





PERIOD ENDING: DECEMBER 31, 2019

Investment Performance Review for

Tulare County Employees' Retirement Association

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Annual outlooks

CAPITAL MARKET ASSUMPTIONS

Some important developments occurred in the last year. During our 2020 Capital Market Assumptions webinar, we discussed:

- Market movements of 2019 and how these shifts have affected our long-term outlook
- The impact of falling interest rates on fixed income expectations
- Why it is important to differentiate between shorter-term and longer-term forecasting exercises

Topics of interests

WHY BENCHMARKS MATTER

In this Topics of Interest paper, we seek to outline the importance of benchmark selection within the investment process. The white paper addresses the following points:

- Benchmarks which appear similar can behave very differently, even over long periods of time
- Unconsidered benchmark selection can introduce uncompensated tracking error
- Tools available to investors to assist in determining appropriate benchmark indexes

RISK IN MANAGER SELECTION

In our latest Topics of Interest paper, we provide a framework for assessing the candidacy of a manager for portfolio inclusion and consider the implications of one manager versus alternatives. It addresses the following questions:

- Does the manager add a desired exposure?
- Does the manager exhibit skill?
- What does the manager add to the broader portfolio relative to other candidates?

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4th quarter summary

THE ECONOMIC CLIMATE

- Real GDP grew at a 2.1% rate year-over-year in the third quarter (2.1% quarterly annualized rate). Falling imports and weak fixed investment (-0.2% contribution) acted as a drag on growth, while personal consumption continued to as the greatest driver of growth. p. 7
- U.S. and Chinese negotiators signed the "phase one" trade agreement, and Boris Johnson's Conservative Party in the U.K. won a decisive victory. These events appear to have removed some uncertainty from the geopolitical landscape over the short- to intermediate-term. p. 15

PORTFOLIO IMPACTS

- Global equity markets exhibited strong performance through Q4, and U.S. equity performance was in-line (MSCI ACWI +9.0%, S&P 500 +9.1%). Emerging markets were the top performing asset class (+11.8%). *p. 40*
- U.S. headline inflation increased 2.3% YoY in December, alongside the core inflation growth figure, and up from 1.7% in September. Although this was a notable jump in the inflation rate, investors appear more concerned about global deflationary forces, as indicated by the 10yr U.S. TIPS Breakeven Inflation Rate of 1.73%. Cyclical price pressures remain surprisingly absent from the current environment. p. 9

THE INVESTMENT CLIMATE

- In October, the Federal Open Market Committee cut interest rates by 0.25% to a new range of 1.50 1.75%.
 This marked the third consecutive rate cut by the committee. p. 18
- Global sovereign bond yields picked up modestly in Q4, on higher inflation and growth prospects. The dollar value of negative-yielding outstanding debt fell from nearly \$15 trillion to just above \$11 trillion. Central bankers appealed for fiscal action, citing the limited capacity of monetary policy to sustain further economic expansion. p. 18

ASSET ALLOCATION ISSUES

- Most risk assets provided sizable gains in Q4. Global equities delivered +9.0%, U.S. high yield increased +2.6%, and Emerging Market Local Debt rose +5.2%. Longer duration fixed income saw losses as interest rates rebounded. p. 40
- The U.S. dollar weakened -0.5% against both developed and emerging currencies in Q4, reversing moves of the prior quarter. Dollar volatility remains low relative to the big swings that occurred throughout 2014-2018. **p. 35**
- Although risk assets appear to have rocketed higher in 2019, which may create concerns over valuations, it is important to note that much of this performance was due to assets recovering from a sharp fall in late-2018. p. 25

A neutral risk stance may be appropriate in today's environment

What drove the market in Q4?

"U.S. trade deficit falls 7.6% in October to 16-month low on decline in Chinese imports"

U.S. FEDERAL TRADE DEFICIT (\$BILLIONS)

Jun	Jul	Aug	Sep	Oct	Nov
53.7	52.7	53.5	51.1	46.9	43.1

Article Source: MarketWatch, December 5th, 2019

"As markets climb higher, are stocks becoming overvalued?"

BLENDED FORWARD 12-MONTH P/E RATIO OF THE S&P 500 INDEX

Jul	Aug	Sep	Oct	Nov	Dec
17.0x	16.6x	16.9x	17.3x	17.8x	18.3x

Article Source: CNBC, December 30th, 2019

"Fed 'prepared to adjust' balance sheet to prevent repo market flare-up"

MONTHLY CHANGE IN THE SIZE OF THE FED BALANCE SHEET (\$BILLIONS)

Jul	Aug	Sep	Oct	Nov	Dec
-47.7	-19.2	97.8	162.1	33.1	112.7

Article Source: Yahoo Canada Finance, December 11th, 2019

"China's pork price jumps 110 per cent, sending consumer inflation rocketing to eight-year high"

CHINA CPI INFLATION (YoY % CHANGE)

Jul	Aug	Sep	Oct	Nov	Dec
2.8	2.8	3.0	3.8	4.5	4.5

Article Source: South China Morning Post, December 10th, 2019

U.S. MONTHLY TRADE DEFICIT (BILLIONS)



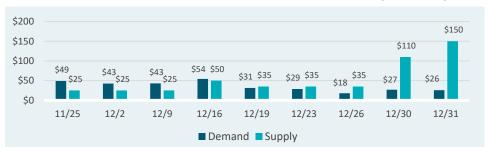
Source: Bloomberg, as of 11/30/19

FORWARD PRICE/EARNINGS RATIO (BLENDED 12-MONTH EARNINGS)



Source: Bloomberg, as of 12/31/19.

YEAR-END LIQUIDITY OFFERED UP BY THE NEW YORK FED (BILLIONS)



Source: New York Fed, as of 12/31/19.



Economic environment



U.S. economics summary

- Real GDP grew at a 2.1% rate year-over-year in the third quarter (2.0% quarterly annualized rate). Falling imports and weak fixed investment (-0.2% contribution) acted as a drag on growth, while personal consumption continued to be the greatest driver of growth.
- U.S. headline inflation came in at 2.3% YoY in December, in line with the core inflation growth figure.
 Despite more than 10 years of economic expansion, cyclical price pressures seem surprisingly absent from the current environment.
 Investors appear more concerned about global deflationary forces.
- The U.S. labor market showed further strength in the fourth quarter and unemployment remained at 50-year lows of 3.5%.
- Consumer sentiment indicators remain near all-time-highs and improved slightly over the quarter.
- American households are in a

- strong financial position, with balance sheets that appear increasingly robust. At the end of Q3, U.S. household debt outstanding was equal to about 74% of GDP, the healthiest level since Q4 2001.
- U.S. and Chinese negotiators signed the "phase one" agreement on trade, and Boris Johnson's Conservative Party won a decisive victory in the U.K. These developments may ease some of the economic uncertainty across the global economy, providing a tailwind to future growth.
- Existing home sales grew +2.7% YoY in November. New home sales, a far smaller portion of the overall market, grew at a stronger rate of +16.9% YoY, as construction activity further accelerated. Rising homebuilder activity in recent years may ease some of the low inventory pressures in the current market environment.

	Most Recent	12 Months Prior
GDP (YoY)	2.1% 9/30/19	3.1% 9/30/18
Inflation (CPI YoY, Core)	2.3% 12/31/19	2.2% 12/31/18
Expected Inflation (5yr-5yr forward)	1.8% 12/31/19	1.8% 12/31/18
Fed Funds Target Range	1.50 – 1.75% 12/31/19	2.25 – 2.50% 12/31/18
10 Year Rate	1.9% 12/31/19	2.7% 12/31/18
U-3 Unemployment	3.5% 12/31/19	3.9% 12/31/18
U-6 Unemployment	6.7% 12/31/19	7.6% 12/31/18

GDP growth

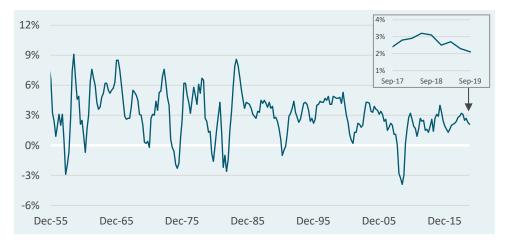
Real GDP grew at a 2.1% rate year-over-year in the third quarter (2.1% quarterly annualized rate). Falling imports detracted -0.3% from the overall GDP print, along with weak fixed investment (-0.2% contribution). Personal consumption, the largest component of gross domestic product, continued to drive the economy forward. The U.S. economy is pacing near the 2.0% rate that economists generally expect for full year 2020.

While trade policies and conflict likely resulted in a mild drag on economic growth in 2019, the U.S. and China have signed

the "phase one" trade deal. A partial trade resolution, or at least an indication that negotiations are headed in a more positive direction, could provide a lift to the economy and markets.

On January 17th, the Federal Reserve Bank of Atlanta GDPNow forecast indicated GDP growth of 1.8% in the fourth quarter. This forecast dipped recently due to weak personal consumption expenditures.

U.S. REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 9/30/19

U.S. GDP GROWTH ATTRIBUTION



Source: BEA, annualized quarterly rate, as of 9/30/19



Inflation

U.S. headline inflation increased 2.3% YoY in December, in line with the core inflation growth figure, and up from 1.7% in September. Although this is a notable jump in the inflation rate, investors appear more concerned about global deflationary forces. Cyclical price pressures remain surprisingly absent from the current environment.

During the quarter, the market's pricing of inflation increased from a low of 1.48% to 1.73%. While the breakeven rate has risen materially from its cycle low of 1.18% achieved in February 2016, it remains depressed by historical standards.

Consumer expectations moved in the opposite direction, falling from 2.7% at the beginning of the year to 2.3% in December.

We believe it is likely that inflation will remain subdued. But it is also worth noting that if inflation or inflation fears returned to the markets, this might place central banks in a perilous position. It is doubtful that central banks could hike interest rates for any sustained period of time without risking recession.

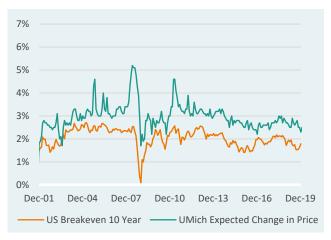
U.S. CPI (YOY)



U.S. BREAKEVEN INFLATION RATE



INFLATION EXPECTATIONS



Source: FRED, as of 12/31/19

Source: Bloomberg, as of 12/31/19



Source: Bloomberg, as of 12/31/19

Labor market

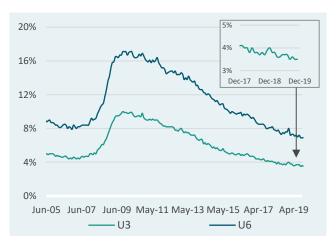
The U.S. labor market continued to show strength in Q4 and unemployment remained at 50-year lows of 3.5%. Year-over-year growth in non-farm payroll additions slowed to its lowest level since September 2017 at 1.4%. Nearly 1.24 jobs are now available per unemployed worker in the labor force, which suggests there is a limited remaining supply of workers to meet business hiring demands.

Average hourly earnings for production and nonsupervisory employees grew 3.0% year-over-year in December, outpacing inflation (2.3%). Sustained real wage growth would support sentiment, which is near cycle highs.

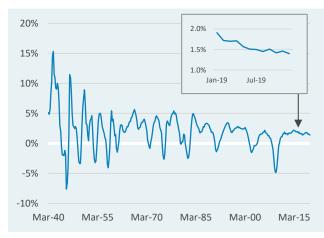
One plausible case for strong consumption to continue hinges on the fact that several key unemployment rates are near historic lows. The unemployment rate for workers who are at least 25 years old and lack high school diplomas (5.3%) is at an at all-time-low level since the data was first recorded in the year 2000. Typically, workers with less education earn less in nominal terms, but have a higher marginal propensity to consume per each dollar earned. These recent increases in employment for those workers who are more likely to spend may lead to outsized positive impacts on economic growth.

U.S. labor market remains strong, though further upside may be limited

U.S. UNEMPLOYMENT



NON-FARM PAYROLL GROWTH (YOY)



U.S. WAGE GROWTH



Source: BLS, as 12/31/19 Source: FRED, as of 11/30/19



Source: FRED, as of 12/31/19

Investment Landscape
1st Quarter 2020

U.S. unemployment



The U.S. job market is very strong, for all levels of education

Source: FRED, as of 11/30/19



The consumer

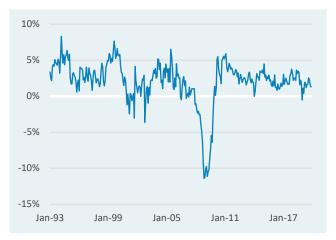
The U.S. consumer continued to push the U.S. economy forward, supported by low unemployment, solid wage gains, and high sentiment. American households are in a strong financial position, with balance sheets that appear robust. At the end of Q3, U.S. household debt outstanding was equal to about 74% of GDP, the healthiest level since Q4 2001.

Retail sales growth slid a bit in real terms, but much of this move was due to a pickup in inflation. The price of a barrel of WTI crude oil rose from \$53 to \$61, helping to propel year-over-year growth in headline inflation from 1.7% to 2.3%. Overall, retail sales growth remains solid, and has been boosted

recently by a surge in e-commerce sales. Cyber Monday sales grew nearly 20% this year, hitting a record \$9.4 billion U.S. dollars according to data from Adobe Analytics. Shoppers' carts were also about 6% larger at checkout than they were last year, perhaps hinting at a more optimistic consumer outlook.

Credit conditions remain benign. Credit-card borrowing ticked down slightly and was offset by faster growth in auto and student loans. Some might consider credit-card debt "worse debt" and auto and student loan debt "better debt" in that prudent investments in transportation and human capital are likely higher-returning than ultra-short-term consumption.

REAL RETAIL SALES GROWTH (YOY)



E-COMMERCE SALES GROWTH (QUARTERLY YOY)



Source: U.S. Census Bureau, Bloomberg, as of 9/30/19

12-MONTH GROWTH IN CONSUMER CREDIT



Source: Federal Reserve, Bloomberg, as of 11/30/19



Source: FRED, as of 11/30/19

Sentiment

Consumer sentiment indicators remain near all-time-highs and improved slightly as a number of closely-followed geopolitical storylines appeared to move closer to resolution. The U.S. and China "phase one" trade deal, and the victory of Boris Johnson's Conservative Party in the U.K. appears to have at least removed some uncertainty from the geopolitical landscape over the short- to intermediate-term.

Over the quarter, the difference between the sentiment reading for the top third of income earners and the bottom

third of income earners moved from the 10th percentile to the 65th percentile of monthly periods since 2001, indicating a widening in the gap between the "haves" and "have-nots".

Consumers view the economic conditions for buying bigticket household items such as furniture, refrigerators and televisions as close to as favorable as they have been over the course of the expansion. This belief appears to be rooted in dual expectations for job security and real wage gains.

CONSUMER SENTIMENT BY INCOME BRACKET



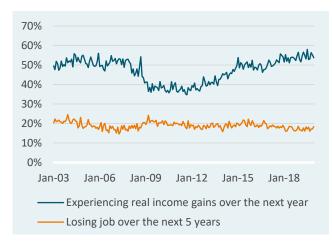
Source: University of Michigan, as of 12/31/19

CONDITIONS FOR BUYING BIG-TICKET ITEMS (%)



Source: University of Michigan, as of 12/31/19

CONSUMER FEAR GAUGE



Source: University of Michigan, as of 12/31/19



Housing

In the first half of 2019 the housing market appeared to be cooling off, coming down from a strong boom throughout the recent economic expansion. The average home sales price is down -8% from the highs of late-2017, although other variables such as the types and location of homes sold can impact these numbers. Homebuilding activity ticked up in the second half of the year as homebuilder sentiment jolted higher in 2019.

Existing home sales grew +2.7% YoY in November. New home sales, a far smaller portion of the overall market, grew at a stronger rate of +16.9% YoY, as construction activity further accelerated. Rising homebuilder activity in recent years may

ease some of the low inventory pressures in the current market environment.

The housing boom has contributed to a rebound in the U.S. homeownership rate. A decade-long trend away from buying and towards renting appears to have reversed in mid-2016. Since that time, the rate of homeownership has risen to 64.7% from a low of 63.1%.

It is always helpful to remember that home price trends can vary meaningfully by location, which means national statistics are sometimes difficult to interpret at a local level.

U.S. HOME SALES (YOY)



HOUSING STARTS & PERMITS



Source: Bloomberg, NAHB, as of 11/30/19 (see appendix)

HOMEOWNERSHIP RATE



Source: FRED, as of 9/30/19



Source: FRED, as of 11/30/19

International economics summary

- The growth of international developed economies remains in a range of 0.5% to 2.0%, near the 2.1% growth rate of the slowing U.S. economy.
- In January, the IMF forecasted 2.9% global growth in 2019 and an acceleration to 3.3% in 2020. These growth expectations were 0.1% lower than the previous quarter's report, and were mostly a result of downward adjustments to emerging markets expectations.
- Inflation continues to be muted across international developed markets, keeping more options on the table for central banks to step in as needed with accommodative policy.
- The U.K. general election in December resulted in a landslide victory for Boris Johnson. The election, through a consolidation of Tory party power, effectively guarantees that Brexit will ultimately be carried out.

- While the global economy has exhibited mild growth, labor markets continue to tighten across the board. By traditional unemployment measures, job markets are now stronger than pre-2008 levels in most major economies.
- U.S. and Chinese negotiators signed the "phase one" agreement on trade, and the decisive victory of Boris Johnson's Conservative Party in the U.K. appears to have at least removed some uncertainty from the geopolitical landscape over the short- to intermediate-term.
- China has experienced a significant jump in inflation to 4.5% as an outbreak of African swine fever resulted in a doubling of pork prices. This compares to a 5-year average inflation rate of 1.9%. An acceleration of inflation may create issues for Chinese leadership in an already-slowing economy.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.1% 9/30/19	2.3% 12/31/19	3.5% 12/31/19
Eurozone	1.2% 9/30/19	1.3% 12/31/19	7.5% 11/30/19
Japan	1.7% 9/30/19	0.9% 12/31/19	2.2% 11/30/19
BRICS Nations	4.9% 9/30/19	4.4% 12/31/19	5.1% 9/30/19
Brazil	1.2% 9/30/19	4.3% 12/31/19	11.2% <i>11/30/19</i>
Russia	1.7% 9/30/19	3.1% 12/31/19	4.6 % 11/30/19
India	4.5 % <i>9/30/19</i>	7.4% 12/31/19	8.5% 12/31/17
China	6.0% 9/30/19	4.5% 12/31/19	3.6% 9/30/19



International economics

The United States grew at a pace of 2.1% year-over-year in the third quarter, moving more closely in line with other developed nations which have posted growth of 1.0%-2.0%.

While the global economy has exhibited mild growth, labor markets continue to tighten across the board. By traditional unemployment measures, job markets are now stronger than pre-2008 levels in most major economies.

Inflation has remained subdued across international developed markets, and many pundits have viewed the mild inflation data as a cue for central banks to step in and

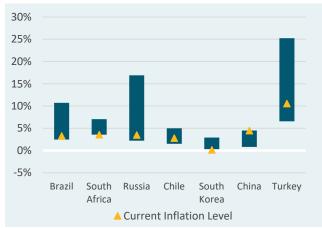
attempt to bolster economic growth through more accommodative policy. Inflation remains muted in emerging economies, and most economies are experiencing CPI below the 5-year average.

China's inflation rate has become an outlier, jumping to 4.5% as an outbreak of African swine fever resulted in a doubling of pork prices in the country during the year. This compares to a 5-year average inflation rate of 1.9%. Prices of other meats in China have also increased on heightened demand for pork substitutes. An acceleration of inflation may create issues for Chinese leadership in an already-slowing economy.

REAL GDP GROWTH (YOY)

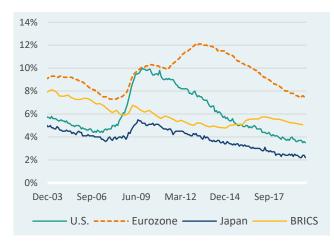


INFLATION (CPI YOY)



Source: Bloomberg, inflation range of past 5 years, as of 11/30/19

UNEMPLOYMENT RATE



Source: Bloomberg, as of 11/30/19 or most recent release



Source: Bloomberg, as of 9/30/19

Fixed income rates & credit



Interest rate environment

- The global sovereign bond rally lost steam in Q4 as inflation and growth prospects mildly reflated. Central bankers at the European Central Bank and the Federal Reserve signaled that policy would likely remain on hold in the absence of significant economic developments.
- Global ten-year sovereign bond yields picked up moderately, most significantly in Europe. Over the quarter, the U.S.-dollar value of global outstanding negative-yielding debt fell from nearly \$15 trillion to just above \$11 trillion.
- In October, the Federal Open
 Market Committee cut the range for
 its benchmark interest rate by
 0.25% to a new range of 1.50 to
 1.75%.
- Diversity of opinion among FOMC participants about the path of interest rates has faded. Most members now expect rates to remain flat in 2020, and move back toward 2.50% over the longer term.

- The New York Fed conducted a series of term repurchase operations aimed at providing sufficient liquidity for firms to get through the year-end turn when demand for cash typically surges. The Fed balance sheet grew by \$300B in Q4, and analysts continue to debate whether the Fed's involvement in repo markets should be considered "technical" or "stimulative" in nature.
- The Governing Council of the ECB decided to leave key interest rates unchanged and confirmed that net asset purchases to the tune of €20 billion per month had begun in November.
- In Christine Lagarde's first major move as President, she announced the ECB's first Strategic Policy review since 2003, which will begin in January and will address a wide range of topics, including: low inflation, the price-stability goal, climate change, and cryptocurrency.

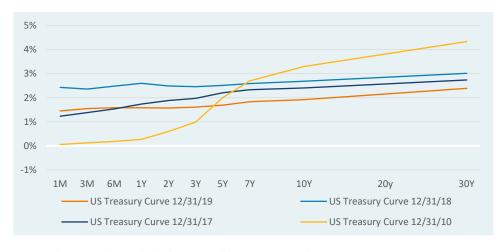
Area	Short Term (3M)	10-Year
United States	1.54%	1.92%
Germany	(0.78%)	(0.19%)
France	(0.65%)	0.12%
Spain	(0.61%)	0.47%
Italy	(0.34%)	1.41%
Greece	0.26%	1.47%
U.K.	0.69%	0.82%
Japan	(0.10%)	(0.01%)
Australia	0.94%	1.37%
China	2.43%	3.14%
Brazil	4.30%	6.79%
Russia	4.95%	6.36%

Source: Bloomberg, as of 12/31/19

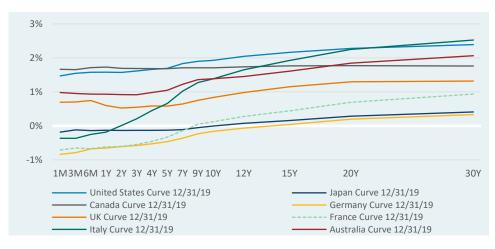


Yield environment

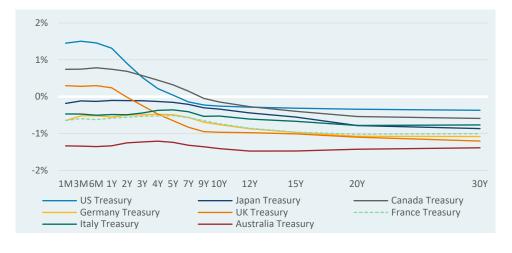
U.S. YIELD CURVE



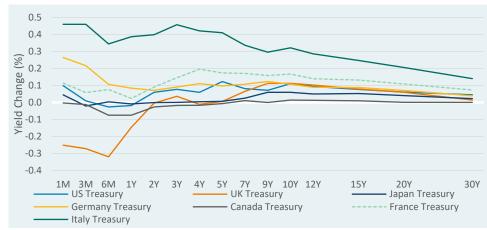
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 12/31/19



Credit environment

Credit enjoyed a positive 2019 driven by tightening spreads. Both investment grade and below-investment grade assets remained somewhat stable over the period. In high yield, CCCs and energy-related bonds were the best performers during Q4. High yield spreads tightened meaningfully over the year and the quarter (190 bps and 37 bps, respectively). Investment grade bonds also enjoyed positive performance fueled by this year's rate rally, attractive profit margins, and continued demand from investors for higher quality credit.

In the fourth quarter, high yield bonds have returned +3.4%, materially outperforming bank loans (+1.7%) and investment grade credit (+1.1%). In 2019, high yield bonds have returned +14.4%, materially outperforming bank loans (+8.6%) and slightly

outperforming investment grade credit (+13.8%). Bank loans have experienced outflows for much of the year driven by lessening demand for the asset class.

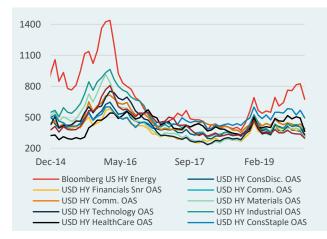
Based on concerns over late-cycle behavior in credit markets, we do not believe investors are being adequately compensated for credit risk. Late-cycle volatility tends to coincide with widening credit spreads and higher propensity for default activity. An underweight to U.S. investment grade, high yield credit, and bank loans may be warranted, with an overweight to emerging market debt which appears to offer more attractive value. This positioning should result in an overall neutral credit risk stance. Within U.S. markets, higher quality and more liquid assets appear most attractive.

SPREADS

20% 15% 10% 5% 0% Jun-01 Jun-05 Jun-09 Jun-13 Jun-17 Barclays Long US Corp. Barclays US Agg. Barclays US HY IG Energy

Source: Barclays, Bloomberg, as of 12/31/19

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 12/31/19

	Credit Spread (OAS)		
Market	12/31/19	12/31/18	
Long U.S. Corp	1.4%	2.0%	
U.S. Inv Grade Corp	0.9%	1.5%	
U.S. High Yield	3.4%	5.3%	
U.S. Bank Loans*	4.4%	5.1%	

Source: Barclays, Credit Suisse, Bloomberg, as of 12/31/19
*Discount margin (4-year life)

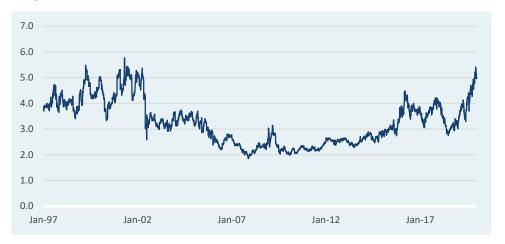


High yield – what's in it?

The high yield market rallied in 2019 to provide double digit positive returns for only the fourth time since the 2008-2009 global financial crisis. However, the market was characterized by significant divergences as investors rotated into upper-tier credits relative to lower-tier credits due to volatility and geopolitical uncertainty picking up during the year. This was evidenced by the ratio of CCC/BB credit spread levels, which climbed to levels last seen two decades ago. Investors generally see CCC credits as a proxy for less liquid and/or more complex situations and risks, especially relative to the BB segment.

The distressed market was negatively impacted by investor distaste for less liquid risk during the year. This was particularly true in the energy sector, and in certain retail and healthcare industries. Selling pressures peaked in November as the riskiest segment of the high yield market suffered losses in excess of those experienced during the 2018 year-end drawdown. Market participants pulled money from the space, which resulted in significant redemptions amongst distressed-focused hedge funds and even closures of hedge funds that had previously successfully navigated the global financial crisis.

CCC/BB SPREAD RATIO



HIGH YIELD VS. HIGH YIELD DISTRESSED (INDEXED 12/31/2018=100)



Source: Standard & Poor's, J.P. Morgan, Wall Street Journal, as of 12/31/19



Default & issuance

Default activity for 2019 was slightly higher than 2018 by roughly 0.8%. This was mainly due to elevated defaults in commodity-related industries such as energy and metals/mining. The par-weighted default rate for high yield ended the year at 2.6% and remained below its long-term average range of 3.0-3.5%.

For loans, the par-weighted default rate for 2019 was 1.6% and remained below the long-term average of 3.1%, according to data from J.P. Morgan. Notably, defaults in commodity-related sectors accounted for essentially half of the year's default/distressed activity.

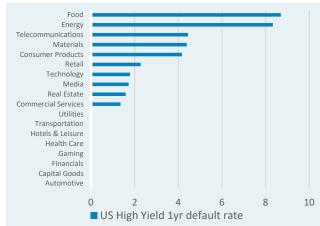
Gross high yield issue activity for 2019 was \$287 billion which was up 52% from a year ago. Loan market issuance is significantly behind last year's pace, likely influenced by lower demand for floating rate securities now that the Federal Reserve has paused monetary tightening. Gross loan issuance is essentially down 44% from a year ago although there was an increase in issuance at the end of December.

HY DEFAULT RATE (ROLLING 1-YEAR)



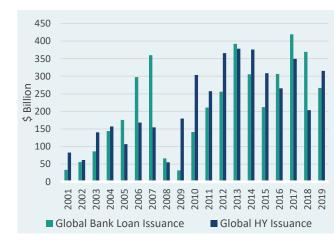
Source: BofA Merrill Lynch, as of 12/31/19

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



Source: BofA Merrill Lynch, as of 12/31/19 – par weighted

GLOBAL ISSUANCE (\$ BILLIONS)



Source: Bloomberg, BofA Merrill Lynch, as of 12/31/19



Equity



Equity environment

- Global equity markets exhibited strong performance through Q4, and U.S. equity performance was in-line (MSCI ACWI +9.0%, S&P 500 +9.1%). Emerging markets were the top performing asset class (+11.8%).
- Global currency volatility has been muted over the last few years, which has made ignoring currency exposure less consequential.
 Expecting low currency volatility to persist may be an assumption that gets investors into trouble.
- Unhedged U.S. investors in U.K. equities outperformed their hedged peers by 7.8% in Q4, as a stronger pound sterling dominated the U.K. equity return narrative.
- Based on price-to-forward earnings ratios international equity valuations appear elevated, but unlike in the U.S., they do not yet appear stretched.

- The outlook for monetary policy remains supportive of global equity price movement in 2020. Of the five major global central banks (Federal Reserve, European Central Bank, Bank of England, Bank of Japan, People's Bank of China), four out of five are providing accommodation through their respective balance sheets. Futures imply better than 50/50 odds that the Bank of England cuts its main rate 0.25% at the end of January and China has continued to cut its benchmark lending rate.
- Inflation remains muted in emerging economies, and most economies are experiencing CPI below the 5-year average. Central bank policy has remained accommodative in many major countries within the universe such as China, South Korea, Brazil, and South Africa. This accommodation could provide a boost for equity market pricing as we move further into 2020.

	QTD TOTA	L RETURN	1 YEAR TOT	AL RETURN
	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (S&P 500)	9.1%		31.5%	
US Small Cap (Russell 2000)	9.9	9%	25.	5%
US Large Value (Russell 1000 Value)	7.4	.%	26.	5%
US Large Growth (Russell 1000 Growth)	10.6%		36.4%	
International Large (MSCI EAFE)	8.2%	5.8%	22.0%	24.6%
Eurozone (Euro Stoxx 50)	8.3%	5.9%	25.9%	32.1%
U.K. (FTSE 100)	10.8%	3.0%	22.1%	19.5%
Japan (NIKKEI 225)	8.2%	9.6%	21.9%	23.5%
Emerging Markets (MSCI Emerging Markets)	11.8%	9.5%	18.4%	17.7%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 12/31/19



A different look at 2019 performance



Most of the high returns of 2019 were due to markets recovering from the 2018 drop

Adjusting for this effect shows us that 2019 was a fairly average year

Source: Standard & Poor's, MSCI, Verus, as of 12/31/19 – "Drawdown" defined as the total market fall in 2018, "Rebound" defined as the total % return from the low point of the fall to the end of 2019. "Net Change" defined as the % market return from the 2018 high point to the end of 2019.



Domestic equity

U.S. equities outpaced international in the third guarter (S&P 500 +9.1%, MSCI EAFE +8.2%) as domestic markets continued to lead.

Falling interest rates in 2019 have supported stock prices, as fixed income becomes less attractive on a relative basis, and cheaper borrowing should bolster future corporate earnings. As the dividend yield of U.S. stocks is once again higher than U.S. Treasury yields, investors may feel pressure to maintain greater exposure to equities in order to meet return objectives.

The S&P 500 delivered a 31.5% total return in calendar year

2019, while underlying corporate profits are expected to be flat at +0.3%. This of course means that performance has been driven by higher stock multiples rather than fundamentals. It is worth noting that a significant portion of 2019 performance was a recovery from the late-2018 sell-off of nearly -20%.

U.S. markets may continue to outperform over the shorterterm due to relative economic and market strength, and prices may certainly rise further. But history suggests that a widening gap between U.S. and international stock valuations will constrain U.S. performance over the longer-term.

U.S. EQUITIES



EARNINGS



Source: FactSet, as of 12/20/19

RELATIVE YIELDS



Source: Standard & Poor's, as of 11/30/19



Source: Standard & Poor's, as of 12/31/19

Domestic equity size & style

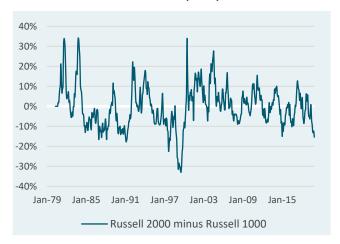
Value stocks lagged growth stocks during the fourth quarter (Russell 1000 Growth +10.6%, Russell 1000 Value +7.4%) while small cap stocks outperformed large stocks (Russell 2000 +9.9%, Russell 1000 +9.0%). During calendar year 2019, both size and value factors significantly underperformed (Russell 1000 +31.4%, Russell 2000 +25.5%; Russell 3000 Growth +35.8%, Russell 3000 Value +26.2%).

The impact of sector performance on the value premium was significant, once again, in 2019. Information Technology delivered very high returns (+50.3%) – a sector which tends to contains more growth stocks. Energy (+11.8%) and Materials (+24.6%) – industries which traditionally contain more value stocks – lagged

the overall index (S&P 500 +31.5%).

In mid-2016 we argued that there were clear and economic reasons for long-term value factor underperformance, and that a tactical overweight to the value factor did not appear warranted. This view has continued to be correct, as those who bought into value anytime of the past three years would have underperformed. While value continues to be historically cheap, price itself is not a catalyst for outperformance. We remain watchful of value stocks, but do not yet see clear signs of opportunity. As always, attempting to time factors is extremely difficult. We believe this should be done only rarely, if at all, and only when market conditions are particularly compelling.

SMALL CAP VS LARGE CAP (YOY)

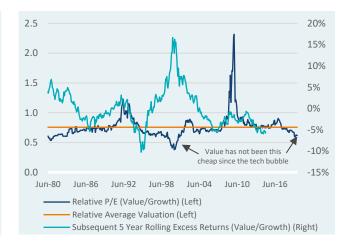


VALUE VS GROWTH (YOY)



Source: FTSE, as of 12/31/19

VALUE CONTINUES TO LOOK CHEAP



Source: Russell, Bloomberg, as of 12/31/19



Source: FTSE, as of 12/31/19

International developed equity

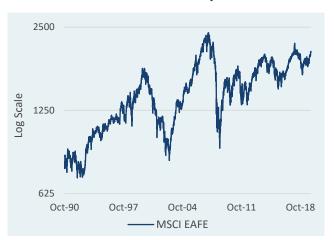
Equities in Europe and Japan posted strong performance for the quarter but failed to keep up with stocks in the U.S. and emerging markets. The U.S. dollar appreciated slightly against the yen, providing headwinds (-1.4%) for unhedged U.S. investors in Japanese stocks. Conversely, a slightly weaker U.S. dollar against the euro put some additional wind in the sails (+2.4%) of U.S. investors in European equities.

When investing in international equities, the "which currency should my assets be denominated?" question has been nearly equally as important as the "what assets should I hold?" question. Over the last three years however, global

currency volatility has been muted, which has made it much easier for investors to avoid thinking about their various currency exposures. Verus' view remains that currency risk is not compensated, and that it tends to result in increased risk without necessarily adding to return.

International equity valuations remain elevated, but unlike in the U.S., they do not yet appear stretched. Forward price-to-earnings ratios for the MSCI U.K. and Italy indices rank in the 59th and 52nd percentiles respectively, relative to the monthly expansion average. Valuations are a bit richer in the rest of the EAFE complex, but they may still have room to run.

INTERNATIONAL DEVELOPED EQUITIES



EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 12/31/19

BLENDED FORWARD 12-MONTH P/E RATIOS



Source: MSCI, Bloomberg, as of 12/31/19



Source: MSCI, as of 12/31/19

Emerging market equity

Emerging market equities (+11.8%) outperformed both U.S. (+9.1%) and international developed equities (+8.2%) over the quarter, but still lagged over the full calendar year. In 2019, emerging market equities delivered a total return of 18.4%, and trailed the total return of international developed equities by 3.6%. Regionally, the Asian segment (+12.5%) of the emerging market complex performed better than the Latin American (+10.5%) segment in both Q4 and in 2019.

Emerging market equities saw multiple expansion in Q4: the forward P/E of the MSCI EM Index expanded from a level in

line with the 5-year average to a bit higher than average levels. We do not yet view pricing in this space as rich and see there being more room for multiple expansion.

Inflation remains muted in emerging economies, and most economies are experiencing CPI below the 5-year average. Central bank policy has remained accommodative in many major countries within the universe such as China, South Korea, Brazil, and South Africa. This accommodation could provide a boost for equity market pricing as we move further into 2020.

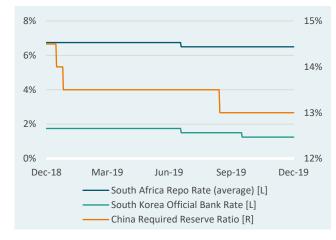
EMERGING MARKET EQUITY



FORWARD P/E



CENTRAL BANK ACCOMODATION



Source: MSCI, as of 12/31/19 Source: MSCI, as of 12/31/19



Source: MSCI, as of 12/31/19

Equity earnings growth



Source: Bloomberg, as of 12/31/19



Equity valuations

Equity valuations expanded materially in 2019 as prices recovered from their year-end 2018 fall and then continued climbing through the fourth quarter. U.S. equities are expensive relative to their long-run average and prices may become more difficult to justify in an environment of flat earnings growth. International and emerging equity valuations are near average levels. We remain watchful of earnings trends in 2020, which may have important implications for the future path of equities.

In the United States, stocks within the Information Technology

(22.7x) and Communication Services (19.5x) sectors have retained forward P/E ratios elevated well above their respective 5- and 10-year averages. Last year, growing concerns over data privacy, support for anti-trust regulation, and several idiosyncratic scandals weighed on the tech sector. Over the course of this election year, we expect the issue of mega-cap tech regulation to remain beneath the microscope.

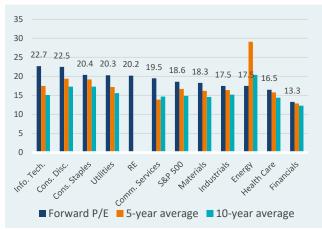
Compared to U.S. and EM equities, international developed equities offer the greatest yield at present, offering a three-month average trailing dividend yield of 3.4%.

FORWARD P/E RATIOS



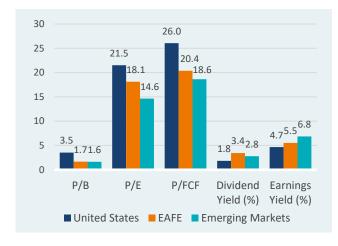
Source: MSCI, 12m forward P/E, as of 12/31/19

S&P 500 INDEX FORWARD SECTOR P/E RATIOS



Source: Standard & Poor's, FactSet, as of 1/17/20

VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI as of 12/31/19 - trailing P/E



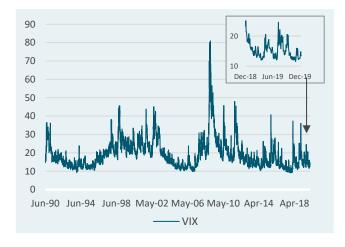
Equity volatility

The implied volatility of large-cap U.S. stocks returned to a subdued level. The CBOE VIX Index, which calculates the market's expectation for volatility implied by S&P 500 Index options, declined from 16.2 to 13.8, a reading which lies in the 15th percentile of weekly readings over the last thirty years. Net non-commercial short VIX positioning reached new all-time-highs in the 4th quarter, meaning that many people are betting on volatility to remain low and push lower. Some investors view this assumption as concerning, and as a signal that the market may be ready for a correction.

U.S. large-cap and emerging market stocks have experienced a higher degree of volatility than international developed stocks over the last several years. Some of the divergence may be attributable to the impacts of the ever-changing U.S.-China trade narrative which has held the full attention of market participants for much of the prior two years.

The MSCI EM Index touched new all-time highs in April and did not eclipse that level for another 174 days. In 2019, the S&P 500 and MSCI EAFE indices spent a maximum of 65 and 82 trading days between fresh all-time highs, respectively.

U.S. IMPLIED VOLATILITY (VIX)



Source: Standard & Poor's, MSCI, Bloomberg, as of 12/31/19

ROLLING 1-YEAR REALIZED VOLATILITY



2019 MAX DRAWDOWNS FROM PREVIOUS ALL-TIME-HIGH INDEX LEVELS

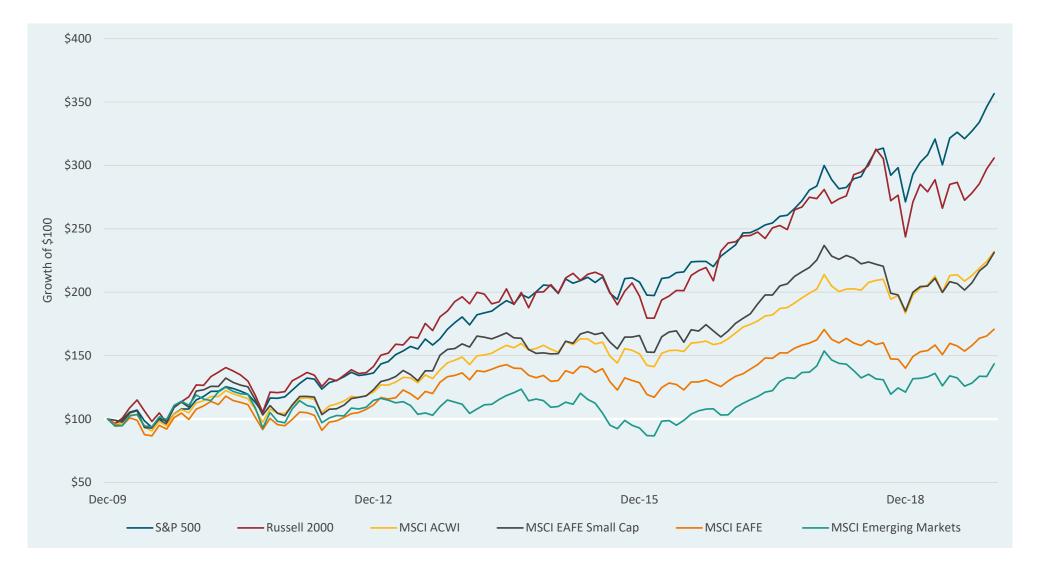


Source: Standard & Poor's, MSCI, Bloomberg, as of 12/31/19



Source: CBOE, as of 12/31/19

Long-term equity performance



Source: Standard & Poor's, Russell, MSCI, Bloomberg, as of 12/31/19



Other assets



Currency

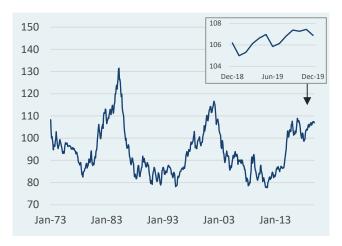
The U.S. dollar weakened versus both developed and emerging market currency baskets in the 4th quarter, fading some of the strong relative performance it had experienced back in Q3 2019. An index tracking the weighted average of the foreign exchange value of the U.S. dollar against major currencies fell 0.5%.

J.P. Morgan's Emerging Market Currency Index fell -1.4% in 2019. Many analysts have argued that global disinflationary pressures have eased some long-standing concerns over the risk of capital flight within the emerging market complex. So

long as inflationary risks are muted, then higher nominal interest rates in the emerging market complex should afford emerging market central bankers' further room to cut rates than their developed market peers. If implemented, the relative accommodation supplied may fuel both growth and currency depreciation.

The British pound sterling bounced back sharply in Q4, rising from \$1.23 to \$1.33. Prime Minister Boris Johnson's Conservative Party secured a firm majority in Parliament, lifting the shroud of "Brexit" from the geopolitical landscape.

U.S. DOLLAR TRADE WEIGHTED INDEX



Source: Federal Reserve, Verus, as of 12/31/19

JP MORGAN EMCI CONSTITUENT 2019 RETURNS



Source: J.P. Morgan, Bloomberg, as of 12/31/19

GBP/USD



Source: Bloomberg, as of 12/31/19



Appendix



Periodic table of returns

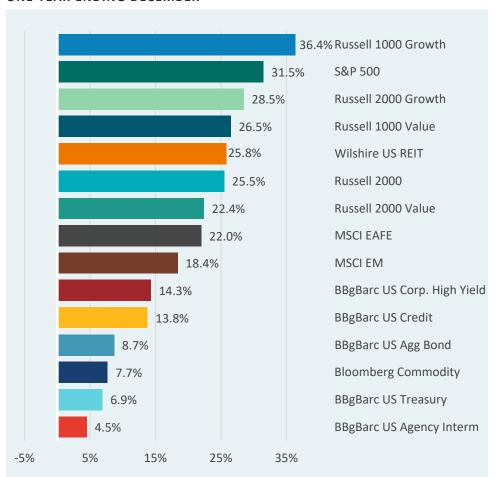
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5-Year	10-Year
Large Cap Growth	38.7	66.4	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	14.6	15.2
Large Cap Equity	27.0	43.1	22.8	8.4	10.3	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	11.5	13.5
Small Cap Growth	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	9.3	13.0
Large Cap Value	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	8.6	11.8
Small Cap Equity	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	8.3	11.8
Small Cap Value	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	8.2	10.6
International Equity	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	7.0	9.8
60/40 Global Portfolio	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	6.1	6.4
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	5.7	5.5
US Bonds	-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	5.6	3.7
Hedge Funds of Funds	-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	3.0	3.7
Commodities	-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	2.2	2.8
Real Estate	-25.3	-0.8	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	4.8	1.1	0.6
Cash	-27.0	-1.5	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	2.1	-3.9	-4.7
			Large	Cap Equ	iity				Small C	ap Grov	vth				ommod									
			Large	Cap Val	ue			ı	nterna	tional E	quity			Re	eal Esta	te								
			Large	Cap Gro	wth				Emergir	ng Mark	ets Equ	ity		Н	edge Fu	nds of I	Funds							
			Small	Cap Equ	ity			l l	JS Bond	ds				60	0% MSC	I ACWI/	′40% BB	gBarc G	Global B	ond				
			Small	Cap Val	ue				Cash															

Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 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 9/30/19.

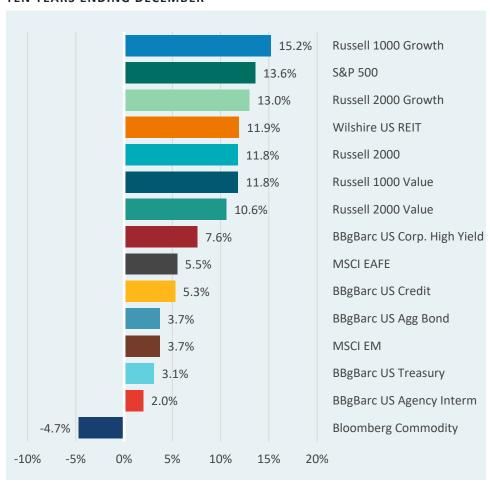


Major asset class returns

ONE YEAR ENDING DECEMBER



TEN YEARS ENDING DECEMBER



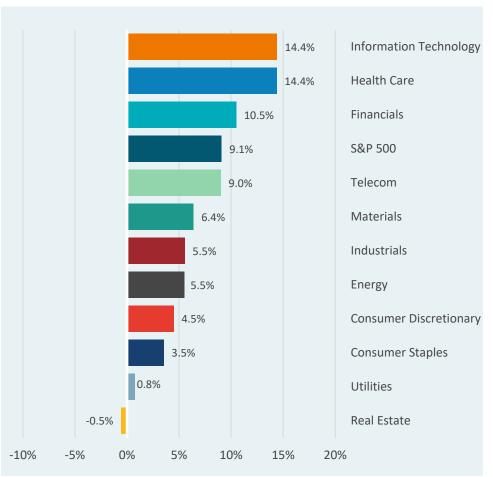
Source: Morningstar, as of 12/31/19

Source: Morningstar, as of 12/31/19

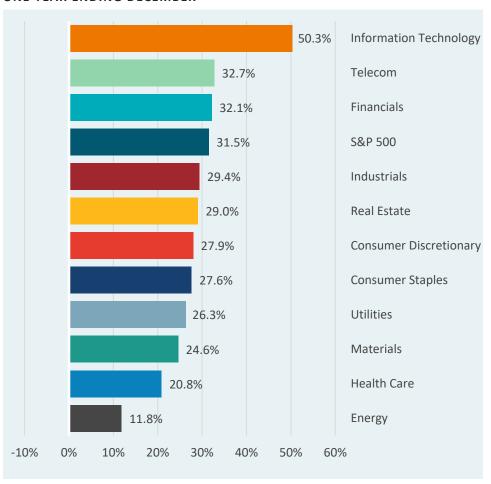


S&P 500 sector returns

Q4 2019



ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/19

Source: Morningstar, as of 12/31/19



Detailed index returns

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	3.0	9.1	31.5	31.5	15.3	11.7	13.6
S&P 500 Equal Weighted	2.8	7.6	29.2	29.2	12.4	9.8	13.5
DJ Industrial Average	1.9	6.7	25.3	25.3	15.7	12.6	13.4
Russell Top 200	3.1	9.8	31.8	31.8	16.2	12.3	13.7
Russell 1000	2.9	9.0	31.4	31.4	15.0	11.5	13.5
Russell 2000	2.9	9.9	25.5	25.5	8.6	8.2	11.8
Russell 3000	2.9	9.1	31.0	31.0	14.6	11.2	13.4
Russell Mid Cap	2.3	7.1	30.5	30.5	12.1	9.3	13.2
Style Index							

10.6

7.4

3.0

2.8

36.4

26.5

28.5

22.4

36.4

26.5

28.5

22.4

20.5

9.7

12.5

4.8

14.6

8.3

9.3

7.0

15.2

11.8

13.0

10.6

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
BBgBarc US TIPS	0.4	0.8	8.4	8.4	3.3	2.6	3.4
BBgBarc US Treasury Bills	0.1	0.5	2.3	2.3	1.7	1.1	0.6
BBgBarc US Agg Bond	(0.1)	0.2	8.7	8.7	4.0	3.0	3.7
Duration							
BBgBarc US Treasury 1-3 Yr	0.2	0.5	3.6	3.6	1.9	1.4	1.2
BBgBarc US Treasury Long	(2.8)	(4.1)	14.8	14.8	6.9	4.1	7.0
BBgBarc US Treasury	(0.6)	(8.0)	6.9	6.9	3.3	2.4	3.1
Issuer							
BBgBarc US MBS	0.3	0.7	6.4	6.4	3.2	2.6	3.2
BBgBarc US Corp. High Yield	2.0	2.6	14.3	14.3	6.4	6.1	7.6
BBgBarc US Agency Interm	0.1	0.3	4.5	4.5	2.4	1.9	2.0
BBgBarc US Credit	0.3	1.1	13.8	13.8	5.8	4.4	5.3

INTERNATIONAL EQUITY							
Broad Index							
MSCI ACWI	3.5	9.0	26.6	26.6	12.4	8.4	8.8
MSCI ACWI ex US	4.3	8.9	21.5	21.5	9.9	5.5	5.0
MSCI EAFE	3.2	8.2	22.0	22.0	9.6	5.7	5.5
MSCI EM	7.5	11.8	18.4	18.4	11.6	5.6	3.7
MSCI EAFE Small Cap	4.4	11.5	25.0	25.0	10.9	8.9	8.7
Style Index							
MSCI EAFE Growth	2.9	8.4	27.9	27.9	12.8	7.7	6.9
MSCI EAFE Value	3.7	7.8	16.1	16.1	6.3	3.5	4.0
Regional Index							
MSCI UK	5.2	10.0	21.0	21.0	8.3	3.3	5.0
MSCI Japan	2.1	7.6	19.6	19.6	8.9	7.7	6.6
MSCI Euro	2.9	7.9	22.9	22.9	9.1	5.1	3.7
MSCI EM Asia	7.1	12.5	19.2	19.2	12.9	6.6	5.8
MSCI EM Latin American	10.3	10.5	17.5	17.5	10.7	4.2	(0.6)

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U	Ш	н	E	к

OTHER							
Index							
Bloomberg Commodity	5.0	4.4	7.7	7.7	(0.9)	(3.9)	(4.7)
Wilshire US REIT	(0.7)	(1.1)	25.8	25.8	7.6	6.9	11.9
CS Leveraged Loans	1.6	1.7	8.2	8.2	4.5	4.5	5.2
Alerian MLP	8.9	(4.6)	6.7	6.7	(5.0)	(7.0)	4.8
Regional Index							
JPM EMBI Global Div	2.0	1.8	15.0	15.0	6.7	6.2	6.9
JPM GBI-EM Global Div	4.1	5.2	13.5	13.5	7.0	2.8	2.7
Hedge Funds							
HFRI Composite	1.8	3.5	10.4	10.4	4.5	3.5	4.0
HFRI FOF Composite	1.3	2.5	7.8	7.8	3.7	2.2	2.8
Currency (Spot)							
Euro	1.8	3.0	(1.8)	(1.8)	2.1	(1.5)	(2.4)
Pound	2.4	7.5	4.0	4.0	2.3	(3.2)	(2.0)
Yen	0.8	(0.6)	1.0	1.0	2.4	2.0	(1.5)

Source: Morningstar, HFR, as of 12/31/19



DOMESTIC EQUITY

Russell 1000 Growth

Russell 2000 Growth

Russell 2000 Value

Russell 1000 Value

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. (https://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.

Notices & disclosures

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Tulare County Employees' Retirement Association

Investment Performance Review

Period Ending: December 31, 2019



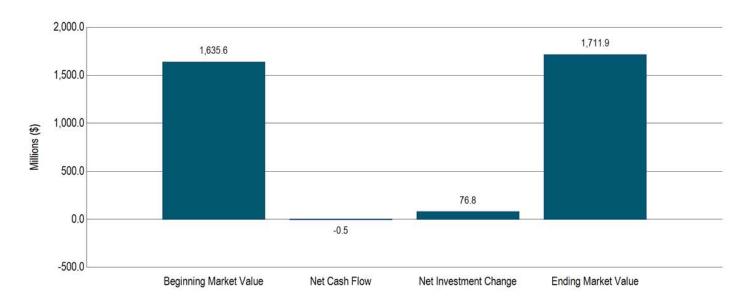
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Beginning Market Value	\$1,634,058,305
Net Cash Flow	-\$7,074,507
Net Investment Change	\$84,931,068
Ending Market Value	\$1,711,914,866

Change in Market Value Last Three Months



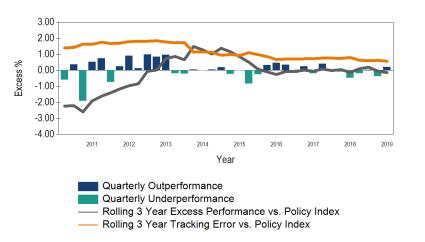
Contributions and withdrawals may include intra-account transfers between managers/funds.



	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	20 Yrs
Total Fund	4.7	5.3	15.7	8.8	6.5	7.6	6.1	5.9
Policy Index	4.5	5.5	16.1	8.9	6.7	7.7	6.4	5.9
InvMetrics Public DB Gross Rank	75	83	87	69	75	72	75	51
Total Fund x Parametric	4.6	5.1	15.4	8.7	6.4			
Policy Index	4.5	5.5	16.1	8.9	6.7			
InvMetrics Public DB Gross Rank	81	84	92	73	79			
Total Domestic Equity	8.4	9.7	30.3	14.8	11.4	13.7	9.5	8.0
Russell 3000	9.1	10.4	31.0	14.6	11.2	13.4	9.0	6.4
InvMetrics Public DB US Eq Gross Rank	49	32	40	18	21	17	15	14
Total International Equity	8.1	6.1	23.2	10.3	6.0	4.9	4.6	3.5
MSCI ACWI ex USA Gross	9.0	7.1	22.1	10.4	6.0	5.4	5.7	4.3
InvMetrics Public DB ex-US Eq Gross Rank	90	87	44	48	53	92	85	97
Total Global Equity	9.2	9.4	25.2	12.4	7.8	-	-	
MSCI ACWI Gross	9.1	9.2	27.3	13.0	9.0			
InvMetrics Public DB Glbl Eq Gross Rank	24	24	44	54	67			
Total Fixed Income	1.2	2.5	8.4	4.3	3.5	4.7	4.7	5.5
BBgBarc US Aggregate TR	0.2	2.5	8.7	4.0	3.0	3.7	4.2	5.0
InvMetrics Public DB US Fix Inc Gross Rank	9	27	35	30	28	28	39	41
Total Domestic Fixed Income	0.4	2.7	9.3	4.5	3.7	-		
BBgBarc US Aggregate TR	0.2	2.5	8.7	4.0	3.0			
Total Global Fixed Income	1.3	-1.9	1.3	2.2	2.0			
JPM GBI Global TR USD	-0.5	0.6	6.0	4.0	2.2			



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



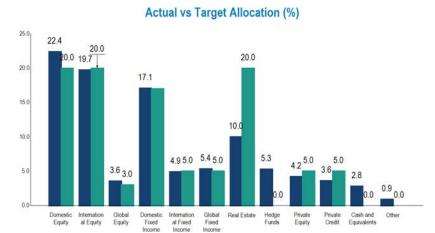
New Policy Index as of 10/1/2019: 20% Russell 3000, 20% MSCI ACWI ex US, 3% MSCI ACWI, 17% BBgBarc US Aggregate, 5% JPM GBI Global, 5% (50% JPM EMBI Global Div/50% JPM GBI EM Global Div/), 20% NCREIF-ODCE, 5% Private Equity Returns, 5% Private Credit Returns. All return periods greater than 1-year are 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.



2

Executive Summary (Gross of Fees)

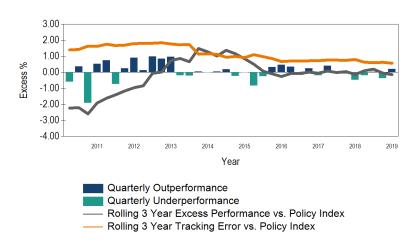
	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	20 Yrs
Total Emerging Markets Fixed Income	4.2	5.2						
50% JPM EMBI Global Div/50% JPM GBI EM Global Div	3.5	3.9						
Total Real Assets	1.4	2.1	6.0	4.2	4.6		-	
Real Assets Composite Benchmark	2.5	2.9	6.9	4.2	4.2			
Total Real Estate	1.4	2.9	5.2	6.1	8.6	9.1	7.4	8.3
NCREIF-ODCE	1.5	2.8	5.3	7.1	9.0	11.4	7.7	8.2
NCREIF Property Index	1.6	3.0	6.4	6.7	8.2	10.2	8.3	8.7
Total Private Equity	2.4	6.4	14.8	14.9	11.6	13.9		
Total Private Credit	1.6	4.6	7.8	8.2				
Total Liquid Alts/HFoF	3.5	2.5	8.2	4.8	3.1			
ICE BofAML 90 DAY T-BILLS + 400 bps	1.2	2.5	5.3	4.7	4.1			
Total Opportunistic	1.6	1.1	-10.9	7.1	7.0	-		





Policy

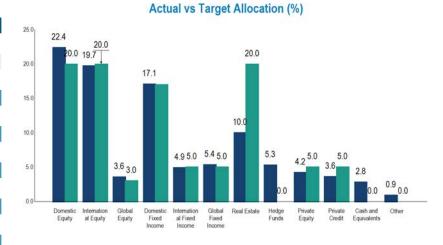
Actual



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.

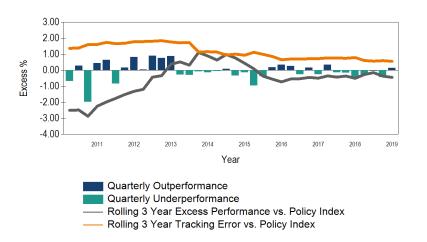


	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	20 Yrs
Total Fund	4.7	5.1	15.4	8.5	6.1	7.2	5.7	5.5
Policy Index	4.5	5.5	16.1	8.9	6.7	7.7	6.4	5.9
Total Fund x Parametric	4.5	5.0	15.1	8.4	6.1			
Policy Index	4.5	5.5	16.1	8.9	6.7			
Total Domestic Equity	8.2	9.4	29.8	14.4	11.0	13.2	9.0	7.6
Russell 3000	9.1	10.4	31.0	14.6	11.2	13.4	9.0	6.4
Total International Equity	8.0	5.9	22.7	9.9	5.7	4.6	4.2	3.1
MSCI ACWI ex USA Gross	9.0	7.1	22.1	10.4	6.0	5.4	5.7	4.3
Total Global Equity	9.0	8.9	24.2	11.5	6.9			
MSCI ACWI Gross	9.1	9.2	27.3	13.0	9.0			
Total Fixed Income	1.2	2.4	8.1	4.0	3.2	4.4	4.5	5.2
BBgBarc US Aggregate TR	0.2	2.5	8.7	4.0	3.0	3.7	4.2	5.0
Total Domestic Fixed Income	0.3	2.5	9.0	4.2	3.4	-	-	
BBgBarc US Aggregate TR	0.2	2.5	8.7	4.0	3.0			
Total Global Fixed Income	1.1	-2.1	0.9	1.7	1.5			
JPM GBI Global TR USD	-0.5	0.6	6.0	4.0	2.2			
Total Emerging Markets Fixed Income	4.1	5.2	-	-		-	-	
50% JPM EMBI Global Div/50% JPM GBI EM Global Div	3.5	3.9						
Total Real Assets	1.4	2.1	6.0	4.2	4.3			
Real Assets Composite Benchmark	2.5	2.9	6.9	4.2	4.2			
Total Real Estate	1.4	2.9	5.2	6.1	8.2	8.8	6.7	7.5
NCREIF-ODCE	1.5	2.8	5.3	7.1	9.0	11.4	7.7	8.2
NCREIF Property Index	1.6	3.0	6.4	6.7	8.2	10.2	8.3	8.7



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

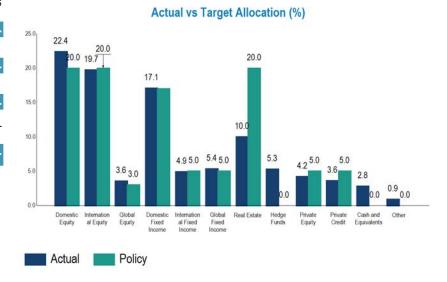
Policy



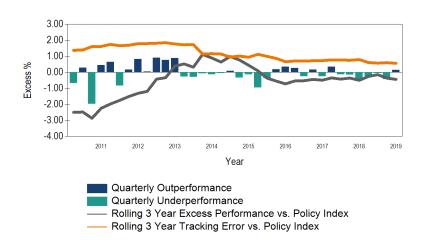
New Policy Index as of 10/1/2019: 20% Russell 3000, 20% MSCI ACWI ex US, 3% MSCI ACWI, 17% BBgBarc US Aggregate, 5% JPM GBI Global, 5% (50% JPM EMBI Global Div/50% JPM GBI EM Global Div), 20% NCREIF-ODCE, 5% Private Equity Returns, 5% Private Credit Returns. All return periods greater than 1-year are 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.



	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	20 Yrs
Total Private Equity	2.4	6.4	14.8	14.9	11.0	13.5		
Total Private Credit	1.6	4.6	7.8	8.2	-			
Total Liquid Alts/HFoF	3.5	2.5	8.2	4.8	2.7			
ICE BofAML 90 DAY T-BILLS + 400 bps	1.2	2.5	5.3	4.7	4.1			
Total Opportunistic	1.6	1.1	-10.9	7.1	6.3			



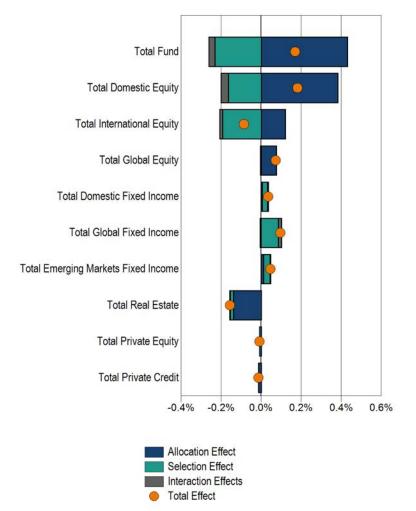
Rolling Annualized Excess Performance and Tracking Error Total Fund vs. Policy Index



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.



Attribution Effects 3 Months Ending December 31, 2019



Performance Attribution

	Last 3 Mo.
Wtd. Actual Return	4.7%
Wtd. Index Return *	4.5%
Excess Return	0.2%
Selection Effect	-0.2%
Allocation Effect	0.4%
Interaction Effect	0.0%

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

Attribution Summary 3 Months Ending December 31, 2019

	Wtd. W Actual Return	Vtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Domestic Equity	8.2%	9.1%	-0.8%	-0.2%	0.4%	0.0%	0.2%
Total International Equity	8.0%	9.0%	-1.0%	-0.2%	0.1%	0.0%	-0.1%
Total Global Equity	9.0%	9.1%	-0.1%	0.0%	0.1%	0.0%	0.1%
Total Domestic Fixed Income	0.3%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%
Total Global Fixed Income	1.1%	-0.5%	1.7%	0.1%	0.0%	0.0%	0.1%
Total Emerging Markets Fixed Income	4.1%	3.5%	0.6%	0.0%	0.0%	0.0%	0.0%
Total Real Estate	1.4%	1.5%	-0.1%	0.0%	-0.1%	0.0%	-0.2%
Total Private Equity	2.4%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Private Credit	1.6%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	4.7%	4.5%	0.2%	-0.2%	0.4%	0.0%	0.2%

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.

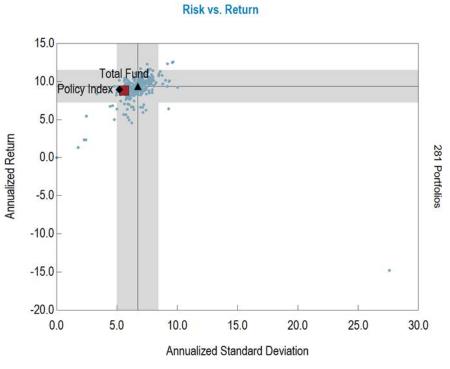


Total Fund

Risk Analysis - 3 Years (Gross of Fees)

Period Ending: December 31,	2019
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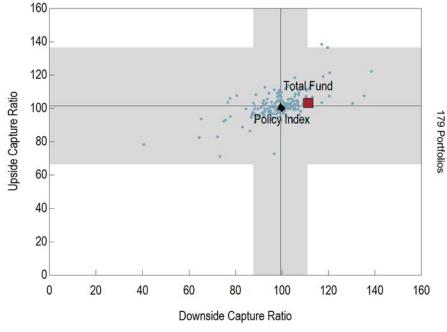
	Anlzd Ret	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Total Fund	8.80%	5.58%	-0.70%	1.06	0.85%	0.98	1.28	-0.18	103.22%	111.28%





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



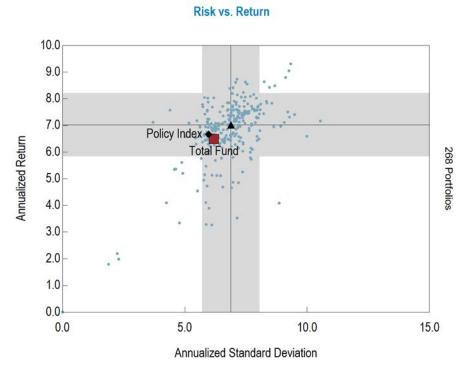


Up Markets vs. Down Markets

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



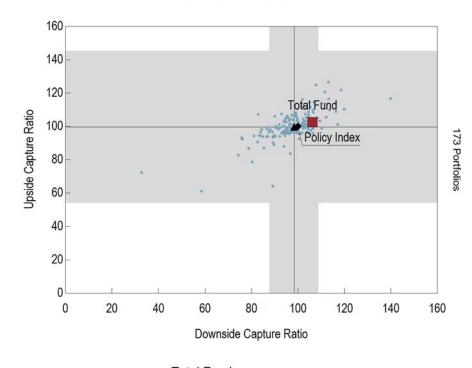
	Anlzd Ret	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Total Fund	6.49%	6.18%	-0.34%	1.03	0.78%	0.98	0.88	-0.22	102.41%	106.21%





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

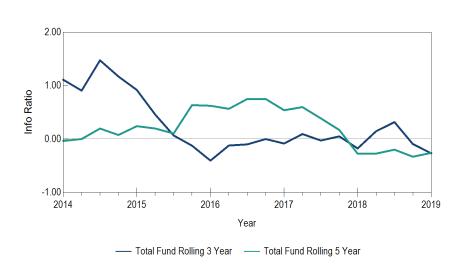
Up Markets vs. Down Markets



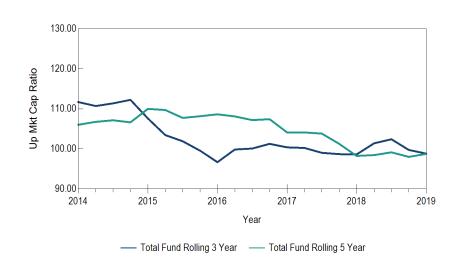
- Total Fund
- Policy Index
- Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross



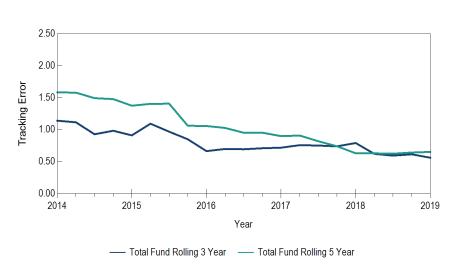
Rolling Information Ratio



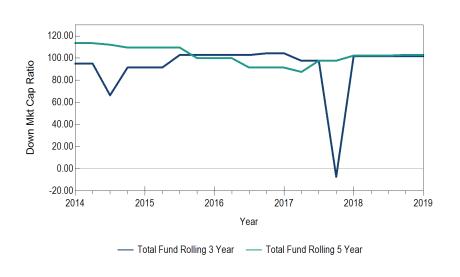
Rolling Up Market Capture Ratio (%)



Rolling Tracking Error



Rolling Down Market Capture Ratio (%)





	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Fund	1,711,914,866	100.0	4.7	5.3	15.7	8.8	6.5	7.6	15.7	-2.6	14.3	7.6	-1.2
Policy Index			4.5	5.5	16.1	8.9	6.7	7.7	16.1	-2.4	14.0	8.0	-1.1
InvMetrics Public DB Gross Rank			75	83	87	69	75	72	87	15	71	53	80
Total Fund x Parametric	1,700,202,695	99.3	4.6	5.1	15.4	8.7	6.4		15.4	-2.6	14.2	7.6	-1.1
Policy Index			4.5	5.5	16.1	8.9	6.7		16.1	-2.4	14.0	8.0	-1.1
InvMetrics Public DB Gross Rank			81	84	92	73	79		92	15	72	53	80
Total Domestic Equity	383,869,607	22.4	8.4	9.7	30.3	14.8	11.4	13.7	30.3	-5.0	22.3	11.5	1.6
Russell 3000			9.1	10.4	31.0	14.6	11.2	13.4	31.0	-5.2	21.1	12.7	0.5
InvMetrics Public DB US Eq Gross Rank			49	32	40	18	21	17	40	29	16	77	10
SSGA S&P 500 Flagship Fund	74,187,051	4.3	9.1	10.9	31.5	15.3	11.7		31.5	-4.4	21.9	12.0	1.5
S&P 500			9.1	10.9	31.5	15.3	11.7		31.5	-4.4	21.8	12.0	1.4
eV US Large Cap Core Equity Gross Rank			34	29	31	36	30		31	40	52	31	40
QMA Large Cap Core	69,419,023	4.1	9.4	10.2	29.0	13.9	11.2	13.9	29.0	-6.5	22.5	12.5	2.1
S&P 500			9.1	10.9	31.5	15.3	11.7	13.6	31.5	-4.4	21.8	12.0	1.4
eV US Large Cap Core Equity Gross Rank			25	45	57	59	43	26	57	70	42	25	31
Ivy Large Cap Growth	79,028,346	4.6	8.2	10.6	37.3	22.6	15.2		37.3	3.2	30.2	2.1	7.6
Russell 1000 Growth			10.6	12.3	36.4	20.5	14.6		36.4	-1.5	30.2	7.1	5.7
eV US Large Cap Growth Equity Gross Rank			79	43	26	22	22		26	15	42	72	26
Boston Partners Large Cap Value	69,467,424	4.1	8.1	10.0	24.3	10.9	8.5	12.4	24.3	-8.6	20.1	14.7	-3.9
Russell 1000 Value			7.4	8.9	26.5	9.7	8.3	11.8	26.5	-8.3	13.7	17.3	-3.8
eV US Large Cap Value Equity Gross Rank			42	43	77	49	61	41	77	55	22	54	65
SSGA Russell Small Cap Completeness Index	29,476,234	1.7	8.9	7.0	27.8	11.1	9.1		27.8	-9.2	18.2	16.5	-3.5
Russell Small Cap Completeness			8.9	7.0	28.0	11.2	9.1		28.0	-9.2	18.3	16.6	-3.4
eV US Small Cap Core Equity Gross Rank			45	53	29	26	50		29	37	23	84	68
William Blair SMID Cap Growth	33,800,703	2.0	4.6	5.7	32.2	19.6	14.4	16.0	32.2	-0.9	30.4	8.2	6.1
Russell 2500 Growth			10.6	7.1	32.7	15.2	10.8	14.0	32.7	-7.5	24.5	9.7	-0.2
eV US Mid Cap Growth Equity Gross Rank			98	56	75	36	16	12	75	29	16	22	7
Lee Munder Small Value	28,490,825	1.7	8.9	9.4	27.5	5.7	8.8	11.3	27.5	-14.7	8.6	28.4	0.4
Russell 2000 Value			8.5	7.9	22.4	4.8	7.0	10.6	22.4	-12.9	7.8	31.7	-7.5
eV US Small Cap Value Equity Gross Rank			27	21	23	48	25	73	23	56	68	38	9

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. Titan Advisors funded 2/1/2016. RREEF liquidated 3/15/2018. Fidelity International Growth liquidated to fund SGA Global Growth in 2Q18. SSGA TIPS liquidated in 12/28/18. 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.



	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total International Equity	338,053,547	19.7	8.1	6.1	23.2	10.3	6.0	4.9	23.2	-14.3	26.9	6.2	-5.9
MSCI ACWI ex USA Gross			9.0	7.1	22.1	10.4	6.0	5.4	22.1	-13.8	27.8	5.0	-5.3
InvMetrics Public DB ex-US Eq Gross Rank			90	87	44	48	53	92	44	43	80	13	85
SSGA MSCI ACWI Ex US Index Fund	112,361,275	6.6	8.9	7.0	21.9	10.2	5.8	5.2	21.9	-14.0	27.6	4.8	-5.5
MSCI ACWI ex USA Gross			9.0	7.1	22.1	10.4	6.0	5.4	22.1	-13.8	27.8	5.0	-5.3
eV All EAFE Equity Gross Rank			56	68	63	48	75	93	63	42	49	17	96
PIMCO RAE Fundamental Global Ex US Fund	108,075,092	6.3	8.1	6.3	16.7	8.0	5.0		16.7	-14.7	26.7	13.5	-10.9
MSCI ACWI ex USA Gross			9.0	7.1	22.1	10.4	6.0		22.1	-13.8	27.8	5.0	-5.3
eV All EAFE Equity Gross Rank			76	82	94	84	90		94	47	53	1	99
SGA Global Growth	117,617,181	6.9	7.3	5.0	31.1	-			31.1		-		
MSCI ACWI ex USA Gross			9.0	7.1	22.1				22.1				
eV ACWI ex-US Core Equity Gross Rank			95	98	9				9				
Total Global Equity	60,863,219	3.6	9.2	9.4	25.2	12.4	7.8		25.2	-15.3	33.7	16.1	-11.5
MSCI ACWI Gross			9.1	9.2	27.3	13.0	9.0		27.3	-8.9	24.6	8.5	-1.8
InvMetrics Public DB Glbl Eq Gross Rank			24	24	44	54	67		44	94	1	2	99
Skellig DST Water Fund	60,863,219	3.6	9.2	9.4	25.2	12.4	7.8		25.2	-15.3	33.7	16.1	-11.5
MSCI ACWI Gross			9.1	9.2	27.3	13.0	9.0		27.3	-8.9	24.6	8.5	-1.8
eV Global All Cap Equity Gross Rank			46	33	63	51	67		63	91	9	6	96
Total Fixed Income	468,681,427	27.4	1.2	2.5	8.4	4.3	3.5	4.7	8.4	0.5	4.3	5.5	-0.8
BBgBarc US Aggregate TR			0.2	2.5	8.7	4.0	3.0	3.7	8.7	0.0	3.5	2.6	0.6
InvMetrics Public DB US Fix Inc Gross Rank			9	27	35	30	28	28	35	51	50	37	77
Total Domestic Fixed Income	292,870,611	17.1	0.4	2.7	9.3	4.5	3.7		9.3	0.1	4.4	5.1	-0.3
BBgBarc US Aggregate TR			0.2	2.5	8.7	4.0	3.0		8.7	0.0	3.5	2.6	0.6
BlackRock Fixed Income	106,941,512	6.2	0.4	2.7	9.0	4.4	3.4	4.2	9.0	0.4	3.9	3.1	1.1
BBgBarc US Aggregate TR			0.2	2.5	8.7	4.0	3.0	3.7	8.7	0.0	3.5	2.6	0.6
eV All US Fixed Inc Gross Rank			77	39	45	50	51	50	45	54	54	53	39
Doubleline Core Plus	92,092,097	5.4	0.4	2.2	8.6	4.2			8.6	0.0	4.2	4.8	
BBgBarc US Aggregate TR			0.2	2.5	8.7	4.0			8.7	0.0	3.5	2.6	
eV US Core Plus Fixed Inc Gross Rank			60	93	92	94			92	33	86	52	
MacKay Shields Core Plus	93,837,001	5.5	0.4	3.1	10.0	4.7			10.0	-0.6	5.0	5.1	
BBgBarc US Aggregate TR			0.2	2.5	8.7	4.0			8.7	0.0	3.5	2.6	
eV US Core Plus Fixed Inc Gross Rank			58	26	52	61			52	67	52	46	

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. Titan Advisors funded 2/1/2016. RREEF liquidated 3/15/2018. Fidelity International Growth liquidated to fund SGA Global Growth in 2Q18. SSGA TIPS liquidated in 12/28/18. 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.



	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Global Fixed Income	91,687,007	5.4	1.3	-1.9	1.3	2.2	2.0		1.3	2.4	3.0	7.1	-3.4
JPM GBI Global TR USD			-0.5	0.6	6.0	4.0	2.2		6.0	-0.7	6.8	1.6	-2.6
Franklin Templeton Global Bond Plus	91,687,007	5.4	1.3	-1.9	1.3	2.2	1.9		1.3	2.4	3.0	6.8	-3.5
JPM GBI Global TR USD			-0.5	0.6	6.0	4.0	2.2		6.0	-0.7	6.8	1.6	-2.6
eV Global Government Fixed Inc Gross Rank			19	99	99	96	73		99	10	87	8	58
Total Emerging Markets Fixed Income	84,123,810	4.9	4.2	5.2	-	-	-		-	-	-		
50% JPM EMBI Global Div/50% JPM GBI EM Global Div			3.5	3.9									
PGIM Emerging Markets Debt	84,123,810	4.9	4.2			-							
50% JPM EMBI Global Div/50% JPM GBI EM Global Div			3.5										
eV Emg Mkts Fixed Inc - Blended Currency Gross			35										
Rank													
Total Real Assets	171,599,264	10.0	1.4	2.1	6.0	4.2	4.6		6.0	1.6	5.0	10.4	0.4
Real Assets Composite Benchmark			2.5	2.9	6.9	4.2	4.2		6.9	0.5	5.2	9.4	-0.7
Total Real Estate	171,599,264	10.0	1.4	2.9	5.2	6.1	8.6	9.1	5.2	8.8	4.3	9.0	16.0
NCREIF-ODCE			1.5	2.8	5.3	7.1	9.0	11.4	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index			1.6	3.0	6.4	6.7	8.2	10.2	6.4	6.7	7.0	8.0	13.3
RREEF America II	167,581,784	9.8	1.4	2.9	5.3	6.0	8.7	11.9	5.3	8.6	4.4	9.3	16.7
NCREIF-ODCE			1.5	2.8	5.3	7.1	9.0	11.4	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index			1.6	3.0	6.4	6.7	8.2	10.2	6.4	6.7	7.0	8.0	13.3
American Realty	4,000,000	0.2				-							
NCREIF-ODCE													
NCREIF Property Index													
Total Liquid Alts/HFoF	90,639,518	5.3	3.5	2.5	8.2	4.8	3.1		8.2	0.9	5.4	0.3	0.7
ICE BofAML 90 DAY T-BILLS + 400 bps			1.2	2.5	5.3	4.7	4.1		5.3	4.9	3.9	3.3	3.1
Aetos Capital	45,386,573	2.7	2.8	2.7	8.8	4.5	3.4	4.6	8.8	-1.9	6.8	2.6	1.2
ICE BofAML 90 DAY T-BILLS + 400 bps			1.2	2.5	5.3	4.7	4.1	4.0	5.3	4.9	3.9	3.3	3.1
Titan Advisors	45,252,945	2.6	4.1	2.4	7.6	5.1			7.6	3.8	4.0	0.6	
ICE BofAML 90 DAY T-BILLS + 400 bps			1.2	2.5	5.3	4.7			5.3	4.9	3.9	3.3	

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. Titan Advisors funded 2/1/2016. RREEF liquidated 3/15/2018. Fidelity International Growth liquidated to fund SGA Global Growth in 2Q18. SSGA TIPS liquidated in 12/28/18. 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.



	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Fund	1,711,914,866	100.0	4.7	5.1	15.4	8.5	6.1	7.2	15.4	-2.9	13.9	7.1	-1.6
Policy Index			4.5	5.5	16.1	8.9	6.7	7.7	16.1	-2.4	14.0	8.0	-1.1
Total Fund x Parametric	1,700,202,695	99.3	4.5	5.0	15.1	8.4	6.1		15.1	-2.9	13.8	7.0	-1.6
Policy Index			4.5	5.5	16.1	8.9	6.7		16.1	-2.4	14.0	8.0	-1.1
Total Domestic Equity	383,869,607	22.4	8.2	9.4	29.8	14.4	11.0	13.2	29.8	-5.4	21.9	11.1	1.2
Russell 3000			9.1	10.4	31.0	14.6	11.2	13.4	31.0	-5.2	21.1	12.7	0.5
SSGA S&P 500 Flagship Fund	74,187,051	4.3	9.1	10.9	31.5	15.3	11.7		31.5	-4.4	21.8	12.0	1.4
S&P 500			9.1	10.9	31.5	15.3	11.7		31.5	-4.4	21.8	12.0	1.4
QMA Large Cap Core	69,419,023	4.1	9.3	10.0	28.6	13.5	10.8	13.5	28.6	-6.8	22.1	12.1	1.8
S&P 500			9.1	10.9	31.5	15.3	11.7	13.6	31.5	-4.4	21.8	12.0	1.4
Ivy Large Cap Growth	79,028,346	4.6	8.1	10.3	36.6	22.0	14.6		36.6	2.7	29.5	1.6	7.1
Russell 1000 Growth			10.6	12.3	36.4	20.5	14.6		36.4	-1.5	30.2	7.1	5.7
Boston Partners Large Cap Value	69,467,424	4.1	8.0	9.8	23.8	10.4	8.0	11.9	23.8	-9.0	19.6	14.2	-4.4
Russell 1000 Value			7.4	8.9	26.5	9.7	8.3	11.8	26.5	-8.3	13.7	17.3	-3.8
SSGA Russell Small Cap Completeness Index	29,476,234	1.7	8.9	7.0	27.8	11.1	9.0		27.8	-9.2	18.1	16.5	-3.5
Russell Small Cap Completeness			8.9	7.0	28.0	11.2	9.1		28.0	-9.2	18.3	16.6	-3.4
William Blair SMID Cap Growth	33,800,703	2.0	4.3	5.2	31.1	18.5	13.4	15.0	31.1	-1.7	29.3	7.2	5.2
Russell 2500 Growth			10.6	7.1	32.7	15.2	10.8	14.0	32.7	-7.5	24.5	9.7	-0.2
Lee Munder Small Value	28,490,825	1.7	8.7	8.9	26.3	4.8	7.8	10.2	26.3	-15.5	7.7	27.3	-0.5
Russell 2000 Value			8.5	7.9	22.4	4.8	7.0	10.6	22.4	-12.9	7.8	31.7	-7.5
Total International Equity	338,053,547	19.7	8.0	5.9	22.7	9.9	5.7	4.6	22.7	-14.5	26.5	5.9	-6.2
MSCI ACWI ex USA Gross			9.0	7.1	22.1	10.4	6.0	5.4	22.1	-13.8	27.8	5.0	-5.3
SSGA MSCI ACWI Ex US Index Fund	112,361,275	6.6	8.9	7.0	21.8	10.1	5.7	5.1	21.8	-14.0	27.5	4.7	-5.5
MSCI ACWI ex USA Gross			9.0	7.1	22.1	10.4	6.0	5.4	22.1	-13.8	27.8	5.0	-5.3
PIMCO RAE Fundamental Global Ex US Fund	108,075,092	6.3	7.9	6.0	16.1	7.5	4.4		16.1	-15.1	26.0	13.0	-11.4
MSCI ACWI ex USA Gross			9.0	7.1	22.1	10.4	6.0		22.1	-13.8	27.8	5.0	-5.3
SGA Global Growth	117,617,181	6.9	7.2	4.7	30.5				30.5				
MSCI ACWI ex USA Gross			9.0	7.1	22.1				22.1				
Total Global Equity	60,863,219	3.6	9.0	8.9	24.2	11.5	6.9		24.2	-15.9	32.6	15.1	-12.3
MSCI ACWI Gross			9.1	9.2	27.3	13.0	9.0		27.3	-8.9	24.6	8.5	-1.8
Skellig DST Water Fund	60,863,219	3.6	9.0	8.9	24.2	11.5	6.9		24.2	-15.9	32.6	15.1	-12.3
MSCI ACWI Gross			9.1	9.2	27.3	13.0	9.0		27.3	-8.9	24.6	8.5	-1.8



	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Fixed Income	468,681,427	27.4	1.2	2.4	8.1	4.0	3.2	4.4	8.1	0.1	3.9	5.1	-1.1
BBgBarc US Aggregate TR			0.2	2.5	8.7	4.0	3.0	3.7	8.7	0.0	3.5	2.6	0.6
Total Domestic Fixed Income	292,870,611	17.1	0.3	2.5	9.0	4.2	3.4		9.0	-0.2	4.1	4.8	-0.5
BBgBarc US Aggregate TR			0.2	2.5	8.7	4.0	3.0		8.7	0.0	3.5	2.6	0.6
BlackRock Fixed Income	106,941,512	6.2	0.3	2.6	8.7	4.1	3.2	4.0	8.7	0.1	3.6	2.9	0.8
BBgBarc US Aggregate TR			0.2	2.5	8.7	4.0	3.0	3.7	8.7	0.0	3.5	2.6	0.6
Doubleline Core Plus	92,092,097	5.4	0.4	2.0	8.3	3.9			8.3	-0.3	3.9	4.6	
BBgBarc US Aggregate TR			0.2	2.5	8.7	4.0			8.7	0.0	3.5	2.6	
MacKay Shields Core Plus	93,837,001	5.5	0.3	2.8	9.6	4.3			9.6	-1.0	4.5	4.7	
BBgBarc US Aggregate TR			0.2	2.5	8.7	4.0			8.7	0.0	3.5	2.6	
Total Global Fixed Income	91,687,007	5.4	1.1	-2.1	0.9	1.7	1.5		0.9	1.9	2.4	6.4	-3.9
JPM GBI Global TR USD			-0.5	0.6	6.0	4.0	2.2		6.0	-0.7	6.8	1.6	-2.6
Franklin Templeton Global Bond Plus	91,687,007	5.4	1.1	-2.1	0.9	1.7	1.4		0.9	1.9	2.4	6.1	-4.1
JPM GBI Global TR USD			-0.5	0.6	6.0	4.0	2.2		6.0	-0.7	6.8	1.6	-2.6
Total Emerging Markets Fixed Income	84,123,810	4.9	4.1	5.2	-	-			-	-	-		
50% JPM EMBI Global Div/50% JPM GBI EM Global Div			3.5	3.9									
PGIM Emerging Markets Debt	84,123,810	4.9	4.1		-	-			-		-		
50% JPM EMBI Global Div/50% JPM GBI EM Global Div			3.5										
Total Real Assets	171,599,264	10.0	1.4	2.1	6.0	4.2	4.3		6.0	1.6	5.0	9.5	-0.4
Real Assets Composite Benchmark			2.5	2.9	6.9	4.2	4.2		6.9	0.5	5.2	9.4	-0.7
Total Real Estate	171,599,264	10.0	1.4	2.9	5.2	6.1	8.2	8.8	5.2	8.8	4.3	8.0	15.1
NCREIF-ODCE			1.5	2.8	5.3	7.1	9.0	11.4	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index			1.6	3.0	6.4	6.7	8.2	10.2	6.4	6.7	7.0	8.0	13.3
RREEF America II	167,581,784	9.8	1.4	2.9	5.3	6.0	8.4	11.3	5.3	8.6	4.4	8.2	15.7
NCREIF-ODCE			1.5	2.8	5.3	7.1	9.0	11.4	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index			1.6	3.0	6.4	6.7	8.2	10.2	6.4	6.7	7.0	8.0	13.3
American Realty	4,000,000	0.2											
NCREIF-ODCE													
NCREIF Property Index													
Total Liquid Alts/HFoF	90,639,518	5.3	3.5	2.5	8.2	4.8	2.7		8.2	0.9	5.4	-0.5	0.0
ICE BofAML 90 DAY T-BILLS + 400 bps			1.2	2.5	5.3	4.7	4.1		5.3	4.9	3.9	3.3	3.1
Aetos Capital	45,386,573	2.7	2.8	2.7	8.8	4.5	3.1	4.2	8.8	-1.9	6.8	1.8	0.5
ICE BofAML 90 DAY T-BILLS + 400 bps			1.2	2.5	5.3	4.7	4.1	4.0	5.3	4.9	3.9	3.3	3.1
Titan Advisors	45,252,945	2.6	4.1	2.4	7.6	5.1			7.6	3.8	4.0	-0.1	
ICE BofAML 90 DAY T-BILLS + 400 bps			1.2	2.5	5.3	4.7			5.3	4.9	3.9	3.3	



	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	11.74%	11.98%	0.04%	1.00	0.04%	1.00	0.89	1.18	100.30%	99.98%
QMA Large Cap Core	11.18%	12.74%	-1.17%	1.06	1.71%	0.98	0.80	-0.30	101.57%	104.51%
Ivy Large Cap Growth	15.18%	12.68%	1.27%	0.95	3.18%	0.94	1.11	0.17	96.97%	93.73%
Boston Partners Large Cap Value	8.50%	13.04%	-0.32%	1.06	2.86%	0.96	0.57	0.08	106.61%	103.69%
SSGA Russell Small Cap Completeness Index	9.08%	14.49%	-0.04%	1.00	0.09%	1.00	0.55	-0.69	99.64%	100.03%
William Blair SMID Cap Growth	14.43%	13.76%	5.35%	0.84	4.44%	0.93	0.97	0.81	90.53%	78.30%
Lee Munder Small Value	8.76%	15.28%	2.16%	0.94	3.04%	0.96	0.51	0.58	95.71%	91.63%
SSGA MSCI ACWI Ex US Index Fund	5.78%	12.52%	-0.22%	1.00	0.06%	1.00	0.38	-4.12	99.05%	100.44%
PIMCO RAE Fundamental Global Ex US Fund	4.98%	13.35%	-1.23%	1.03	3.29%	0.94	0.29	-0.31	104.95%	107.13%
BlackRock Fixed Income	3.44%	2.93%	0.55%	0.95	0.39%	0.98	0.82	1.01	102.35%	89.94%
Franklin Templeton Global Bond Plus	1.92%	6.17%	2.69%	-0.35	9.13%	0.09	0.14	-0.03	-14.36%	-71.63%
RREEF America II	8.75%	4.11%	3.43%	0.59	3.75%	0.32	1.87	-0.06	51.31%	
TA Associates Realty	2.49%	9.12%	-4.18%	0.81	8.68%	0.10	0.16	-0.66	45.36%	
Aetos Capital	3.44%	3.23%	2.12%	0.32	3.23%	0.00	0.74	-0.21	82.64%	



							IRR Analysis	as of IRR date				
Vintage Year	Manager Name/Fund Name	Estimated Market Value as of 12/31/2019 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 ⁶	IRR Date
Private E	quity											
2004	Pantheon USA Fund VI	\$2,717,493	\$15,000,000	\$14,175,000	95%	\$825,000	\$19,850,924	\$2,942,493	140.0%	159.2%	7.2%	09/30/19
2005	BlackRock Private Capital II7	\$3,868,214	\$15,000,000	\$15,000,000	100%	\$0	\$21,227,173	\$3,976,408	141.5%	167.3%	7.2%	09/30/19
2011	Stepstone Secondary Opportunities Fund II ⁸	\$12,785,793	\$27,500,000	\$27,500,000	100%	\$0	\$23,520,707	\$13,137,352	85.5%	132.0%	12.0%	09/30/19
2016	Ocean Avenue Fund III	\$21,667,413	\$20,000,000	\$17,400,000	87%	\$2,600,000	\$3,400,000	\$22,667,413	19.5%	144.1%	31.7%	09/30/19
2016	Pathway Private Equity Fund Investors 8	\$18,897,526	\$20,000,000	\$12,981,007	65%	\$7,018,993	\$941,976	\$18,789,582	7.3%	152.8%	18.5%	09/30/19
2017	Pathway Private Equity Fund Investors 9	\$10,154,447	\$20,000,000	\$8,963,581	45%	\$11,036,419	\$75,744	\$0	0.8%	114.1%	N/A	N/A
2019	Ocean Avenue Fund IV	\$2,264,923	\$20,000,000	\$2,400,000	12%	\$17,600,000	\$0	\$0	0.0%	94.4%	N/A	N/A
Private C	redit											
2016	TPG Diversified Credit	\$62,193,992	\$80,000,000	\$54,447,754	68%	\$25,552,246	\$1,519,264	\$62,835,692	2.8%	117.0%	9.4%	09/30/19
Private R	eal Estate											
2007	TA Associates VIII	\$17,480	\$30,000,000	\$30,000,000	100%	\$0	\$29,768,275	\$17,480	99.2%	99.3%	-0.1%	09/30/19
Opportun	istic											
2010	KKR Mezzanine Partners	\$3,418,997	\$15,000,000	\$13,508,562	90%	\$1,491,438	\$17,819,791	\$3,418,997	131.9%	157.2%	8.2%	12/31/19
2011	PIMCO Bravo	\$209,650	\$15,000,000	\$15,000,000	100%	\$0	\$27,147,672	\$209,650	181.0%	182.4%	22.1%	09/30/19
	Total Private Markets	\$138,195,929	\$277,500,000	\$211,375,903	76%	\$66,124,097	\$145,271,527	\$127,995,067	68.7%	134.1%		
	% of Portfolio (Market Value)	8.1%										

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

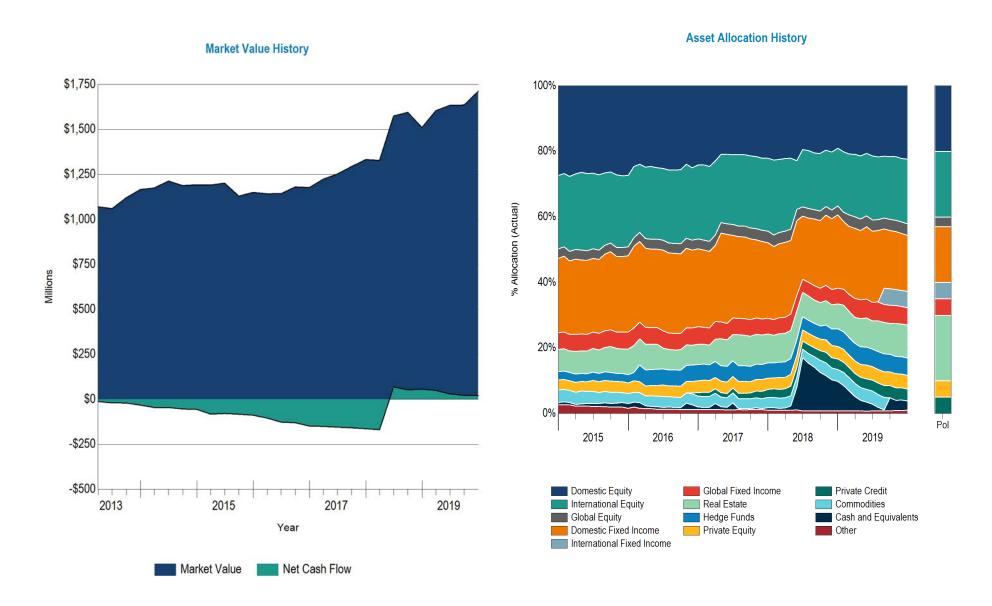
⁴IRR currently unavailable for these funds.

⁵Investment period ended, no further capital to be called.

⁶Net 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.

⁷BlackRock: Total capital called is \$15,519,967 which includes recycled distributions.

⁸StepStone: \$8,782,174 in recallable 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	\$383,869,607	22.4%	20.0%	\$41,486,633	10.0% - 30.0%	Yes
				International Equity	\$338,053,547	19.7%	20.0%	-\$4,329,426	10.0% - 30.0%	Yes
	3185585C 2 440 75		20.0%	Global Equity	\$60,863,219	3.6%	3.0%	\$9,505,773	0.0% - 5.0%	Yes
	22.4%		20.076	Domestic Fixed Income	\$292,870,611	17.1%	17.0%	\$1,845,083	10.0% - 30.0%	Yes
				International Fixed Income	\$84,123,810	4.9%	5.0%	-\$1,471,933	0.0% - 10.0%	Yes
				Global Fixed Income	\$91,687,007	5.4%	5.0%	\$6,091,263	0.0% - 10.0%	Yes
				Real Estate	\$171,599,264	10.0%	20.0%	-\$170,783,709	10.0% - 30.0%	Yes
				Hedge Funds	\$90,639,518	5.3%		\$90,639,518		No
			20.0%	Private Equity	\$72,355,810	4.2%	5.0%	-\$13,239,934	0.0% - 10.0%	Yes
	19.7%		20.076	Private Credit	\$62,193,992	3.6%	5.0%	-\$23,401,751	0.0% - 10.0%	Yes
				Cash and Equivalents	\$48,215,265	2.8%		\$48,215,265		No
				Other	\$15,443,217	0.9%		\$15,443,217		No
			3.0%	Total	\$1,711,914,866	100.0%	100.0%			
-	3.6%									
			17.0%							
	17.1%		17.070							
	0.0000000000000000000000000000000000000									
			5.0 0/							
			5.0%							
1										
	4.9%		5.0%							
	4.9% 5.4%		5.0%							
			5.0%							
	5.4%									
			5.0%							



5.3%

4.2%

3.6%

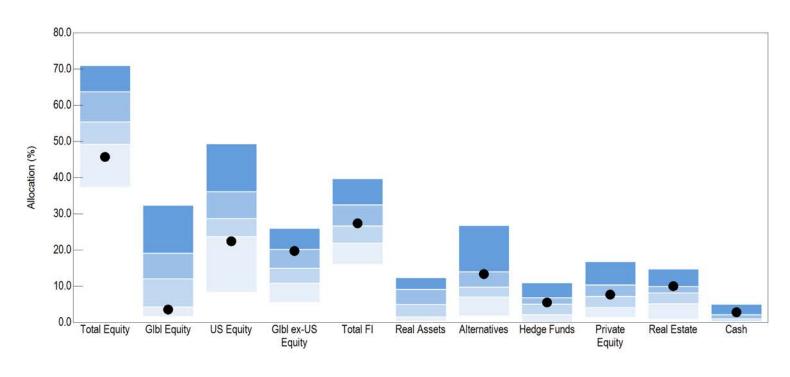
2.8% 0.9% 0.0%

5.0%

5.0%

0.0%

Total Plan Allocation vs. InvMetrics Public DB Gross As of December 31, 2019



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

Total Fund

on (Ra	ank)																				
•	32.4		49.4		26.0		39.8		12.4		26.8		11.0		16.8		14.8		5.0		
	19.2		36.2		20.2		32.6		9.2		14.1		6.9		10.5		10.0		2.2		
	12.1		28.8		15.0		26.7		5.1		9.8		5.1		7.2		8.2		1.1		-
	4.3		23.8		10.8		21.9		1.6		7.1		2.2		4.1		5.2		0.5		-
	1.7		8.4		5.5		16.1		0.4		1.8		0.1		1.4		0.9		0.0		-
	88		156		197		227		67		145		73		98		162		212		
(85)	36	(85)	22.4	(78)	197	(28)	27 4	(49)	22	22	13 4	(31)	5.5	(44)	77	(47)	10.0	(25)	28	(18)	
10	on (Ra	19.2 12.1 4.3 1.7 88	32.4 19.2 12.1 4.3 1.7 88	32.4 49.4 19.2 36.2 12.1 28.8 4.3 23.8 1.7 8.4 88 156	32.4 49.4 19.2 36.2 12.1 28.8 4.3 23.8 1.7 8.4 88 156	32.4 49.4 26.0 19.2 36.2 20.2 12.1 28.8 15.0 4.3 23.8 10.8 1.7 8.4 5.5 88 156 197	32.4 49.4 26.0 19.2 36.2 20.2 12.1 28.8 15.0 4.3 23.8 10.8 1.7 8.4 5.5 88 156 197	32.4 49.4 26.0 39.8 19.2 36.2 20.2 32.6 12.1 28.8 15.0 26.7 4.3 23.8 10.8 21.9 1.7 8.4 5.5 16.1 88 156 197 227	32.4 49.4 26.0 39.8 19.2 36.2 20.2 32.6 12.1 28.8 15.0 26.7 4.3 23.8 10.8 21.9 1.7 8.4 5.5 16.1 88 156 197 227	32.4 49.4 26.0 39.8 12.4 19.2 36.2 20.2 32.6 9.2 12.1 28.8 15.0 26.7 5.1 4.3 23.8 10.8 21.9 1.6 1.7 8.4 5.5 16.1 0.4 88 156 197 227 67	32.4 49.4 26.0 39.8 12.4 19.2 36.2 20.2 32.6 9.2 12.1 28.8 15.0 26.7 5.1 4.3 23.8 10.8 21.9 1.6 1.7 8.4 5.5 16.1 0.4 88 156 197 227 67	32.4 49.4 26.0 39.8 12.4 26.8 19.2 36.2 20.2 32.6 9.2 14.1 12.1 28.8 15.0 26.7 5.1 9.8 4.3 23.8 10.8 21.9 1.6 7.1 1.7 8.4 5.5 16.1 0.4 1.8 88 156 197 227 67 145	32.4 49.4 26.0 39.8 12.4 26.8 19.2 36.2 20.2 32.6 9.2 14.1 12.1 28.8 15.0 26.7 5.1 9.8 4.3 23.8 10.8 21.9 1.6 7.1 1.7 8.4 5.5 16.1 0.4 1.8 88 156 197 227 67 145	32.4 49.4 26.0 39.8 12.4 26.8 11.0 19.2 36.2 20.2 32.6 9.2 14.1 6.9 12.1 28.8 15.0 26.7 5.1 9.8 5.1 4.3 23.8 10.8 21.9 1.6 7.1 2.2 1.7 8.4 5.5 16.1 0.4 1.8 0.1 88 156 197 227 67 145 73	32.4 49.4 26.0 39.8 12.4 26.8 11.0 19.2 36.2 20.2 32.6 9.2 14.1 6.9 12.1 28.8 15.0 26.7 5.1 9.8 5.1 4.3 23.8 10.8 21.9 1.6 7.1 2.2 1.7 8.4 5.5 16.1 0.4 1.8 0.1 88 156 197 227 67 145 73	32.4 49.4 26.0 39.8 12.4 26.8 11.0 16.8 19.2 36.2 20.2 32.6 9.2 14.1 6.9 10.5 12.1 28.8 15.0 26.7 5.1 9.8 5.1 7.2 4.3 23.8 10.8 21.9 1.6 7.1 2.2 4.1 1.7 8.4 5.5 16.1 0.4 1.8 0.1 1.4 88 156 197 227 67 145 73 98	32.4 49.4 26.0 39.8 12.4 26.8 11.0 16.8 19.2 36.2 20.2 32.6 9.2 14.1 6.9 10.5 12.1 28.8 15.0 26.7 5.1 9.8 5.1 7.2 4.3 23.8 10.8 21.9 1.6 7.1 2.2 4.1 1.7 8.4 5.5 16.1 0.4 1.8 0.1 1.4 88 156 197 227 67 145 73 98	32.4 49.4 26.0 39.8 12.4 26.8 11.0 16.8 14.8 19.2 36.2 20.2 32.6 9.2 14.1 6.9 10.5 10.0 12.1 28.8 15.0 26.7 5.1 9.8 5.1 7.2 8.2 4.3 23.8 10.8 21.9 1.6 7.1 2.2 4.1 5.2 1.7 8.4 5.5 16.1 0.4 1.8 0.1 1.4 0.9 88 156 197 227 67 145 73 98 162	32.4 49.4 26.0 39.8 12.4 26.8 11.0 16.8 14.8 19.2 36.2 20.2 32.6 9.2 14.1 6.9 10.5 10.0 12.1 28.8 15.0 26.7 5.1 9.8 5.1 7.2 8.2 4.3 23.8 10.8 21.9 1.6 7.1 2.2 4.1 5.2 1.7 8.4 5.5 16.1 0.4 1.8 0.1 1.4 0.9 88 156 197 227 67 145 73 98 162	32.4 49.4 26.0 39.8 12.4 26.8 11.0 16.8 14.8 5.0 19.2 36.2 20.2 32.6 9.2 14.1 6.9 10.5 10.0 2.2 12.1 28.8 15.0 26.7 5.1 9.8 5.1 7.2 8.2 1.1 4.3 23.8 10.8 21.9 1.6 7.1 2.2 4.1 5.2 0.5 1.7 8.4 5.5 16.1 0.4 1.8 0.1 1.4 0.9 0.0 88 156 197 227 67 145 73 98 162 212	32.4 49.4 26.0 39.8 12.4 26.8 11.0 16.8 14.8 5.0 19.2 36.2 20.2 32.6 9.2 14.1 6.9 10.5 10.0 2.2 12.1 28.8 15.0 26.7 5.1 9.8 5.1 7.2 8.2 1.1 4.3 23.8 10.8 21.9 1.6 7.1 2.2 4.1 5.2 0.5 1.7 8.4 5.5 16.1 0.4 1.8 0.1 1.4 0.9 0.0 88 156 197 227 67 145 73 98 162 212



Account	Fee Schedule	Market Value As of 12/31/2019	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Aetos Capital	0.70% of Assets	\$45,386,573	2.7%	\$317,706	0.70%
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	\$4,000,000	0.2%	\$50,000	1.25%
BlackRock Alternative Advisors	120,000 Annually	\$3,868,214	0.2%	\$120,000	3.10%
BlackRock Fixed Income	0.25% of First 100.0 Mil, 0.25% of Next 100.0 Mil	\$106,941,512	6.2%	\$267,354	0.25%
Boston Partners Large Cap Value	0.45% of First 50.0 Mil, 0.35% of Next 50.0 Mil, 0.30% Thereafter	\$69,467,424	4.1%	\$293,136	0.42%
Doubleline Core Plus	0.28% of First 100.0 Mil, 0.25% Thereafter	\$92,092,097	5.4%	\$257,858	0.28%
Franklin Templeton Global Bond Plus	0.62% of First 50.0 Mil, 0.51% of Next 50.0 Mil, 0.45% Thereafter	\$91,687,007	5.4%	\$522,604	0.57%
Ivy Large Cap Growth	0.60% of First 25.0 Mil, 0.50% of Next 25.0 Mil, 0.40% Thereafter	\$79,028,346	4.6%	\$391,113	0.49%
Kohlberg Kravis Roberts & Co. Mezzanine Partners I	0.38% of Assets	\$3,521,395	0.2%	\$13,205	0.38%
Lee Munder Small Value	0.90% of First 25.0 Mil, 0.85% of Next 75.0 Mil, 0.30% Thereafter	\$28,490,825	1.7%	\$254,672	0.89%
MacKay Shields Core Plus	0.40% of Assets	\$93,837,001	5.5%	\$375,348	0.40%
Mellon Capital Cash Account	No Fee	\$48,215,265	2.8%		
Ocean Avenue Fund III	0.85% of Assets	\$21,667,413	1.3%	\$184,173	0.85%
Ocean Avenue Fund IV	1.25% of Assets	\$2,264,923	0.1%	\$28,312	1.25%
Pantheon Ventures	0.47% of Assets	\$2,717,493	0.2%	\$12,881	0.47%
Parametric	Asset Based Fee: 0.0375% (Quarterly) Retainer Fee: \$4,500 (Quarterly) Minimum Expense: \$50,000 (Annual)	\$11,712,171	0.7%		
Pathway Private Equity Fund Investors 8	0.61% of Assets	\$18,897,526	1.1%	\$115,275	0.61%
Pathway Private Equity Fund Investors 9	0.58% of Assets	\$10,154,447	0.6%	\$58,896	0.58%

*In addition to a management fee, Aetos charges a 10% incentive fee above a hurdle rate of the average three-month Treasury Bill rate in effect during the relevant incentive fee calculation. Fees shown for Pathway are estimated effective average fees over 15-year fund lifespan.

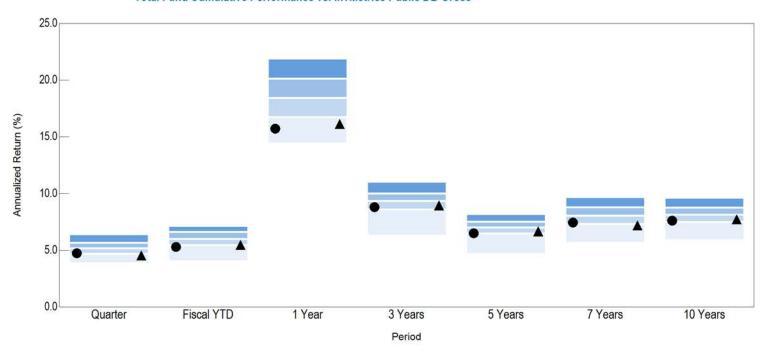


Investment Management F	Fee Tee		\$1,711,914,866	100.0%	\$7,837,128	0.46%
William Blair SMID Cap Gro		0.95% of First 10.0 Mil, 0.80% of Next 20.0 Mil, 0.75% of Next 20.0 Mil, 0.70% of Next 50.0 Mil, 0.65% of Next 100.0 Mil, 0.60% Thereafter	\$33,800,703	2.0%	\$283,505	0.84%
TPG Diversified Credit	a.	No Fee	\$62,193,992	3.6%	ф000 F0F	
Titan Advisors		.70% on AUM, 7.5% on performance, 5% hurdle rate.	\$45,252,945	2.6%		-
TA Associates Realty		0.60% of Assets	\$17,480	0.0%	\$105	0.60%
Stepstone Secondary Oppo	rtunities Fund II	343,750 Annually	\$12,785,793	0.7%	\$343,750	2.69%
SSGA S&P 500 Flagship Fu		0.03% of Assets	\$74,187,051	4.3%	\$22,256	0.03%
SSGA Russell Small Cap C	·	0.05% of First 25.0 Mil, 0.05% of Next 25.0 Mil, 0.04% Thereafter	\$29,476,234	1.7%	\$14,738	0.05%
SSGA MSCI ACWI Ex US II		0.08% of First 25.0 Mil, 0.07% of Next 25.0 Mil, 0.06% Thereafter	\$112,361,275	6.6%	\$74,917	0.07%
Skellig DST Water Fund		0.77% of Assets	\$60,863,219	3.6%	\$465,604	0.76%
SGA Global Growth		0.45% of Assets	\$117,617,181	6.9%	\$529,277	0.45%
RREEF America II		0.95% of Assets	\$167,581,784	9.8%	\$1,592,027	0.95%
QMA Large Cap Core		0.35% of First 50.0 Mil, 0.30% of Next 50.0 Mil, 0.25% Thereafter	\$69,419,023	4.1%	\$233,257	0.34%
PIMCO RAE Fundamental (Global Ex US Fund	0.78% of First 25.0 Mil, 0.43% of Next 75.0 Mil, 0.38% Thereafter	\$108,075,092	6.3%	\$548,185	0.51%
PIMCO Bravo		1.60% of Assets	\$209,650	0.0%	\$13,418	6.40%
PGIM Emerging Markets De	ebt	0.55% of First 75.0 Mil, 0.45% of Next 100.0 Mil, 0.35% Thereafter	\$84,123,810	4.9%	\$453,557	0.54%
Account		Fee Schedule	Market Value As of 12/31/2019	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)

^{*}TPG 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.



Total Fund Cumulative Performance vs. InvMetrics Public DB Gross



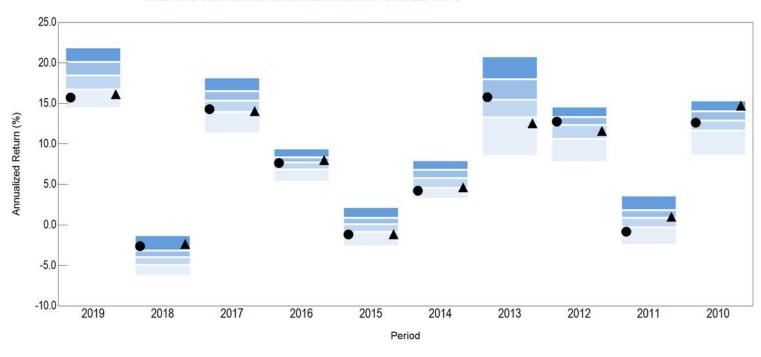
5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

Total FundPolicy Index

	7.1		21.9		11.0		8.2		9.7		9.6	
	6.6		20.1		10.0		7.5		8.8		8.8	
	6.0		18.5		9.4		7.0		8.1		8.1	
	5.5		16.8		8.6		6.5		7.3		7.5	
	4.1		14.4		6.3		4.7		5.7		5.9	
	292		289		281		268		254		228	
' 5)	5.3	(83)	15.7	(87)	8.8	(69)	6.5	(75)	7.4	(73)	7.6	(72)
32)	5.5	(76)	16.1	(84)	8.9	(63)	6.7	(67)	7.2	(79)	7.7	(69)
		7 (7		N								



Total Fund Consecutive Periods vs. InvMetrics Public DB Gross



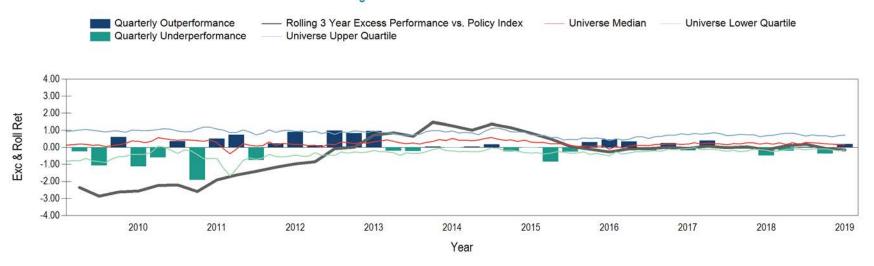
5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

Total FundPolicy Index

Rank)																		
	-1.3		18.2		9.4		2.2		8.0		20.8		14.6		3.6		15.4	
	-3.1		16.5		8.4		0.9		6.8		18.0		13.4		1.9		14.0	
	-4.0		15.3		7.7		0.1		5.8		15.5		12.4		0.9		12.9	
	-4.9		14.0		6.9		-0.9		4.6		13.3		10.7		-0.3		11.7	
	-6.3		11.3		5.3		-2.6		3.2		8.5		7.8		-2.5		8.6	
	319		304		305		316		248		231		236		206		188	
(87)	-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)
(84)	-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)
	(87)	-1.3 -3.1 -4.0 -4.9 -6.3 319 (87) -2.6	-1.3 -3.1 -4.0 -4.9 -6.3 319 (87) -2.6 (15)	-1.3 18.2 -3.1 16.5 -4.0 15.3 -4.9 14.0 -6.3 11.3 319 304 (87) -2.6 (15) 14.3	-1.3 18.2 -3.1 16.5 -4.0 15.3 -4.9 14.0 -6.3 11.3 319 304 (87) -2.6 (15) 14.3 (71)	-1.3 18.2 9.4 -3.1 16.5 8.4 -4.0 15.3 7.7 -4.9 14.0 6.9 -6.3 11.3 5.3 319 304 305 (87) -2.6 (15) 14.3 (71) 7.6	-1.3 18.2 9.4 -3.1 16.5 8.4 -4.0 15.3 7.7 -4.9 14.0 6.9 -6.3 11.3 5.3 319 304 305 (87) -2.6 (15) 14.3 (71) 7.6 (53)	-1.3 18.2 9.4 2.2 -3.1 16.5 8.4 0.9 -4.0 15.3 7.7 0.1 -4.9 14.0 6.9 -0.9 -6.3 11.3 5.3 -2.6 319 304 305 316 (87) -2.6 (15) 14.3 (71) 7.6 (53) -1.2	-1.3 18.2 9.4 2.2 -3.1 16.5 8.4 0.9 -4.0 15.3 7.7 0.1 -4.9 14.0 6.9 -0.9 -6.3 11.3 5.3 -2.6 319 304 305 316 (87) -2.6 (15) 14.3 (71) 7.6 (53) -1.2 (80)	-1.3 18.2 9.4 2.2 8.0 -3.1 16.5 8.4 0.9 6.8 -4.0 15.3 7.7 0.1 5.8 -4.9 14.0 6.9 -0.9 4.6 -6.3 11.3 5.3 -2.6 3.2 319 304 305 316 248 (87) -2.6 (15) 14.3 (71) 7.6 (53) -1.2 (80) 4.2	-1.3 18.2 9.4 2.2 8.0 -3.1 16.5 8.4 0.9 6.8 -4.0 15.3 7.7 0.1 5.8 -4.9 14.0 6.9 -0.9 4.6 -6.3 11.3 5.3 -2.6 3.2 319 304 305 316 248 (87) -2.6 (15) 14.3 (71) 7.6 (53) -1.2 (80) 4.2 (83)	-1.3 18.2 9.4 2.2 8.0 20.8 -3.1 16.5 8.4 0.9 6.8 18.0 -4.0 15.3 7.7 0.1 5.8 15.5 -4.9 14.0 6.9 -0.9 4.6 13.3 -6.3 11.3 5.3 -2.6 3.2 8.5 319 304 305 316 248 231 (87) -2.6 (15) 14.3 (71) 7.6 (53) -1.2 (80) 4.2 (83) 15.8	-1.3 18.2 9.4 2.2 8.0 20.8 -3.1 16.5 8.4 0.9 6.8 18.0 -4.0 15.3 7.7 0.1 5.8 15.5 -4.9 14.0 6.9 -0.9 4.6 13.3 -6.3 11.3 5.3 -2.6 3.2 8.5 319 304 305 316 248 231 (87) -2.6 (15) 14.3 (71) 7.6 (53) -1.2 (80) 4.2 (83) 15.8 (49)	-1.3 18.2 9.4 2.2 8.0 20.8 14.6 -3.1 16.5 8.4 0.9 6.8 18.0 13.4 -4.0 15.3 7.7 0.1 5.8 15.5 12.4 -4.9 14.0 6.9 -0.9 4.6 13.3 10.7 -6.3 11.3 5.3 -2.6 3.2 8.5 7.8 319 304 305 316 248 231 236 (87) -2.6 (15) 14.3 (71) 7.6 (53) -1.2 (80) 4.2 (83) 15.8 (49) 12.8	-1.3 18.2 9.4 2.2 8.0 20.8 14.6 -3.1 16.5 8.4 0.9 6.8 18.0 13.4 -4.0 15.3 7.7 0.1 5.8 15.5 12.4 -4.9 14.0 6.9 -0.9 4.6 13.3 10.7 -6.3 11.3 5.3 -2.6 3.2 8.5 7.8 319 304 305 316 248 231 236 (87) -2.6 (15) 14.3 (71) 7.6 (53) -1.2 (80) 4.2 (83) 15.8 (49) 12.8 (43)	-1.3 18.2 9.4 2.2 8.0 20.8 14.6 3.6 -3.1 16.5 8.4 0.9 6.8 18.0 13.4 1.9 -4.0 15.3 7.7 0.1 5.8 15.5 12.4 0.9 -4.9 14.0 6.9 -0.9 4.6 13.3 10.7 -0.3 -6.3 11.3 5.3 -2.6 3.2 8.5 7.8 -2.5 319 304 305 316 248 231 236 206 (87) -2.6 (15) 14.3 (71) 7.6 (53) -1.2 (80) 4.2 (83) 15.8 (49) 12.8 (43) -0.8	-1.3 18.2 9.4 2.2 8.0 20.8 14.6 3.6 -3.1 16.5 8.4 0.9 6.8 18.0 13.4 1.9 -4.0 15.3 7.7 0.1 5.8 15.5 12.4 0.9 -4.9 14.0 6.9 -0.9 4.6 13.3 10.7 -0.3 -6.3 11.3 5.3 -2.6 3.2 8.5 7.8 -2.5 319 304 305 316 248 231 236 206 (87) -2.6 (15) 14.3 (71) 7.6 (53) -1.2 (80) 4.2 (83) 15.8 (49) 12.8 (43) -0.8 (86)	-1.3 18.2 9.4 2.2 8.0 20.8 14.6 3.6 15.4 -3.1 16.5 8.4 0.9 6.8 18.0 13.4 1.9 14.0 -4.0 15.3 7.7 0.1 5.8 15.5 12.4 0.9 12.9 -4.9 14.0 6.9 -0.9 4.6 13.3 10.7 -0.3 11.7 -6.3 11.3 5.3 -2.6 3.2 8.5 7.8 -2.5 8.6 319 304 305 316 248 231 236 206 188 (87) -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



Rolling 3 Year Annualized Excess Performance



Rolling 5 Year Annualized Excess Performance

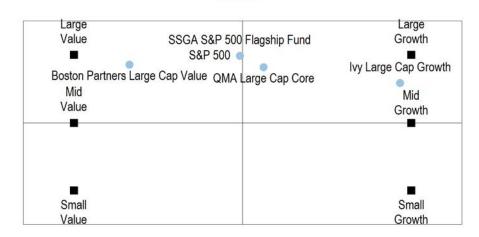


	Market Value	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Domestic Equity	383,869,607	8.4	9.7	30.3	14.8	11.4	13.7	30.3	-5.0	22.3	11.5	1.6
Russell 3000		9.1	10.4	31.0	14.6	11.2	13.4	31.0	-5.2	21.1	12.7	0.5
InvMetrics Public DB US Eq Gross Rank		49	32	40	18	21	17	40	29	16	77	10
SSGA S&P 500 Flagship Fund	74,187,051	9.1	10.9	31.5	15.3	11.7		31.5	-4.4	21.9	12.0	1.5
S&P 500		9.1	10.9	31.5	15.3	11.7		31.5	-4.4	21.8	12.0	1.4
eV US Large Cap Core Equity Gross Rank		34	29	31	36	30		31	40	52	31	40
QMA Large Cap Core	69,419,023	9.4	10.2	29.0	13.9	11.2	13.9	29.0	-6.5	22.5	12.5	2.1
S&P 500		9.1	10.9	31.5	15.3	11.7	13.6	31.5	-4.4	21.8	12.0	1.4
eV US Large Cap Core Equity Gross Rank		25	45	57	59	43	26	57	70	42	25	31
Ivy Large Cap Growth	79,028,346	8.2	10.6	37.3	22.6	15.2		37.3	3.2	30.2	2.1	7.6
Russell 1000 Growth		10.6	12.3	36.4	20.5	14.6		36.4	-1.5	30.2	7.1	5.7
eV US Large Cap Growth Equity Gross Rank		79	43	26	22	22		26	15	42	72	26
Boston Partners Large Cap Value	69,467,424	8.1	10.0	24.3	10.9	8.5	12.4	24.3	-8.6	20.1	14.7	-3.9
Russell 1000 Value		7.4	8.9	26.5	9.7	8.3	11.8	26.5	-8.3	13.7	17.3	-3.8
eV US Large Cap Value Equity Gross Rank		42	43	77	49	61	41	77	55	22	54	65

U.S. Effective Style Map 3 Years

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

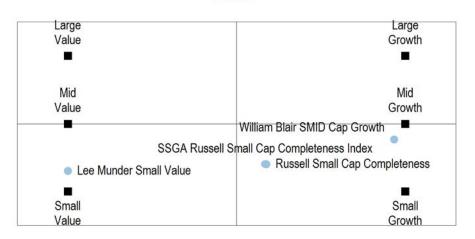


	Market Value	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
SSGA Russell Small Cap Completeness Index	29,476,234	8.9	7.0	27.8	11.1	9.1		27.8	-9.2	18.2	16.5	-3.5
Russell Small Cap Completeness		8.9	7.0	28.0	11.2	9.1		28.0	-9.2	18.3	16.6	-3.4
eV US Small Cap Core Equity Gross Rank		45	53	29	26	50		29	37	23	84	68
William Blair SMID Cap Growth	33,800,703	4.6	5.7	32.2	19.6	14.4	16.0	32.2	-0.9	30.4	8.2	6.1
Russell 2500 Growth		10.6	7.1	32.7	15.2	10.8	14.0	32.7	-7.5	24.5	9.7	-0.2
eV US Mid Cap Growth Equity Gross Rank		98	56	75	36	16	12	75	29	16	22	7
Lee Munder Small Value	28,490,825	8.9	9.4	27.5	5.7	8.8	11.3	27.5	-14.7	8.6	28.4	0.4
Russell 2000 Value		8.5	7.9	22.4	4.8	7.0	10.6	22.4	-12.9	7.8	31.7	-7.5
eV US Small Cap Value Equity Gross Rank		27	21	23	48	25	73	23	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	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Domestic Equity	383,869,607	8.2	9.4	29.8	14.4	11.0	13.2	29.8	-5.4	21.9	11.1	1.2
Russell 3000		9.1	10.4	31.0	14.6	11.2	13.4	31.0	-5.2	21.1	12.7	0.5
SSGA S&P 500 Flagship Fund	74,187,051	9.1	10.9	31.5	15.3	11.7		31.5	-4.4	21.8	12.0	1.4
S&P 500		9.1	10.9	31.5	15.3	11.7		31.5	-4.4	21.8	12.0	1.4
QMA Large Cap Core	69,419,023	9.3	10.0	28.6	13.5	10.8	13.5	28.6	-6.8	22.1	12.1	1.8
S&P 500		9.1	10.9	31.5	15.3	11.7	13.6	31.5	-4.4	21.8	12.0	1.4
Ivy Large Cap Growth	79,028,346	8.1	10.3	36.6	22.0	14.6		36.6	2.7	29.5	1.6	7.1
Russell 1000 Growth		10.6	12.3	36.4	20.5	14.6		36.4	-1.5	30.2	7.1	5.7
Boston Partners Large Cap Value	69,467,424	8.0	9.8	23.8	10.4	8.0	11.9	23.8	-9.0	19.6	14.2	-4.4
Russell 1000 Value		7.4	8.9	26.5	9.7	8.3	11.8	26.5	-8.3	13.7	17.3	-3.8
SSGA Russell Small Cap Completeness Index	29,476,234	8.9	7.0	27.8	11.1	9.0		27.8	-9.2	18.1	16.5	-3.5
Russell Small Cap Completeness		8.9	7.0	28.0	11.2	9.1		28.0	-9.2	18.3	16.6	-3.4
William Blair SMID Cap Growth	33,800,703	4.3	5.2	31.1	18.5	13.4	15.0	31.1	-1.7	29.3	7.2	5.2
Russell 2500 Growth		10.6	7.1	32.7	15.2	10.8	14.0	32.7	-7.5	24.5	9.7	-0.2
Lee Munder Small Value	28,490,825	8.7	8.9	26.3	4.8	7.8	10.2	26.3	-15.5	7.7	27.3	-0.5
Russell 2000 Value		8.5	7.9	22.4	4.8	7.0	10.6	22.4	-12.9	7.8	31.7	-7.5



Seca Sap Sol Field	Seca Ausself Straff Cap Corrollers Latge Cap Security Cap Controller Straff Cap Corroller Str													
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
SSGA S&P 500 Flagship Fund	220	44	137	89.5	43	96.9	64	89.5	9	14.9	0	0.0	0	0.0
QMA Large Cap Core	137	57.5		24	18	54.4	32	58.0	3	4.8	4	4.9	61	4.3
Ivy Large Cap Growth	43	30.4	18	23.7			5	5.8	0	0.0	0	0.0	1	0.4
Boston Partners Large Cap Value	64	24.8	32	27.2	5	20.2	(ee	; +-	0	0.0	0	0.0	4	0.5
William Blair SMID Cap Growth	9	0.4	3	0.6	0	0.0	0	0.0		,.	3	2.9	58	6.1
Lee Munder Small Value	0	0.0	4	0.5	0	0.0	0	0.0	3	5.9	1	1	85	4.8
SSGA Russell Small Cap Completeness Index	0	0.0	61	9.1	1	1.2	4	2.1	58	77.6	85	93.3		_



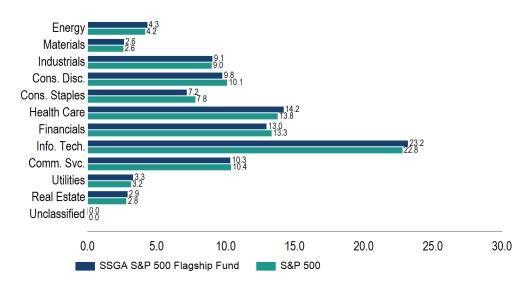
Correlation Matrix
1 Year Ending December 31, 2019

					SCA PU	2.			
Sec. A	S&C SOO FREE PRO FERRO	13/00	Scap Growth	Milan Bair SMIL	Co Mine	Shall Shall Cap College			
	Flagship Fund	No Cap Cope	Cap Growth	ge Cep Valle and	Cap Crowth	Snell Value	leness Index	S40,500	
SSGA S&P 500 Flagship Fund	1.00	1.75	0.55	U#	770	22 8		150	
QMA Large Cap Core	0.99	1.00	655	V#	550	CE8	***	im.	
Ivy Large Cap Growth	0.95	0.92	1.00	15	590	(11)	57 5.	in.	
Boston Partners Large Cap Value	0.97	0.99	0.88	1.00	580	422.8	5773.	-55	
William Blair SMID Cap Growth	0.84	0.81	0.93	0.78	1.00	55 8		157	
Lee Munder Small Value	0.94	0.96	0.87	0.98	0.82	1.00		1570	
SSGA Russell Small Cap Completeness Index	0.95	0.96	0.92	0.96	0.89	0.98	1.00	155	
S&P 500	1.00	0.99	0.95	0.97	0.84	0.94	0.95	1.00	



	Portfolio	S&P 500
Number of Holdings	505	505
Weighted Avg. Market Cap. (\$B)	271.05	272.00
Median Market Cap. (\$B)	23.59	23.59
Price To Earnings	23.08	23.01
Price To Book	3.88	3.87
Price To Sales	2.14	2.10
Return on Equity (%)	26.15	26.11
Yield (%)	1.86	1.83
Beta	1.00	1.00

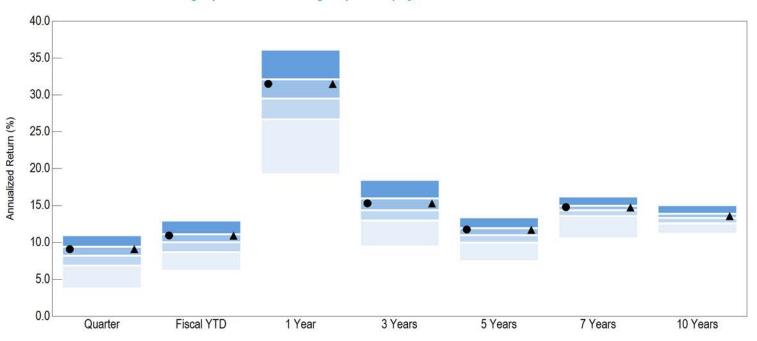
Sector Allocation (%) vs S&P 500



Top Holdings			Top Contributor	'S		В	ottom Contribut	tors	
Ending Period Weight			Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution
APPLE	4.58%	APPLE	3.86	31.50	1.22	BOEING	0.82	-13.89	-0.11
MICROSOFT	4.50%	MICROSOFT	4.31	13.82	0.59	HOME DEPOT	1.03	-5.28	-0.05
AMAZON.COM	2.88%	UNITEDHEALTH GROUP	0.84	35.80	0.30	MCDONALDS	0.67	-7.37	-0.05
FACEBOOK CLASS A	1.85%	JP MORGAN CHASE & CO.	1.53	19.40	0.30	INTERNATIONAL	0.52	-6.74	-0.04
BERKSHIRE HATHAWAY 'B'	1.66%	FACEBOOK CLASS A	1.73	15.26	0.26	BUS.MCHS.			
JP MORGAN CHASE & CO.	1.63%	BANK OF AMERICA	0.99	21.40	0.21	TWITTER	0.12	-22.21	-0.03
ALPHABET A	1.50%	AMAZON.COM	2.92	6.45	0.19	VENTAS	0.11	-19.85	-0.02
ALPHABET 'C'	1.49%	JOHNSON & JOHNSON	1.38	13.53	0.19	DUPONT DE NEMOURS	0.22	-9.56	-0.02
JOHNSON & JOHNSON	1.43%	INTEL	0.92	16.78	0.15	DOLLAR TREE	0.11	-17.62	-0.02
		NVIDIA	0.43	35.27	0.15	CISCO SYSTEMS	0.85	-2.21	-0.02
VISA 'A'	1.20%	14410111	5.40	00.21	3.10	NORTHROP GRUMMAN	0.24	-7.88	-0.02
Total	22.72%								



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



Return (Rar	ık)												
10.9		12.9		36.1		18.5		13.4		16.2		15.0	
9.4		11.1		32.1		16.0		11.9		15.0		13.9	
8.2		10.1		29.5		14.4		11.0		14.4		13.3	
6.9		8.7		26.7		13.0		10.0		13.6		12.6	
3.8		6.2		19.3		9.5		7.5		10.6		11.2	
300		300		300		287		270		248		210	
9.1	(34)	10.9	(29)	31.5	(31)	15.3	(36)	11.7	(30)	14.8	(34)		()
9.1	(34)	10.9	(29)	31.5	(31)	15.3	(36)	11.7	(31)	14.7	(38)	13.6	(39)
	10.9 9.4 8.2 6.9 3.8 300 9.1	9.4 8.2 6.9 3.8 300 9.1 (34)	10.9 12.9 9.4 11.1 8.2 10.1 6.9 8.7 3.8 6.2 300 300 9.1 (34) 10.9	10.9 12.9 9.4 11.1 8.2 10.1 6.9 8.7 3.8 6.2 300 300 9.1 (34) 10.9 (29)	10.9 12.9 36.1 9.4 11.1 32.1 8.2 10.1 29.5 6.9 8.7 26.7 3.8 6.2 19.3 300 300 300 9.1 (34) 10.9 (29) 31.5	10.9 12.9 36.1 9.4 11.1 32.1 8.2 10.1 29.5 6.9 8.7 26.7 3.8 6.2 19.3 300 300 300 9.1 (34) 10.9 (29) 31.5 (31)	10.9 12.9 36.1 18.5 9.4 11.1 32.1 16.0 8.2 10.1 29.5 14.4 6.9 8.7 26.7 13.0 3.8 6.2 19.3 9.5 300 300 300 287 9.1 (34) 10.9 (29) 31.5 (31) 15.3	10.9 12.9 36.1 18.5 9.4 11.1 32.1 16.0 8.2 10.1 29.5 14.4 6.9 8.7 26.7 13.0 3.8 6.2 19.3 9.5 300 300 300 287 9.1 (34) 10.9 (29) 31.5 (31) 15.3 (36)	10.9 12.9 36.1 18.5 13.4 9.4 11.1 32.1 16.0 11.9 8.2 10.1 29.5 14.4 11.0 6.9 8.7 26.7 13.0 10.0 3.8 6.2 19.3 9.5 7.5 300 300 300 287 270 9.1 (34) 10.9 (29) 31.5 (31) 15.3 (36) 11.7	10.9 12.9 36.1 18.5 13.4 9.4 11.1 32.1 16.0 11.9 8.2 10.1 29.5 14.4 11.0 6.9 8.7 26.7 13.0 10.0 3.8 6.2 19.3 9.5 7.5 300 300 300 287 270 9.1 (34) 10.9 (29) 31.5 (31) 15.3 (36) 11.7 (30)	10.9 12.9 36.1 18.5 13.4 16.2 9.4 11.1 32.1 16.0 11.9 15.0 8.2 10.1 29.5 14.4 11.0 14.4 6.9 8.7 26.7 13.0 10.0 13.6 3.8 6.2 19.3 9.5 7.5 10.6 300 300 300 287 270 248 9.1 (34) 10.9 (29) 31.5 (31) 15.3 (36) 11.7 (30) 14.8	10.9 12.9 36.1 18.5 13.4 16.2 9.4 11.1 32.1 16.0 11.9 15.0 8.2 10.1 29.5 14.4 11.0 14.4 6.9 8.7 26.7 13.0 10.0 13.6 3.8 6.2 19.3 9.5 7.5 10.6 300 300 300 287 270 248 9.1 (34) 10.9 (29) 31.5 (31) 15.3 (36) 11.7 (30) 14.8 (34)	10.9 12.9 36.1 18.5 13.4 16.2 15.0 9.4 11.1 32.1 16.0 11.9 15.0 13.9 8.2 10.1 29.5 14.4 11.0 14.4 13.3 6.9 8.7 26.7 13.0 10.0 13.6 12.6 3.8 6.2 19.3 9.5 7.5 10.6 11.2 300 300 300 287 270 248 210 9.1 (34) 10.9 (29) 31.5 (31) 15.3 (36) 11.7 (30) 14.8 (34)



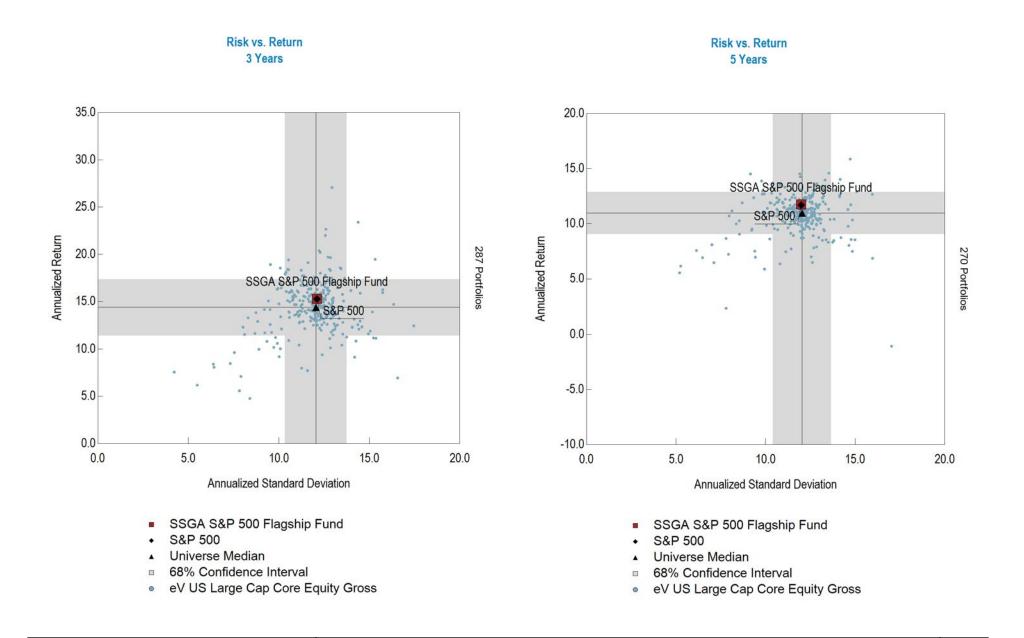
SSGA S&P 500 Flagship Fund vs. eV US Large Cap Core Equity Gross Universe



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

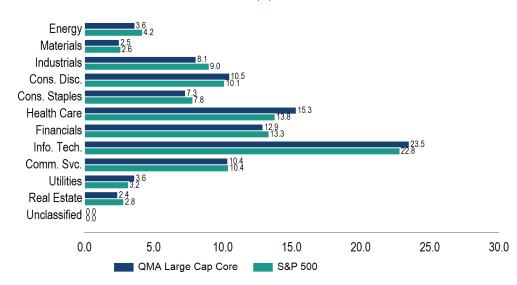
Return	(Rank))																	
36.1		0.7		28.2		16.3		6.3		17.7		39.6		20.1		7.0		19.7	
32.1		-3.0		24.3		12.5		2.7		15.1		35.5		17.2		3.6		15.8	
29.5		-5.1		22.1		10.4		0.6		13.3		32.9		15.4		1.3		14.4	
26.7		-7.1		19.8		8.2		-1.6		11.4		30.8		13.4		-1.5		12.3	
19.3		-11.4		14.4		4.3		-4.1		8.2		25.4		9.8		-5.9		9.1	
300		316		318		308		267		267		261		254		259		254	
31.5	(31)	-4.4	(40)	21.9	(52)	12.0	(31)	1.5	(40)	13.7	(42)	32.4	(58)	16.1	(39)		()		()
31.5	(31)	-4.4	(40)	21.8	(53)	12.0	(31)	1.4	(42)	13.7	(42)	32.4	(58)	16.0	(41)	2.1	(40)	15.1	(37)





	Portfolio	S&P 500
Number of Holdings	204	505
Weighted Avg. Market Cap. (\$B)	257.09	272.00
Median Market Cap. (\$B)	27.99	23.59
Price To Earnings	20.23	23.01
Price To Book	3.20	3.87
Price To Sales	1.35	2.10
Return on Equity (%)	25.04	26.11
Yield (%)	1.92	1.83
Beta	1.06	1.00

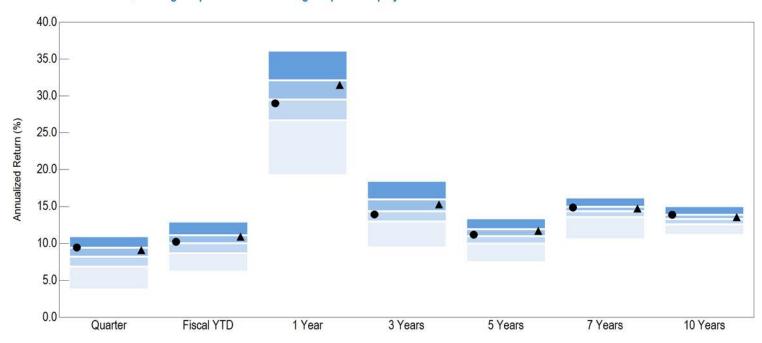
Sector Allocation (%) vs S&P 500



Top Holdings		Top Contributo	rs		DO	uoni continu	เบเอ	
Ending Period Weight		Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution
APPLE 5.20%	APPLE	4.46	31.50	1.40	MCDONALDS	0.98	-7.37	-0.07
MICROSOFT 4.94%	MICROSOFT	4.90	13.82	0.68	INTERNATIONAL	0.99	-6.74	-0.07
FACEBOOK CLASS A 2.28%	FACEBOOK CLASS A	2.22	15.26	0.34	BUS.MCHS.			
AMAZON.COM 1.69%	BANK OF AMERICA	1.54	21.40	0.33	EBAY	0.75	-7.00	-0.05
BANK OF AMERICA 1.65%	UNITEDHEALTH GROUP	0.86	35.80	0.31	AMERICAN INTL.GP.	0.70	-7.26	-0.05
PROCTER & GAMBLE 1.54%	INTEL	1.33	16.78	0.22	JOHNSON CONTROLS	0.65	-6.65	-0.04
INTEL 1.46%	GENERAL ELECTRIC	0.84	24.95	0.21	INTL. SPIRIT AEROSYSTEMS			
VISA 'A' 1.45%	ALTRIA GROUP	0.80	24.07	0.19	CL.A	0.33	-11.25	-0.04
AT&T 1.39%	CITIGROUP	1.17	16.45	0.19	EXELON	0.72	-4.86	-0.04
ALPHABET A 1.37%	BIOGEN	0.66	27.45	0.18	DUPONT DE NEMOURS	0.36	-9.56	-0.03
Total 22.96%					EXPEDIA GROUP	0.17	-19.26	-0.03
					QURATE RETAIL SERIES A	0.18	-18.27	-0.03



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

eturn (Rar	nk)												
10.9		12.9		36.1		18.5		13.4		16.2		15.0	
9.4		11.1		32.1		16.0		11.9		15.0		13.9	
8.2		10.1		29.5		14.4		11.0		14.4		13.3	
6.9		8.7		26.7		13.0		10.0		13.6		12.6	
3.8		6.2		19.3		9.5		7.5		10.6		11.2	
300		300		300		287		270		248		210	
9.4	(25)	10.2	(45)	29.0	(57)	13.9	(59)	11.2	(43)	14.9	(30)	13.9	(26)
9.1	(34)	10.9	(29)	31.5	(31)	15.3	(36)	11.7	(31)	14.7	(38)	13.6	(39)



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

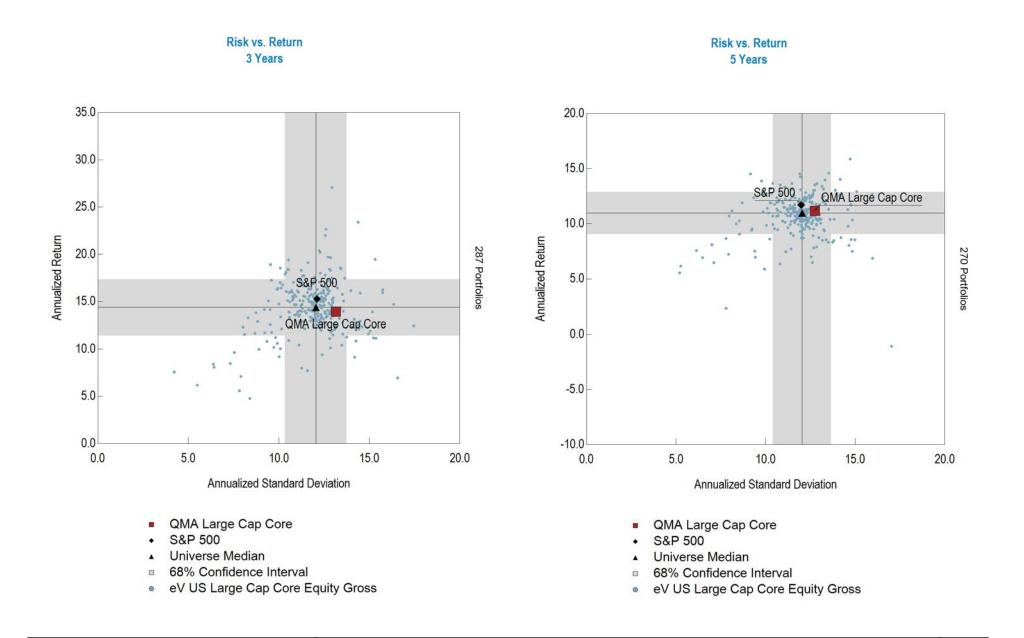


5th F	Percentile
25th	Percentile
Medi	an
75th	Percentile
95th	Percentile
# of	Portfolios

QMA Large Cap Core S&P 500

36.1		0.7		28.2		16.3		6.3		17.7		39.6		20.1		7.0		19.7	
32.1		-3.0		24.3		12.5		2.7		15.1		35.5		17.2		3.6		15.8	
29.5		-5.1		22.1		10.4		0.6		13.3		32.9		15.4		1.3		14.4	
26.7		-7.1		19.8		8.2		-1.6		11.4		30.8		13.4		-1.5		12.3	
19.3		-11.4		14.4		4.3		-4.1		8.2		25.4		9.8		-5.9		9.1	
300		316		318		308		267		267		261		254		259		254	
29.0	(57)	-6.5	(70)	22.5	(42)	12.5	(25)	2.1	(31)	15.6	(20)	34.3	(37)	18.1	(18)	2.4	(34)	14.9	(40)
31.5	(31)	-4.4	(40)	21.8	(53)	12.0	(31)	1.4	(42)	13.7	(42)	32.4	(58)	16.0	(41)	2.1	(40)	15.1	(37)

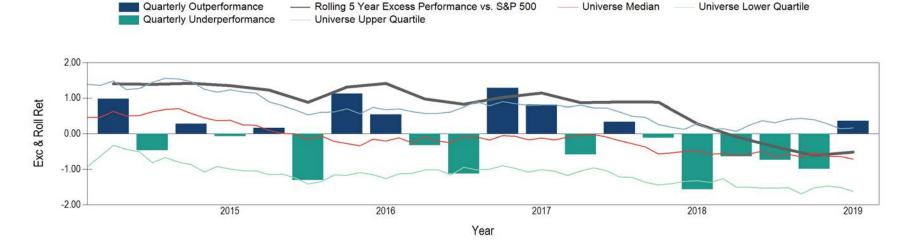




Rolling 3 Year Annualized Excess Performance



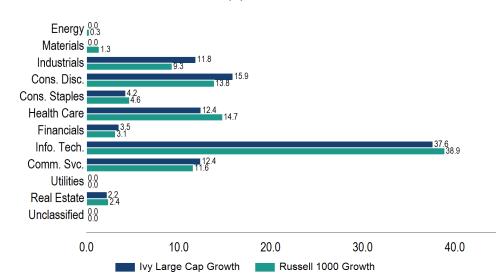
Rolling 5 Year Annualized Excess Performance





	Portfolio	Russell 1000 Growth
Number of Holdings	45	530
Weighted Avg. Market Cap. (\$B)	353.66	362.87
Median Market Cap. (\$B)	71.93	13.03
Price To Earnings	32.70	29.74
Price To Book	8.90	8.79
Price To Sales	3.98	3.14
Return on Equity (%)	37.41	34.60
Yield (%)	0.90	1.17
Beta	0.90	1.00

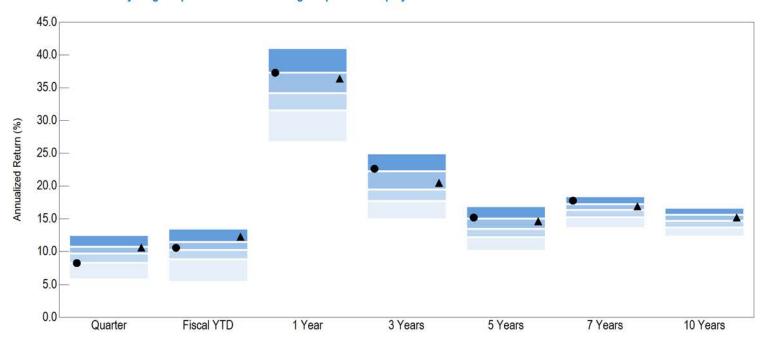
Sector Allocation (%) vs Russell 1000 Growth



Top Holdings		Top Contributor	rs		DOLLOHI CONTINULOIS						
Ending Period Weight		Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution			
MICROSOFT 9	30% APPLE	5.11	31.50	1.61	BOEING	1.44	-13.89	-0.20			
	22% MICROSOFT	8.84	13.82	1.22	VERISK ANALYTICS CL.A	3.22	-5.40	-0.17			
	99% NVIDIA	1.80	35.27	0.63	NORTHROP GRUMMAN	1.75	-7.88	-0.14			
	_{83%} UNITEDHEALTH GROUI	P 1.47	35.80	0.53	HOME DEPOT	2.59	-5.28	-0.14			
	51% ALPHABET A	4.90	9.68	0.47	MOTOROLA SOLUTIONS	2.30	-5.07	-0.12			
	06% ADOBE (NAS)	2.43	19.39	0.47	CME GROUP	2.52	-3.49	-0.09			
	06% FACEBOOK CLASS A	3.07	15.26	0.47	INTUIT	2.20	-1.31	-0.03			
	_{83%} VISA 'A'	4.76	9.42	0.45	BROADRIDGE FINL.SLTN.	1.45	-0.27	0.00			
	81% V F	2.76	12.58	0.35	COMCAST A	0.75	0.23	0.00			
	77% AMAZON.COM	4.57	6.45	0.29	FLEETCOR	1.36	0.33	0.00			
Total 44	37%				TECHNOLOGIES						



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



	5th Percentile
	25th Percentile
	Median
	75th Percentile
	95th Percentile
	# of Portfolios
•	lvy Large Cap Growth
٨	Russell 1000 Growth

turn (Rar	ık)												
12.5		13.5		41.0		25.0		16.9		18.4		16.7	
10.7		11.5		37.3		22.3		15.0		17.3		15.6	
9.7		10.2		34.2		19.5		13.5		16.3		14.7	
8.3		8.8		31.6		17.7		12.2		15.3		13.7	
5.8		5.4		26.7		15.0		10.1		13.6		12.3	
236		236		236		230		225		215		199	
8.2	(79)	10.6	(43)	37.3	(26)	22.6	(22)	15.2	(22)	17.8	(17)		()
10.6	(27)	12.3	(14)	36.4	(31)	20.5	(44)	14.6	(31)	16.9	(32)	15.2	(33)



Return (Rank)

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

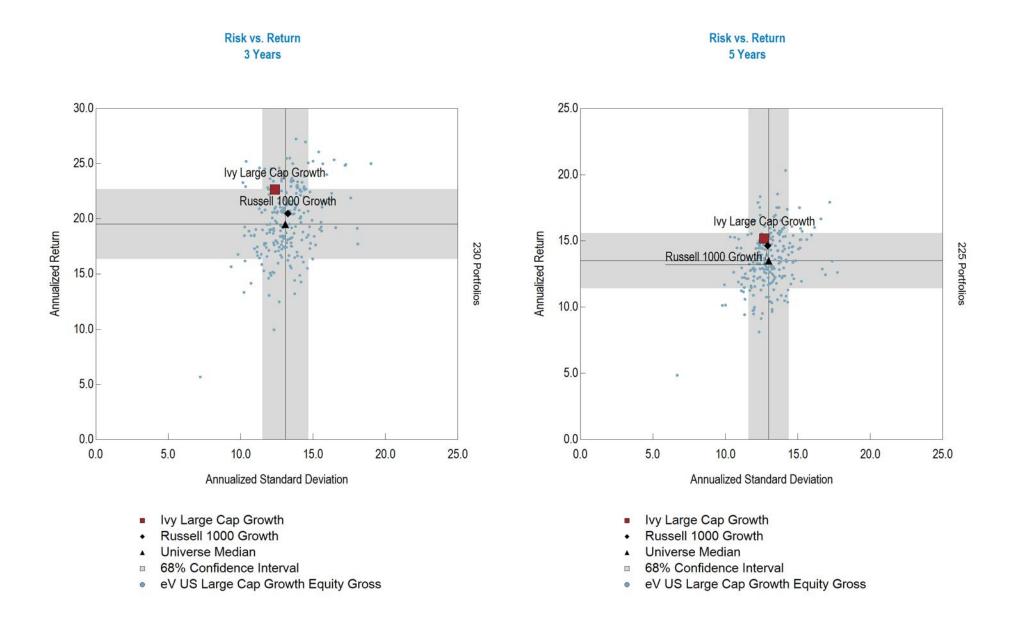


5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

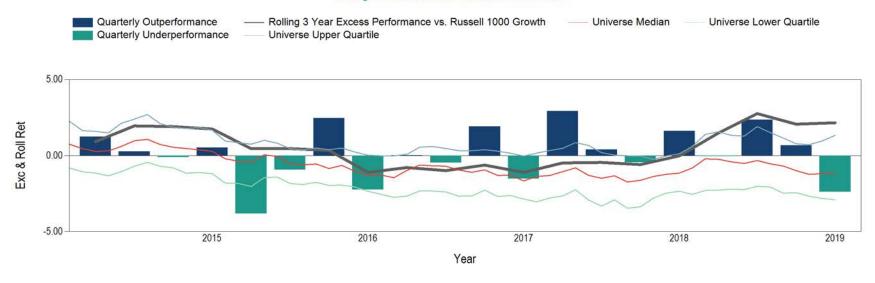
lvy Large Cap Growth Russell 1000 Growth

		/																		
	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	
	31.6		-3.5		26.2		1.8		2.1		9.5		31.0		13.4		-3.2		13.2	
	26.7		-8.8		20.5		-2.7		-2.4		5.8		26.6		10.2		-8.0		9.6	
	236		255		265		282		270		291		274		274		294		304	
vth	37.3	(26)	3.2	(15)	30.2	(42)	2.1	(72)	7.6	(26)	12.8	(40)	37.3	(25)	13.0	(78)	3.6	(17)	22.0	()
th	36.4	(31)	-1.5	(57)	30.2	(42)	7.1	(26)	5.7	(42)	13.0	(38)	33.5	(56)	15.3	(55)	2.6	(22)	16.7	(46)

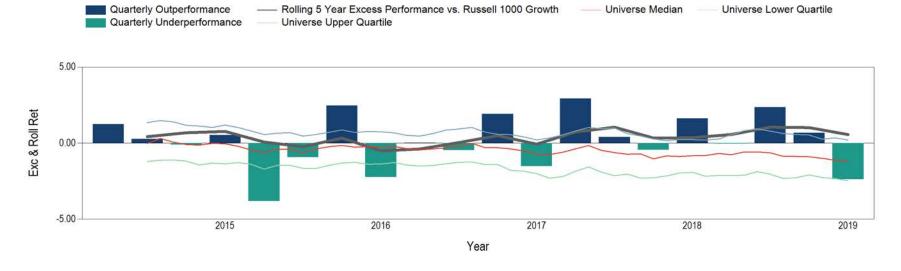




Rolling 3 Year Annualized Excess Performance



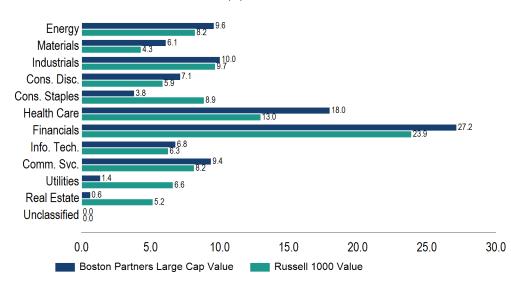
Rolling 5 Year Annualized Excess Performance





	Portfolio	Russell 1000 Value
Number of Holdings	76	764
Weighted Avg. Market Cap. (\$B)	137.55	123.34
Median Market Cap. (\$B)	39.16	9.64
Price To Earnings	17.22	18.48
Price To Book	2.22	2.32
Price To Sales	1.23	1.51
Return on Equity (%)	17.13	13.97
Yield (%)	2.03	2.49
Beta	1.05	1.00

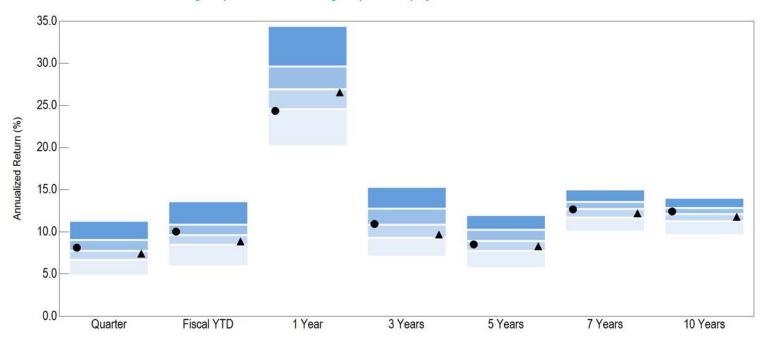
Sector Allocation (%) vs Russell 1000 Value



Top Holdings			Top Contributo	rs		בסננטווו סטוונוווטענטוס							
Ending Period Weight	t		Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution				
BERKSHIRE HATHAWAY 'B'	4.65%	BANK OF AMERICA	3.88	21.40	0.83	AMERICAN INTL.GP.	2.24	-7.26	-0.16				
BANK OF AMERICA	4.64%	CIGNA	1.97	34.72	0.68	DUPONT DE NEMOURS	1.17	-9.56	-0.11				
JP MORGAN CHASE & CO.	3.60%	JP MORGAN CHASE & CO.	3.06	19.40	0.59	TRAVELERS COS.	1.13	-7.34	-0.08				
CITIGROUP	2.69%	UNITEDHEALTH GROUP	1.30	35.80	0.47	CHUBB	2.27	-3.11	-0.07				
WELLS FARGO & CO	2.63%	BERKSHIRE HATHAWAY 'B'	4.57	8.88	0.41	LIBERTY GLOBAL SR.C	0.64	-8.39	-0.05				
PROCTER & GAMBLE	2.60%	CITIGROUP	2.25	16.45	0.37	ORACLE	1.48	-3.30	-0.05				
CIGNA	2.48%	ANTHEM	1.29	26.14	0.34	ESSEX PROPERTY TST.	0.61	-7.30	-0.04				
VERIZON COMMUNICATIONS	2.42%	LAS VEGAS SANDS	1.11	20.88	0.23	EQUITY RESD.TST.PROPS.	0.72	-5.53	-0.04				
COMCAST A	2.41%	UNITED TECHNOLOGIES	2.25	10.24	0.23	SHBI							
CHUBB	2.37%	CVS HEALTH	1.23	18.69	0.23	CISCO SYSTEMS	1.68	-2.21	-0.04				
Total	30.49%					CH ROBINSON WWD.	0.52	-7.15	-0.04				



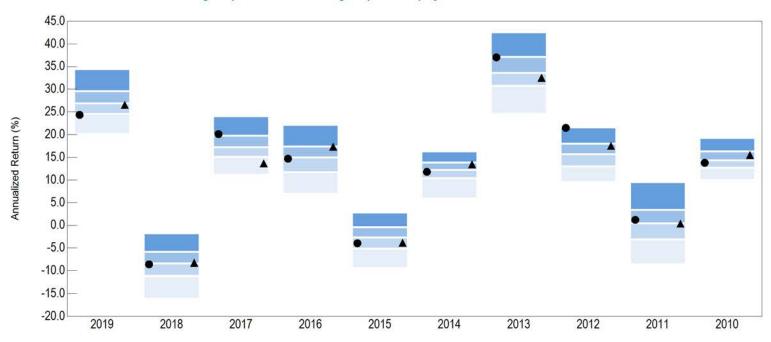
Boston Partners Large Cap Value vs. eV US Large Cap Value Equity Gross Universe



	Return (Rar	ık)												
5th Percentile	11.3		13.6		34.4		15.3		12.0		15.0		14.0	
25th Percentile	9.0		10.9		29.6		12.8		10.3		13.6		12.8	
Median	7.7		9.6		26.9		10.9		8.9		12.7		12.1	
75th Percentile	6.7		8.5		24.6		9.3		7.8		11.7		11.3	
95th Percentile	4.8		5.9		20.2		7.1		5.7		10.0		9.6	
# of Portfolios	310		310		310		305		295		283		250	
 Boston Partners Large Cap Value Russell 1000 Value 	8.1 7.4	(42) (60)	10.0 8.9	(43) (67)	24.3 26.5	(77) (55)	10.9 9.7	(49) (70)	8.5 8.3	(61) (65)	12.7 12.2	(53) (67)	12.4 11.8	(41) (62)



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

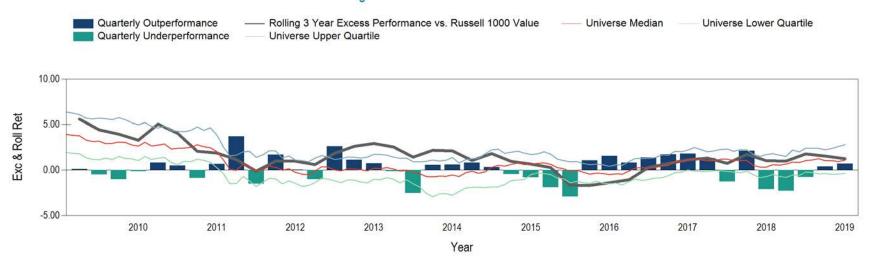
Boston Partners Large Cap Value Russell 1000 Value

Return	(Rank)																	
34.4		-1.8		24.0		22.1		2.8		16.3		42.5		21.5		9.5		19.2	
29.6		-5.8		19.8		17.4		-0.4		13.9		37.2		18.0		3.4		16.3	
26.9		-8.3		17.2		15.0		-2.6		12.2		33.6		15.7		0.5		14.3	
24.6		-11.1		15.1		11.8		-5.1		10.4		30.8		13.0		-3.1		12.7	
20.2		-16.1		11.2		7.0		-9.4		5.9		24.6		9.6		-8.6		10.1	
310		336		342		346		312		307		310		303		310		323	
24.3	(77)	-8.6	(55)	20.1	(22)	14.7	(54)	-3.9	(65)	11.8	(58)	37.0	(26)	21.5	(6)	1.2	(43)	13.8	(61)
26.5	(55)	-8.3	(50)	13.7	(87)	17.3	(26)	-3.8	(64)	13.5	(33)	32.5	(60)	17.5	(30)	0.4	(51)	15.5	(35)

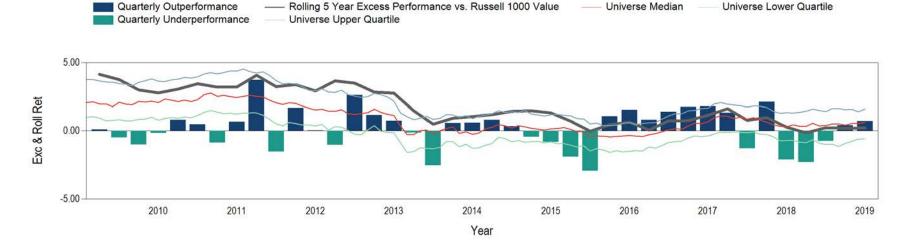


Risk vs. Return Risk Return 3 Years 5 Years 30.0 20.0 15.0 20.0 Boston Partners Large Cap Value Boston Partners Large Cap Value 10.0 Annualized Return Annualized Return 10.0 Russell 1000 Value 305 Portfolios 295 Portfolios Russell 1000 Value 5.0 0.0 0.0 -10.0 -5.0 -20.0 -10.05.0 15.0 20.0 0.0 10.0 25.0 30.0 0.0 5.0 10.0 15.0 20.0 25.0 30.0 **Annualized Standard Deviation Annualized Standard Deviation** Boston Partners Large Cap Value Boston Partners Large Cap Value Russell 1000 Value Russell 1000 Value Universe Median Universe Median 68% Confidence Interval 68% Confidence Interval eV US Large Cap Value Equity Gross eV US Large Cap Value Equity Gross

Rolling 3 Year Annualized Excess Performance



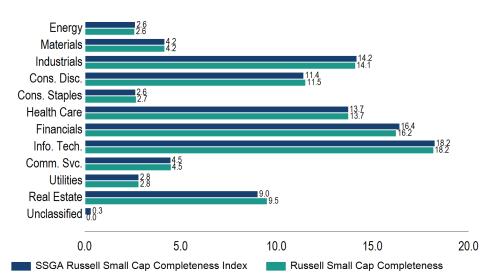
Rolling 5 Year Annualized Excess Performance





	Portfolio	Russell Small Cap Completeness
Number of Holdings	2,447	2,488
Weighted Avg. Market Cap. (\$B)	7.62	7.62
Median Market Cap. (\$B)	1.20	1.19
Price To Earnings	21.55	21.62
Price To Book	2.89	2.91
Price To Sales	1.43	1.44
Return on Equity (%)	4.63	4.63
Yield (%)	1.42	1.41
Beta	0.99	1.00

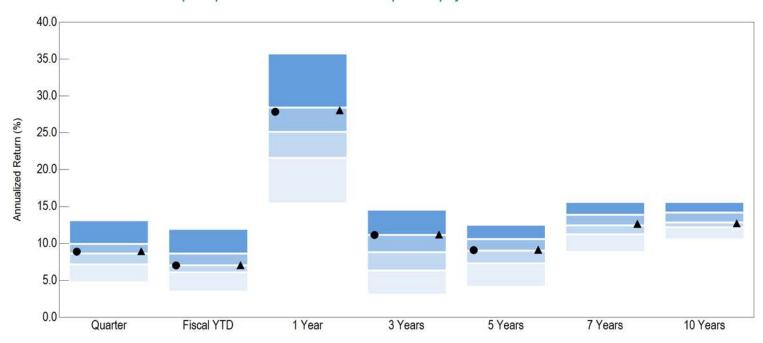
Sector Allocation (%) vs Russell Small Cap Completeness



Top Holdings			Top Contributor	rs		<u> </u>	OLLOIN CONLINU	เบเอ	
Ending Period Weight			Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution
TESLA	1.16%	TESLA	0.71	73.67	0.52	SAGE THERAPEUTICS	0.15	-48.54	-0.07
UBER TECHNOLOGIES	0.55%	DEXCOM	0.28	46.57	0.13	VEEVA SYSTEMS CL.A	0.41	-7.88	-0.03
LULULEMON ATHLETICA	0.53%	SERVICENOW	0.99	11.22	0.11	VISTRA ENERGY	0.24	-13.54	-0.03
WORKDAY CLASS A	0.52%	SPLUNK	0.37	27.07	0.10	CYRUSONE	0.18	-16.65	-0.03
SPLUNK	0.45%	LULULEMON ATHLETICA	0.47	20.33	0.10	ETSY	0.14	-21.59	-0.03
PALO ALTO NETWORKS	0.43%	SPOTIFY TECHNOLOGY	0.28	31.18	0.09	WP CAREY	0.31	-9.40	-0.03
COSTAR GP.	0.42%	LAS VEGAS SANDS	0.41	20.88	0.09	TWILIO 'A'	0.27	-10.62	-0.03
SQUARE CL.A	0.42%	SAREPTA THERAPEUTICS	0.11	71.32	0.08	WAYFAIR CL.A	0.15	-19.40	-0.03
DEXCOM	0.39%	ALNYLAM	0.10	42.04	0.00	SHAKE SHACK 'A'	0.06	-39.24	-0.02
IAC/INTERACTIVECORP	0.36%	PHARMACEUTICALS	0.18	43.21	0.08	INTELSAT	0.03	-69.17	-0.02
Total	5 25%	SEATTLE GENETC.	0.20	33.79	0.07				



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



		Return (Rar	ık)													
	5th Percentile	13.1		11.9		35.8		14.5		12.5		15.6		15.6		
	25th Percentile	10.0		8.6		28.5		11.2		10.6		13.9		14.2		
	Median	8.6		7.1		25.2		8.8		9.0		12.5		12.9		
	75th Percentile	7.2		6.1		21.6		6.3		7.3		11.3		12.2		
	95th Percentile	4.8		3.5		15.4		3.1		4.2		8.8		10.5		
	# of Portfolios	159		159		159		154		149		139		124		
•	SSGA Russell Small Cap Completeness Index		(45)	7.0	(53)	27.8	(29)	11.1	(26)	9.1	(50)		()		()	
•	Russell Small Cap Completeness	8.9	(44)	7.0	(51)	28.0	(29)	11.2	(25)	9.1	(50)	12.7	(48)	12.7	(54)	

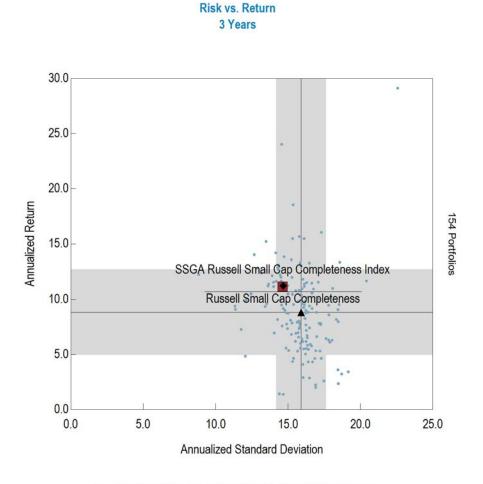


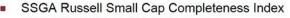
SSGA Russell Small Cap Completeness Index vs. eV US Small Cap Core Equity Gross Universe



	Return	(Rank)								
5th Percentile	35.8	-2.3	24.9	29.1	4.8	11.3	49.7	23.4	5.7	36.7
25th Percentile	28.5	-7.2	17.6	23.8	0.7	8.5	43.8	19.4	0.9	30.8
Median	25.2	-10.8	14.9	20.6	-1.8	5.6	40.3	17.2	-1.4	27.4
75th Percentile	21.6	-14.1	12.0	18.6	-5.1	2.6	36.9	14.0	-5.2	24.5
95th Percentile	15.4	-18.9	7.5	11.0	-10.6	-3.1	29.1	10.1	-10.3	18.9
# of Portfolios	159	173	171	168	151	142	133	127	122	125
 SSGA Russell Small Cap Russell Small Cap Comp 	Completeness Index 27.8 pleteness 28.0	(29) -9.2 (29) -9.2	(37) 18.2 (37) 18.3	TO THE STATE OF TH		(68) 7.4 (68) 7.4	(37) (40) 38.5	() ((66) 18.0 (39	/	, , ,

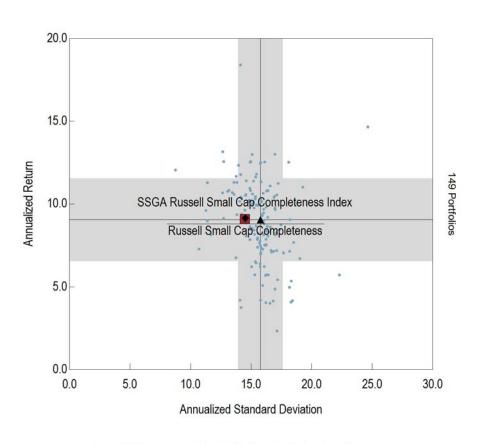






- Russell Small Cap Completeness
- Universe Median
- 68% Confidence Interval
- eV US Small Cap Core Equity Gross



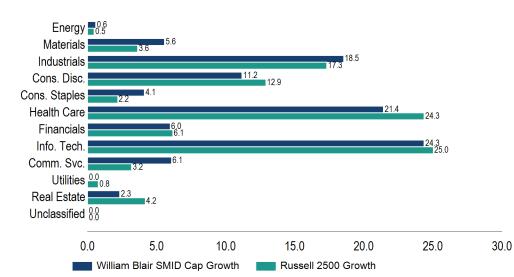


- SSGA Russell Small Cap Completeness Index
- Russell Small Cap Completeness
- Universe Median
- 68% Confidence Interval
- eV US Small Cap Core Equity Gross



	Portfolio	Russell 2500 Growth
Number of Holdings	72	1,409
Weighted Avg. Market Cap. (\$B)	7.88	5.91
Median Market Cap. (\$B)	5.93	1.29
Price To Earnings	32.24	28.43
Price To Book	6.44	5.53
Price To Sales	2.26	1.97
Return on Equity (%)	18.22	5.36
Yield (%)	0.57	0.69
Beta	0.86	1.00

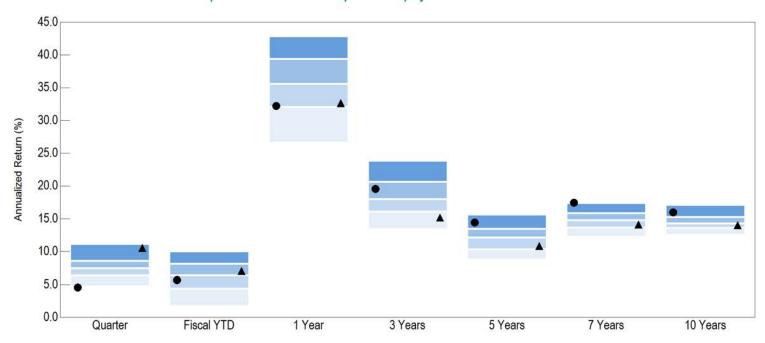
Sector Allocation (%) vs Russell 2500 Growth



Top Holdings			Top Contributo	rs		שטו	tom Continua	.UI 3	
Ending Period Weight			Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution
BWX TECHNOLOGIES TREX	3.39% 2.86%	HORIZON THERAPEUTICS PUBLIC	1.89	32.94	0.62	BJAS WHOLESALE CLUB HOLDINGS	1.98	-12.10	-0.24
	2.78%	LAMB WESTON HOLDINGS	2.15	18.61	0.40	WAYFAIR CL.A	1.08	-19.40	-0.21
BURLINGTON STORES		BURLINGTON STORES	2.54	14.12	0.36	FIRSTCASH	1.53	-11.75	-0.18
MARTIN MRTA.MATS.	2.69%	PENUMBRA	1.47	22.14	0.33	GLAUKOS	1.36	-12.86	-0.17
ENCOMPASS HEALTH EURONET WWD.	2.57% 2.53%	AMEDISYS BWX TECHNOLOGIES	1.14 3.27	27.41 8.82	0.31 0.29	PORTOLA PHARMACEUTICALS	1.57	-10.96	-0.17
TELEDYNE TECHS. LAMB WESTON HOLDINGS	2.49% 2.44%	CABLE ONE	1.38	18.81	0.26	ADTALEM GLOBAL EDUCATION	1.48	-8.19	-0.12
INSULET	2.42%	COPART	1.79	13.21	0.24	PROOFPOINT	1.07	-11.06	-0.12
HORIZON THERAPEUTICS PUBLIC	2.41%	ENCOMPASS HEALTH	2.29	9.91	0.23	FIRSTSERVICE (NAS)	1.27	-9.15	-0.12
Total	26.59%	TELEFLEX	1.94	10.91	0.21	HEICO NEW 'A'	1.29	-8.00	-0.10
						MIDDLEBY	1.48	-6.31	-0.09



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



	Return (Ran	k)												
5th Percentile	11.2		10.0		42.8		23.8		15.6		17.4		17.1	
25th Percentile	8.6		8.1		39.4		20.7		13.5		15.9		15.3	
Median	7.5		6.4		35.6		18.0		12.1		14.8		14.3	
75th Percentile	6.4		4.4		32.1		16.1		10.4		13.7		13.6	
95th Percentile	4.7		1.7		26.6		13.4		8.8		12.3		12.6	
# of Portfolios	76		75		75		75		72		69		62	
 William Blair SMID Cap Growth Russell 2500 Growth 	4.6 10.6	(98) (9)	5.7 7.1	(56) (39)	32.2 32.7	(75) (74)	19.6 15.2	(36) (83)	14.4 10.8	(16) (71)	17.5 14.1	(3) (68)	16.0 14.0	(12) (60)



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))																	
42.8		4.0		34.0		13.9		6.7		14.2		46.0		21.3		6.1		35.3	
39.4		-0.5		28.7		8.0		2.5		10.9		39.2		17.6		1.3		29.8	
35.6		-3.7		25.9		5.4		0.0		8.6		36.4		15.4		-2.1		26.7	
32.1		-6.5		23.1		2.6		-2.1		6.1		33.2		12.2		-6.1		22.5	
26.6		-10.8		17.7		-0.5		-6.3		2.6		29.0		6.0		-10.4		18.3	
75		93		97		105		105		117		106		111		122		127	
32.2	(75)	-0.9	(29)	30.4	(16)	8.2	(22)	6.1	(7)	9.8	(33)	43.1	(11)	13.8	(68)	0.9	(28)	24.4	(65)
32.7	(74)	-7.5	(79)	24.5	(62)	9.7	(13)	-0.2	(55)	7.1	(65)	40.7	(17)	16.1	(44)	-1.6	(46)	28.9	(35)



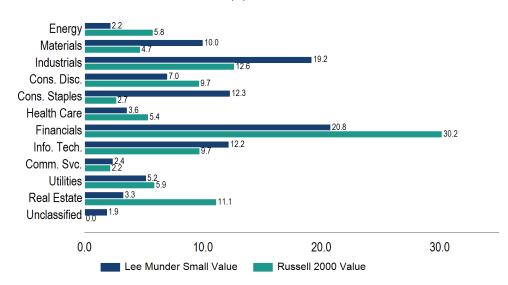
Risk vs. Return Risk vs. Return 3 Years 5 Years 40.0 20.0 William Blair SMID Cap Growth 30.0 15.0 Annualized Return Annualized Return 75 Portfolios 72 Portfolios William Blair SMID Cap Growth 20.0 10.0 Russell 2500 Growth 10.0 5.0 0.0 0.0 0.0 5.0 10.0 15.0 10.0 20.0 25.0 0.0 5.0 15.0 20.0 Annualized Standard Deviation Annualized Standard Deviation William Blair SMID Cap Growth William Blair SMID Cap Growth Russell 2500 Growth Russell 2500 Growth Universe Median Universe Median 68% Confidence Interval 68% Confidence Interval eV US Mid Cap Growth Equity Gross eV US Mid Cap Growth Equity Gross





	Portfolio	Russell 2000 Value
Number of Holdings	91	1,402
Weighted Avg. Market Cap. (\$B)	3.32	2.17
Median Market Cap. (\$B)	2.73	0.70
Price To Earnings	18.64	16.29
Price To Book	2.06	1.71
Price To Sales	1.01	0.92
Return on Equity (%)	7.46	5.31
Yield (%)	1.58	2.13
Beta	1.02	1.00

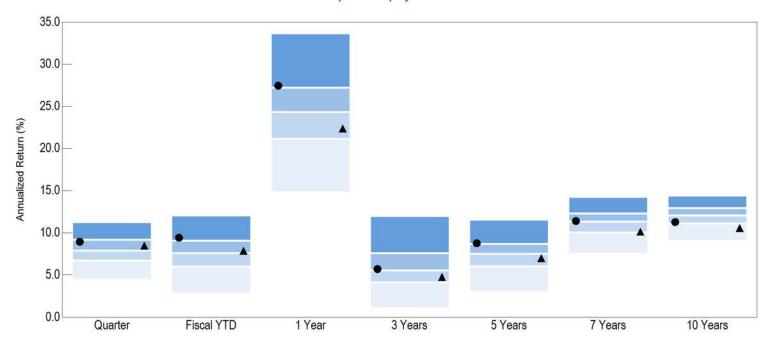
Sector Allocation (%) vs Russell 2000 Value



Top Holdings		T	op Contributor	rs		טט		lUI 3	
Ending Period Weight			Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution
MURPHY USA	2.95%	MURPHY USA	2.39	37.16	0.89	TREEHOUSE FOODS	2.39	-12.53	-0.30
MACOM TECH.SLTN.HDG.	2.34%	DARLING INGREDIENTS	1.89	46.79	0.88	TEAM	1.49	-11.52	-0.17
STERLING BANCORP	2.34%	MACOM TECH.SLTN.HDG.	2.49	23.75	0.59	PROASSURANCE	1.59	-9.48	-0.15
TREEHOUSE FOODS	2.34%	GENERAC HOLDINGS	1.49	28.40	0.42	CARRIZO O&G.	0.50	-25.33	-0.13
DARLING INGREDIENTS	2.24%	ITT	1.59	21.04	0.33	HEXCEL	0.90	-10.54	-0.09
CACI INTERNATIONAL 'A'	2.14%	BANK OF NT BUTTERFIELD	1.19	26.58	0.32	MICHAELS COMPANIES	0.40	-17.36	-0.07
FNB	2.14%	&.SON	1.19	20.30	0.32	OLIN	0.90	-6.90	-0.06
BLACKSTONE MGE.TST.CL.A	1.93%	HAIN CELESTIAL GP.	1.29	20.86	0.27	IDACORP	1.19	-4.61	-0.06
BANKUNITED	1.83%	PRESTIGE CONSUMER HEALTHCARE	1.49	16.75	0.25	AMERICOLD REALTY TRUST	1.09	-4.88	-0.05
IBERIABANK	1.83%	ALTRA INDUSTRIAL MOTION	0.80	31.38	0.25	SENSIENT TECHS.	1.59	-3.14	-0.05
Total	22.10%	LIVENT	0.90	27.80	0.25				



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

eturn (Rar	ık)												
11.2		12.1		33.7		12.0		11.6		14.3		14.4	
9.2		9.1		27.3		7.6		8.7		12.3		13.0	
7.9		7.6		24.4		5.6		7.5		11.4		12.1	
6.7		6.0		21.2		4.2		6.0		10.1		11.1	
4.5		2.8		14.9		1.1		3.0		7.6		9.0	
209		209		209		205		196		189		174	
8.9	(27)	9.4	(21)	27.5	(23)	5.7	(48)	8.8	(25)	11.4	(47)	11.3	(73)
8.5	(36)	7.9	(47)	22.4	(69)	4.8	(64)	7.0	(58)	10.1	(75)	10.6	(82)



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



5th Percentile	
25th Percentile	9
Median	
75th Percentile	9
95th Percentile	9
# of Portfolios	

Lee Munder Small Value

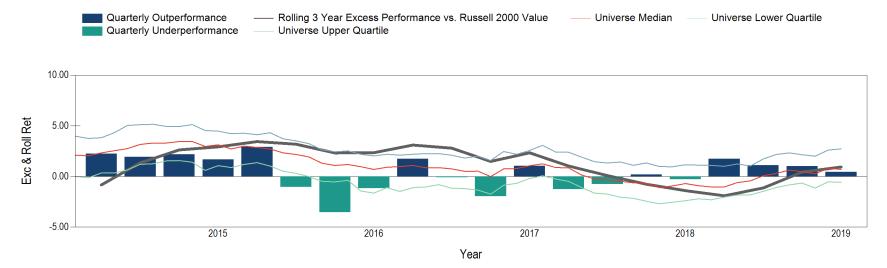
Russell 2000 Value

33.7		-5.7		20.2		36.7		1.5		11.2		49.4		25.7		5.3		35.6	
27.3		-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	
14.9		-20.2		3.7		16.8		-15.8		-6.3		27.8		10.3		-12.6		19.2	
209		220		224		222		212		206		199		187		177		186	
27.5	(23)	-14.7	(56)	8.6	(68)	28.4	(38)	0.4	(9)	5.1	(60)	33.1	(85)	15.7	(61)	-6.9	(79)	26.8	(54)
22.4	(69)	-12.9	(39)	7.8	(75)	31.7	(17)	-7.5	(74)	4.2	(68)	34.5	(78)	18.1	(43)	-5.5	(69)	24.5	(72)

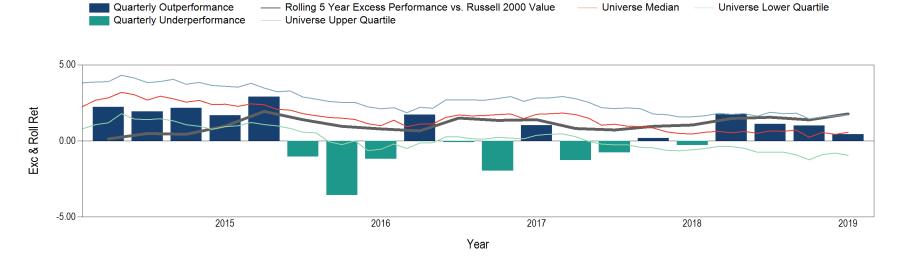


Risk vs. Return Risk vs. Return 3 Years 5 Years 20.0 15.0 15.0 10.0 Lee Munder Small Value 10.0 Russell 2000 Value Annualized Return Annualized Return 5.0 205 Portfolios 196 Portfolios 5.0 Russell 2000 Value 0.0 0.0 -5.0 -5.0 -10.0 -10.00.0 5.0 15.0 20.0 10.0 15.0 10.0 25.0 30.0 0.0 5.0 20.0 25.0 30.0 **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



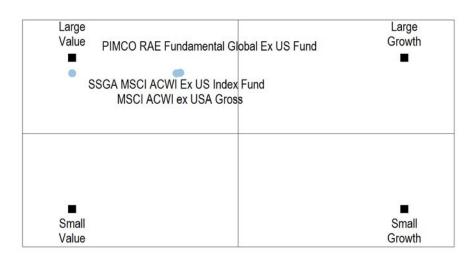
Rolling 5 Year Annualized Excess Performance



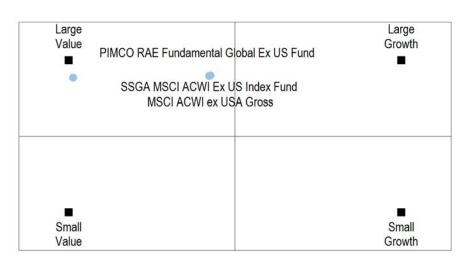


	Market Value	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total International Equity	338,053,547	8.1	6.1	23.2	10.3	6.0	4.9	23.2	-14.3	26.9	6.2	-5.9
MSCI ACWI ex USA Gross		9.0	7.1	22.1	10.4	6.0	5.4	22.1	-13.8	27.8	5.0	-5.3
InvMetrics Public DB ex-US Eq Gross Rank		90	87	44	48	53	92	44	43	80	13	85
SSGA MSCI ACWI Ex US Index Fund	112,361,275	8.9	7.0	21.9	10.2	5.8	5.2	21.9	-14.0	27.6	4.8	-5.5
MSCI ACWI ex USA Gross		9.0	7.1	22.1	10.4	6.0	5.4	22.1	-13.8	27.8	5.0	-5.3
eV All EAFE Equity Gross Rank		56	68	63	48	75	93	63	42	49	17	96
PIMCO RAE Fundamental Global Ex US Fund	108,075,092	8.1	6.3	16.7	8.0	5.0		16.7	-14.7	26.7	13.5	-10.9
MSCI ACWI ex USA Gross		9.0	7.1	22.1	10.4	6.0		22.1	-13.8	27.8	5.0	-5.3
eV All EAFE Equity Gross Rank		76	82	94	84	90		94	47	53	1	99
SGA Global Growth	117,617,181	7.3	5.0	31.1				31.1				
MSCI ACWI ex USA Gross		9.0	7.1	22.1				22.1				
eV ACWI ex-US Core Equity Gross Rank		95	98	9				9				

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.

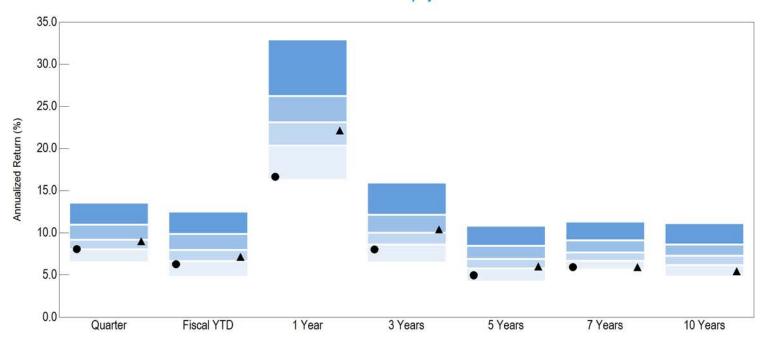


	Market Value	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total International Equity	338,053,547	8.0	5.9	22.7	9.9	5.7	4.6	22.7	-14.5	26.5	5.9	-6.2
MSCI ACWI ex USA Gross		9.0	7.1	22.1	10.4	6.0	5.4	22.1	-13.8	27.8	5.0	-5.3
SSGA MSCI ACWI Ex US Index Fund	112,361,275	8.9	7.0	21.8	10.1	5.7	5.1	21.8	-14.0	27.5	4.7	-5.5
MSCI ACWI ex USA Gross		9.0	7.1	22.1	10.4	6.0	5.4	22.1	-13.8	27.8	5.0	-5.3
PIMCO RAE Fundamental Global Ex US Fund	108,075,092	7.9	6.0	16.1	7.5	4.4		16.1	-15.1	26.0	13.0	-11.4
MSCI ACWI ex USA Gross		9.0	7.1	22.1	10.4	6.0		22.1	-13.8	27.8	5.0	-5.3
SGA Global Growth	117,617,181	7.2	4.7	30.5				30.5				
MSCI ACWI ex USA Gross		9.0	7.1	22.1				22.1				

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).



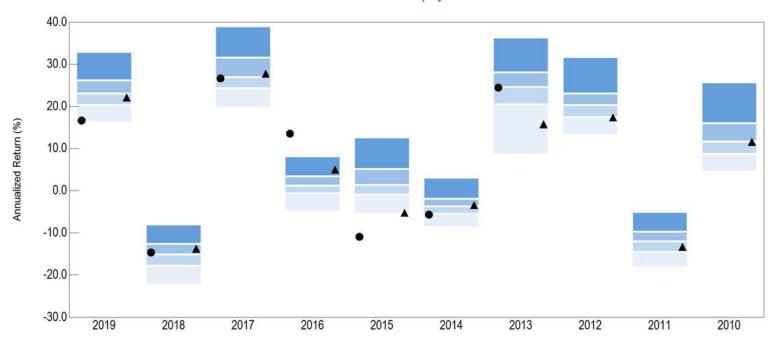
PIMCO RAE Fundamental Global Ex US Fund vs. eV All EAFE Equity Gross Universe



R	eturn (Rar	ık)												
5th Percentile	13.6		12.5		32.9		16.0		10.8		11.3		11.1	
25th Percentile	11.0		9.9		26.3		12.2		8.5		9.1		8.6	
Median	9.2		8.0		23.2		10.0		6.9		7.7		7.3	
75th Percentile	8.1		6.7		20.4		8.6		5.8		6.7		6.2	
95th Percentile	6.5		4.8		16.3		6.5		4.3		5.7		4.8	
# of Portfolios	388		387		387		370		327		289		253	
 PIMCO RAE Fundamental Global Ex US Fund MSCI ACWI ex USA Gross 	8.1 9.0	(76) (55)	6.3 7.1	(82) (65)	16.7 22.1	(94) (60)	8.0 10.4	(84) (44)	5.0 6.0	(90) (66)	5.9 5.9	(93) (93)	5.4	() (91)
MSCI ACWI ex USA Gross	9.0	(55)	7.1	(65)	22.1	(60)	10.4	(44)	6.0	(66)	5.9	(93)	5.4	(91)



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



	R	eturn	(Rank)																			
	5th Percentile	32.9		-8.0		39.0		8.1		12.6		3.0		36.3		31.7		-5.1		25.7		
	25th Percentile	26.3		-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	20.4		-17.8		24.3		-0.6		-0.9		-5.4		20.5		17.5		-14.5		8.7		
	95th Percentile	16.3		-22.2		19.7		-4.9		-5.4		-8.6		8.6		13.3		-18.2		4.6		
	# of Portfolios	387		391		370		350		325		314		284		263		278		352		
•	PIMCO RAE Fundamental Global Ex US Fund MSCI ACWI ex USA Gross	16.7 22.1	(94) (60)	-14.7 -13.8	(47) (40)	26.7 27.8	(53) (48)	13.5 5.0	(1) (16)	-10.9 -5.3	(99) (95)	-5.7 -3.4	(79) (47)	24.5 15.8	(51) (90)	 17.4	() (77)	 -13.3	() (62)	11.6	() (52)	



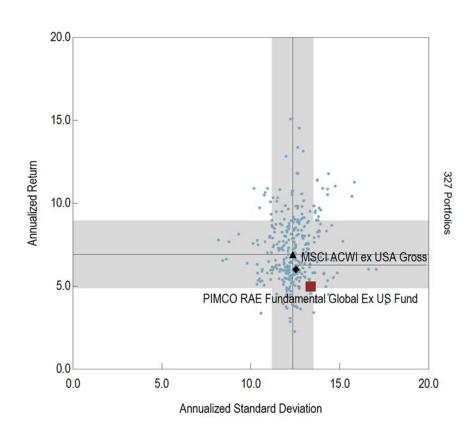
Risk vs. Return

3 Years 20.0 15.0 Annualized Return 370 Portfolios 10.0 PIMCO RAE Fundamental Global Ex US Fund 5.0 0.0 5.0 0.0 10.0 15.0 20.0 **Annualized Standard Deviation**

PIMCO RAE Fundamental Global Ex US Fund

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

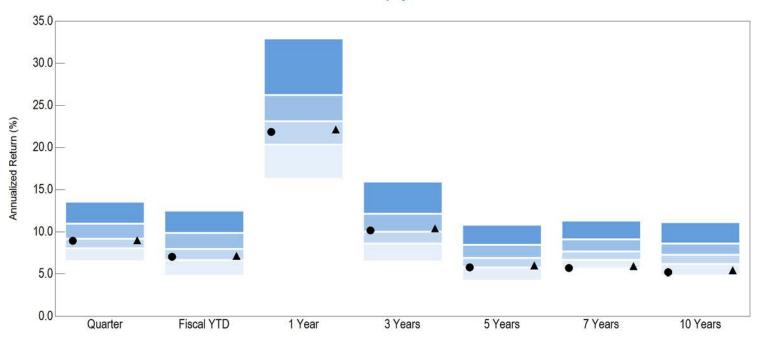




- PIMCO RAE Fundamental Global Ex US Fund
- MSCI ACWI ex USA Gross
- Universe Median
- 68% Confidence Interval
- eV All EAFE Equity Gross



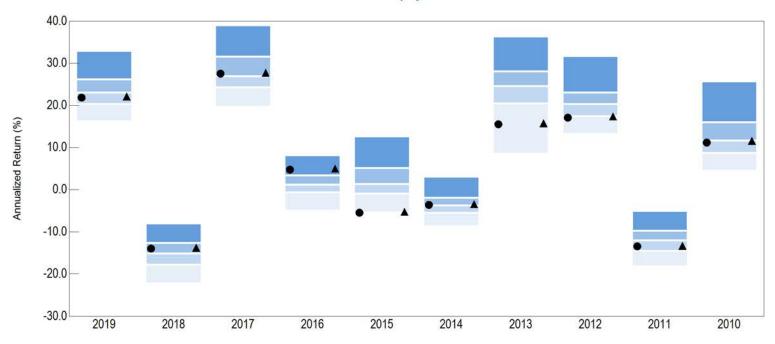
SSGA MSCI ACWI Ex US Index Fund vs. eV All EAFE Equity Gross Universe



	Return (Rar	ık)												
5th Percentile	13.6		12.5		32.9		16.0		10.8		11.3		11.1	
25th Percentile	11.0		9.9		26.3		12.2		8.5		9.1		8.6	
Median	9.2		8.0		23.2		10.0		6.9		7.7		7.3	
75th Percentile	8.1		6.7		20.4		8.6		5.8		6.7		6.2	
95th Percentile	6.5		4.8		16.3		6.5		4.3		5.7		4.8	
# of Portfolios	388		387		387		370		327		289		253	
 SSGA MSCI ACWI Ex US Index Fund MSCI ACWI ex USA Gross 	8.9 9.0	(56) (55)	7.0 7.1	(68) (65)	21.9 22.1	(63) (60)	10.2 10.4	(48) (44)	5.8 6.0	(75) (66)	5.7 5.9	(94) (93)	5.2 5.4	(93) (91)



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



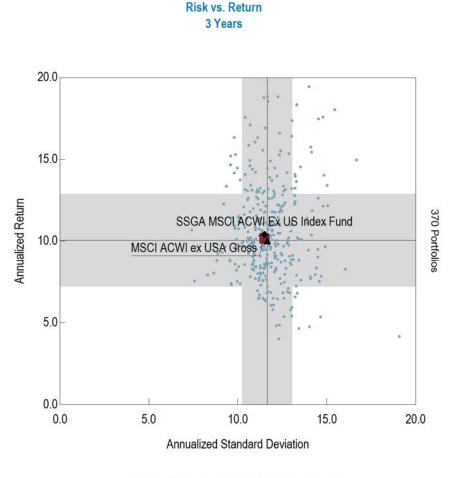
5th F	Percentile
25th	Percentile
Medi	ian
75th	Percentile
95th	Percentile
# of	Portfolios

SSGA MSCI ACWI Ex US Index Fund

MSCI ACWI ex USA Gross

32.9		-8.0		39.0		8.1		12.6		3.0		36.3		31.7		-5.1		25.7	
26.3		-12.6		31.6		3.4		5.2		-1.9		28.1		23.1		-9.7		16.1	
23.2		-15.1		27.0		1.3		1.4		-3.7		24.6		20.4		-12.0		11.7	
20.4		-17.8		24.3		-0.6		-0.9		-5.4		20.5		17.5		-14.5		8.7	
16.3		-22.2		19.7		-4.9		-5.4		-8.6		8.6		13.3		-18.2		4.6	
387		391		370		350		325		314		284		263		278		352	
21.9	(63)	-14.0	(42)	27.6	(49)	4.8	(17)	-5.5	(96)	-3.6	(49)	15.5	(90)	17.1	(81)	-13.5	(64)	11.2	(55)
22.1	(60)	-13.8	(40)	27.8	(48)	5.0	(16)	-5.3	(95)	-3.4	(47)	15.8	(90)	17.4	(77)	-13.3	(62)	11.6	(52)

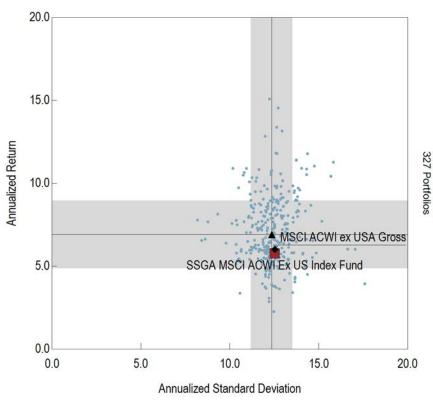






- MSCI ACWI ex USA Gross
- Universe Median
- 68% Confidence Interval
- eV All EAFE Equity Gross





Risk vs. Return

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

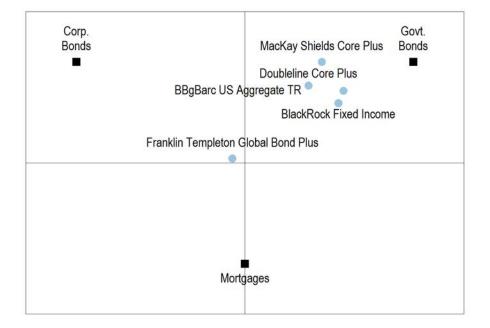


	Market Value	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Fixed Income	468,681,427	1.2	2.5	8.4	4.3	3.5	4.7	8.4	0.5	4.3	5.5	-0.8
BBgBarc US Aggregate TR		0.2	2.5	8.7	4.0	3.0	3.7	8.7	0.0	3.5	2.6	0.6
InvMetrics Public DB US Fix Inc Gross Rank		9	27	35	30	28	28	35	51	50	37	77
Total Domestic Fixed Income	292,870,611	0.4	2.7	9.3	4.5	3.7		9.3	0.1	4.4	5.1	-0.3
BBgBarc US Aggregate TR		0.2	2.5	8.7	4.0	3.0		8.7	0.0	3.5	2.6	0.6
BlackRock Fixed Income	106,941,512	0.4	2.7	9.0	4.4	3.4	4.2	9.0	0.4	3.9	3.1	1.1
BBgBarc US Aggregate TR		0.2	2.5	8.7	4.0	3.0	3.7	8.7	0.0	3.5	2.6	0.6
eV All US Fixed Inc Gross Rank		77	39	45	50	51	50	45	54	54	53	39
Doubleline Core Plus	92,092,097	0.4	2.2	8.6	4.2			8.6	0.0	4.2	4.8	
BBgBarc US Aggregate TR		0.2	2.5	8.7	4.0			8.7	0.0	3.5	2.6	
eV US Core Plus Fixed Inc Gross Rank		60	93	92	94			92	33	86	52	
MacKay Shields Core Plus	93,837,001	0.4	3.1	10.0	4.7			10.0	-0.6	5.0	5.1	
BBgBarc US Aggregate TR		0.2	2.5	8.7	4.0			8.7	0.0	3.5	2.6	
eV US Core Plus Fixed Inc Gross Rank		58	26	52	61			52	67	52	46	
Total Global Fixed Income	91,687,007	1.3	-1.9	1.3	2.2	2.0		1.3	2.4	3.0	7.1	-3.4
JPM GBI Global TR USD		-0.5	0.6	6.0	4.0	2.2		6.0	-0.7	6.8	1.6	-2.6
Franklin Templeton Global Bond Plus	91,687,007	1.3	-1.9	1.3	2.2	1.9		1.3	2.4	3.0	6.8	-3.5
JPM GBI Global TR USD		-0.5	0.6	6.0	4.0	2.2		6.0	-0.7	6.8	1.6	-2.6
eV Global Government Fixed Inc Gross Rank		19	99	99	96	73		99	10	87	8	58
Total Emerging Markets Fixed Income	84,123,810	4.2	5.2									
50% JPM EMBI Global Div/50% JPM GBI EM Global Div		3.5	3.9									
PGIM Emerging Markets Debt	84,123,810	4.2								-		
50% JPM EMBI Global Div/50% JPM GBI EM Global Div		3.5										
eV Emg Mkts Fixed Inc - Blended Currency Gross Rank		35										

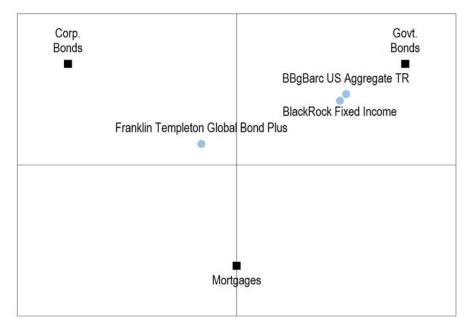
Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. SSGA TIPS liquidated in 12/28/18. Shenkman HY liquidated 3/11/19. PGIM EMD funded 8/26/19.



Fixed Income Style Map 3 Years



Fixed Income Style Map 5 Years



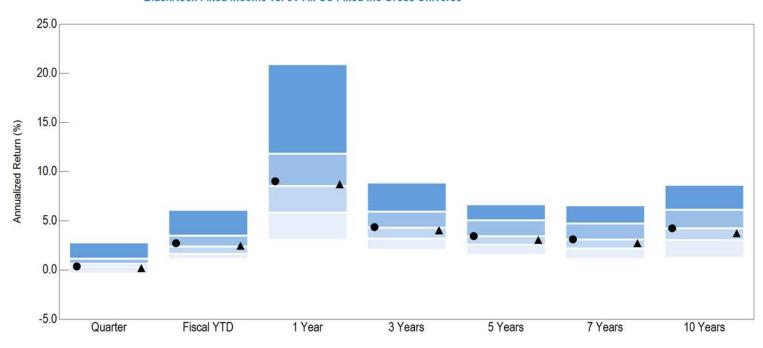


	Market Value	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Fixed Income	468,681,427	1.2	2.4	8.1	4.0	3.2	4.4	8.1	0.1	3.9	5.1	-1.1
BBgBarc US Aggregate TR		0.2	2.5	8.7	4.0	3.0	3.7	8.7	0.0	3.5	2.6	0.6
Total Domestic Fixed Income	292,870,611	0.3	2.5	9.0	4.2	3.4		9.0	-0.2	4.1	4.8	-0.5
BBgBarc US Aggregate TR		0.2	2.5	8.7	4.0	3.0		8.7	0.0	3.5	2.6	0.6
BlackRock Fixed Income	106,941,512	0.3	2.6	8.7	4.1	3.2	4.0	8.7	0.1	3.6	2.9	0.8
BBgBarc US Aggregate TR		0.2	2.5	8.7	4.0	3.0	3.7	8.7	0.0	3.5	2.6	0.6
Doubleline Core Plus	92,092,097	0.4	2.0	8.3	3.9			8.3	-0.3	3.9	4.6	
BBgBarc US Aggregate TR		0.2	2.5	8.7	4.0			8.7	0.0	3.5	2.6	
MacKay Shields Core Plus	93,837,001	0.3	2.8	9.6	4.3			9.6	-1.0	4.5	4.7	
BBgBarc US Aggregate TR		0.2	2.5	8.7	4.0			8.7	0.0	3.5	2.6	
Total Global Fixed Income	91,687,007	1.1	-2.1	0.9	1.7	1.5		0.9	1.9	2.4	6.4	-3.9
JPM GBI Global TR USD		-0.5	0.6	6.0	4.0	2.2		6.0	-0.7	6.8	1.6	-2.6
Franklin Templeton Global Bond Plus	91,687,007	1.1	-2.1	0.9	1.7	1.4		0.9	1.9	2.4	6.1	-4.1
JPM GBI Global TR USD		-0.5	0.6	6.0	4.0	2.2		6.0	-0.7	6.8	1.6	-2.6
Total Emerging Markets Fixed Income	84,123,810	4.1	5.2	-	-				-	-	-	
50% JPM EMBI Global Div/50% JPM GBI EM Global Div		3.5	3.9									
PGIM Emerging Markets Debt	84,123,810	4.1				-			-	-	-	
50% JPM EMBI Global Div/50% JPM GBI EM Global Div		3.5										

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



	Trocuiti (Ital	1111			
5th Percentile	2.8		6.1		20.9
25th Percentile	1.2		3.5		11.8
Median	0.6		2.4		8.5
75th Percentile	0.4		1.6		5.9
95th Percentile	-0.3		1.1		3.1
# of Portfolios	1,865		1,865		1,864
 BlackRock Fixed Income 	0.4	(77)	2.7	(39)	9.0
 BBgBarc US Aggregate TR 	0.2	(86)	2.5	(49)	8.7

Return (Rar	ık)												
2.8	•	6.1		20.9		8.9		6.7		6.6		8.7	
1.2		3.5		11.8		5.9		5.1		4.8		6.1	
0.6		2.4		8.5		4.3		3.4		3.1		4.2	
0.4		1.6		5.9		3.2		2.6		2.2		3.0	
-0.3		1.1		3.1		2.0		1.5		1.1		1.3	
1,865		1,865		1,864		1,808		1,735		1,632		1,424	
0.4	(77)	2.7	(39)	9.0	(45)	4.4	(50)	3.4	(51)	3.1	(51)	4.2	(50)
0.2	(86)	2.5	(49)	8.7	(48)	4.0	(58)	3.0	(62)	2.7	(62)	3.7	(61)



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



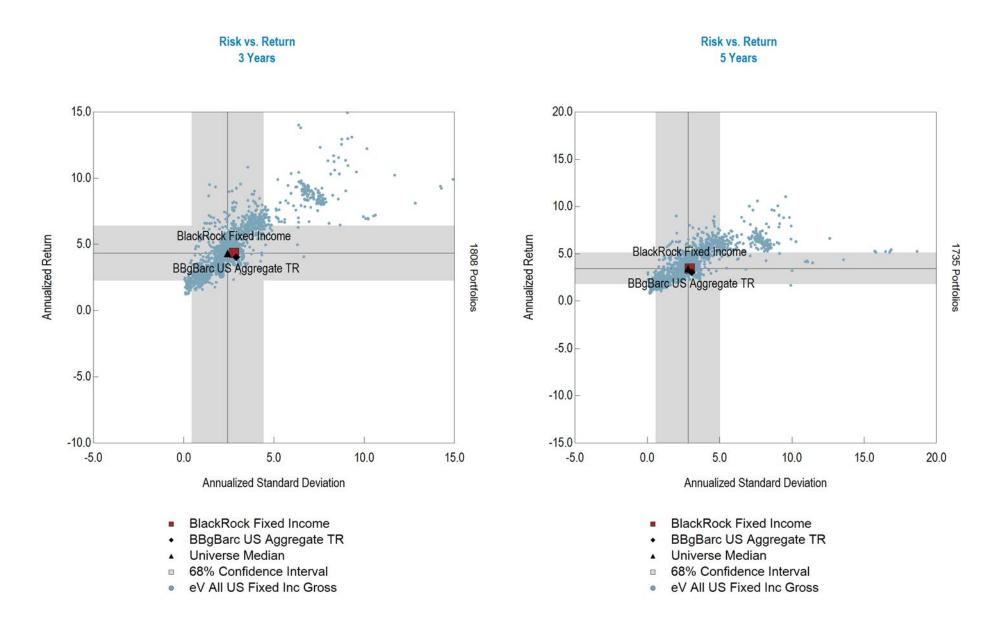
5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

BlackRock Fixed Income

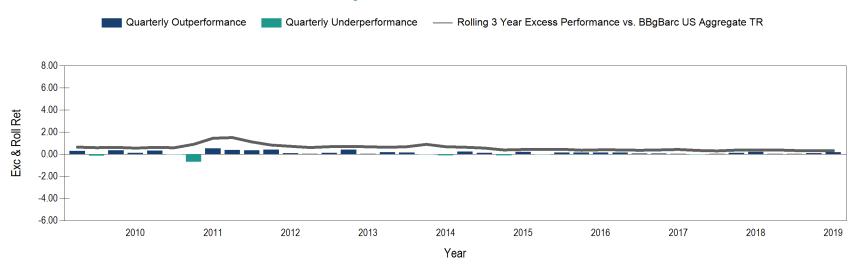
▲ BBgBarc US Aggregate TR

Return	(Rank)																	
20.9	•	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		0.8		4.2		-0.3		6.1		6.5		6.9	
5.9		-1.1		2.4		1.8		-0.5		2.0		-1.5		3.8		4.0		4.8	
3.1		-4.9		1.1		0.4		-4.1		0.5		-7.5		1.1		0.4		1.4	
1,864		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)

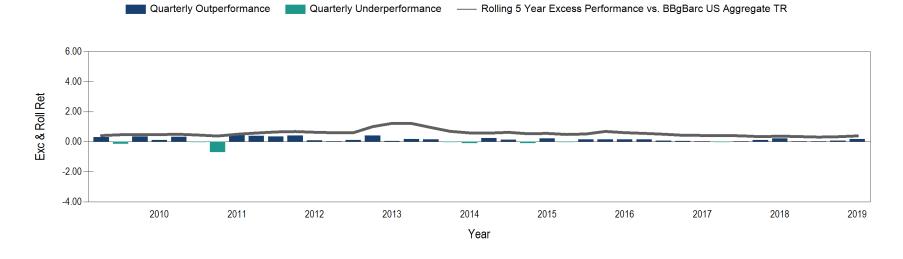




Rolling 3 Year Annualized Excess Performance

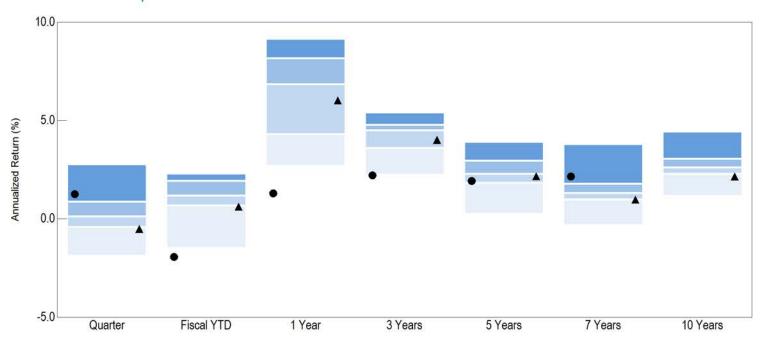


Rolling 5 Year Annualized Excess Performance





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



	Return (Ran	nk)												
5th Percentile	2.8		2.3		9.2		5.4		3.9		3.8		4.4	
25th Percentile	0.9		1.9		8.2		4.8		3.0		1.8		3.1	
Median	0.1		1.2		6.9		4.5		2.3		1.3		2.6	
75th Percentile	-0.4		0.7		4.3		3.6		1.8		1.0		2.3	
95th Percentile	-1.9		-1.5		2.7		2.3		0.3		-0.3		1.2	
# of Portfolios	38		38		38		38		37		34		28	
 Franklin Templeton Global Bond Plus 	1.3	(19)	-1.9	(99)	1.3	(99)	2.2	(96)	1.9	(73)	2.2	(16)		()
▲ JPM GBI Global TR USD	-0.5	(79)	0.6	(77)	6.0	(63)	4.0	(68)	2.2	(62)	1.0	(76)	2.1	(82)



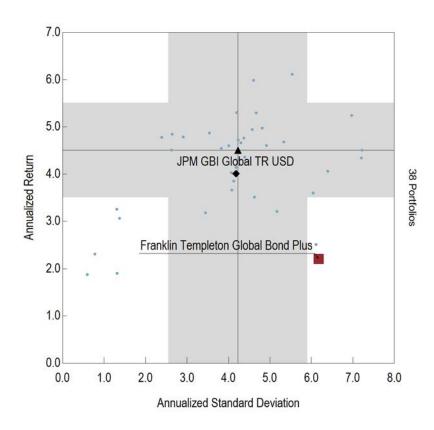
Franklin Templeton Global Bond Plus vs. eV Global Government Fixed Inc Gross Universe



	Return (Rar	nk)								
5th Percentile	9.2	3.0	10.8	7.6	1.3	8.5	2.1	9.8	9.6	11.2
25th Percentile	8.2	0.6	8.8	3.0	-2.7	2.6	-0.6	6.2	7.1	7.6
Median	6.9	-0.6	7.5	1.8	-3.3	0.7	-3.1	4.2	5.7	6.2
75th Percentile	4.3	-1.8	4.1	0.1	-4.7	-0.5	-4.8	2.7	4.7	4.8
95th Percentile	2.7	-4.7	1.7	-1.6	-8.5	-1.3	-5.8	1.2	0.9	2.3
# of Portfolios	38	42	43	46	36	32	33	35	33	30
 Franklin Templeton Global Bond Plus JPM GBI Global TR USD 	1.3 (99 6.0 (63				(8) -3.5 (58 58) -2.6 (23		3.0 (3) -4.5 (71)	() 1.3 (94)	() 7.2 (23)	() 6.4 (49)

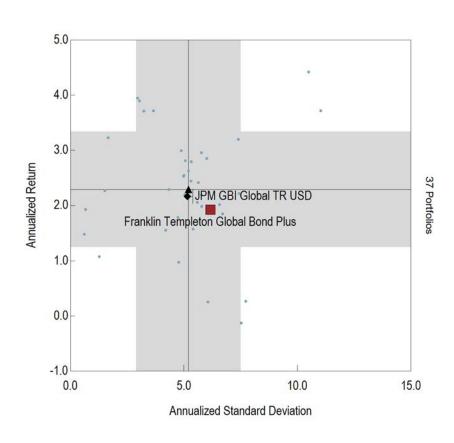


Risk vs. Return 3 Years



- 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	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Real Estate	171,599,264	1.4	2.9	5.2	6.1	8.6	9.1	5.2	8.8	4.3	9.0	16.0
NCREIF-ODCE		1.5	2.8	5.3	7.1	9.0	11.4	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index		1.6	3.0	6.4	6.7	8.2	10.2	6.4	6.7	7.0	8.0	13.3
RREEF America II	167,581,784	1.4	2.9	5.3	6.0	8.7	11.9	5.3	8.6	4.4	9.3	16.7
NCREIF-ODCE		1.5	2.8	5.3	7.1	9.0	11.4	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index		1.6	3.0	6.4	6.7	8.2	10.2	6.4	6.7	7.0	8.0	13.3
American Realty	4,000,000											
NCREIF-ODCE												
NCREIF Property Index												

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	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Real Estate	171,599,264	1.4	2.9	5.2	6.1	8.2	8.8	5.2	8.8	4.3	8.0	15.1
NCREIF-ODCE		1.5	2.8	5.3	7.1	9.0	11.4	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index		1.6	3.0	6.4	6.7	8.2	10.2	6.4	6.7	7.0	8.0	13.3
RREEF America II	167,581,784	1.4	2.9	5.3	6.0	8.4	11.3	5.3	8.6	4.4	8.2	15.7
NCREIF-ODCE		1.5	2.8	5.3	7.1	9.0	11.4	5.3	8.3	7.6	8.8	15.0
NCREIF Property Index		1.6	3.0	6.4	6.7	8.2	10.2	6.4	6.7	7.0	8.0	13.3
American Realty	4,000,000											
NCREIF-ODCE												
NCREIF Property Index												

	Market Value	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Liquid Alts/HFoF	90,639,518	3.5	2.5	8.2	4.8	3.1		8.2	0.9	5.4	0.3	0.7
ICE BofAML 90 DAY T-BILLS + 400 bps		1.2	2.5	5.3	4.7	4.1		5.3	4.9	3.9	3.3	3.1
Aetos Capital	45,386,573	2.8	2.7	8.8	4.5	3.4	4.6	8.8	-1.9	6.8	2.6	1.2
ICE BofAML 90 DAY T-BILLS + 400 bps		1.2	2.5	5.3	4.7	4.1	4.0	5.3	4.9	3.9	3.3	3.1
Titan Advisors	45,252,945	4.1	2.4	7.6	5.1			7.6	3.8	4.0	0.6	
ICE BofAML 90 DAY T-BILLS + 400 bps		1.2	2.5	5.3	4.7			5.3	4.9	3.9	3.3	

UBP liquidated 12/31/2015. Titan Advisors funded 2/1/2016. 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	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Liquid Alts/HFoF	90,639,518	3.5	2.5	8.2	4.8	2.7		8.2	0.9	5.4	-0.5	0.0
ICE BofAML 90 DAY T-BILLS + 400 bps		1.2	2.5	5.3	4.7	4.1		5.3	4.9	3.9	3.3	3.1
Aetos Capital	45,386,573	2.8	2.7	8.8	4.5	3.1	4.2	8.8	-1.9	6.8	1.8	0.5
ICE BofAML 90 DAY T-BILLS + 400 bps		1.2	2.5	5.3	4.7	4.1	4.0	5.3	4.9	3.9	3.3	3.1
Titan Advisors	45,252,945	4.1	2.4	7.6	5.1			7.6	3.8	4.0	-0.1	
ICE BofAML 90 DAY T-BILLS + 400 bps		1.2	2.5	5.3	4.7			5.3	4.9	3.9	3.3	

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-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

Manager Line Up	40.00				
Manager	Fund Incepted	Data Source	<u>Manager</u>	Fund Incepted	Data Source
SSGA S&P 500 Flagship Fund	7/27/2011	SSGA	PGIM Emerging Markets Debt	8/26/2019	BNY
QMA Large Cap Core	12/1/2008	BNY	RREEF America II	3/1/2003	Deutsche
Waddell & Reed	6/4/2010	BNY	TA Associates Realty	6/1/2007	TA Realty
Robeco Boston Partners	2/1/1999	BNY	Aetos Capital	6/1/2005	Aetos
William Blair Mid Cap Grw	12/1/2006	BNY	BlackRock Private Capital II	7/13/2005	BlackRock
Lee Munder Small Value	8/26/2009	BNY	Pantheon USA Fund VI	7/26/2005	Pantheon
SSGA Russell Sm Cap Idx	5/17/2013	SSGA	PIMCO BRAVO	1/14/2011	PIMCO
PIMCO RAE	8/14/2012	PIMCO	KKR Mezzanine Partners	7/8/2011	KKR
SSGA MSCI ACWI ex US	1/1/2010	SSGA	Stepstone Secondary Opps II	5/10/2013	Stepstone
SGA Global Growth	6/4/2018	SGA	Titan Advisors	2/1/2016	Titan
Skellig DST Water Fund	10/28/2014	KBI	Ocean Avenue Fund III	5/27/2016	Ocean Ave
BlackRock Fixed Income	12/1/1995	BNY	Ocean Avenue Fund IV	9/16/2019	Ocean Ave
Doubleline Core Plus	12/1/2015	BNY	Pathway	4/12/2016	Pathway
MacKay Shields Core Plus	12/1/2015	MacKay	TPG Diversified Credit	11/21/2016	TPG
Franklin Templeton Global	4/3/2012	BNY	American Realty	12/20/2019	American Realty

Policy & Custom Index Composition

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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