





PERIOD ENDING: SEPTEMBER 30, 2020

Investment Performance Review for

Tulare County Employees' Retirement Association

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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
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3rd 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 sevenday 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 21st, 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 9th, 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 3rd, 2020

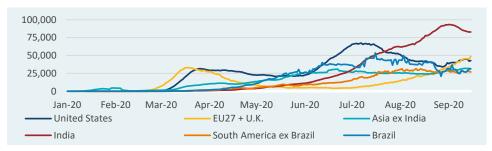
"The market isn't convinced the Federal Reserve can achieve its inflation objective"

TEN-YEAR BREAKEVEN 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%

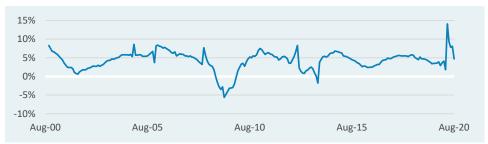
Article Source: CNBC, September 17th, 2020

SEVEN-DAY TRAILING AVERAGE DAILY CASE GROWTH BY REGION



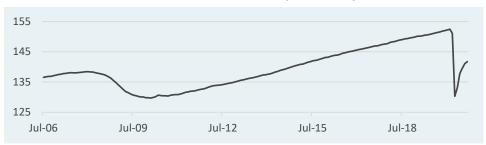
Source: Bloomberg, as of 9/30/20

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% yearover-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

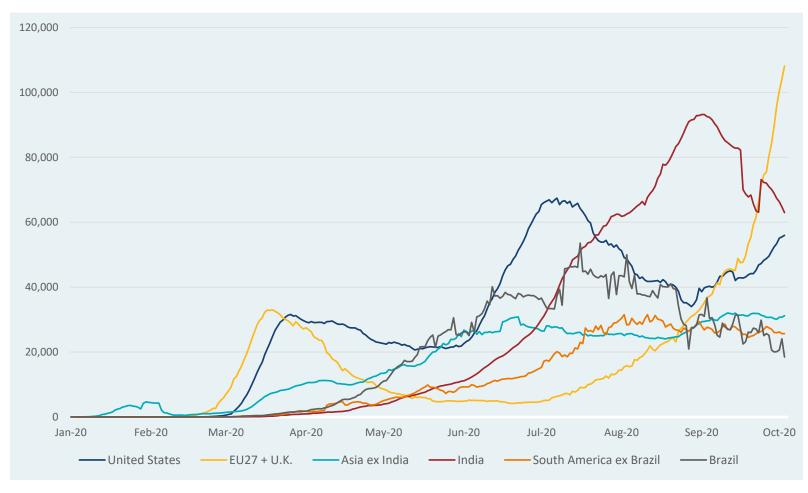
- has been weak, and the outcome depends greatly on how the data is sliced and the timing of economic events. The S&P 500 has experienced stronger gains with a Democrat in power, though the results are skewed by extreme events such as the Great Depression.
- The NFIB Small Business Optimism Index recovered to 104.0 in Q3, which was in line with prepandemic 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 reimplementation of economically-restrictive social distancing controls

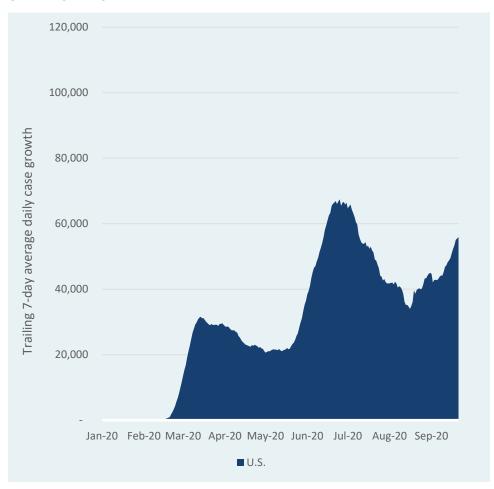
Deaths have begun to increase on a several-week lag to local case growth, as expected, but remain at lower levels than those seen earlier this year

Source: Bloomberg, as of 10/18/20

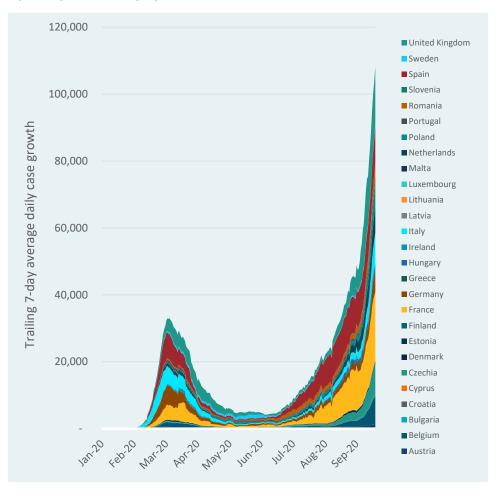


COVID-19 update

UNITED STATES



EU27 + UNITED KINGDOM



Source: Bloomberg, as of 10/18/20

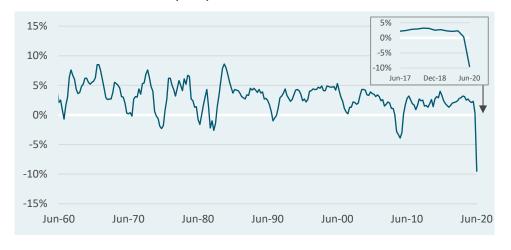


GDP growth

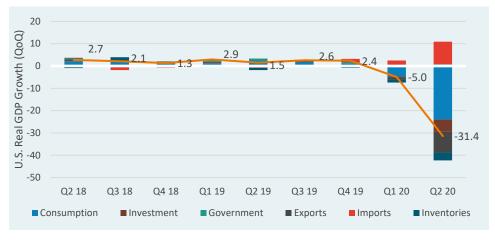
Real GDP contracted -9.0% year-over-year in Q2 (-31.4% quarterly annualized rate)—likely the most sudden economic recession in American history. Personal consumption expenditures shrunk at a quarterly annualized pace of -24%. The decline was driven by a significant pullback in spending on services (-22%) 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 30th. 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)



U.S. GDP GROWTH ATTRIBUTION



Source: Bloomberg, as of 6/30/20

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)



CONSUMER INFLATION EXPECTATIONS



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

BREAKEVEN INFLATION RATES



Source: Bloomberg, as of 9/30/20



Source: Bloomberg, as of 8/31/20

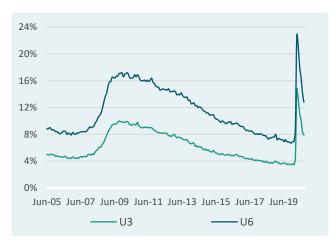
Labor market

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.

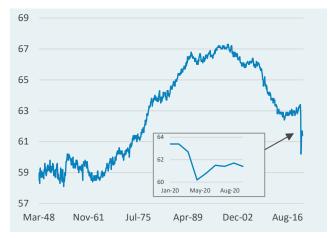
A report released by Yelp in September indicated 60% of businesses that had temporarily closed during the COVID-19 pandemic are now permanently closed. The businesses hit the hardest included: restaurants, bars, retail, fitness, and beauty services. It will be important to monitor whether workers come 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

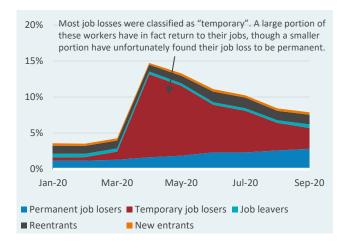


LABOR PARTICIPATION RATE



Source: FRED, as of 9/30/20

UNEMPLOYMENT DECOMPOSITION BY REASON



Source: BLS, as of 9/30/20

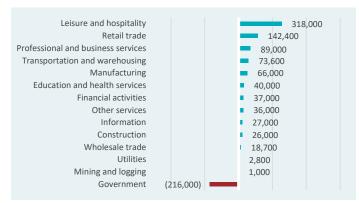


Source: FRED, as of 9/30/20

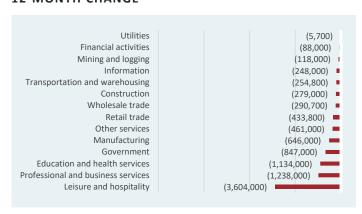
September 2020 jobs report

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

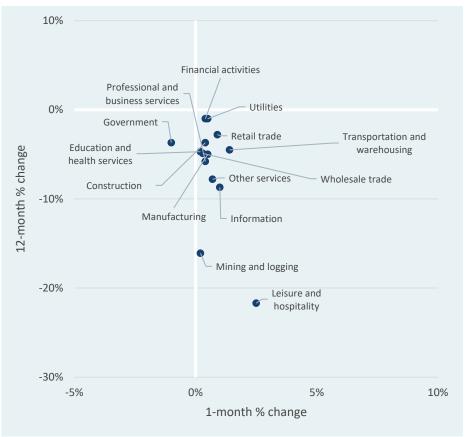
1-MONTH CHANGE



12-MONTH CHANGE



TRAILING % CHANGE



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

All major sectors still have lower payrolls relative to September 2019

Source: BLS, as of 9/30/20



The consumer

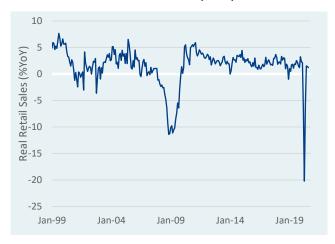
After collapsing -20% year-over-year in April, U.S. real retail sales have now fully recovered and were positive +1.2% in August. Larger purchases, such as automobiles and homes, also slowed considerably earlier in the year but have since rebounded.

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

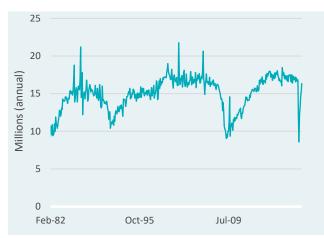
to indicate that government support is having the intended effect and that the economy is stabilizing.

The U.S. personal savings rate fell to 14% in August, largely due to the ending of special unemployment benefits, which expired on July 31st. 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)

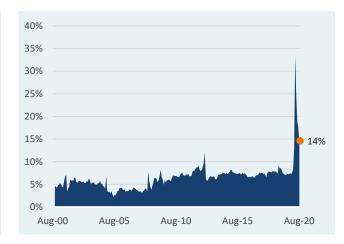


AUTO SALES



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

PERSONAL SAVINGS RATE



Source: FRED, as of 8/31/20



Source: FRED, as of 8/31/20

Sentiment

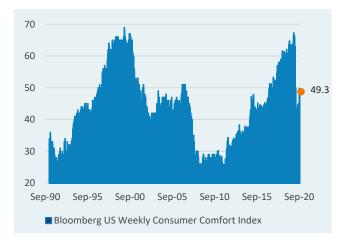
Despite the more optimistic picture painted by a recovery in consumer spending, auto sales, and the housing market, consumer sentiment remains far below the near record-highs of early 2020.

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.

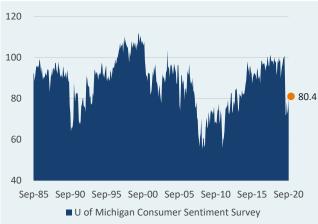
The NFIB Small Business Optimism Index recovered to 104.0 in Q3, which is in line with pre-pandemic levels. The survey concluded that half of the jobs lost in March and April have been recouped, but that the pace of recovery has slowed. Businesses generally expect the economy to continue growing, and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

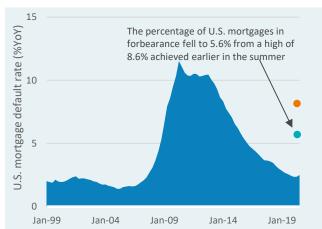
the first week of October. This compared to 6.8% the previous week and a high of 8.6% earlier in the year, according to mortgage data firm Black Knight. This positive news eases concerns that the COVID-19 slowdown might lead to another housing crisis.

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)

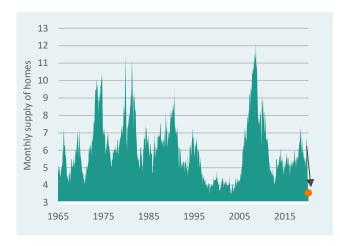


MORTGAGE DEFAULT RATE (%)



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



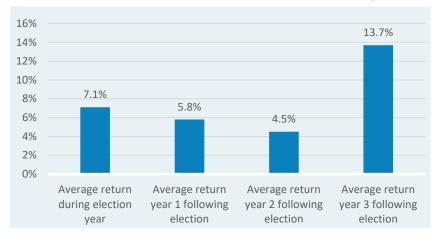
Source: FRED, as of 8/31/20

U.S. presidential election

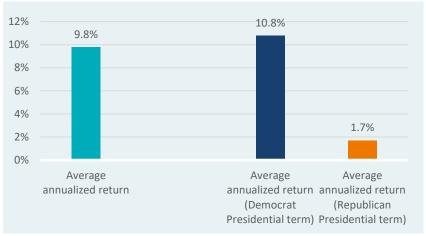
Correlation between election results and long-term market performance has generally been weak, and the outcome depends greatly on how the data is sliced, as well as the timing of economic and geopolitical events which are often unrelated to elections. The S&P 500 has experienced stronger gains with a 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 preelection. 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:

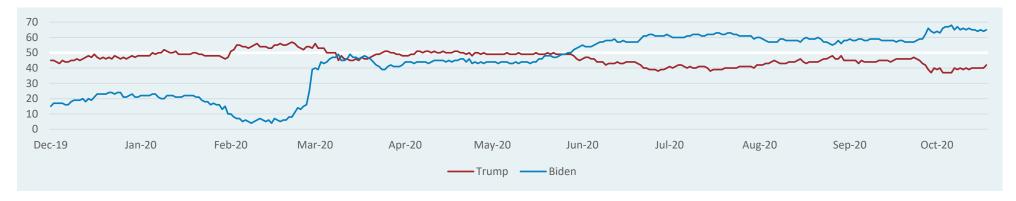
Shy Trump factor: Voters in certain parts of the country may be less willing to express that they would vote for Trump, and this dynamic may be even more prevalent than it was in 2016.

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 preelection, 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%)	(0.3%)	8.1%
	6/30/20	9/30/20	8/31/20
Japan	(9.9%) 6/30/20	0.2 % <i>9/30/20</i>	3.0% 8/31/20
BRICS	(3.1%)	3.3%	5.3%
Nations	6/30/20	6/30/20	6/30/20
Brazil	(11.4%)	2.4%	13.8%
	6/30/20	8/31/20	7/31/20
Russia	(8.0%) 6/30/20	3.3% 9/30/20	6.4% 8/31/20
India	(23.9%)	6.7%	8.5%
	6/30/20	8/31/20	12/31/17
China	4.9%	2.4%	3.8%
	9/30/20	8/31/20	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)



INFLATION (CPI YOY)



IMF GLOBAL OUTLOOK GROWTH PROJECTIONS



Source: Bloomberg, as of 8/31/20

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



Source: Bloomberg, as of 6/30/20

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.

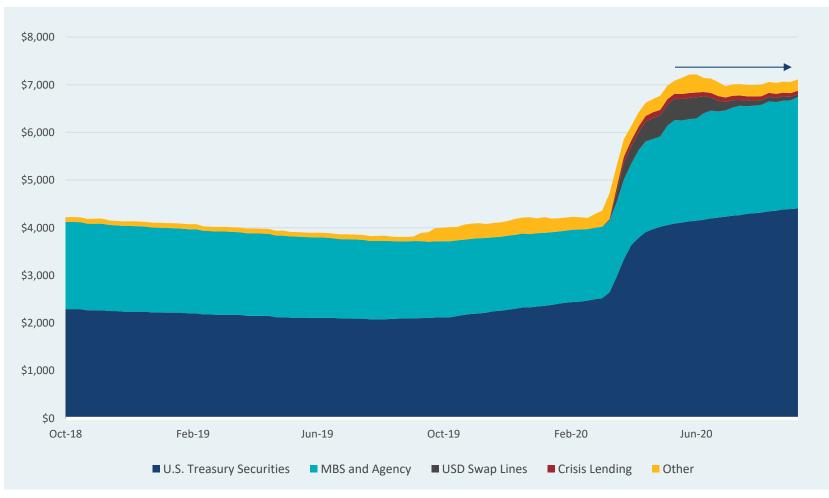
Area	Short Term (3M)	10-Year
United States	0.09%	0.68%
Germany	(0.63%)	(0.52%)
France	(0.64%)	(0.24%)
Spain	(0.54%)	0.25%
Italy	(0.48%)	0.87%
Greece	(0.08%)	1.02%
U.K.	0.01%	0.23%
Japan	(0.15%)	0.01%
Australia	0.12%	0.79%
China	2.29%	3.13%
Brazil	1.93%	7.45%
Russia	4.09%	6.29%

Source: Bloomberg, as of 9/30/20



Monetary stimulus

FED BALANCE SHEET, MILLIONS



Fed balance sheet levels have remained flat

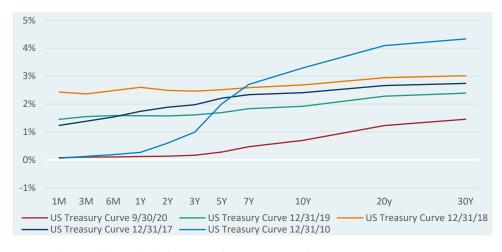
The Fed provided significant monetary accommodation in Q2. Officials have implied that further stimulus will likely need to come in the form of fiscal support

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

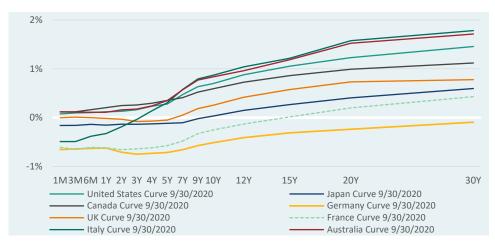


Yield environment

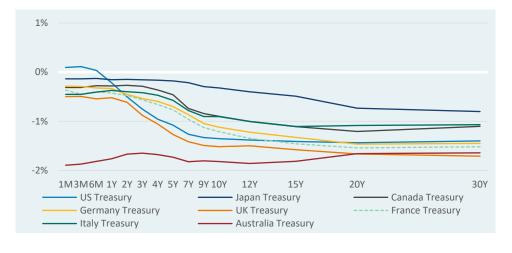
U.S. YIELD CURVE



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

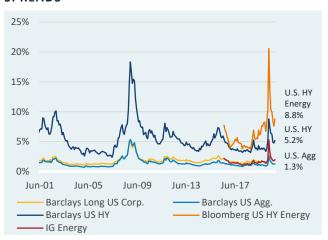
Credit markets performed positively in the third quarter as yields continued to fall from March highs. Buoyed by ongoing support from the Fed as well as increased investor demand for yield, investment grade credit returned 1.5% over the quarter while high yield and leveraged loans returned +4.6% and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

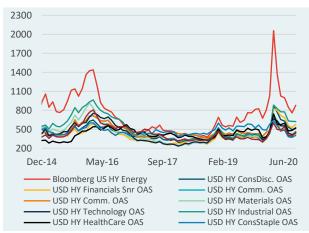
As a result of the post-March recovery, approximately twothirds of global investment grade debt is now yielding less than 1%, and more debt is currently trading at a negative yield than at above the 2% level. While yields in the U.S. are still modestly higher than pre-pandemic levels, credit markets 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

	Credit Spread (OAS)		
Market	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.

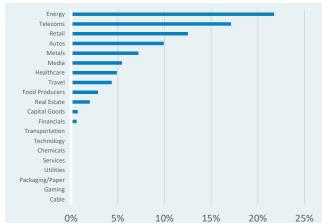
Investment grade issuance fell to nearly half the rate of the second quarter but remains elevated. New investment grade issuance totaled \$371 billion. A year-to-date \$1.54 trillion worth of new investment grade debt was nearly 70% higher than during the same period of 2019.

HY DEFAULT RATE (ROLLING 1-YEAR)



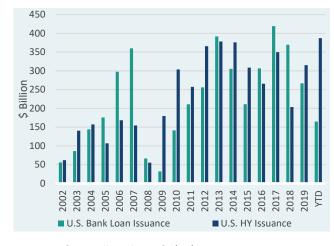
Source: BofA Merrill Lynch, as of 9/30/20

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

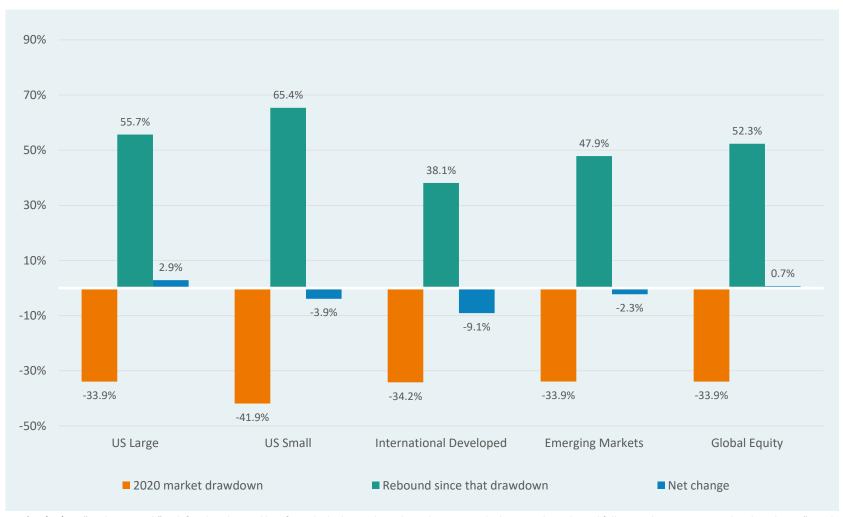
- U.S. equities reached a new high in September before pulling back later in the month. U.S. and emerging markets have recovered most losses year-to-date, while international developed equities remain more negative. Global equities are now positive for 2020 despite an earnings recession and considerable 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 TOT	AL RETURN
	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (S&P 500)	8.9	9%	15.	1%
US Small Cap (Russell 2000)	4.9	9%	0.4	4%
US Large Value (Russell 1000 Value)	5.6%		(5.0	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 15th 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

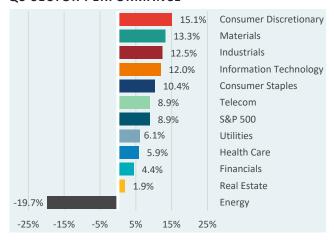


DIVIDEND YIELD VS BOND YIELD



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

Q3 SECTOR PERFORMANCE



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



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)

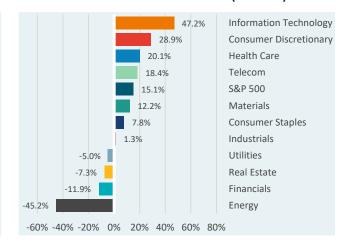


VALUE VS GROWTH (YOY)



Source: FTSE, as of 9/30/20

S&P 500 SECTOR PERFORMANCE (1-YEAR)



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



Source: FTSE, as of 9/30/20

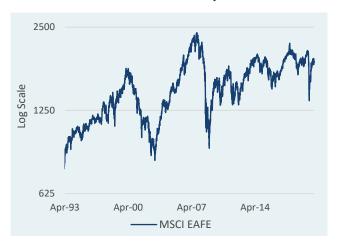
International developed equity

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.

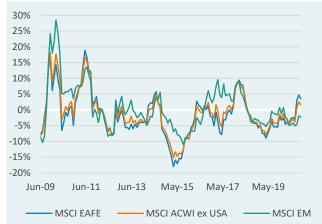
In the second quarter, MSCI EAFE Index revenues dropped nearly -20%, and earnings dropped nearly -60%, pushing certain valuation metrics including price/earnings ratios to historic highs. Moving into Q3 earnings season, analysts are anticipating a historic turnaround in corporate profits, which could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

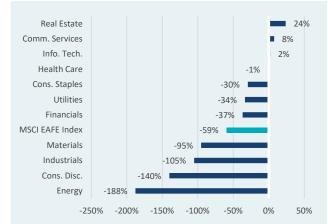
INTERNATIONAL DEVELOPED EQUITIES



EFFECT OF CURRENCY (1-YEAR ROLLING)



Q2 2020 EARNINGS GROWTH – MSCI EAFE INDEX



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



Source: MSCI, 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

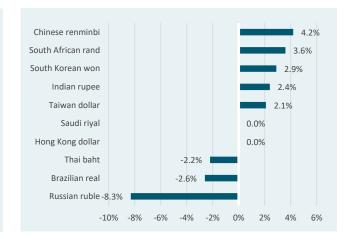


INFLATION (YOY)



Source: Bloomberg, as of 9/30/20

Q3 CURRENCY PERFORMANCE – MSCI EM INDEX



Source: Bloomberg, as of 9/30/20



Source: MSCI, 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



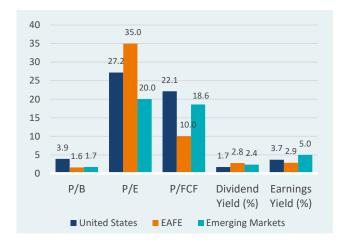
Source: MSCI, 12m forward P/E, as of 9/30/20

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



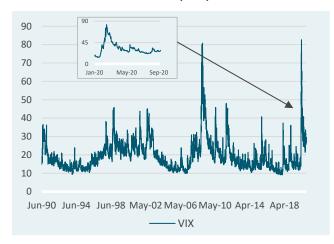
Equity volatility

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)



REALIZED VOLATILITY



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

HISTORICAL VIX TERM STRUCTURES

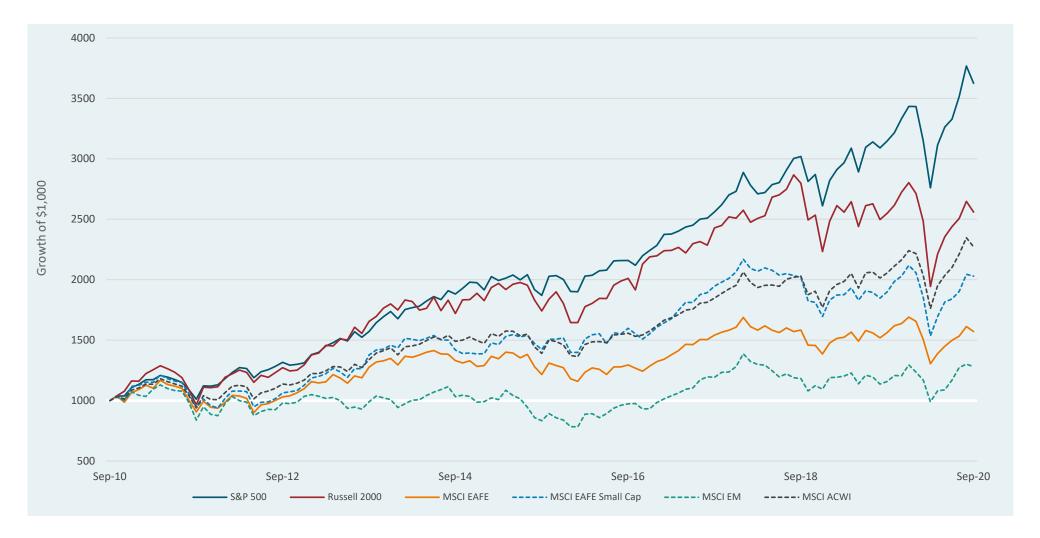


Source: Bloomberg, as of 9/30/20



Source: Choe, 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 safehaven 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



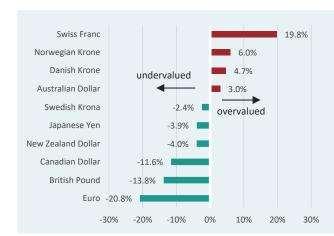
Source: Bloomberg, as of 9/30/20

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.

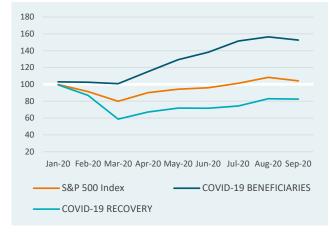
2020 O3 FACTOR PERFORMANCE



2015Q4 - 2020Q3 FACTOR PERFORMANCE



COVID-19 BASKETS



Source: JP Morgan US Equity Strategy

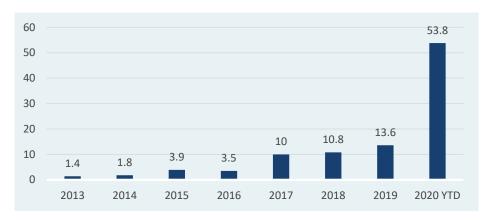


SPACs at a glance

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

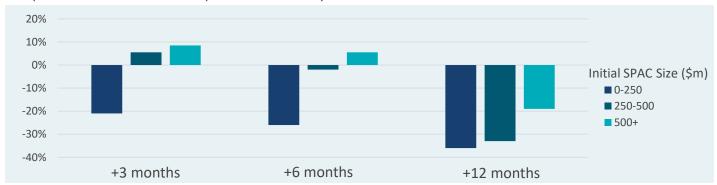


Implications for institutional investors

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



	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	-25.2	-0.8	-22.4	-20.4	-27 Q	11	12	2.2	13	-1.6	-/13 1	0.2	5.7	-12.2	0.1	-2.2	-4.5	-1/10	0.5	17	_12 Q	6.1	-12.1	1 1	0.6

-16.9

0.1



-30.3

1.0

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 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.



Small Cap Value

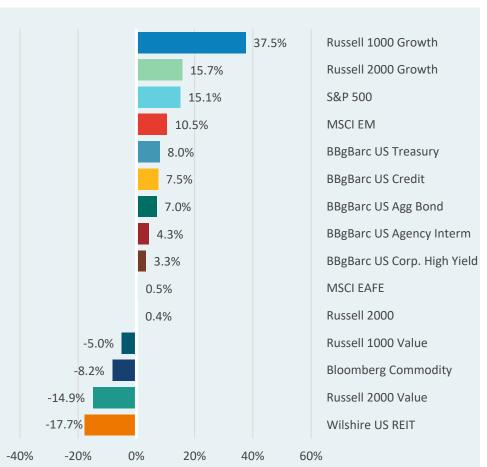
0.9

0.3

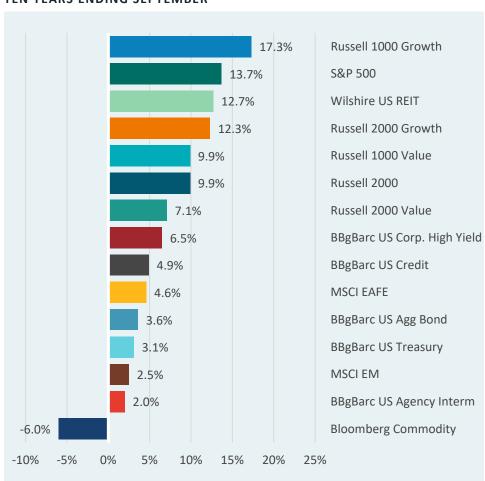
-6.0

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.

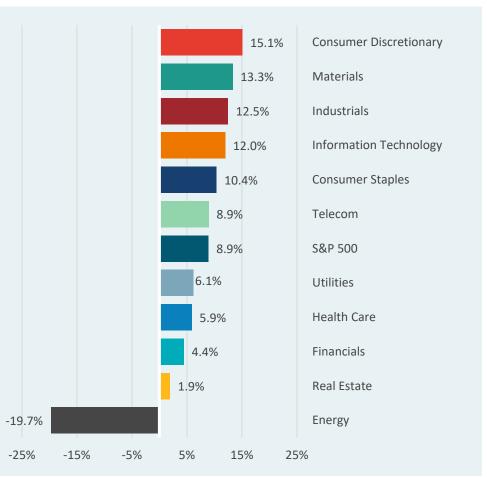
Source: Morningstar, as of 9/30/20

Source: Morningstar, as of 9/30/20

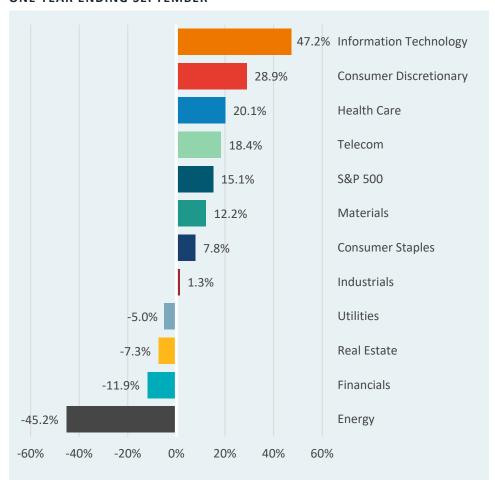


S&P 500 sector returns

Q3 2020



ONE YEAR ENDING SEPTEMBER



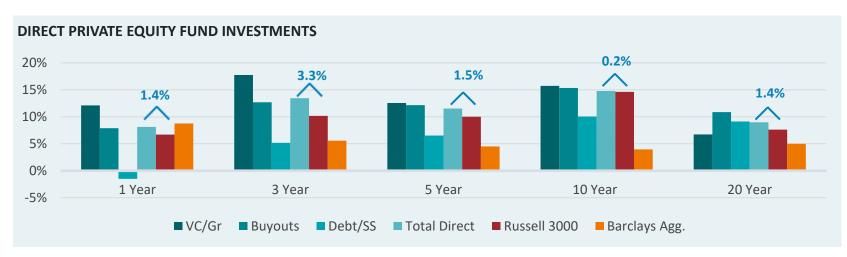
Source: Morningstar, as of 9/30/20

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 equites 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								FIXED INCOME
	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year	
Core Index								Broad Index
S&P 500	(3.8)	8.9	5.6	15.1	12.3	14.1	13.7	BBgBarc US TIPS
S&P 500 Equal Weighted	(2.5)	6.7	(4.7)	2.5	6.5	10.3	12.0	BBgBarc US Treasury Bills
DJ Industrial Average	(2.2)	8.2	(0.9)	5.7	10.0	14.0	12.7	BBgBarc US Agg Bond
Russell Top 200	(4.2)	10.2	9.6	20.3	14.3	15.6	14.5	Duration
Russell 1000	(3.7)	9.5	6.4	16.0	12.4	14.1	13.8	BBgBarc US Treasury 1-3 Yr
Russell 2000	(3.3)	4.9	(8.7)	0.4	1.8	8.0	9.9	BBgBarc US Treasury Long
Russell 3000	(3.6)	9.2	5.4	15.0	11.6	13.7	13.5	BBgBarc US Treasury
Russell Mid Cap	(1.9)	7.5	(2.3)	4.6	7.1	10.1	11.8	Issuer
Style Index								BBgBarc US MBS
Russell 1000 Growth	(4.7)	13.2	24.3	37.5	21.7	20.1	17.3	BBgBarc US Corp. High Yield
Russell 1000 Value	(2.5)	5.6	(11.6)	(5.0)	2.6	7.7	9.9	BBgBarc US Agency Interm
Russell 2000 Growth	(2.1)	7.2	3.9	15.7	8.2	11.4	12.3	BBgBarc US Credit
Russell 2000 Value	(4.7)	2.6	(21.5)	(14.9)	(5.1)	4.1	7.1	
INTERNATIONAL EQUITY								OTHER
Broad Index								Index
MSCI ACWI	(3.2)	8.1	1.4	10.4	7.1	10.3	8.5	Bloomberg Commodity
MSCI ACWI ex US	(2.5)	6.3	(5.4)	3.0	1.2	6.2	4.0	Wilshire US REIT
MSCI EAFE	(2.6)	4.8	(7.1)	0.5	0.6	5.3	4.6	CS Leveraged Loans
MSCI EM	(1.6)	9.6	(1.2)	10.5	2.4	9.0	2.5	Alerian MLP
MSCI EAFE Small Cap	(0.7)	10.3	(4.2)	6.8	1.4	7.4	7.3	Regional Index
Style Index								JPM EMBI Global Div
MSCI EAFE Growth	(0.7)	8.4	4.6	13.4	7.1	9.2	7.0	JPM GBI-EM Global Div

Index							
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	(8.0)	0.8	3.2	4.6	5.0
Alerian MLP	(13.6)	(16.3)	(48.3)	(50.7)	(21.9)	(12.4)	(4.0)
Regional Index							
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
Hedge Funds							
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
Currency (Spot)							
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)

QTD

3.0

0.0

0.6

0.1

0.1

0.2

0.1

4.6

0.3

1.5

Month

(0.4)

0.0

(0.1)

0.0

0.4

0.1

(0.1)

(1.0)

0.1

(0.3)

YTD

9.2

0.7

6.8

3.1

21.3

8.9

3.6

0.6

4.0

1 Year

10.1

1.2

7.0

3.6

16.3

8.0

4.4

4.3

7.5

3 Year

5.8

1.7

5.2

2.7

11.9

5.5

3.7

4.2

3.3

5 Year 10 Year

3.6

0.7

3.6

7.2

3.1

3.0

6.5

2.0

4.9

1.3

4.6

1.2

4.2

1.8

8.2

3.7

3.0

2.4

5.7

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

(4.6)

(5.0)

1.0

(3.8)

(1.1)

(5.1)

1.2

(0.2)

6.9

4.2

11.9

(1.3)

(18.3)

(23.4)

(0.7)

(9.1)

8.0

(36.1)

(11.9)

(15.8)

6.9

(1.9)

21.5

(29.4)

(5.9)

(5.6)

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2.1

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6.2

3.5

5.5

(5.7)



MSCI EM Latin American

MSCI EAFE Value

Regional Index MSCI UK

MSCI Japan

MSCI Euro

MSCI EM Asia

Definitions

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

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

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

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

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Tulare County Employees' Retirement Association

Investment Performance Review Period Ending: September 30, 2020



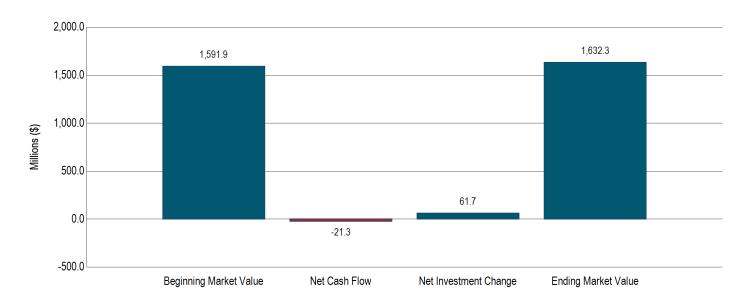
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Fiscal Year-To-Date

Beginning Market Value	\$1,591,855,813
Net Cash Flow	-\$21,262,770
Net Investment Change	\$61,732,833
Ending Market Value	\$1,632,325,875

Change in Market Value Last Three Months



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



Executive Summary (Gross of Fees)

	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	20 Yrs
Total Fund	4.0	-0.5	4.0	4.3	5.0	7.1	6.9	5.5	5.5
Policy Index	4.2	2.0	4.2	6.6	6.2	7.8	7.2	6.2	6.0
InvMetrics Public DB Gross Rank	90	90	90	90	84	79	80	83	75
Total Domestic Equity	7.8	2.8	7.8	11.4	10.6	13.0	13.5	9.3	7.3
Russell 3000	9.2	5.4	9.2	15.0	11.6	13.7	13.5	9.1	6.6
InvMetrics Public DB US Eq Gross Rank	59	33	59	32	24	25	15	21	21
Total International Equity	6.4	-3.3	6.4	4.5	2.2	7.2	4.4	3.6	3.8
MSCI ACWI ex USA Gross	6.4	-5.1	6.4	3.4	1.6	6.7	4.5	4.6	4.6
InvMetrics Public DB ex-US Eq Gross Rank	77	43	77	58	31	39	81	91	87
Total Global Equity	9.8	-2.5	9.8	6.4	4.0	10.7			
MSCI ACWI Gross	8.3	1.8	8.3	11.0	7.7	10.9			
InvMetrics Public DB Glbl Eq Gross Rank	5	66	5	54	68	15			
Total Fixed Income	1.3	2.0	1.3	3.3	3.7	4.1	4.0	4.8	5.2
BBgBarc US Aggregate TR	0.6	6.8	0.6	7.0	5.2	4.2	3.6	4.5	5.0
InvMetrics Public DB US Fix Inc Gross Rank	35	97	35	94	91	39	32	36	46
Total Domestic Fixed Income	1.6	6.5	1.6	7.0	5.4	4.9	4.4		
BBgBarc US Aggregate TR	0.6	6.8	0.6	7.0	5.2	4.2	3.6		
Total Global Fixed Income	-0.4	-6.1	-0.4	-4.9	-1.3	1.9	-		
JPM GBI Global TR USD	2.5	7.3	2.5	6.7	4.5	3.9			
Total Emerging Markets Fixed Income	2.1	-5.0	2.1	-1.0					
50% JPM EMBI Global Div/50% JPM GBI EM Global Div	1.5	-3.4	1.5	0.0					

Actual vs Target Allocation (%) 30.0 27.8 20.0 15.0 10.0 4.9 5.0 5.3 5.0 4 4 5.0 4.9 5.0 0.2 0.0 Domestic International Global Domestic International Global Fixed Real Estate Equity Equity Fixed Inco... Fixed Inco.. Income Equity Credit

Rolling Annualized Excess Performance and Tracking Error Total Fund vs. Policy Index

Policy

Actual

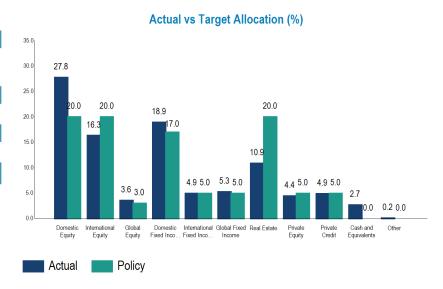


New Policy Index as of 10/1/2019: 20% Russell 3000, 20% MSCI ACWI ex US, 3% MSCI ACWI, 17% BBgBarc US Aggregate, 5% JPM GBI Global, 5% (50% JPM EMBI Global Div/50% JPM GBI EM Global Div), 20% NCREIF-ODCE, 5% Private Equity Returns, 5% Private Credit Returns. All return periods greater than 1-year are rolling annualized returns. Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

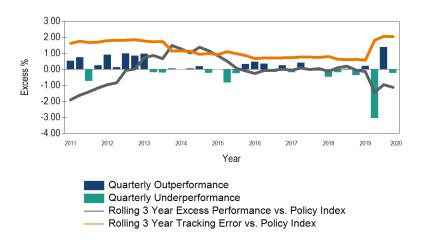


rotai runa		
Executive Summary	(Gross of Fees)	

	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	20 Yrs
Total Real Estate	-0.6	1.7	-0.6	3.2	5.8	6.4	8.8	5.9	8.0
NCREIF-ODCE	0.5	-0.1	0.5	1.4	5.2	6.6	10.3	6.7	7.6
NCREIF Property Index	0.7	0.5	0.7	2.0	5.1	6.3	9.4	7.4	8.3
Total Private Equity	-1.9	-2.8	-1.9	-0.5	11.4	9.7	12.6		
Total Private Credit	9.9	0.4	9.9	2.0	7.4				
Total Opportunistic	-1.8	-8.8	-1.8	-7.4	3.1	4.5			



Rolling Annualized Excess Performance and Tracking Error Total Fund vs. Policy Index

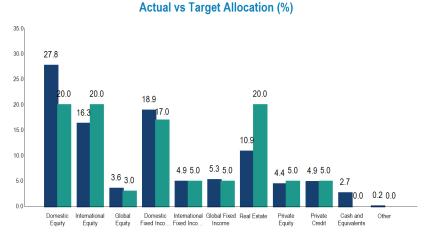


New Policy Index as of 10/1/2019: 20% Russell 3000, 20% MSCI ACWI ex US, 3% MSCI ACWI, 17% BBgBarc US Aggregate, 5% JPM GBI Global, 5% (50% JPM EMBI Global Div/50% JPM GBI EM Global Div), 20% NCREIF-ODCE, 5% Private Equity Returns, 5% Private Credit Returns. All return periods greater than 1-year are rolling annualized returns. Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.



Executive Summary (Net of Fees)

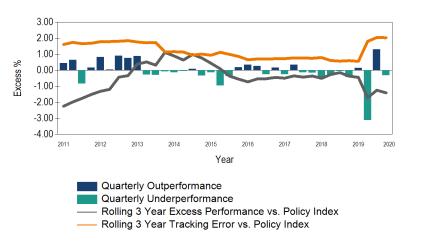
	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs 1	10 Yrs 1	5 Yrs 2	0 Yrs
Total Fund	3.9	-0.7	3.9	4.0	4.8	6.8	6.5	5.2	5.1
Policy Index	4.2	2.0	4.2	6.6	6.2	7.8	7.2	6.2	6.0
Total Domestic Equity	7.8	2.6	7.8	11.0	10.2	12.5	13.0	8.9	6.9
Russell 3000	9.2	5.4	9.2	15.0	11.6	13.7	13.5	9.1	6.6
Total International Equity	6.3	-3.6	6.3	4.1	1.8	6.8	4.0	3.2	3.4
MSCI ACWI ex USA Gross	6.4	-5.1	6.4	3.4	1.6	6.7	4.5	4.6	4.6
Total Global Equity	9.6	-3.1	9.6	5.6	3.2	9.8			
MSCI ACWI Gross	8.3	1.8	8.3	11.0	7.7	10.9			
Total Fixed Income	1.2	1.7	1.2	2.9	3.3	3.7	3.7	4.5	4.9
BBgBarc US Aggregate TR	0.6	6.8	0.6	7.0	5.2	4.2	3.6	4.5	5.0
Total Domestic Fixed Income	1.5	6.3	1.5	6.7	5.1	4.6	4.2		
BBgBarc US Aggregate TR	0.6	6.8	0.6	7.0	5.2	4.2	3.6		
Total Global Fixed Income	-0.5	-6.4	-0.5	-5.3	-1.8	1.4			
JPM GBI Global TR USD	2.5	7.3	2.5	6.7	4.5	3.9			
Total Emerging Markets Fixed Income	2.0	-5.4	2.0	-1.5					
50% JPM EMBI Global Div/50% JPM GBI EM Global Div	1.5	-3.4	1.5	0.0					
Total Real Estate	-0.6	1.7	-0.6	3.2	5.8	6.2	8.6	5.4	7.3
NCREIF-ODCE	0.5	-0.1	0.5	1.4	5.2	6.6	10.3	6.7	7.6
NCREIF Property Index	0.7	0.5	0.7	2.0	5.1	6.3	9.4	7.4	8.3
Total Private Equity	-1.9	-2.8	-1.9	-0.5	11.4	9.3	12.1		
Total Private Credit	9.9	0.4	9.9	2.0	7.4				
Total Opportunistic	-1.8	-8.8	-1.8	-7.4	3.1	4.0			



Rolling Annualized Excess Performance and Tracking Error Total Fund vs. Policy Index

Policy

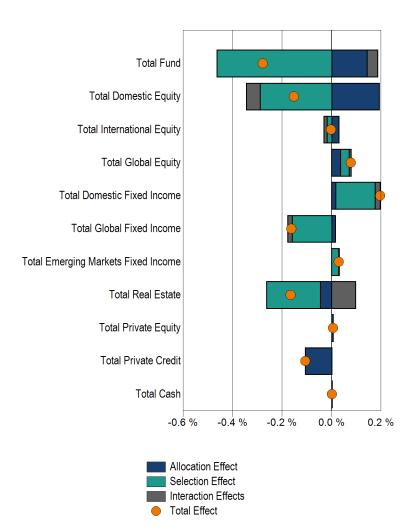
Actual



New Policy Index as of 10/1/2019: 20% Russell 3000, 20% MSCI ACWI ex US, 3% MSCI ACWI, 17% BBgBarc US Aggregate, 5% JPM GBI Global, 5% (50% JPM EMBI Global Div/50% JPM GBI EM Global Div), 20% NCREIF-ODCE, 5% Private Equity Returns, 5% Private Credit Returns. All return periods greater than 1-year are rolling annualized returns. Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.



Attribution Effects 3 Months Ending September 30, 2020



Performance Attribution

	Last 3 Mo.
Wtd. Actual Return	3.9%
Wtd. Index Return *	4.2%
Excess Return	-0.3%
Selection Effect	-0.5%
Allocation Effect	0.1%
Interaction Effect	0.0%

^{*}Calculated from policy benchmark returns and policy weightings of each compenent of the policy benchmark.

Attribution Summary 3 Months Ending September 30, 2020

	Wtd., Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Domestic Equity	7.8%	9.2%	-1.4%	-0.3%	0.2%	-0.1%	-0.2%
Total International Equity	6.3%	6.4%	-0.1%	0.0%	0.0%	0.0%	0.0%
Total Global Equity	9.6%	8.3%	1.3%	0.0%	0.0%	0.0%	0.1%
Total Domestic Fixed Income	1.5%	0.6%	0.9%	0.2%	0.0%	0.0%	0.2%
Total Global Fixed Income	-0.5%	2.5%	-3.1%	-0.2%	0.0%	0.0%	-0.2%
Total Emerging Markets Fixed Income	2.0%	1.5%	0.5%	0.0%	0.0%	0.0%	0.0%
Total Real Estate	-0.6%	0.5%	-1.0%	-0.2%	0.0%	0.1%	-0.2%
Total Private Equity	-1.9%	-1.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Private Credit	9.9%	9.9%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Total Cash	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	3.9%	4.2%	-0.3%	-0.5%	0.1%	0.0%	-0.3%

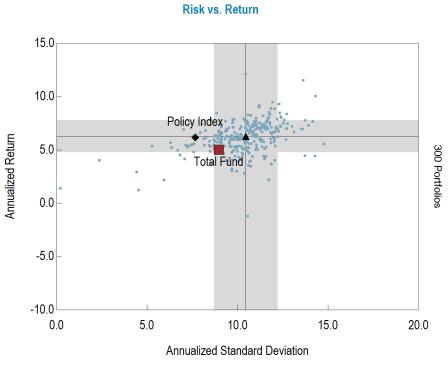
Weighted returns shown in attribution analysis may differ from actual returns. Wtd. Actual Return is the sum of the products of each group's return and its respective weight at the beginning of the period.



Total Fund

Risk Analysis - 3 Years (Gross of Fees)

	Anlzd Ret	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Total Fund	5.04%	8.96%	-2.09%	1.16	1.82%	0.98	0.38	-0.62	104.72%	118.00%

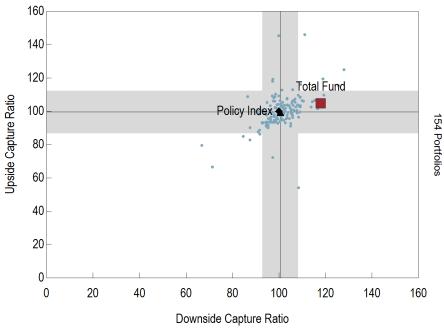






- Policy Index
- Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross

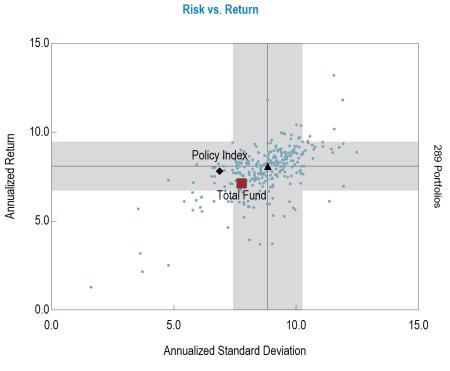




- **Total Fund**
- Policy Index
- Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross



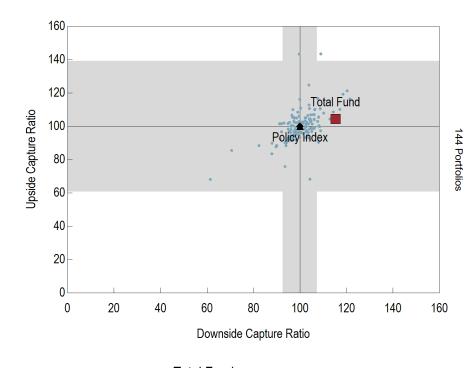
	Anlzd Ret	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Total Fund	7.13%	7.77%	-1.58%	1.12	1.47%	0.97	0.77	-0.46	104.44%	115.26%





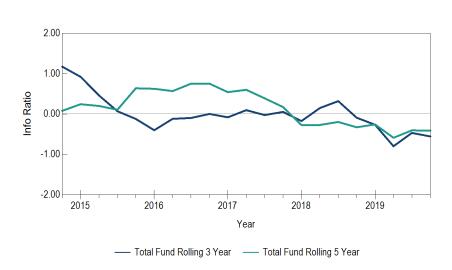
- Policy Index
- Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross

Up Markets vs. Down Markets

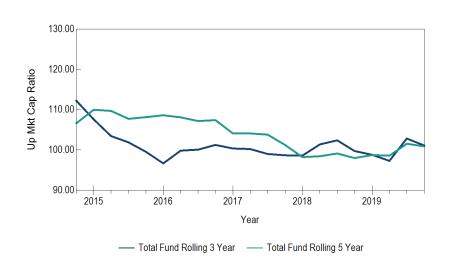


- Total Fund
- Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross

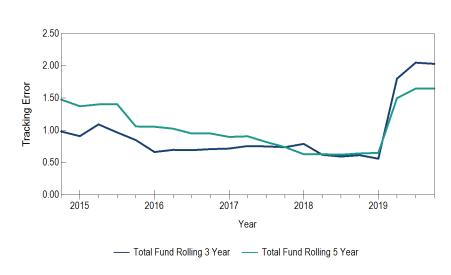
Rolling Information Ratio



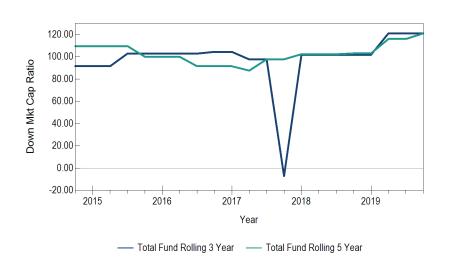
Rolling Up Market Capture Ratio (%)



Rolling Tracking Error



Rolling Down Market Capture Ratio (%)



	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Fund	1,632,419,857	100.0	4.0	-0.5	4.0	4.3	5.0	7.1	6.9	15.7	-2.6	14.3	7.6	-1.2
Policy Index			4.2	2.0	4.2	6.6	6.2	7.8	7.2	16.1	-2.4	14.0	8.0	-1.1
InvMetrics Public DB Gross Rank			90	90	90	90	84	79	80	85	15	71	53	80
Total Domestic Equity	453,580,497	27.8	7.8	2.8	7.8	11.4	10.6	13.0	13.5	30.3	-5.0	22.3	11.5	1.6
Russell 3000			9.2	5.4	9.2	15.0	11.6	13.7	13.5	31.0	-5.2	21.1	12.7	0.5
InvMetrics Public DB US Eq Gross Rank			59	33	59	32	24	25	15	40	29	16	77	10
SSGA S&P 500 Flagship Fund	129,313,088	7.9	8.9	5.6	8.9	15.1	12.3	14.2		31.5	-4.4	21.9	12.0	1.5
S&P 500			8.9	5.6	8.9	15.1	12.3	14.1		31.5	-4.4	21.8	12.0	1.4
eV US Large Cap Core Equity Gross Rank			38	37	38	33	35	26		33	40	52	31	40
QMA Large Cap Core	69,761,315	4.3	6.6	0.6	6.6	10.1	9.2	12.3	13.5	29.0	-6.5	22.5	12.5	2.1
S&P 500			8.9	5.6	8.9	15.1	12.3	14.1	13.7	31.5	-4.4	21.8	12.0	1.4
eV US Large Cap Core Equity Gross Rank			81	70	81	61	70	61	45	58	70	42	25	31
Ivy Large Cap Growth	90,410,160	5.5	11.0	21.3	11.0	31.3	22.3	19.8	17.4	37.3	3.2	30.2	2.1	7.6
Russell 1000 Growth			13.2	24.3	13.2	37.5	21.7	20.1	17.3	36.4	-1.5	30.2	7.1	5.7
eV US Large Cap Growth Equity Gross Rank			58	54	58	60	30	32	22	26	15	42	72	26
Boston Partners Large Cap Value	59,927,078	3.7	4.0	-13.4	4.0	-6.4	1.8	7.3	10.5	24.3	-8.6	20.1	14.7	-3.9
Russell 1000 Value			5.6	-11.6	5.6	-5.0	2.6	7.7	9.9	26.5	-8.3	13.7	17.3	-3.8
eV US Large Cap Value Equity Gross Rank			72	76	72	73	72	68	50	77	55	22	54	65
SSGA Russell Small Cap Completeness Index	35,300,686	2.2	10.7	4.3	10.7	13.5	8.3	11.4		27.8	-9.2	18.2	16.5	-3.5
Russell Small Cap Completeness			10.7	4.4	10.7	13.7	8.4	11.5		28.0	-9.2	18.3	16.6	-3.4
eV US Small Cap Core Equity Gross Rank			5	7	5	7	10	14		29	37	23	84	68
William Blair SMID Cap Growth	36,968,646	2.3	8.6	10.0	8.6	15.0	15.1	16.0	16.2	32.2	-0.9	30.4	8.2	6.1
Russell 2500 Growth			9.4	11.6	9.4	23.4	13.4	14.2	14.1	32.7	-7.5	24.5	9.7	-0.2
eV US Mid Cap Growth Equity Gross Rank			68	80	68	89	70	52	23	77	29	16	22	7
Lee Munder Small Value	31,899,524	2.0	1.8	-20.1	1.8	-13.0	-3.6	4.8	7.7	27.5	-14.7	8.6	28.4	0.4
Russell 2000 Value			2.6	-21.5	2.6	-14.9	-5.1	4.1	7.1	22.4	-12.9	7.8	31.7	-7.5
eV US Small Cap Value Equity Gross Rank			65	55	65	50	51	45	79	22	56	68	38	9
Total International Equity	266,762,375	16.3	6.4	-3.3	6.4	4.5	2.2	7.2	4.4	23.2	-14.3	26.9	6.2	-5.9
MSCI ACWI ex USA Gross			6.4	-5.1	6.4	3.4	1.6	6.7	4.5	22.1	-13.8	27.8	5.0	-5.3
InvMetrics Public DB ex-US Eq Gross Rank			77	43	77	58	31	39	81	44	43	80	13	85

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. Shenkman High Yield liquidated 3/11/2019. PGIM EMD funded 8/26/19. Gresham Commodity and Wellington Commodity liquidated 9/27/19. American Realty funded 12/20/2019. Titan and Aetos liquidated 1Q 2020. Aetos holdback of \$93,982 included in total market value.



	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
SSGA MSCI ACWI Ex US Index Fund	106,577,223	6.5	6.3	-5.1	6.3	3.3	1.5	6.5	4.3	21.9	-14.0	27.6	4.8	-5.5
MSCI ACWI ex USA Gross			6.4	-5.1	6.4	3.4	1.6	6.7	4.5	22.1	-13.8	27.8	5.0	-5.3
eV All EAFE Equity Gross Rank			58	48	58	51	50	47	88	63	42	49	17	96
PIMCO RAE Fundamental Global Ex US Fund	74,772,118	4.6	3.1	-17.0	3.1	-10.3	-4.8	3.7		16.7	-14.7	26.7	13.5	-10.9
MSCI ACWI ex USA Value Gross			2.4	-17.2	2.4	-10.3	-4.5	2.8		16.5	-13.4	23.3	9.6	-9.6
eV EAFE Value Equity Gross Rank			70	78	70	87	77	49		88	37	40	2	99
SGA Global Growth	85,413,034	5.2	9.1	11.1	9.1	19.3				31.1				
MSCI ACWI ex USA Growth Gross			10.2	7.5	10.2	17.9				27.8				
eV ACWI ex-US Growth Equity Gross Rank			78	41	78	56				48				
Total Global Equity	58,984,242	3.6	9.8	-2.5	9.8	6.4	4.0	10.7		25.2	-15.3	33.7	16.1	-11.5
MSCI ACWI Gross			8.3	1.8	8.3	11.0	7.7	10.9		27.3	-8.9	24.6	8.5	-1.8
InvMetrics Public DB Glbl Eq Gross Rank			5	66	5	54	68	15		44	94	1	2	99
Skellig Water Fund (aka KBI)	58,984,242	3.6	9.8	-2.5	9.8	6.4	4.0	10.7		25.2	-15.3	33.7	16.1	-11.5
MSCI ACWI Gross			8.3	1.8	8.3	11.0	7.7	10.9		27.3	-8.9	24.6	8.5	-1.8
eV Global All Cap Equity Gross Rank			32	65	32	62	72	43		63	91	9	6	96
Total Fixed Income	475,904,226	29.2	1.3	2.0	1.3	3.3	3.7	4.1	4.0	8.4	0.5	4.3	5.5	-0.8
BBgBarc US Aggregate TR			0.6	6.8	0.6	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.6
InvMetrics Public DB US Fix Inc Gross Rank			35	97	35	94	91	39	32	36	51	50	37	77
Total Domestic Fixed Income	309,078,876	18.9	1.6	6.5	1.6	7.0	5.4	4.9	4.4	9.3	0.1	4.4	5.1	-0.3
BBgBarc US Aggregate TR			0.6	6.8	0.6	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.6
BlackRock Fixed Income	112,425,378	6.9	1.1	7.6	1.1	8.0	5.7	4.7	4.2	9.0	0.4	3.9	3.1	1.1
BBgBarc US Aggregate TR			0.6	6.8	0.6	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.6
eV All US Fixed Inc Gross Rank			59	20	59	22	26	42	49	45	54	54	53	39
Doubleline Core Plus	95,772,649	5.9	1.8	4.0	1.8	4.4	4.3			8.6	0.0	4.2	4.8	
BBgBarc US Aggregate TR			0.6	6.8	0.6	7.0	5.2			8.7	0.0	3.5	2.6	
eV US Core Plus Fixed Inc Gross Rank			46	98	46	99	98			93	33	86	52	
MacKay Shields Core Plus	100,880,849	6.2	2.0	7.8	2.0	8.3	5.9			10.0	-0.6	5.0	5.1	
BBgBarc US Aggregate TR			0.6	6.8	0.6	7.0	5.2			8.7	0.0	3.5	2.6	
eV US Core Plus Fixed Inc Gross Rank			29	25	29	26	44			53	67	52	46	
Total Global Fixed Income	86,088,955	5.3	-0.4	-6.1	-0.4	-4.9	-1.3	1.9		1.3	2.4	3.0	7.1	-3.4
JPM GBI Global TR USD			2.5	7.3	2.5	6.7	4.5	3.9		6.0	-0.7	6.8	1.6	-2.6

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. Shenkman High Yield liquidated 3/11/2019. PGIM EMD funded 8/26/19. Gresham Commodity and Wellington Commodity liquidated 9/27/19. American Realty funded 12/20/2019. Titan and Aetos liquidated 1Q 2020. Aetos holdback of \$93,982 included in total market value.



	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Franklin Templeton Global Bond Plus	86,088,955	5.3	-0.4	-6.1	-0.4	-4.9	-1.3	1.8		1.3	2.4	3.0	6.8	-3.5
JPM GBI Global TR USD			2.5	7.3	2.5	6.7	4.5	3.9		6.0	-0.7	6.8	1.6	-2.6
eV Global Government Fixed Inc Gross Rank			99	99	99	99	99	99		99	10	87	8	58
Total Emerging Markets Fixed Income	80,736,395	4.9	2.1	-5.0	2.1	-1.0	-	-		-	-		-	
50% JPM EMBI Global Div/50% JPM GBI EM Global Div			1.5	-3.4	1.5	0.0								
PGIM Emerging Markets Debt	80,736,395	4.9	2.1	-5.0	2.1	-1.0							-	
50% JPM EMBI Global Div/50% JPM GBI EM Global Div			1.5	-3.4	1.5	0.0								
eV Emg Mkts Fixed Inc - Blended Currency Gross Rank			64	88	64	88								
Total Real Estate	177,769,379	10.9	-0.6	1.7	-0.6	3.2	5.8	6.4	8.8	5.2	8.8	4.3	9.0	16.0
NCREIF-ODCE			0.5	-0.1	0.5	1.4	5.2	6.6	10.3	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index			0.7	0.5	0.7	2.0	5.1	6.3	9.4	6.4	6.7	7.0	8.0	13.3
RREEF America II	166,868,556	10.2	-0.6	1.8	-0.6	3.2	5.7	6.6	10.5	5.3	8.6	4.4	9.3	16.7
NCREIF-ODCE			0.5	-0.1	0.5	1.4	5.2	6.6	10.3	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index			0.7	0.5	0.7	2.0	5.1	6.3	9.4	6.4	6.7	7.0	8.0	13.3
American Realty	10,900,823	0.7	-0.3	0.5	-0.3									
NCREIF-ODCE			0.5	-0.1	0.5									
NCREIF Property Index			0.7	0.5	0.7									

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. Shenkman High Yield liquidated 3/11/2019. PGIM EMD funded 8/26/19. Gresham Commodity and Wellington Commodity liquidated 9/27/19. American Realty funded 12/20/2019. Titan and Aetos liquidated 1Q 2020. Aetos holdback of \$93,982 included in total market value.



	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Fund	1,632,419,857	100.0	3.9	-0.7	3.9	4.0	4.8	6.8	6.5	15.4	-2.9	13.9	7.1	-1.6
Policy Index			4.2	2.0	4.2	6.6	6.2	7.8	7.2	16.1	-2.4	14.0	8.0	-1.1
Total Domestic Equity	453,580,497	27.8	7.8	2.6	7.8	11.0	10.2	12.5	13.0	29.8	-5.4	21.9	11.1	1.2
Russell 3000			9.2	5.4	9.2	15.0	11.6	13.7	13.5	31.0	-5.2	21.1	12.7	0.5
SSGA S&P 500 Flagship Fund	129,313,088	7.9	8.9	5.5	8.9	15.1	12.3	14.1		31.5	-4.4	21.8	12.0	1.4
S&P 500			8.9	5.6	8.9	15.1	12.3	14.1		31.5	-4.4	21.8	12.0	1.4
QMA Large Cap Core	69,761,315	4.3	6.6	0.6	6.6	9.9	9.0	12.0	13.2	28.6	-6.8	22.1	12.1	1.8
S&P 500			8.9	5.6	8.9	15.1	12.3	14.1	13.7	31.5	-4.4	21.8	12.0	1.4
Ivy Large Cap Growth	90,410,160	5.5	10.9	20.8	10.9	30.6	21.7	19.1	16.8	36.6	2.7	29.5	1.6	7.1
Russell 1000 Growth			13.2	24.3	13.2	37.5	21.7	20.1	17.3	36.4	-1.5	30.2	7.1	5.7
Boston Partners Large Cap Value	59,927,078	3.7	3.9	-13.7	3.9	-6.8	1.3	6.8	10.0	23.8	-9.0	19.6	14.2	-4.4
Russell 1000 Value			5.6	-11.6	5.6	-5.0	2.6	7.7	9.9	26.5	-8.3	13.7	17.3	-3.8
SSGA Russell Small Cap Completeness Index	35,300,686	2.2	10.7	4.2	10.7	13.5	8.2	11.4		27.8	-9.2	18.1	16.5	-3.5
Russell Small Cap Completeness			10.7	4.4	10.7	13.7	8.4	11.5		28.0	-9.2	18.3	16.6	-3.4
William Blair SMID Cap Growth	36,968,646	2.3	8.4	9.3	8.4	14.1	14.2	15.0	15.2	31.1	-1.7	29.3	7.2	5.2
Russell 2500 Growth			9.4	11.6	9.4	23.4	13.4	14.2	14.1	32.7	-7.5	24.5	9.7	-0.2
Lee Munder Small Value	31,899,524	2.0	1.6	-20.6	1.6	-13.7	-4.5	3.9	6.7	26.3	-15.5	7.7	27.3	-0.5
Russell 2000 Value			2.6	-21.5	2.6	-14.9	-5.1	4.1	7.1	22.4	-12.9	7.8	31.7	-7.5
Total International Equity	266,762,375	16.3	6.3	-3.6	6.3	4.1	1.8	6.8	4.0	22.7	-14.5	26.5	5.9	-6.2
MSCI ACWI ex USA Gross			6.4	-5.1	6.4	3.4	1.6	6.7	4.5	22.1	-13.8	27.8	5.0	-5.3
SSGA MSCI ACWI Ex US Index Fund	106,577,223	6.5	6.3	-5.2	6.3	3.3	1.4	6.5	4.2	21.8	-14.0	27.5	4.7	-5.5
MSCI ACWI ex USA Gross			6.4	-5.1	6.4	3.4	1.6	6.7	4.5	22.1	-13.8	27.8	5.0	-5.3
PIMCO RAE Fundamental Global Ex US Fund	74,772,118	4.6	2.9	-17.4	2.9	-10.8	-5.3	3.2		16.1	-15.1	26.0	13.0	-11.4
MSCI ACWI ex USA Value Gross			2.4	-17.2	2.4	-10.3	-4.5	2.8		16.5	-13.4	23.3	9.6	-9.6
SGA Global Growth	85,413,034	5.2	8.9	10.8	8.9	18.8				30.5				
MSCI ACWI ex USA Growth Gross			10.2	7.5	10.2	17.9				27.8				
Total Global Equity	58,984,242	3.6	9.6	-3.1	9.6	5.6	3.2	9.8		24.2	-15.9	32.6	15.1	-12.3
MSCI ACWI Gross			8.3	1.8	8.3	11.0	7.7	10.9		27.3	-8.9	24.6	8.5	-1.8
Skellig Water Fund (aka KBI)	58,984,242	3.6	9.6	-3.1	9.6	5.6	3.2	9.8		24.2	-15.9	32.6	15.1	-12.3
MSCI ACWI Gross			8.3	1.8	8.3	11.0	7.7	10.9		27.3	-8.9	24.6	8.5	-1.8
Total Fixed Income	475,904,226	29.2	1.2	1.7	1.2	2.9	3.3	3.7	3.7	8.1	0.1	3.9	5.1	-1.1
BBgBarc US Aggregate TR			0.6	6.8	0.6	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.6



	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Domestic Fixed Income	309,078,876	18.9	1.5	6.3	1.5	6.7	5.1	4.6	4.2	9.0	-0.2	4.1	4.8	-0.5
BBgBarc US Aggregate TR			0.6	6.8	0.6	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.6
BlackRock Fixed Income	112,425,378	6.9	1.0	7.4	1.0	7.7	5.5	4.4	3.9	8.7	0.1	3.6	2.9	8.0
BBgBarc US Aggregate TR			0.6	6.8	0.6	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.6
Doubleline Core Plus	95,772,649	5.9	1.8	3.8	1.8	4.1	4.0			8.3	-0.3	3.9	4.6	
BBgBarc US Aggregate TR			0.6	6.8	0.6	7.0	5.2			8.7	0.0	3.5	2.6	
MacKay Shields Core Plus	100,880,849	6.2	1.9	7.5	1.9	7.9	5.5			9.6	-1.0	4.5	4.7	
BBgBarc US Aggregate TR			0.6	6.8	0.6	7.0	5.2			8.7	0.0	3.5	2.6	
Total Global Fixed Income	86,088,955	5.3	-0.5	-6.4	-0.5	-5.3	-1.8	1.4		0.9	1.9	2.4	6.4	-3.9
JPM GBI Global TR USD			2.5	7.3	2.5	6.7	4.5	3.9		6.0	-0.7	6.8	1.6	-2.6
Franklin Templeton Global Bond Plus	86,088,955	5.3	-0.5	-6.4	-0.5	-5.3	-1.8	1.3		0.9	1.9	2.4	6.1	-4.1
JPM GBI Global TR USD			2.5	7.3	2.5	6.7	4.5	3.9		6.0	-0.7	6.8	1.6	-2.6
Total Emerging Markets Fixed Income	80,736,395	4.9	2.0	-5.4	2.0	-1.5								
50% JPM EMBI Global Div/50% JPM GBI EM Global Div			1.5	-3.4	1.5	0.0								
PGIM Emerging Markets Debt	80,736,395	4.9	2.0	-5.4	2.0	-1.5								
50% JPM EMBI Global Div/50% JPM GBI EM Global Div			1.5	-3.4	1.5	0.0								
Total Real Estate	177,769,379	10.9	-0.6	1.7	-0.6	3.2	5.8	6.2	8.6	5.2	8.8	4.3	8.0	15.1
NCREIF-ODCE			0.5	-0.1	0.5	1.4	5.2	6.6	10.3	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index			0.7	0.5	0.7	2.0	5.1	6.3	9.4	6.4	6.7	7.0	8.0	13.3
RREEF America II	166,868,556	10.2	-0.6	1.8	-0.6	3.2	5.7	6.3	10.0	5.3	8.6	4.4	8.2	15.7
NCREIF-ODCE			0.5	-0.1	0.5	1.4	5.2	6.6	10.3	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index			0.7	0.5	0.7	2.0	5.1	6.3	9.4	6.4	6.7	7.0	8.0	13.3
American Realty	10,900,823	0.7	-0.3	0.5	-0.3									
NCREIF-ODCE			0.5	-0.1	0.5									
NCREIF Property Index			0.7	0.5	0.7									



	Anlzd Ret	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
SSGA S&P 500 Flagship Fund	14.18%	14.89%	0.03%	1.00	0.03%	1.00	0.87	1.21	100.16%	99.97%
QMA Large Cap Core	12.34%	15.96%	-2.74%	1.07	1.98%	0.99	0.70	-0.91	101.15%	109.14%
Ivy Large Cap Growth	19.77%	15.25%	0.95%	0.94	3.06%	0.96	1.22	-0.11	95.38%	97.43%
Boston Partners Large Cap Value	7.27%	16.54%	-0.78%	1.05	2.94%	0.97	0.37	-0.13	102.63%	102.98%
SSGA Russell Small Cap Completeness Index	11.43%	19.40%	-0.06%	1.00	0.09%	1.00	0.53	-0.84	99.64%	100.03%
William Blair SMID Cap Growth	16.00%	17.14%	3.75%	0.86	4.75%	0.95	0.87	0.38	86.39%	85.24%
Lee Munder Small Value	4.84%	19.89%	0.96%	0.94	3.62%	0.97	0.18	0.20	89.34%	94.56%
SSGA MSCI ACWI Ex US Index Fund	6.53%	14.46%	-0.19%	1.00	0.09%	1.00	0.37	-2.26	99.06%	100.25%
PIMCO RAE Fundamental Global Ex US Fund	3.71%	16.22%	0.93%	1.01	2.74%	0.97	0.16	0.35	104.37%	98.95%
Skellig Water Fund (aka KBI)	10.69%	16.63%	-1.00%	1.07	6.21%	0.86	0.57	-0.03	107.52%	105.90%
BlackRock Fixed Income	4.67%	3.25%	0.48%	1.00	0.74%	0.95	1.08	0.67	108.57%	99.42%
Franklin Templeton Global Bond Plus	1.77%	6.30%	3.08%	-0.33	9.24%	0.08	0.10	-0.23	-14.47%	-82.82%
RREEF America II	6.59%	3.21%	4.82%	0.27	3.91%	0.07	1.69	-0.01	33.25%	



			IRR Analysis as of IRR date										
Vintage Year	Manager Name/Fund Name	Estimated Market Value as of 9/30/2020 ³	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ⁵	IRR Date	
Private E	quity												
2004	Pantheon USA Fund VI	\$1,123,974	\$15,000,000	\$14,175,000	95%	\$825,000	\$20,795,924	\$1,123,974	146.7%	154.6%	6.8%	06/30/20	
2005	BlackRock Private Capital II ⁶	\$2,613,556	\$15,000,000	\$15,000,000	100%	\$0	\$22,154,559	\$2,938,141	147.7%	165.1%	7.0%	03/31/20	
2011 2016	Stepstone Secondary Opportunities Fund II Ocean Avenue Fund III	\$11,433,834 \$21,206,681	\$27,500,000 \$20,000,000	\$27,500,000 \$17,400,000	100% 87%	\$0 \$2,600,000	\$24,515,719 \$3,400,000	\$11,934,841 \$21,206,681	89.1% 19.5%	130.7% 141.4%	11.0% 20.6%	06/30/20 06/30/20	
2016	Pathway Private Equity Fund Investors 8	\$19,293,711	\$20,000,000	\$13,778,407	69%	\$6,221,593	\$1,006,360	\$19,660,108	7.3%	147.3%	17.6%	06/30/20	
2017	Pathway Private Equity Fund Investors 9 ⁴	\$11,096,151	\$20,000,000	\$10,876,649	54%	\$9,123,351	\$878,082	\$0	8.1%	110.1%	N/A	N/A	
2019	Ocean Avenue Fund IV	\$5,215,133	\$20,000,000	\$4,974,369	25%	\$15,025,631	\$0	\$4,038,610	0.0%	104.8%	13.4%	06/30/20	
2020	Pathway Private Equity Fund Investors 10 ⁴	\$645,892	\$10,000,000	\$686,986	7%	\$9,313,014	\$0	\$0	0.0%	94.0%	N/A	N/A	
Private C	redit												
2016	Sixth Street DCP	\$69,029,345	\$100,000,000	\$64,810,442	65%	\$35,189,558	\$4,852,120	\$68,632,999	7.5%	114.0%	6.4%	06/30/20	
Opportun													
2010	KKR Mezzanine Partners	\$2,435,370	\$15,000,000	\$13,532,368	90%	\$1,467,632	\$17,970,682	\$2,586,261	132.8%	150.8%	6.7%	06/30/20	
2011	PIMCO Bravo	\$73,063	\$15,000,000	\$15,000,000	100%	\$0	\$27,168,103	\$148,451	181.1%	181.6%	22.1%	09/30/19	
2020	Sixth Street TAO Contingent	\$11,020,798	\$50,000,000	\$10,626,832	21%	\$39,373,168	\$0	\$0	0.0%	103.7%	N/A	N/A	
	Total Private Markets % of Portfolio (Market Value)	\$155,187,507 9.5%	\$327,500,000	\$208,361,053	64%	\$119,138,947	\$122,741,549	\$132,270,066	58.9%	133.4%			

¹(DPI) is equal to (capital returned / capital called)



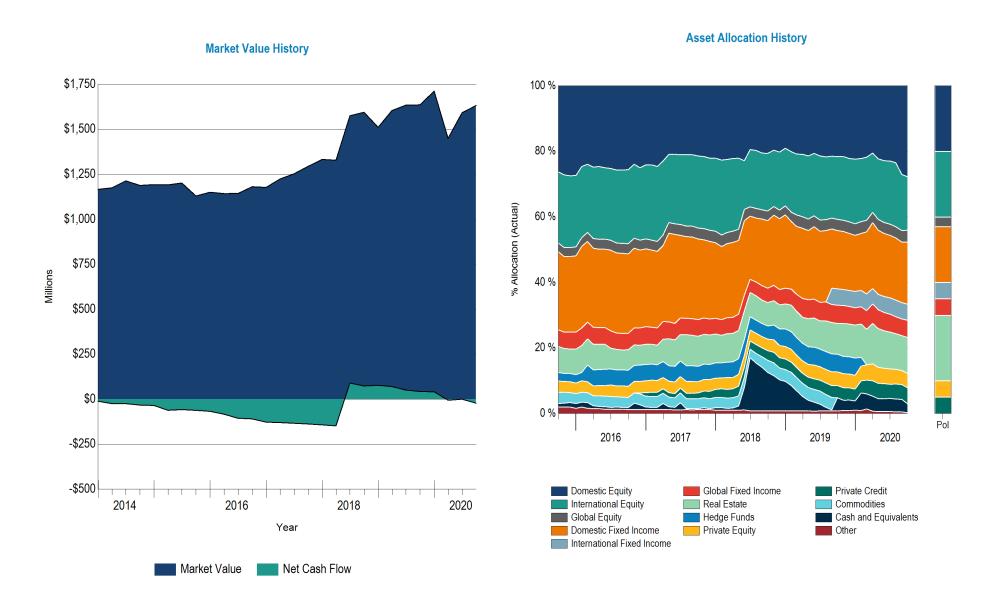
²(TVPI) is equal to (market value + capital returned) / capital called

³Last known market value + capital calls - distributions

⁴IRR currently unavailable for these funds.

⁵Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR figure is provided by its respective manager.

⁶BlackRock: Total capital called is \$15,519,967 which includes recycled distributions.



Net Cash flow history prior to 4Q 2010 is not available due to lack of data from previous consultant.



Current		Policy			Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
				Domestic Equity	\$453,580,497	27.8%	20.0%	\$127,115,322	10.0% - 30.0%	Yes
				International Equity	\$266,762,375	16.3%	20.0%	-\$59,702,800	10.0% - 30.0%	Yes
			20.0%	Global Equity	\$58,984,242	3.6%	3.0%	\$10,014,466	0.0% - 5.0%	Yes
			20.0%	Domestic Fixed Income	\$309,078,876	18.9%	17.0%	\$31,583,477	10.0% - 30.0%	Yes
	27.8%			International Fixed Income	\$80,736,395	4.9%	5.0%	-\$879,898	0.0% - 10.0%	Yes
				Global Fixed Income	\$86,088,955	5.3%	5.0%	\$4,472,661	0.0% - 10.0%	Yes
				Real Estate	\$177,769,379	10.9%	20.0%	-\$148,695,796	10.0% - 30.0%	Yes
				Private Equity	\$72,628,931	4.4%	5.0%	-\$8,987,362	0.0% - 10.0%	Yes
			20.0%	Private Credit	\$80,050,143	4.9%	5.0%	-\$1,566,151	0.0% - 10.0%	Yes
			20.0%	Cash and Equivalents	\$44,136,409	2.7%		\$44,136,409		No
	16.3%			Other	\$2,509,672	0.2%		\$2,509,672		No
				Total	\$1,632,325,875	100.0%	100.0%			
			3.0%							
	3.6%									
			17.0%							
	18.9%									

Aetos holdback of \$93,982 not included in total market value.

4.9%5.3%

10.9%

4.4%

4.9%

2:7%

5.0% 5.0%

20.0%

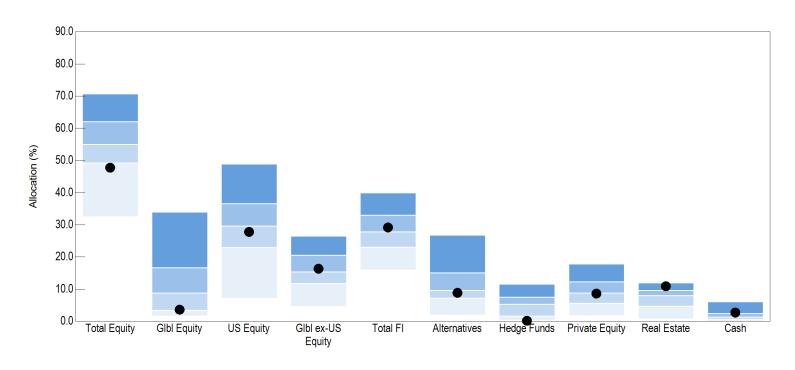
5.0%

5.0%

0.0%



Total Plan Allocation vs. InvMetrics Public DB Gross
As of September 30, 2020



5th Percentile 25th Percentile Median 75th Percentile 95th Percentile # of Portfolios

Total Fund

Allocati	ion (Ran	k)																		
70.7		34.0		48.9		26.5		39.9		26.8		11.5		17.8		12.0		6.0		-
62.1		16.8		36.6		20.6		33.1		15.1		7.6		12.3		9.6		2.4		-
55.0		8.9		29.6		15.5		27.9		9.6		5.3		8.9		8.0		1.4		-
49.2		3.5		23.0		11.8		23.1		7.3		1.7		5.7		4.8		0.7		-
32.6		1.7		7.1		4.7		16.0		2.0		0.4		1.8		8.0		0.1		-
207		72		140		171		206		129		57		83		135		195		-
47.7	(70)	2.0	(70)	07.0	(00)	40.0	(40)	00.0	(47)	0.0	(00)	0.0	(00)	0.0	(50)	40.0	(4.4)	0.7	(00)	-
47.7	(79)	3.6	(73)	27.8	(60)	16.3	(46)	29.2	(47)	8.8	(62)	0.2	(99)	8.6	(53)	10.9	(11)	2.7	(23)	-

Account	Fee Schedule	Market Value As of 9/30/2020	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
American Realty	1.25% of First 10.0 Mil, 1.20% of Next 15.0 Mil, 1.10% of Next 25.0 Mil, 1.00% Thereafter	\$10,900,823	0.7%	\$135,810	1.25%
BlackRock Alternative Advisors	120,000 Annually	\$2,613,556	0.2%	\$120,000	4.59%
BlackRock Fixed Income	0.25% of First 100.0 Mil, 0.25% of Next 100.0 Mil	\$112,425,378	6.9%	\$281,063	0.25%
Boston Partners Large Cap Value	0.45% of First 50.0 Mil, 0.35% of Next 50.0 Mil, 0.30% Thereafter	\$59,927,078	3.7%	\$259,745	0.43%
Doubleline Core Plus	0.28% of First 100.0 Mil, 0.25% Thereafter	\$95,772,649	5.9%	\$268,163	0.28%
Franklin Templeton Global Bond Plus	0.62% of First 50.0 Mil, 0.51% of Next 50.0 Mil, 0.45% Thereafter	\$86,088,955	5.3%	\$494,054	0.57%
Ivy Large Cap Growth	0.60% of First 25.0 Mil, 0.50% of Next 25.0 Mil, 0.40% Thereafter	\$90,410,160	5.5%	\$436,641	0.48%
KKR Mezzanine Partners I	0.38% of Assets	\$2,435,370	0.1%	\$9,133	0.38%
Lee Munder Small Value	0.70% of Assets	\$31,899,524	2.0%	\$223,297	0.70%
MacKay Shields Core Plus	0.40% of Assets	\$100,880,849	6.2%	\$403,523	0.40%
Mellon Capital Cash Account	No Fee	\$44,136,409	2.7%		
Ocean Avenue Fund III	0.85% of Assets	\$21,206,681	1.3%	\$180,257	0.85%
Ocean Avenue Fund IV	1.25% of Assets	\$5,215,133	0.3%	\$65,189	1.25%
Pantheon Ventures	0.47% of Assets	\$1,123,974	0.1%	\$5,328	0.47%
Parametric	Asset Based Fee: 0.0375% (Quarterly) Retainer Fee: \$4,500 (Quarterly) Minimum Expense: \$50,000 (Annual)	\$1,239	0.0%	-	
Pathway Private Equity Fund Investors 10	0.58% of Assets	\$645,892	0.0%	\$3,746	0.58%
Pathway Private Equity Fund Investors 8	0.61% of Assets	\$19,293,711	1.2%	\$117,692	0.61%
Pathway Private Equity Fund Investors 9	0.58% of Assets	\$11,096,151	0.7%	\$64,358	0.58%
PGIM Emerging Markets Debt	0.55% of First 75.0 Mil, 0.45% of Next 100.0 Mil, 0.35% Thereafter	\$80,736,395	4.9%	\$438,314	0.54%
PIMCO Bravo	1.60% of Assets	\$73,063	0.0%	\$4,676	6.40%

Fees shown for Pathway are estimated effective average fees over 15-year fund lifespan.

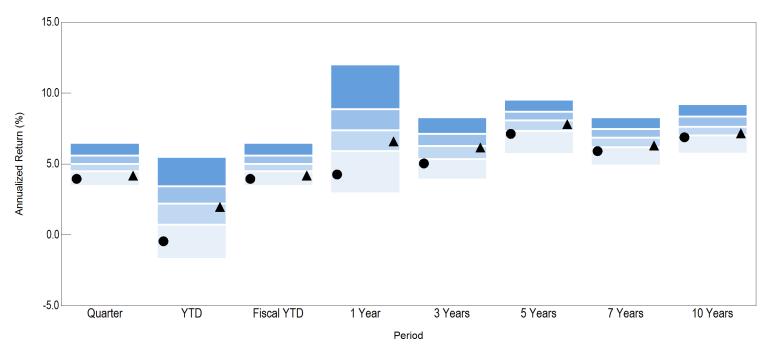


Account	Fee Schedule	Market Value As of 9/30/2020	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
PIMCO RAE Fundamental Global Ex US Fund	0.78% of First 25.0 Mil, 0.43% of Next 75.0 Mil, 0.38% Thereafter	\$74,772,118	4.6%	\$409,020	0.55%
QMA Large Cap Core	Performance-based 0.00 and 25.00	\$69,761,315	4.3%	\$0	0.00%
RREEF America II	0.95% of Assets	\$166,868,556	10.2%	\$1,585,251	0.95%
SGA Global Growth	0.45% of Assets	\$85,413,034	5.2%	\$384,359	0.45%
Sixth Street DCP (frmrly TSSP DCP)	No Fee	\$69,029,345	4.2%	·	
Sixth Street TAO Contingent (frmrly TSSP TAO Contingent)	No Fee	\$11,020,798	0.7%		
Skellig Water Fund (aka KBI)	0.77% of Assets	\$58,984,242	3.6%	\$451,229	0.76%
SSGA MSCI ACWI Ex US Index Fund	0.08% of First 25.0 Mil, 0.07% of Next 25.0 Mil, 0.06% Thereafter	\$106,577,223	6.5%	\$71,446	0.07%
SSGA Russell Small Cap Completeness Index	0.05% of First 25.0 Mil, 0.05% of Next 25.0 Mil, 0.04% Thereafter	\$35,300,686	2.2%	\$17,650	0.05%
SSGA S&P 500 Flagship Fund	0.03% of Assets	\$129,313,088	7.9%	\$38,794	0.03%
Stepstone Secondary Opportunities Fund II	343,750 Annually	\$11,433,834	0.7%	\$343,750	3.01%
William Blair SMID Cap Growth	0.95% of First 10.0 Mil, 0.80% of Next 20.0 Mil, 0.75% of Next 20.0 Mil, 0.70% of Next 50.0 Mil, 0.65% of Next 100.0 Mil, 0.60% Thereafter	\$36,968,646	2.3%	\$307,265	0.83%
Investment Management Fee		\$1,632,325,875	100.0%	\$7,119,752	0.44%

*Sixth Streett Partners fee schedule is as follows: No management fee at SMA level. Subject to the annual fees of each of the underlying TSSP funds. (1) TAO 65bps on unfunded commitments and 1.35% on remaining capital contributions (long-term investor designation) (2) TSLE 1.5% on commitments, 1.25% on remaining capital contributions post commitment period (3) TICP 30bps on remaining capital contributions. TAO Contingent fee schedule is 65bps on unfunded commitments and 1.35% on remaining capital contributions.



Total Fund Cumulative Performance vs. InvMetrics Public DB Gross



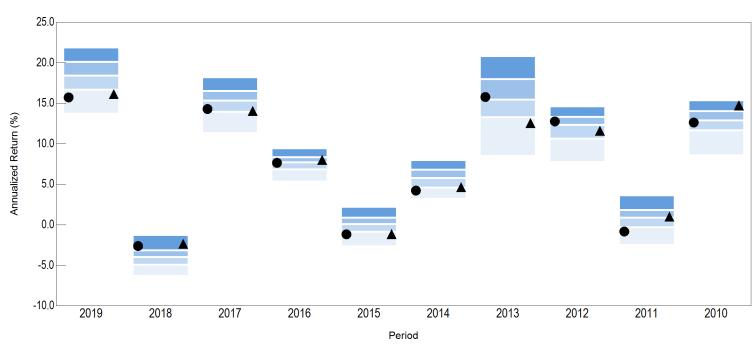
5th Percentile 25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

Total FundPolicy Index

eturn (R	ank)														
6.5		5.5		6.5		12.0		8.3		9.5		8.3		9.2	
5.6		3.4		5.6		8.9		7.1		8.7		7.5		8.4	
5.0		2.2		5.0		7.4		6.3		8.1		6.9		7.6	
4.5		0.7		4.5		5.9		5.4		7.3		6.2		7.0	
3.5		-1.7		3.5		2.9		3.9		5.7		4.9		5.7	
314		310		314		309		300		289		277		252	
4.0	(90)	-0.5	(90)	4.0	(90)	4.3	(90)	5.0	(84)	7.1	(79)	5.9	(83)	6.9	(80)
4.2	(85)	2.0	(57)	4.2	(85)	6.6	(64)	6.2	(54)	7.8	(58)	6.3	(71)	7.2	(67)



Total Fund Consecutive Periods vs. InvMetrics Public DB Gross

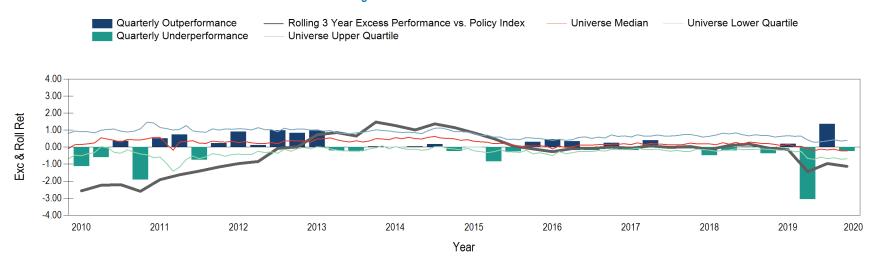


Total FundPolicy Index

Return (Ra	nk)								
21.9	-1.3	18.2	9.4	2.2	8.0	20.8	14.6	3.6	15.4
20.1	-3.1	16.5	8.4	0.9	6.8	18.0	13.4	1.9	14.0
18.4	-4.0	15.3	7.7	0.1	5.8	15.5	12.4	0.9	12.9
16.7	-4.9	14.0	6.9	-0.9	4.6	13.3	10.7	-0.3	11.7
13.7	-6.3	11.3	5.3	-2.6	3.2	8.5	7.8	-2.5	8.6
330	319	304	305	316	248	231	236	206	188
15.7 (85	5) -2.6 (15)	14.3 (71)	7.6 (53)	-1.2 (80)	4.2 (83)	15.8 (49)	12.8 (43)	-0.8 (86)	12.6 (57)
16.1 (82	2) -2.4 (12)) 14.0 (74)	8.0 (40)	-1.1 (80)	4.6 (75)	12.6 (80)	11.6 (67)	1.0 (46)	14.7 (13)



Rolling 3 Year Annualized Excess Performance



Rolling 5 Year Annualized Excess Performance



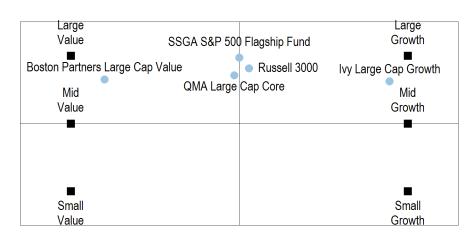


	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Domestic Equity	453,580,497	7.8	2.8	7.8	11.4	10.6	13.0	13.5	30.3	-5.0	22.3	11.5	1.6
Russell 3000		9.2	5.4	9.2	15.0	11.6	13.7	13.5	31.0	-5.2	21.1	12.7	0.5
InvMetrics Public DB US Eq Gross Rank		59	33	59	32	24	25	15	40	29	16	77	10
SSGA S&P 500 Flagship Fund	129,313,088	8.9	5.6	8.9	15.1	12.3	14.2		31.5	-4.4	21.9	12.0	1.5
S&P 500		8.9	5.6	8.9	15.1	12.3	14.1		31.5	-4.4	21.8	12.0	1.4
eV US Large Cap Core Equity Gross Rank		38	37	38	33	35	26		33	40	52	31	40
QMA Large Cap Core	69,761,315	6.6	0.6	6.6	10.1	9.2	12.3	13.5	29.0	-6.5	22.5	12.5	2.1
S&P 500		8.9	5.6	8.9	15.1	12.3	14.1	13.7	31.5	-4.4	21.8	12.0	1.4
eV US Large Cap Core Equity Gross Rank		81	70	81	61	70	61	45	58	70	42	25	31
Ivy Large Cap Growth	90,410,160	11.0	21.3	11.0	31.3	22.3	19.8	17.4	37.3	3.2	30.2	2.1	7.6
Russell 1000 Growth		13.2	24.3	13.2	37.5	21.7	20.1	17.3	36.4	-1.5	30.2	7.1	5.7
eV US Large Cap Growth Equity Gross Rank		58	54	58	60	30	32	22	26	15	42	72	26
Boston Partners Large Cap Value	59,927,078	4.0	-13.4	4.0	-6.4	1.8	7.3	10.5	24.3	-8.6	20.1	14.7	-3.9
Russell 1000 Value		5.6	-11.6	5.6	-5.0	2.6	7.7	9.9	26.5	-8.3	13.7	17.3	-3.8
eV US Large Cap Value Equity Gross Rank		72	76	72	73	72	68	50	77	55	22	54	65

U.S. Effective Style Map 3 Years

Large Large Value SSGA S&P 500 Flagship Fund Growth Russell 3000 QMA Large Cap Core Mid Mid Value Ivy Large Cap Growth Growth Boston Partners Large Cap Value Small Small Value Growth

U.S. Effective Style Map 5 Years



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



	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
SSGA Russell Small Cap Completeness Index	35,300,686	10.7	4.3	10.7	13.5	8.3	11.4		27.8	-9.2	18.2	16.5	-3.5
Russell Small Cap Completeness		10.7	4.4	10.7	13.7	8.4	11.5		28.0	-9.2	18.3	16.6	-3.4
eV US Small Cap Core Equity Gross Rank		5	7	5	7	10	14		29	37	23	84	68
William Blair SMID Cap Growth	36,968,646	8.6	10.0	8.6	15.0	15.1	16.0	16.2	32.2	-0.9	30.4	8.2	6.1
Russell 2500 Growth		9.4	11.6	9.4	23.4	13.4	14.2	14.1	32.7	-7.5	24.5	9.7	-0.2
eV US Mid Cap Growth Equity Gross Rank		68	80	68	89	70	52	23	77	29	16	22	7
Lee Munder Small Value	31,899,524	1.8	-20.1	1.8	-13.0	-3.6	4.8	7.7	27.5	-14.7	8.6	28.4	0.4
Russell 2000 Value		2.6	-21.5	2.6	-14.9	-5.1	4.1	7.1	22.4	-12.9	7.8	31.7	-7.5
eV US Small Cap Value Equity Gross Rank		65	55	65	50	51	45	79	22	56	68	38	9

U.S. Effective Style Map 3 Years



U.S. Effective Style Map 5 Years



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



	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Domestic Equity	453,580,497	7.8	2.6	7.8	11.0	10.2	12.5	13.0	29.8	-5.4	21.9	11.1	1.2
Russell 3000		9.2	5.4	9.2	15.0	11.6	13.7	13.5	31.0	-5.2	21.1	12.7	0.5
SSGA S&P 500 Flagship Fund	129,313,088	8.9	5.5	8.9	15.1	12.3	14.1		31.5	-4.4	21.8	12.0	1.4
S&P 500		8.9	5.6	8.9	15.1	12.3	14.1		31.5	-4.4	21.8	12.0	1.4
QMA Large Cap Core	69,761,315	6.6	0.6	6.6	9.9	9.0	12.0	13.2	28.6	-6.8	22.1	12.1	1.8
S&P 500		8.9	5.6	8.9	15.1	12.3	14.1	13.7	31.5	-4.4	21.8	12.0	1.4
Ivy Large Cap Growth	90,410,160	10.9	20.8	10.9	30.6	21.7	19.1	16.8	36.6	2.7	29.5	1.6	7.1
Russell 1000 Growth		13.2	24.3	13.2	37.5	21.7	20.1	17.3	36.4	-1.5	30.2	7.1	5.7
Boston Partners Large Cap Value	59,927,078	3.9	-13.7	3.9	-6.8	1.3	6.8	10.0	23.8	-9.0	19.6	14.2	-4.4
Russell 1000 Value		5.6	-11.6	5.6	-5.0	2.6	7.7	9.9	26.5	-8.3	13.7	17.3	-3.8
SSGA Russell Small Cap Completeness Index	35,300,686	10.7	4.2	10.7	13.5	8.2	11.4		27.8	-9.2	18.1	16.5	-3.5
Russell Small Cap Completeness		10.7	4.4	10.7	13.7	8.4	11.5		28.0	-9.2	18.3	16.6	-3.4
William Blair SMID Cap Growth	36,968,646	8.4	9.3	8.4	14.1	14.2	15.0	15.2	31.1	-1.7	29.3	7.2	5.2
Russell 2500 Growth		9.4	11.6	9.4	23.4	13.4	14.2	14.1	32.7	-7.5	24.5	9.7	-0.2
Lee Munder Small Value	31,899,524	1.6	-20.6	1.6	-13.7	-4.5	3.9	6.7	26.3	-15.5	7.7	27.3	-0.5
Russell 2000 Value		2.6	-21.5	2.6	-14.9	-5.1	4.1	7.1	22.4	-12.9	7.8	31.7	-7.5



Seca Sep Solo Riego	ON,	A Large	13. Cott	Postol	Parthel Gown	VIII	an Blair	SMID CS	Control Control	Seell Specification of the Spe	M Cap Co	Ondoletene	ss Index	-
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
SSGA S&P 500 Flagship Fund			134	91.4	40	96.1	71	84.4	10	13.8	0	0.0	0	0.0
QMA Large Cap Core	134	62.4			24	66.8	31	45.3	1	1.3	9	9.5	62	3.8
lvy Large Cap Growth	40	35.6	24	36.5			6	5.7	0	0.0	0	0.0	1	0.6
Boston Partners Large Cap Value	71	25.7	31	27.6	6	22.1			0	0.0	1	0.6	11	1.5
William Blair SMID Cap Growth	10	0.4	1	0.1	0	0.0	0	0.0			3	3.6	54	6.5
Lee Munder Small Value	0	0.0	9	0.9	0	0.0	1	0.4	3	5.4			85	3.6
SSGA Russell Small Cap Completeness Index	0	0.0	62	8.4	1	0.7	11	6.3	54	77.1	85	92.1		



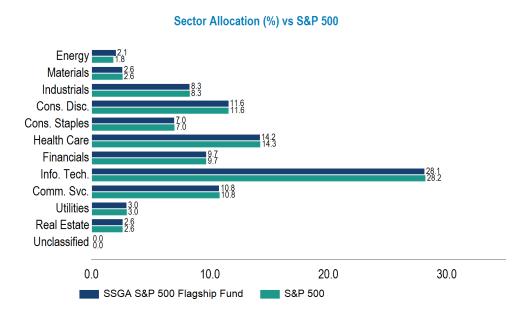
Correlation Matrix
9 Months Ending September 30, 2020

					S.C.A.A.	io.			
SEC A	S40 04	4.	& Son Pathers Late	Millan Bair SMI Te Cap Valle	⟨ ₀₀ /	Shall			
	\$40.500 Page 100 Flore	No Cap Cope	Cap Gonth	Te Cap L	Cap Gr.	Snell V	teness (s	S400	
Γ	, and	Core	OWER	-d/L	ONTH	alle.	70 ₆₄	500	
SSGA S&P 500 Flagship Fund	1.00								
QMA Large Cap Core	1.00	1.00							
lvy Large Cap Growth	0.99	0.98	1.00						
Boston Partners Large Cap Value	0.98	0.98	0.93	1.00					
William Blair SMID Cap Growth	0.95	0.95	0.93	0.97	1.00				
Lee Munder Small Value	0.96	0.96	0.91	1.00	0.96	1.00			
SSGA Russell Small Cap Completeness Index	0.97	0.98	0.94	0.99	0.98	0.99	1.00		
S&P 500	1.00	1.00	0.99	0.98	0.95	0.96	0.97	1.00	



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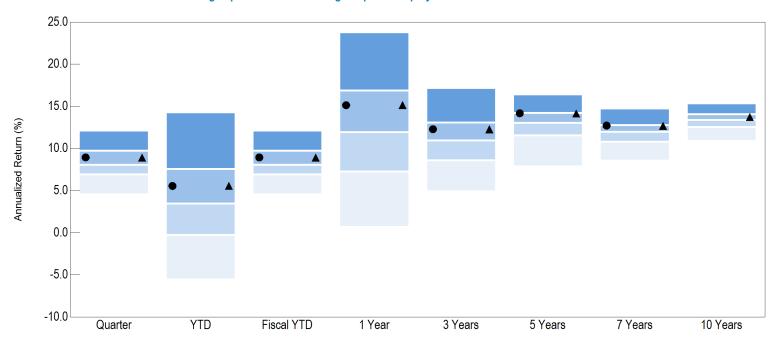
	Portfolio	S&P 500
Number of Holdings	505	505
Weighted Avg. Market Cap. (\$B)	443.51	443.23
Median Market Cap. (\$B)	22.91	22.83
Price To Earnings	23.79	23.76
Price To Book	4.41	4.44
Price To Sales	2.43	2.43
Return on Equity (%)	4.12	4.13
Yield (%)	1.70	1.69
Beta	1.00	1.00



*Unclassified includes Cash

Top Holdings		То	p Contributor	'S	Bottom Contributors					
Ending Period Weight			Avg Wgt Return Co		Contribution		Avg Wgt	Return	Contribution	
APPLE INC	6.67%	APPLE INC	5.80	27.22	1.58	EXXON MOBIL CORP	0.74	-21.72	-0.16	
MICROSOFT CORP	5.70%	AMAZON.COM INC	4.51	14.13	0.64	INTEL CORP	0.99	-12.87	-0.13	
AMAZON.COM INC	4.81%	NVIDIA CORPORATION	0.91	42.50	0.39	CHEVRON CORP	0.65	-18.12	-0.12	
FACEBOOK INC	2.25%	FACEBOOK INC	2.13	15.34	0.33	CISCO SYSTEMS INC	0.77	-14.88	-0.11	
ALPHABET INC	1.58%	BERKSHIRE HATHAWAY INC	1.35	19.29	0.26	ABBVIE INC	0.67	-9.72	-0.07	
ALPHABET INC	1.55%	SALESFORCE.COM INC	0.66	34.16	0.23	GILEAD SCIENCES INC	0.38	-17.03	-0.06	
BERKSHIRE HATHAWAY INC	1.51%	MICROSOFT CORP	6.03	3.60	0.22	CITIGROUP INC	0.42	-14.78	-0.06	
JOHNSON & JOHNSON	1.40%	PROCTER & GAMBLE CO	4.45	40.07	0.00	ELI LILLY AND CO	0.54	-9.40	-0.05	
PROCTER & GAMBLE CO (THE)	1.24%	(THE)	1.15	16.97	0.20	CONOCOPHILLIPS	0.18	-21.03	-0.04	
VISA INC	1.24%	UNITED PARCEL SERVICE INC	0.30	50.83	0.15	BOEING CO	0.38	-9.84	-0.04	
Total	27.92%	MASTERCARD INC	1.02	14.52	0.15					

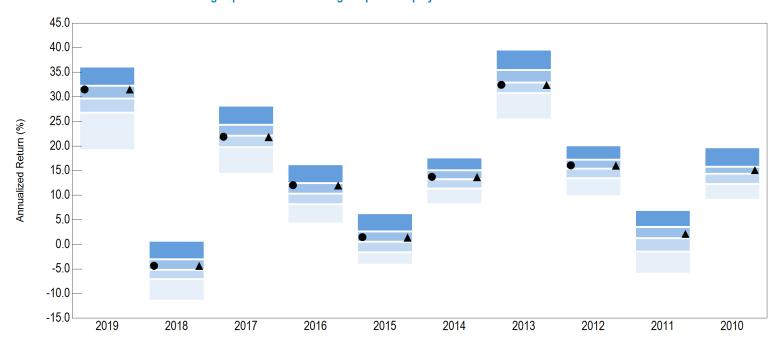
SSGA S&P 500 Flagship Fund vs. eV US Large Cap Core Equity Gross Universe



	Return (Rank)								
5th Percentile	12.1	14.3	12.1	23.8	17.2	16.4	14.7	15.4	
25th Percentile	9.8	7.6	9.8	16.9	13.1	14.2	12.8	14.1	
Median	8.1	3.5	8.1	12.0	11.0	13.1	12.0	13.4	
75th Percentile	7.0	-0.2	7.0	7.3	8.6	11.6	10.8	12.6	
95th Percentile	4.6	-5.5	4.6	0.7	4.9	7.9	8.6	10.9	
# of Portfolios	327	327	327	327	317	289	274	225	
SSGA S&P 500 Flagship FundS&P 500	8.9 (38) 8.9 (38)		(37) 8.9 (37) 8.9	(38) 15.1 (38) 15.1	(33) 12.3 (33) 12.3	(35) 14.2 (35) 14.1	(26) 12.7 (27) 12.7	(29) (30) 13.7	() (38)



SSGA S&P 500 Flagship Fund vs. eV US Large Cap Core Equity Gross Universe



	5th Percentile 25th Percentile Median 75th Percentile 95th Percentile
	# of Portfolios
•	SSGA S&P 500 Flagship Fund
A	S&P 500

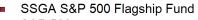
Return (Ra	ank)								
36.1	0.7	28.2	16.3	6.3	17.7	39.6	20.1	7.0	19.7
32.3	-3.0	24.3	12.5	2.7	15.1	35.5	17.2	3.6	15.8
29.7	-5.1	22.1	10.4	0.6	13.3	32.9	15.4	1.3	14.4
26.8	-7.1	19.8	8.2	-1.6	11.4	30.8	13.4	-1.5	12.3
19.2	-11.4	14.4	4.3	-4.1	8.2	25.4	9.8	-5.9	9.1
318	316	318	308	267	267	261	254	259	254
31.5 (3 31.5 (3		, ,	12.0 (31) 12.0 (31)	1.5 (40) 1.4 (42)	13.7 (42) 13.7 (42)	32.4 (58) 32.4 (58)	16.1 (39) 16.0 (41)	() 2.1 (40)	() 15.1 (37)



Risk vs. Return

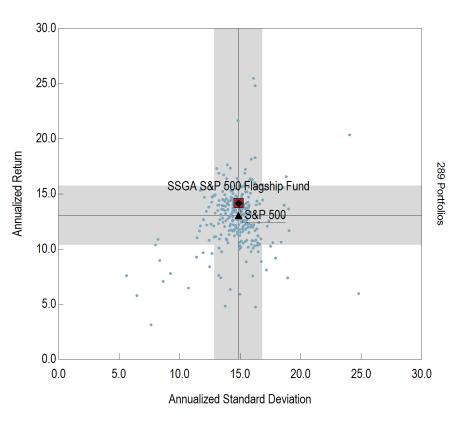
3 Years

35.0 30.0 25.0 Annualized Return 20.0 317 Portfolios 15.0 SSGA S&P 500 Flagship Fund 10.0 5.0 0.0 0.0 5.0 10.0 15.0 20.0 25.0 30.0 **Annualized Standard Deviation**



- S&P 500
- Universe Median
- 68% Confidence Interval
- eV US Large Cap Core Equity Gross

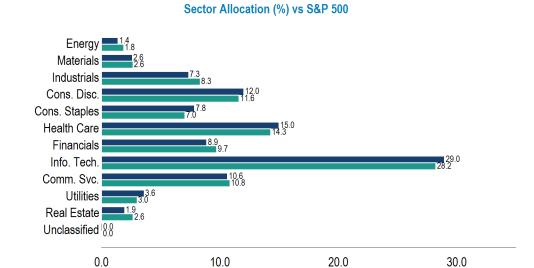




- SSGA S&P 500 Flagship Fund
- S&P 500
- ▲ Universe Median
- 68% Confidence Interval
- eV US Large Cap Core Equity Gross

Characteristics

	Portfolio	S&P 500
Number of Holdings	200	505
Weighted Avg. Market Cap. (\$B)	464.91	443.23
Median Market Cap. (\$B)	27.03	22.83
Price To Earnings	18.25	23.76
Price To Book	4.13	4.44
Price To Sales	1.83	2.43
Return on Equity (%)	4.03	4.13
Yield (%)	1.91	1.69
Beta	1.08	1.00



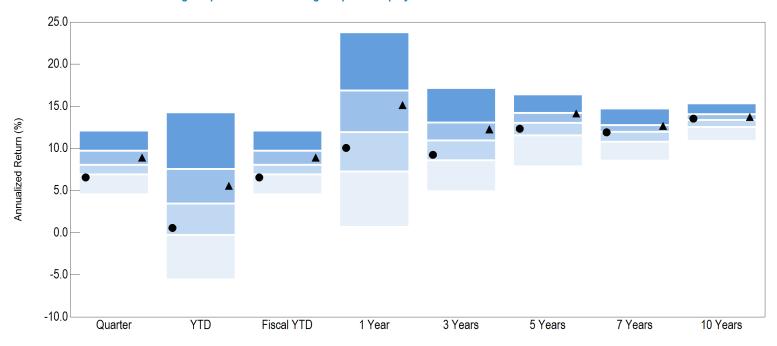
S&P 500

*Unclassified includes Cash

QMA Large Cap Core

Top Holdings			Top Contributor	rs		Bottom Contributors				
Ending Period Weight			Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution	
APPLE INC	7.38%	APPLE INC	6.53	27.22	1.78	INTEL CORP	1.59	-12.87	-0.20	
MICROSOFT CORP	6.48%	NVIDIA CORPORATION	1.51	42.50	0.64	CISCO SYSTEMS INC	1.29	-14.88	-0.19	
AMAZON.COM INC	5.08%	AMAZON.COM INC	3.38	14.13	0.48	CITIGROUP INC	0.96	-14.78	-0.14	
FACEBOOK INC	2.98%	FACEBOOK INC	2.75	15.34	0.42	GILEAD SCIENCES INC	0.75	-17.03	-0.13	
PROCTER & GAMBLE CO (THE)	1.82%	PROCTER & GAMBLE CO	1.68	16.97	0.29	CHEVRON CORP	0.61	-18.12	-0.11	
ALPHABET INC	1.68%	(THE)	1.00	10.91	0.29	ELI LILLY AND CO	1.11	-9.40	-0.10	
HOME DEPOT INC. (THE)	1.60%	QUALCOMM INC.	0.92	29.70	0.27	DIAMONDBACK ENERGY	0.38	-27.37	-0.10	
ALPHABET INC	1.58%	LOWE'S COS INC	1.12	23.22	0.26	INC		21.01		
NVIDIA CORPORATION	1.39%	MICROSOFT CORP	6.67	3.60	0.24	KINDER MORGAN INC.	0.59	-17.21	-0.10	
INTEL CORP	1.33%	ABBOTT LABORATORIES	0.91	19.48	0.18	WALGREENS BOOTS	0.63	-14.29	-0.09	
		WALMART INC	0.99	17.28	0.17	ALLIANCE INC	0.00	11.20	0.00	
Total	31.32%					CVS HEALTH CORP	0.84	-9.41	-0.08	

QMA Large Cap Core vs. eV US Large Cap Core Equity Gross Universe

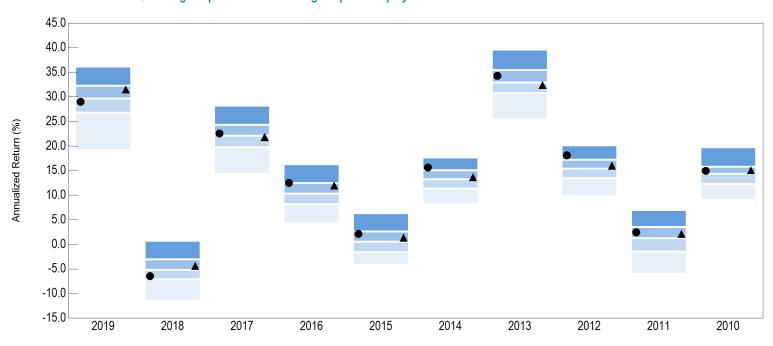


5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios
 QMA Large Cap Cor
▲ S&P 500

Return (R	ank)														
12.1	,	14.3		12.1		23.8		17.2		16.4		14.7		15.4	
9.8		7.6		9.8		16.9		13.1		14.2		12.8		14.1	
8.1		3.5		8.1		12.0		11.0		13.1		12.0		13.4	
7.0		-0.2		7.0		7.3		8.6		11.6		10.8		12.6	
4.6		-5.5		4.6		0.7		4.9		7.9		8.6		10.9	
327		327		327		327		317		289		274		225	
6.6 8.9	(81) (38)	0.6 5.6	(70) (37)	6.6 8.9	(81) (38)	10.1 15.1	(61) (33)	9.2 12.3	(70) (35)	12.3 14.1	(61) (27)	11.9 12.7	(53) (30)	13.5 13.7	(45) (38)



QMA Large Cap Core vs. eV US Large Cap Core Equity Gross Universe



5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

QMA Large Cap Core S&P 500

Return	(Rank)																		
36.1		0.7		28.2		16.3		6.3		17.7		39.6		20.1		7.0		19.7	
32.3		-3.0		24.3		12.5		2.7		15.1		35.5		17.2		3.6		15.8	
29.7		-5.1		22.1		10.4		0.6		13.3		32.9		15.4		1.3		14.4	
26.8		-7.1		19.8		8.2		-1.6		11.4		30.8		13.4		-1.5		12.3	
19.2		-11.4		14.4		4.3		-4.1		8.2		25.4		9.8		-5.9		9.1	
318		316		318		308		267		267		261		254		259		254	
29.0 31.5	(58) (33)	-6.5 -4.4	(70) (40)	22.5 21.8	(42) (53)	12.5 12.0	(25) (31)	2.1 1.4	(31) (42)	15.6 13.7	(20) (42)	34.3 32.4	(37) (58)	18.1 16.0	(18) (41)	2.4 2.1	(34) (40)	14.9 15.1	(40) (37)



Risk vs. Return

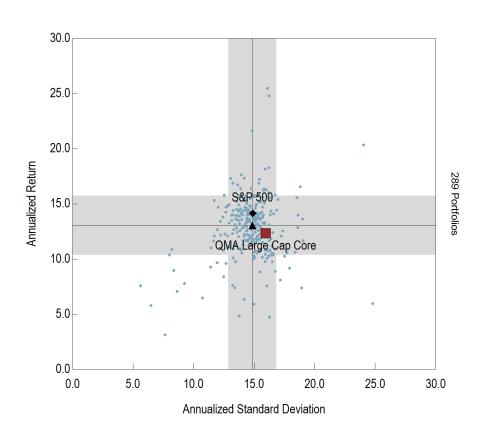
3 Years

35.0 30.0 25.0 Annualized Return 317 Portfolios 20.0 15.0 10.0 QMA Large Cap Core 5.0 0.0 0.0 5.0 10.0 15.0 20.0 25.0 30.0 **Annualized Standard Deviation**

QMA Large Cap Core

- S&P 500
- Universe Median
- 68% Confidence Interval
- eV US Large Cap Core Equity Gross

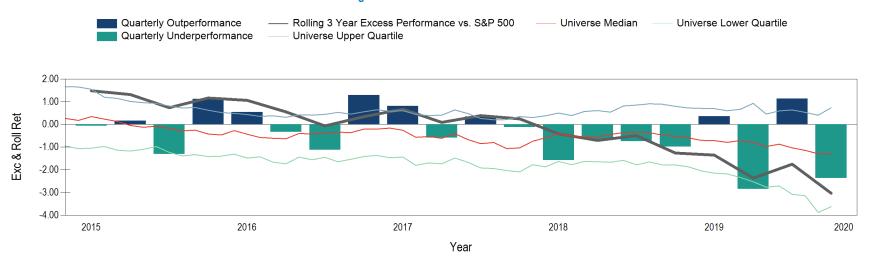




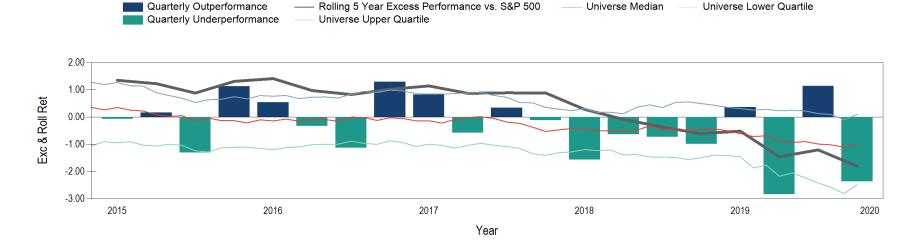
- QMA Large Cap Core
- ◆ S&P 500
- ▲ Universe Median
- 68% Confidence Interval
- eV US Large Cap Core Equity Gross



Rolling 3 Year Annualized Excess Performance



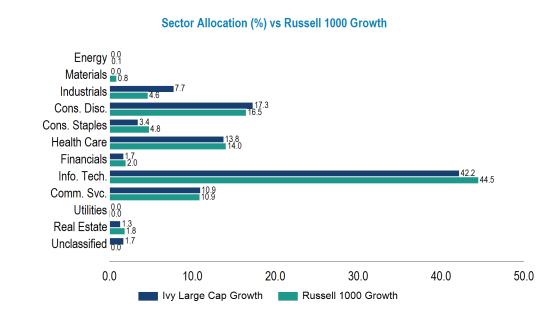
Rolling 5 Year Annualized Excess Performance





Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	43	447
Weighted Avg. Market Cap. (\$B)	589.87	652.32
Median Market Cap. (\$B)	80.80	13.78
Price To Earnings	33.93	33.38
Price To Book	8.94	9.62
Price To Sales	4.73	4.24
Return on Equity (%)	7.47	6.47
Yield (%)	0.70	0.84
Beta	0.89	1.00

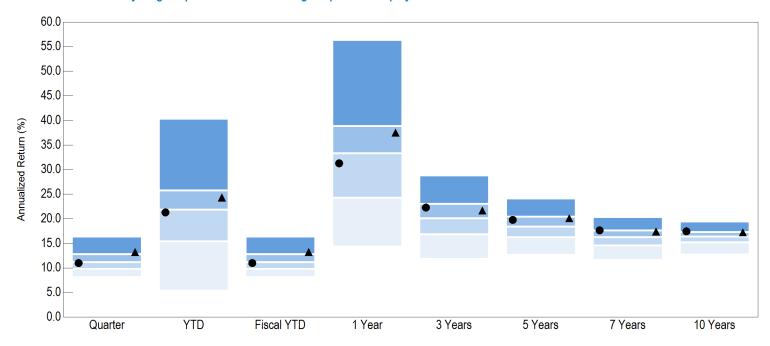


*Unclassified includes Cash

Top Holdings		To	p Contributo	rs		Bot	tom Contribut	tors	
Ending Period Weight			Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution
MICROSOFT CORP	9.69%	APPLE INC	7.17	27.22	1.95	VERTEX	1.44	-6.27	-0.09
APPLE INC	8.20%	AMAZON.COM INC	6.09	14.13	0.86	PHARMACEUTICALS INC			
AMAZON.COM INC	7.38%	NVIDIA CORPORATION	1.99	42.50	0.84	FLEETCOR TECHNOLOGIES INC	1.67	-5.34	-0.09
VISA INC	4.19%	FACEBOOK INC	3.51	15.34	0.54	AMERICAN TOWER CORP	0.76	-6.06	-0.05
ALPHABET INC	3.86%	MOTOROLA SOLUTIONS INC	3.39	12.36	0.42	ELECTRONIC ARTS INC	2.41	-1.24	-0.03
FACEBOOK INC	3.65%	STANLEY BLACK & DECKER	2.45	16.88	0.41	VERISIGN INC	1.41	-0.96	-0.01
MOTOROLA SOLUTIONS INC	3.29%	INC	2.42		0.40	CME GROUP INC	0.93	3.45	0.03
ADOBE INC	3.17%	ADOBE INC	3.13	12.66	0.40	ALPHABET INC	0.92	3.96	0.04
COCA-COLA CO (THE)	2.91%	MICROSOFT CORP	10.02	3.60	0.36	NORTHROP GRUMMAN			
ELECTRONIC ARTS INC	2.77%	COCA-COLA CO (THE)	3.11	11.39	0.35	CORP	1.21	3.05	0.04
Total	49.13%	COOPER COS INC (THE)	1.83	18.87	0.35	EQUINIX INC	0.67	8.60	0.06
						J.B. HUNT TRANSPORT SERVICES INC.	1.27	5.23	0.07



Ivy Large Cap Growth vs. eV US Large Cap Growth Equity Gross Universe



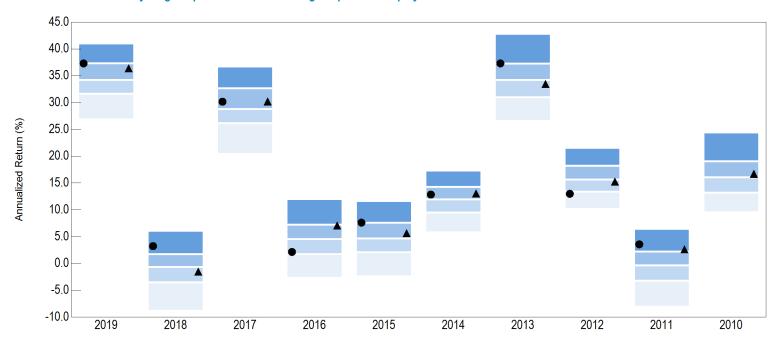
5th Percentile 25th Percentile Median 75th Percentile 95th Percentile
of Portfolios

Ivy Large Cap GrowthRussell 1000 Growth

Return (R	ank)														
16.4		40.3		16.4		56.3		28.8		24.1		20.3		19.4	
12.9		25.8		12.9		38.9		23.0		20.4		17.6		17.3	
11.2		21.9		11.2		33.3		20.2		18.4		16.3		16.4	
9.8		15.4		9.8		24.3		16.9		16.3		14.6		15.2	
8.1		5.4		8.1		14.4		11.9		12.7		11.7		12.8	
252		252		252		252		246		231		226		209	
11.0 13.2	(58) (22)	21.3 24.3	(54) (33)	11.0 13.2	(58) (22)	31.3 37.5	(60) (30)	22.3 21.7	(30) (39)	19.8 20.1	(32) (28)	17.6 17.4	(25) (29)	17.4 17.3	(22) (27)



Ivy Large Cap Growth vs. eV US Large Cap Growth Equity Gross Universe



5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

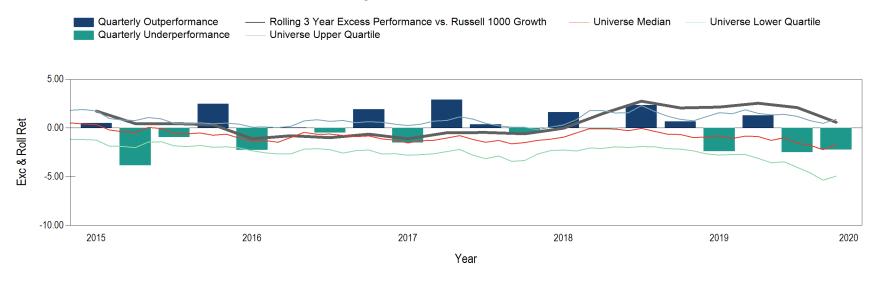
Ivy Large Cap GrowthRussell 1000 Growth

Return (R	Rank)														
41.0	6.1	36	.7	12.0	11	.6	17.3	42	.8	21.6		6.4		24.4	
37.3	1.7	32	.7	7.3	7	.6	14.3	37	.3	18.2		2.2		19.1	
34.2	-0.6	28	.8	4.6	4	.7	12.0	34	.3	15.7		-0.3		16.1	
31.7	-3.5	26	.2	1.8	2	.1	9.5	31	.0	13.4		-3.2		13.2	
26.9	-8.8	20	.5	-2.7	-2	.4	5.8	26	.6	10.2		-8.0		9.6	
253	255	20	35	282	27	70	291	27	'4	274		294		304	
\	26) 3.2 32) -1.5	(15) 30 (57) 30	, ,	2.1 7.1	(72) 7 (26) 5	,	(26) 12.8 (42) 13.0	(40) 37 (38) 33	,	13.0 15.3	(78) (55)	3.6 2.6	(17) (22)	 16.7	() (46)

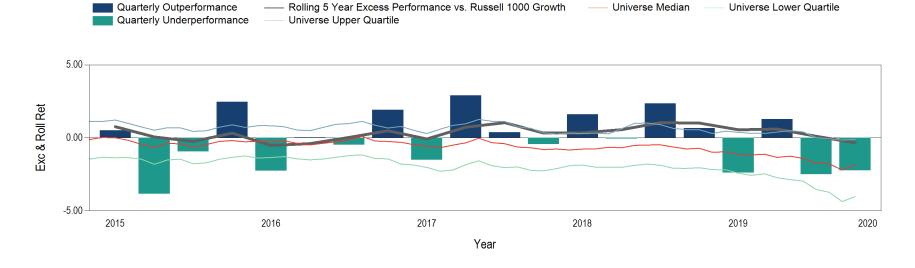


Risk vs. Return Risk vs. Return 3 Years 5 Years 50.0 40.0 40.0 30.0 Annualized Return Annualized Return 30.0 231 Portfolios 246 Portfolios lvy Large Cap Growth 20.0 Ivy Large Cap Growth Russell 1000 Growth 20.0 Russell 1000 Growth 10.0 10.0 0.0 0.0 5.0 0.0 10.0 15.0 20.0 25.0 0.0 5.0 10.0 15.0 20.0 25.0 **Annualized Standard Deviation** Annualized Standard Deviation Ivy Large Cap Growth Ivy Large Cap Growth Russell 1000 Growth Russell 1000 Growth Universe Median Universe Median 68% Confidence Interval 68% Confidence Interval eV US Large Cap Growth Equity Gross eV US Large Cap Growth Equity Gross

Rolling 3 Year Annualized Excess Performance



Rolling 5 Year Annualized Excess Performance

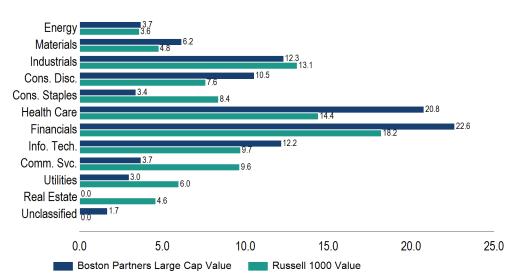




Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	90	850
Weighted Avg. Market Cap. (\$B)	124.95	115.36
Median Market Cap. (\$B)	28.81	9.09
Price To Earnings	16.96	18.71
Price To Book	2.75	2.63
Price To Sales	1.16	1.66
Return on Equity (%)	2.25	1.65
Yield (%)	2.10	2.46
Beta	1.07	1.00

Sector Allocation (%) vs Russell 1000 Value



*Unclassified includes Cash

Top Holdings		То	p Contributo	rs		Bot	tom Contribu	tors	
Ending Period Weight			Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution
JPMORGAN CHASE & CO	3.82%	BERKSHIRE HATHAWAY INC	3.52	19.29	0.68	CISCO SYSTEMS INC	3.06	-14.88	-0.46
JOHNSON & JOHNSON	3.74%	BEST BUY CO INC	1.48	28.18	0.42	MARATHON PETROLEUM	1.41	-20.29	-0.29
BERKSHIRE HATHAWAY INC	3.69%	DEERE & CO	0.96	41.52	0.40	CORP			
BANK OF AMERICA CORP	2.52%	PROGRESSIVE CORP (THE)	1.70	18.32	0.31	CIGNA CORP	2.72	-9.72	-0.26
CISCO SYSTEMS INC	2.42%	EATON CORP PLC	1.76	17.47	0.31	VALERO ENERGY CORP	1.00	-25.01	-0.25
		PFIZER INC	2.30	13.33	0.31	CONOCOPHILLIPS	1.09	-21.03	-0.23
PFIZER INC CIGNA CORP	2.42% 2.30%	LENNAR CORP	0.77	32.82	0.25	CITIGROUP INC	1.15	-14.78	-0.17
AUTOZONE INC	2.30%	OWENS CORNING	1.01	23.91	0.24	AMERICAN			
EATON CORP PLC	1.93%	MEDTRONIC PLC	1.45	13.98	0.20	INTERNATIONAL GROUP INC	1.56	-10.76	-0.17
ANTHEM INC	1.91%	LOWE'S COS INC	0.85	23.22	0.20	CHUBB LTD	2.09	-7.68	-0.16
Total	26.83%					MICRON TECHNOLOGY INC.	1.54	-8.85	-0.14
						HUNTINGTON INGALLS INDUSTRIES INC	0.71	-18.80	-0.13



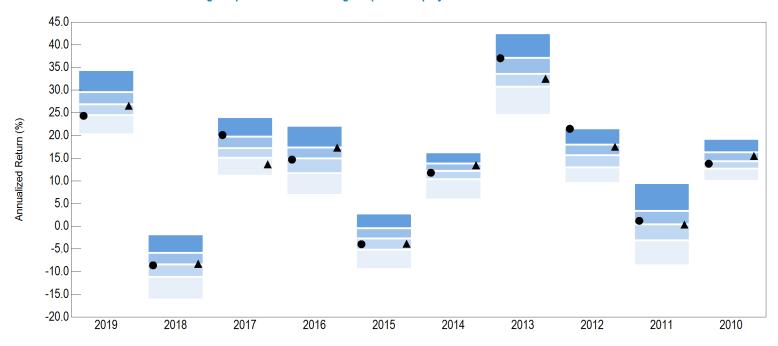
Boston Partners Large Cap Value vs. eV US Large Cap Value Equity Gross Universe



	Return (R	ank)														
5th Percentile	9.3		1.7		9.3		11.7		10.5		12.9		11.4		13.1	
25th Percentile	6.8		-5.8		6.8		1.5		6.3		10.1		9.4		11.4	
Median	5.3		-10.2		5.3		-3.3		3.7		8.4		8.0		10.5	
75th Percentile	3.8		-13.2		3.8		-7.0		1.4		6.8		6.7		9.5	
95th Percentile	1.7		-18.6		1.7		-12.5		-1.7		4.5		4.5		7.9	
# of Portfolios	326		326		326		326		320		309		299		263	
Boston Partners Large Cap ValueRussell 1000 Value	4.0 5.6	(72) (44)	-13.4 -11.6	(76) (66)	4.0 5.6	(72) (44)	-6.4 -5.0	(73) (66)	1.8 2.6	(72) (65)	7.3 7.7	(68) (61)	7.1 7.4	(69) (64)	10.5 9.9	(50) (66)



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



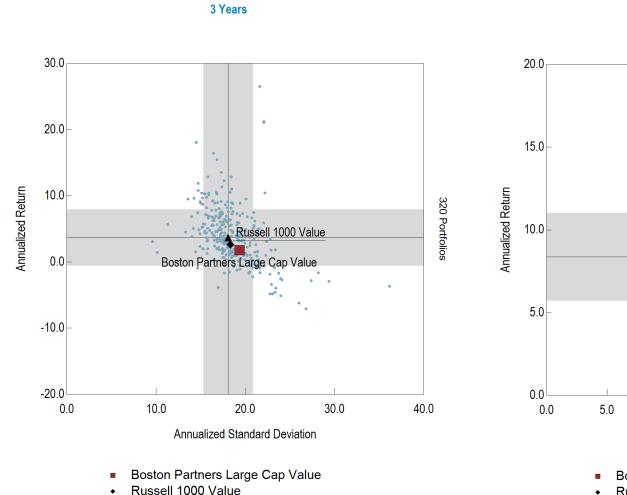
5th Percentile 25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

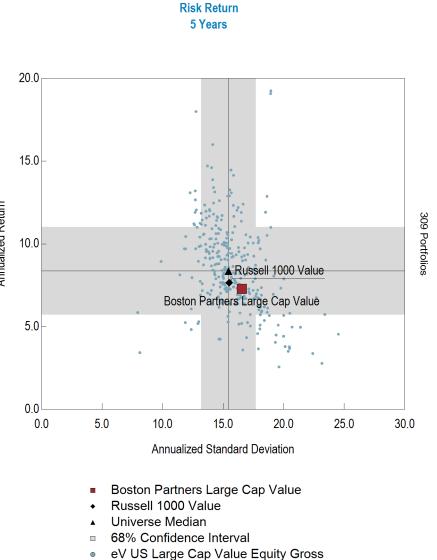
Boston Partners Large Cap Value Russell 1000 Value

Return ((Rank)												
34.4	-1.8	2	4.0	22.1	2.8	1	16.3	42.5	2	1.5	9.5	,	19.2
29.6	-5.8	1	9.8	17.4	-0.4	1	13.9	37.2	1	8.0	3.4	,	16.3
26.9	-8.3	1	7.2	15.0	-2.6	1	12.2	33.6	1	5.7	0.5	,	14.3
24.5	-11.1	1	5.1	11.8	-5.1	1	10.4	30.8	1	3.0	-3.1	,	12.7
20.3	-16.1	1	1.2	7.0	-9.4		5.9	24.6		9.6	-8.6	,	10.1
331	336	(342	346	312	;	307	310	3	303	310		323
24.3 26.5	(77) -8.6 (54) -8.3	` '	0.1 (22) 3.7 (87)	14.7 17.3	(54) -3.9 (26) -3.8	` '	11.8 (58) 13.5 (33)	37.0 32.5	· /		(6) 1.2 30) 0.4		13.8 (61) 15.5 (35)



Risk vs. Return



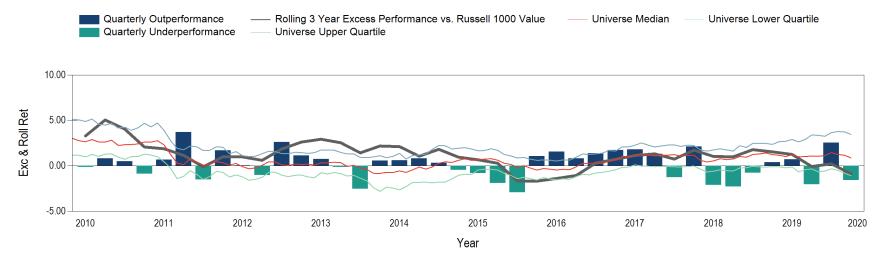


Universe Median

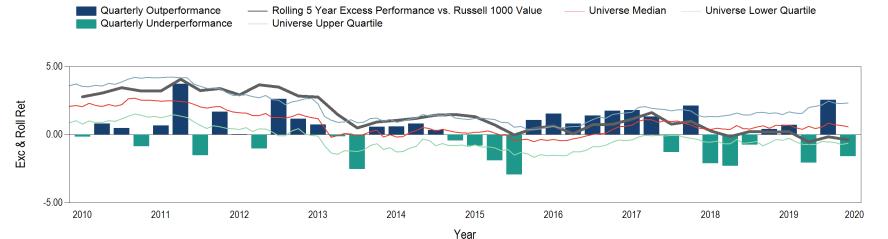
68% Confidence Interval

eV US Large Cap Value Equity Gross

Rolling 3 Year Annualized Excess Performance



Rolling 5 Year Annualized Excess Performance

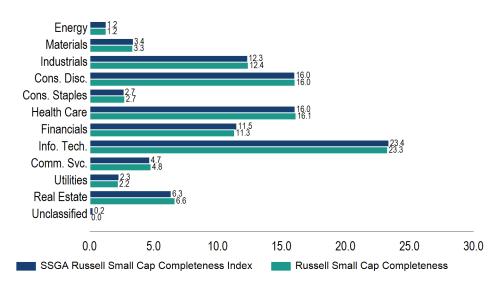




Characteristics

	Portfolio	Russell Small Cap Completeness
Number of Holdings	2,371	2,529
Weighted Avg. Market Cap. (\$B)	34.30	33.60
Median Market Cap. (\$B)	1.11	1.00
Price To Earnings	24.63	25.14
Price To Book	3.80	3.85
Price To Sales	1.70	1.74
Return on Equity (%)	1.58	1.33
Yield (%)	1.08	1.05
Beta	1.00	1.00

Sector Allocation (%) vs Russell Small Cap Completeness

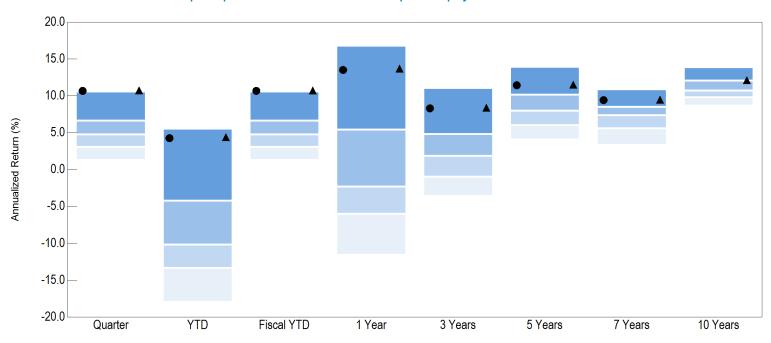


*Unclassified includes Cash

Top Holdings		1	Top Contributo	rs		Bot	tom Contribut	tors	
Ending Period Weight			Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution
TESLA INC	5.70%	TESLA INC ZOOM VIDEO	3.21	98.65	3.16	BIOMARIN PHARMACEUTICAL INC	0.44	-38.32	-0.17
ZOOM VIDEO COMMUNICATIONS INC	1.40%	COMMUNICATIONS INC	0.84	85.42	0.72	ALTERYX INC	0.17	-30.88	-0.05
SQUARE INC UBER TECHNOLOGIES INC	1.07% 0.91%	SQUARE INC	0.76	54.90	0.42	NEUROCRINE	0.22	-21.18	-0.05
DOCUSIGN INC.	0.69%	IMMUNOMEDICS INC	0.15	139.92	0.20	BIOSCIENCES INC			
VEEVA SYSTEMS CL.A	0.67%	PINTEREST INC	0.18	87.24	0.15	CIENA CORP	0.16	-26.72	-0.04
LULULEMON ATHLETICA INC	0.67%	DOCUSIGN INC.	0.61	24.99	0.15	INOVIO PHARMACEUTICALS INC	0.08	-56.96	-0.04
WORKDAY INC	0.66%	UBER TECHNOLOGIES INC	0.85	17.38	0.15	SPOTIFY TECHNOLOGY			
TWILIO INC	0.60%	ROKU INC	0.24	62.02	0.15	S.A	0.68	-6.05	-0.04
COSTAR GROUP INC	0.59%	SUNRUN INC	0.05	290.82	0.14	HILL-ROM HOLDINGS INC	0.15	-23.73	-0.03
Total	12.95%	VEEVA SYSTEMS CL.A	0.63	19.95	0.12	SPLUNK INC	0.63	-5.32	-0.03
						SLACK TECHNOLOGIES INC	0.23	-13.61	-0.03



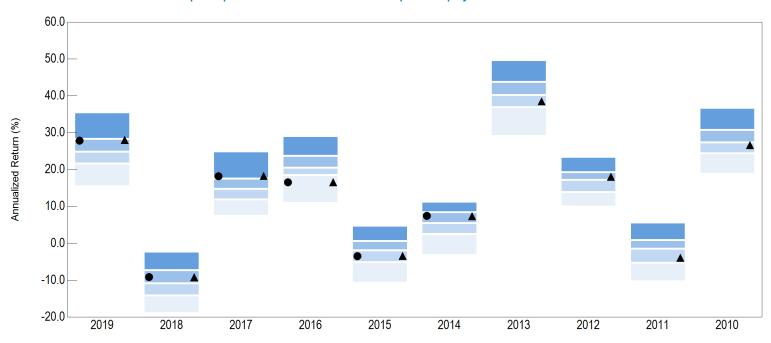
SSGA Russell Small Cap Completeness Index vs. eV US Small Cap Core Equity Gross Universe



F	Return (Ra	ınk)														
5th Percentile	10.6		5.5		10.6		16.8		11.1		13.9		10.9		13.9	
25th Percentile	6.6		-4.2		6.6		5.4		4.8		10.2		8.5		12.1	
Median	4.8		-10.1		4.8		-2.3		1.9		8.0		7.4		10.8	
75th Percentile	3.1		-13.3		3.1		-6.0		-0.9		6.0		5.6		9.8	
95th Percentile	1.3		-17.9		1.3		-11.5		-3.5		4.1		3.4		8.7	
# of Portfolios	162		162		162		162		158		150		147		125	
 SSGA Russell Small Cap Completeness Index Russell Small Cap Completeness 	10.7 10.7	(5) (5)	4.3 4.4	(7) (7)	10.7 10.7	(5) (5)	13.5 13.7	(7) (7)	8.3 8.4	(10) (10)	11.4 11.5	(14) (14)	9.4 9.5	(17) (17)	 12.1	() (25)



SSGA Russell Small Cap Completeness Index vs. eV US Small Cap Core Equity Gross Universe



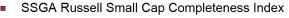
	Return (Rank)														
5th Percentile	35.5	-2.3	24.	9	29.1	4.8	11	.3	49.7		23.4		5.7		36.7	
25th Percentile	28.4	-7.2	17.	6	23.8	0.7	8	.5	43.8		19.4		0.9		30.8	
Median	24.9	-10.8	14.	9	20.6	-1.8	5	.6	40.3		17.2		-1.4		27.4	
75th Percentile	21.7	-14.1	12.	0	18.6	-5.1	2	.6	36.9		14.0		-5.2		24.5	
95th Percentile	15.5	-18.9	7.	5	11.0	-10.6	-3	.1	29.1		10.1		-10.3		18.9	
# of Portfolios	165	173	17	1	168	151	14	12	133		127		122		125	
 SSGA Russell Small Cap Completeness Russell Small Cap Completeness 	ndex 27.8 28.0	(29) -9.2 (28) -9.2	(37) 18. (37) 18.	, ,		(84) -3.5 (84) -3.4	(/	.4 (37) .4 (40)	 38.5	() (66)	 18.0	() (39)	-3.9	() (72)	 26.6	() (56)



Risk vs. Return

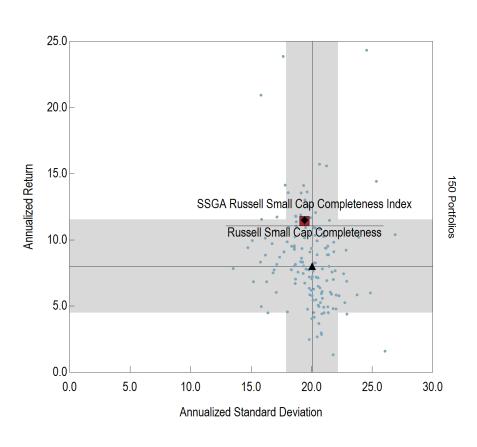
3 Years

20.0 15.0 10.0 SSGA Russell Small Cap Completeness Index Russell Small Cap Completeness Annualized Return 5.0 158 Portfolios 0.0 -5.0 -10.0 -15.0 0.0 10.0 20.0 30.0 40.0 **Annualized Standard Deviation**



- Russell Small Cap Completeness
- Universe Median
- 68% Confidence Interval
- eV US Small Cap Core Equity Gross



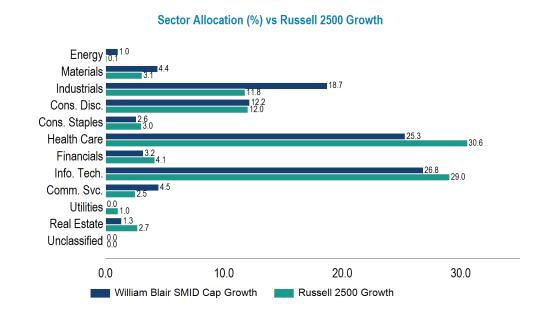


- SSGA Russell Small Cap Completeness Index
- Russell Small Cap Completeness
- ▲ Universe Median
- 68% Confidence Interval
- eV US Small Cap Core Equity Gross



Characteristics

	Portfolio	Russell 2500 Growth
Number of Holdings	70	1,291
Weighted Avg. Market Cap. (\$B)	8.50	6.04
Median Market Cap. (\$B)	6.91	1.16
Price To Earnings	30.25	30.28
Price To Book	5.84	6.09
Price To Sales	3.34	3.02
Return on Equity (%)	3.06	0.63
Yield (%)	0.42	0.46
Beta	0.84	1.00

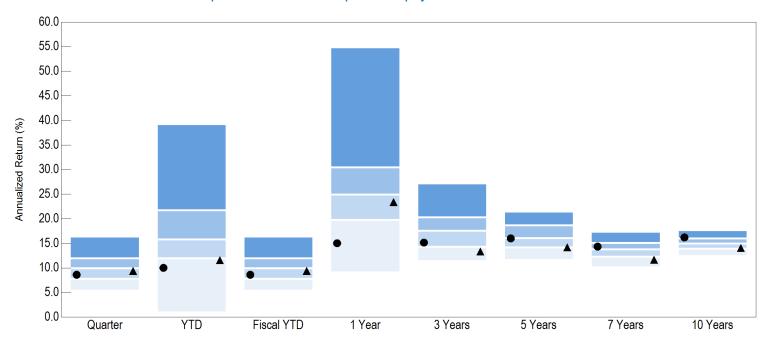


*Unclassified includes Cash

Top Holdings			Top Contributor	rs		Bot	tom Contribut	tors	
Ending Period Weight			Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution
HORIZON THERAPEUTICS PUBLIC LTD CO	3.39%	IRHYTHM TECHNOLOGIES INC	1.33	105.46	1.40	GRAND CANYON EDUCATION INC	2.97	-11.70	-0.35
BWX TECHNOLOGIES INC	2.93%	HORIZON THERAPEUTICS	3.19	39.76	1.27	PURE STORAGE INC	1.98	-11.19	-0.22
GRAND CANYON EDUCATION INC	2.47%	9% INC 3% HORIZON THERAPEUTICS PUBLIC LTD CO SOLAREDGE TECHNOLOGIES INC 7% RITCHIE BROS AUCTIONEERS INC 5% GENERAC HOLDINGS INC 0% BRIGHT HORIZONS FAMILY 4% SOLUTIONS INC INCE LTD				LIGAND PHARMACEUTICALS INC	1.30	-14.78	-0.19
MARTIN MARIETTA MATERIALS INC.	3.39% IRHYTHM TECHNOLOGIES INC 2.93% HORIZON THERAPEUTICS PUBLIC LTD CO SOLAREDGE TECHNOLOGIES INC 2.27% RITCHIE BROS 2.17% AUCTIONEERS INC 2.15% GENERAC HOLDINGS INC 2.10% BRIGHT HORIZONS FAMILY 2.04% SOLUTIONS INC 2.01% NICE LTD 23.92% FIRSTSERVICE CORP INSULET CORP	1.60	71.75	1.15	WEX INC	1.12	-15.78	-0.18	
NICE LTD		RITCHIE BROS	1.47	45.57	0.67	ROGERS CORP.	0.83	-21.30	-0.18
TREX CO INC	2.17%	3.39% IRHYTHM TECHNOLOGIES INC 2.93% HORIZON THERAPEUTICS PUBLIC LTD CO 2.38% TECHNOLOGIES INC 2.27% RITCHIE BROS 2.17% AUCTIONEERS INC 2.15% GENERAC HOLDINGS INC 2.10% BRIGHT HORIZONS FAMILY 2.04% SOLUTIONS INC 2.01% NICE LTD 23.92% FIRSTSERVICE CORP INSULET CORP	1.47	43.37	0.07	FIRSTCASH INC	1.08	-14.84	-0.16
ETSY INC	2.15%	GENERAC HOLDINGS INC	0.98	58.81	0.58	ALARM.COM HOLDINGS			
SOLAREDGE TECHNOLOGIES INC	2.10%	BRIGHT HORIZONS FAMILY	, 1.55	29.73	0.46	INC	1.06	-14.75	-0.16
ENCOMPASS HEALTH CORP	2.04%	SOLUTIONS INC	1.55	29.13	0.40	HEALTHEQUITY INC	1.22	-12.44	-0.15
CROWN HOLDINGS INC	2.01%	NICE LTD	2.25	19.97	0.45	PERSPECTA INC	0.83	-15.99	-0.13
Total	23.92%	FIRSTSERVICE CORP	1.08	31.07	0.34	BRINK'S CO (THE)	1.27	-9.36	-0.12
		INSULET CORP	1.52	21.79	0.33	Bitilitie 00 (TTL)	1.27	3.00	0.12
		CROWN HOLDINGS INC	1.81	18.01	0.33				



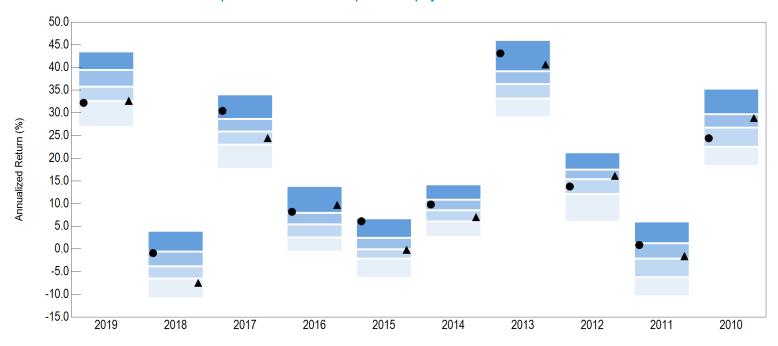
William Blair SMID Cap Growth vs. eV US Mid Cap Growth Equity Gross Universe



	Return (Ra	ank)													
5th Percentile	16.4	39.	2	16.4		54.9		27.1		21.5		17.3		17.6	
25th Percentile	12.0	21.	3	12.0		30.5		20.4		18.7		15.1		16.0	
Median	10.0	15.	3	10.0		25.0		17.6		16.1		13.8		15.0	
75th Percentile	7.8	12.)	7.8		19.8		14.3		14.2		12.3		14.0	
95th Percentile	5.4	1.)	5.4		9.1		11.4		11.7		10.2		12.5	
# of Portfolios	88	8	7	88		87		84		82		78		75	
 William Blair SMID Cap Growth Russell 2500 Growth 	8.6 9.4	(68) 10. (58) 11.	, ,	8.6 9.4	(68) (58)	15.0 23.4	(89) (59)	15.1 13.4	(70) (83)	16.0 14.2	(52) (76)	14.3 11.7	(37) (87)	16.2 14.1	(23) (74)



William Blair SMID Cap Growth vs. eV US Mid Cap Growth Equity Gross Universe



5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

William Blair SMID Cap Growth Russell 2500 Growth

Return	(Rank)																		
43.5		4.0		34.0		13.9		6.7		14.2		46.0		21.3		6.1		35.3	
39.5		-0.5		28.7		8.0		2.5		10.9		39.2		17.6		1.3		29.8	
35.8		-3.7		25.9		5.4		0.0		8.6		36.4		15.4		-2.1		26.7	
32.6		-6.5		23.1		2.6		-2.1		6.1		33.2		12.2		-6.1		22.5	
26.9		-10.8		17.7		-0.5		-6.3		2.6		29.0		6.0		-10.4		18.3	
83		93		97		105		105		117		106		111		122		127	
32.2 32.7	(77) (75)	-0.9 -7.5	(29) (79)	30.4 24.5	(16) (62)	8.2 9.7	(22) (13)	6.1 -0.2	(7) (55)	9.8 7.1	(33) (65)	43.1 40.7	(11) (17)	13.8 16.1	(68) (44)	0.9 -1.6	(28) (46)	24.4 28.9	(65) (35)



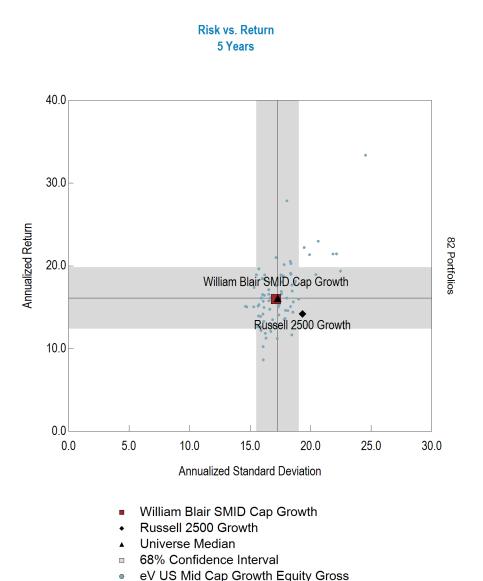
Risk vs. Return

3 Years

60.0 50.0 40.0 Annualized Return 84 Portfolios 30.0 20.0 William Blair SMID Cap Growth Russell 2500 Growth 10.0 0.0 0.0 5.0 10.0 15.0 20.0 25.0 30.0 **Annualized Standard Deviation**

William Blair SMID Cap Growth

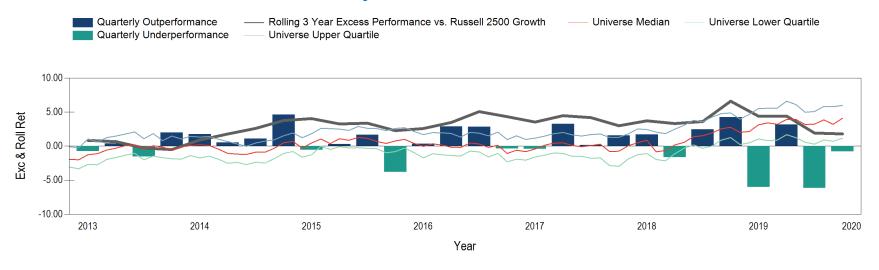
- Russell 2500 Growth
- ▲ Universe Median
- 68% Confidence Interval
- eV US Mid Cap Growth Equity Gross





Quarterly Outperformance

Rolling 3 Year Annualized Excess Performance



Rolling 5 Year Annualized Excess Performance

Rolling 5 Year Excess Performance vs. Russell 2500 Growth





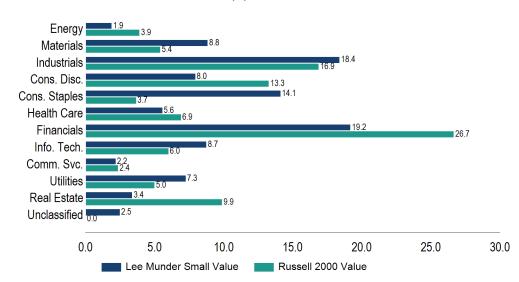
Universe Lower Quartile

Universe Median

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	90	1,459
Weighted Avg. Market Cap. (\$B)	2.82	1.89
Median Market Cap. (\$B)	2.34	0.55
Price To Earnings	15.08	13.91
Price To Book	1.84	1.75
Price To Sales	1.04	0.74
Return on Equity (%)	2.58	-0.20
Yield (%)	2.16	2.23
Beta	0.98	1.00

Sector Allocation (%) vs Russell 2000 Value

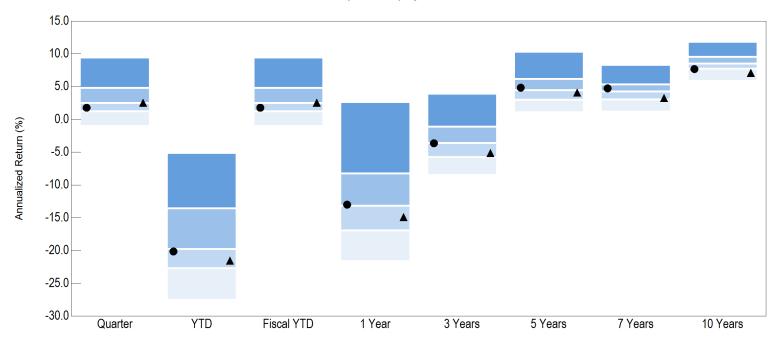


*Unclassified includes Cash

Top Holdings		To	p Contributo	rs		Bo	ttom Contribut	tors	
Ending Period Weight			Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution
PORTLAND GENERAL ELECTRIC CO	3.26%	DARLING INGREDIENTS INC	3.31	46.34	1.53	GRACE (WR) & CO	1.60	-20.15	-0.32
DARLING INGREDIENTS INC	2.85%	VIRTUSA CORP	1.70	51.40	0.88	COGENT			
MURPHY USA INC	2.85%	GENERAC HOLDINGS INC	NC 0.90 58.81 0.53 COMMUNICATIONS HOLDINGS INC	1.40	-21.56	-0.30			
TREEHOUSE FOODS INC	2.34%	MURPHY USA INC	3.01	13.93	0.42	PORTLAND GENERAL			
FIRST HORIZON NATIONAL CORP	2.24%	VISTA OUTDOOR INC	0.90	39.65	0.36	ELECTRIC CO	2.00	-14.10	-0.28
ENVISTA HOLDINGS CORP	1.94%	LIVENT CORP	0.70	45.62	0.32	HEXCEL CORP	0.90	-25.81	-0.23
ITT INC	1.83%	ENVISTA HOLDINGS CORP	1.70	17.02	0.29	SPIRE INC	1.20	-18.11	-0.22
BWX TECHNOLOGIES INC HERCULES CAPITAL INC	1.73% 1.63%	MASONITE INTERNATIONAL CORP	1.00	26.51	0.27	COLUMBIA PROPERTY TRUST INC	1.10	-15.49	-0.17
CACI INTERNATIONAL INC	1.53%	HERCULES CAPITAL INC	1.50	13.55	0.20	STERLING BANCORP	1.60	-9.68	-0.16
Total	22.22%	SPECTRUM BRANDS HOLDINGS INC	0.70	25.40	0.18	TREEHOUSE FOODS INC	2.00	-7.47	-0.15
		HOLDINGS INC				HURON CONSULTING GROUP INC	1.30	-11.12	-0.14



Lee Munder Small Value vs. eV US Small Cap Value Equity Gross Universe

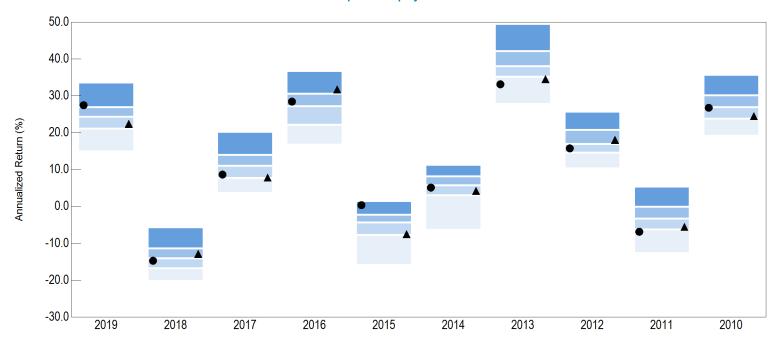


	5th Percentile 25th Percentile Median 75th Percentile 95th Percentile
	# of Portfolios
•	Lee Munder Small Value Russell 2000 Value

Return (R	ank)														
9.4		-5.1		9.4		2.6		3.9		10.3		8.3		11.8	
4.8		-13.6		4.8		-8.2		-1.1		6.2		5.4		9.6	
2.5		-19.7		2.5		-13.1		-3.6		4.5		4.3		8.6	
1.3		-22.7		1.3		-16.9		-5.7		3.0		3.1		7.8	
-1.0		-27.5		-1.0		-21.6		-8.5		1.1		1.2		5.9	
221		221		221		221		214		208		199		186	
1.8 2.6	(65) (50)	-20.1 -21.5	(55) (68)	1.8 2.6	(65) (50)	-13.0 -14.9	(50) (63)	-3.6 -5.1	(51) (69)	4.8 4.1	(45) (60)	4.7 3.3	(37) (74)	7.7 7.1	(79) (88)



Lee Munder Small Value vs. eV US Small Cap Value Equity Gross Universe



5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

Lee Munder Small Value

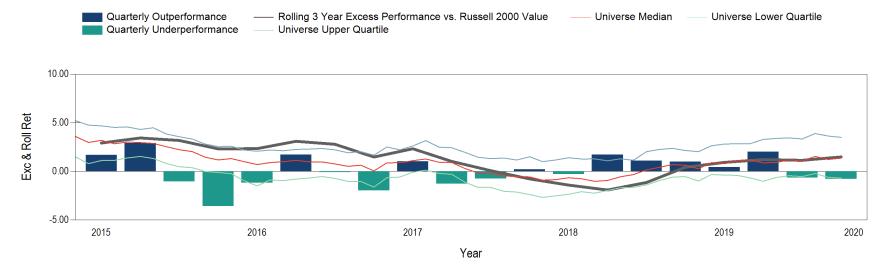
Russell 2000 Value

Return	(Rank)																		
33.6		-5.7		20.2		36.7		1.5		11.2		49.4		25.7		5.3		35.6	
27.0		-11.4		14.1		30.7		-2.2		8.2		42.1		20.8		0.0		30.2	
24.4		-14.0		11.1		27.2		-4.3		5.8		38.1		16.9		-3.3		26.9	
21.2		-16.7		7.8		22.2		-7.7		3.1		35.2		14.7		-6.2		23.8	
15.0		-20.2		3.7		16.8		-15.8		-6.3		27.8		10.3		-12.6		19.2	
217		220		224		222		212		206		199		187		177		186	
27.5 22.4	(22) (69)	-14.7 -12.9	(56) (39)	8.6 7.8	(68) (75)	28.4 31.7	(38) (17)	0.4 -7.5	(9) (74)	5.1 4.2	(60) (68)	33.1 34.5	(85) (78)	15.7 18.1	(61) (43)	-6.9 -5.5	(79) (69)	26.8 24.5	(54) (72)

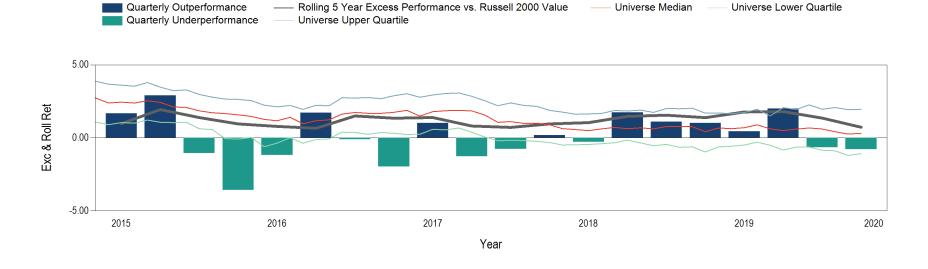


Risk vs. Return Risk vs. Return 3 Years 5 Years 20.0 20.0 15.0 10.0 10.0 Annualized Return Annualized Return 0.0 214 Portfolios 208 Portfolios Lee Munder Small Value 5.0 -10.0 0.0 -20.0 -5.0 -30.0 -10.0 20.0 0.0 10.0 30.0 40.0 0.0 10.0 20.0 30.0 40.0 **Annualized Standard Deviation** Annualized Standard Deviation Lee Munder Small Value Lee Munder Small Value Russell 2000 Value Russell 2000 Value Universe Median Universe Median 68% Confidence Interval 68% Confidence Interval eV US Small Cap Value Equity Gross eV US Small Cap Value Equity Gross

Rolling 3 Year Annualized Excess Performance



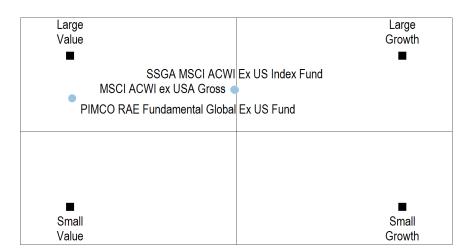
Rolling 5 Year Annualized Excess Performance





	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total International Equity	266,762,375	6.4	-3.3	6.4	4.5	2.2	7.2	4.4	23.2	-14.3	26.9	6.2	-5.9
MSCI ACWI ex USA Gross		6.4	-5.1	6.4	3.4	1.6	6.7	4.5	22.1	-13.8	27.8	5.0	-5.3
InvMetrics Public DB ex-US Eq Gross Rank		77	43	77	58	31	39	81	44	43	80	13	85
SSGA MSCI ACWI Ex US Index Fund	106,577,223	6.3	-5.1	6.3	3.3	1.5	6.5	4.3	21.9	-14.0	27.6	4.8	-5.5
MSCI ACWI ex USA Gross		6.4	-5.1	6.4	3.4	1.6	6.7	4.5	22.1	-13.8	27.8	5.0	-5.3
eV All EAFE Equity Gross Rank		58	48	58	51	50	47	88	63	42	49	17	96
PIMCO RAE Fundamental Global Ex US Fund	74,772,118	3.1	-17.0	3.1	-10.3	-4.8	3.7		16.7	-14.7	26.7	13.5	-10.9
MSCI ACWI ex USA Value Gross		2.4	-17.2	2.4	-10.3	-4.5	2.8		16.5	-13.4	23.3	9.6	-9.6
eV EAFE Value Equity Gross Rank		70	78	70	87	77	49		88	37	40	2	99
SGA Global Growth	85,413,034	9.1	11.1	9.1	19.3				31.1			-	
MSCI ACWI ex USA Growth Gross		10.2	7.5	10.2	17.9				27.8				
eV ACWI ex-US Growth Equity Gross Rank		78	41	78	56				48				

EAFE Effective Style Map 3 Years



EAFE Effective Style Map 5 Years



Research Affiliates converted to PIMCO RAE Fundamental Global Ex US Fund on 6/5/15 (performance prior to this date represents previously held Enhanced RAFI Global ex US). Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

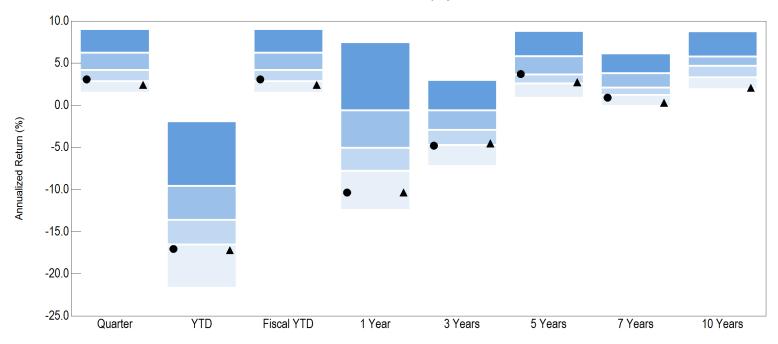


	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total International Equity	266,762,375	6.3	-3.6	6.3	4.1	1.8	6.8	4.0	22.7	-14.5	26.5	5.9	-6.2
MSCI ACWI ex USA Gross		6.4	-5.1	6.4	3.4	1.6	6.7	4.5	22.1	-13.8	27.8	5.0	-5.3
SSGA MSCI ACWI Ex US Index Fund	106,577,223	6.3	-5.2	6.3	3.3	1.4	6.5	4.2	21.8	-14.0	27.5	4.7	-5.5
MSCI ACWI ex USA Gross		6.4	-5.1	6.4	3.4	1.6	6.7	4.5	22.1	-13.8	27.8	5.0	-5.3
PIMCO RAE Fundamental Global Ex US Fund	74,772,118	2.9	-17.4	2.9	-10.8	-5.3	3.2		16.1	-15.1	26.0	13.0	-11.4
MSCI ACWI ex USA Value Gross		2.4	-17.2	2.4	-10.3	-4.5	2.8		16.5	-13.4	23.3	9.6	-9.6
SGA Global Growth	85,413,034	8.9	10.8	8.9	18.8				30.5				
MSCI ACWI ex USA Growth Gross		10.2	7.5	10.2	17.9				27.8				

Research Affiliates converted to PIMCO RAE Fundamental Global Ex US Fund on 6/5/15 (performance prior to this date represents previously held Enhanced RAFI Global ex US).



PIMCO RAE Fundamental Global Ex US Fund vs. eV EAFE Value Equity Gross Universe



I	Return (R	ank)														
5th Percentile	9.0	-	-1.9		9.0		7.5		3.0		8.8		6.1		8.8	
25th Percentile	6.3		-9.5		6.3		-0.6		-0.6		5.9		3.8		5.8	
Median	4.2		-13.5		4.2		-5.0		-2.9		3.7		2.1		4.7	
75th Percentile	2.9		-16.5		2.9		-7.8		-4.7		2.6		1.2		3.3	
95th Percentile	1.5		-21.6		1.5		-12.4		-7.2		0.9		0.0		1.9	
# of Portfolios	75		75		75		75		67		61		57		52	
 PIMCO RAE Fundamental Global Ex US Fund MSCI ACWI ex USA Value Gross 	3.1 2.4	(70) (83)	-17.0 -17.2	(78) (78)	3.1 2.4	(70) (83)	-10.3 -10.3	(87) (87)	-4.8 -4.5	(77) (73)	3.7 2.8	(49) (71)	0.9 0.3	(83) (91)	2.1	() (92)



PIMCO RAE Fundamental Global Ex US Fund vs. eV EAFE Value Equity Gross Universe



	Return	(Rank)																	
5th Percentile	28.3		-8.1		36.4		10.9		7.8		1.0		32.5		25.9		-4.2		25.1	
25th Percentile	24.2		-12.9		28.7		6.7		3.6		-2.4		28.8		21.9		-8.1		14.4	
Median	21.1		-15.7		25.5		3.7		-0.5		-4.3		24.4		19.3		-11.4		10.1	
75th Percentile	18.3		-17.8		22.1		1.6		-3.0		-6.5		21.5		16.1		-15.4		6.3	
95th Percentile	16.1		-22.1		17.7		0.1		-8.9		-8.7		16.4		10.5		-18.1		3.0	
# of Portfolios	78		74		73		77		79		81		79		75		86		101	
 PIMCO RAE Fundamental Global Ex US Fur MSCI ACWI ex USA Value Gross 	d 16.7 16.5	(88) (90)	-14.7 -13.4	(37) (31)	26.7 23.3	(40) (64)	13.5 9.6	(2) (7)	-10.9 -9.6	(99) (98)	-5.7 -4.6	(71) (58)	24.5 15.7	(50) (96)	 17.7	() (65)	 -12.7	() (57)	 8.4	() (61)



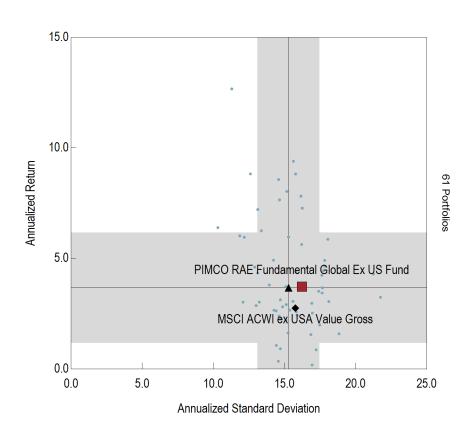
Risk vs. Return

3 Years 15.0 10.0 5.0 Annualized Return 67 Portfolios 0.0 MSCI ACWI ex USA Value Gross -5.0 PIMCO RAE Fundamental Global Ex US Fund -10.0 -15.0 0.0 5.0 10.0 15.0 20.0 25.0 30.0 Annualized Standard Deviation

PIMCO RAE Fundamental Global Ex US Fund

- MSCI ACWI ex USA Value Gross
- Universe Median
- 68% Confidence Interval
- eV EAFE Value Equity Gross

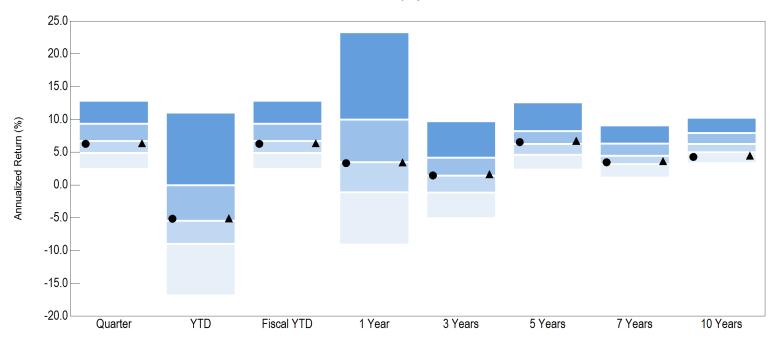




- PIMCO RAE Fundamental Global Ex US Fund
- MSCI ACWI ex USA Value Gross
- Universe Median
- 68% Confidence Interval
- eV EAFE Value Equity Gross



SSGA MSCI ACWI Ex US Index Fund vs. eV All EAFE Equity Gross Universe



	Return (R	ank)														
5th Percentile	12.8		11.0		12.8		23.3		9.7		12.6		9.1		10.3	
25th Percentile	9.3		0.0		9.3		10.0		4.2		8.3		6.3		7.9	
Median	6.7		-5.4		6.7		3.5		1.4		6.3		4.5		6.3	
75th Percentile	4.9		-9.0		4.9		-1.1		-1.1		4.6		3.2		5.0	
95th Percentile	2.5		-16.8		2.5		-9.0		-5.0		2.4		1.2		3.3	
# of Portfolios	401		401		401		401		379		344		303		258	
 SSGA MSCI ACWI Ex US Index Fund MSCI ACWI ex USA Gross 	6.3 6.4	(58) (56)	-5.1 -5.1	(48) (48)	6.3 6.4	(58) (56)	3.3 3.4	(51) (51)	1.5 1.6	(50) (48)	6.5 6.7	(47) (44)	3.5 3.7	(69) (66)	4.3 4.5	(88) (88)

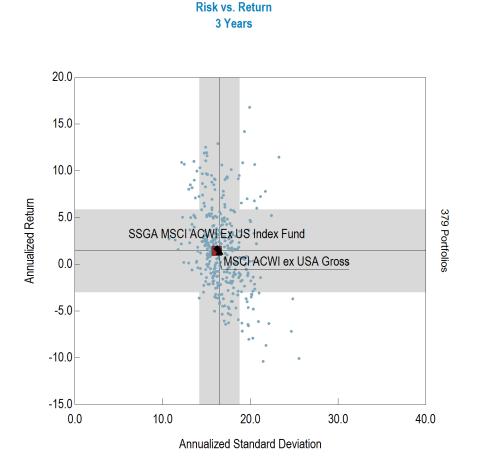


SSGA MSCI ACWI Ex US Index Fund vs. eV All EAFE Equity Gross Universe



	Return (Ran	k)								
5th Percentile	32.9	-8.0	39.0	8.1	12.6	3.0	36.3	31.7	-5.1	25.7
25th Percentile	26.1	-12.6	31.6	3.4	5.2	-1.9	28.1	23.1	-9.7	16.1
Median	23.2	-15.1	27.0	1.3	1.4	-3.7	24.6	20.4	-12.0	11.7
75th Percentile	20.3	-17.8	24.3	-0.6	-0.9	-5.4	20.5	17.5	-14.5	8.7
95th Percentile	16.4	-22.2	19.7	-4.9	-5.4	-8.6	8.6	13.3	-18.2	4.6
# of Portfolios	397	391	370	350	325	314	284	263	278	352
 SSGA MSCI ACWI Ex US Index Fund MSCI ACWI ex USA Gross 	21.9 (63) 22.1 (60)	-14.0 (42) -13.8 (40)	27.6 (49) 27.8 (48)	4.8 (17) 5.0 (16)	-5.5 (96) -5.3 (95)	-3.6 (49) -3.4 (47)	15.5 (90) 15.8 (90)	17.1 (81) 17.4 (77)	-13.5 (64) -13.3 (62)	11.2 (55) 11.6 (52)

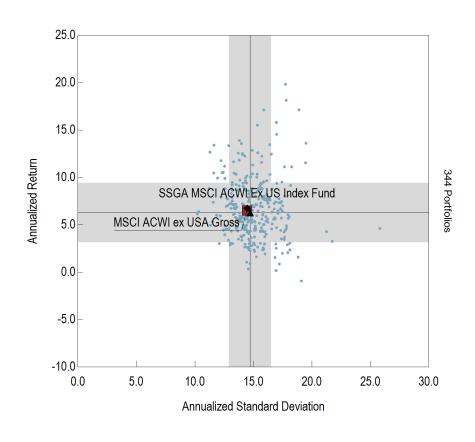




SSGA MSCI ACWI Ex US Index Fund

- MSCI ACWI ex USA Gross
- ▲ Universe Median
- 68% Confidence Interval
- eV All EAFE Equity Gross





- SSGA MSCI ACWI Ex US Index Fund
- MSCI ACWI ex USA Gross
- ▲ Universe Median
- 68% Confidence Interval
- eV All EAFE Equity Gross

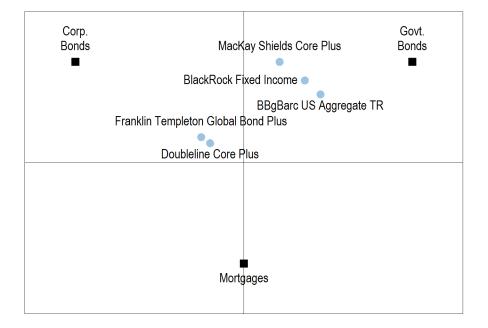


	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Fixed Income	475,904,226	1.3	2.0	1.3	3.3	3.7	4.1	4.0	8.4	0.5	4.3	5.5	-0.8
BBgBarc US Aggregate TR		0.6	6.8	0.6	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.6
InvMetrics Public DB US Fix Inc Gross Rank		35	97	35	94	91	39	32	36	51	50	37	77
Total Domestic Fixed Income	309,078,876	1.6	6.5	1.6	7.0	5.4	4.9	4.4	9.3	0.1	4.4	5.1	-0.3
BBgBarc US Aggregate TR		0.6	6.8	0.6	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.6
BlackRock Fixed Income	112,425,378	1.1	7.6	1.1	8.0	5.7	4.7	4.2	9.0	0.4	3.9	3.1	1.1
BBgBarc US Aggregate TR		0.6	6.8	0.6	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.6
eV All US Fixed Inc Gross Rank		59	20	59	22	26	42	49	45	54	54	53	39
Doubleline Core Plus	95,772,649	1.8	4.0	1.8	4.4	4.3			8.6	0.0	4.2	4.8	
BBgBarc US Aggregate TR		0.6	6.8	0.6	7.0	5.2			8.7	0.0	3.5	2.6	
eV US Core Plus Fixed Inc Gross Rank		46	98	46	99	98			93	33	86	52	
MacKay Shields Core Plus	100,880,849	2.0	7.8	2.0	8.3	5.9			10.0	-0.6	5.0	5.1	
BBgBarc US Aggregate TR		0.6	6.8	0.6	7.0	5.2			8.7	0.0	3.5	2.6	
eV US Core Plus Fixed Inc Gross Rank		29	25	29	26	44			53	67	52	46	
Total Global Fixed Income	86,088,955	-0.4	-6.1	-0.4	-4.9	-1.3	1.9		1.3	2.4	3.0	7.1	-3.4
JPM GBI Global TR USD		2.5	7.3	2.5	6.7	4.5	3.9		6.0	-0.7	6.8	1.6	-2.6
Franklin Templeton Global Bond Plus	86,088,955	-0.4	-6.1	-0.4	-4.9	-1.3	1.8		1.3	2.4	3.0	6.8	-3.5
JPM GBI Global TR USD		2.5	7.3	2.5	6.7	4.5	3.9		6.0	-0.7	6.8	1.6	-2.6
eV Global Government Fixed Inc Gross Rank		99	99	99	99	99	99		99	10	87	8	58
Total Emerging Markets Fixed Income	80,736,395	2.1	-5.0	2.1	-1.0							-	
50% JPM EMBI Global Div/50% JPM GBI EM Global Div		1.5	-3.4	1.5	0.0								
PGIM Emerging Markets Debt	80,736,395	2.1	-5.0	2.1	-1.0								
50% JPM EMBI Global Div/50% JPM GBI EM Global Div		1.5	-3.4	1.5	0.0								
eV Emg Mkts Fixed Inc - Blended Currency Gross Rank		64	88	64	88								

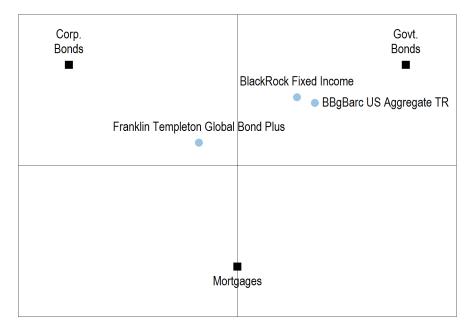
Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. SSGA TIPS liquidated in 12/28/18. Shenkman HY liquidated 3/11/19. PGIM EMD funded 8/26/19.



Fixed Income Style Map 3 Years



Fixed Income Style Map 5 Years





	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Fixed Income	475,904,226	1.2	1.7	1.2	2.9	3.3	3.7	3.7	8.1	0.1	3.9	5.1	-1.1
BBgBarc US Aggregate TR		0.6	6.8	0.6	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.6
Total Domestic Fixed Income	309,078,876	1.5	6.3	1.5	6.7	5.1	4.6	4.2	9.0	-0.2	4.1	4.8	-0.5
BBgBarc US Aggregate TR		0.6	6.8	0.6	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.6
BlackRock Fixed Income	112,425,378	1.0	7.4	1.0	7.7	5.5	4.4	3.9	8.7	0.1	3.6	2.9	0.8
BBgBarc US Aggregate TR		0.6	6.8	0.6	7.0	5.2	4.2	3.6	8.7	0.0	3.5	2.6	0.6
Doubleline Core Plus	95,772,649	1.8	3.8	1.8	4.1	4.0			8.3	-0.3	3.9	4.6	
BBgBarc US Aggregate TR		0.6	6.8	0.6	7.0	5.2			8.7	0.0	3.5	2.6	
MacKay Shields Core Plus	100,880,849	1.9	7.5	1.9	7.9	5.5			9.6	-1.0	4.5	4.7	
BBgBarc US Aggregate TR		0.6	6.8	0.6	7.0	5.2			8.7	0.0	3.5	2.6	
Total Global Fixed Income	86,088,955	-0.5	-6.4	-0.5	-5.3	-1.8	1.4		0.9	1.9	2.4	6.4	-3.9
JPM GBI Global TR USD		2.5	7.3	2.5	6.7	4.5	3.9		6.0	-0.7	6.8	1.6	-2.6
Franklin Templeton Global Bond Plus	86,088,955	-0.5	-6.4	-0.5	-5.3	-1.8	1.3		0.9	1.9	2.4	6.1	-4.1
JPM GBI Global TR USD		2.5	7.3	2.5	6.7	4.5	3.9		6.0	-0.7	6.8	1.6	-2.6
Total Emerging Markets Fixed Income	80,736,395	2.0	-5.4	2.0	-1.5								
50% JPM EMBI Global Div/50% JPM GBI EM Global Div		1.5	-3.4	1.5	0.0								
PGIM Emerging Markets Debt	80,736,395	2.0	-5.4	2.0	-1.5								
50% JPM EMBI Global Div/50% JPM GBI EM Global Div		1.5	-3.4	1.5	0.0								

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. SSGA TIPS liquidated in 12/28/18. Shenkman HY liquidated 3/11/19. PGIM EMD funded 8/26/19.



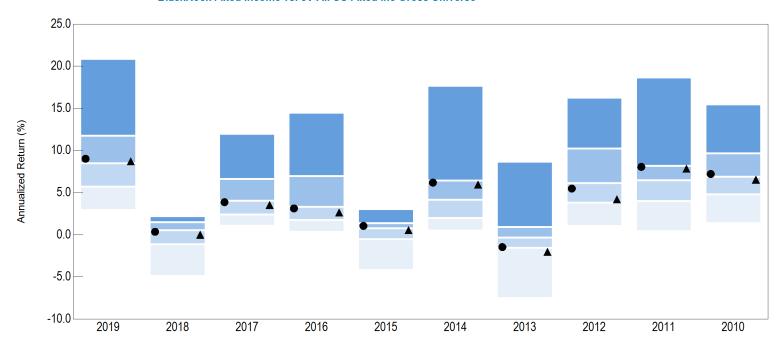
BlackRock Fixed Income vs. eV All US Fixed Inc Gross Universe



	Return (R	ank)														
5th Percentile	5.0	-	12.1		5.0		12.5		9.8		9.3		8.8		8.0	
25th Percentile	2.4		7.1		2.4		7.7		5.8		5.8		5.3		5.6	
Median	1.3		4.3		1.3		5.2		4.6		4.3		4.1		4.1	
75th Percentile	0.7		2.0		0.7		3.3		3.4		3.1		3.0		2.9	
95th Percentile	0.2		-1.3		0.2		0.6		2.1		1.8		1.5		1.3	
# of Portfolios	1,993		1,992		1,993		1,991		1,942		1,843		1,733		1,547	
BlackRock Fixed IncomeBBgBarc US Aggregate TR	1.1 0.6	(59) (79)	7.6 6.8	(20) (29)	1.1 0.6	(59) (79)	8.0 7.0	(22) (33)	5.7 5.2	(26) (36)	4.7 4.2	(42) (53)	4.4 4.0	(43) (54)	4.2 3.6	(49) (61)



BlackRock Fixed Income vs. eV All US Fixed Inc Gross Universe



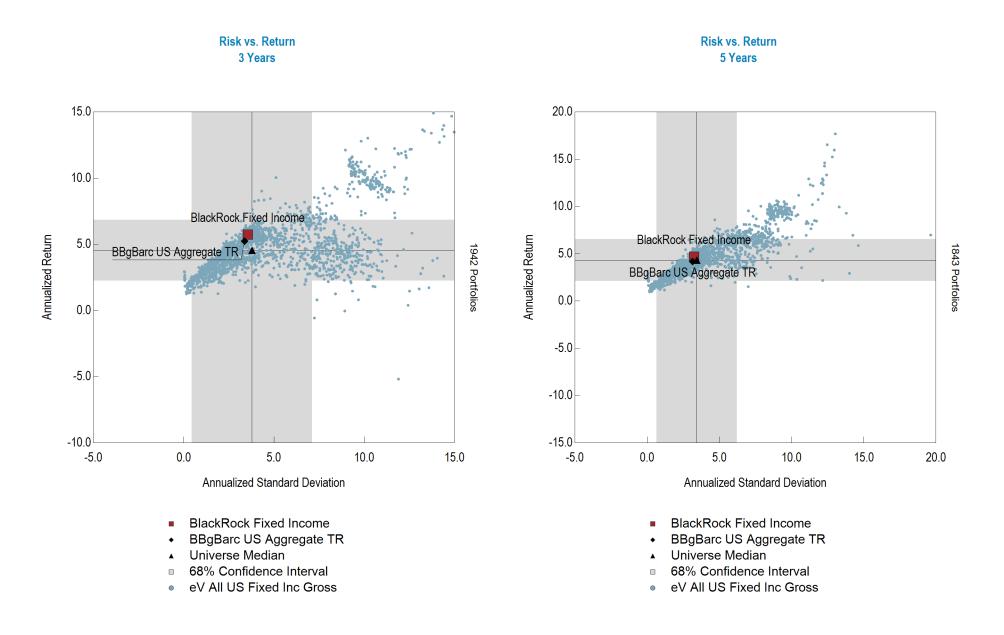
5th Percentile 25th Percentile Median 75th Percentile
95th Percentile
of Portfolios

BlackRock Fixed Income

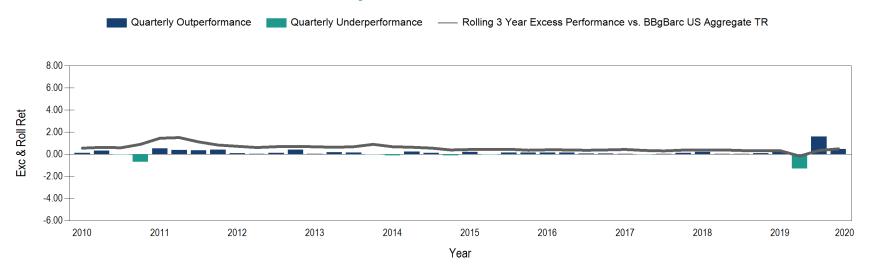
BBgBarc US Aggregate TR

Return	(Rank)																	
20.8		2.2		12.0		14.5		3.0		17.7		8.7		16.2		18.6		15.5	
11.8		1.5		6.6		7.0		1.4		6.4		0.9		10.2		8.2		9.7	
8.5		0.6		4.1		3.3		8.0		4.2		-0.3		6.1		6.5		6.9	
5.7		-1.1		2.4		1.8		-0.5		2.0		-1.5		3.8		4.0		4.8	
2.9		-4.9		1.1		0.4		-4.1		0.5		-7.5		1.1		0.4		1.4	
1,981		1,899		1,843		1,722		1,394		1,364		1,281		1,241		1,211		1,157	
9.0	(45)	0.4	(54)	3.9	(54)	3.1	(53)	1.1	(39)	6.2	(29)	-1.5	(75)	5.5	(56)	8.1	(28)	7.2	(45)
8.7	(48)	0.0	(61)	3.5	(59)	2.6	(60)	0.6	(59)	6.0	(33)	-2.0	(83)	4.2	(70)	7.8	(32)	6.5	(57)

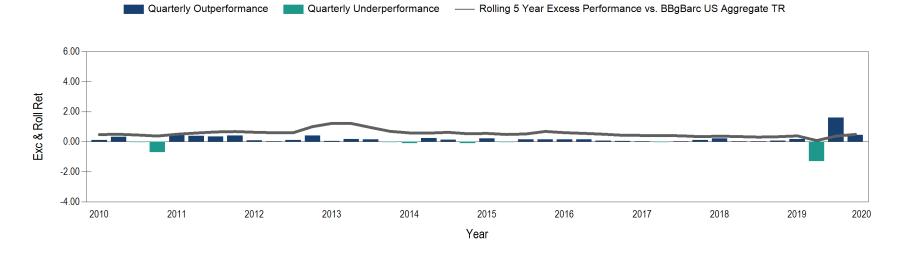




Rolling 3 Year Annualized Excess Performance

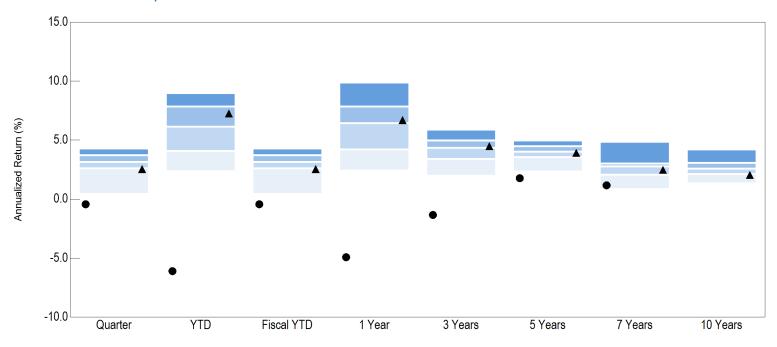


Rolling 5 Year Annualized Excess Performance





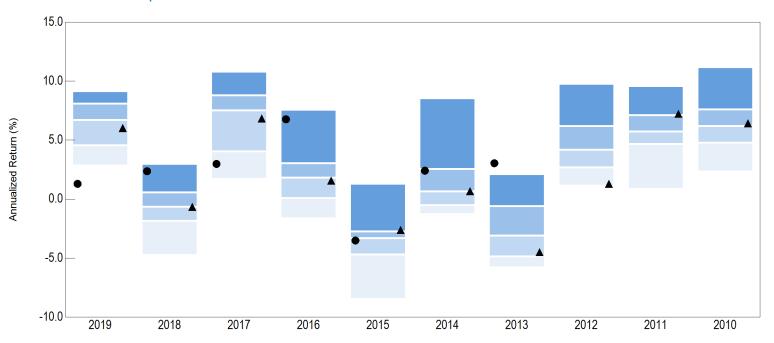
Franklin Templeton Global Bond Plus vs. eV Global Government Fixed Inc Gross Universe



	Return (R	ank)														
5th Percentile	4.3	-	9.0		4.3		9.9		5.9		4.9		4.8		4.2	
25th Percentile	3.7		7.9		3.7		7.8		5.0		4.5		3.0		3.1	
Median	3.2		6.1		3.2		6.4		4.4		4.0		2.8		2.6	
75th Percentile	2.6		4.1		2.6		4.2		3.4		3.6		2.1		2.1	
95th Percentile	0.5		2.4		0.5		2.4		2.0		2.3		8.0		1.3	
# of Portfolios	46		46		46		46		44		42		39		34	
Franklin Templeton Global Bond PlusJPM GBI Global TR USD	-0.4 2.5	(99) (77)	-6.1 7.3	(99) (37)	-0.4 2.5	(99) (77)	-4.9 6.7	(99) (49)	-1.3 4.5	(99) (48)	1.8 3.9	(99) (60)	1.2 2.5	(94) (65)	2.0	() (81)



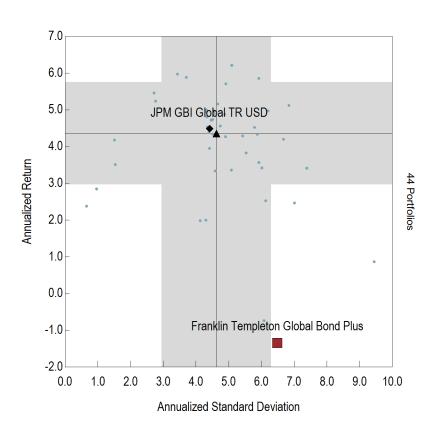
Franklin Templeton Global Bond Plus vs. eV Global Government Fixed Inc Gross Universe



	Return (Rank	()								
5th Percentile	9.1	3.0	10.8	7.6	1.3	8.5	2.1	9.8	9.6	11.2
25th Percentile	8.1	0.6	8.8	3.0	-2.7	2.6	-0.6	6.2	7.1	7.6
Median	6.7	-0.6	7.5	1.8	-3.3	0.7	-3.1	4.2	5.7	6.2
75th Percentile	4.6	-1.8	4.1	0.1	-4.7	-0.5	-4.8	2.7	4.7	4.8
95th Percentile	2.9	-4.7	1.7	-1.6	-8.5	-1.3	-5.8	1.2	0.9	2.3
# of Portfolios	42	42	43	46	36	32	33	35	33	30
Franklin Templeton Global Bond PlusJPM GBI Global TR USD	1.3 (99) 6.0 (67)	2.4 (10) -0.7 (51)	3.0 (87) 6.8 (57)	6.8 (8) 1.6 (58)	-3.5 (58) -2.6 (23)	2.4 (31) 0.7 (51)	3.0 (3) -4.5 (71)	() 1.3 (94)	() 7.2 (23)	() 6.4 (49)

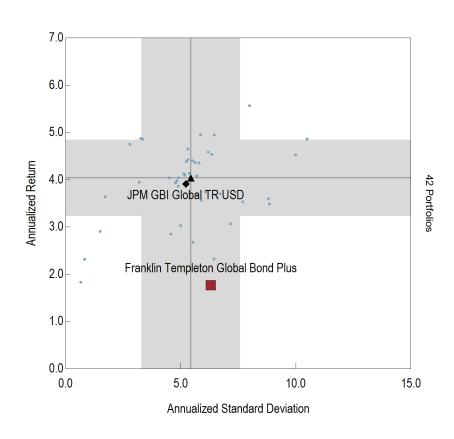


Risk vs. Return 3 Years



- Franklin Templeton Global Bond Plus
- ◆ JPM GBI Global TR USD
- Universe Median
- 68% Confidence Interval
- eV Global Government Fixed Inc Gross

Risk vs. Return 5 Years



- Franklin Templeton Global Bond Plus
- JPM GBI Global TR USD
- Universe Median
- 68% Confidence Interval
- eV Global Government Fixed Inc Gross



	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Real Estate	177,769,379	-0.6	1.7	-0.6	3.2	5.8	6.4	8.8	5.2	8.8	4.3	9.0	16.0
NCREIF-ODCE		0.5	-0.1	0.5	1.4	5.2	6.6	10.3	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index		0.7	0.5	0.7	2.0	5.1	6.3	9.4	6.4	6.7	7.0	8.0	13.3
RREEF America II	166,868,556	-0.6	1.8	-0.6	3.2	5.7	6.6	10.5	5.3	8.6	4.4	9.3	16.7
NCREIF-ODCE		0.5	-0.1	0.5	1.4	5.2	6.6	10.3	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index		0.7	0.5	0.7	2.0	5.1	6.3	9.4	6.4	6.7	7.0	8.0	13.3
American Realty	10,900,823	-0.3	0.5	-0.3									
NCREIF-ODCE		0.5	-0.1	0.5									
NCREIF Property Index		0.7	0.5	0.7									

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. RREEF liquidated in 1Q 2018. Americam Realty funded 4Q 2019.



	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Real Estate	177,769,379	-0.6	1.7	-0.6	3.2	5.8	6.2	8.6	5.2	8.8	4.3	8.0	15.1
NCREIF-ODCE		0.5	-0.1	0.5	1.4	5.2	6.6	10.3	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index		0.7	0.5	0.7	2.0	5.1	6.3	9.4	6.4	6.7	7.0	8.0	13.3
RREEF America II	166,868,556	-0.6	1.8	-0.6	3.2	5.7	6.3	10.0	5.3	8.6	4.4	8.2	15.7
NCREIF-ODCE		0.5	-0.1	0.5	1.4	5.2	6.6	10.3	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index		0.7	0.5	0.7	2.0	5.1	6.3	9.4	6.4	6.7	7.0	8.0	13.3
American Realty	10,900,823	-0.3	0.5	-0.3									
NCREIF-ODCE		0.5	-0.1	0.5									
NCREIF Property Index		0.7	0.5	0.7									

Performance Return Calculations

Performance is calculated using Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are linked geometrically 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-guarter lag. Valuation is reported at a one-guarter lag, adjusted for current guarter 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>	Fund Incepted	Data Source	<u>Manager</u>	Fund Incepted	Data Source
SSGA S&P 500 Flagship Fund	7/27/2011	SSGA	RREEF America II	3/1/2003	Deutsche
QMA Large Cap Core	12/1/2008	BNY	TA Associates Realty	6/1/2007	TA Realty
Waddell & Reed	6/4/2010	BNY	BlackRock Private Capital II	7/13/2005	BlackRock
Robeco Boston Partners	2/1/1999	BNY	Pantheon USA Fund VI	7/26/2005	Pantheon
William Blair Mid Cap Grw	12/1/2006	BNY	PIMCO BRAVO	1/14/2011	PIMCO
Lee Munder Small Value	8/26/2009	BNY	KKR Mezzanine Partners	7/8/2011	KKR
SSGA Russell Sm Cap ldx	5/17/2013	SSGA	Stepstone Secondary Opps II	5/10/2013	Stepstone
PIMCO RAE	8/14/2012	PIMCO	Ocean Avenue Fund III	5/27/2016	Ocean Ave
SSGA MSCI ACWI ex US	1/1/2010	SSGA	Ocean Avenue Fund IV	9/16/2019	Ocean Ave
SGA Global Growth	6/4/2018	SGA	Pathway Fund 8	4/12/2016	Pathway
Skellig DST Water Fund	10/28/2014	KBI	Pathway Fund 9	5/31/2018	Pathway
BlackRock Fixed Income	12/1/1995	BNY	Pathway Fund 10	3/31/2020	Pathway
Doubleline Core Plus	12/1/2015	BNY	Sixth Street Partners Diversified Credit	11/21/2016	Sixth Street
MacKay Shields Core Plus	12/1/2015	MacKay	TAO Contingent	4/16/2020	Sixth Street
Franklin Templeton Global	4/3/2012	BNY	American Realty	12/20/2019	American Realty

BNY

8/26/2019

Policy & Custom Index Composition

PGIM Emerging Markets Debt

Policy Index:

20% Russell 3000, 20% MSCI ACWI ex US, 3% MSCI ACWI, 17% BBgBarc US Aggregate, 5% JPM GBI Global, 5% (50% JPM EMBI Global Div/50% JPM GBI EM Global Div), 20% NCREIF-ODCE, 5% Private Equity Returns, 5% Private Credit Returns.

Other Disclosures



Glossary

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

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

Beachmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager. **Beta:** A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios. Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

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

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

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

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

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

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

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

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

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

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

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

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

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



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