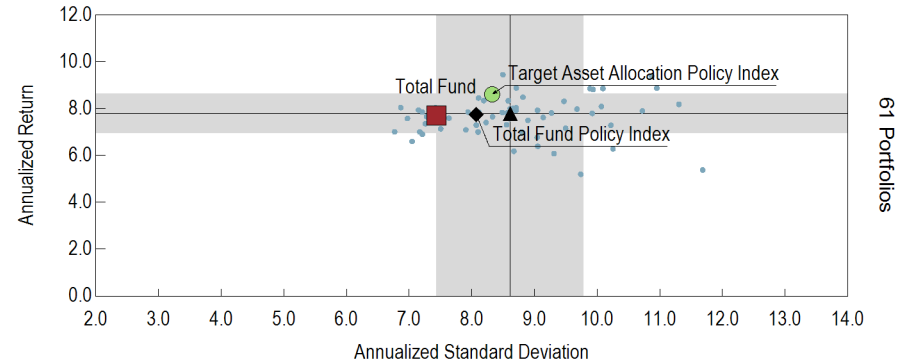
	Anlzd Standard Deviation	Ann Excess BM Return	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio
Total Fund	7.44%	-0.05%	0.68%	0.91	0.97	90.37%	87.82%	-0.03	1.53%	0.88
Total Fund Policy Index	8.07%	0.00%	0.00%	1.00	1.00	100.00%	100.00%	--	0.00%	0.82
Target Asset Allocation Policy Index	8.32%	0.86%	0.65%	1.03	0.99	107.29%	99.15%	1.15	0.75%	0.90

### 3 Year



- Total Fund
- ◆ Total Fund Policy Index
- Target Asset Allocation Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Tft-Hrtly DB \$250mm-\$1B Net

### 5 Year

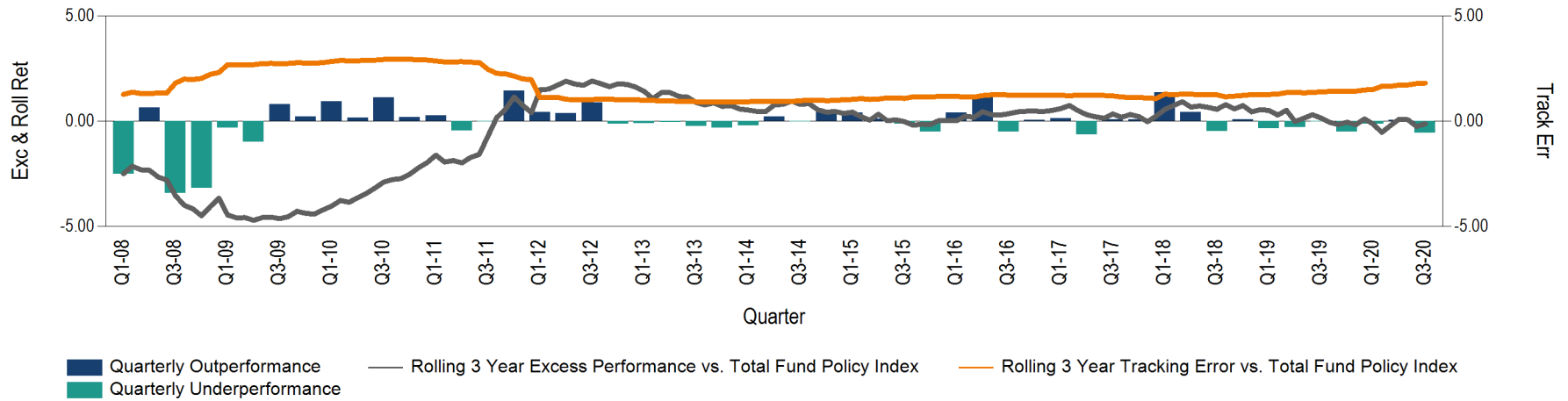


- Total Fund
- ◆ Total Fund Policy Index
- Target Asset Allocation Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Tft-Hrtly DB \$250mm-\$1B Net

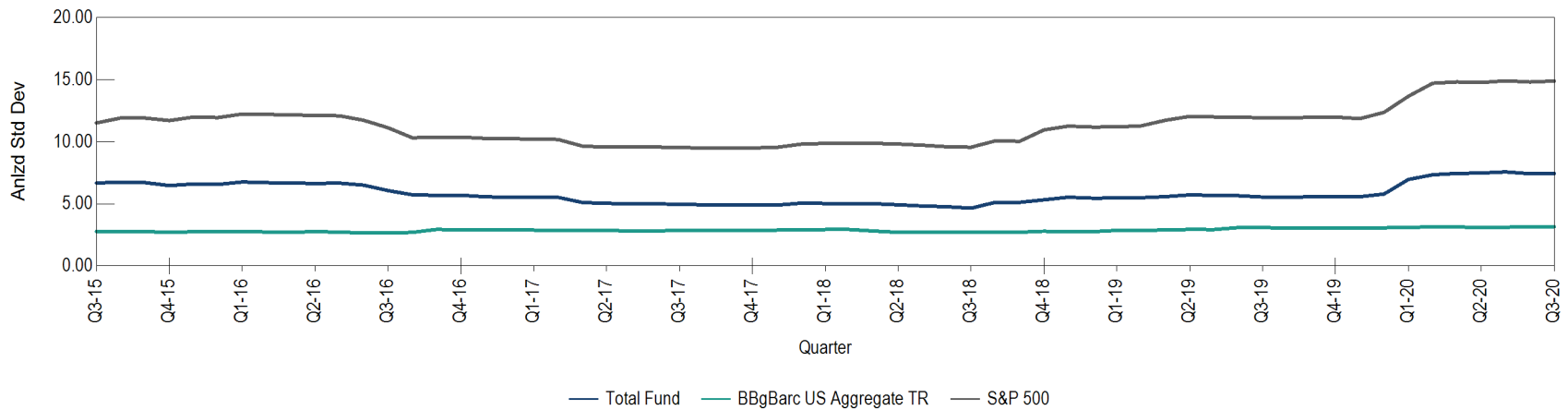
Total Fund  
Rolling Performance Relative to Policy (Net of Fees)

Period Ending: September 30, 2020

Rolling Annualized Excess Performance and Tracking Error



Rolling 5 Year Annualized Standard Deviation



# Total Fund

## Executive Summary (Net of Fees)

Period Ending: September 30, 2020

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
<b>Total Fund</b>	<b>312,522,857</b>	<b>100.0</b>	<b>4.4</b>	<b>3.0</b>	<b>7.7</b>	<b>6.5</b>	<b>7.7</b>	<b>7.5</b>	<b>17.2</b>	<b>-3.2</b>	<b>13.0</b>	<b>6.9</b>	<b>0.9</b>
<i>Total Fund Policy Index</i>			5.0	3.7	8.9	6.6	7.7	7.2	18.6	-4.5	13.5	5.8	1.1
<i>Target Asset Allocation Policy Index</i>			5.4	4.4	9.9	7.6	8.6	8.1	19.1	-3.2	13.7	7.2	1.3
<i>InvMetrics Tft-Hrtly DB \$250mm-\$1B Net Rank</i>			78	25	32	29	52	59	52	45	64	80	38
<b>Domestic Equity</b>	<b>83,782,225</b>	<b>26.8</b>											
BlackRock Equity Index NL	32,588,536	10.4	8.9	5.6	15.1	12.3	14.1	13.7	31.5	-4.4	21.8	11.9	1.3
S&P 500			8.9	5.6	15.1	12.3	14.1	13.7	31.5	-4.4	21.8	12.0	1.4
<i>eV US Large Cap Core Equity Net Rank</i>			33	30	25	21	13	13	28	32	46	21	37
INTECH US Adaptive Volatility	36,649,910	11.7	9.3	6.6	8.6	--	--	--	23.4	--	--	--	--
Russell 1000			9.5	6.4	16.0	--	--	--	31.4	--	--	--	--
<i>eV US Large Cap Core Equity Net Rank</i>			27	24	61	--	--	--	91	--	--	--	--
PanAgora US Small Cap Core Stock Selector	14,543,779	4.7	4.3	-10.1	-1.6	1.8	7.2	--	26.1	-9.2	10.8	20.3	--
Russell 2000			4.9	-8.7	0.4	1.8	8.0	--	25.5	-11.0	14.6	21.3	--
<i>eV US Small Cap Core Equity Net Rank</i>			58	50	43	42	53	--	37	36	83	41	--
<b>International Equity</b>	<b>61,089,131</b>	<b>19.5</b>											
WCM Focused International Growth Fund, L.P.	40,580,179	13.0	8.8	13.4	24.5	14.5	--	--	35.7	-7.4	31.1	--	--
MSCI ACWI ex USA			6.3	-5.4	3.0	1.2	--	--	21.5	-14.2	27.2	--	--
<i>eV ACWI ex-US All Cap Growth Eq Net Rank</i>			80	39	40	14	--	--	12	1	71	--	--
Causeway International Value Ins	20,508,952	6.6	1.0	-17.2	-7.8	-5.2	--	--	20.1	-18.6	27.2	--	--
MSCI EAFE			4.8	-7.1	0.5	0.6	--	--	22.0	-13.8	25.0	--	--
<i>Foreign Large Value MStar MF Rank</i>			96	72	66	77	--	--	22	91	14	--	--
<b>Fixed Income</b>	<b>61,898,485</b>	<b>19.8</b>											
Loomis Sayles Core Plus	61,898,485	19.8	1.9	9.0	9.5	6.2	--	--	9.4	-0.4	--	--	--
BBgBarc US Aggregate TR			0.6	6.8	7.0	5.2	--	--	8.7	0.0	--	--	--
<i>eV US Core Plus Fixed Inc Net Rank</i>			30	9	6	10	--	--	63	40	--	--	--
<b>Real Estate</b>	<b>36,770,376</b>	<b>11.8</b>											
ASB Allegiance Real Estate	21,706,618	6.9	0.1	1.3	2.6	4.8	5.3	--	4.2	7.1	3.9	4.5	--
NCREIF ODCE Net			0.3	-0.7	0.5	4.3	5.7	--	4.4	7.4	6.7	7.8	--
JPMorgan Special Situation Property	15,063,758	4.8	0.3	0.1	1.2	5.3	6.9	--	5.0	9.6	7.9	8.7	18.9
NCREIF-ODCE			0.5	-0.1	1.4	5.2	6.6	--	5.3	8.3	7.6	8.8	15.0

Policy Index: 45% MSCI World, 25% BBgBarc Aggregate, 10% NCREIF-ODCE net, 20%(60% MSCI ACWI Net/40% CITI WGBI). Target Asset Allocation Policy Index: 25% Dow Jones US Total Stock, 20% MSCI ACWI ex US IMI, 20% BBgBarc Aggregate, 10% NCREIF-ODCE, 5% CPI + 5%, and 20% (60% MSCI ACWI Net/40% CITI WGBI). Loomis Sayles Core Plus replaced Loomis Sayles Full Discretion 3/21/2017. Parametric liquidated 4/21/2017. Mellon Dynamic liquidated 5/5/2017. Grosvenor Institutional liquidated 4/30/2018. Brandes International Small Cap Equity liquidated 8/31/2019. Invesco Real Estate II liquidated 9/1/2019. Data prior to 3Q 2015 is from previous consultant.

Total Fund  
Executive Summary (Net of Fees)

Period Ending: September 30, 2020

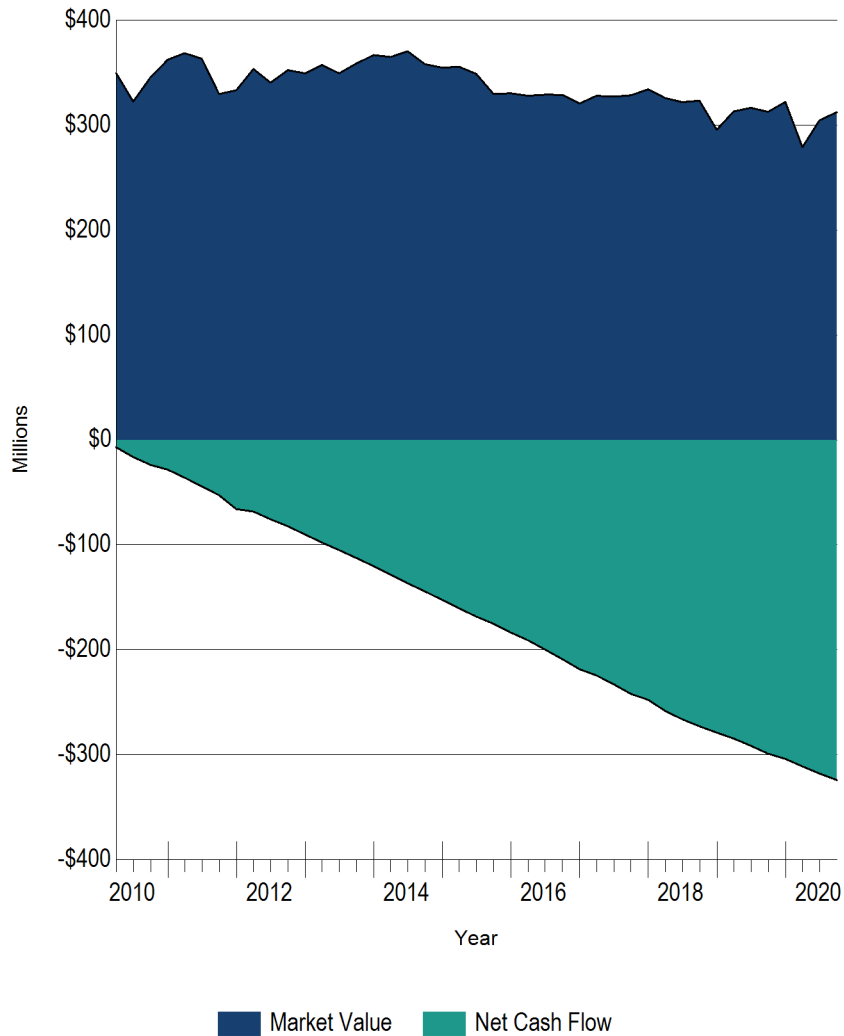
	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
<b>Infrastructure</b>	<b>17,757,710</b>	<b>5.7</b>											
IFM Global Infrastructure (US) LP	10,094,266	3.2	1.9	-1.0	4.1	11.2	11.2	9.0	14.6	15.8	21.1	6.1	5.2
CPI + 5%			2.2	5.1	6.4	6.9	6.9	6.8	7.4	7.0	7.2	7.2	5.8
JPMorgan IIF ERISA LP	7,663,444	2.5	0.0	-0.6	3.6	4.8	5.3	5.1	8.0	4.2	14.2	1.2	3.4
CPI + 5%			2.2	5.1	6.4	6.9	6.9	6.8	7.4	7.0	7.2	7.2	5.8
<b>Multi-Asset</b>	<b>47,312,130</b>	<b>15.1</b>											
Invesco Balanced-Risk Allocation	47,312,130	15.1	4.1	0.1	3.4	4.6	6.2	6.1	15.7	-5.8	10.5	12.2	-3.5
60% MSCI ACWI Net/40% FTSE WGBI			6.1	4.2	9.6	6.4	8.0	6.1	18.2	-5.8	17.1	5.5	-2.6
FTSE 3-Month T-bill +6%			1.5	5.0	7.1	7.7	7.2	6.6	8.4	8.0	6.9	6.3	6.0
eV Global Balanced Net Rank			83	55	58	39	77	75	92	22	99	19	74
<b>Cash and Equivalents</b>	<b>3,912,800</b>	<b>1.3</b>											
US Bank Checking Account	1,321,294	0.4											
US Bank Clearing Account	2,591,506	0.8											

Policy Index: 45% MSCI World, 25% BBgBarc Aggregate, 10% NCREIF-ODCE, 20%(60% MSCI ACWI Net/40% CITI WGBI). Target Asset Allocation Policy Index: 25% Dow Jones US Total Stock, 20% MSCI ACWI ex US IMI, 20% BBgBarc Aggregate, 10% NCREIF-ODCE, 5% CPI + 5%, and 20% (60% MSCI ACWI Net/40% CITI WGBI). Loomis Sayles Core Plus replaced Loomis Sayles Full Discretion 3/21/2017. Parametric liquidated 4/21/2017. Mellon Dynamic liquidated 5/5/2017. Grosvenor Institutional liquidated 4/30/2018. Brandes International Small Cap Equity liquidated 8/31/2019. Invesco Real Estate II liquidated 9/1/2019. JPMorgan IIF ERISA LP as of 6/30/2020. Data prior to 3Q 2015 is from previous consultant.

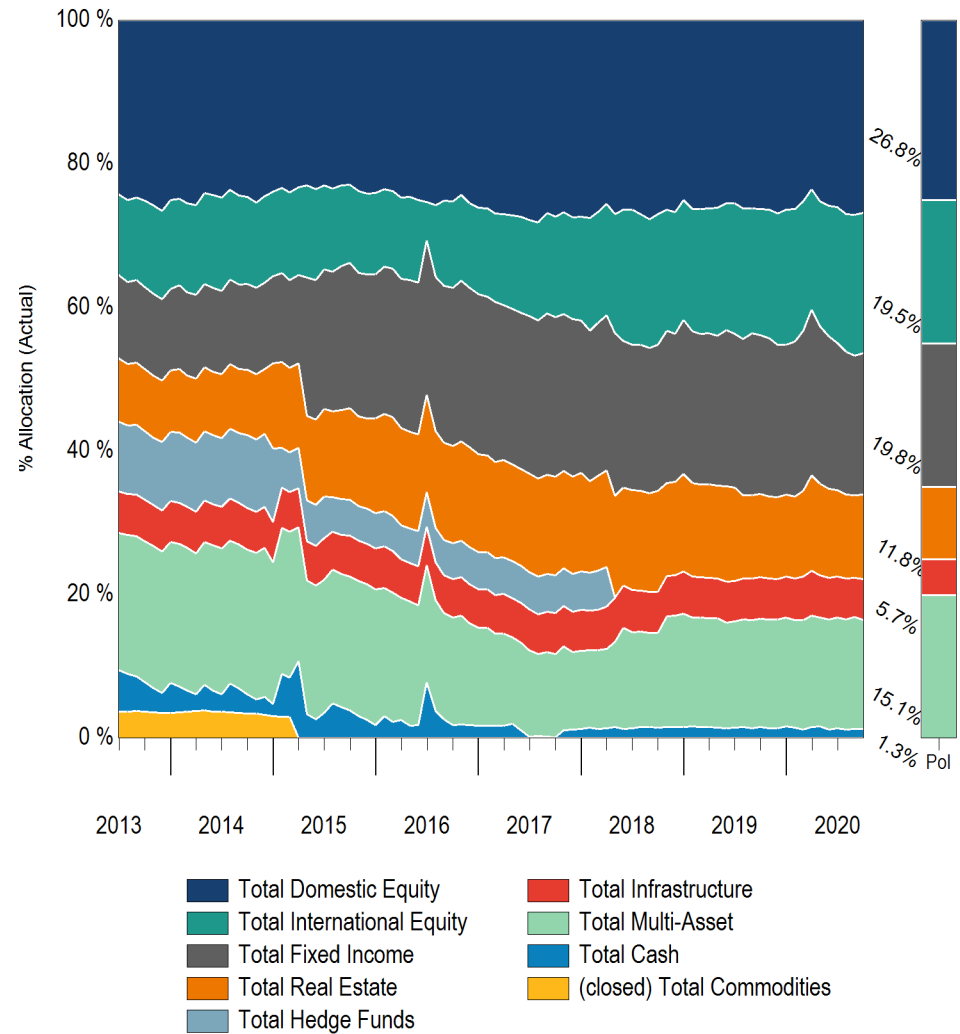
# Total Fund Asset Allocation History

Period Ending: September 30, 2020

Market Value History



Asset Allocation History

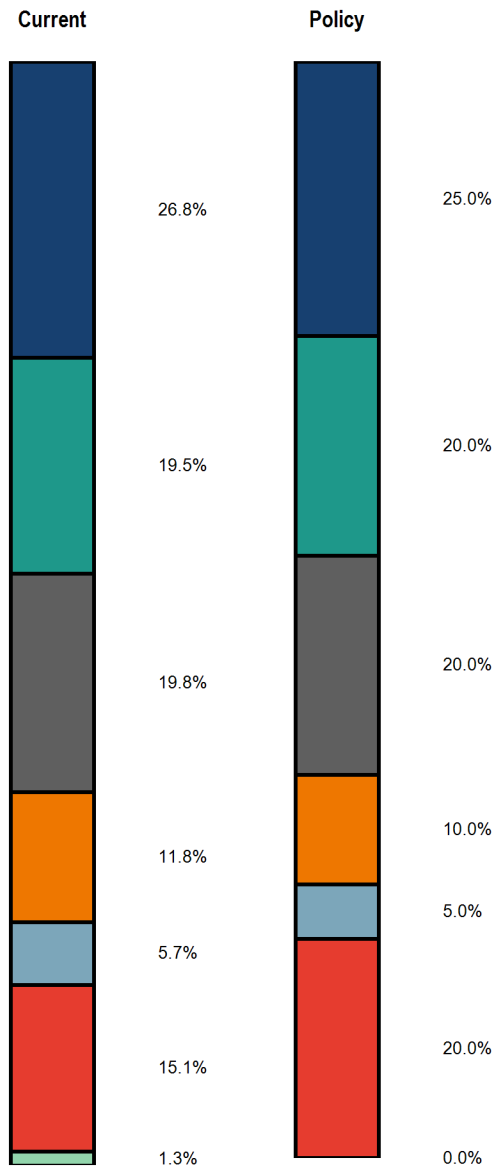


Net cash flow is cumulative.

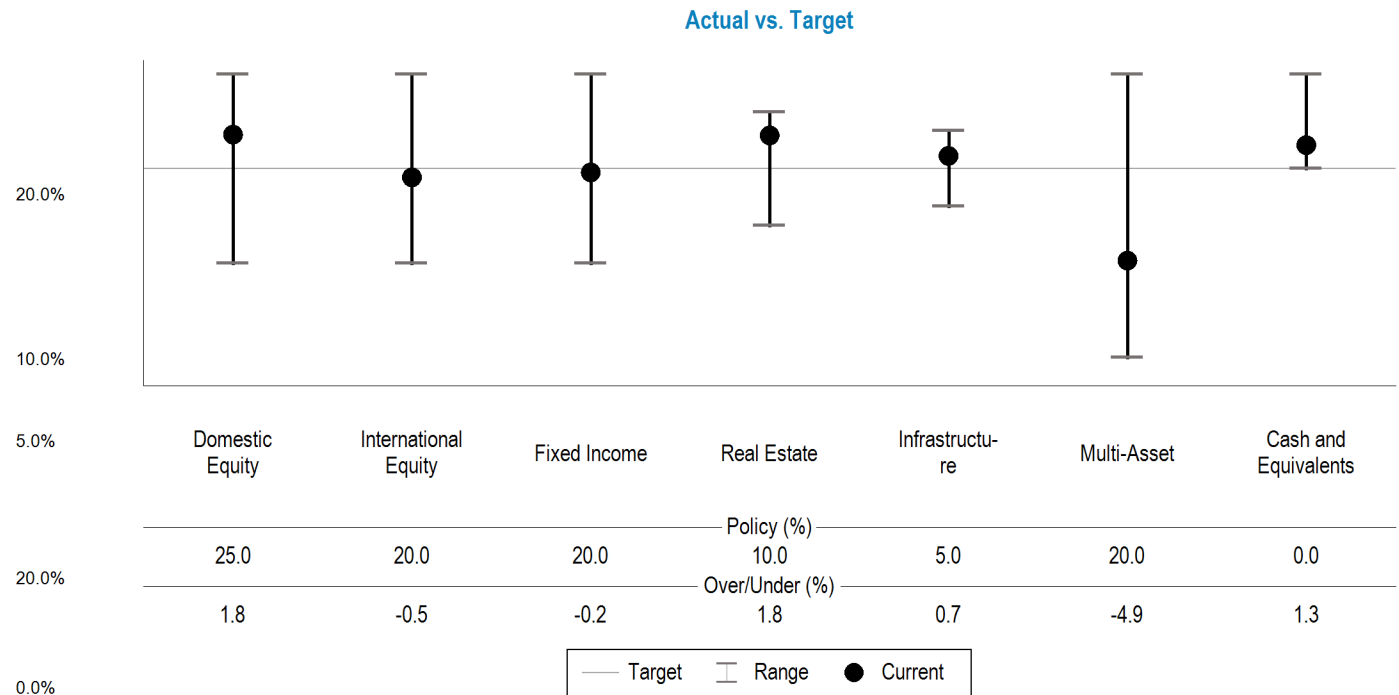
# Total Fund

## Asset Allocation vs. Policy

Period Ending: September 30, 2020



	Current	%	Policy	Difference	Policy Range	Within Range
Domestic Equity	\$83,782,225	26.8%	25.0%	\$5,651,511	20.0% - 30.0%	Yes
International Equity	\$61,089,131	19.5%	20.0%	-\$1,415,440	15.0% - 25.0%	Yes
Fixed Income	\$61,898,485	19.8%	20.0%	-\$606,086	15.0% - 25.0%	Yes
Real Estate	\$36,770,376	11.8%	10.0%	\$5,518,091	7.0% - 13.0%	Yes
Infrastructure	\$17,757,710	5.7%	5.0%	\$2,131,567	3.0% - 7.0%	Yes
Multi-Asset	\$47,312,130	15.1%	20.0%	-\$15,192,442	10.0% - 25.0%	Yes
Cash and Equivalents	\$3,912,800	1.3%	0.0%	\$3,912,800	0.0% - 5.0%	Yes
<b>Total</b>	<b>\$312,522,857</b>	<b>100.0%</b>	<b>100.0%</b>			





Total Fund  
Investment Fund Fee Analysis

Period Ending: September 30, 2020

Name	Asset Class	Fee Schedule	Market Value	% of Portfolio	Estimated Fee Value	Estimated Fee
BlackRock Equity Index NL	Domestic Equity	0.03% of Assets	\$32,588,536	10.4%	\$9,777	0.03%
INTECH US Adaptive Volatility	Domestic Equity	0.40% of Assets	\$36,649,910	11.7%	\$146,600	0.40%
PanAgora US Small Cap Core Stock Selector	Domestic Equity	0.85% of Assets	\$14,543,779	4.7%	\$123,622	0.85%
WCM Focused International Growth Fund, L.P.	International Equity	0.75% of Assets	\$40,580,179	13.0%	\$304,351	0.75%
Causeway International Value Ins	International Equity	0.85% of Assets	\$20,508,952	6.6%	\$174,326	0.85%
Loomis Sayles Core Plus	Fixed Income	0.35% of First 20.0 Mil, 0.25% Thereafter	\$61,898,485	19.8%	\$174,746	0.28%
ASB Allegiance Real Estate	Real Estate	1.25% of First 5.0 Mil, 1.00% of Next 10.0 Mil, 0.90% of Next 60.0 Mil, 0.75% Thereafter	\$21,706,618	6.9%	\$222,860	1.03%
JPMorgan Special Situation Property	Real Estate	1.60% of Assets	\$15,063,758	4.8%	\$241,020	1.60%
IFM Global Infrastructure (US) LP	Infrastructure	0.77% of Assets	\$10,094,266	3.2%	\$77,726	0.77%
JPMorgan IIF ERISA LP	Infrastructure	1.25% of First 50.0 Mil, 1.15% of Next 50.0 Mil, 1.05% Thereafter	\$7,663,444	2.5%	\$95,793	1.25%
Invesco Balanced-Risk Allocation	Multi-Asset	0.38% of First 250.0 Mil, 0.35% of Next 500.0 Mil, 0.33% of Next 250.0 Mil, 0.30% Thereafter	\$47,312,130	15.1%	\$177,420	0.38%
US Bank Checking Account	Cash and Equivalents		\$1,321,294	0.4%		
US Bank Clearing Account	Cash and Equivalents		\$2,591,506	0.8%		
<b>Total</b>			<b>\$312,522,857</b>	<b>100.0%</b>	<b>\$1,748,241</b>	<b>0.56%</b>

Total Fund  
Watch List (Net of Fees)

Period Ending: September 30, 2020

Name	Allocation Group	Status	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5	Rule 6
BlackRock Equity Index NL	Domestic Equity	No Issues	--	--	--	--	--	✓
INTECH US Adaptive Volatility	Domestic Equity	No Issues	--	--	--	--	--	--
PanAgora US Small Cap Core Stock Selector	Domestic Equity	No Issues	✓	✓	R	R	--	--
WCM Focused International Growth Fund, L.P.	International Equity	No Issues	✓	✓	--	--	--	--
Causeway International Value Ins	International Equity	No Issues	R	R	--	--	R	--
Loomis Sayles Core Plus	Fixed Income	No Issues	✓	✓	--	--	R	--
ASB Allegiance Real Estate	Real Estate	No Issues	✓	--	R	--	--	--
JPMorgan Special Situation Property	Real Estate	No Issues	✓	--	✓	--	--	--
IFM Global Infrastructure (US) LP	Infrastructure	No Issues	✓	--	✓	--	--	--
JPMorgan IIF ERISA LP	Infrastructure	No Issues	R	--	R	--	--	--
Invesco Balanced-Risk Allocation	Multi-Asset	No Issues	R	✓	R	R	--	--

Rule 1 - Manager has underperformed the benchmark index for the three year period.

Rule 2 - Manager has underperformed the 50th percentile in the appropriate style universe for the three year period.

Rule 3 - Manager has underperformed the benchmark index for the five year period.

Rule 4 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 5 - Fund experiences non-performance related issues including personnel turnover, changes in investment philosophy or drift, excessive asset growth, change in ownership and any other reason that raises concern.

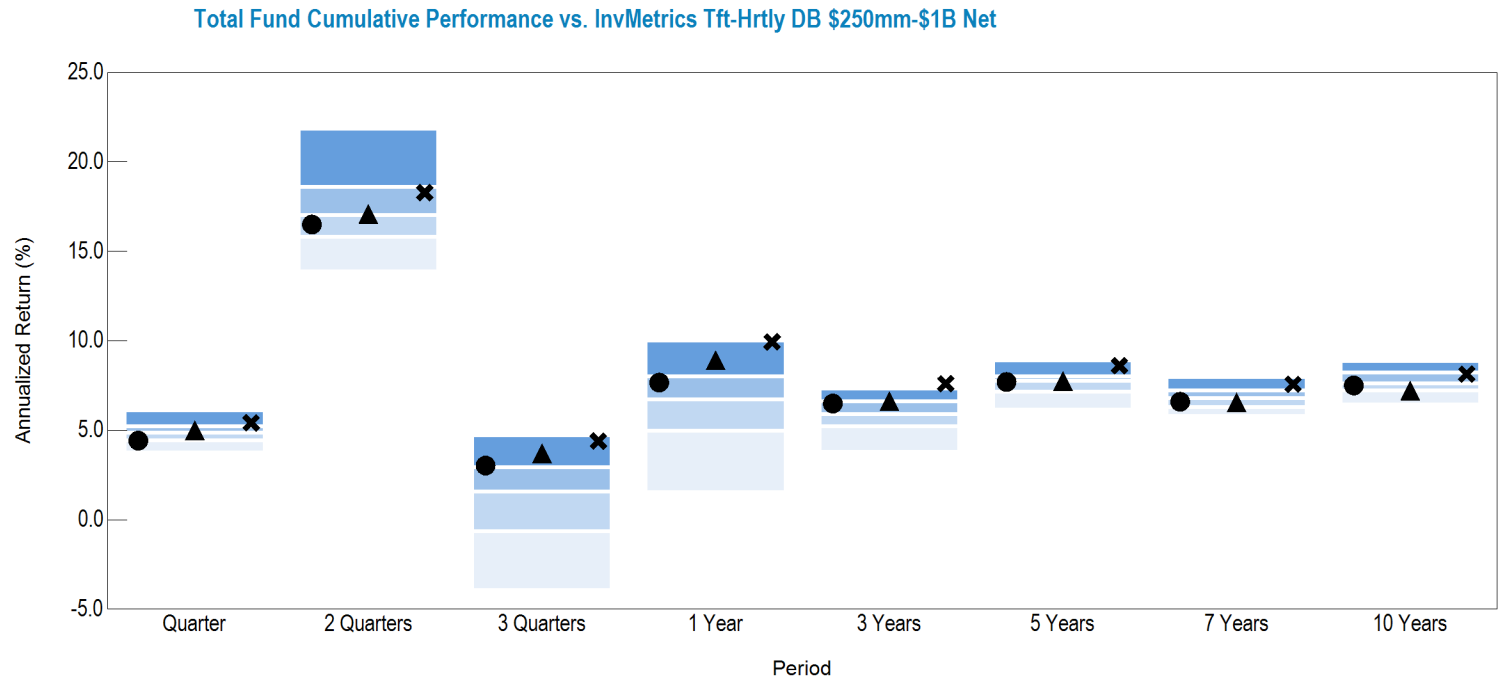
Rule 6 - Index Fund Tracking Error exceeds 0.25% of the appropriate benchmark over the one year period.

Causeway International Value Ins: Provisional: 1/31/2020, Jamie Doyle, one of their eight Fundamental Portfolio Managers, will retire in June 2020. Loomis Sayles Core Plus: Provisional: 10/16/2020, On October 13, 2020, Loomis Sayles announced that Jae Park, Chief Investment Officer, will retire from the firm effective 3/31/2021.

Total Fund

Peer Universe Comparison: Cumulative Performance (Net of Fees)

Period Ending: September 30, 2020



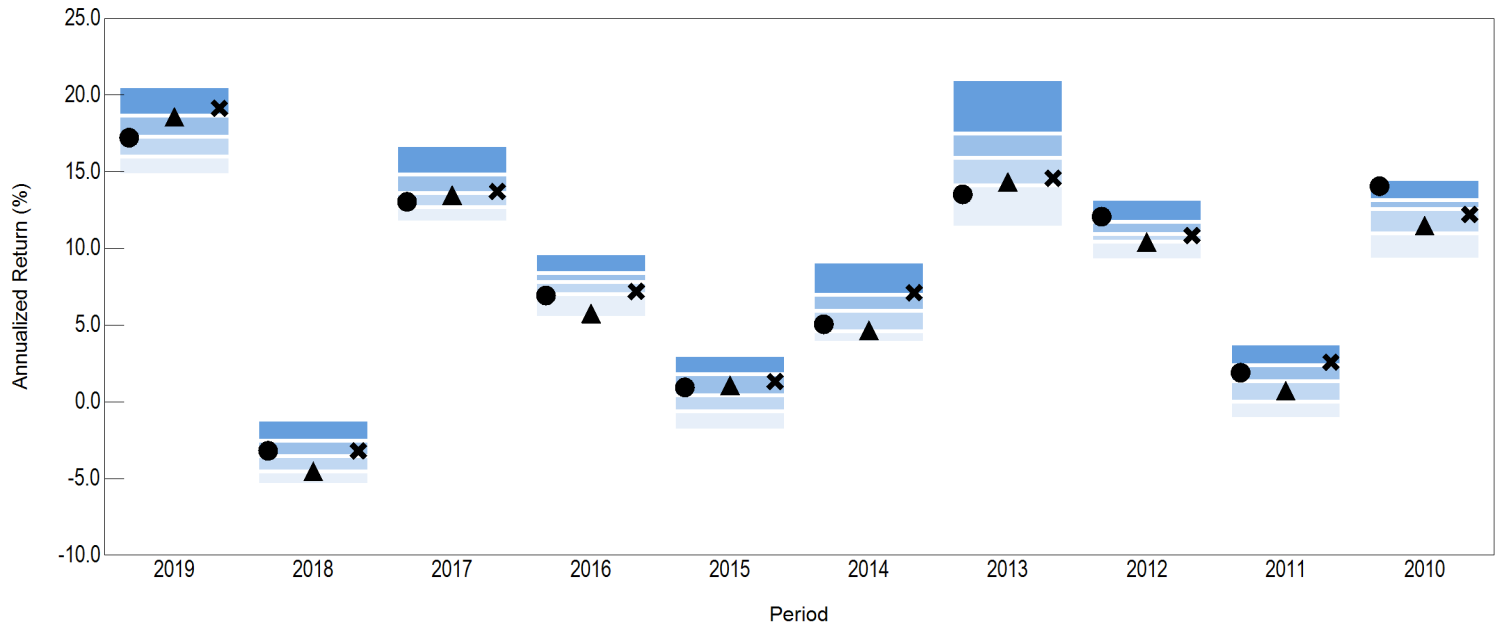
	Return (Rank)															
	Quarter		2 Quarters		3 Quarters		1 Year		3 Years		5 Years		7 Years		10 Years	
5th Percentile	6.1	21.8	4.7	10.0	7.3	8.9	7.9	8.8								
25th Percentile	5.3	18.6	3.0	8.0	6.6	8.0	7.2	8.3								
Median	4.9	17.0	1.6	6.7	5.9	7.8	6.8	7.6								
75th Percentile	4.5	15.8	-0.6	5.0	5.2	7.2	6.3	7.3								
95th Percentile	3.8	13.9	-3.9	1.6	3.8	6.2	5.8	6.5								
# of Portfolios	64	64	64	64	64	61	60	56								
● Total Fund	4.4	(78)	16.5	(59)	3.0	(25)	7.7	(32)	6.5	(29)	7.7	(52)	6.6	(65)	7.5	(59)
▲ Total Fund Policy Index	5.0	(44)	17.1	(49)	3.7	(17)	8.9	(13)	6.6	(27)	7.7	(51)	6.6	(66)	7.2	(77)
✕ Target Asset Allocation Policy Index	5.4	(19)	18.3	(29)	4.4	(11)	9.9	(7)	7.6	(3)	8.6	(12)	7.6	(13)	8.1	(34)

# Total Fund

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

Period Ending: September 30, 2020

Total Fund Consecutive Periods vs. InvMetrics Tft-Hrtly DB \$250mm-\$1B Net



	Return (Rank)										
	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	
5th Percentile	20.6	-1.2	16.7	9.7	3.0	9.1	21.0	13.2	3.8	14.5	
25th Percentile	18.7	-2.5	14.9	8.4	1.8	7.0	17.5	11.8	2.4	13.2	
Median	17.3	-3.5	13.6	7.8	0.4	6.0	15.9	11.0	1.4	12.6	
75th Percentile	16.0	-4.5	12.7	7.0	-0.6	4.6	14.2	10.4	0.0	11.0	
95th Percentile	14.8	-5.4	11.7	5.5	-1.9	3.9	11.4	9.3	-1.1	9.3	
# of Portfolios	86	84	69	56	58	55	49	37	34	32	
● Total Fund	17.2 (52)	-3.2 (45)	13.0 (64)	6.9 (80)	0.9 (38)	5.1 (70)	13.5 (79)	12.1 (20)	1.9 (40)	14.1 (10)	
▲ Total Fund Policy Index	18.6 (28)	-4.5 (75)	13.5 (51)	5.8 (93)	1.1 (37)	4.7 (75)	14.3 (70)	10.4 (79)	0.7 (60)	11.5 (66)	
✕ Target Asset Allocation Policy Index	19.1 (19)	-3.2 (45)	13.7 (46)	7.2 (69)	1.3 (36)	7.1 (21)	14.6 (66)	10.8 (63)	2.6 (20)	12.2 (58)	

## Domestic Equity

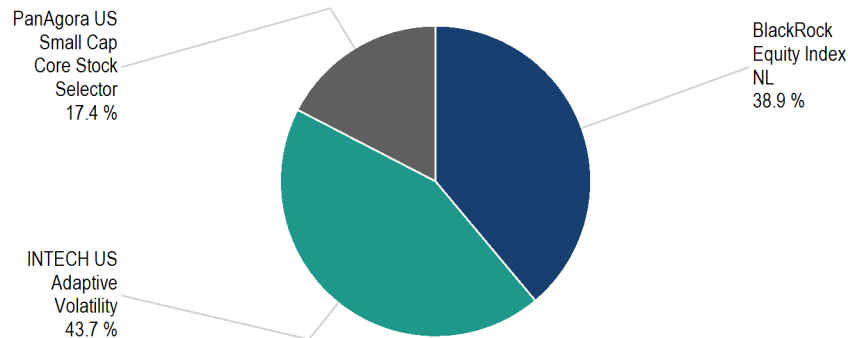
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# Total Domestic Equity Performance Summary (Net of Fees)

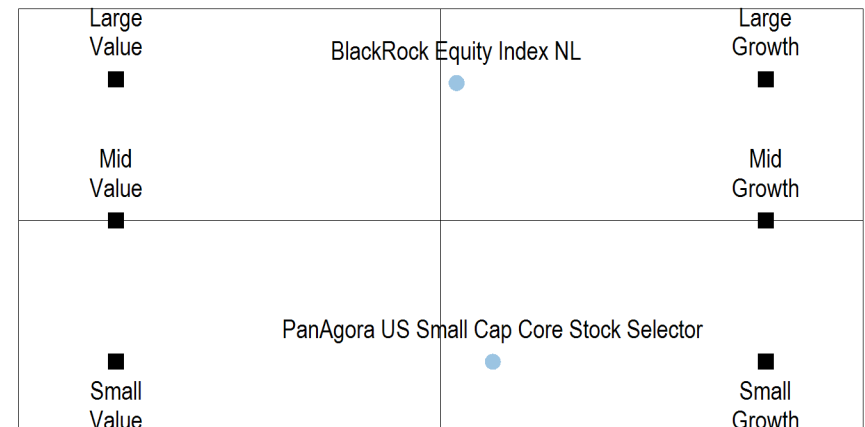
Period Ending: September 30, 2020

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
<b>Total Domestic Equity</b>	<b>83,782,225</b>	<b>100.0</b>	<b>8.3</b>	<b>3.0</b>	<b>9.3</b>	<b>8.9</b>	<b>11.6</b>	<b>12.7</b>	<b>27.2</b>	<b>-5.9</b>	<b>19.4</b>	<b>11.5</b>	<b>0.7</b>
<i>Dow Jones U.S. Total Stock Market</i>			9.1	5.3	14.8	11.5	13.6	13.4	30.9	-5.3	21.2	12.6	0.4
<i>InvMetrics Tff-Hrtly DB US Eq Net Rank</i>			49	41	64	62	59	23	89	34	71	61	30
<b>Domestic Equity</b>	<b>83,782,225</b>	<b>100.0</b>											
BlackRock Equity Index NL	32,588,536	38.9	8.9	5.6	15.1	12.3	14.1	13.7	31.5	-4.4	21.8	11.9	1.3
<i>S&amp;P 500</i>			8.9	5.6	15.1	12.3	14.1	13.7	31.5	-4.4	21.8	12.0	1.4
<i>eV US Large Cap Core Equity Net Rank</i>			33	30	25	21	13	13	28	32	46	21	37
INTECH US Adaptive Volatility	36,649,910	43.7	9.3	6.6	8.6	--	--	--	23.4	--	--	--	--
<i>Russell 1000</i>			9.5	6.4	16.0	--	--	--	31.4	--	--	--	--
<i>eV US Large Cap Core Equity Net Rank</i>			27	24	61	--	--	--	91	--	--	--	--
PanAgora US Small Cap Core Stock Selector	14,543,779	17.4	4.3	-10.1	-1.6	1.8	7.2	--	26.1	-9.2	10.8	20.3	--
<i>Russell 2000</i>			4.9	-8.7	0.4	1.8	8.0	--	25.5	-11.0	14.6	21.3	--
<i>eV US Small Cap Core Equity Net Rank</i>			58	50	43	42	53	--	37	36	83	41	--

**Total Domestic Equity**  
Current Allocation

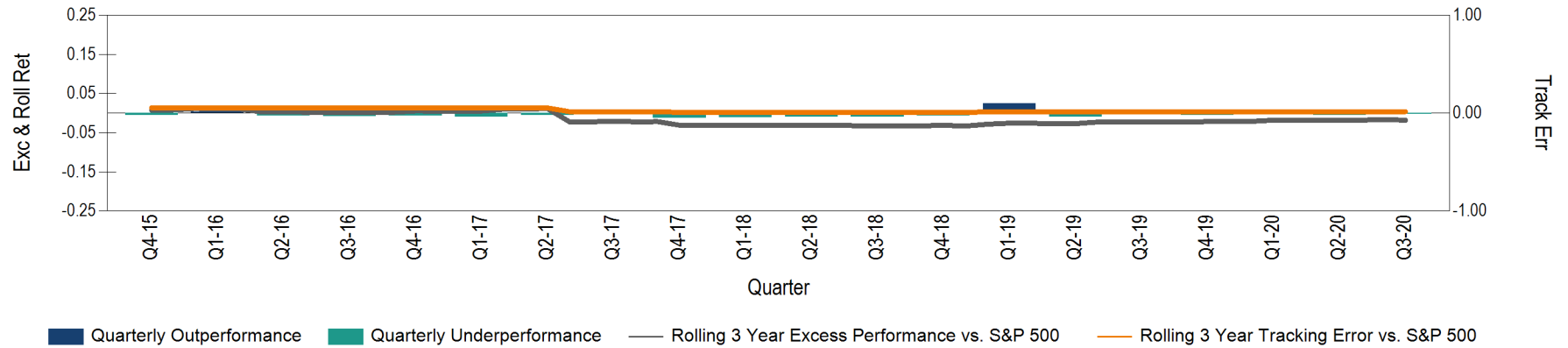


**Domestic Effective Style Map**  
3 Years

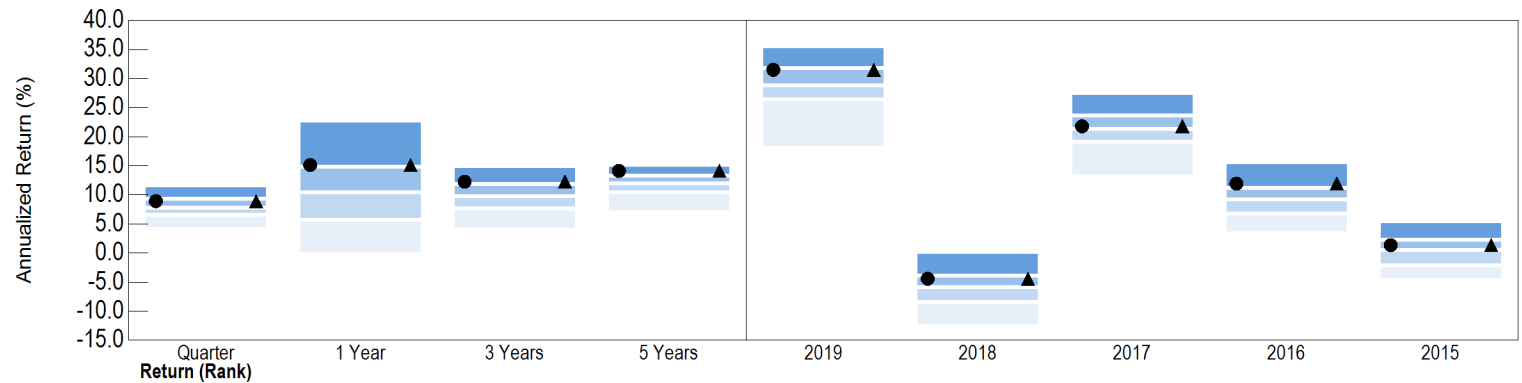


Style map requires 3 years of returns. INTECH US Adaptive Volatility replaced INTECH US Managed Volatility on 8/3/2018.

Rolling Annualized Excess Performance and Tracking Error



BlackRock Equity Index NL vs. eV US Large Cap Core Equity Net Universe



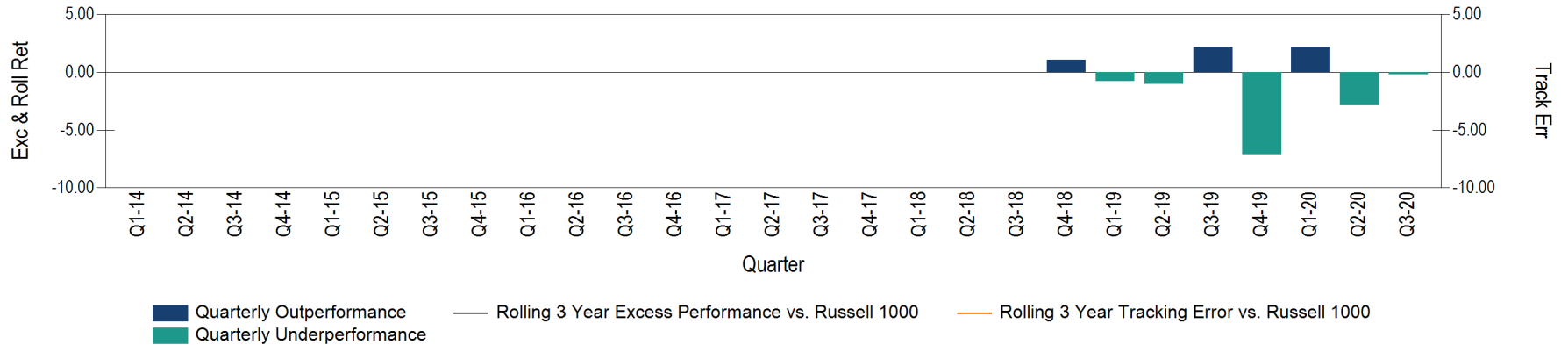
	Quarter	1 Year	3 Years	5 Years	2019	2018	2017	2016	2015
<b>5th Percentile</b>	11.5	22.8	14.9	15.2	35.5	0.1	27.4	15.6	5.4
<b>25th Percentile</b>	9.4	14.8	11.9	13.3	31.9	-3.8	23.7	11.3	2.4
<b>Median</b>	7.8	10.5	9.9	12.0	28.9	-5.8	21.4	9.3	0.6
<b>75th Percentile</b>	6.6	5.8	7.7	10.5	26.5	-8.3	19.2	6.9	-2.0
<b>95th Percentile</b>	4.3	-0.1	4.1	7.1	18.1	-12.5	13.2	3.4	-4.6
<b># of Portfolios</b>	216	214	205	186	203	189	188	177	142
● BlackRock Equity Index NL	8.9 (33)	15.1 (25)	12.3 (21)	14.1 (13)	31.5 (28)	-4.4 (32)	21.8 (46)	11.9 (21)	1.3 (37)
▲ S&P 500	8.9 (33)	15.1 (25)	12.3 (21)	14.1 (13)	31.5 (28)	-4.4 (32)	21.8 (46)	12.0 (21)	1.4 (37)



# INTECH US Adaptive Volatility Performance Summary (Net of Fees)

Period Ending: September 30, 2020

Rolling Annualized Excess Performance and Tracking Error



INTECH US Adaptive Volatility vs. eV US Large Cap Core Equity Net Universe

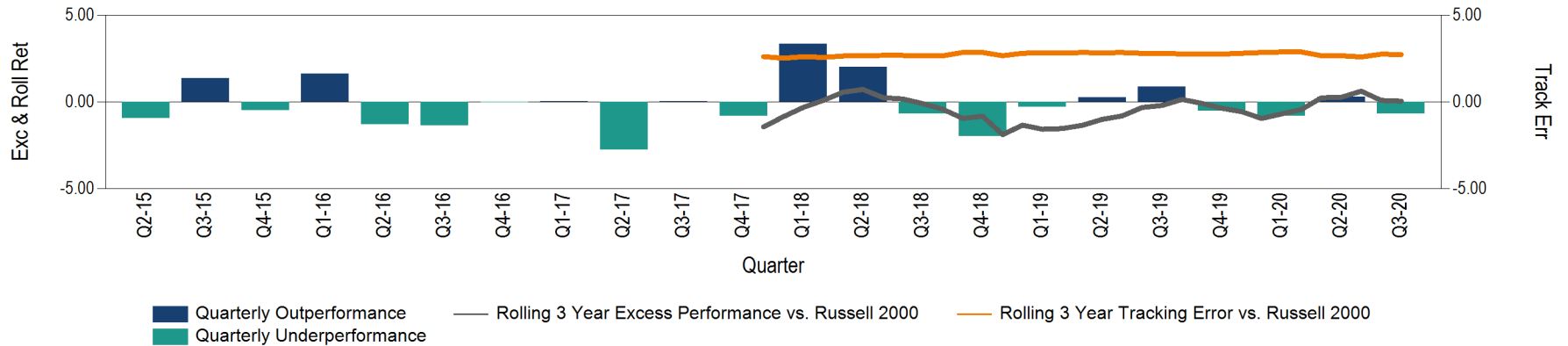


INTECH US Adaptive Volatility replaced INTECH US Managed Volatility on 8/3/2018.

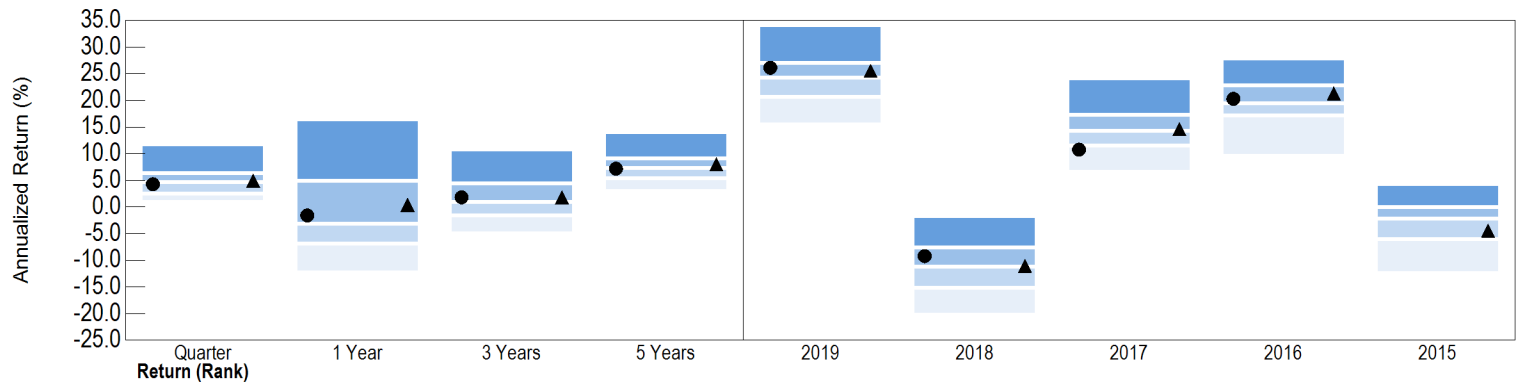
PanAgora US Small Cap Core Stock Selector  
Performance Summary (Net of Fees)

Period Ending: September 30, 2020

Rolling Annualized Excess Performance and Tracking Error



PanAgora US Small Cap Core Stock Selector vs. eV US Small Cap Core Equity Net Universe



	Quarter	1 Year	3 Years	5 Years	2019	2018	2017	2016	2015
<b>5th Percentile</b>	11.7	16.4	10.7	14.0	34.1	-1.8	24.1	27.8	4.2
<b>25th Percentile</b>	6.5	5.0	4.5	9.2	27.0	-7.5	17.3	22.8	0.1
<b>Median</b>	4.7	-3.0	1.0	7.4	24.3	-11.1	14.4	19.5	-2.1
<b>75th Percentile</b>	2.6	-6.9	-1.6	5.4	20.7	-15.1	11.6	17.3	-5.9
<b>95th Percentile</b>	1.1	-12.2	-4.9	3.0	15.5	-20.1	6.7	9.7	-12.3
<b># of Portfolios</b>	111	111	108	100	112	113	106	99	88
● PanAgora US Small Cap Core Stock Selector	4.3 (58)	-1.6 (43)	1.8 (42)	7.2 (53)	26.1 (37)	-9.2 (36)	10.8 (83)	20.3 (41)	-- (--)
▲ Russell 2000	4.9 (47)	0.4 (39)	1.8 (42)	8.0 (43)	25.5 (41)	-11.0 (50)	14.6 (46)	21.3 (34)	-4.4 (71)

# International Equity

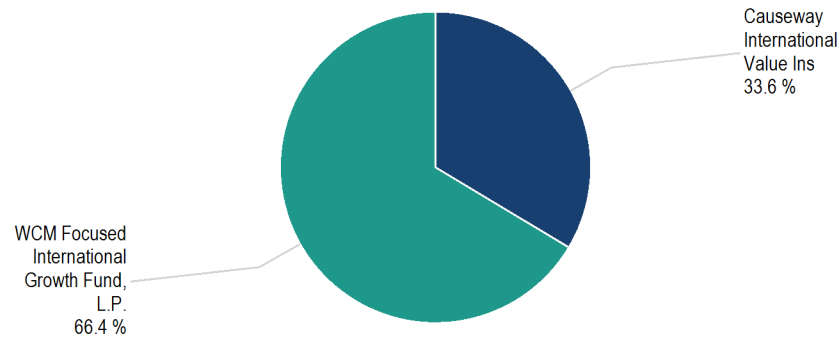
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# Total International Equity Performance Summary (Net of Fees)

Period Ending: September 30, 2020

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
<b>Total International Equity</b>	<b>61,089,131</b>	<b>100.0</b>	<b>6.0</b>	<b>0.9</b>	<b>11.4</b>	<b>5.5</b>	<b>8.2</b>	<b>4.5</b>	<b>27.8</b>	<b>-13.0</b>	<b>26.6</b>	<b>0.9</b>	<b>-4.5</b>
<i>Total Public Int'l Equity Benchmark (MSCI ACWI ex US IMI)</i>			6.8	-5.2	3.5	1.1	6.3	4.3	21.6	-14.8	27.8	4.4	-4.6
<i>InvMetrics Tft-Hrtly DB ex-US Eq Net Rank</i>			77	20	21	9	17	53	10	14	71	82	51
<b>International Equity</b>	<b>61,089,131</b>	<b>100.0</b>											
WCM Focused International Growth Fund, L.P.	40,580,179	66.4	8.8	13.4	24.5	14.5	--	--	35.7	-7.4	31.1	--	--
<i>MSCI ACWI ex USA</i>			6.3	-5.4	3.0	1.2	--	--	21.5	-14.2	27.2	--	--
<i>eV ACWI ex-US All Cap Growth Eq Net Rank</i>			80	39	40	14	--	--	12	1	71	--	--
Causeway International Value Ins	20,508,952	33.6	1.0	-17.2	-7.8	-5.2	--	--	20.1	-18.6	27.2	--	--
<i>MSCI EAFE</i>			4.8	-7.1	0.5	0.6	--	--	22.0	-13.8	25.0	--	--
<i>Foreign Large Value MStar MF Rank</i>			96	72	66	77	--	--	22	91	14	--	--

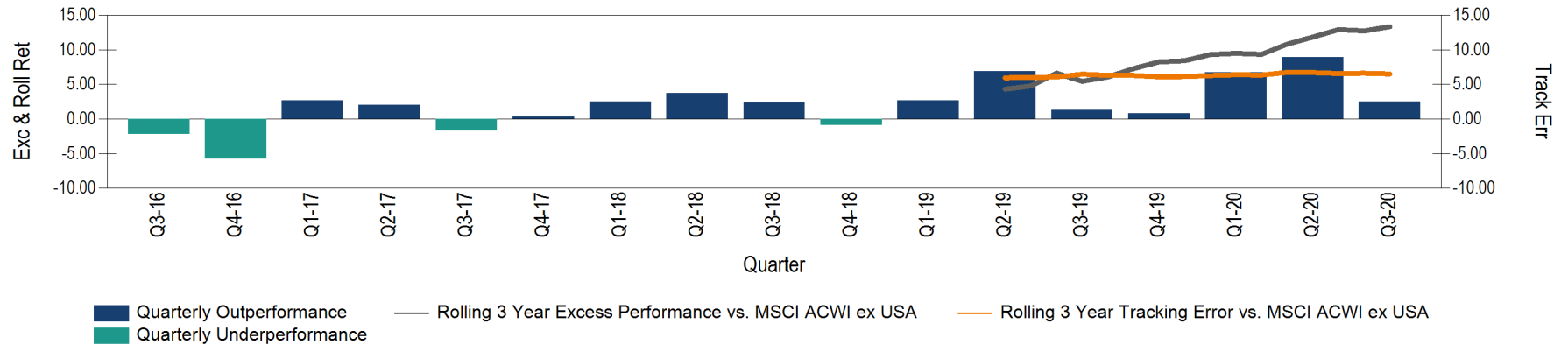
Total International Equity  
Current Allocation



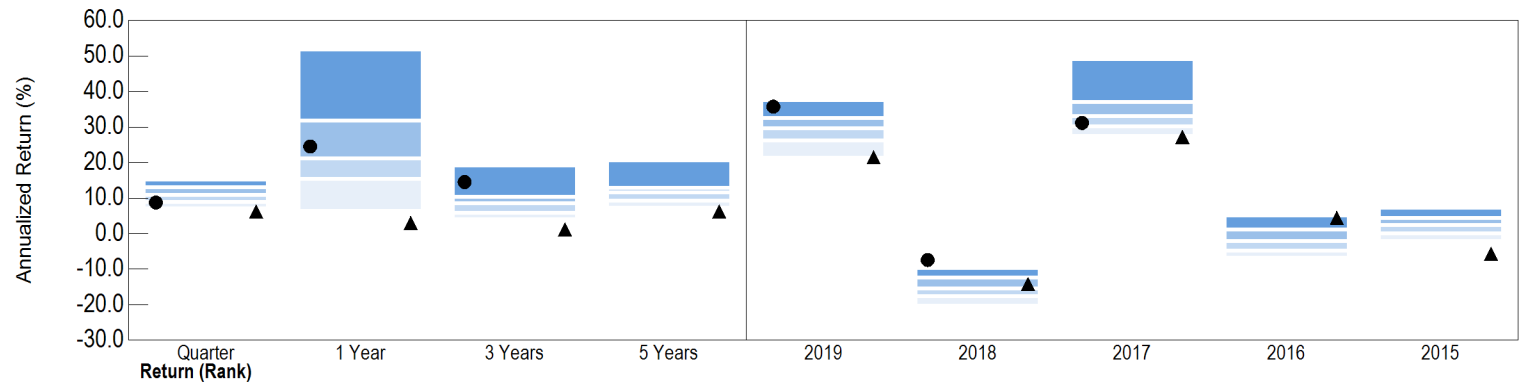
WCM Focused International Growth Fund, L.P.  
Performance Summary (Net of Fees)

Period Ending: September 30, 2020

Rolling Annualized Excess Performance and Tracking Error



WCM Focused International Growth Fund, L.P. vs. eV ACWI ex-US All Cap Growth Eq Net Universe

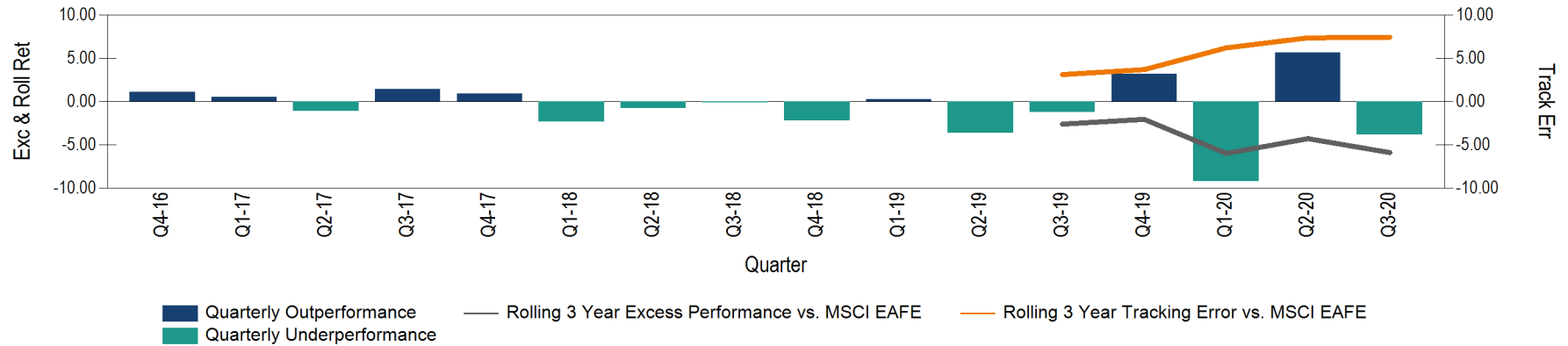


	Quarter	1 Year	3 Years	5 Years	2019	2018	2017	2016	2015
<b>5th Percentile</b>	15.2	51.7	19.1	20.5	37.5	-9.7	49.1	5.0	7.2
<b>25th Percentile</b>	13.1	32.0	10.5	13.0	32.7	-12.3	37.2	1.2	4.5
<b>Median</b>	11.0	21.2	8.7	11.7	29.7	-15.3	33.2	-2.0	2.5
<b>75th Percentile</b>	9.0	15.5	5.9	9.3	26.2	-17.5	30.4	-4.7	0.2
<b>95th Percentile</b>	7.2	6.5	4.2	7.5	21.5	-20.2	27.5	-6.6	-1.9
<b># of Portfolios</b>	32	32	31	28	32	26	27	25	18
● WCM Focused International Growth Fund, L.P.	8.8 (80)	24.5 (40)	14.5 (14)	-- (--)	35.7 (12)	-7.4 (1)	31.1 (71)	-- (--)	-- (--)
▲ MSCI ACWI ex USA	6.3 (99)	3.0 (99)	1.2 (98)	6.2 (98)	21.5 (96)	-14.2 (49)	27.2 (96)	4.5 (8)	-5.7 (99)

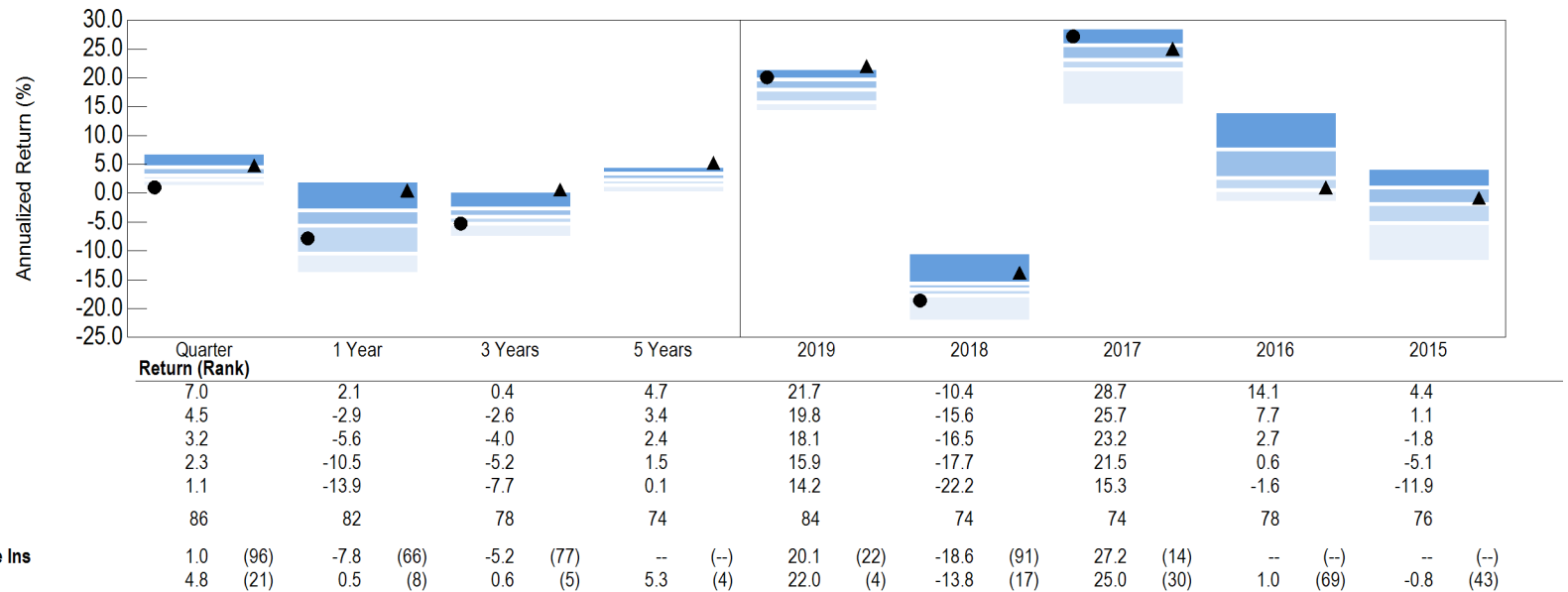
# Causeway International Value Ins Performance Summary (Net of Fees)

Period Ending: September 30, 2020

### Rolling Annualized Excess Performance and Tracking Error



### Causeway International Value Ins vs. Foreign Large Value MStar MF Universe



## Domestic Fixed Income

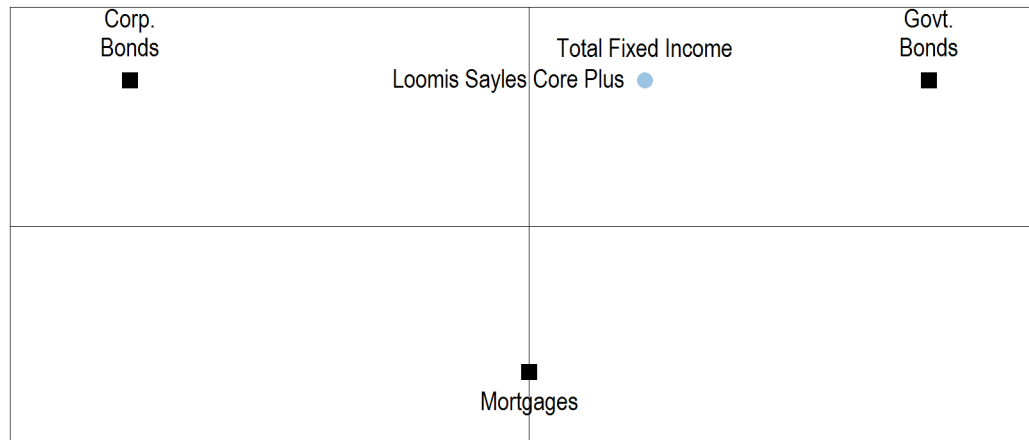
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Total Fixed Income  
Performance Summary (Net of Fees)

Period Ending: September 30, 2020

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
<b>Total Fixed Income</b>	<b>61,898,485</b>	<b>100.0</b>	<b>1.9</b>	<b>9.0</b>	<b>9.5</b>	<b>6.2</b>	<b>6.0</b>	<b>5.1</b>	<b>9.4</b>	<b>-0.4</b>	<b>5.6</b>	<b>7.5</b>	<b>-2.1</b>
<i>Total Fixed Income Benchmark (BBgBarc Aggregate)</i>			0.6	6.8	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.5
<i>InvMetrics Tff-Hrtly DB US Fix Inc Net Rank</i>			35	3	3	3	1	8	28	75	18	9	93
<b>Fixed Income</b>	<b>61,898,485</b>	<b>100.0</b>											
Loomis Sayles Core Plus	61,898,485	100.0	1.9	9.0	9.5	6.2	--	--	9.4	-0.4	--	--	--
<i>BBgBarc US Aggregate TR</i>			0.6	6.8	7.0	5.2	--	--	8.7	0.0	--	--	--
<i>eV US Core Plus Fixed Inc Net Rank</i>			30	9	6	10	--	--	63	40	--	--	--

Fixed Income Style Map  
3 Years



Loomis Sayles Core Plus replaced Loomis Sayles Full Discretion 3/21/2017.



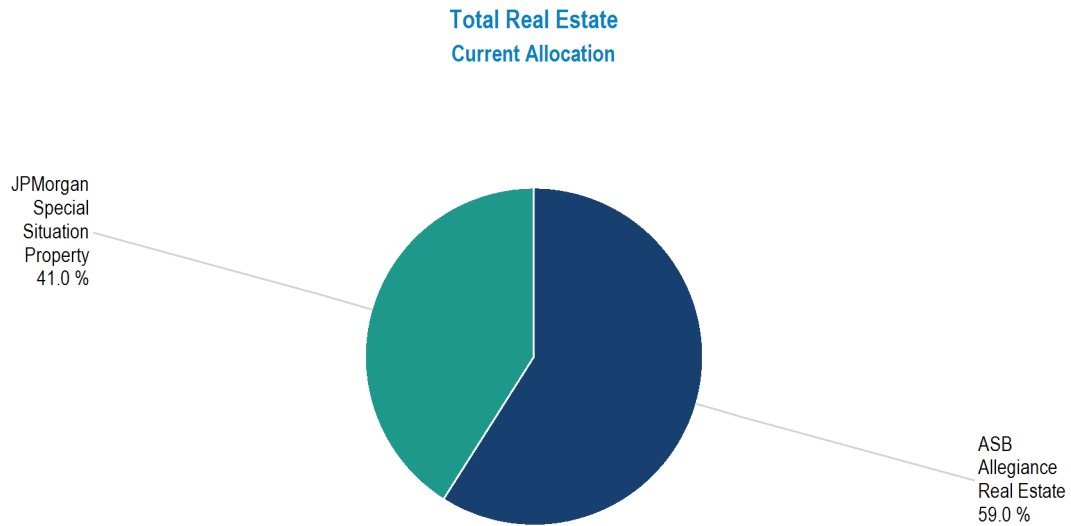
## Alternatives

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Total Real Estate  
Performance Summary (Net of Fees)

Period Ending: September 30, 2020

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
<b>Total Real Estate</b>	<b>36,770,376</b>	<b>100.0</b>	<b>0.2</b>	<b>0.8</b>	<b>2.0</b>	<b>5.0</b>	<b>5.6</b>	<b>9.9</b>	<b>4.6</b>	<b>7.8</b>	<b>5.0</b>	<b>5.4</b>	<b>16.9</b>
<i>NCREIF ODCE Net</i>			<i>0.3</i>	<i>-0.7</i>	<i>0.5</i>	<i>4.3</i>	<i>5.7</i>	<i>9.3</i>	<i>4.4</i>	<i>7.4</i>	<i>6.7</i>	<i>7.8</i>	<i>13.9</i>
<b>Real Estate</b>	<b>36,770,376</b>	<b>100.0</b>											
ASB Allegiance Real Estate	21,706,618	59.0	0.1	1.3	2.6	4.8	5.3	--	4.2	7.1	3.9	4.5	--
<i>NCREIF ODCE Net</i>			<i>0.3</i>	<i>-0.7</i>	<i>0.5</i>	<i>4.3</i>	<i>5.7</i>	<i>--</i>	<i>4.4</i>	<i>7.4</i>	<i>6.7</i>	<i>7.8</i>	<i>--</i>
JPMorgan Special Situation Property	15,063,758	41.0	0.3	0.1	1.2	5.3	6.9	--	5.0	9.6	7.9	8.7	18.9
<i>NCREIF-ODCE</i>			<i>0.5</i>	<i>-0.1</i>	<i>1.4</i>	<i>5.2</i>	<i>6.6</i>	<i>--</i>	<i>5.3</i>	<i>8.3</i>	<i>7.6</i>	<i>8.8</i>	<i>15.0</i>



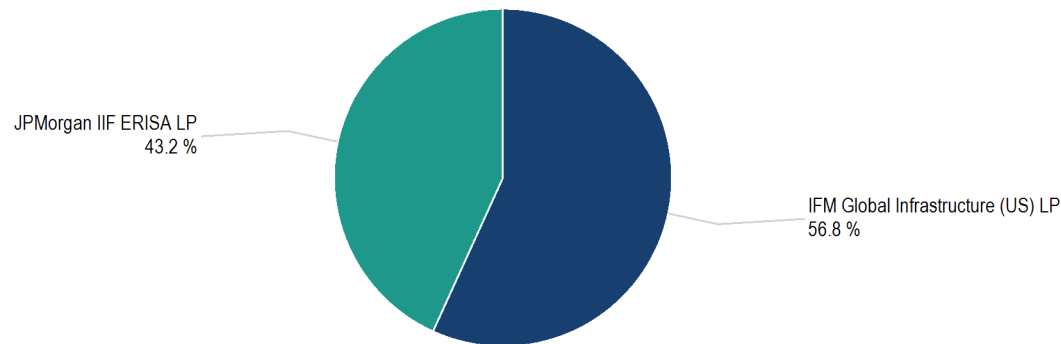
Invesco Real Estate II liquidated 9/1/2019.

# Total Infrastructure Performance Summary (Net of Fees)

Period Ending: September 30, 2020

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
<b>Total Infrastructure</b>	<b>17,757,710</b>	<b>100.0</b>	<b>1.1</b>	<b>-0.9</b>	<b>3.9</b>	<b>8.1</b>	<b>8.4</b>	<b>7.2</b>	<b>11.5</b>	<b>10.2</b>	<b>17.9</b>	<b>3.8</b>	<b>4.2</b>
<i>CPI + 5%</i>			2.2	5.1	6.4	6.9	6.9	6.8	7.4	7.0	7.2	7.2	5.8
<b>Infrastructure</b>	<b>17,757,710</b>	<b>100.0</b>											
IFM Global Infrastructure (US) LP	10,094,266	56.8	1.9	-1.0	4.1	11.2	11.2	9.0	14.6	15.8	21.1	6.1	5.2
<i>CPI + 5%</i>			2.2	5.1	6.4	6.9	6.9	6.8	7.4	7.0	7.2	7.2	5.8
JPMorgan IIF ERISA LP	7,663,444	43.2	0.0	-0.6	3.6	4.8	5.3	5.1	8.0	4.2	14.2	1.2	3.4
<i>CPI + 5%</i>			2.2	5.1	6.4	6.9	6.9	6.8	7.4	7.0	7.2	7.2	5.8

Total Infrastructure  
Current Allocation



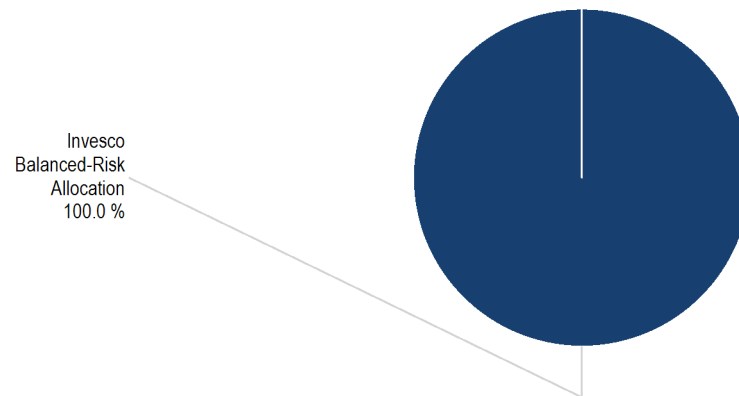
JPM IIF ERISA LP as of 6/30/2020.

Total Multi-Asset  
Performance Summary (Net of Fees)

Period Ending: September 30, 2020

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
<b>Total Multi-Asset</b>	<b>47,312,130</b>	<b>100.0</b>	<b>4.1</b>	<b>0.1</b>	<b>3.4</b>	<b>4.6</b>	<b>5.7</b>	<b>6.1</b>	<b>15.7</b>	<b>-5.8</b>	<b>10.6</b>	<b>7.4</b>	<b>-1.0</b>
60% MSCI ACWI Net/40% FTSE WGBI			6.1	4.2	9.6	6.4	8.0	6.1	18.2	-5.8	17.1	5.5	-2.6
eV Global Balanced Net Rank			83	55	58	39	81	75	92	22	99	54	38
<b>Multi-Asset</b>	<b>47,312,130</b>	<b>100.0</b>											
Invesco Balanced-Risk Allocation	47,312,130	100.0	4.1	0.1	3.4	4.6	6.2	6.1	15.7	-5.8	10.5	12.2	-3.5
60% MSCI ACWI Net/40% FTSE WGBI			6.1	4.2	9.6	6.4	8.0	6.1	18.2	-5.8	17.1	5.5	-2.6
FTSE 3-Month T-bill +6%			1.5	5.0	7.1	7.7	7.2	6.6	8.4	8.0	6.9	6.3	6.0
eV Global Balanced Net Rank			83	55	58	39	77	75	92	22	99	19	74

Total Multi-Asset  
Current Allocation

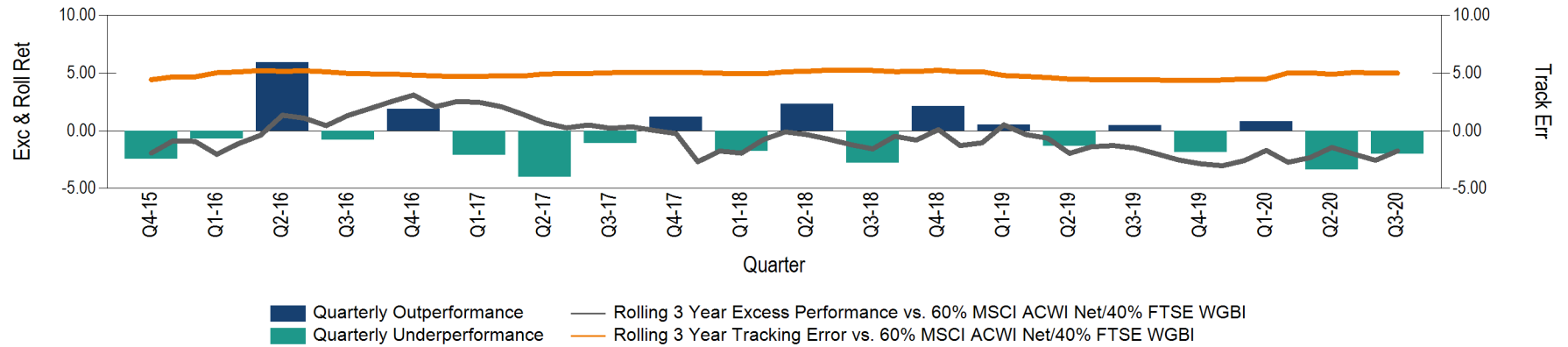


Mellon Dynamic liquidated 5/5/2017.

# Invesco Balanced-Risk Allocation Performance Summary (Net of Fees)

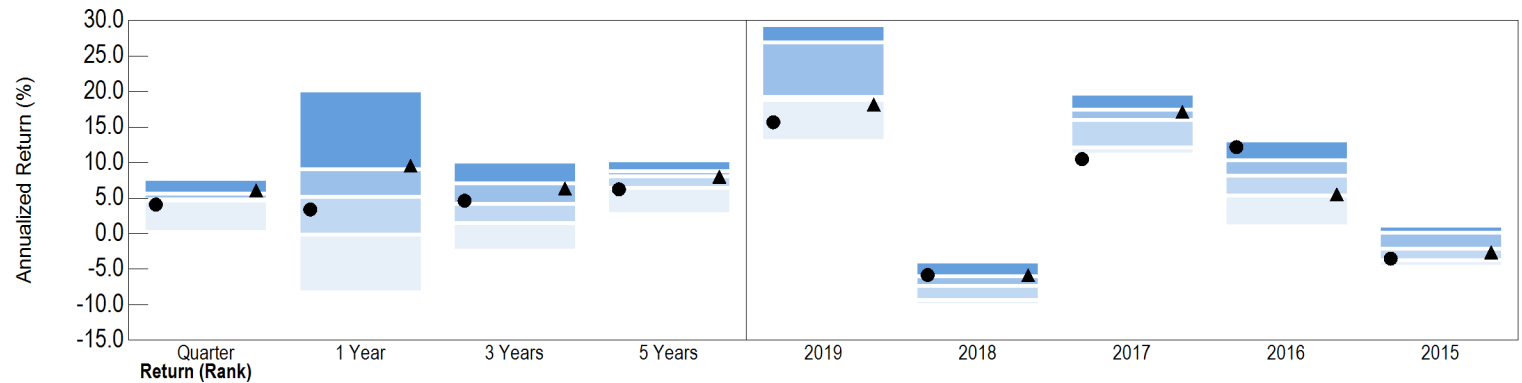
Period Ending: September 30, 2020

### Rolling Annualized Excess Performance and Tracking Error



■ Quarterly Outperformance     — Rolling 3 Year Excess Performance vs. 60% MSCI ACWI Net/40% FTSE WGBI  
■ Quarterly Underperformance     — Rolling 3 Year Tracking Error vs. 60% MSCI ACWI Net/40% FTSE WGBI

### Invesco Balanced-Risk Allocation vs. eV Global Balanced Net Universe



	Quarter	1 Year	3 Years	5 Years	2019	2018	2017	2016	2015
<b>5th Percentile</b>	7.7	20.1	10.1	10.3	29.3	-4.0	19.6	13.1	1.1
<b>25th Percentile</b>	5.7	9.1	7.2	8.9	27.0	-6.0	17.5	10.3	0.2
<b>Median</b>	4.8	5.3	4.2	8.1	19.3	-7.3	16.1	8.2	-2.0
<b>75th Percentile</b>	4.7	0.0	1.5	6.5	18.8	-9.3	12.2	5.4	-3.7
<b>95th Percentile</b>	0.3	-8.2	-2.3	2.8	13.1	-10.0	11.1	1.1	-4.6
<b># of Portfolios</b>	12	12	11	10	9	10	9	13	13
<b>● Invesco Balanced-Risk Allocation</b>	4.1 (83)	3.4 (58)	4.6 (39)	6.2 (77)	15.7 (92)	-5.8 (22)	10.5 (99)	12.2 (19)	-3.5 (74)
<b>▲ 60% MSCI ACWI Net/40% FTSE WGBI</b>	6.1 (23)	9.6 (24)	6.4 (32)	8.0 (52)	18.2 (88)	-5.8 (22)	17.1 (29)	5.5 (68)	-2.6 (64)

**Performance Return Calculations**

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

**Data Source**

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

**Illiquid Alternatives**

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

**Manager Line Up**

<u>Manager</u>	<u>Fund Incepted</u>	<u>Data Source</u>	<u>Manager</u>	<u>Fund Incepted</u>	<u>Data Source</u>
BlackRock Equity Index NL	4/30/2010	BlackRock	JPMorgan SSP	12/31/2014	JP Morgan
INTECH US Adaptive Volatility	8/3/2018	INTECH	IFM Global Infrastructure (US) LP	1/31/2009	IFM
PanAgora US Small Cap	1/31/2015	PanAgora	JPMorgan IIF ERISA LP	9/30/2010	JP Morgan
WCM Focused International Growth	7/1/2016	WCM	Invesco Balanced-Risk Allocation	1/31/2010	Invesco
Causeway International Value	7/27/2016	US Bank	US Bank Checking Account	N/A	US Bank
Loomis Sayles Core Plus	3/21/2017	Loomis Sayles	US Bank Clearing Account	N/A	US Bank
ASB Allegiance Real Estate	3/31/2015	ASB			

**Policy & Custom Index Composition**

Policy Index: 45% MSCI World, 25% BBgBarc Aggregate, 10% NCREIF-ODCE Net, 20% (60%MSCI ACWI Net/40% CITI WGBI)

Target Asset Allocation Policy: 25% Dow Jones US Total Stock, 20% MSCI ACWI ex US IMI, 20% BBgBarc Aggregate, 10% NCREIF-ODCE, 5% CPI + 5%, and 20% (60%MSCI ACWI Net/40% CITI WGBI).

# Glossary

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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