



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: SEPTEMBER 30, 2019

Investment Performance Review for

San Mateo County Employees' Retirement Association

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THE ECONOMIC CLIMATE

- Real GDP grew at a 2.3% rate year-over-year in the second quarter (2.0% quarterly annualized rate). U.S. Q2 consumer spending came in stronger than any time since 2014, while weak business inventory investment acted as a slight drag.
- Trade policies and conflict likely weighed on economic progress. Uncertainty regarding the future of U.S.-China trade relations and supply chain disruptions caused by new tariff impositions are expected to hinder growth in the future.

PORTFOLIO IMPACTS

- U.S. equities outperformed international in Q3 (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter.
- Core inflation has crept up to cycle-highs in 2019, increasing to 2.4% YoY in September. Headline inflation rose 1.7% YoY, dragged down by falling energy prices. Neither the media nor investors appear to be concerned about rising inflation, as of yet. Investors remain focused on deflationary forces in the global economy.

THE INVESTMENT CLIMATE

- The Federal Open Market Committee cut the range for its benchmark interest rate by 0.25% in both its July and September meetings, bringing the new range for federal funds to 1.75-2.00%.
- Global sovereign bonds rallied, encouraged by muted inflation expectations and dovish guidance from global central banks. Central bankers appealed for fiscal action, citing the limited capacity of monetary policy to sustain further economic expansion.

ASSET ALLOCATION ISSUES

- Risk assets were flat over the quarter. Global equities gained 0.0% and U.S. Treasuries gained 2.4% as domestic interest rates fell. Longer duration exposures continued to outperform.
- The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted basket of currencies. Dollar volatility has been suppressed so far in 2019, following large swings experienced during years 2014-2018. Emerging market currencies fell -4.0% in Q3 on the back of U.S. dollar strength. These currencies remain depressed relative to history.

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

U.S. economics summary

- Real GDP grew at a 2.3% rate year-over-year in the second quarter (2.0% quarterly annualized rate). U.S. Q2 consumer spending came in stronger than any time since 2014, while weak business inventory investment acted as a slight drag.
- U.S-China trade remained a major story in Q3. The U.S. scheduled tariff rate hikes on \$250B in already-tariffed Chinese imports, as well as tariff impositions of up to 15% on the remaining \$300B in Chinese imports not currently exposed to duties. The Chinese retaliated with commensurate tariff adjustments. The two sides agreed to continued trade talks in Washington D.C. at the beginning of October.
- Trade conflict has likely weighed on economic progress. Uncertainty regarding the future of U.S.-China trade relations and supply chain disruptions caused by new tariff impositions are expected to act as a drag on growth in the future.
- Core inflation has crept up to cycle-highs, rising 2.4% YoY in September. Headline inflation increased 1.7% YoY, dragged down by falling energy prices.
- The U.S. unemployment rate reached a 50-year low of 3.5% in September. Historically, the rate of unemployment has risen prior to the beginning of each U.S. recession, which suggests the U.S. expansion may still have room to run.
- Despite record unemployment, wage growth remains lukewarm, decelerating from a cycle high of 3.4% achieved in February, to 2.9% in September.
- In October, the IMF cut its 2019 global economic growth forecast from 3.2% to 3.0%, referencing global trade friction as a primary driver.

| | Most Recent | 12 Months Prior |
|---|--------------------------------|--------------------------------|
| GDP (YoY) | 2.3% <i>6/30/19</i> | 3.2% <i>6/30/18</i> |
| Inflation (CPI YoY, Core) | 2.4% <i>9/30/19</i> | 2.3% <i>9/30/18</i> |
| Expected Inflation (5yr-5yr forward) | 1.7% <i>9/30/19</i> | 2.2% <i>9/30/18</i> |
| Fed Funds Target Range | 1.75 – 2.00% <i>9/30/19</i> | 2.00 – 2.25% <i>9/30/18</i> |
| 10 Year Rate | 1.7% <i>9/30/19</i> | 3.1% <i>9/30/18</i> |
| U-3 Unemployment | 3.5% <i>9/30/19</i> | 3.7% <i>9/30/18</i> |
| U-6 Unemployment | 6.9% <i>9/30/19</i> | 7.5% <i>9/30/18</i> |

International economics summary

— The Organization for Economic Development cut its 2019 calendar year forecast for global growth from 3.2% to 2.9% and its 2020 calendar year forecast from 3.4% to 3.0%. Driving the downward revisions were trade tensions, which the OECD estimated would reduce 2019 global growth by 0.6%,

— A major theme in the third quarter was the global manufacturing slowdown, which was illuminated by gloomy European manufacturing PMI data. The Markit Eurozone Manufacturing PMI fell to 45.7, further into contractionary territory indicated by a reading below 50. The German reading fell to 41.7. It has yet to be seen whether manufacturing weakness will spill into the larger services sector, where PMIs still indicate business expansion.

— 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.

— Unemployment rates continued to tick lower around the globe. In the U.S., unemployment hit a 50-year low at 3.5%.

— U.S-China negotiations will likely continue to impact trade around the world. The U.S. scheduled tariff rate hikes on \$250B in already-tariffed Chinese imports, as well as tariff impositions of up to 15% on the remaining \$300B in Chinese imports not currently exposed to duties. The Chinese retaliated with commensurate tariff adjustments. The two sides agreed to continued trade talks in Washington D.C. at the beginning of October.

— Dormant trade tensions between the U.S. and the E.U. saw a resurgence over the quarter – the U.S. applied tariffs between 10-25% on \$7.5B of imports from the E.U.

| Area | GDP (Real, YoY) | Inflation (CPI, YoY) | Unemployment |
|---------------|------------------------|-------------------------|-------------------------|
| United States | 2.3% <i>6/30/19</i> | 1.7% <i>9/30/19</i> | 3.5% <i>9/30/19</i> |
| Eurozone | 1.2% <i>6/30/19</i> | 0.8% <i>9/30/19</i> | 7.4% <i>8/31/19</i> |
| Japan | 1.0% <i>6/30/19</i> | 0.4% <i>9/30/19</i> | 2.3% <i>5/31/19</i> |
| BRICS Nations | 5.0% <i>6/30/19</i> | 3.1% <i>9/30/19</i> | 5.1% <i>6/30/19</i> |
| Brazil | 1.0% <i>6/30/19</i> | 2.9% <i>9/30/19</i> | 11.8% <i>8/31/19</i> |
| Russia | 0.9% <i>6/30/19</i> | 4.0% <i>9/30/19</i> | 4.3% <i>8/31/19</i> |
| India | 5.8% <i>3/31/19</i> | 4.0% <i>9/30/19</i> | 8.5% <i>12/31/17</i> |
| China | 6.2% <i>6/30/19</i> | 3.0% <i>9/30/19</i> | 3.6% <i>6/30/19</i> |

Equity environment

- U.S. equities outperformed international in Q3 (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter. We expect further declines in U.S. yields to be supportive of stocks, as low rates bolster earnings and reduce the attractiveness of fixed income.
- The S&P 500 has delivered moderate returns of 4.3% over the past year. Returns have likely been limited by flat earnings growth of 1.7%, and relatively high valuations. In the third quarter, S&P 500 YoY earnings growth is expected to be -4.1%, which would put U.S. equities on track for three consecutive quarters of earnings loss.
- The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted

basket of currencies, which created volatility and currency losses for unhedged investors.

- A large rotation from momentum stocks into value stocks occurred in Q3. The selloff was a multi-standard deviation event, with performance of the prior five months largely reversed in several days. The fall was likely due to a combination of better than expected economic news, monetary/fiscal stimulus expectations, and extreme positioning in these factors.
- Value stock performance was on par with growth stocks during the third quarter (Russell 1000 Value +1.4%, Russell 1000 Growth +1.5%) while small cap stocks underperformed large stocks (Russell 2000 -2.4%, Russell 1000 +1.4%). Year-to-date, the size factor and value factor have continued their run of underperformance.

| | QTD TOTAL RETURN | | 1 YEAR TOTAL RETURN | |
|--|------------------|----------|---------------------|----------|
| | (unhedged) | (hedged) | (unhedged) | (hedged) |
| US Large Cap (S&P 500) | 1.7% | | 4.3% | |
| US Small Cap (Russell 2000) | (2.4%) | | (8.9%) | |
| US Large Value (Russell 1000 Value) | 1.4% | | 4.0% | |
| US Large Growth (Russell 1000 Growth) | 1.5% | | 3.7% | |
| International Large (MSCI EAFE) | (1.1%) | 2.3% | (1.3%) | 4.2% |
| Eurozone (Euro Stoxx 50) | (1.4%) | 3.8% | 1.3% | 11.5% |
| U.K. (FTSE 100) | (2.2%) | 1.4% | (2.7%) | 5.4% |
| Japan (NIKKEI 225) | 2.9% | 3.6% | (8.2%) | (5.9%) |
| Emerging Markets (MSCI Emerging Markets) | (4.2%) | (2.2%) | (2.0%) | (0.4%) |

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 9/30/19

Domestic equity

U.S. equities outpaced international in the third quarter (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter. We expect further declines in U.S. yields to be supportive of stocks, as low rates bolster earnings and reduce the attractiveness of fixed income.

The S&P 500 has delivered moderate returns of 4.3% over the past year. Returns have likely been limited by slow earnings growth of 1.7%, and relatively high valuations. In the third quarter, S&P 500 YoY earnings growth is expected to be -4.1%, which would put U.S.

equities on track for three consecutive quarters of earnings loss. Revenue growth in Q3 is expected to be 2.8% YoY. Investors may point to seemingly lofty earnings growth expectations for 2020 as reason for optimism, though in reality this is a fairly average forecast. Growth expectations are typically high initially, and then fall to a more realistic level as time passes.

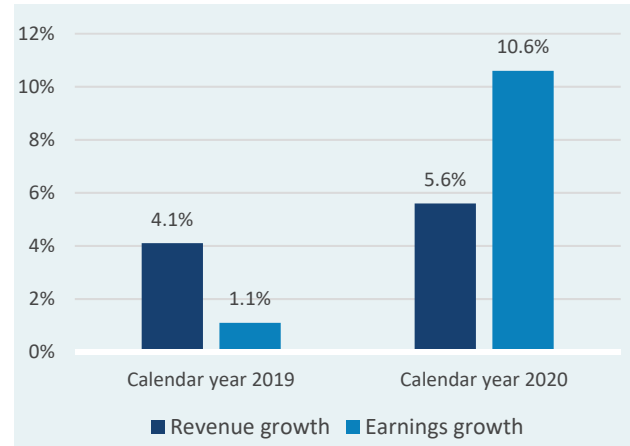
U.S. equities offer lower yields and less attractive valuations relative to other markets around the world, which suggests domestic equities might underperform over the long-term. However, U.S. may continue to outperform over the shorter-term due to relative economic and market strength.

U.S. EQUITIES



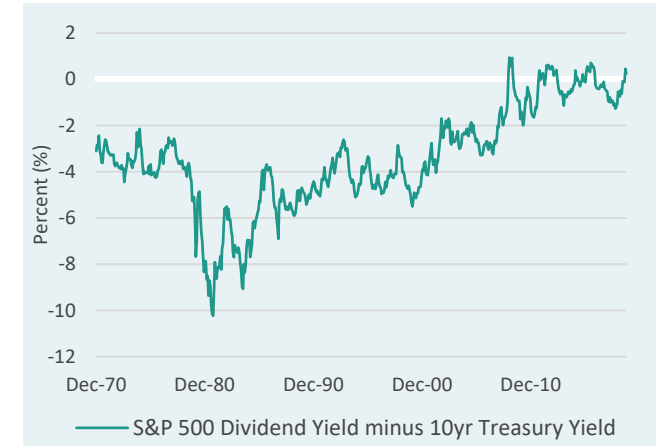
Source: Standard & Poor's, as of 9/30/19

Q3 2019 EARNINGS EXPECTATIONS



Source: FactSet, as of 10/11/19

RELATIVE YIELDS



Source: Standard & Poor's, as of 9/30/19

Domestic equity size & style

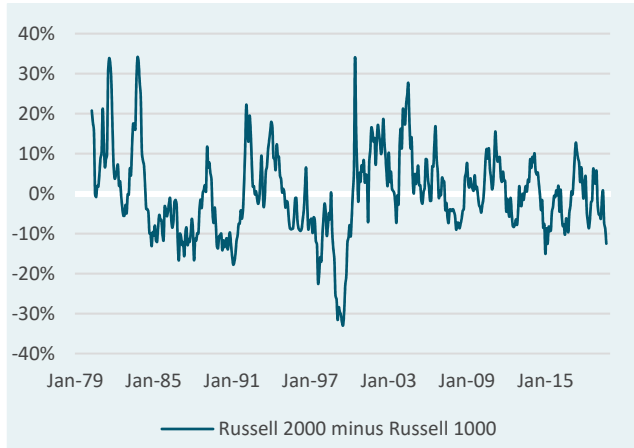
Value stock performance was on par with growth stocks during the third quarter (Russell 1000 Value +1.4%, Russell 1000 Growth +1.5%) while small cap stocks underperformed large stocks (Russell 2000 -2.4%, Russell 1000 +1.4%). Year-to-date, the size factor and value factor have extended their run of weakness.

The impact of sector performance on the value premium was mixed in the third quarter. Financials (+2.0%) and Utilities (+9.3%) outperformed the overall index (S&P 500 +1.7%) which boosted value, but poor Energy (-6.3%) performance counteracted these effects. Information Technology beat the

overall index (+3.3%) which acted as a headwind for value stocks.

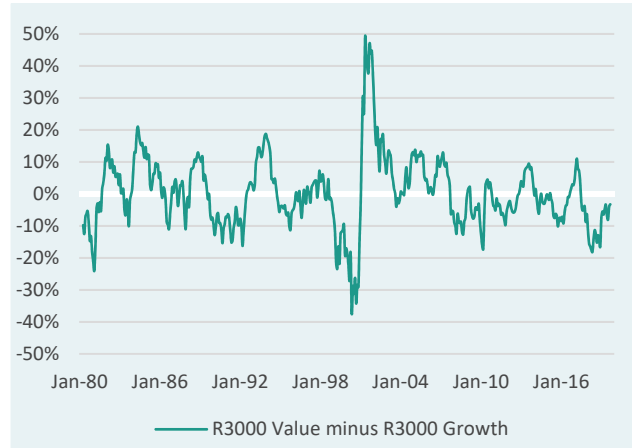
Value stocks have exhibited a long run of underperformance over the past decade. Our view has been that value stocks did not appear attractive, despite persistent performance pain. This was because value stocks had underperformed due to fundamental reasons rather than due to prices becoming stretched. Now, for the first time in this cycle it appears value prices are becoming unusually cheap, as indicated by a large disparity between Russell 1000 Value and Russell 1000 Growth P/E multiples.

SMALL CAP VS LARGE CAP (YOY)



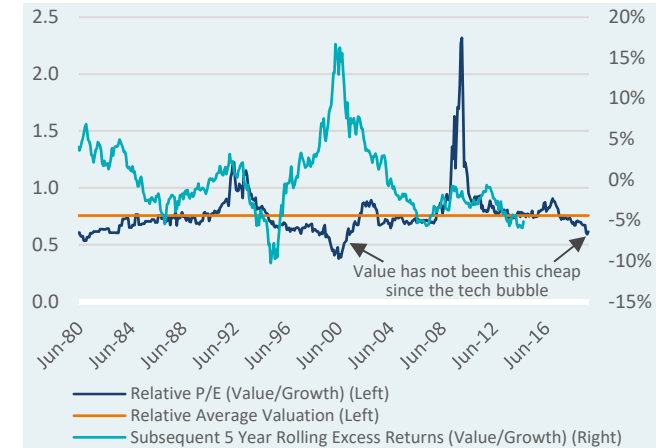
Source: FTSE, as of 9/30/19

VALUE VS GROWTH (YOY)



Source: FTSE, as of 9/30/19

VALUE STARTING TO LOOK CHEAP



Source: Russell, Bloomberg, as of 9/30/19

International developed equity

International equity performance was impacted heavily by currency movements in the third quarter. In local terms, the MSCI EAFE Index delivered a total return of 1.8%, bringing year-to-date performance to 15.7%. For unhedged U.S. investors however, the MSCI EAFE Index generated a quarterly return of -1.1%, dragging the year-to-date figure to 12.8%. Dollar strength reemerged as a powerful force driving returns due in part to widening interest rate differentials between the U.S. and the rest of the world.

Japanese equities outperformed over the period, delivering a

Q3 return of 3.5% in local terms. Unhedged U.S. investors in the MSCI Japan Index received only 3.1%, as the yen depreciated slightly vs. the U.S. dollar over the period.

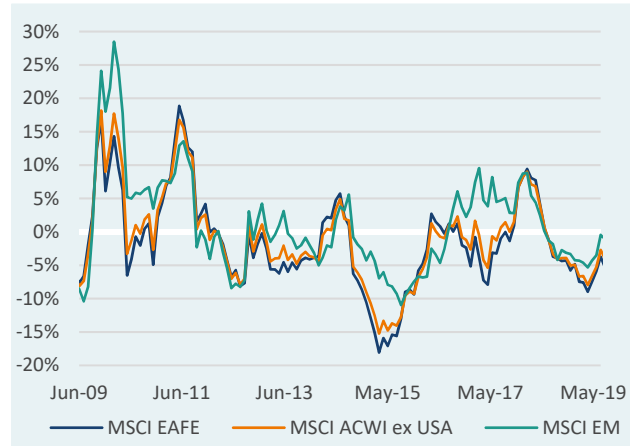
The British pound weakened in July as the new Prime Minister Boris Johnson signaled a much harder line on Brexit than his predecessor's. Toward the end of the quarter, the pound strengthened as markets began pricing a lower likelihood of a "no-deal" Brexit, which many market participants viewed as unfriendly to markets.

INTERNATIONAL DEVELOPED EQUITIES



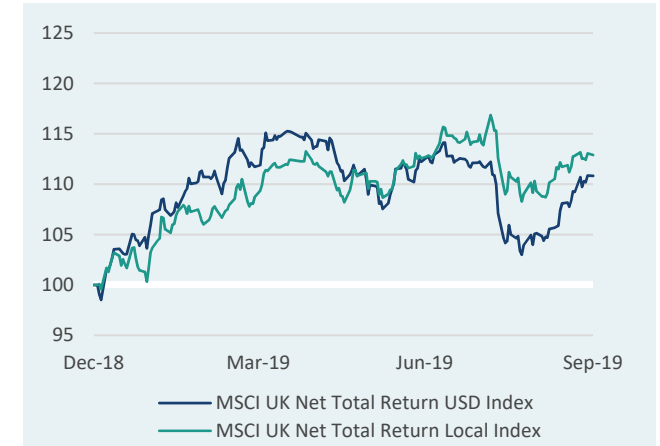
Source: MSCI, as of 9/30/19

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 9/30/19

U.K. EQUITY PERFORMANCE (YTD)



Source: Bloomberg, as of 9/30/19

Emerging market equity

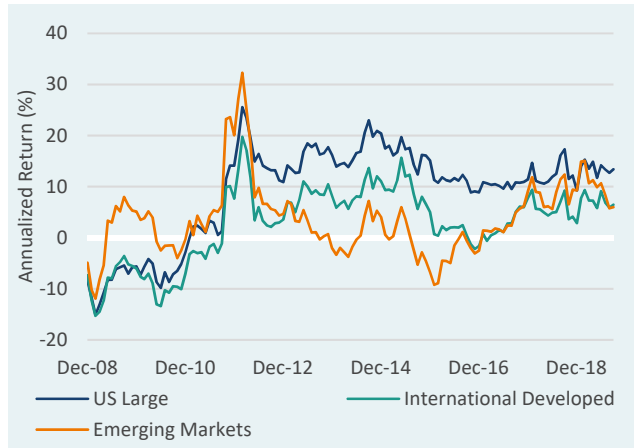
Emerging market equities (MSCI Emerging Markets -4.2%) lagged developed markets (MSCI EAFE -1.1%) over the quarter, while U.S. equities outperformed (S&P 500 +1.7%).

Equity multiples have expanded year-to-date, recovering to the levels of September 2018. Developed and emerging markets continue to appear cheap relative to domestic equity valuations.

We see two opposing forces impacting emerging markets in

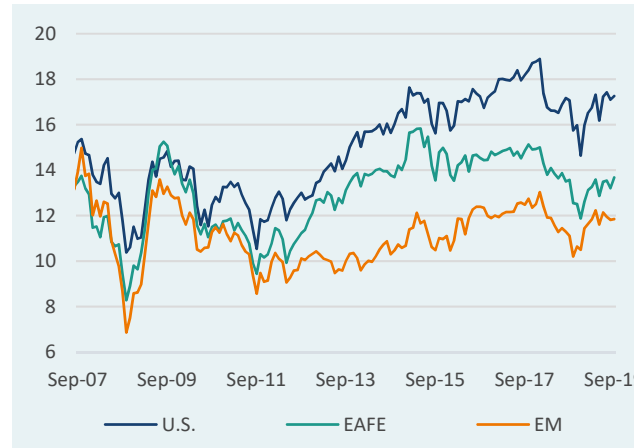
the current environment. The first force is decelerating global growth and a rising probability of recession, which likely bodes poorly for emerging market performance. However, the second force of widespread central bank dovishness may boost emerging market performance in the near term. Specifically, if global growth levels out while central banks unleash another round of easing, there may be material upside to emerging market equities. On balance, we remain moderately bullish on emerging markets, though we are watching developments closely.

EQUITY PERFORMANCE (3-YR ROLLING)



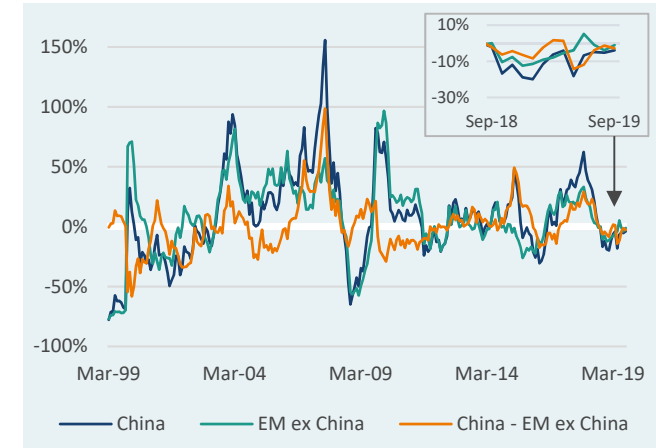
Source: Standard & Poor's, MSCI, as of 9/30/19

FORWARD P/E



Source: MSCI, as of 9/30/19

CHINA & EM: ROLLING 1-YEAR PERFORMANCE (USD)



Source: MSCI, as of 9/30/19

Interest rate environment

- Global sovereign bonds rallied, encouraged by muted inflation expectations and dovish guidance from global central banks. Central bankers appealed for fiscal action, citing the limited capacity of monetary policy to sustain further economic expansion.
- The Federal Open Market Committee cut the range for its benchmark interest rate by 0.25% in both its July and September meetings, bringing the new range for federal funds to 1.75-2.00%.
- FOMC members appear divided on the likely future path of interest rates. Per the September dot plot, 8 of 17 members expect one further 0.25% cut by the end of 2020, 2 expect no change, and 7 expect either one or two 0.25% rate hikes.
- The European Central Bank delivered a fresh stimulus package in September, in line with expectations. The ECB cut its main deposit rate from -0.40% to -0.50%

and announced it would restart asset purchases of €20 billion per month, beginning November 1st.

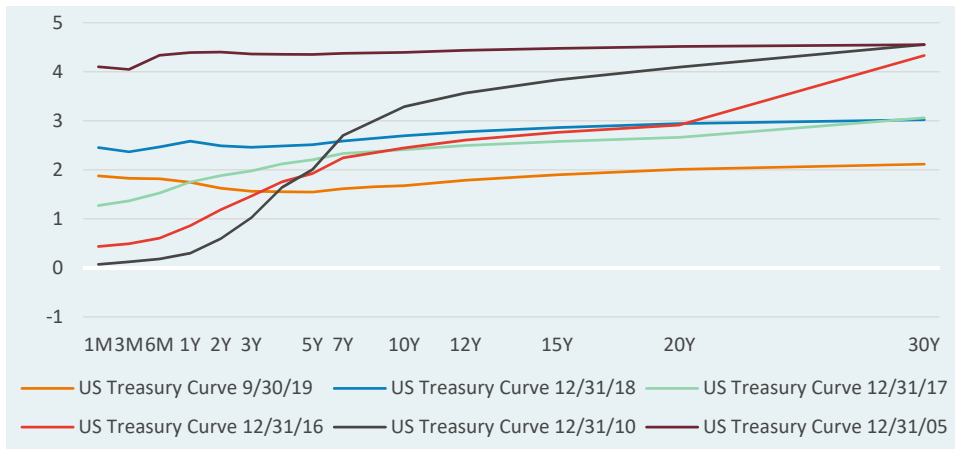
- Global sovereign yields continued to plummet. In Germany, 10-year bond yields touched fresh all-time lows, and the entire German sovereign curve moved below 0%. In Italy, 10-year bond yields fell 1.28% to 0.82%, boosted by the formation of a new coalition government between the Democratic Party and the Five-Star Movement.
- Repo rates, which represent the overnight rate paid by short-term borrowers of cash, surged as overnight liquidity was constrained. The New York Fed intervened, injecting over \$300 billion into money markets over the course of a few weeks. Fed officials viewed the brief spike in repo rates as a financial “plumbing” issue, which could justify an “organic resumption of balance sheet growth”, not to be confused with crisis-era QE policy.

| Area | Short Term (3M) | 10-Year |
|---------------|-----------------|---------|
| United States | 1.81% | 1.66% |
| Germany | (0.57%) | (0.57%) |
| France | (0.59%) | (0.27%) |
| Spain | (0.54%) | 0.15% |
| Italy | (0.28%) | 0.82% |
| Greece | 0.65% | 1.35% |
| U.K. | 0.78% | 0.49% |
| Japan | (0.32%) | (0.21%) |
| Australia | 1.06% | 1.02% |
| China | 2.33% | 3.14% |
| Brazil | 5.04% | 7.05% |
| Russia | 6.58% | 7.01% |

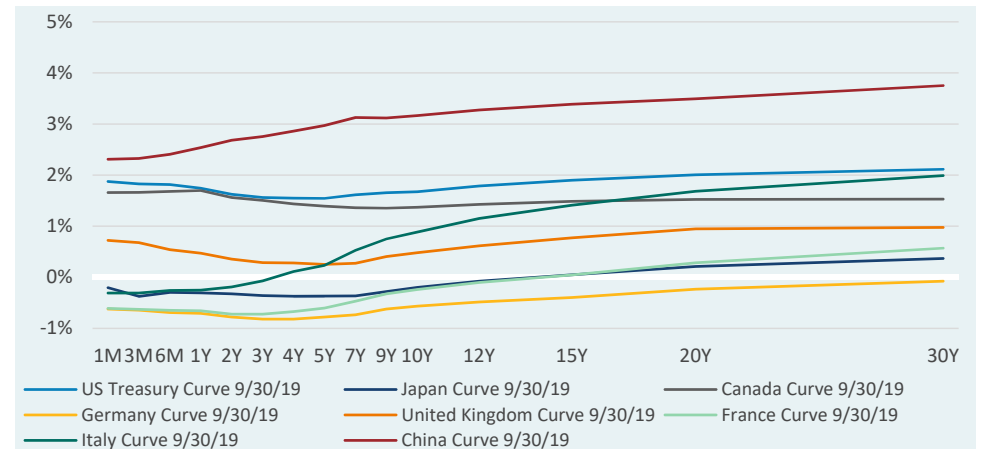
Source: Bloomberg, as of 9/30/19

Yield environment

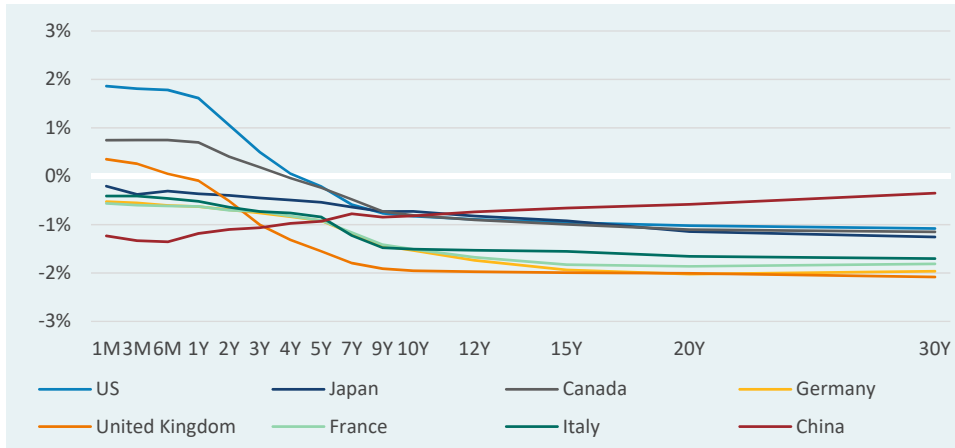
U.S. YIELD CURVE



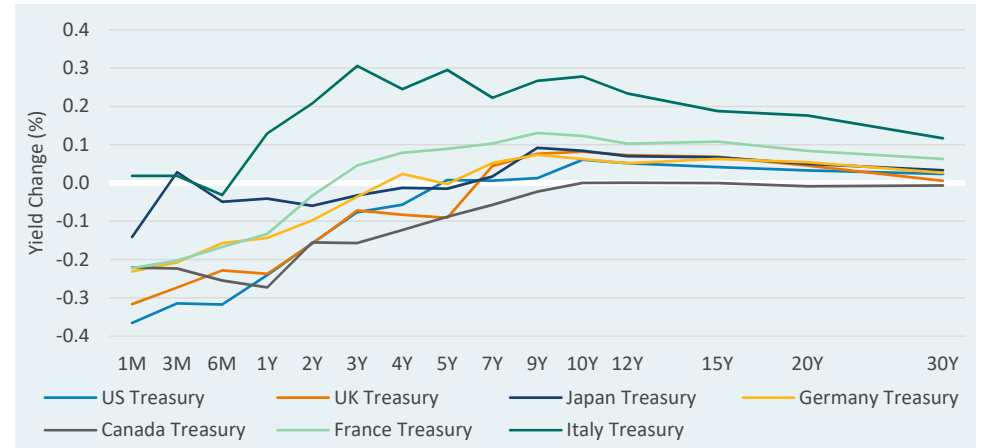
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/19

Currency

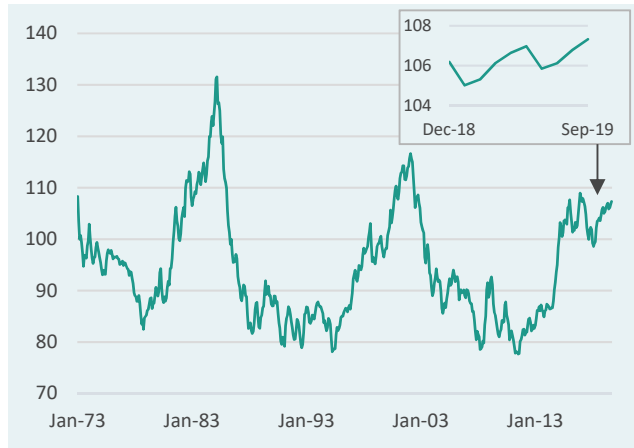
The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted basket of currencies. Dollar volatility has been suppressed so far in 2019, following large swings experienced during years 2014-2018. Investors are pricing in a 78% chance of one more 0.25% rate cut by the end of 2019, and a 25% chance of 0.50% in rate cuts. The market continues to price in more aggressive easing than what the Federal Reserve has indicated, which may contribute to volatility if actual easing measures underwhelm the market.

weakness in the short-term, including: aggressive easing by the Federal Reserve which leads to a convergence of U.S. and international interest rates levels, further upside surprise to U.S. inflation, and/or weakening U.S. economic conditions which brings the U.S. more in line with other developed economies.

Emerging market currencies fell -4% quarter, on the back of U.S. dollar strength. These currencies remain very depressed relative to history.

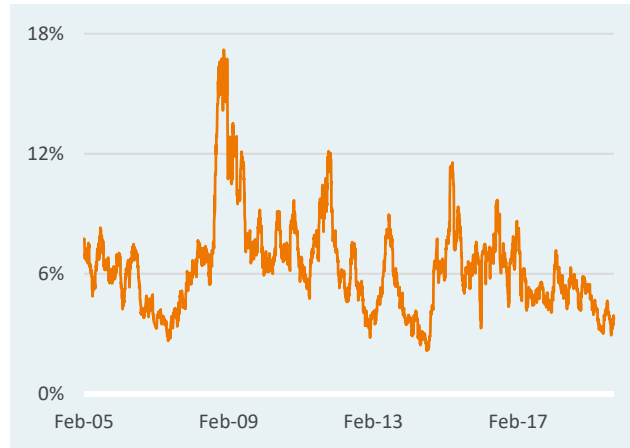
A variety of market scenarios may lead to U.S. dollar

U.S. DOLLAR TRADE WEIGHTED INDEX



Source: Federal Reserve, Verus, as of 9/30/19

BLOOMBERG DOLLAR SPOT INDEX REALIZED 30-DAY VOLATILITY



Source: Bloomberg, as of 9/30/19

JPM EMERGING MARKET CURRENCY INDEX



Source: Bloomberg, JPMorgan, as of 9/30/19

- The Total Fund, net of manager fees, returned 1.5% in the third quarter of 2019 and in the ranked 2nd percentile among other public plans greater than \$1 billion (median of 0.4%). It beat the policy index return of 1.1%. The Total Fund ex Overlay returned 1.4% for the quarter. The Total Fund one-year return of 4.9% lagged the policy index return of 5.3% and ranked in the 7th percentile of its peer universe. The three-year return of 7.4% (55th percentile) lagged the median large public plan (7.7%) and the policy index (8.1%).

- Third quarter results were enhanced by the following factors:
 1. PanAgora Defensive Equity gained 3.2% for the quarter beating the Russell 1000 return of 1.4%. Sector allocation accounted for 105 bps of the outperformance, led by an overweight to utilities.
 2. Acadian US Managed Volatility beat the Russell 1000 (2.8% vs 1.4%). Security selection in the consumer discretionary sector contributed to relative performance.
 3. QMA US Small Cap lost -0.9% beating the Russell 2000 (-2.4%). Security selection primarily within information technology, health care and industrials contributed to the strategy's outperformance.

- Third quarter results were hindered by the following factors:
 1. Franklin Templeton trailed the Bloomberg Barclays Multiverse (-3.4% vs. 0.6%). The fund's interest rate strategy detracted from relative performance while currency positions had a positive effect.
 2. Brigade capital lost -0.4% underperforming the Bloomberg Barclays HY Index (1.8%), the main detractors from relative performance were distressed positions (-0.6%).

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

| | 3 Mo (%) | Rank * | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|--|----------|--------|---------|------|----------|------|-----------|------|-----------|------|-----------|------|------------|------|
| Total Fund** | 1.5 | 2 | 11.9 | 29 | 4.9 | 7 | 5.2 | 61 | 7.4 | 55 | 6.4 | 40 | 8.2 | 35 |
| <i>Policy Index¹</i> | 1.1 | 8 | 11.9 | 30 | 5.3 | 3 | 5.9 | 29 | 8.1 | 38 | 6.7 | 31 | 8.6 | 20 |
| <i>InvMetrics Public DB > \$1B Net Median</i> | 0.4 | | 10.9 | | 3.2 | | 5.4 | | 7.7 | | 6.1 | | 7.9 | |
| Total Fund ex Overlay | 1.4 | 3 | 11.5 | 43 | 4.5 | 15 | 4.9 | 67 | 7.2 | 66 | 6.2 | 45 | 8.1 | 37 |
| <i>Policy Index¹</i> | 1.1 | 8 | 11.9 | 30 | 5.3 | 3 | 5.9 | 29 | 8.1 | 38 | 6.7 | 31 | 8.6 | 20 |
| <i>InvMetrics Public DB > \$1B Net Median</i> | 0.4 | | 10.9 | | 3.2 | | 5.4 | | 7.7 | | 6.1 | | 7.9 | |
| Public Equity | 0.5 | 27 | 16.6 | 53 | 1.3 | 48 | 5.4 | 71 | 9.7 | 69 | 7.4 | 61 | 9.6 | 64 |
| <i>Blended Public Equity Index¹</i> | 0.4 | 32 | 16.6 | 53 | 1.4 | 47 | 5.7 | 67 | 10.1 | 50 | 7.6 | 58 | 10.0 | 57 |
| <i>InvMetrics All DB Total Eq Net Median</i> | 0.1 | | 16.9 | | 1.1 | | 6.1 | | 10.1 | | 7.7 | | 10.2 | |
| US Equity | 1.7 | 12 | 19.7 | 53 | 2.2 | 47 | 9.4 | 42 | 12.5 | 37 | 10.1 | 40 | 12.6 | 42 |
| <i>Blended US Equity Index¹</i> | 1.2 | 31 | 20.1 | 36 | 2.9 | 34 | 10.0 | 25 | 12.8 | 26 | 10.5 | 21 | 13.0 | 18 |
| <i>Russell 3000</i> | 1.2 | 31 | 20.1 | 36 | 2.9 | 34 | 10.0 | 25 | 12.8 | 26 | 10.4 | 23 | 13.1 | 16 |
| <i>InvMetrics All DB US Eq Net Median</i> | 0.9 | | 19.8 | | 2.0 | | 9.2 | | 12.2 | | 9.9 | | 12.4 | |
| Large Cap Equity | 1.9 | 35 | 20.5 | 38 | 4.4 | 35 | 10.9 | 35 | 14.0 | 29 | 11.2 | 25 | 13.0 | 34 |
| <i>Russell 1000</i> | 1.4 | 45 | 20.5 | 38 | 3.9 | 39 | 10.6 | 37 | 13.2 | 36 | 10.6 | 32 | 13.2 | 30 |
| <i>eV US Large Cap Equity Net Median</i> | 1.3 | | 19.3 | | 2.6 | | 9.3 | | 12.0 | | 9.4 | | 12.3 | |
| <i>Acadian US MGD V***</i> | 2.8 | 24 | 19.1 | 55 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>BlackRock Russell 1000</i> | 1.4 | 58 | 20.5 | 39 | 3.9 | 44 | 10.6 | 35 | -- | -- | -- | -- | -- | -- |
| <i>DE Shaw</i> | 1.4 | 58 | 17.2 | 71 | 0.7 | 73 | 9.0 | 52 | 13.0 | 31 | 11.3 | 15 | 13.6 | 13 |
| <i>PanAgora Defuseq***</i> | 3.2 | 20 | 25.2 | 5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Russell 1000</i> | 1.4 | 59 | 20.5 | 39 | 3.9 | 45 | 10.6 | 35 | 13.2 | 29 | 10.6 | 26 | 13.2 | 21 |
| <i>eV US Large Cap Core Equity Net Median</i> | 1.7 | | 19.6 | | 3.3 | | 9.3 | | 12.1 | | 9.7 | | 12.5 | |

* Total Fund and asset class aggregates are ranked in InvMetrics universes. Managers are ranked in eVest (eA) manager universes.

** Includes Parametric Minneapolis manager funded in August 2013.

***Funded December 2018.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

| | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|-------------|-----------|-------------|-----------|--------------|-----------|-------------|-----------|------------|-----------|------------|-----------|-------------|-----------|
| Small Cap Equity | -0.9 | 39 | 11.7 | 80 | -11.3 | 78 | -0.2 | 72 | 6.6 | 64 | 5.3 | 83 | 10.5 | 72 |
| <i>Russell 2000</i> | -2.4 | 60 | 14.2 | 60 | -8.9 | 61 | 2.5 | 52 | 8.2 | 48 | 8.2 | 46 | 11.2 | 54 |
| <i>eV US Small Cap Equity Net Median</i> | -1.7 | | 15.5 | | -7.5 | | 2.6 | | 8.1 | | 8.0 | | 11.5 | |
| QMA US Small Cap | -0.9 | 39 | 11.7 | 74 | -11.3 | 77 | -0.2 | 71 | 6.6 | 74 | -- | -- | -- | -- |
| <i>Russell 2000</i> | -2.4 | 72 | 14.2 | 54 | -8.9 | 59 | 2.5 | 51 | 8.2 | 47 | 8.2 | 52 | 11.2 | 59 |
| <i>eV US Small Cap Core Equity Net Median</i> | -1.4 | | 15.0 | | -8.0 | | 2.5 | | 8.1 | | 8.3 | | 11.6 | |
| International Equity | -0.8 | 11 | 13.2 | 23 | 0.3 | 19 | 1.0 | 20 | 6.1 | 41 | 3.7 | 27 | 4.5 | 65 |
| <i>Blended International Equity Index¹</i> | -0.6 | 7 | 12.7 | 31 | -0.5 | 24 | 0.6 | 24 | 6.7 | 22 | 3.6 | 30 | 5.0 | 41 |
| <i>MSCI EAFE Gross</i> | -1.0 | 14 | 13.3 | 23 | -0.8 | 30 | 1.2 | 16 | 7.0 | 17 | 3.8 | 26 | 5.4 | 25 |
| <i>InvMetrics All DB ex-US Eq Net Median</i> | -1.8 | | 11.8 | | -1.8 | | -0.6 | | 6.0 | | 3.0 | | 4.8 | |
| Developed Markets | -1.6 | 47 | 13.0 | 51 | -0.8 | 42 | 0.7 | 49 | 5.9 | 62 | 3.9 | 49 | 4.7 | 68 |
| <i>MSCI ACWI ex USA Gross</i> | -1.7 | 54 | 12.1 | 56 | -0.7 | 42 | 0.8 | 48 | 6.8 | 37 | 3.4 | 60 | 4.9 | 57 |
| <i>InvMetrics All DB Dev Mkt ex-US Eq Net Median</i> | -1.7 | | 13.1 | | -1.9 | | 0.5 | | 6.4 | | 3.8 | | 5.2 | |
| Baillie Gifford | -1.0 | 27 | 18.7 | 35 | 0.6 | 37 | 1.8 | 54 | 6.5 | 73 | 5.6 | 55 | -- | -- |
| <i>MSCI ACWI ex US</i> | -1.7 | 47 | 12.1 | 92 | -0.7 | 49 | 0.8 | 72 | 6.8 | 67 | 3.4 | 97 | -- | -- |
| <i>MSCI ACWI ex US Growth</i> | -0.8 | 22 | 16.6 | 60 | 2.4 | 25 | 2.9 | 42 | 7.8 | 52 | 5.3 | 61 | -- | -- |
| <i>eV ACWI ex-US Growth Equity Net Median</i> | -1.8 | | 17.7 | | -0.9 | | 2.3 | | 7.9 | | 5.9 | | 7.4 | |
| BlackRock EAFE Index | -1.0 | 38 | 13.2 | 37 | -1.0 | 21 | 1.0 | 28 | 6.9 | 30 | 3.6 | 58 | -- | -- |
| <i>MSCI EAFE</i> | -1.1 | 38 | 12.8 | 40 | -1.3 | 24 | 0.7 | 30 | 6.5 | 35 | 3.3 | 65 | 4.9 | 83 |
| <i>MSCI EAFE Gross</i> | -1.0 | 36 | 13.3 | 34 | -0.8 | 20 | 1.2 | 28 | 7.0 | 27 | 3.8 | 55 | 5.4 | 71 |
| <i>eV EAFE Core Equity Net Median</i> | -1.4 | | 12.0 | | -4.5 | | -0.9 | | 5.7 | | 3.9 | | 6.5 | |
| Mondrian | -2.8 | 67 | 7.6 | 49 | -2.0 | 21 | -0.8 | 17 | 4.8 | 42 | 2.0 | 43 | 4.3 | 55 |
| <i>MSCI ACWI ex USA Value Gross</i> | -2.7 | 65 | 7.5 | 49 | -3.9 | 30 | -1.5 | 36 | 5.9 | 30 | 1.5 | 56 | 3.6 | 67 |
| <i>MSCI ACWI ex USA Gross</i> | -1.7 | 39 | 12.1 | 22 | -0.7 | 19 | 0.8 | 10 | 6.8 | 17 | 3.4 | 20 | 4.9 | 40 |
| <i>eV ACWI ex-US Value Equity Net Median</i> | -2.1 | | 7.5 | | -5.4 | | -2.4 | | 4.5 | | 1.6 | | 4.5 | |

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

| | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|--|----------|------|---------|------|----------|------|-----------|------|-----------|------|-----------|------|------------|------|
| Emerging Markets | -4.3 | 57 | 5.1 | 67 | -1.0 | 47 | -2.4 | 50 | 4.2 | 62 | 0.2 | 85 | -- | -- |
| MSCI Emerging Markets Gross | -4.1 | 52 | 6.2 | 49 | -1.6 | 59 | -1.0 | 24 | 6.4 | 21 | 2.7 | 17 | 3.7 | 24 |
| InvMetrics All DB Emg Mkt Eq Net Median | -4.0 | | 6.2 | | -1.2 | | -2.4 | | 4.9 | | 1.4 | | 2.8 | |
| Parametric Core | -4.3 | 62 | 5.1 | 73 | -1.0 | 55 | -2.4 | 59 | 4.2 | 73 | -- | -- | -- | -- |
| MSCI Emerging Markets Gross | -4.1 | 57 | 6.2 | 65 | -1.6 | 61 | -1.0 | 42 | 6.4 | 38 | 2.7 | 46 | 3.7 | 63 |
| eV Emg Mkts Equity Net Median | -3.8 | | 7.7 | | -0.6 | | -1.5 | | 5.7 | | 2.5 | | 4.0 | |
| Parametric Currency Overlay* | 31.3 | -- | 45.2 | -- | 63.4 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fixed Income | 1.1 | 81 | 6.9 | 67 | 7.2 | 75 | 3.8 | 54 | 4.5 | 21 | 3.9 | 29 | 5.5 | 19 |
| Blended Fixed Income Index ¹ | 2.1 | 30 | 9.7 | 25 | 9.9 | 27 | 4.6 | 27 | 3.7 | 43 | 3.9 | 29 | 4.1 | 69 |
| InvMetrics All DB Total Fix Inc Net Median | 1.6 | | 7.9 | | 8.1 | | 3.9 | | 3.5 | | 3.3 | | 4.4 | |
| Core Fixed | 1.6 | -- | 7.1 | -- | 8.5 | -- | 3.5 | -- | 3.2 | -- | 3.5 | -- | 4.8 | -- |
| BBgBarc US Aggregate TR | 2.3 | -- | 8.5 | -- | 10.3 | -- | 4.4 | -- | 2.9 | -- | 3.4 | -- | 3.7 | -- |
| BlackRock Intermediate Govt | 1.2 | 72 | 5.3 | 77 | 7.6 | 69 | 3.2 | 58 | -- | -- | -- | -- | -- | -- |
| BBgBarc US Govt Int TR | 1.2 | 74 | 5.2 | 79 | 7.5 | 71 | 3.1 | 69 | 1.8 | 76 | 2.2 | 77 | 2.3 | 80 |
| eV US Government Fixed Inc Net Median | 2.0 | | 6.8 | | 9.2 | | 3.7 | | 2.3 | | 2.8 | | 2.9 | |
| FIAM Bond | 2.2 | 75 | 9.0 | 42 | 10.2 | 56 | 4.5 | 40 | 3.3 | 31 | 3.8 | 22 | 4.6 | 19 |
| BBgBarc US Aggregate TR | 2.3 | 55 | 8.5 | 73 | 10.3 | 49 | 4.4 | 54 | 2.9 | 66 | 3.4 | 63 | 3.7 | 73 |
| Western TRU | 0.9 | 99 | 6.1 | 98 | 6.9 | 99 | 2.1 | 99 | 4.1 | 5 | -- | -- | -- | -- |
| 3-Month Libor Total Return USD | 0.6 | 99 | 1.9 | 99 | 2.6 | 99 | 2.3 | 99 | 1.9 | 98 | 1.3 | 99 | 0.8 | 99 |
| BBgBarc US Aggregate TR | 2.3 | 55 | 8.5 | 73 | 10.3 | 49 | 4.4 | 54 | 2.9 | 66 | 3.4 | 63 | 3.7 | 73 |
| eV US Core Fixed Inc Net Median | 2.3 | | 8.9 | | 10.3 | | 4.4 | | 3.1 | | 3.5 | | 4.0 | |
| Opportunistic Credit | 0.2 | -- | 6.8 | -- | 4.7 | -- | 4.5 | -- | 6.5 | -- | 5.6 | -- | -- | -- |
| BBgBarc BA Intermediate HY ¹ | 1.8 | -- | 12.1 | -- | 9.1 | -- | 4.9 | -- | 5.5 | -- | 5.5 | -- | -- | -- |
| Angelo Gordon Opportunistic** | 3.3 | -- | 9.8 | -- | 10.2 | -- | 20.4 | -- | 17.0 | -- | 11.0 | -- | -- | -- |
| Angelo Gordon STAR** | -0.9 | -- | 10.3 | -- | 12.9 | -- | 17.5 | -- | 17.5 | -- | 12.6 | -- | -- | -- |
| BBgBarc US Aggregate TR | 2.3 | -- | 8.5 | -- | 10.3 | -- | 4.4 | -- | 2.9 | -- | 3.4 | -- | 3.7 | -- |

* Funded September 2018.

** Preliminary return as of 09/30/2019.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

| | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|-----------|-----------|------------|-----------|
| Beach Point Select | 1.5 | 40 | 9.3 | 72 | 4.9 | 72 | 5.9 | 4 | 7.4 | 2 | -- | -- | -- | -- |
| BBgBarc BA Intermediate HY ¹ | 1.8 | 19 | 12.1 | 23 | 9.1 | 4 | 4.9 | 22 | 5.5 | 54 | 5.5 | 15 | -- | -- |
| eV US High Yield Fixed Inc Net Median | 1.3 | | 11.0 | | 6.0 | | 4.3 | | 5.6 | | 4.7 | | 7.4 | |
| Brigade Capital | -0.4 | 96 | 5.7 | 95 | -0.1 | 98 | 2.5 | 97 | 4.9 | 80 | 3.7 | 91 | -- | -- |
| BBgBarc BA Intermediate HY ¹ | 1.8 | 19 | 12.1 | 23 | 9.1 | 4 | 4.9 | 22 | 5.5 | 54 | 5.5 | 15 | -- | -- |
| 50% Barclays HY/ 50% Bank Loan | 1.1 | 65 | 8.9 | 76 | 4.7 | 73 | 4.5 | 44 | 5.4 | 63 | 4.8 | 50 | -- | -- |
| eV US High Yield Fixed Inc Net Median | 1.3 | | 11.0 | | 6.0 | | 4.3 | | 5.6 | | 4.7 | | 7.4 | |
| PIMCO Diversified | 1.2 | 58 | 10.9 | 51 | 9.5 | 2 | 5.2 | 11 | -- | -- | -- | -- | -- | -- |
| Blended PIMCO Diversified Index | 1.9 | 14 | 11.8 | 31 | 10.1 | 1 | 4.9 | 22 | 4.9 | 82 | 5.2 | 31 | 6.6 | 87 |
| BBgBarc BA Intermediate HY | 1.8 | 19 | 12.1 | 23 | 9.1 | 4 | 4.9 | 22 | 5.5 | 54 | 5.5 | 15 | -- | -- |
| eV US High Yield Fixed Inc Net Median | 1.3 | | 11.0 | | 6.0 | | 4.3 | | 5.6 | | 4.7 | | 7.4 | |
| Franklin Templeton | -3.4 | 98 | -0.3 | 99 | 1.8 | 92 | -0.8 | 96 | 3.4 | 57 | 1.0 | 91 | -- | -- |
| BBgBarc Multiverse TR | 0.6 | 65 | 6.5 | 70 | 7.5 | 40 | 3.0 | 64 | 1.8 | 77 | 2.1 | 70 | 2.5 | 85 |
| eV All Global Fixed Inc Net Median | 1.2 | | 8.2 | | 6.9 | | 3.5 | | 3.7 | | 3.1 | | 4.1 | |
| Private Credit | 0.6 | -- | 4.5 | -- | 5.9 | -- | 7.0 | -- | 6.6 | -- | -- | -- | -- | -- |
| Cliffwater Direct Lending Index** | 2.3 | -- | 7.5 | -- | 8.4 | -- | 8.8 | -- | 9.0 | -- | 8.4 | -- | 10.6 | -- |
| PIMCO Private Income** | 0.0 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| BBgBarc BA Intermediate HY | 1.8 | 19 | 12.1 | 23 | 9.1 | 4 | 4.9 | 22 | 5.5 | 54 | 5.5 | 15 | -- | -- |
| Cliffwater Direct Lending Index | 2.3 | 7 | 7.5 | 84 | 8.4 | 8 | 8.8 | 1 | 9.0 | 1 | 8.4 | 1 | 10.6 | 1 |
| eV US High Yield Fixed Inc Net Median | 1.3 | | 11.0 | | 6.0 | | 4.3 | | 5.6 | | 4.7 | | 7.4 | |
| TCP Direct Lending VIII** | 1.6 | 38 | 5.7 | 95 | 7.5 | 22 | 7.1 | 1 | 6.9 | 4 | -- | -- | -- | -- |
| White Oak Yield** | 0.0 | 92 | 3.9 | 98 | 4.8 | 73 | 7.0 | 1 | -- | -- | -- | -- | -- | -- |
| Cliffwater Direct Lending Index | 2.3 | 7 | 7.5 | 84 | 8.4 | 8 | 8.8 | 1 | 9.0 | 1 | 8.4 | 1 | 10.6 | 1 |
| eV US High Yield Fixed Inc Net Median | 1.3 | | 11.0 | | 6.0 | | 4.3 | | 5.6 | | 4.7 | | 7.4 | |

* Funded April 2019.

** Preliminary return as of 09/30/2019.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

| | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|----------|------|---------|------|----------|------|-----------|------|-----------|------|-----------|------|------------|------|
| Risk Parity | 2.7 | -- | 20.6 | -- | 14.9 | -- | 8.2 | -- | 7.3 | -- | 6.4 | -- | -- | -- |
| <i>Blended Risk Parity Index¹</i> | 1.4 | -- | 14.2 | -- | 5.7 | -- | 6.4 | -- | 8.1 | -- | 7.3 | -- | -- | -- |
| AQR GRP, 10% Volatility | 1.2 | -- | 18.9 | -- | 12.4 | -- | 7.8 | -- | 7.9 | -- | 4.8 | -- | -- | -- |
| PanAgora | 4.2 | -- | 22.4 | -- | 17.4 | -- | 8.7 | -- | 6.8 | -- | 7.8 | -- | -- | -- |
| <i>Blended Risk Parity Index¹</i> | 1.4 | -- | 14.2 | -- | 5.7 | -- | 6.4 | -- | 8.1 | -- | 7.3 | -- | -- | -- |
| S&P Risk Parity 10% Target Volatility Index TR USD | 2.4 | -- | 15.4 | -- | 10.3 | -- | 7.0 | -- | 6.2 | -- | 4.4 | -- | 6.2 | -- |
| Alternatives | 8.5 | -- | 10.4 | -- | 11.3 | -- | 7.1 | -- | 8.7 | -- | 7.9 | -- | -- | -- |
| <i>Blended Alternatives Index¹</i> | 2.9 | -- | 4.6 | -- | 9.6 | -- | 9.4 | -- | 10.9 | -- | 7.6 | -- | -- | -- |
| Private Equity^{**} | 15.9 | 1 | 21.2 | 5 | 26.9 | 3 | 20.3 | 9 | 19.4 | 11 | 18.9 | 5 | -- | -- |
| <i>Blended Private Equity Index¹</i> | 4.1 | 15 | 3.5 | 77 | 12.0 | 27 | 11.9 | 48 | 15.1 | 30 | 13.0 | 27 | 15.9 | 9 |
| <i>InvMetrics All DB Private Eq Net Median</i> | 1.5 | | 5.8 | | 8.1 | | 11.4 | | 12.4 | | 10.8 | | 12.2 | |
| Hedge Fund/Absolute Return | 0.0 | 50 | -1.5 | 93 | -4.9 | 90 | -6.0 | 97 | -2.2 | 93 | 1.5 | 65 | -- | -- |
| <i>Libor 1 month +4%</i> | 1.5 | 15 | 4.7 | 57 | 6.4 | 1 | 6.1 | 4 | 5.7 | 18 | 5.2 | 7 | -- | -- |
| <i>InvMetrics All DB Hedge Funds Net Median</i> | 0.0 | | 5.4 | | 0.2 | | 2.3 | | 3.6 | | 2.4 | | 4.2 | |
| AQR DELTA XN | -1.2 | 78 | -7.4 | 95 | -11.4 | 92 | -10.8 | 94 | -5.3 | 93 | -0.3 | 87 | -- | -- |
| Aberdeen Standard GARS | 1.6 | 36 | 7.8 | 37 | 5.4 | 32 | 1.8 | 65 | 2.4 | 67 | -- | -- | -- | -- |
| <i>Libor 1 month +4%</i> | 1.5 | 37 | 4.7 | 60 | 6.4 | 25 | 6.1 | 28 | 5.7 | 42 | 5.2 | 41 | -- | -- |
| <i>eV Alt All Multi-Strategy Median</i> | 0.8 | | 6.3 | | 2.5 | | 3.1 | | 4.5 | | 4.3 | | 5.7 | |
| Inflation Hedge | -0.4 | -- | 5.2 | -- | 1.6 | -- | 3.2 | -- | 4.4 | -- | -- | -- | -- | -- |
| <i>Blended Inflation Hedge Index¹</i> | 0.3 | -- | 6.7 | -- | 4.1 | -- | 4.5 | -- | 5.3 | -- | -- | -- | -- | -- |
| Real Estate | 1.8 | 31 | 4.3 | 55 | 6.5 | 33 | 7.6 | 24 | 7.7 | 20 | 9.6 | 15 | 10.6 | 15 |
| NCREIF ODCE | 1.3 | 58 | 3.8 | 65 | 5.6 | 58 | 7.1 | 44 | 7.3 | 35 | 9.3 | 21 | 10.9 | 8 |
| <i>InvMetrics All DB Real Estate Pub Net Median</i> | 1.4 | | 4.5 | | 5.9 | | 6.9 | | 6.7 | | 8.2 | | 9.3 | |
| Invesco | 1.9 | -- | 3.9 | -- | 6.1 | -- | 7.6 | -- | 7.7 | -- | 9.5 | -- | 10.5 | -- |
| NCREIF ODCE | 1.3 | -- | 3.8 | -- | 5.6 | -- | 7.1 | -- | 7.3 | -- | 9.3 | -- | 10.9 | -- |

* Excludes EnCap Energy Capital Fund and Sheridan Production Partners.

** Returns are one-quarter lag.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

| | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|--|-------------|-----------|--------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|------------|-----------|------------|-----------|
| Invesco US Val IV | 1.9 | -- | 6.9 | -- | 11.2 | -- | 10.1 | -- | 10.4 | -- | -- | -- | -- | -- |
| NCREIF ODCE | 1.3 | -- | 3.8 | -- | 5.6 | -- | 7.1 | -- | 7.3 | -- | 9.3 | -- | 10.9 | -- |
| NCREIF CEVA 1Q Lag - NET | 3.0 | -- | 9.1 | -- | 12.3 | -- | 12.2 | -- | 11.3 | -- | 13.0 | -- | -- | -- |
| Invesco US Val V*** | 0.8 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| NCREIF ODCE | 1.3 | -- | 3.8 | -- | 5.6 | -- | 7.1 | -- | 7.3 | -- | 9.3 | -- | 10.9 | -- |
| NCREIF CEVA 1Q Lag - NET | 3.0 | -- | 9.1 | -- | 12.3 | -- | 12.2 | -- | 11.3 | -- | 13.0 | -- | -- | -- |
| PGIM RE US Debt Fund | 1.6 | -- | 4.7 | -- | 6.4 | -- | 6.5 | -- | -- | -- | -- | -- | -- | -- |
| NCREIF ODCE | 1.3 | -- | 3.8 | -- | 5.6 | -- | 7.1 | -- | 7.3 | -- | 9.3 | -- | 10.9 | -- |
| Private Real Asset** | -0.8 | -- | -11.0 | -- | -7.3 | -- | -4.8 | -- | -3.3 | -- | 4.7 | -- | -- | -- |
| Blended Private Real Asset Index ¹ | 3.7 | -- | 7.0 | -- | 6.8 | -- | 4.0 | -- | 5.6 | -- | 5.5 | -- | -- | -- |
| Blended Secondary CA Private RA Index ¹ | -0.1 | -- | -0.1 | -- | 2.0 | -- | 6.5 | -- | 8.7 | -- | 3.8 | -- | -- | -- |
| Public Real Assets | -2.9 | -- | 10.0 | -- | -2.3 | -- | 0.2 | -- | -- | -- | -- | -- | -- | -- |
| Blended Public Real Asset Index ¹ | -2.7 | -- | 9.4 | -- | -0.6 | -- | 1.3 | -- | 4.5 | -- | 4.9 | -- | -- | -- |
| Cushing MLP Alpha TR**** | -3.9 | -- | 11.7 | -- | -8.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 50% BBgBarc US TIPS/ 50% Blended PRA Index | -0.6 | -- | 8.7 | -- | 3.4 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Alerian MLP TR USD | -5.0 | -- | 11.1 | -- | -8.1 | -- | -1.8 | -- | -2.5 | -- | -8.6 | -- | 6.3 | -- |
| SSgA Custom Real Asset | -2.6 | -- | 9.5 | -- | -0.5 | -- | 1.3 | -- | -- | -- | -- | -- | -- | -- |
| SSgA Custom Real Asset Index ¹ | -2.7 | -- | 9.4 | -- | -0.6 | -- | 1.3 | -- | 4.5 | -- | -- | -- | -- | -- |
| TIPS | 0.6 | -- | 6.1 | -- | 5.2 | -- | 3.3 | -- | 2.4 | -- | 2.1 | -- | -- | -- |
| BBgBarc US TIPS TR | 1.3 | -- | 7.6 | -- | 7.1 | -- | 3.7 | -- | 2.2 | -- | 2.4 | -- | 3.5 | -- |
| Brown Brothers Harriman | 0.6 | 85 | 6.1 | 73 | 5.2 | 85 | 3.3 | 63 | 2.4 | 30 | 2.1 | 60 | -- | -- |
| BBgBarc US TIPS TR | 1.3 | 38 | 7.6 | 47 | 7.1 | 34 | 3.7 | 31 | 2.2 | 41 | 2.4 | 25 | 3.5 | 36 |
| eV US TIPS / Inflation Fixed Inc Net Median | 1.2 | | 7.5 | | 6.5 | | 3.5 | | 2.2 | | 2.3 | | 3.3 | |

** Returns are one-quarter lag.

*** Funded February 2019.

****Funded July 2018.

1. See Appendix for Benchmark History.

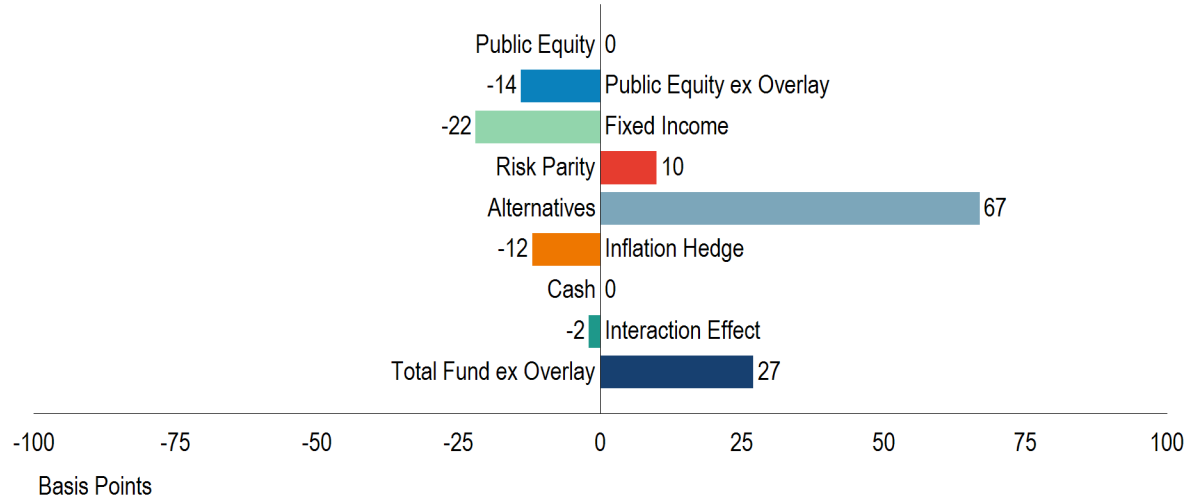
Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

| | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|-----------------|----------|------|---------|------|----------|------|-----------|------|-----------|------|-----------|------|------------|------|
| Cash | 0.3 | -- | 0.9 | -- | 1.4 | -- | 1.2 | -- | 1.1 | -- | 1.0 | -- | 0.9 | -- |
| 91 Day T-Bills | 0.5 | -- | 1.7 | -- | 2.3 | -- | 2.0 | -- | 1.5 | -- | 1.0 | -- | 0.5 | -- |
| General Account | 0.6 | -- | 2.6 | -- | 5.1 | -- | 4.1 | -- | 3.2 | -- | 2.5 | -- | 1.4 | -- |
| Treasury & LAIF | 0.8 | -- | 2.4 | -- | 3.1 | -- | 3.7 | -- | 2.7 | -- | 2.0 | -- | 1.4 | -- |
| 91 Day T-Bills | 0.5 | -- | 1.7 | -- | 2.3 | -- | 2.0 | -- | 1.5 | -- | 1.0 | -- | 0.5 | -- |

Total Fund ex Overlay
Performance Attribution

Period Ending: September 30, 2019

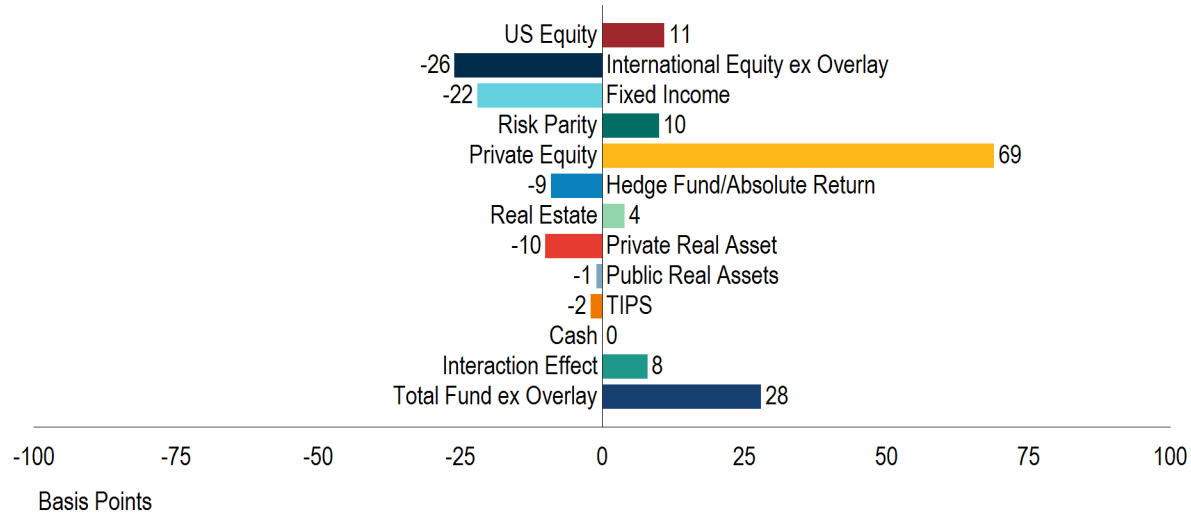


| | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction* Effects | Total Effects |
|--------------------------|-----------------------|----------------------|------------------|---------------------|----------------------|-------------------------|------------------|
| Public Equity | 0.49% | 0.37% | 0.12% | 0.00% | 0.00% | 0.00% | 0.00% |
| Public Equity ex Overlay | 0.03% | 0.37% | -0.34% | -0.14% | 0.01% | 0.00% | -0.13% |
| Fixed Income | 1.09% | 2.13% | -1.04% | -0.22% | 0.00% | 0.00% | -0.23% |
| Risk Parity | 2.69% | 1.38% | 1.31% | 0.10% | 0.00% | 0.00% | 0.11% |
| Alternatives | 8.50% | 2.94% | 5.55% | 0.67% | -0.01% | -0.03% | 0.63% |
| Inflation Hedge | -0.36% | 0.28% | -0.64% | -0.12% | 0.00% | 0.00% | -0.11% |
| Cash | 0.27% | 0.50% | -0.23% | 0.00% | -0.01% | 0.00% | -0.01% |
| Total | 1.40% | 1.13% | 0.27% | 0.30% | 0.00% | -0.02% | 0.27% |

Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund ex Overlay
Performance Attribution

Period Ending: September 30, 2019

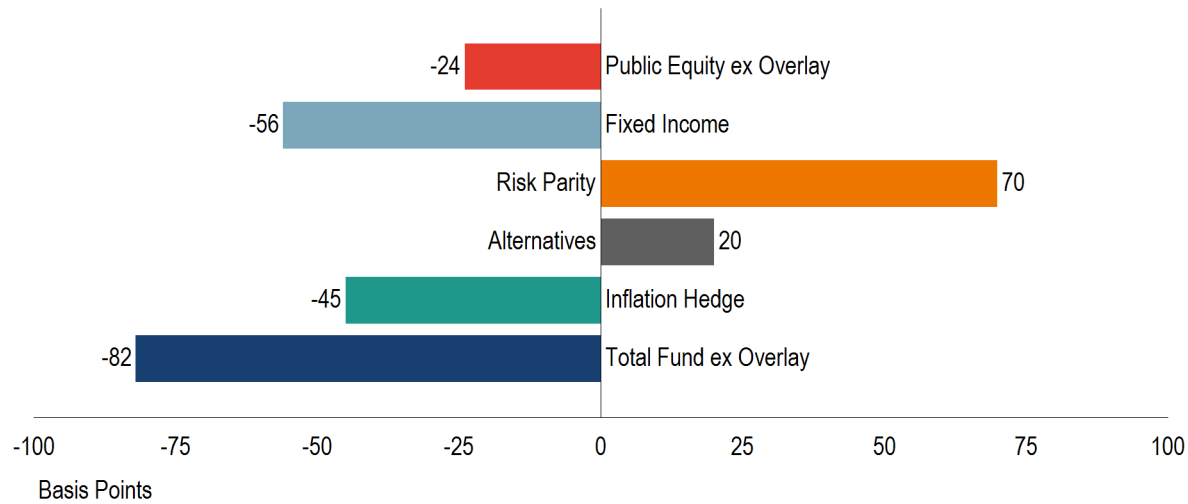


| | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction [*] Effects | Total Effects |
|---------------------------------|--------------------|-------------------|---------------|------------------|-------------------|----------------------------------|---------------|
| US Equity | 1.68% | 1.16% | 0.51% | 0.11% | 0.00% | 0.00% | 0.11% |
| International Equity ex Overlay | -1.89% | -0.56% | -1.34% | -0.26% | 0.01% | 0.01% | -0.24% |
| Fixed Income | 1.09% | 2.13% | -1.04% | -0.22% | 0.00% | 0.00% | -0.23% |
| Risk Parity | 2.69% | 1.38% | 1.31% | 0.10% | 0.00% | 0.00% | 0.11% |
| Private Equity | 15.88% | 4.11% | 11.77% | 0.69% | 0.01% | 0.03% | 0.73% |
| Hedge Fund/Absolute Return | -0.01% | 1.54% | -1.55% | -0.09% | 0.00% | 0.01% | -0.08% |
| Real Estate | 1.82% | 1.31% | 0.51% | 0.04% | 0.00% | 0.00% | 0.04% |
| Private Real Asset | -0.77% | 3.71% | -4.47% | -0.10% | -0.01% | 0.02% | -0.09% |
| Public Real Assets | -2.91% | -2.66% | -0.25% | -0.01% | -0.04% | 0.00% | -0.05% |
| TIPS | 0.57% | 1.34% | -0.78% | -0.02% | 0.00% | 0.01% | -0.01% |
| Cash | 0.27% | 0.50% | -0.23% | 0.00% | -0.01% | 0.00% | -0.01% |
| Total | 1.42% | 1.13% | 0.28% | 0.25% | -0.04% | 0.08% | 0.28% |

Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund ex Overlay
Performance Attribution (1 Year)

Period Ending: September 30, 2019

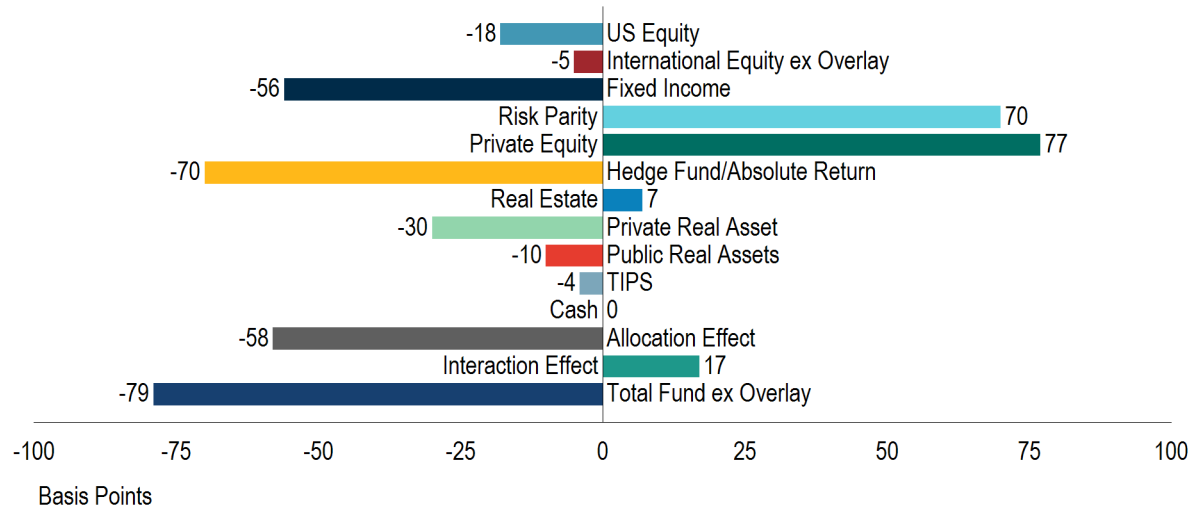


| | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction* Effects | Total Effects |
|--------------------------|-----------------------|----------------------|------------------|---------------------|----------------------|-------------------------|------------------|
| Public Equity | 1.33% | 1.35% | -0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Public Equity ex Overlay | 0.83% | 1.35% | -0.52% | -0.24% | -0.20% | 0.02% | -0.42% |
| Fixed Income | 7.23% | 9.94% | -2.71% | -0.56% | -0.06% | -0.02% | -0.64% |
| Risk Parity | 14.87% | 5.66% | 9.21% | 0.70% | 0.00% | 0.00% | 0.70% |
| Alternatives | 11.31% | 9.63% | 1.68% | 0.20% | -0.08% | -0.01% | 0.11% |
| Inflation Hedge | 1.64% | 4.12% | -2.47% | -0.45% | 0.00% | 0.01% | -0.44% |
| Cash | 1.42% | 2.26% | -0.84% | 0.00% | -0.11% | -0.01% | -0.13% |
| Total | 4.47% | 5.29% | -0.82% | -0.34% | -0.45% | -0.02% | -0.82% |

Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund ex Overlay
Performance Attribution (1 Year)

Period Ending: September 30, 2019



| | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction * | Total Effects |
|---------------------------------|--------------------|-------------------|---------------|------------------|-------------------|---------------|---------------|
| US Equity | 2.24% | 2.92% | -0.68% | -0.18% | -0.19% | 0.01% | -0.36% |
| International Equity ex Overlay | -0.83% | -0.55% | -0.28% | -0.05% | -0.02% | 0.01% | -0.07% |
| Fixed Income | 7.23% | 9.94% | -2.71% | -0.56% | -0.06% | -0.02% | -0.64% |
| Risk Parity | 14.87% | 5.66% | 9.21% | 0.70% | 0.00% | 0.00% | 0.70% |
| Private Equity | 26.92% | 11.98% | 14.94% | 0.77% | -0.04% | 0.04% | 0.78% |
| Hedge Fund/Absolute Return | -4.92% | 6.42% | -11.34% | -0.70% | -0.02% | 0.07% | -0.65% |
| Real Estate | 6.46% | 5.59% | 0.87% | 0.07% | -0.03% | 0.00% | 0.04% |
| Private Real Asset | -7.30% | 6.84% | -14.14% | -0.30% | -0.02% | 0.07% | -0.25% |
| Public Real Assets | -2.33% | -0.57% | -1.77% | -0.10% | -0.07% | -0.02% | -0.19% |
| TIPS | 5.25% | 7.13% | -1.88% | -0.04% | -0.02% | 0.02% | -0.03% |
| Cash | 1.42% | 2.26% | -0.84% | 0.00% | -0.11% | -0.01% | -0.13% |
| Total | 4.50% | 5.29% | -0.79% | -0.38% | -0.58% | 0.17% | -0.79% |

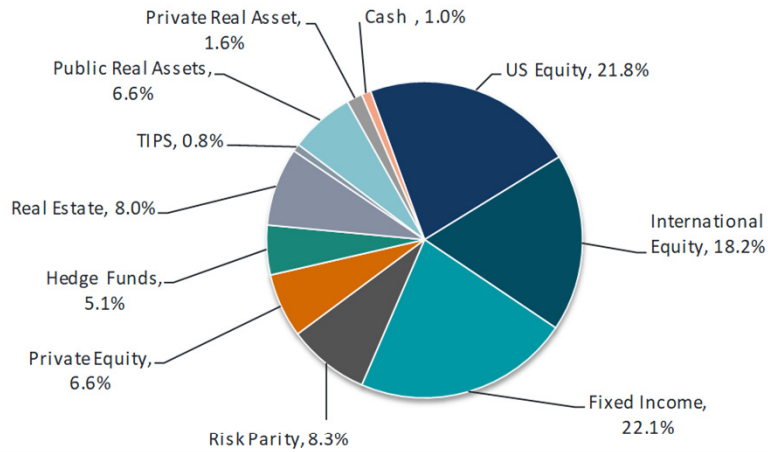
Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund

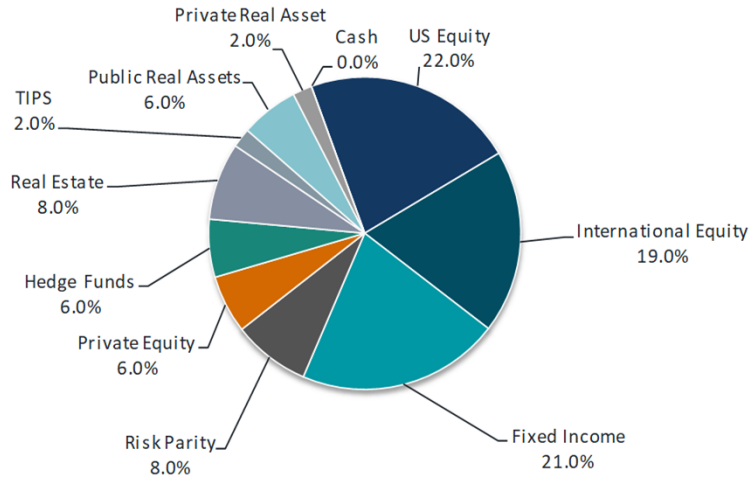
Asset Allocation Analysis

Period Ending: September 30, 2019

Current w/Overlay



Target

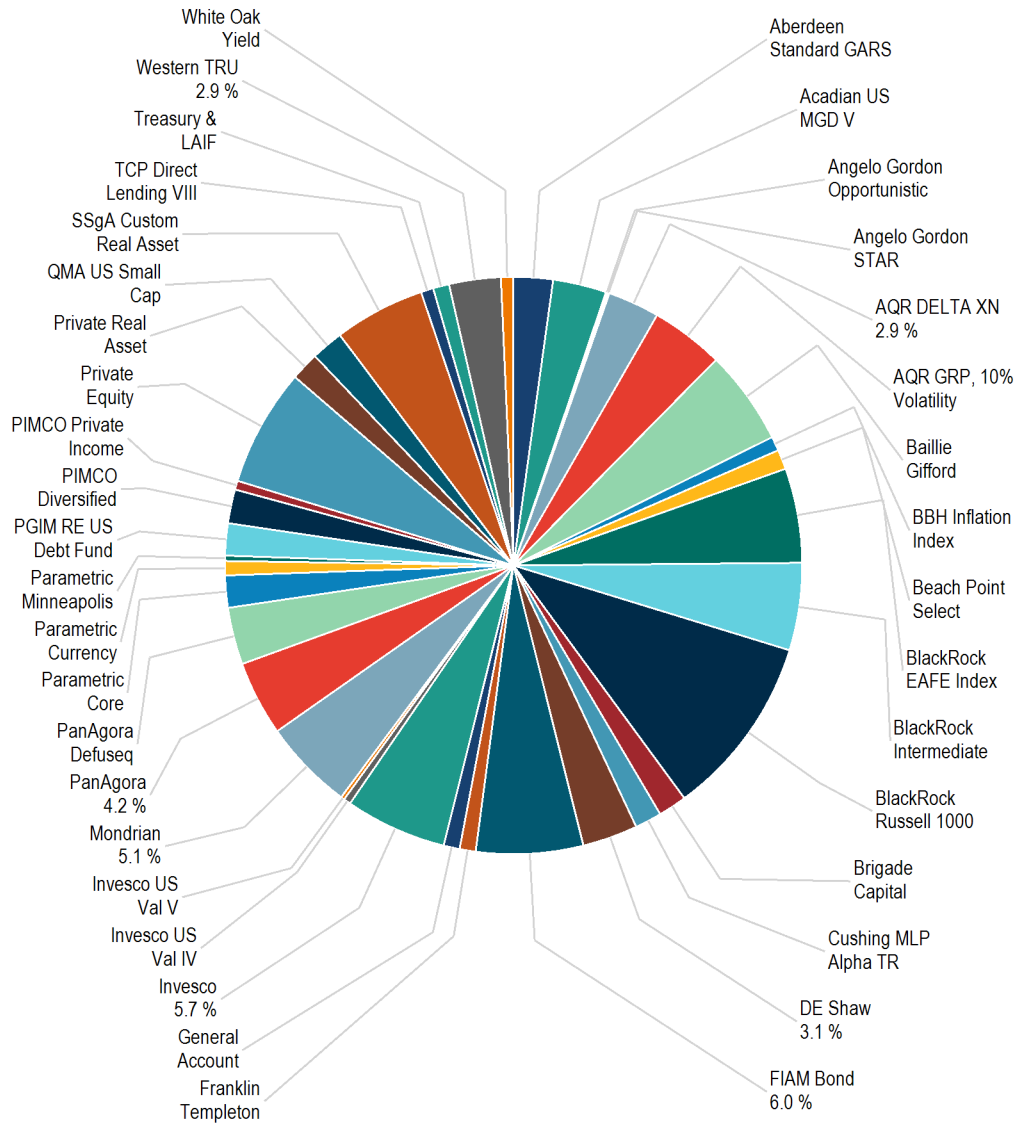


| ASSET ALLOCATION | MARKET VALUE | |
|----------------------|----------------------|---------------|
| | W/OVERLAY | W/O OVERLAY |
| US Equity | 1,044,138,176 | 21.8% |
| International Equity | 871,573,762 | 18.2% |
| Fixed Income | 1,058,386,698 | 22.1% |
| Risk Parity | 399,513,506 | 8.3% |
| Private Equity | 315,113,728 | 6.6% |
| Hedge Funds | 242,992,968 | 5.1% |
| Real Estate | 384,199,102 | 8.0% |
| TIPS | 37,278,220 | 0.8% |
| Public Real Assets | 316,558,835 | 6.6% |
| Private Real Asset | 77,239,837 | 1.6% |
| Cash | 45,608,175 | 1.0% |
| TOTAL | 4,792,603,008 | 100.0% |

| ASSET ALLOCATION | W/OVERLAY | TARGET | DIFF |
|----------------------|---------------|---------------|-------------|
| US Equity | 21.8% | 22.0% | -0.2% |
| International Equity | 18.2% | 19.0% | -0.8% |
| Fixed Income | 22.1% | 21.0% | 1.1% |
| Risk Parity | 8.3% | 8.0% | 0.3% |
| Private Equity | 6.6% | 6.0% | 0.6% |
| Hedge Funds | 5.1% | 6.0% | -0.9% |
| Real Estate | 8.0% | 8.0% | 0.0% |
| TIPS | 0.8% | 2.0% | -1.2% |
| Public Real Assets | 6.6% | 6.0% | 0.6% |
| Private Real Asset | 1.6% | 2.0% | -0.4% |
| Cash | 1.0% | 0.0% | 1.0% |
| TOTAL | 100.0% | 100.0% | 0.0% |

Total Fund Manager Allocation Analysis

Period Ending: September 30, 2019



| | Actual | Actual |
|--------------------------------|------------------------|-------------|
| Aberdeen Standard GARS | \$104,074,795 | 2% |
| Acadian US MGD V | \$145,139,425 | 3% |
| Angelo Gordon Opportunistic | \$4,913,000 | 0% |
| Angelo Gordon STAR | \$3,619,298 | 0% |
| AQR DELTA XN | \$138,918,173 | 3% |
| AQR GRP, 10% Volatility | \$198,846,488 | 4% |
| Baillie Gifford | \$254,643,977 | 5% |
| BBH Inflation Index | \$37,278,215 | 1% |
| Beach Point Select | \$53,347,131 | 1% |
| BlackRock EAFE Index | \$253,027,328 | 5% |
| BlackRock Intermediate Govt | \$236,538,193 | 5% |
| BlackRock Russell 1000 | \$488,761,017 | 10% |
| Brigade Capital | \$78,960,255 | 2% |
| Brown Brothers Harriman | \$5 | 0% |
| Cushing MLP Alpha TR | \$71,794,624 | 1% |
| DE Shaw | \$147,293,450 | 3% |
| FIAM Bond | \$287,349,195 | 6% |
| Franklin Templeton | \$40,915,349 | 1% |
| General Account | \$43,725,703 | 1% |
| Invesco | \$272,016,461 | 6% |
| Invesco US Val IV | \$19,450,833 | 0% |
| Invesco US Val V | \$7,457,351 | 0% |
| Mondrian | \$245,632,214 | 5% |
| PanAgora | \$200,667,018 | 4% |
| PanAgora Defuseq | \$151,591,359 | 3% |
| Parametric Core | \$87,371,343 | 2% |
| Parametric Currency Overlay | \$39,567,954 | 1% |
| Parametric Minneapolis Overlay | \$15,689,964 | 0% |
| PGIM RE US Debt Fund | \$85,274,457 | 2% |
| PIMCO Diversified | \$88,839,498 | 2% |
| PIMCO Private Income | \$22,116,753 | 0% |
| Private Equity | \$315,113,728 | 7% |
| Private Real Asset | \$77,239,837 | 2% |
| QMA US Small Cap | \$84,111,757 | 2% |
| SSgA Custom Real Asset | \$244,764,211 | 5% |
| TCP Direct Lending VIII | \$31,904,747 | 1% |
| Treasury & LAIF | \$42,380,647 | 1% |
| Western TRU | \$137,965,723 | 3% |
| White Oak Yield | \$34,301,530 | 1% |
| Total | \$4,792,603,008 | 100% |

Statistics Summary

3 Years

| | Anlzd Return | Anlzd Return Rank | Anlzd Standard Deviation | Anlzd Standard Deviation Rank | Sharpe Ratio | Sharpe Ratio Rank | Information Ratio | Information Ratio Rank | Tracking Error | Tracking Error Rank |
|--|--------------|-------------------|--------------------------|-------------------------------|--------------|-------------------|-------------------|------------------------|----------------|---------------------|
| Total Fund | 7.4% | 55 | 5.9% | 28 | 1.0 | 37 | -0.6 | 80 | 1.2% | 66 |
| Policy Index | 8.1% | 38 | 6.0% | 34 | 1.1 | 24 | -- | -- | 0.0% | 1 |
| InvMetrics Public DB > \$1B Net Median | 7.7% | -- | 6.5% | -- | 0.9 | -- | 0.0 | -- | 1.0% | -- |

Statistics Summary

5 Years

| | Anlzd Return | Anlzd Return Rank | Anlzd Standard Deviation | Anlzd Standard Deviation Rank | Sharpe Ratio | Sharpe Ratio Rank | Information Ratio | Information Ratio Rank | Tracking Error | Tracking Error Rank |
|--|--------------|-------------------|--------------------------|-------------------------------|--------------|-------------------|-------------------|------------------------|----------------|---------------------|
| Total Fund | 6.4% | 40 | 6.3% | 40 | 0.9 | 30 | -0.3 | 66 | 1.1% | 54 |
| Policy Index | 6.7% | 31 | 6.6% | 55 | 0.9 | 30 | -- | -- | 0.0% | 1 |
| InvMetrics Public DB > \$1B Net Median | 6.1% | -- | 6.5% | -- | 0.8 | -- | 0.0 | -- | 1.1% | -- |

Statistics Summary

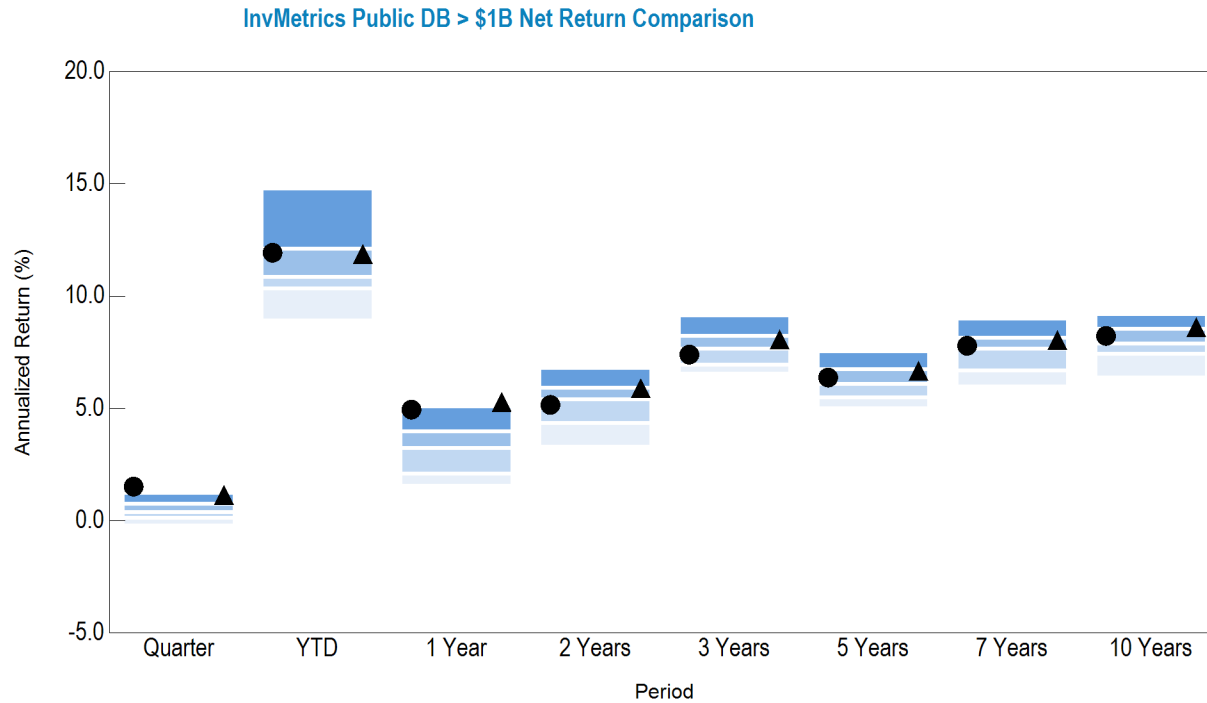
3 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|-----------------|--------------|--------------------------|--------------|-------------------|----------------|
| Cash | 1.1% | 0.2% | -3.1 | -2.5 | 0.2% |
| 91 Day T-Bills | 1.5% | 0.2% | 0.0 | -- | 0.0% |
| General Account | 3.2% | 1.0% | 1.7 | 1.8 | 0.9% |
| 91 Day T-Bills | 1.5% | 0.2% | 0.0 | -- | 0.0% |
| Treasury & LAIF | 2.7% | 1.0% | 1.1 | 1.2 | 1.0% |
| 91 Day T-Bills | 1.5% | 0.2% | 0.0 | -- | 0.0% |

Statistics Summary

5 Years

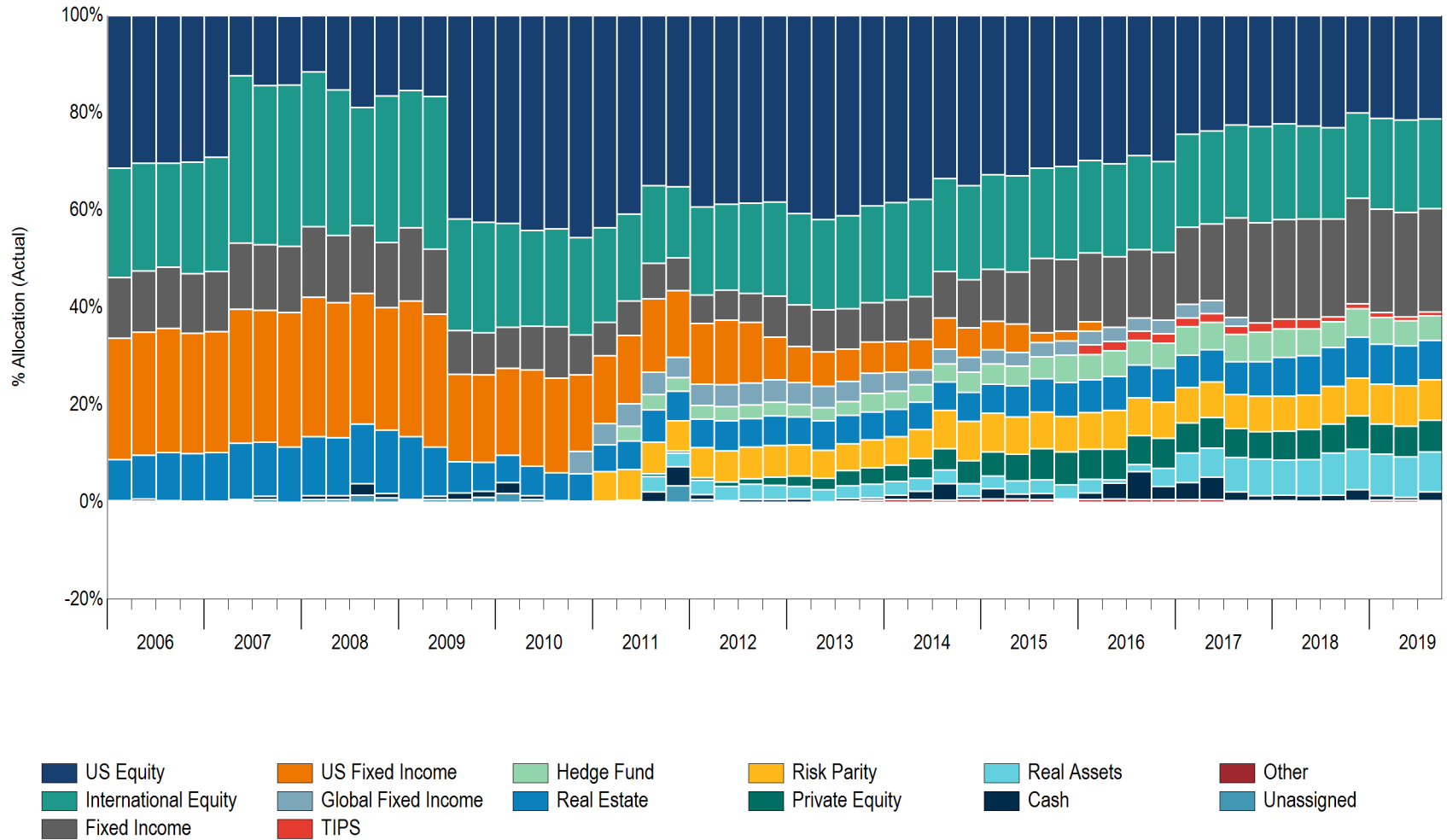
| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|-----------------|--------------|--------------------------|--------------|-------------------|----------------|
| Cash | 1.0% | 0.3% | 0.2 | 0.2 | 0.4% |
| 91 Day T-Bills | 1.0% | 0.3% | 0.0 | -- | 0.0% |
| General Account | 2.5% | 0.9% | 1.7 | 1.9 | 0.8% |
| 91 Day T-Bills | 1.0% | 0.3% | 0.0 | -- | 0.0% |
| Treasury & LAIF | 2.0% | 0.9% | 1.2 | 1.3 | 0.8% |
| 91 Day T-Bills | 1.0% | 0.3% | 0.0 | -- | 0.0% |



| | Return (Rank) | | | | | | | |
|-----------------|---------------|-----------|---------|----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 1.2 | 14.8 | 5.1 | 6.8 | 9.1 | 7.5 | 9.0 | 9.2 |
| 25th Percentile | 0.8 | 12.1 | 4.0 | 5.9 | 8.2 | 6.8 | 8.2 | 8.6 |
| Median | 0.4 | 10.9 | 3.2 | 5.4 | 7.7 | 6.1 | 7.7 | 7.9 |
| 75th Percentile | 0.1 | 10.3 | 2.1 | 4.4 | 7.0 | 5.5 | 6.7 | 7.5 |
| 95th Percentile | -0.2 | 8.9 | 1.6 | 3.3 | 6.6 | 5.0 | 6.0 | 6.4 |
| # of Portfolios | 41 | 41 | 41 | 41 | 41 | 39 | 39 | 35 |
| ● Total Fund | 1.5 (2) | 11.9 (29) | 4.9 (7) | 5.2 (61) | 7.4 (55) | 6.4 (40) | 7.8 (40) | 8.2 (35) |
| ▲ Policy Index | 1.1 (8) | 11.9 (30) | 5.3 (3) | 5.9 (29) | 8.1 (38) | 6.7 (31) | 8.0 (27) | 8.6 (20) |

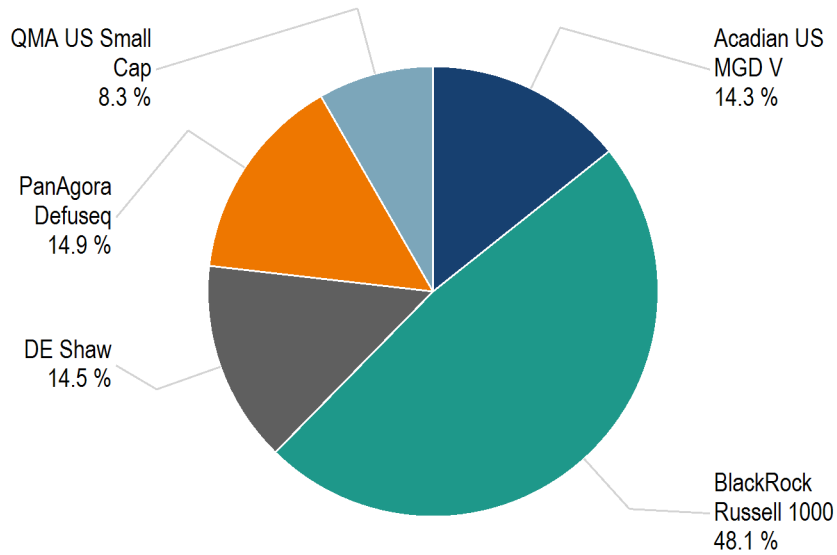
Total Fund
Asset Allocation History

Period Ending: September 30, 2019



US Equity
 Manager Allocation Analysis

Period Ending: September 30, 2019



| | Actual \$ | Actual % | Manager Contribution to Excess Return % |
|-------------------------------------|------------------------|---------------|---|
| Acadian US MGD V | \$145,139,425 | 14.3% | 0.2% |
| BlackRock Russell 1000 | \$488,761,017 | 48.1% | 0.0% |
| DE Shaw | \$147,293,450 | 14.5% | 0.0% |
| PanAgora Defuseq | \$151,591,359 | 14.9% | 0.3% |
| QMA US Small Cap | \$84,111,757 | 8.3% | 0.1% |
| Transition Account | \$0 | 0.0% | 0.0% |
| Actual vs. Policy Weight Difference | | | -0.1% |
| Total | \$1,016,897,008 | 100.0% | 0.5% |

Statistics Summary

3 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|-------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| US Equity | 12.5% | 12.1% | 0.9 | -0.4 | 0.9% |
| Blended US Equity Index | 12.8% | 12.5% | 0.9 | -- | 0.0% |
| Russell 3000 | 12.8% | 12.5% | 0.9 | -- | 0.0% |

Statistics Summary

3 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------|--------------|--------------------------|--------------|-------------------|----------------|
| Large Cap Equity | 14.0% | 11.7% | 1.1 | 0.6 | 1.4% |
| Russell 1000 | 13.2% | 12.3% | 0.9 | -- | 0.0% |
| DE Shaw | 13.0% | 11.9% | 1.0 | -0.1 | 2.3% |
| Russell 1000 | 13.2% | 12.3% | 0.9 | -- | 0.0% |
| Small Cap Equity | 6.6% | 17.4% | 0.3 | -0.6 | 2.7% |
| Russell 2000 | 8.2% | 17.2% | 0.4 | -- | 0.0% |

Statistics Summary

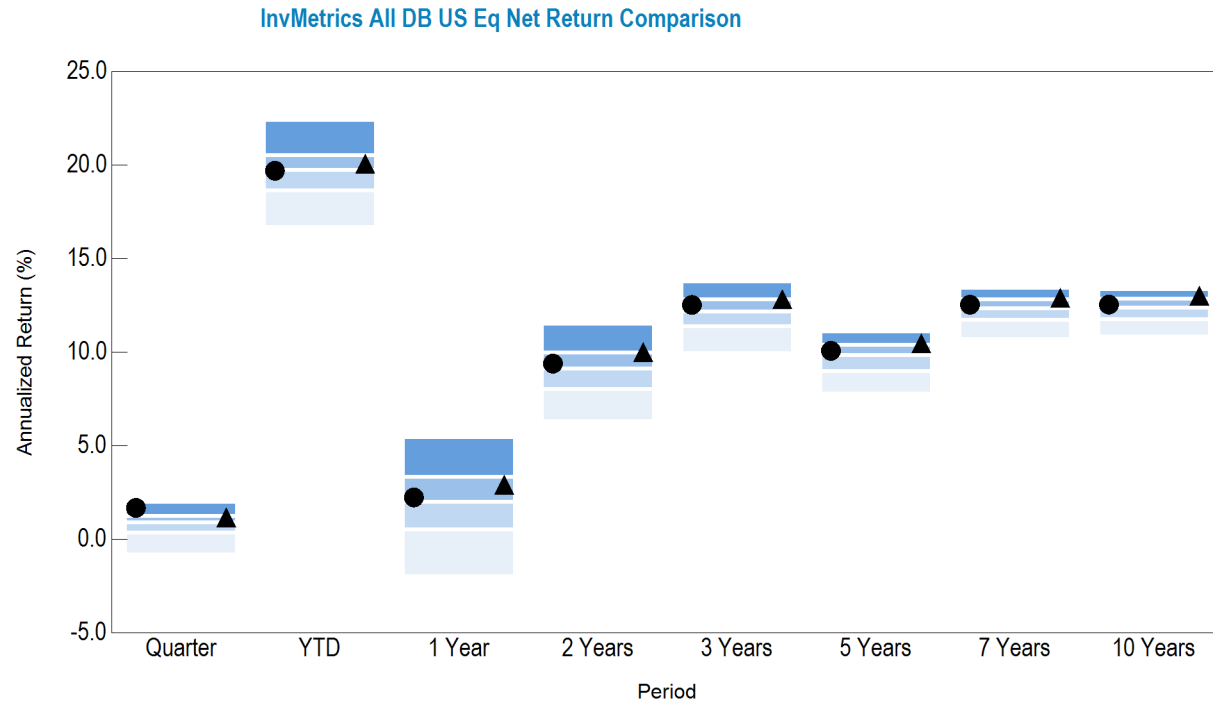
5 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|-------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| US Equity | 10.1% | 11.9% | 0.8 | -0.5 | 0.8% |
| Blended US Equity Index | 10.5% | 12.2% | 0.8 | -- | 0.0% |
| Russell 3000 | 10.4% | 12.2% | 0.8 | -0.1 | 0.6% |

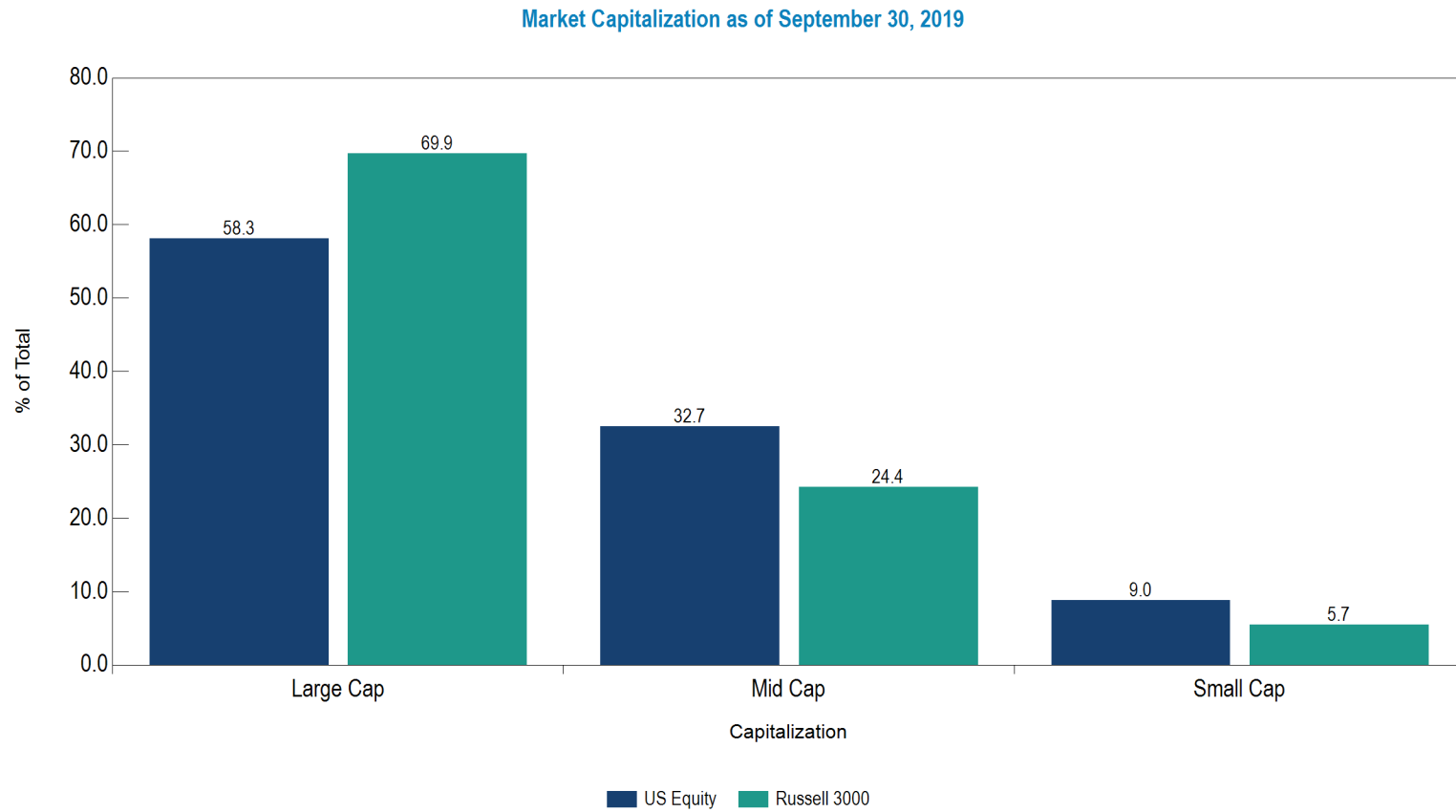
Statistics Summary

5 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------|--------------|--------------------------|--------------|-------------------|----------------|
| Large Cap Equity | 11.2% | 11.7% | 0.9 | 0.5 | 1.2% |
| Russell 1000 | 10.6% | 12.0% | 0.8 | -- | 0.0% |
| DE Shaw | 11.3% | 11.9% | 0.9 | 0.3 | 2.3% |
| Russell 1000 | 10.6% | 12.0% | 0.8 | -- | 0.0% |
| Small Cap Equity | 5.3% | 16.0% | 0.3 | -1.0 | 2.8% |
| Russell 2000 | 8.2% | 16.2% | 0.4 | -- | 0.0% |



| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
|---------------------------|----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| Return (Rank) | | | | | | | | |
| 5th Percentile | 2.0 | 22.4 | 5.5 | 11.5 | 13.8 | 11.1 | 13.4 | 13.4 |
| 25th Percentile | 1.3 | 20.5 | 3.4 | 10.0 | 12.8 | 10.4 | 12.8 | 12.9 |
| Median | 0.9 | 19.8 | 2.0 | 9.2 | 12.2 | 9.9 | 12.4 | 12.4 |
| 75th Percentile | 0.4 | 18.7 | 0.5 | 8.1 | 11.4 | 9.0 | 11.7 | 11.8 |
| 95th Percentile | -0.8 | 16.7 | -2.0 | 6.3 | 10.0 | 7.8 | 10.7 | 10.9 |
| # of Portfolios | 492 | 489 | 488 | 482 | 463 | 439 | 386 | 284 |
| ● US Equity | 1.7 (12) | 19.7 (53) | 2.2 (47) | 9.4 (42) | 12.5 (37) | 10.1 (40) | 12.5 (40) | 12.6 (42) |
| ▲ Blended US Equity Index | 1.2 (31) | 20.1 (36) | 2.9 (34) | 10.0 (25) | 12.8 (26) | 10.5 (21) | 12.9 (22) | 13.0 (18) |



See appendix for the market capitalization breakpoints.

Characteristics

| | Portfolio | Russell 3000 |
|---------------------------------|-----------|--------------|
| Number of Holdings | 2,894 | 2,988 |
| Weighted Avg. Market Cap. (\$B) | 148.0 | 195.3 |
| Median Market Cap. (\$B) | 3.0 | 1.6 |
| Price To Earnings | 20.3 | 20.5 |
| Price To Book | 3.3 | 3.5 |
| Price To Sales | 1.8 | 1.9 |
| Return on Equity (%) | 22.1 | 21.4 |
| Yield (%) | 2.0 | 1.9 |
| Beta (holdings; domestic) | 0.9 | 1.0 |

Top Holdings

| | |
|------------------------|------|
| MICROSOFT | 2.5% |
| APPLE | 2.2% |
| AMAZON.COM | 1.6% |
| AT&T | 1.2% |
| JOHNSON & JOHNSON | 1.1% |
| VISA 'A' | 1.0% |
| VERIZON COMMUNICATIONS | 1.0% |
| ALPHABET A | 1.0% |
| JP MORGAN CHASE & CO. | 0.9% |
| FACEBOOK CLASS A | 0.9% |

Best Performers

| | Return % |
|--|----------|
| DURECT (DRRX) | 182.2% |
| CASTLE BRANDS (ROX) | 171.6% |
| IMPAC MORTGAGE HDG. (IMH) | 153.9% |
| HOVNANIAN ENTS.'A' (HOV) | 153.3% |
| STAGE STORES (SSI) | 144.2% |
| FRANCESCA'S HOLDINGS (FRAN) | 135.7% |
| INFRASTRUCTURE AND ENERGY ALTERNATIVES (IEA) | 128.4% |
| ICONIX BRAND GROUP (ICON) | 109.4% |
| NEXTCURE (NXTC) | 105.9% |
| SEACHANGE INTL. (SEAC) | 101.4% |

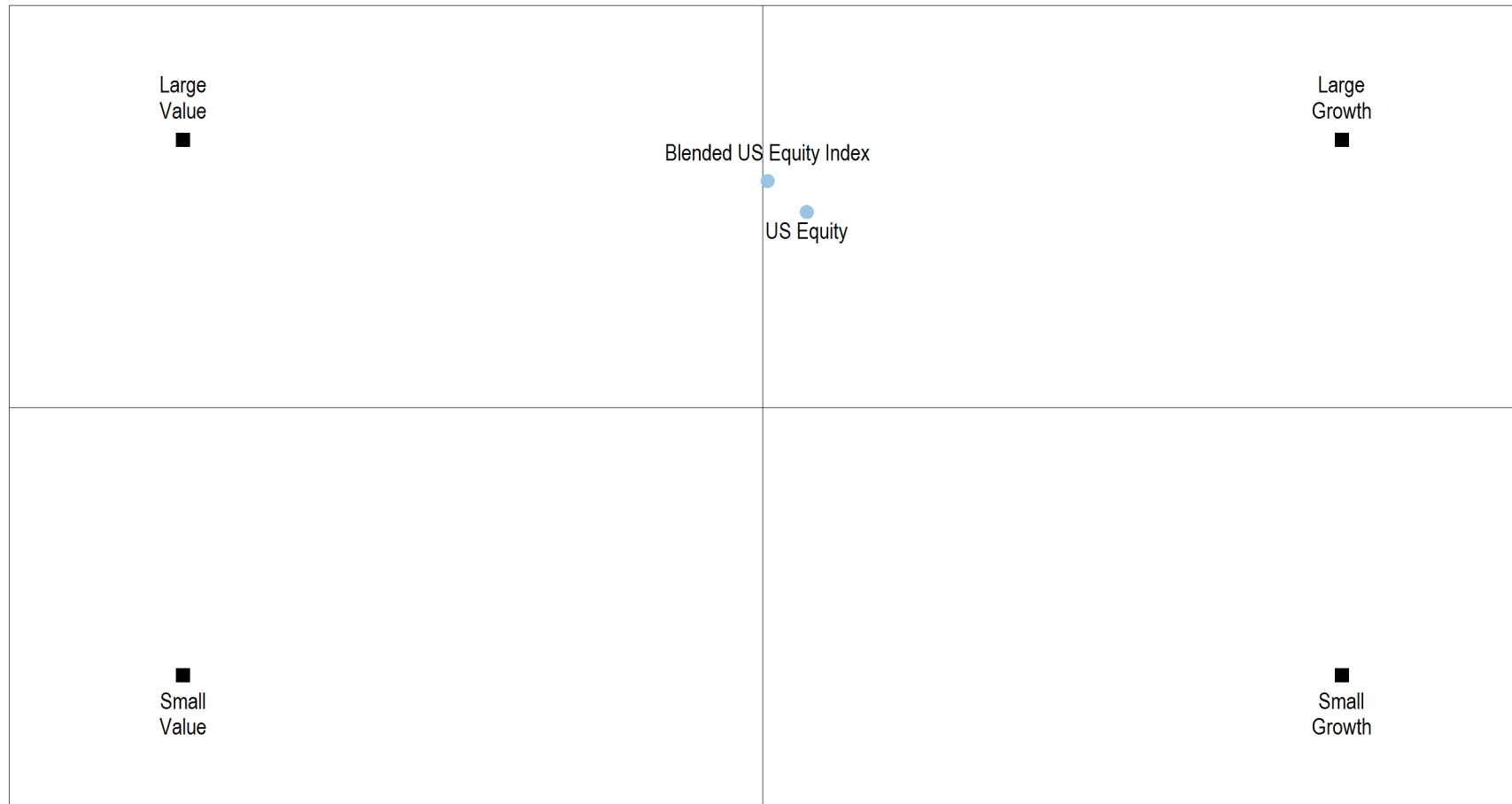
Worst Performers

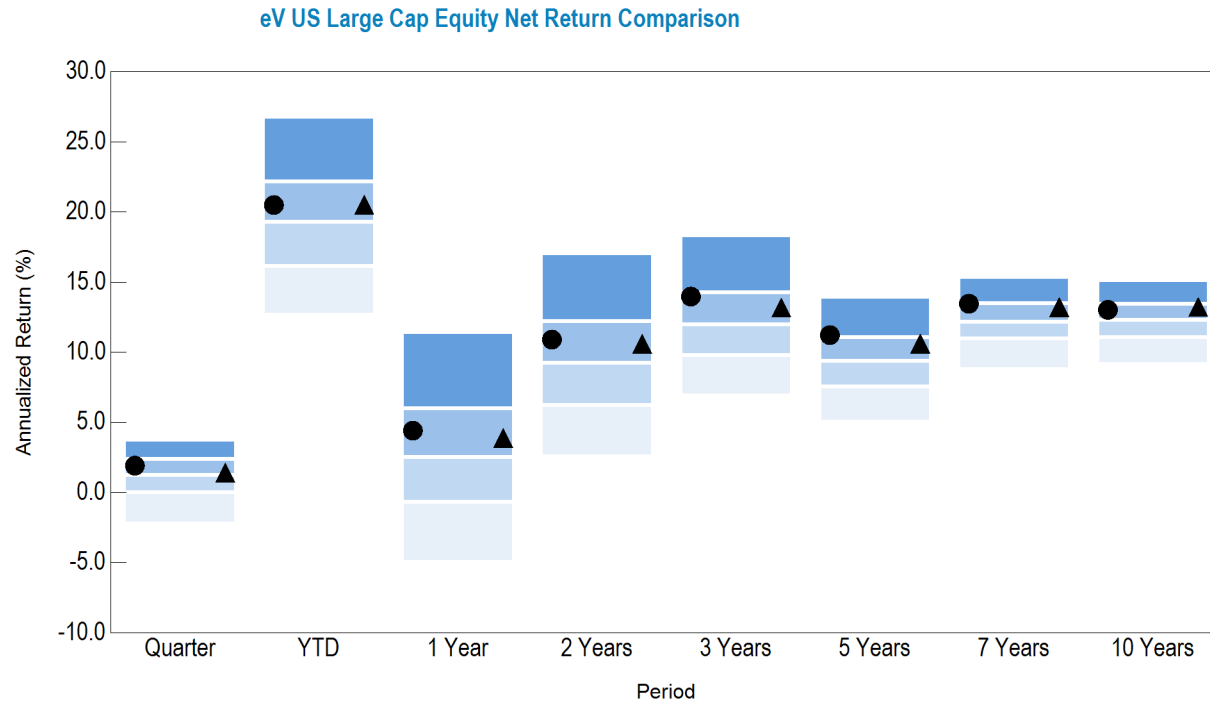
| | Return % |
|---------------------------------|----------|
| FRED'S 'A' (FREDQ) | -93.7% |
| TOCAGEN (TOCA) | -90.1% |
| SUPERIOR ENERGY SERVICES (SPNV) | -90.0% |
| VIVEVE MEDICAL (VIVE) | -88.4% |
| ADVAXIS (ADXS) | -87.3% |
| WAITR HOLDINGS (WTRH) | -79.6% |
| MCDERMOTT INTL. (MDR) | -79.1% |
| PIONEER ENERGY SERVICES (PESX) | -78.3% |
| SIENNA BIOPH. (SNNA) | -77.0% |
| SONIM TECHNOLOGIES (SONM) | -77.0% |

US Equity Performance Attribution vs. Russell 3000

| | Attribution Effects | | | | Returns | | Sector Weights | | | | |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|-------------|-------------|---------------|---------------|
| | Total Effects | Selection Effect | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.1% | 0.0% | 0.0% | 0.0% | -7.3% | -7.7% | 4.1% | 4.6% | | | |
| Materials | 0.0% | 0.0% | 0.0% | 0.0% | 0.3% | -0.6% | 3.6% | 3.0% | | | |
| Industrials | 0.0% | 0.0% | 0.0% | 0.0% | 0.3% | 0.7% | 9.7% | 10.2% | | | |
| Consumer Discretionary | 0.0% | 0.0% | 0.0% | 0.0% | 1.0% | 0.6% | 12.6% | 10.5% | | | |
| Consumer Staples | 0.1% | 0.0% | 0.1% | 0.0% | 6.3% | 5.9% | 7.6% | 6.5% | | | |
| Health Care | 0.1% | 0.1% | 0.0% | 0.0% | -2.3% | -3.2% | 13.9% | 14.1% | | | |
| Financials | 0.0% | 0.0% | 0.0% | 0.0% | 1.5% | 1.8% | 11.7% | 13.7% | | | |
| Information Technology | -0.1% | -0.1% | 0.0% | 0.0% | 2.2% | 2.7% | 18.1% | 21.2% | | | |
| Communication Services | 0.0% | 0.0% | 0.0% | 0.0% | 2.4% | 2.0% | 8.6% | 9.2% | | | |
| Utilities | 0.2% | 0.0% | 0.2% | 0.0% | 8.0% | 8.1% | 6.4% | 3.2% | | | |
| Real Estate | -0.1% | -0.1% | 0.0% | 0.0% | 5.7% | 7.4% | 3.7% | 3.9% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 0.1% | 0.0% | | | |
| Unclassified | 0.0% | 0.0% | 0.0% | 0.0% | 1.0% | -- | 0.1% | 0.0% | | | |
| Portfolio | 0.3% | = | 0.0% | + | 0.2% | + | 0.0% | 1.6% | 1.3% | 100.0% | 100.0% |

U.S. Effective Style Map





| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
|----------------------|----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| Return (Rank) | | | | | | | | |
| 5th Percentile | 3.7 | 26.8 | 11.4 | 17.0 | 18.3 | 13.9 | 15.4 | 15.1 |
| 25th Percentile | 2.4 | 22.2 | 6.0 | 12.3 | 14.3 | 11.1 | 13.5 | 13.5 |
| Median | 1.3 | 19.3 | 2.6 | 9.3 | 12.0 | 9.4 | 12.2 | 12.3 |
| 75th Percentile | 0.1 | 16.2 | -0.6 | 6.3 | 9.8 | 7.6 | 11.0 | 11.1 |
| 95th Percentile | -2.2 | 12.7 | -4.9 | 2.6 | 6.9 | 5.1 | 8.8 | 9.2 |
| # of Portfolios | 606 | 606 | 597 | 591 | 578 | 547 | 498 | 435 |
| ● Large Cap Equity | 1.9 (35) | 20.5 (38) | 4.4 (35) | 10.9 (35) | 14.0 (29) | 11.2 (25) | 13.5 (26) | 13.0 (34) |
| ▲ Russell 1000 | 1.4 (45) | 20.5 (38) | 3.9 (39) | 10.6 (37) | 13.2 (36) | 10.6 (32) | 13.2 (30) | 13.2 (30) |

Characteristics

| | Portfolio | Russell 1000 |
|---------------------------------|-----------|--------------|
| Number of Holdings | 2,837 | 997 |
| Weighted Avg. Market Cap. (\$B) | 161.0 | 208.9 |
| Median Market Cap. (\$B) | 3.5 | 9.8 |
| Price To Earnings | 20.7 | 20.7 |
| Price To Book | 3.5 | 3.6 |
| Price To Sales | 2.0 | 2.1 |
| Return on Equity (%) | 23.1 | 24.6 |
| Yield (%) | 2.0 | 1.9 |
| Beta (holdings; domestic) | 0.9 | 1.0 |

Top Holdings

| | |
|------------------------|------|
| MICROSOFT | 2.7% |
| APPLE | 2.4% |
| AMAZON.COM | 1.8% |
| AT&T | 1.3% |
| JOHNSON & JOHNSON | 1.2% |
| VISA 'A' | 1.1% |
| VERIZON COMMUNICATIONS | 1.1% |
| ALPHABET A | 1.1% |
| JP MORGAN CHASE & CO. | 1.0% |
| FACEBOOK CLASS A | 1.0% |

Best Performers

| | Return % |
|--|----------|
| DURECT (DRRX) | 182.2% |
| CASTLE BRANDS (ROX) | 171.6% |
| IMPAC MORTGAGE HDG. (IMH) | 153.9% |
| HOVNIANIAN ENTS.'A' (HOV) | 153.3% |
| STAGE STORES (SSI) | 144.2% |
| FRANCESCA'S HOLDINGS (FRAN) | 135.7% |
| INFRASTRUCTURE AND ENERGY ALTERNATIVES (IEA) | 128.4% |
| ICONIX BRAND GROUP (ICON) | 109.4% |
| NEXTCURE (NXTC) | 105.9% |
| SEACHANGE INTL. (SEAC) | 101.4% |

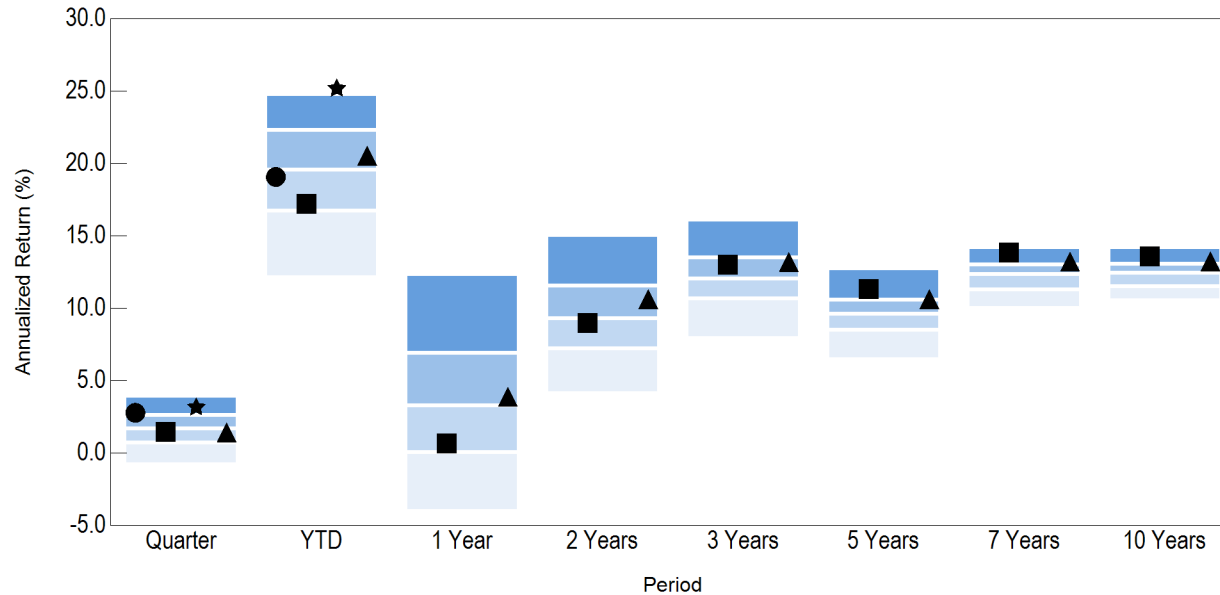
Worst Performers

| | Return % |
|---------------------------------|----------|
| FRED'S 'A' (FREDQ) | -93.7% |
| TOCAGEN (TOCA) | -90.1% |
| SUPERIOR ENERGY SERVICES (SPNV) | -90.0% |
| VIVEVE MEDICAL (VIVE) | -88.4% |
| ADVAXIS (ADXS) | -87.3% |
| WAITR HOLDINGS (WTRH) | -79.6% |
| MCDERMOTT INTL. (MDR) | -79.1% |
| PIONEER ENERGY SERVICES (PESX) | -78.3% |
| SIENNA BIOPH. (SNNA) | -77.0% |
| SONIM TECHNOLOGIES (SONM) | -77.0% |

Large Cap Equity Performance Attribution vs. Russell 1000

| | Attribution Effects | | | | Returns | | Sector Weights | | | | |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|-------------|-------------|---------------|---------------|
| | Total Effects | Selection Effect | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.1% | 0.0% | 0.0% | 0.0% | -7.0% | -7.2% | 4.1% | 4.7% | | | |
| Materials | 0.0% | 0.0% | 0.0% | 0.0% | 0.4% | -0.2% | 3.6% | 2.9% | | | |
| Industrials | -0.1% | -0.1% | 0.0% | 0.0% | -0.1% | 0.8% | 9.1% | 9.8% | | | |
| Consumer Discretionary | 0.1% | 0.1% | 0.0% | 0.0% | 1.4% | 0.7% | 12.6% | 10.4% | | | |
| Consumer Staples | 0.1% | 0.0% | 0.1% | 0.0% | 6.3% | 6.0% | 8.1% | 6.8% | | | |
| Health Care | 0.1% | 0.1% | 0.0% | 0.0% | -2.0% | -2.7% | 13.7% | 13.9% | | | |
| Financials | 0.0% | 0.0% | 0.0% | 0.0% | 2.0% | 2.1% | 11.2% | 13.4% | | | |
| Information Technology | -0.2% | -0.2% | 0.0% | 0.0% | 2.2% | 2.9% | 18.2% | 21.7% | | | |
| Communication Services | 0.0% | 0.0% | 0.0% | 0.0% | 2.6% | 2.2% | 9.1% | 9.6% | | | |
| Utilities | 0.2% | 0.0% | 0.2% | 0.0% | 8.2% | 8.2% | 6.7% | 3.2% | | | |
| Real Estate | -0.1% | 0.0% | 0.0% | 0.0% | 6.6% | 7.7% | 3.4% | 3.7% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 0.1% | 0.0% | | | |
| Unclassified | 0.0% | 0.0% | 0.0% | 0.0% | 1.0% | -- | 0.1% | 0.0% | | | |
| Portfolio | 0.2% | = | -0.1% | + | 0.2% | + | 0.0% | 1.8% | 1.5% | 100.0% | 100.0% |

eV US Large Cap Core Equity Net Return Comparison



| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
|----------------------|----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| Return (Rank) | | | | | | | | |
| 5th Percentile | 3.9 | 24.8 | 12.3 | 15.0 | 16.1 | 12.7 | 14.2 | 14.2 |
| 25th Percentile | 2.6 | 22.3 | 6.9 | 11.6 | 13.5 | 10.6 | 13.1 | 13.1 |
| Median | 1.7 | 19.6 | 3.3 | 9.3 | 12.1 | 9.7 | 12.4 | 12.5 |
| 75th Percentile | 0.7 | 16.8 | 0.1 | 7.2 | 10.7 | 8.5 | 11.3 | 11.5 |
| 95th Percentile | -0.8 | 12.1 | -4.0 | 4.1 | 8.0 | 6.5 | 10.0 | 10.5 |
| # of Portfolios | 191 | 191 | 190 | 187 | 183 | 168 | 147 | 121 |
| ● Acadian US MGD V | 2.8 (24) | 19.1 (55) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) |
| ■ DE Shaw | 1.4 (58) | 17.2 (71) | 0.7 (73) | 9.0 (52) | 13.0 (31) | 11.3 (15) | 13.8 (12) | 13.6 (13) |
| ★ PanAgora Defuseq | 3.2 (20) | 25.2 (5) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) |
| ▲ Russell 1000 | 1.4 (59) | 20.5 (39) | 3.9 (45) | 10.6 (35) | 13.2 (29) | 10.6 (26) | 13.2 (19) | 13.2 (21) |

Characteristics

| | Portfolio | Russell 1000 |
|---------------------------------|-----------|--------------|
| Number of Holdings | 137 | 997 |
| Weighted Avg. Market Cap. (\$B) | 72.2 | 208.9 |
| Median Market Cap. (\$B) | 16.4 | 9.8 |
| Price To Earnings | 19.4 | 20.7 |
| Price To Book | 3.1 | 3.6 |
| Price To Sales | 2.0 | 2.1 |
| Return on Equity (%) | 24.9 | 24.6 |
| Yield (%) | 2.0 | 1.9 |
| Beta (holdings; domestic) | 0.8 | 1.0 |

Top Holdings

| | |
|----------------------------------|------|
| ESTEE LAUDER COS.'A' | 1.3% |
| ZOETIS A | 1.3% |
| ROYAL GOLD | 1.2% |
| COSTCO WHOLESALE | 1.2% |
| DANAHER | 1.2% |
| STARBUCKS | 1.2% |
| NEXTERA ENERGY | 1.2% |
| HOME DEPOT | 1.2% |
| SOUTHERN | 1.2% |
| BRIGHT HORIZONS FAMILY SOLUTIONS | 1.2% |

Best Performers

| | Return % |
|-----------------------------------|----------|
| TARGET (TGT) | 24.4% |
| ROYAL GOLD (RGLD) | 20.5% |
| J & J SNACK FOODS (JJSF) | 19.6% |
| NEWMARKET (NEU) | 18.2% |
| TELEDYNE TECHS. (TDY) | 17.6% |
| WESTERN UNION (WU) | 17.5% |
| BROOKFIELD INFR.PTNS. UNITS (BIP) | 16.8% |
| GENOMIC HEALTH (GHDX) | 16.6% |
| HERSHEY (HSY) | 16.2% |
| CHEMED (CHE) | 15.8% |

Worst Performers

| | Return % |
|---------------------------------|----------|
| PHIBRO ANIMAL HLTH.CL.A (PAHC) | -32.5% |
| ARENA PHARMS. (ARNA) | -21.9% |
| CBS 'B' (CBS) | -18.8% |
| H&R BLOCK (HRB) | -18.5% |
| CAREER EDUCATION (CECO) | -16.7% |
| METTLER TOLEDO INTL. (MTD) | -16.1% |
| ADTALEM GLOBAL EDUCATION (ATGE) | -15.4% |
| ANTHEM (ANTM) | -14.6% |
| TELEPHONE & DATA SYS. (TDS) | -14.6% |
| K12 (LRN) | -13.2% |

Acadian US MGD V Performance Attribution vs. Russell 1000

| | Total Effects | Attribution Effects | | | Returns | | Sector Weights | | | | |
|------------------------|------------------|---------------------|----------------------|------------------------|-------------|-----------|----------------|-------------|-------------|---------------|---------------|
| | | Selection Effect | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.3% | 0.2% | 0.3% | -0.1% | -2.3% | -7.2% | 1.7% | 4.7% | | | |
| Materials | 0.2% | 0.3% | 0.0% | -0.1% | 11.7% | -0.2% | 1.9% | 2.9% | | | |
| Industrials | -0.1% | -0.2% | 0.0% | 0.1% | -1.2% | 0.8% | 4.2% | 9.8% | | | |
| Consumer Discretionary | 0.2% | 0.2% | 0.0% | 0.1% | 2.6% | 0.7% | 15.0% | 10.4% | | | |
| Consumer Staples | 0.2% | 0.0% | 0.2% | 0.0% | 6.3% | 6.0% | 11.0% | 6.8% | | | |
| Health Care | 0.0% | 0.1% | 0.0% | 0.0% | -2.2% | -2.7% | 14.8% | 13.9% | | | |
| Financials | -0.1% | -0.1% | 0.0% | 0.0% | 1.0% | 2.1% | 14.3% | 13.4% | | | |
| Information Technology | -0.4% | -0.4% | -0.2% | 0.3% | 0.9% | 2.9% | 9.0% | 21.7% | | | |
| Communication Services | 0.0% | 0.0% | 0.0% | 0.0% | 2.5% | 2.2% | 10.2% | 9.6% | | | |
| Utilities | 1.0% | 0.0% | 0.9% | 0.1% | 9.0% | 8.2% | 16.8% | 3.2% | | | |
| Real Estate | -0.2% | -0.1% | -0.2% | 0.1% | 5.3% | 7.7% | 0.6% | 3.7% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 0.4% | 0.0% | | | |
| Unclassified | 0.0% | -- | -- | -- | -- | -- | 0.0% | 0.0% | | | |
| Portfolio | 1.4% | = | 0.0% | + | 1.0% | + | 0.4% | 2.9% | 1.5% | 100.0% | 100.0% |

Characteristics

| | Portfolio | Russell 1000 |
|---------------------------------|-----------|--------------|
| Number of Holdings | 1,001 | 997 |
| Weighted Avg. Market Cap. (\$B) | 209.4 | 208.9 |
| Median Market Cap. (\$B) | 9.7 | 9.8 |
| Price To Earnings | 20.8 | 20.7 |
| Price To Book | 3.6 | 3.6 |
| Price To Sales | 2.1 | 2.1 |
| Return on Equity (%) | 24.7 | 24.6 |
| Yield (%) | 1.9 | 1.9 |
| Beta (holdings; domestic) | 1.0 | 1.0 |

Top Holdings

| | |
|------------------------|------|
| MICROSOFT | 3.8% |
| APPLE | 3.7% |
| AMAZON.COM | 2.6% |
| FACEBOOK CLASS A | 1.5% |
| BERKSHIRE HATHAWAY 'B' | 1.5% |
| JP MORGAN CHASE & CO. | 1.4% |
| ALPHABET 'C' | 1.3% |
| ALPHABET A | 1.3% |
| JOHNSON & JOHNSON | 1.3% |
| PROCTER & GAMBLE | 1.1% |

Best Performers

| | Return % |
|-----------------------------------|----------|
| INSULET (PODD) | 38.2% |
| CYRUSONE (CONE) | 37.9% |
| KLA (KLAC) | 35.7% |
| NEW YORK COMMUNITY BANCORP (NYCB) | 27.6% |
| ENTEGRIS (ENTG) | 26.3% |
| PILGRIMS PRIDE (PPC) | 26.2% |
| WESTERN DIGITAL (WDC) | 25.4% |
| DOCUSIGN (DOCU) | 24.6% |
| TARGET (TGT) | 24.4% |
| XPO LOGISTICS (XPO) | 23.8% |

Worst Performers

| | Return % |
|-----------------------------|----------|
| 2U (TWOU) | -56.7% |
| PG&E (PCG) | -56.4% |
| COVETRUS (CVET) | -51.4% |
| SAREPTA THERAPEUTICS (SRPT) | -50.4% |
| NEKTAR THERAPEUTICS (NKTR) | -48.8% |
| DXC TECHNOLOGY (DXC) | -46.2% |
| ANTERO RESOURCES (AR) | -45.4% |
| RANGE RES. (RRC) | -45.0% |
| PLURALSIGHT A (PS) | -44.6% |
| FLUOR (FLR) | -42.5% |

Characteristics

| | Portfolio | Russell 1000 |
|---------------------------------|-----------|--------------|
| Number of Holdings | 112 | 997 |
| Weighted Avg. Market Cap. (\$B) | 59.3 | 208.9 |
| Median Market Cap. (\$B) | 15.1 | 9.8 |
| Price To Earnings | 23.5 | 20.7 |
| Price To Book | 3.2 | 3.6 |
| Price To Sales | 2.2 | 2.1 |
| Return on Equity (%) | 19.9 | 24.6 |
| Yield (%) | 2.6 | 1.9 |
| Beta (holdings; domestic) | 0.7 | 1.0 |

Top Holdings

| | |
|-------------------|------|
| AT&T | 3.5% |
| CHEVRON | 2.7% |
| REPUBLIC SVS.'A' | 2.6% |
| APTARGROUP | 2.2% |
| AIR PRDS.& CHEMS. | 2.1% |
| WASTE MANAGEMENT | 2.1% |

Best Performers

| | Return % |
|----------------------|----------|
| KELLOGG (K) | 21.2% |
| NEWMARKET (NEU) | 18.2% |
| CAMPBELL SOUP (CPB) | 18.1% |
| CONAGRA BRANDS (CAG) | 16.5% |
| HERSHEY (HSY) | 16.2% |

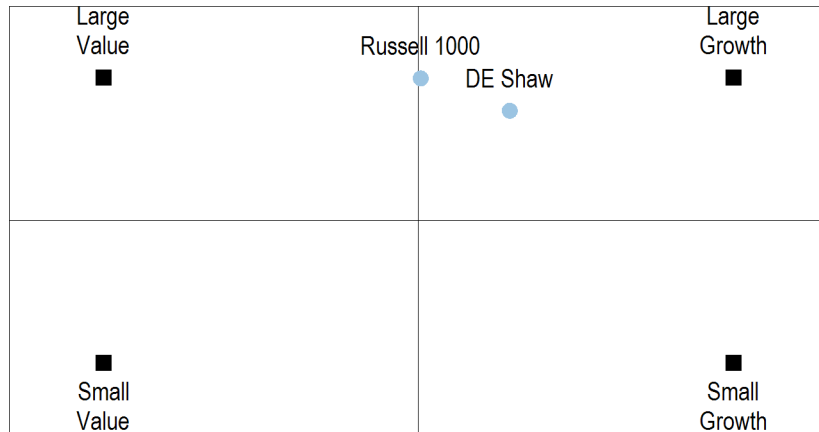
Worst Performers

| | Return % |
|------------------------------|----------|
| FOX B (FOX) | -13.0% |
| VARIAN MEDICAL SYSTEMS (VAR) | -12.5% |
| MARRIOTT INTL.'A' (MAR) | -11.0% |
| EXXON MOBIL (XOM) | -6.7% |
| JOHNSON & JOHNSON (JNJ) | -6.4% |

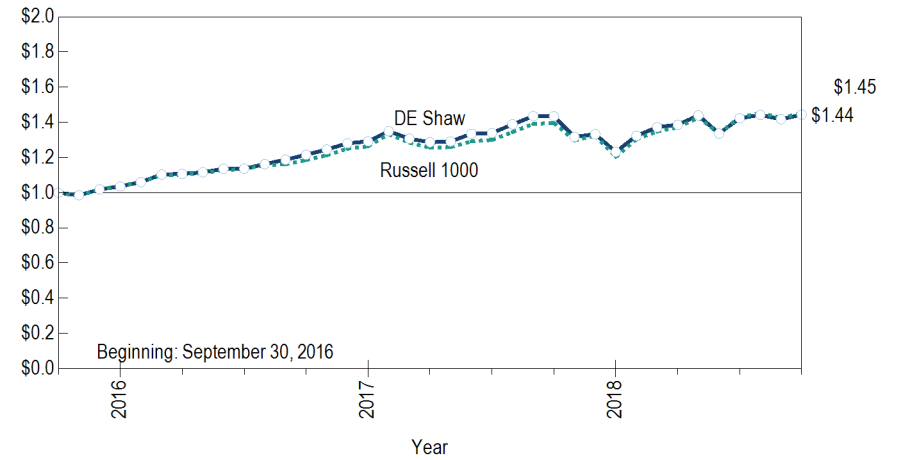
PanAgora Defuseq Performance Attribution vs. Russell 1000

| | Attribution Effects | | | | Returns | | Sector Weights | | | | |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|-------------|-------------|---------------|---------------|
| | Total Effects | Selection Effect | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.1% | 0.1% | 0.0% | 0.0% | -4.7% | -7.2% | 4.6% | 4.7% | | | |
| Materials | -0.2% | 0.0% | -0.1% | 0.0% | -0.7% | -0.2% | 10.0% | 2.9% | | | |
| Industrials | -0.2% | -0.2% | 0.0% | 0.0% | -1.0% | 0.8% | 10.0% | 9.8% | | | |
| Consumer Discretionary | 0.2% | 0.1% | 0.0% | 0.0% | 2.1% | 0.7% | 11.4% | 10.4% | | | |
| Consumer Staples | 0.4% | 0.1% | 0.3% | 0.1% | 7.2% | 6.0% | 12.6% | 6.8% | | | |
| Health Care | 0.5% | 0.5% | 0.3% | -0.2% | 0.7% | -2.7% | 7.8% | 13.9% | | | |
| Financials | 0.1% | 0.3% | 0.0% | -0.2% | 4.3% | 2.1% | 4.8% | 13.4% | | | |
| Information Technology | 0.0% | 0.5% | -0.2% | -0.3% | 5.2% | 2.9% | 7.4% | 21.7% | | | |
| Communication Services | 0.0% | 0.0% | 0.0% | 0.0% | 2.8% | 2.2% | 9.6% | 9.6% | | | |
| Utilities | 0.7% | 0.0% | 0.8% | -0.1% | 7.3% | 8.2% | 15.1% | 3.2% | | | |
| Real Estate | 0.0% | -0.1% | 0.2% | -0.1% | 5.3% | 7.7% | 6.6% | 3.7% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 0.2% | 0.0% | | | |
| Unclassified | 0.0% | -- | -- | -- | -- | -- | 0.0% | 0.0% | | | |
| Portfolio | 1.6% | = | 1.3% | + | 1.1% | + | -0.9% | 3.1% | 1.5% | 100.0% | 100.0% |

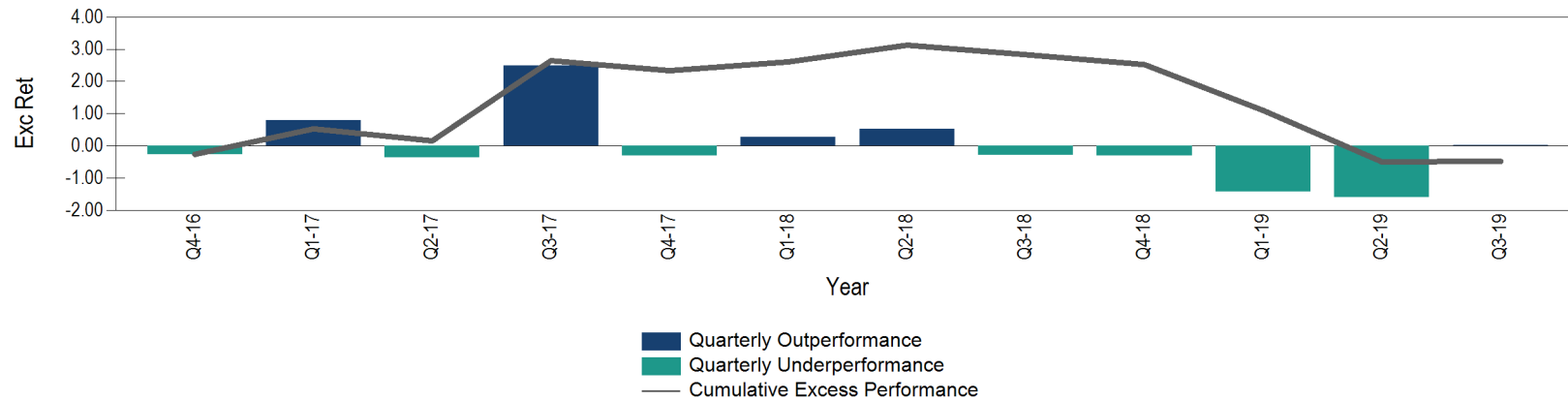
U.S. Effective Style Map



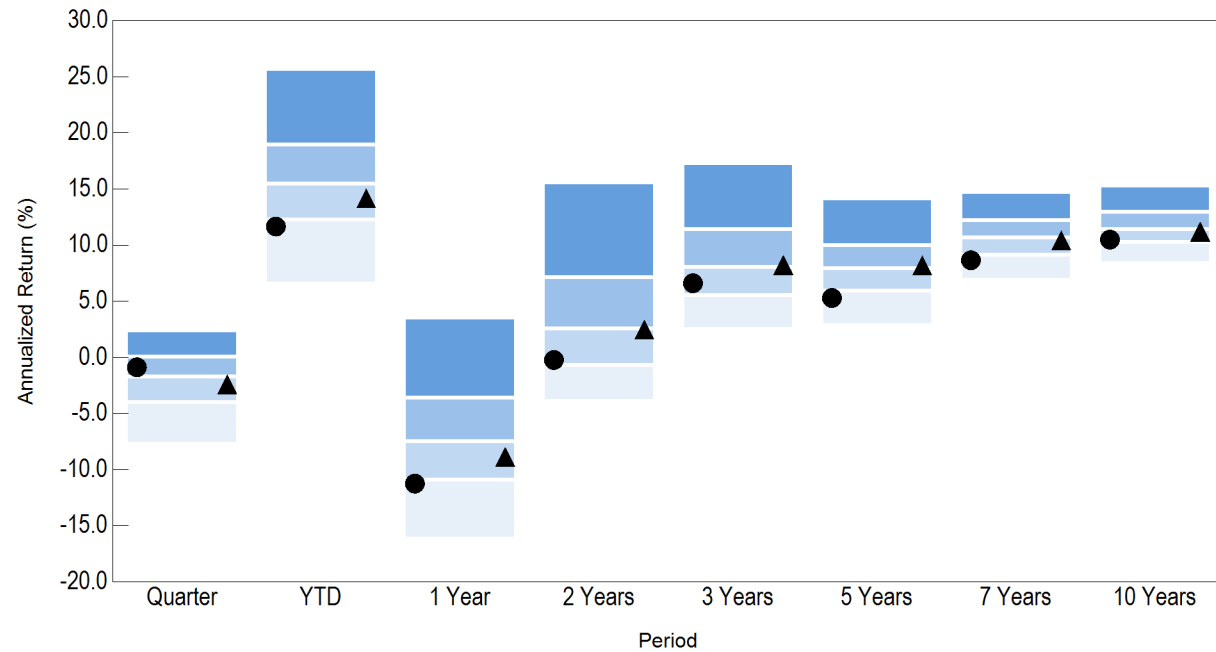
Growth of a Dollar



Quarterly and Cumulative Excess Performance



eV US Small Cap Equity Net Return Comparison



| | Return (Rank) | | | | | | | |
|--------------------|---------------|-----------|------------|-----------|----------|----------|-----------|-----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 2.4 | 25.7 | 3.5 | 15.6 | 17.3 | 14.1 | 14.7 | 15.3 |
| 25th Percentile | 0.1 | 19.0 | -3.6 | 7.2 | 11.5 | 10.0 | 12.2 | 13.0 |
| Median | -1.7 | 15.5 | -7.5 | 2.6 | 8.1 | 8.0 | 10.7 | 11.5 |
| 75th Percentile | -3.9 | 12.3 | -10.9 | -0.7 | 5.6 | 6.0 | 9.2 | 10.3 |
| 95th Percentile | -7.7 | 6.6 | -16.1 | -3.9 | 2.6 | 2.9 | 6.9 | 8.4 |
| # of Portfolios | 404 | 404 | 401 | 398 | 389 | 366 | 342 | 308 |
| ● Small Cap Equity | -0.9 (39) | 11.7 (80) | -11.3 (78) | -0.2 (72) | 6.6 (64) | 5.3 (83) | 8.6 (82) | 10.5 (72) |
| ▲ Russell 2000 | -2.4 (60) | 14.2 (60) | -8.9 (61) | 2.5 (52) | 8.2 (48) | 8.2 (46) | 10.4 (56) | 11.2 (54) |

Characteristics

| | Portfolio | Russell 2000 |
|---------------------------------|-----------|--------------|
| Number of Holdings | 346 | 1,991 |
| Weighted Avg. Market Cap. (\$B) | 2.1 | 2.2 |
| Median Market Cap. (\$B) | 1.3 | 0.7 |
| Price To Earnings | 15.7 | 18.5 |
| Price To Book | 2.1 | 2.4 |
| Price To Sales | 0.7 | 1.2 |
| Return on Equity (%) | 12.0 | 1.3 |
| Yield (%) | 1.7 | 1.5 |
| Beta (holdings; domestic) | 1.2 | 1.2 |

Top Holdings

| | |
|--------------------------|------|
| EMCOR GROUP | 1.0% |
| PORTLAND GEN.ELEC. | 1.0% |
| WORLD FUEL SVS. | 0.9% |
| RYMAN HOSPITALITY PROPS. | 0.8% |
| TRINSEO | 0.8% |
| BMC STOCK HDG. | 0.8% |
| ACACIA COMMUNICATIONS | 0.8% |
| INTEGER HOLDINGS | 0.8% |
| J2 GLOBAL | 0.8% |
| RADIAN GP. | 0.8% |

Best Performers

| | Return % |
|---|----------|
| LANNETT (LCI) | 84.8% |
| NEOPHOTONICS (NPTN) | 45.7% |
| CIMPRESS (CMPR) | 45.1% |
| ACACIA COMMUNICATIONS (ACIA) | 38.7% |
| CATALYST PHARMACEUTICAL PARTNERS (CPRX) | 38.3% |
| SYNAPTICS (SYNA) | 37.1% |
| MERITAGE HOMES (MTH) | 37.0% |
| ANIKA THERAPEUTICS (ANIK) | 35.1% |
| SONIC AUTOMOTIVE 'A' (SAH) | 34.9% |
| ACADIA PHARMACEUTICALS (ACAD) | 34.6% |

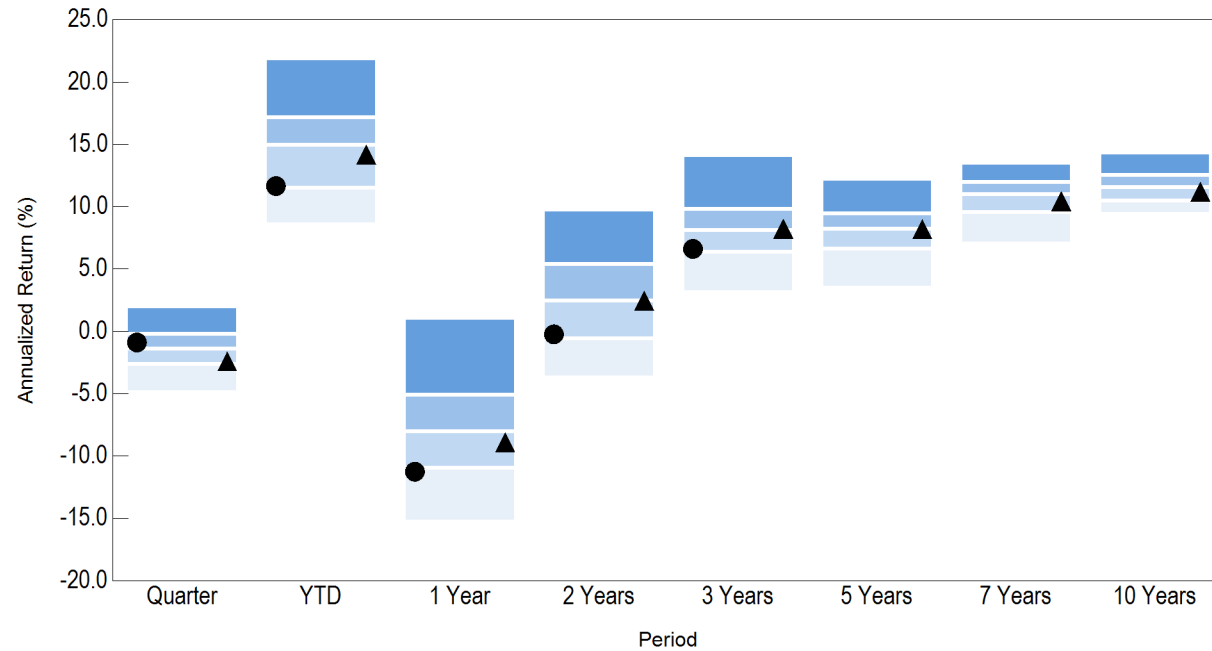
Worst Performers

| | Return % |
|---------------------------------|----------|
| SUPERIOR ENERGY SERVICES (SPNV) | -90.0% |
| MALLINCKRODT (MNK) | -73.7% |
| MAMMOTH ENERGY SERVICES (TUSK) | -64.0% |
| ASSERTIO THERAPEUTICS (ASRT) | -62.9% |
| ACORDA THERAPEUTICS (ACOR) | -62.6% |
| AMNEAL PHARMACEUTICALS A (AMRX) | -59.6% |
| CARS COM (CARS) | -54.5% |
| TURNING POINT BRANDS (TPB) | -52.8% |
| CONCERT PHARMACEUTICALS (CNCE) | -51.0% |
| RETROPHIN (RTRX) | -42.3% |

Small Cap Equity Performance Attribution vs. Russell 2000

| | Total Effects | Attribution Effects | | | Returns | | Sector Weights | | | | |
|------------------------|------------------|---------------------|----------------------|------------------------|--------------|-----------|----------------|--------------|--------------|---------------|---------------|
| | | Selection Effect | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.1% | 0.2% | -0.1% | 0.1% | -11.6% | -18.0% | 4.1% | 3.2% | | | |
| Materials | 0.2% | 0.2% | 0.0% | 0.0% | 0.0% | -5.4% | 2.9% | 3.8% | | | |
| Industrials | 0.4% | 0.4% | 0.0% | 0.0% | 2.3% | -0.1% | 16.4% | 15.3% | | | |
| Consumer Discretionary | -0.2% | -0.2% | 0.0% | 0.0% | -2.9% | -1.2% | 11.6% | 11.8% | | | |
| Consumer Staples | 0.0% | 0.0% | 0.0% | 0.0% | 5.2% | 4.6% | 1.9% | 2.7% | | | |
| Health Care | 0.5% | 0.5% | 0.0% | 0.0% | -5.2% | -8.4% | 15.6% | 15.6% | | | |
| Financials | -0.2% | -0.2% | 0.0% | 0.0% | -2.0% | -0.6% | 17.1% | 17.8% | | | |
| Information Technology | 0.6% | 0.6% | 0.0% | 0.0% | 2.6% | -1.1% | 16.4% | 15.3% | | | |
| Communication Services | 0.1% | 0.1% | 0.0% | 0.0% | -2.9% | -7.7% | 3.5% | 3.1% | | | |
| Utilities | -0.1% | 0.0% | -0.1% | 0.0% | 4.9% | 5.9% | 3.2% | 3.9% | | | |
| Real Estate | -0.3% | -0.3% | 0.0% | 0.0% | 0.9% | 5.4% | 7.4% | 7.4% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 0.1% | 0.0% | | | |
| Unclassified | 0.0% | -- | -- | -- | -- | -- | 0.0% | 0.0% | | | |
| Portfolio | 1.1% | = | 1.2% | + | -0.2% | + | 0.1% | -0.9% | -2.0% | 100.0% | 100.0% |

eV US Small Cap Core Equity Net Return Comparison



| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
|---------------------------|-----------|-----------|------------|-----------|----------|----------|-----------|-----------|
| 5th Percentile | 2.0 | 21.9 | 1.1 | 9.7 | 14.1 | 12.2 | 13.5 | 14.3 |
| 25th Percentile | -0.2 | 17.2 | -5.0 | 5.5 | 9.8 | 9.5 | 12.0 | 12.6 |
| Median | -1.4 | 15.0 | -8.0 | 2.5 | 8.1 | 8.3 | 11.0 | 11.6 |
| 75th Percentile | -2.6 | 11.6 | -10.9 | -0.5 | 6.4 | 6.7 | 9.6 | 10.5 |
| 95th Percentile | -4.8 | 8.6 | -15.2 | -3.6 | 3.2 | 3.5 | 7.1 | 9.4 |
| # of Portfolios | 107 | 107 | 107 | 104 | 101 | 98 | 90 | 77 |
| ● QMA US Small Cap | -0.9 (39) | 11.7 (74) | -11.3 (77) | -0.2 (71) | 6.6 (74) | -- (--) | -- (--) | -- (--) |
| ▲ Russell 2000 | -2.4 (72) | 14.2 (54) | -8.9 (59) | 2.5 (51) | 8.2 (47) | 8.2 (52) | 10.4 (62) | 11.2 (59) |

Characteristics

| | Portfolio | Russell 2000 |
|---------------------------------|-----------|--------------|
| Number of Holdings | 346 | 1,991 |
| Weighted Avg. Market Cap. (\$B) | 2.1 | 2.2 |
| Median Market Cap. (\$B) | 1.3 | 0.7 |
| Price To Earnings | 15.7 | 18.5 |
| Price To Book | 2.1 | 2.4 |
| Price To Sales | 0.7 | 1.2 |
| Return on Equity (%) | 12.0 | 1.3 |
| Yield (%) | 1.7 | 1.5 |
| Beta (holdings; domestic) | 1.2 | 1.2 |

Top Holdings

| | |
|--------------------------|------|
| EMCOR GROUP | 1.0% |
| PORTLAND GEN.ELEC. | 1.0% |
| WORLD FUEL SVS. | 0.9% |
| RYMAN HOSPITALITY PROPS. | 0.8% |
| TRINSEO | 0.8% |
| BMC STOCK HDG. | 0.8% |
| ACACIA COMMUNICATIONS | 0.8% |
| INTEGER HOLDINGS | 0.8% |
| J2 GLOBAL | 0.8% |
| RADIAN GP. | 0.8% |

Best Performers

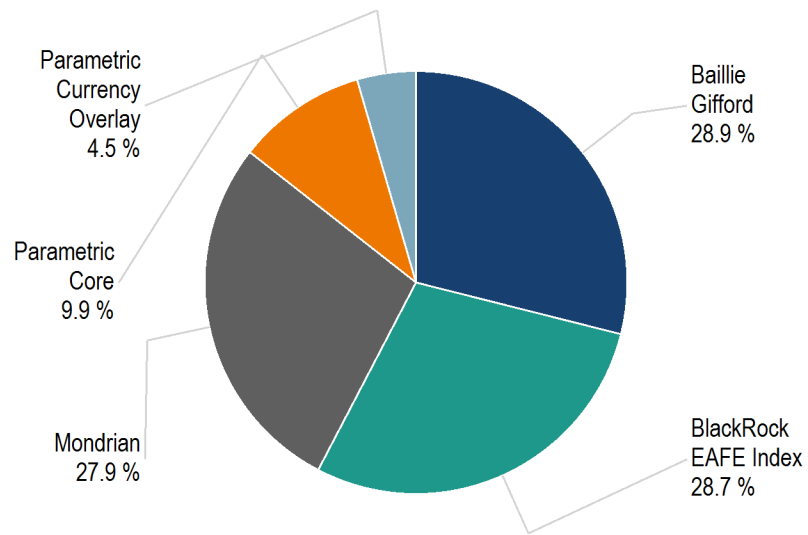
| | Return % |
|---|----------|
| LANNETT (LCI) | 84.8% |
| NEOPHOTONICS (NPTN) | 45.7% |
| CIMPRESS (CMPR) | 45.1% |
| ACACIA COMMUNICATIONS (ACIA) | 38.7% |
| CATALYST PHARMACEUTICAL PARTNERS (CPRX) | 38.3% |
| SYNAPTICS (SYNA) | 37.1% |
| MERITAGE HOMES (MTH) | 37.0% |
| ANIKA THERAPEUTICS (ANIK) | 35.1% |
| SONIC AUTOMOTIVE 'A' (SAH) | 34.9% |
| ACADIA PHARMACEUTICALS (ACAD) | 34.6% |

Worst Performers

| | Return % |
|---------------------------------|----------|
| SUPERIOR ENERGY SERVICES (SPNV) | -90.0% |
| MALLINCKRODT (MNK) | -73.7% |
| MAMMOTH ENERGY SERVICES (TUSK) | -64.0% |
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| TURNING POINT BRANDS (TPB) | -52.8% |
| CONCERT PHARMACEUTICALS (CNCE) | -51.0% |
| RETROPHIN (RTRX) | -42.3% |

QMA US Small Cap Performance Attribution vs. Russell 2000

| | Attribution Effects | | | | Returns | | Sector Weights | | | | |
|------------------------|---------------------|------------------|-------------------|---------------------|--------------|-----------|----------------|--------------|--------------|---------------|---------------|
| | Total Effects | Selection Effect | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.1% | 0.2% | -0.1% | 0.1% | -11.6% | -18.0% | 4.1% | 3.2% | | | |
| Materials | 0.2% | 0.2% | 0.0% | 0.0% | 0.0% | -5.4% | 2.9% | 3.8% | | | |
| Industrials | 0.4% | 0.4% | 0.0% | 0.0% | 2.3% | -0.1% | 16.4% | 15.3% | | | |
| Consumer Discretionary | -0.2% | -0.2% | 0.0% | 0.0% | -2.9% | -1.2% | 11.6% | 11.8% | | | |
| Consumer Staples | 0.0% | 0.0% | 0.0% | 0.0% | 5.2% | 4.6% | 1.9% | 2.7% | | | |
| Health Care | 0.5% | 0.5% | 0.0% | 0.0% | -5.2% | -8.4% | 15.6% | 15.6% | | | |
| Financials | -0.2% | -0.2% | 0.0% | 0.0% | -2.0% | -0.6% | 17.1% | 17.8% | | | |
| Information Technology | 0.6% | 0.6% | 0.0% | 0.0% | 2.6% | -1.1% | 16.4% | 15.3% | | | |
| Communication Services | 0.1% | 0.1% | 0.0% | 0.0% | -2.9% | -7.7% | 3.5% | 3.1% | | | |
| Utilities | -0.1% | 0.0% | -0.1% | 0.0% | 4.9% | 5.9% | 3.2% | 3.9% | | | |
| Real Estate | -0.3% | -0.3% | 0.0% | 0.0% | 0.9% | 5.4% | 7.4% | 7.4% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 0.1% | 0.0% | | | |
| Unclassified | 0.0% | -- | -- | -- | -- | -- | 0.0% | 0.0% | | | |
| Portfolio | 1.1% | = | 1.2% | + | -0.2% | + | 0.1% | -0.9% | -2.0% | 100.0% | 100.0% |



| | Actual \$ | Actual % | Manager Contribution to Excess Return % |
|-------------------------------------|----------------------|---------------|---|
| Baillie Gifford | \$254,643,977 | 28.9% | 0.2% |
| BlackRock EAFE Index | \$253,027,328 | 28.7% | 0.0% |
| Mondrian | \$245,632,214 | 27.9% | 0.0% |
| Parametric Core | \$87,371,343 | 9.9% | 0.0% |
| Parametric Currency Overlay | \$39,567,954 | 4.5% | 0.0% |
| Actual vs. Policy Weight Difference | | | -0.4% |
| Total | \$880,242,816 | 100.0% | -0.3% |

Statistics Summary

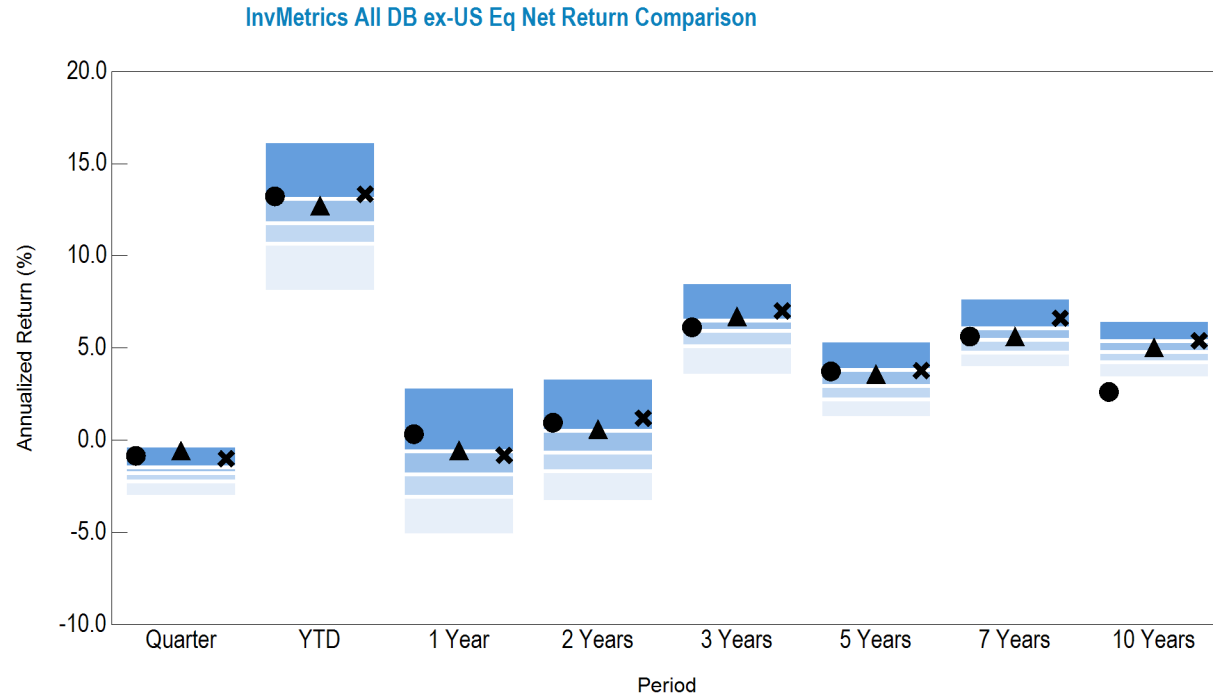
3 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| International Equity | 6.1% | 11.3% | 0.4 | -0.4 | 1.5% |
| Blended International Equity Index | 6.7% | 11.2% | 0.5 | -- | 0.0% |
| Developed Markets | 5.9% | 11.7% | 0.4 | -0.5 | 1.9% |
| MSCI ACWI ex USA Gross | 6.8% | 11.4% | 0.5 | -- | 0.0% |
| Baillie Gifford | 6.5% | 13.2% | 0.4 | -0.1 | 5.2% |
| MSCI ACWI ex US | 6.8% | 11.4% | 0.5 | -- | 0.0% |
| BlackRock EAFE Index | 6.9% | 11.1% | 0.5 | 1.8 | 0.2% |
| MSCI EAFE | 6.5% | 11.1% | 0.4 | -- | 0.0% |
| Mondrian | 4.8% | 11.8% | 0.3 | -0.3 | 3.5% |
| MSCI ACWI ex USA Value Gross | 5.9% | 11.7% | 0.4 | -- | 0.0% |
| Emerging Markets | 4.2% | 12.3% | 0.2 | -0.6 | 3.8% |
| MSCI Emerging Markets Gross | 6.4% | 14.0% | 0.3 | -- | 0.0% |
| Parametric Core | 4.2% | 12.3% | 0.2 | -0.6 | 3.8% |
| MSCI Emerging Markets Gross | 6.4% | 14.0% | 0.3 | -- | 0.0% |

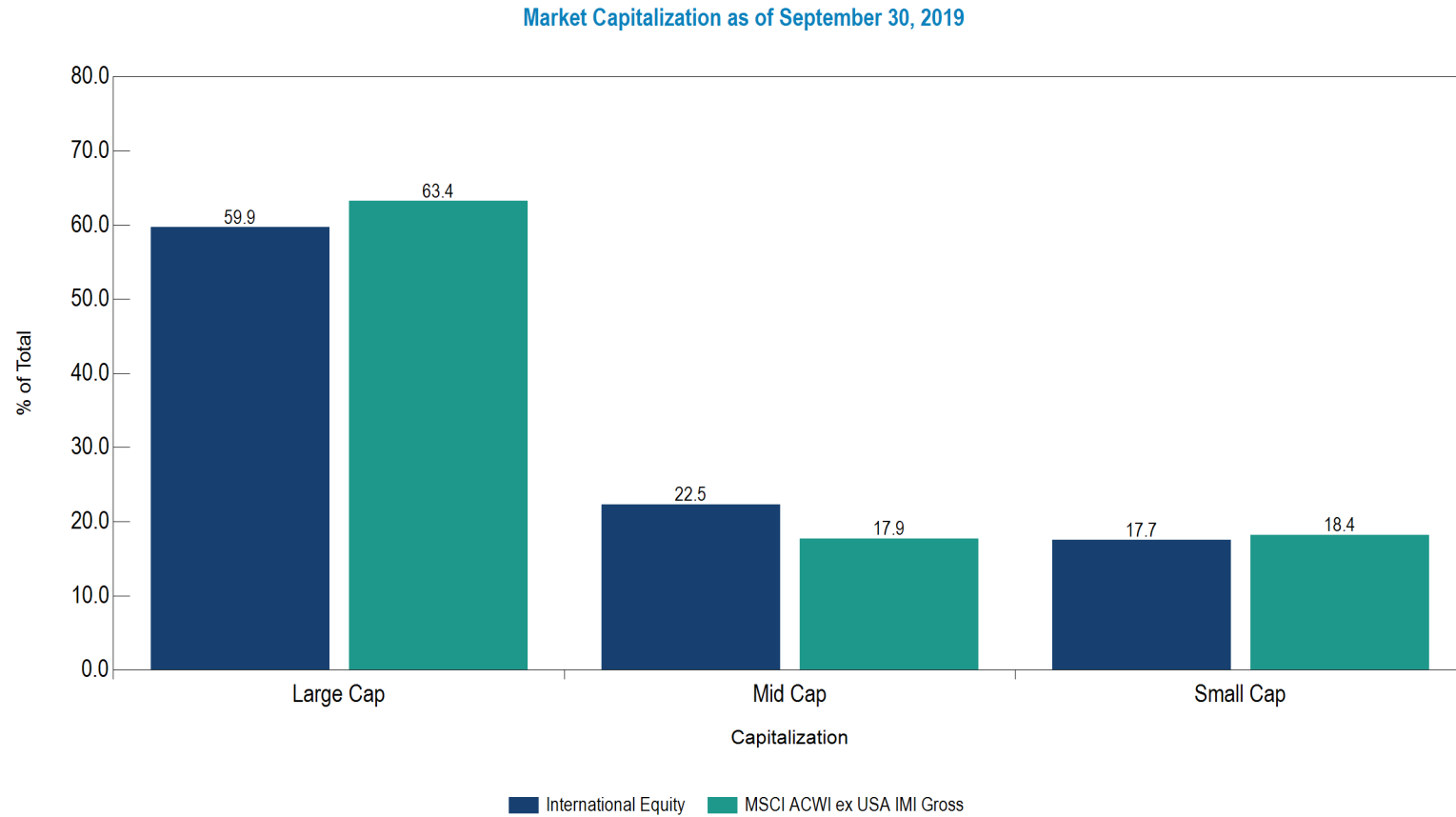
Statistics Summary

5 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------------------|--------------|--------------------------|--------------|-------------------|----------------|
| International Equity | 3.7% | 12.1% | 0.2 | 0.1 | 1.6% |
| Blended International Equity Index | 3.6% | 12.3% | 0.2 | -- | 0.0% |
| Developed Markets | 3.9% | 12.2% | 0.2 | 0.2 | 2.0% |
| MSCI ACWI ex USA Gross | 3.4% | 12.5% | 0.2 | -- | 0.0% |
| Baillie Gifford | 5.6% | 13.7% | 0.3 | 0.5 | 4.7% |
| MSCI ACWI ex US | 3.4% | 12.5% | 0.2 | -- | 0.0% |
| BlackRock EAFE Index | 3.6% | 12.3% | 0.2 | 1.9 | 0.2% |
| MSCI EAFE | 3.3% | 12.2% | 0.2 | -- | 0.0% |
| Mondrian | 2.0% | 12.0% | 0.1 | 0.1 | 4.3% |
| MSCI ACWI ex USA Value Gross | 1.5% | 13.2% | 0.0 | -- | 0.0% |
| Emerging Markets | 0.2% | 14.1% | -0.1 | -0.6 | 4.1% |
| MSCI Emerging Markets Gross | 2.7% | 15.6% | 0.1 | -- | 0.0% |



| | Return (Rank) | | | | | | | |
|--------------------------------------|---------------|-----------|-----------|----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | -0.3 | 16.2 | 2.9 | 3.4 | 8.6 | 5.4 | 7.7 | 6.5 |
| 25th Percentile | -1.5 | 13.1 | -0.6 | 0.5 | 6.5 | 3.8 | 6.1 | 5.4 |
| Median | -1.8 | 11.8 | -1.8 | -0.6 | 6.0 | 3.0 | 5.5 | 4.8 |
| 75th Percentile | -2.2 | 10.7 | -3.1 | -1.7 | 5.1 | 2.2 | 4.8 | 4.3 |
| 95th Percentile | -3.0 | 8.1 | -5.1 | -3.3 | 3.5 | 1.2 | 3.9 | 3.4 |
| # of Portfolios | 323 | 323 | 321 | 317 | 303 | 285 | 246 | 180 |
| ● International Equity | -0.8 (11) | 13.2 (23) | 0.3 (19) | 1.0 (20) | 6.1 (41) | 3.7 (27) | 5.6 (42) | 2.6 (99) |
| ▲ Blended International Equity Index | -0.6 (7) | 12.7 (31) | -0.5 (24) | 0.6 (24) | 6.7 (22) | 3.6 (30) | 5.6 (41) | 5.0 (41) |
| ✕ MSCI EAFE Gross | -1.0 (14) | 13.3 (23) | -0.8 (30) | 1.2 (16) | 7.0 (17) | 3.8 (26) | 6.6 (15) | 5.4 (25) |



See appendix for the market capitalization breakpoints.

Characteristics

| | Portfolio | MSCI ACWI ex USA IMI Gross |
|---------------------------------|-----------|----------------------------|
| Number of Holdings | 2,143 | 6,374 |
| Weighted Avg. Market Cap. (\$B) | 48.7 | 55.8 |
| Median Market Cap. (\$B) | 6.6 | 1.5 |
| Price To Earnings | 16.5 | 14.9 |
| Price To Book | 2.4 | 2.3 |
| Price To Sales | 1.1 | 1.1 |
| Return on Equity (%) | 15.3 | 14.5 |
| Yield (%) | 3.1 | 3.2 |
| Beta (holdings; global) | 1.0 | 0.9 |

Top Holdings

| | |
|-------------------------------|------|
| UNITED OVERSEAS BANK | 1.3% |
| ALIBABA GROUP HOLDING ADR 1:8 | 1.0% |
| GLAXOSMITHKLINE | 0.9% |
| SANOFI | 0.9% |
| NOVARTIS 'R' | 0.9% |
| TAIWAN SEMICON.SPN.ADR 1:5 | 0.9% |
| AIA GROUP | 0.9% |
| SHISEIDO | 0.8% |
| HARGREAVES LANSDOWN | 0.8% |
| ASML HOLDING | 0.8% |

Best Performers

| | Return % |
|----------------------------------|----------|
| SIAM CITY CEMENT FB (Q:SCCF) | 76.3% |
| NICKEL ASIA (PH:NIK) | 74.0% |
| HLB (KO:KPI) | 65.2% |
| ADVANTEST (J:AB@N) | 60.5% |
| PUBLIC POWER (G:PPC) | 59.0% |
| MIGROS TICARET (TK:MIG) | 57.2% |
| ANADOLU GRUBU HOLDING A (TK:YAZ) | 50.8% |
| SILOAM INTL.HOSPS. (ID:SIO) | 50.3% |
| BUMI ARMADA (L:ARMO) | 49.2% |
| VIA VAREJO ON (BR:GLB) | 43.7% |

Worst Performers

| | Return % |
|--|----------|
| SILLAJEN (KO:JLS) | -84.1% |
| HOUSING DEV.&INFR. (IN:IHD) | -76.9% |
| CENTRAL PUERTO ADR 1:10 (CEPU) | -68.2% |
| BANCO MACRO 'B' SPN.ADR 1:10 (BMA) | -64.3% |
| GRUPO FINANCIERO GALICIA CL.B SHS.SPN.ADR 1:10 (GGAL) | -63.4% |
| BBVA BANCO FRANCES ADR 1:3 (BBAR) | -61.7% |
| INDIABULLS REAL ESTATE (IN:IBR) | -60.7% |
| INDIABULLS HOUSING FIN (IN:IEZ) | -58.4% |
| JASTRZEBSKA SPOLKA WEGLOWA (PO:JSW) | -54.6% |
| VIROMED (KO:VIR) | -52.6% |

International Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

| | Attribution Effects | | | | Returns | | Sector Weights | | | | |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|--------------|--------------|---------------|---------------|
| | Total Effects | Selection Effect | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.0% | -0.1% | 0.0% | 0.1% | -6.6% | -5.1% | 5.2% | 7.0% | | | |
| Materials | 0.1% | 0.0% | 0.1% | 0.0% | -6.5% | -6.7% | 5.8% | 7.6% | | | |
| Industrials | 0.0% | 0.0% | 0.0% | -0.1% | -3.5% | -3.7% | 14.3% | 12.4% | | | |
| Consumer Discretionary | -0.2% | -0.2% | 0.0% | -0.1% | -2.6% | -0.9% | 13.4% | 11.7% | | | |
| Consumer Staples | 0.1% | 0.1% | 0.0% | 0.0% | 2.4% | 1.2% | 9.1% | 9.6% | | | |
| Health Care | 0.1% | 0.1% | 0.1% | 0.0% | 1.5% | 0.0% | 9.1% | 6.9% | | | |
| Financials | 0.3% | 0.1% | 0.1% | 0.1% | -3.8% | -4.6% | 17.6% | 21.3% | | | |
| Information Technology | 0.1% | 0.0% | 0.0% | 0.0% | 3.2% | 2.3% | 7.9% | 7.6% | | | |
| Communication Services | 0.0% | 0.1% | 0.0% | -0.1% | -2.4% | -2.4% | 7.2% | 7.5% | | | |
| Utilities | 0.2% | 0.2% | 0.0% | 0.0% | 4.6% | 0.3% | 3.6% | 3.8% | | | |
| Real Estate | 0.1% | 0.1% | 0.0% | 0.0% | -1.1% | -3.0% | 2.3% | 4.7% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 4.5% | 0.0% | | | |
| Unclassified | 0.0% | -- | 0.0% | -- | -- | -2.4% | 0.0% | 0.0% | | | |
| Portfolio | 0.8% | = | 0.5% | + | 0.3% | + | 0.0% | -1.6% | -2.4% | 100.0% | 100.0% |

Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

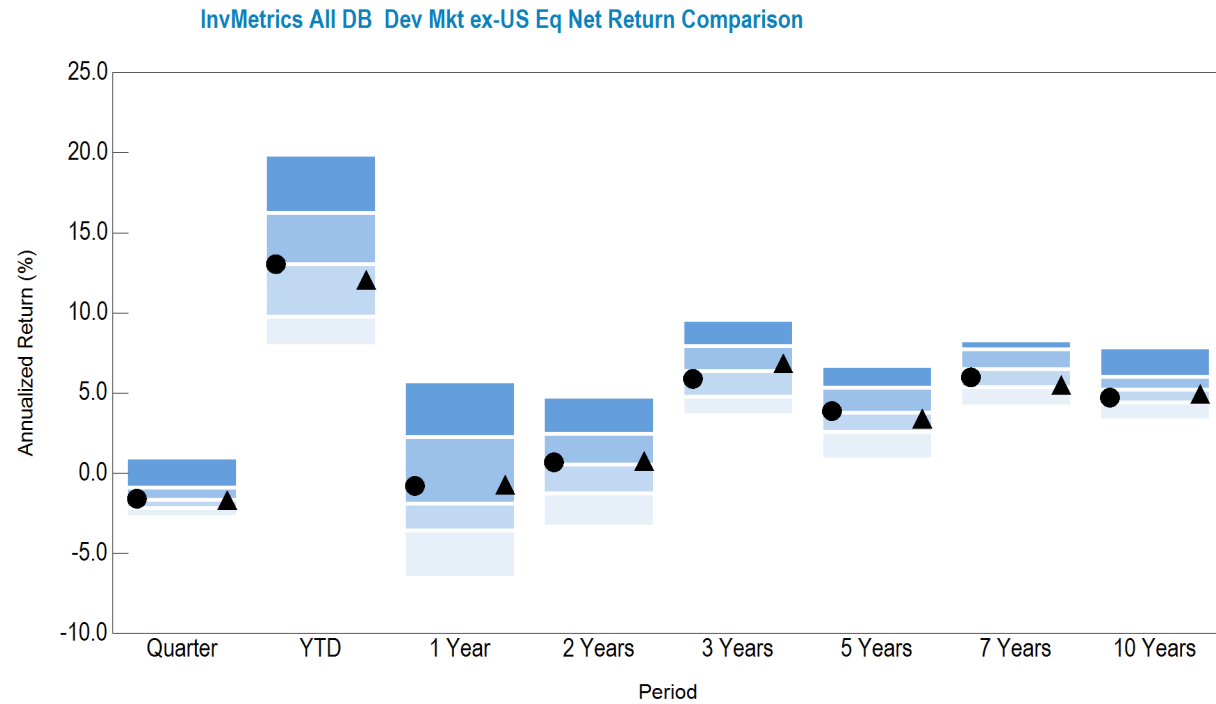
| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|-----------------|---------------------|--------------|----------------|--------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| Europe | | | | | | | | | |
| Austria | -3.1% | -1.9% | 0.1% | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Belgium | 3.4% | 3.7% | 0.3% | 0.9% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Czech Republic* | -8.9% | -7.8% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Denmark | -9.1% | -2.3% | 1.4% | 0.9% | -0.1% | 0.0% | 0.0% | 0.0% | -0.1% |
| Finland | -2.8% | -2.7% | 0.7% | 0.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| France | 0.2% | -2.4% | 5.2% | 6.2% | 0.2% | 0.0% | 0.0% | 0.0% | 0.2% |
| Germany | -5.2% | -4.4% | 7.1% | 4.6% | 0.0% | 0.0% | -0.1% | 0.0% | -0.2% |
| Greece* | -1.3% | -2.0% | 0.2% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Hungary* | -7.4% | -5.8% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Ireland | -8.8% | -4.1% | 0.5% | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Italy | 1.8% | -0.7% | 2.0% | 1.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Luxembourg | -6.4% | -2.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Netherlands | 2.8% | 1.3% | 2.2% | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Norway | -3.3% | -4.2% | 0.2% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Poland* | -11.6% | -13.6% | 0.3% | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Portugal | 4.3% | -3.3% | 0.4% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russia* | -0.7% | -0.6% | 0.9% | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Spain | -3.1% | -3.7% | 2.3% | 1.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Sweden | -2.5% | -4.1% | 2.8% | 1.6% | 0.0% | 0.0% | -0.1% | 0.0% | 0.0% |
| Switzerland | -1.1% | -0.2% | 5.0% | 4.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| United Kingdom | -2.0% | -2.5% | 13.6% | 7.4% | 0.0% | 0.0% | -0.2% | 0.0% | -0.1% |

Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|--------------------|---------------------|--------------|----------------|--------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| AsiaPacific | | | | | | | | | |
| Australia | 0.8% | -1.4% | 3.6% | 3.3% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| China* | -5.7% | -4.1% | 4.1% | 18.7% | -0.7% | 0.3% | 0.4% | 0.5% | 0.5% |
| Hong Kong | -7.2% | -12.2% | 4.6% | 2.9% | 0.1% | -0.2% | 0.0% | 0.1% | 0.0% |
| India* | -5.3% | -5.8% | 3.2% | 4.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| Indonesia* | -5.0% | -6.2% | 0.5% | 0.9% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Japan | 3.2% | 3.2% | 17.0% | 14.1% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| Korea* | -5.8% | -6.5% | 1.9% | 3.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| Malaysia* | -7.4% | -5.4% | 0.8% | 0.9% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| New Zealand | -2.8% | -1.9% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Pakistan* | -3.2% | -1.7% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Philippines* | -5.4% | -4.3% | 0.3% | 0.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Singapore | -6.1% | -5.4% | 2.7% | 1.0% | 0.0% | -0.1% | 0.0% | 0.0% | -0.1% |
| Taiwan* | 9.5% | 4.2% | 2.2% | 2.5% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| Thailand* | -4.6% | -5.7% | 0.4% | 1.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Americas | | | | | | | | | |
| Argentina* | -- | -47.0% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Brazil* | 1.1% | -3.5% | 1.8% | 2.2% | 0.1% | 0.0% | 0.1% | 0.0% | 0.1% |
| Canada | -0.1% | 0.7% | 1.2% | 4.8% | -0.1% | -0.1% | 0.1% | 0.1% | 0.0% |
| Chile* | -7.2% | -8.3% | 0.3% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Colombia* | -6.0% | -6.2% | 0.2% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Mexico* | 2.0% | -1.3% | 1.0% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Peru* | -8.7% | -10.2% | 0.2% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| United States | -13.5% | 1.6% | 1.4% | 0.0% | 0.0% | 0.0% | 0.0% | -0.2% | -0.2% |

Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|-----------------------|---------------------|--------------|----------------|---------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| Other | | | | | | | | | |
| Egypt* | 3.1% | 2.4% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Israel | 0.0% | 2.3% | 0.1% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Kuwait** | -2.5% | -2.4% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Qatar* | -2.0% | -0.5% | 0.2% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Romania** | 7.1% | -2.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Saudi Arabia* | -- | -8.0% | 0.0% | 1.2% | -- | 0.1% | 0.0% | -- | 0.1% |
| South Africa* | -11.4% | -11.4% | 1.6% | 1.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Turkey* | 11.0% | 10.0% | 0.2% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| United Arab Emirates* | 2.4% | -0.1% | 0.2% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Totals | | | | | | | | | |
| Americas | -3.2% | -1.8% | 6.2% | 8.5% | -0.2% | 0.0% | 0.1% | 0.0% | 0.0% |
| Europe | -2.1% | -2.3% | 45.4% | 34.4% | 0.0% | 0.2% | -0.4% | 0.0% | -0.2% |
| Asia/Pacific | -0.8% | -2.4% | 41.5% | 53.3% | 0.5% | 0.1% | 0.4% | -0.1% | 1.0% |
| Other | -6.4% | -5.2% | 2.5% | 3.8% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% |
| Cash | 0.5% | -- | 4.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | -1.6% | -2.4% | 100.0% | 100.0% | 0.5% | 0.3% | 0.1% | -0.1% | 0.8% |
| Totals | | | | | | | | | |
| Developed | -1.4% | -1.1% | 74.4% | 58.9% | -0.1% | 0.2% | -0.4% | 0.0% | -0.4% |
| Emerging* | -3.1% | -4.3% | 21.0% | 41.1% | 0.4% | 0.4% | 0.5% | -0.2% | 1.1% |
| Frontier** | -0.8% | -- | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Cash | 0.5% | -- | 4.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |



| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
|--------------------------|-----------|-----------|-----------|----------|----------|----------|----------|----------|
| Return (Rank) | | | | | | | | |
| 5th Percentile | 0.9 | 19.9 | 5.7 | 4.7 | 9.5 | 6.7 | 8.3 | 7.8 |
| 25th Percentile | -0.9 | 16.3 | 2.2 | 2.5 | 8.0 | 5.3 | 7.7 | 6.0 |
| Median | -1.7 | 13.1 | -1.9 | 0.5 | 6.4 | 3.8 | 6.5 | 5.2 |
| 75th Percentile | -2.2 | 9.8 | -3.6 | -1.2 | 4.8 | 2.6 | 5.4 | 4.4 |
| 95th Percentile | -2.7 | 7.9 | -6.5 | -3.3 | 3.6 | 0.9 | 4.2 | 3.3 |
| # of Portfolios | 139 | 137 | 136 | 133 | 126 | 117 | 101 | 63 |
| ● Developed Markets | -1.6 (47) | 13.0 (51) | -0.8 (42) | 0.7 (49) | 5.9 (62) | 3.9 (49) | 6.0 (60) | 4.7 (68) |
| ▲ MSCI ACWI ex USA Gross | -1.7 (54) | 12.1 (56) | -0.7 (42) | 0.8 (48) | 6.8 (37) | 3.4 (60) | 5.5 (75) | 4.9 (57) |

Characteristics

| | Portfolio | MSCI ACWI ex USA Gross |
|---------------------------------|-----------|------------------------|
| Number of Holdings | 1,028 | 2,206 |
| Weighted Avg. Market Cap. (\$B) | 51.5 | 64.0 |
| Median Market Cap. (\$B) | 10.6 | 7.3 |
| Price To Earnings | 17.1 | 15.0 |
| Price To Book | 2.4 | 2.3 |
| Price To Sales | 1.2 | 1.2 |
| Return on Equity (%) | 15.2 | 15.0 |
| Yield (%) | 3.0 | 3.3 |
| Beta (holdings: global) | 1.0 | 0.9 |

Top Holdings

| | |
|-------------------------------|------|
| UNITED OVERSEAS BANK | 1.4% |
| ALIBABA GROUP HOLDING ADR 1:8 | 1.1% |
| GLAXOSMITHKLINE | 1.0% |
| SANOFI | 1.0% |
| NOVARTIS 'R' | 1.0% |
| TAIWAN SEMICON.SPN.ADR 1:5 | 1.0% |
| AIA GROUP | 1.0% |
| SHISEIDO | 0.9% |
| HARGREAVES LANSDOWN | 0.9% |
| ASML HOLDING | 0.9% |

Best Performers

| | Return % |
|--|----------|
| ADVANTEST (J:AB@N) | 60.5% |
| CASINO GUICHARD-P (F:CSO) | 39.7% |
| TOKYO ELECTRON (J:RG@N) | 36.9% |
| NIPPON PAINT HOLDINGS (J:NPPT) | 33.8% |
| NAVER (KO:NHN) | 32.9% |
| CHINA MED.SY.HDG.(DI) (K:CHM) | 32.5% |
| LENDLEASE GROUP STAPLED UNITS (A:LLCX) | 32.2% |
| M3 (J:SNET) | 31.7% |
| RENASAS ELECTRONICS (J:RENE) | 30.8% |
| LONDON STOCK EX.GROUP (UKIR:LSE) | 29.4% |

Worst Performers

| | Return % |
|---|----------|
| INDIABULLS HOUSING FIN (IN:IEZ) | -58.4% |
| MICRO FOCUS INTL. (UKIR:MCRO) | -44.4% |
| YANGZIJANG SHIPBUILDING (HOLDINGS) (T:YSHL) | -38.6% |
| SASOL (R:SOLJ) | -32.8% |
| CIMIC GROUP (A:CIMX) | -31.0% |
| IPSEN (F:IPN) | -30.5% |
| EVRAZ (UKIR:EVR) | -28.0% |
| KONICA MINOLTA (J:KONM) | -27.1% |
| AIB GROUP (LON) (UKIR:AIBG) | -26.1% |
| TEVA PHARM.INDS.ADR 1:1 (TEVA) | -25.5% |

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

| | Attribution Effects | | | | Returns | | Sector Weights | | | | |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|--------------|--------------|---------------|---------------|
| | Total Effects | Selection Effect | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.0% | -0.2% | 0.1% | 0.1% | -7.3% | -4.4% | 4.8% | 7.1% | | | |
| Materials | 0.2% | 0.1% | 0.1% | 0.0% | -6.1% | -6.3% | 5.5% | 7.7% | | | |
| Industrials | -0.3% | -0.1% | 0.0% | -0.1% | -3.4% | -2.5% | 15.3% | 12.1% | | | |
| Consumer Discretionary | -0.3% | -0.2% | 0.0% | -0.2% | -2.6% | -0.7% | 14.4% | 11.3% | | | |
| Consumer Staples | 0.1% | 0.1% | 0.0% | 0.0% | 3.0% | 1.7% | 9.3% | 9.4% | | | |
| Health Care | 0.1% | 0.0% | 0.0% | 0.0% | 1.9% | 1.1% | 9.9% | 8.3% | | | |
| Financials | 0.1% | -0.1% | 0.1% | 0.1% | -3.6% | -3.4% | 18.4% | 22.0% | | | |
| Information Technology | 0.1% | 0.0% | 0.0% | 0.0% | 3.1% | 2.4% | 8.6% | 8.5% | | | |
| Communication Services | 0.0% | 0.1% | 0.0% | -0.1% | -2.2% | -2.7% | 7.1% | 6.9% | | | |
| Utilities | 0.2% | 0.2% | 0.0% | 0.0% | 6.6% | 1.4% | 3.4% | 3.4% | | | |
| Real Estate | 0.1% | 0.1% | 0.0% | 0.0% | 0.3% | -3.0% | 1.9% | 3.2% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 1.4% | 0.0% | | | |
| Unclassified | 0.0% | -- | -- | -- | -- | -- | 0.0% | 0.0% | | | |
| Portfolio | 0.3% | = | 0.1% | + | 0.3% | + | -0.1% | -1.4% | -1.7% | 100.0% | 100.0% |

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

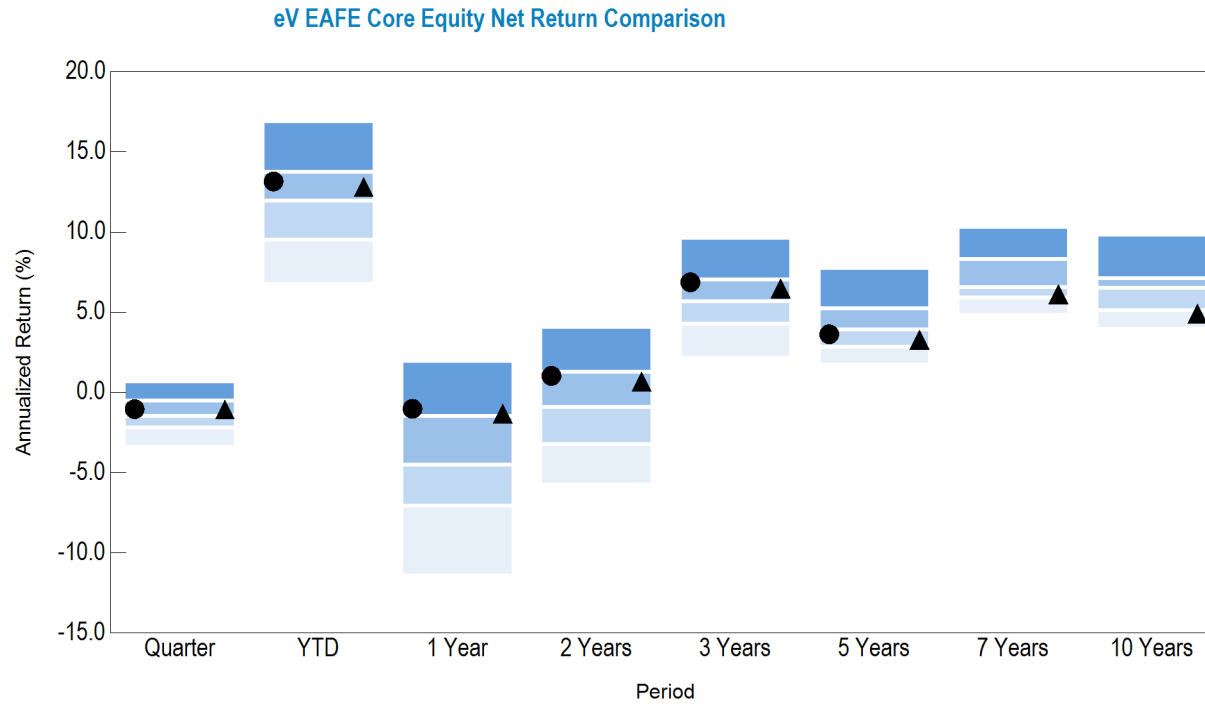
| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|-----------------|---------------------|--------------|----------------|--------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| Europe | | | | | | | | | |
| Austria | -3.1% | -3.0% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Belgium | 3.4% | 3.4% | 0.3% | 0.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Czech Republic* | -- | -9.4% | 0.0% | 0.0% | -- | 0.0% | 0.0% | -- | 0.0% |
| Denmark | -9.1% | -0.9% | 1.6% | 1.1% | -0.1% | 0.0% | 0.0% | 0.0% | -0.1% |
| Finland | -2.8% | -1.8% | 0.8% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| France | 0.2% | -1.6% | 6.0% | 7.6% | 0.1% | 0.0% | 0.1% | 0.0% | 0.1% |
| Germany | -5.2% | -4.0% | 8.2% | 5.8% | -0.1% | 0.0% | -0.1% | 0.0% | -0.2% |
| Greece* | -- | -2.9% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Hungary* | -- | -3.9% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Ireland | -8.8% | -0.5% | 0.6% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | -0.1% |
| Italy | 1.8% | 0.2% | 2.3% | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Luxembourg | -4.4% | -1.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Netherlands | 2.9% | 3.6% | 2.5% | 2.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Norway | -3.3% | -3.3% | 0.2% | 0.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Poland* | -- | -11.7% | 0.0% | 0.3% | -- | 0.0% | 0.0% | -- | 0.0% |
| Portugal | 4.3% | 1.9% | 0.5% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russia* | 1.2% | -1.1% | 0.3% | 1.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Spain | -3.1% | -3.8% | 2.6% | 2.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Sweden | -2.5% | -4.8% | 3.2% | 1.8% | 0.0% | 0.0% | -0.1% | 0.0% | 0.0% |
| Switzerland | -1.1% | 0.3% | 5.7% | 6.2% | -0.1% | 0.0% | 0.0% | 0.0% | -0.1% |
| United Kingdom | -2.0% | -2.5% | 15.6% | 11.2% | 0.1% | 0.0% | -0.1% | 0.0% | -0.1% |

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|--------------------|---------------------|--------------|----------------|--------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| AsiaPacific | | | | | | | | | |
| Australia | 0.8% | -1.3% | 4.2% | 4.8% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| China* | -5.6% | -4.7% | 4.0% | 8.4% | -0.1% | 0.2% | 0.0% | 0.0% | 0.2% |
| Hong Kong | -7.6% | -11.9% | 4.7% | 2.7% | 0.1% | -0.2% | 0.0% | 0.1% | 0.0% |
| India* | -5.3% | -5.2% | 2.8% | 2.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Indonesia* | -6.0% | -5.3% | 0.1% | 0.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Japan | 3.2% | 3.2% | 19.5% | 16.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| Korea* | -4.3% | -4.7% | 1.4% | 3.3% | 0.0% | 0.0% | 0.1% | 0.0% | 0.1% |
| Malaysia* | -9.1% | -6.4% | 0.6% | 0.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| New Zealand | -2.8% | -2.7% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Pakistan* | -- | 1.2% | 0.0% | 0.0% | -- | 0.0% | 0.0% | -- | 0.0% |
| Philippines* | -- | -4.5% | 0.0% | 0.3% | -- | 0.0% | 0.0% | -- | 0.0% |
| Singapore | -6.0% | -5.8% | 3.1% | 0.9% | 0.0% | -0.1% | 0.0% | 0.0% | -0.2% |
| Taiwan* | 14.1% | 5.8% | 1.7% | 2.9% | 0.2% | -0.1% | 0.0% | -0.1% | 0.1% |
| Thailand* | -13.6% | -5.9% | 0.1% | 0.8% | -0.1% | 0.0% | 0.0% | 0.1% | 0.0% |
| Americas | | | | | | | | | |
| Argentina* | -- | -46.7% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Brazil* | 1.9% | -4.7% | 1.3% | 2.0% | 0.1% | 0.0% | 0.1% | 0.0% | 0.1% |
| Canada | -0.1% | 0.7% | 1.4% | 6.8% | -0.1% | -0.1% | 0.1% | 0.1% | 0.0% |
| Chile* | -- | -7.5% | 0.0% | 0.2% | -- | 0.0% | 0.0% | -- | 0.0% |
| Colombia* | -- | -6.1% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Mexico* | 7.2% | -1.6% | 0.5% | 0.7% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% |
| Peru* | -8.9% | -9.3% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| United States | -15.3% | 1.6% | 1.4% | 0.0% | 0.0% | 0.0% | 0.0% | -0.2% | -0.2% |

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|-----------------------|---------------------|--------------|----------------|---------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| Other | | | | | | | | | |
| Egypt* | -- | 7.4% | 0.0% | 0.0% | -- | 0.0% | 0.0% | -- | 0.0% |
| Israel | 0.0% | -3.6% | 0.1% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Qatar* | -6.3% | -0.7% | 0.0% | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Romania** | 7.1% | -1.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Saudi Arabia* | -- | -9.7% | 0.0% | 0.4% | -- | 0.0% | 0.0% | -- | 0.0% |
| South Africa* | -11.0% | -12.2% | 1.0% | 1.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| Turkey* | -- | 11.6% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| United Arab Emirates* | 1.9% | 0.7% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Totals | | | | | | | | | |
| Americas | -3.5% | -1.3% | 4.6% | 10.1% | -0.3% | 0.0% | 0.2% | 0.1% | 0.0% |
| Europe | -2.0% | -1.8% | 50.4% | 43.3% | -0.1% | 0.1% | -0.3% | 0.0% | -0.3% |
| Asia/Pacific | -0.3% | -1.3% | 42.2% | 43.7% | 0.4% | 0.0% | 0.1% | 0.0% | 0.4% |
| Other | -8.8% | -7.6% | 1.3% | 2.9% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| Cash | 0.5% | -- | 1.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | -1.4% | -1.7% | 100.0% | 100.0% | 0.0% | 0.1% | 0.0% | 0.1% | 0.3% |
| Totals | | | | | | | | | |
| Developed | -1.3% | -0.9% | 84.5% | 73.5% | -0.4% | 0.1% | -0.3% | -0.1% | -0.6% |
| Emerging* | -2.3% | -4.1% | 14.1% | 26.5% | 0.5% | 0.3% | 0.3% | -0.2% | 0.9% |
| Frontier** | 7.1% | -- | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Cash | 0.5% | -- | 1.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |



| | Return (Rank) | | | | | | | |
|-------------------------------|---------------|-----------|-----------|----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 0.6 | 16.9 | 2.0 | 4.1 | 9.6 | 7.7 | 10.3 | 9.8 |
| 25th Percentile | -0.5 | 13.8 | -1.5 | 1.3 | 7.1 | 5.3 | 8.4 | 7.1 |
| Median | -1.4 | 12.0 | -4.5 | -0.9 | 5.7 | 3.9 | 6.6 | 6.5 |
| 75th Percentile | -2.2 | 9.5 | -7.1 | -3.2 | 4.3 | 2.9 | 6.0 | 5.2 |
| 95th Percentile | -3.4 | 6.8 | -11.4 | -5.7 | 2.2 | 1.7 | 4.9 | 4.0 |
| # of Portfolios | 146 | 146 | 146 | 144 | 143 | 122 | 104 | 86 |
| ● BlackRock EAFE Index | -1.0 (38) | 13.2 (37) | -1.0 (21) | 1.0 (28) | 6.9 (30) | 3.6 (58) | -- (--) | -- (--) |
| ▲ MSCI EAFE | -1.1 (38) | 12.8 (40) | -1.3 (24) | 0.7 (30) | 6.5 (35) | 3.3 (65) | 6.1 (70) | 4.9 (83) |

Characteristics

| | Portfolio | MSCI EAFE |
|---------------------------------|-----------|-----------|
| Number of Holdings | 924 | 922 |
| Weighted Avg. Market Cap. (\$B) | 60.2 | 59.7 |
| Median Market Cap. (\$B) | 9.9 | 9.9 |
| Price To Earnings | 15.9 | 15.8 |
| Price To Book | 2.3 | 2.3 |
| Price To Sales | 1.1 | 1.1 |
| Return on Equity (%) | 14.4 | 14.3 |
| Yield (%) | 3.3 | 3.3 |
| Beta (holdings; global) | 1.0 | 1.0 |

Top Holdings

| | |
|---------------------|------|
| NESTLE 'R' | 2.4% |
| ROCHE HOLDING | 1.5% |
| NOVARTIS 'R' | 1.3% |
| HSBC HOLDINGS | 1.1% |
| TOYOTA MOTOR | 1.1% |
| BP | 0.9% |
| ROYAL DUTCH SHELL A | 0.9% |
| TOTAL | 0.9% |
| ASTRAZENECA | 0.9% |
| AIA GROUP | 0.8% |

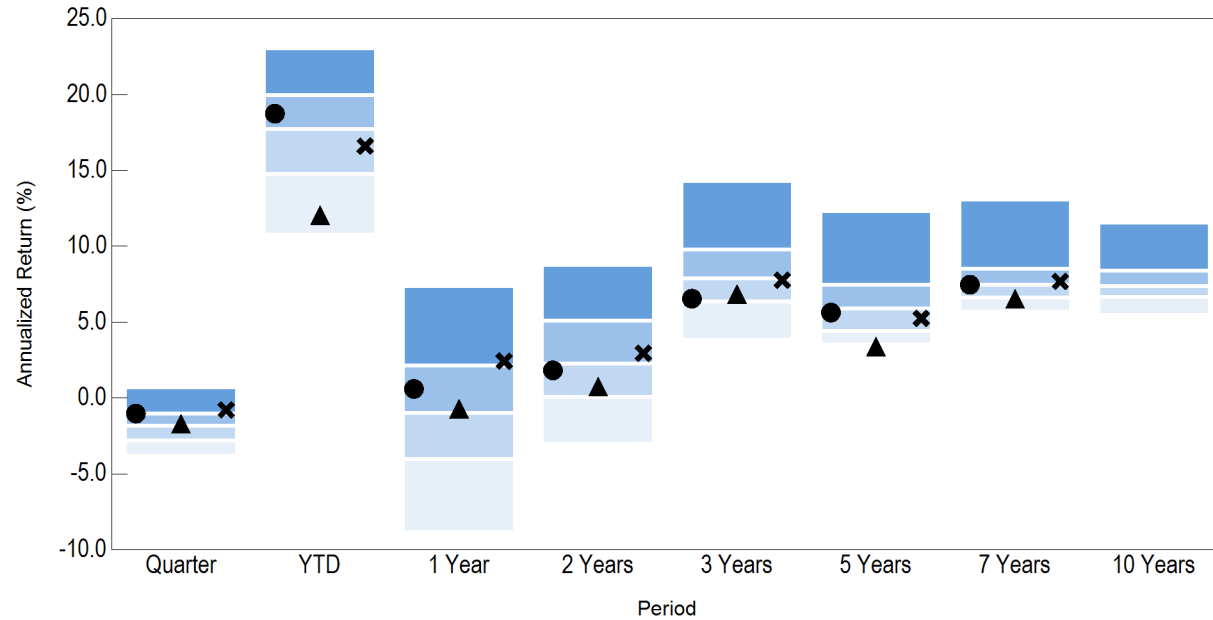
Best Performers

| | Return % |
|---------------------------------------|----------|
| ADVANTEST (J:AB@N) | 60.5% |
| CASINO GUICHARD-P (F:CSO) | 39.7% |
| TOKYO ELECTRON (J:RG@N) | 36.9% |
| NIPPON PAINT HOLDINGS (J:NPPT) | 33.8% |
| LENLEASE GROUP STAPLED UNITS (A:LLCX) | 32.2% |
| M3 (J:SNET) | 31.7% |
| RENASAS ELECTRONICS (J:RENE) | 30.8% |
| LONDON STOCK EX.GROUP (UKIR:LSE) | 29.4% |
| BANDAI NAMCO HDG. (J:N@MB) | 28.7% |
| KAKAKU.COM (J:KAKA) | 28.4% |

Worst Performers

| | Return % |
|--|----------|
| MICRO FOCUS INTL. (UKIR:MCRO) | -44.4% |
| YANGZIJIANG SHIPBUILDING (HOLDINGS) (T:YSHL) | -38.6% |
| CIMIC GROUP (A:CIMX) | -31.0% |
| IPSEN (F:IPN) | -30.5% |
| EVRAZ (UKIR:EVR) | -28.0% |
| KONICA MINOLTA (J:KONM) | -27.1% |
| AIB GROUP (LON) (UKIR:AIBG) | -26.1% |
| TEVA PHARM.INDS.ADR 1:1 (TEVA) | -25.5% |
| KERRY PROPERTIES (K:KERP) | -25.5% |
| YAMATO HDG. (J:OJ@N) | -25.4% |

eV ACWI ex-US Growth Equity Net Return Comparison



| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
|--------------------------|-----------|-----------|-----------|----------|----------|----------|----------|----------|
| Return (Rank) | | | | | | | | |
| 5th Percentile | 0.7 | 23.0 | 7.4 | 8.7 | 14.3 | 12.3 | 13.1 | 11.6 |
| 25th Percentile | -1.0 | 20.0 | 2.2 | 5.1 | 9.8 | 7.5 | 8.5 | 8.4 |
| Median | -1.8 | 17.7 | -0.9 | 2.3 | 7.9 | 5.9 | 7.5 | 7.4 |
| 75th Percentile | -2.8 | 14.8 | -4.0 | 0.1 | 6.4 | 4.4 | 6.6 | 6.7 |
| 95th Percentile | -3.8 | 10.8 | -8.8 | -3.0 | 3.8 | 3.6 | 5.7 | 5.5 |
| # of Portfolios | 70 | 70 | 70 | 68 | 67 | 58 | 52 | 42 |
| ● Baillie Gifford | -1.0 (27) | 18.7 (35) | 0.6 (37) | 1.8 (54) | 6.5 (73) | 5.6 (55) | 7.5 (51) | -- (--) |
| ▲ MSCI ACWI ex US | -1.7 (47) | 12.1 (92) | -0.7 (49) | 0.8 (72) | 6.8 (67) | 3.4 (97) | 6.5 (78) | -- (--) |
| ✕ MSCI ACWI ex US Growth | -0.8 (22) | 16.6 (60) | 2.4 (25) | 2.9 (42) | 7.8 (52) | 5.3 (61) | 7.7 (48) | -- (--) |

Characteristics

| | Portfolio | MSCI ACWI ex USA Gross |
|---------------------------------|-----------|------------------------|
| Number of Holdings | 82 | 2,206 |
| Weighted Avg. Market Cap. (\$B) | 42.9 | 64.0 |
| Median Market Cap. (\$B) | 14.0 | 7.3 |
| Price To Earnings | 24.7 | 15.0 |
| Price To Book | 3.7 | 2.3 |
| Price To Sales | 2.2 | 1.2 |
| Return on Equity (%) | 22.5 | 15.0 |
| Yield (%) | 1.5 | 3.3 |
| Beta (holdings; global) | 1.0 | 0.9 |

Top Holdings

| | |
|-------------------------------|------|
| TAIWAN SEMICON.SPN.ADR 1:5 | 2.9% |
| HARGREAVES LANSDOWN | 2.7% |
| SHISEIDO | 2.5% |
| ALIBABA GROUP HOLDING ADR 1:8 | 2.5% |
| COCHLEAR | 2.2% |
| SHOPIFY 'A' (NYS) | 2.1% |
| AIA GROUP | 2.0% |
| RIGHTMOVE | 2.0% |
| ASML HOLDING | 2.0% |
| ASIAN PAINTS | 2.0% |

Best Performers

| | Return % |
|----------------------------------|----------|
| NAVER (KO:NHN) | 32.9% |
| KAKAKU.COM (J:KAKA) | 28.4% |
| ASIAN PAINTS (IN:API) | 26.4% |
| OLYMPUS (J:OLYC) | 21.4% |
| TREASURY WINE ESTATES (A:TWEX) | 20.9% |
| TAIWAN SEMICON.SPN.ADR 1:5 (TSM) | 19.5% |
| ASML HOLDING (H:ASML) | 18.4% |
| RAIA DROGASIL ON (BR:DR3) | 16.0% |
| SUGI HOLDINGS (J:SUGP) | 15.4% |
| SMC (J:SMCC) | 14.4% |

Worst Performers

| | Return % |
|---|----------|
| SPOTIFY TECHNOLOGY (SPOT) | -22.0% |
| JARDINE STRATEGIC HDG. (T:JSTG) | -21.4% |
| CTRIP.COM INTL.ADR 8:1 (CTRP) | -20.6% |
| SOFTBANK GROUP (J:SFTB) | -17.7% |
| JUPITER FUND MANAGEMENT (UKIR:JUP) | -16.7% |
| WOOD GROUP (JOHN) (UKIR:WG.) | -16.5% |
| METTLER TOLEDO INTL. (MTD) | -16.1% |
| MAHINDRA & MAHINDRA GDR REG 'S' (UKIR:MHID) | -15.5% |
| U-BLOX HOLDING (S:BHOL) | -15.1% |
| JARDINE MATHESON HDG. (T:JMST) | -14.4% |

Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

| | Total Effects | Attribution Effects | | | Returns | | Sector Weights | | | | |
|------------------------|------------------|---------------------|----------------------|------------------------|-------------|-----------|----------------|--------------|--------------|---------------|---------------|
| | | Selection Effect | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.3% | -0.5% | 0.1% | 0.6% | -16.5% | -4.4% | 0.6% | 7.1% | | | |
| Materials | 0.6% | 0.7% | 0.1% | -0.2% | 2.0% | -6.3% | 4.5% | 7.7% | | | |
| Industrials | -0.4% | -0.1% | -0.1% | -0.3% | -3.8% | -2.5% | 18.6% | 12.0% | | | |
| Consumer Discretionary | -0.5% | -0.2% | 0.1% | -0.4% | -3.1% | -0.8% | 19.6% | 11.3% | | | |
| Consumer Staples | 0.6% | 0.4% | 0.1% | 0.1% | 6.5% | 1.5% | 11.9% | 9.8% | | | |
| Health Care | -0.3% | -0.4% | 0.0% | 0.0% | -3.1% | 1.2% | 8.3% | 8.3% | | | |
| Financials | 0.1% | -0.3% | 0.1% | 0.3% | -4.2% | -3.4% | 15.5% | 21.9% | | | |
| Information Technology | 0.5% | 0.3% | 0.1% | 0.1% | 6.6% | 2.3% | 11.2% | 8.5% | | | |
| Communication Services | -0.1% | 0.0% | 0.0% | 0.0% | -3.2% | -2.7% | 8.3% | 6.9% | | | |
| Utilities | 0.0% | -- | -0.1% | -- | -- | 1.4% | 0.0% | 3.4% | | | |
| Real Estate | 0.1% | -- | 0.1% | -- | -- | -2.9% | 0.0% | 3.2% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 1.5% | 0.0% | | | |
| Portfolio | 0.8% | = | 0.0% | + | 0.5% | + | 0.3% | -1.0% | -1.7% | 100.0% | 100.0% |

Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|-----------------|---------------------|--------------|----------------|--------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| Europe | | | | | | | | | |
| Austria | -- | -3.1% | 0.0% | 0.2% | -- | 0.0% | 0.0% | -- | 0.0% |
| Belgium | -- | 3.3% | 0.0% | 0.6% | -- | 0.0% | 0.0% | -- | 0.0% |
| Czech Republic* | -- | -9.5% | 0.0% | 0.0% | -- | 0.0% | 0.0% | -- | 0.0% |
| Denmark | -10.0% | -0.9% | 1.7% | 1.1% | -0.1% | 0.0% | 0.0% | -0.1% | -0.2% |
| Finland | -3.6% | -1.7% | 1.3% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| France | -2.5% | -1.6% | 1.4% | 7.6% | -0.1% | -0.1% | 0.3% | 0.1% | 0.1% |
| Germany | -3.6% | -4.0% | 7.8% | 5.8% | 0.0% | 0.0% | -0.1% | 0.0% | 0.0% |
| Greece* | -- | -2.9% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Hungary* | -- | -3.9% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Ireland | -9.9% | -0.5% | 1.4% | 0.4% | 0.0% | 0.0% | 0.0% | -0.1% | -0.1% |
| Italy | -- | 0.2% | 0.0% | 1.5% | -- | -0.1% | 0.1% | -- | 0.0% |
| Netherlands | 18.4% | 1.9% | 1.6% | 2.4% | 0.4% | 0.0% | 0.0% | -0.1% | 0.3% |
| Norway | -- | -3.3% | 0.0% | 0.4% | -- | 0.0% | 0.0% | -- | 0.0% |
| Poland* | -- | -11.7% | 0.0% | 0.3% | -- | 0.0% | 0.0% | -- | 0.0% |
| Portugal | 4.6% | 1.9% | 1.2% | 0.1% | 0.0% | 0.1% | -0.1% | 0.0% | 0.0% |
| Russia* | -- | -1.1% | 0.0% | 1.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Spain | 2.8% | -3.8% | 1.8% | 2.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| Sweden | -3.1% | -4.8% | 4.9% | 1.8% | 0.0% | 0.0% | -0.2% | 0.1% | -0.1% |
| Switzerland | -6.3% | 0.3% | 3.4% | 6.2% | -0.4% | 0.0% | 0.1% | 0.2% | -0.2% |
| United Kingdom | -2.9% | -2.5% | 14.3% | 11.2% | 0.0% | 0.0% | -0.1% | 0.0% | -0.2% |

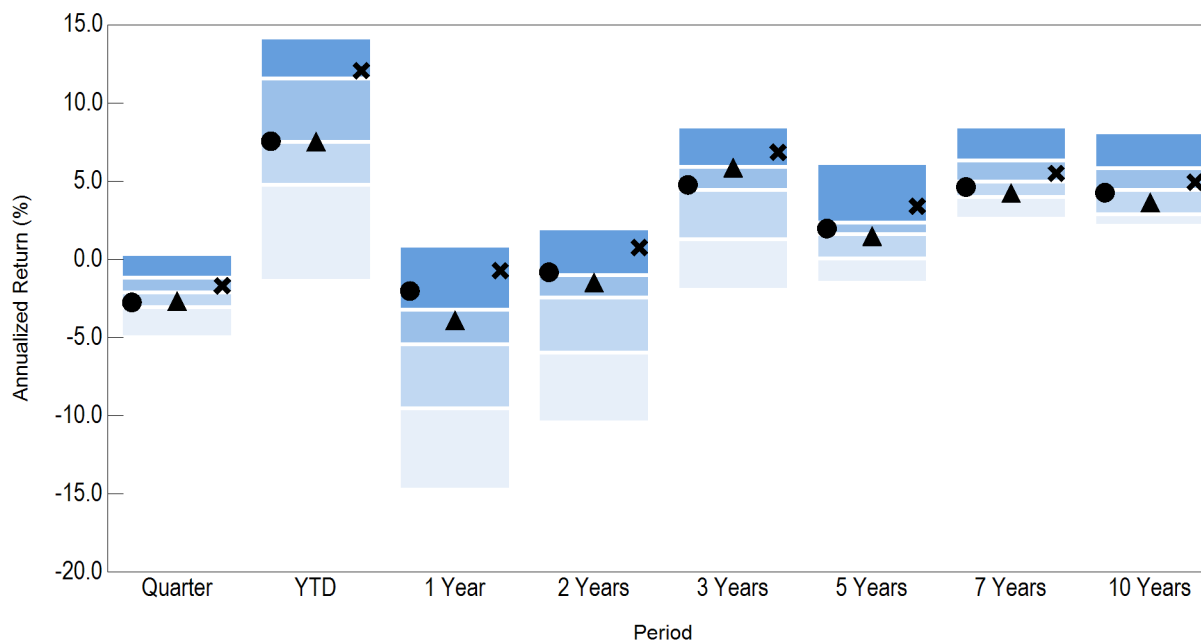
Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|--------------------|---------------------|--------------|----------------|--------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| AsiaPacific | | | | | | | | | |
| Australia | 3.2% | -1.3% | 4.3% | 4.8% | 0.2% | 0.0% | 0.0% | 0.0% | 0.2% |
| China* | -6.3% | -4.6% | 7.9% | 8.4% | -0.2% | 0.1% | 0.0% | 0.0% | 0.0% |
| Hong Kong | -10.8% | -11.9% | 3.4% | 2.7% | 0.0% | -0.1% | 0.0% | 0.0% | 0.0% |
| India* | 2.0% | -5.1% | 5.2% | 2.4% | 0.2% | -0.1% | -0.1% | 0.2% | 0.2% |
| Indonesia* | -- | -5.3% | 0.0% | 0.6% | -- | 0.0% | 0.0% | -- | 0.0% |
| Japan | 5.6% | 3.2% | 17.6% | 15.9% | 0.4% | 0.1% | 0.0% | 0.1% | 0.5% |
| Korea* | 32.9% | -4.7% | 0.4% | 3.3% | 1.1% | 0.1% | 0.1% | -1.0% | 0.3% |
| Malaysia* | -12.4% | -6.3% | 1.0% | 0.6% | 0.0% | 0.0% | 0.0% | 0.0% | -0.1% |
| New Zealand | -- | -2.7% | 0.0% | 0.2% | -- | 0.0% | 0.0% | -- | 0.0% |
| Pakistan* | -- | 1.4% | 0.0% | 0.0% | -- | 0.0% | 0.0% | -- | 0.0% |
| Philippines* | -- | -4.5% | 0.0% | 0.3% | -- | 0.0% | 0.0% | -- | 0.0% |
| Singapore | -7.5% | -5.8% | 3.7% | 0.9% | 0.0% | -0.1% | 0.0% | -0.1% | -0.2% |
| Taiwan* | 15.8% | 5.9% | 3.0% | 2.9% | 0.3% | 0.0% | 0.0% | 0.0% | 0.3% |
| Thailand* | -- | -5.9% | 0.0% | 0.8% | -- | 0.1% | 0.0% | -- | 0.1% |
| Americas | | | | | | | | | |
| Argentina* | -- | -46.9% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Brazil* | 16.0% | -4.6% | 1.3% | 2.0% | 0.4% | 0.0% | 0.0% | -0.2% | 0.3% |
| Canada | -0.7% | 0.7% | 3.0% | 6.8% | 0.0% | 0.0% | 0.1% | -0.1% | -0.1% |
| Chile* | -- | -7.3% | 0.0% | 0.2% | -- | 0.0% | 0.0% | -- | 0.0% |
| Colombia* | -- | -6.1% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Mexico* | 9.7% | -1.5% | 0.6% | 0.7% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| Peru* | -- | -9.2% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| United States | -17.2% | 1.6% | 3.6% | 0.0% | 0.0% | 0.0% | 0.0% | -0.7% | -0.6% |

Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|-----------------------|---------------------|--------------|----------------|---------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| Other | | | | | | | | | |
| Egypt* | -- | 7.4% | 0.0% | 0.0% | -- | 0.0% | 0.0% | -- | 0.0% |
| Israel | -- | -3.7% | 0.0% | 0.4% | -- | 0.0% | 0.0% | -- | 0.0% |
| Qatar* | -- | -0.7% | 0.0% | 0.3% | -- | 0.0% | 0.0% | -- | 0.0% |
| Saudi Arabia* | -- | -9.7% | 0.0% | 0.4% | -- | 0.0% | 0.0% | -- | 0.0% |
| South Africa* | -8.2% | -12.2% | 2.7% | 1.6% | 0.1% | -0.1% | -0.1% | 0.1% | 0.0% |
| Turkey* | -- | 11.6% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| United Arab Emirates* | -- | 0.7% | 0.0% | 0.2% | -- | 0.0% | 0.0% | -- | 0.0% |
| Totals | | | | | | | | | |
| Americas | -4.5% | -1.4% | 8.5% | 10.0% | -0.4% | 0.0% | 0.1% | 0.1% | -0.2% |
| Europe | -2.5% | -1.9% | 40.9% | 43.5% | -0.2% | 0.0% | 0.0% | 0.0% | -0.2% |
| Asia/Pacific | 1.5% | -1.3% | 46.5% | 43.6% | 1.1% | 0.0% | 0.0% | 0.1% | 1.2% |
| Other | -8.2% | -7.5% | 2.7% | 2.9% | 0.1% | 0.0% | -0.1% | 0.0% | 0.0% |
| Cash | 0.5% | -- | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | -1.0% | -1.7% | 100.0% | 100.0% | 0.6% | -0.1% | 0.1% | 0.1% | 0.8% |
| Totals | | | | | | | | | |
| Developed | -1.5% | -0.9% | 76.5% | 73.5% | -0.5% | 0.0% | 0.0% | 0.0% | -0.5% |
| Emerging* | 0.8% | -4.1% | 22.0% | 26.5% | 1.3% | 0.1% | 0.1% | -0.2% | 1.3% |
| Cash | 0.5% | -- | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

eV ACWI ex-US Value Equity Net Return Comparison



| | Return (Rank) | | | | | | | |
|--------------------------------|---------------|-----------|-----------|-----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 0.3 | 14.2 | 0.8 | 2.0 | 8.5 | 6.1 | 8.5 | 8.1 |
| 25th Percentile | -1.2 | 11.6 | -3.2 | -1.0 | 5.9 | 2.4 | 6.3 | 5.9 |
| Median | -2.1 | 7.5 | -5.4 | -2.4 | 4.5 | 1.6 | 5.0 | 4.5 |
| 75th Percentile | -3.0 | 4.8 | -9.5 | -5.9 | 1.3 | 0.1 | 4.0 | 2.9 |
| 95th Percentile | -5.0 | -1.4 | -14.7 | -10.4 | -1.9 | -1.5 | 2.6 | 2.2 |
| # of Portfolios | 40 | 40 | 40 | 38 | 37 | 35 | 27 | 20 |
| ● Mondrian | -2.8 (67) | 7.6 (49) | -2.0 (21) | -0.8 (17) | 4.8 (42) | 2.0 (43) | 4.6 (66) | 4.3 (55) |
| ▲ MSCI ACWI ex USA Value Gross | -2.7 (65) | 7.5 (49) | -3.9 (30) | -1.5 (36) | 5.9 (30) | 1.5 (56) | 4.2 (73) | 3.6 (67) |
| ✕ MSCI ACWI ex USA Gross | -1.7 (39) | 12.1 (22) | -0.7 (19) | 0.8 (10) | 6.8 (17) | 3.4 (20) | 5.5 (39) | 4.9 (40) |

Characteristics

| | Portfolio | MSCI ACWI ex USA Value Gross |
|---------------------------------|-----------|------------------------------|
| Number of Holdings | 126 | 1,315 |
| Weighted Avg. Market Cap. (\$B) | 51.5 | 48.6 |
| Median Market Cap. (\$B) | 21.3 | 6.7 |
| Price To Earnings | 14.0 | 11.5 |
| Price To Book | 1.7 | 1.6 |
| Price To Sales | 0.8 | 0.9 |
| Return on Equity (%) | 11.2 | 11.5 |
| Yield (%) | 4.3 | 4.6 |
| Beta (holdings: global) | 1.0 | 0.9 |

Top Holdings

| | |
|-----------------------|------|
| UNITED OVERSEAS BANK | 2.4% |
| TELIA COMPANY | 2.3% |
| SAINT GOBAIN | 2.3% |
| GLAXOSMITHKLINE | 2.3% |
| SANOFI | 2.2% |
| SSE | 2.2% |
| CK HUTCHISON HOLDINGS | 2.2% |
| ALLIANZ | 2.1% |
| LLOYDS BANKING GROUP | 2.1% |
| BANCO SANTANDER | 2.0% |

Best Performers

| | Return % |
|--|----------|
| CHINA MED.SY.HDG.(DI) (K:CHM) | 32.5% |
| CSPC PHARMACEUTICAL GP. (K:CPHA) | 24.5% |
| ASE TECHNOLOGY HOLDING (TW:AIH) | 19.6% |
| CMPH.COCS. RODOVIARIAS ON (BR:CCR) | 16.2% |
| FUJITSU (J:FT@N) | 15.9% |
| TAIWAN SEMICON.MNFG. (TW:TSM) | 14.8% |
| OTSUKA HOLDINGS (J:OTHD) | 14.5% |
| SSE (UKIR:SSE) | 14.3% |
| FIBRA UNO ADMINISTRACION REIT (MX:FUN) | 13.1% |
| KONINKLIJKE AHOLD DELHAIZE (H:AD) | 12.7% |

Worst Performers

| | Return % |
|---------------------------------|----------|
| INDIABULLS HOUSING FIN (IN:IEZ) | -58.4% |
| SASOL (R:SOLJ) | -32.8% |
| SAMSUNG FIRE & MAR.IN. (KO:AFM) | -19.7% |
| LG CHEM (KO:LCM) | -18.4% |
| ISS (DK:ISS) | -18.1% |
| ANGLO AMERICAN (UKIR:AAL) | -16.8% |
| KASIKORNBANK FB (Q:TFBF) | -16.7% |
| WOOD GROUP (JOHN) (UKIR:WG.) | -16.5% |
| TINGYI CYMN.ISLE.HLDG. (K:CAYM) | -15.6% |
| EVONIK INDUSTRIES (D:EVK) | -15.0% |

Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

| | Attribution Effects | | | | Returns | | Sector Weights | | | | |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|--------------|--------------|---------------|---------------|
| | Total Effects | Selection Effect | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | -0.2% | -0.2% | 0.0% | 0.0% | -7.7% | -4.9% | 8.4% | 11.6% | | | |
| Materials | 0.4% | -1.0% | 0.5% | 0.9% | -19.8% | -9.6% | 4.6% | 9.8% | | | |
| Industrials | -0.3% | -0.2% | 0.0% | -0.2% | -4.2% | -1.9% | 12.4% | 8.7% | | | |
| Consumer Discretionary | -0.3% | -0.3% | 0.1% | -0.2% | -3.1% | 0.0% | 12.5% | 8.4% | | | |
| Consumer Staples | 0.0% | -0.1% | 0.1% | -0.1% | -1.2% | 0.7% | 5.0% | 2.8% | | | |
| Health Care | 0.4% | 0.1% | 0.3% | 0.0% | 4.4% | 2.0% | 10.2% | 4.6% | | | |
| Financials | 0.8% | 0.6% | 0.1% | 0.1% | -1.1% | -3.3% | 21.1% | 33.4% | | | |
| Information Technology | -0.1% | -0.1% | 0.1% | -0.1% | -1.6% | 0.3% | 7.8% | 3.8% | | | |
| Communication Services | -0.1% | 0.0% | 0.0% | -0.1% | -2.0% | -0.6% | 7.6% | 6.9% | | | |
| Utilities | 0.6% | 0.5% | 0.1% | 0.1% | 10.0% | 2.2% | 6.5% | 5.6% | | | |
| Real Estate | 0.1% | 0.1% | 0.0% | 0.0% | 0.7% | -1.9% | 2.1% | 4.4% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 1.7% | 0.0% | | | |
| Unclassified | 0.0% | 0.0% | 0.0% | 0.0% | -1.4% | -- | 0.2% | 0.0% | | | |
| Portfolio | 1.2% | = | -0.5% | + | 1.2% | + | 0.5% | -1.5% | -2.7% | 100.0% | 100.0% |

Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|-----------------|---------------------|--------------|----------------|--------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| Europe | | | | | | | | | |
| Austria | -- | -5.3% | 0.0% | 0.2% | -- | 0.0% | 0.0% | -- | 0.0% |
| Belgium | -- | 0.7% | 0.0% | 0.4% | -- | 0.0% | 0.0% | -- | 0.0% |
| Czech Republic* | -- | -6.8% | 0.0% | 0.0% | -- | 0.0% | 0.0% | -- | 0.0% |
| Denmark | -18.1% | -7.2% | 1.4% | 0.2% | 0.0% | 0.0% | 0.0% | -0.1% | -0.2% |
| Finland | -- | -0.3% | 0.0% | 0.8% | -- | 0.0% | 0.0% | -- | 0.0% |
| France | 4.7% | 0.0% | 5.3% | 6.8% | 0.3% | -0.1% | 0.1% | -0.1% | 0.2% |
| Germany | -8.1% | -1.9% | 8.2% | 5.6% | -0.4% | 0.1% | -0.1% | -0.2% | -0.5% |
| Greece* | -- | -3.1% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Hungary* | -- | -7.3% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Ireland | -- | -5.2% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Italy | 2.4% | 2.2% | 4.6% | 2.4% | 0.0% | 0.2% | -0.1% | 0.0% | 0.1% |
| Netherlands | -3.4% | -8.1% | 2.0% | 0.9% | 0.0% | 0.0% | -0.1% | 0.1% | 0.0% |
| Norway | -- | -3.9% | 0.0% | 0.5% | -- | 0.0% | 0.0% | -- | 0.0% |
| Poland* | -- | -12.1% | 0.0% | 0.3% | -- | 0.0% | 0.0% | -- | 0.0% |
| Portugal | -- | 2.0% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Russia* | 1.2% | 1.8% | 1.0% | 1.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Spain | -5.9% | -4.5% | 3.1% | 3.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Sweden | 0.8% | 0.6% | 2.1% | 1.3% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% |
| Switzerland | 0.1% | -0.3% | 4.7% | 3.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| United Kingdom | -1.6% | -4.2% | 17.9% | 15.2% | 0.4% | 0.0% | -0.1% | 0.1% | 0.3% |

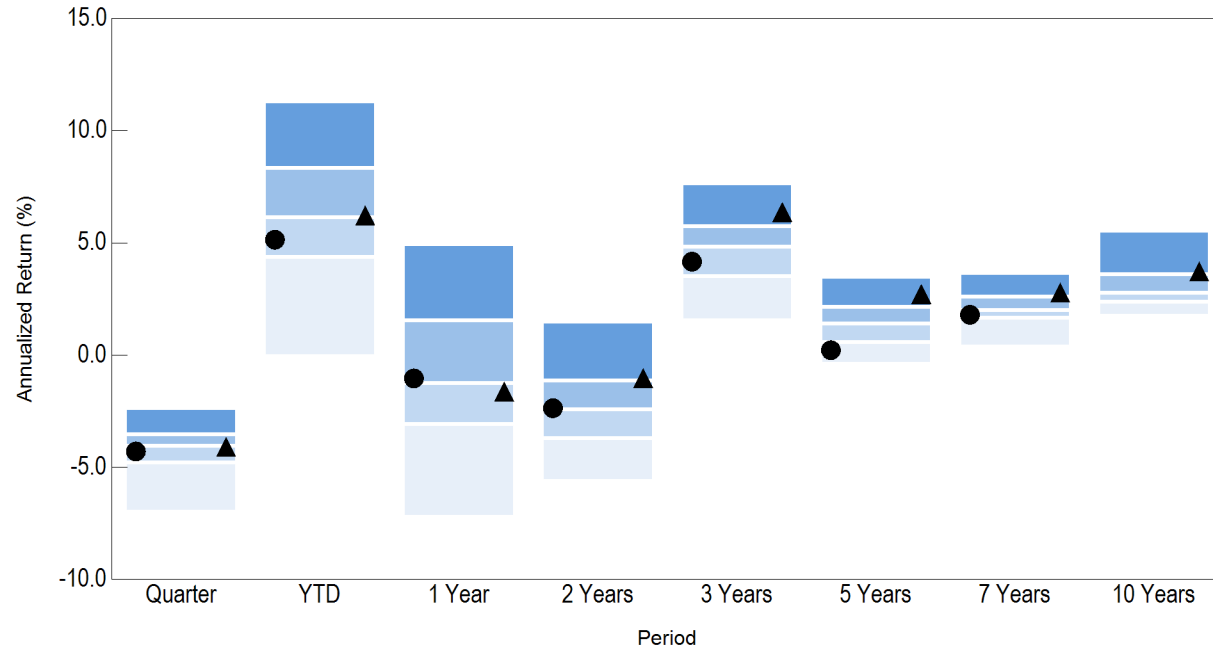
Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|--------------------|---------------------|--------------|----------------|--------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| AsiaPacific | | | | | | | | | |
| Australia | 4.1% | -2.8% | 1.0% | 5.0% | 0.4% | 0.0% | 0.2% | -0.3% | 0.2% |
| China* | -4.0% | -6.4% | 4.1% | 8.6% | 0.2% | 0.3% | 0.0% | -0.1% | 0.4% |
| Hong Kong | -3.3% | -11.8% | 5.7% | 2.7% | 0.2% | -0.3% | 0.0% | 0.3% | 0.1% |
| India* | -17.1% | -6.4% | 3.2% | 2.4% | -0.3% | 0.0% | 0.0% | -0.1% | -0.4% |
| Indonesia* | -6.0% | -9.0% | 0.4% | 0.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Japan | 0.6% | 2.4% | 17.1% | 16.1% | -0.3% | 0.0% | 0.0% | 0.0% | -0.3% |
| Korea* | -8.7% | -6.6% | 3.7% | 3.3% | -0.1% | 0.0% | 0.0% | 0.0% | -0.1% |
| Malaysia* | -4.2% | -5.5% | 0.7% | 0.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| New Zealand | -- | -1.4% | 0.0% | 0.2% | -- | 0.0% | 0.0% | -- | 0.0% |
| Pakistan* | -- | -1.8% | 0.0% | 0.0% | -- | 0.0% | 0.0% | -- | 0.0% |
| Philippines* | -- | -3.8% | 0.0% | 0.3% | -- | 0.0% | 0.0% | -- | 0.0% |
| Singapore | -4.3% | -7.7% | 4.0% | 1.0% | 0.0% | -0.2% | -0.1% | 0.1% | -0.1% |
| Taiwan* | 11.6% | 0.3% | 2.2% | 3.1% | 0.3% | 0.0% | 0.0% | -0.1% | 0.2% |
| Thailand* | -13.6% | -9.3% | 0.4% | 0.8% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Americas | | | | | | | | | |
| Argentina* | -- | -53.2% | 0.0% | 0.1% | -- | 0.1% | 0.0% | -- | 0.1% |
| Brazil* | -4.7% | -8.5% | 2.7% | 2.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Canada | 1.5% | 1.7% | 1.2% | 6.9% | 0.0% | -0.2% | 0.1% | 0.0% | -0.1% |
| Chile* | -- | -7.2% | 0.0% | 0.3% | -- | 0.0% | 0.0% | -- | 0.0% |
| Colombia* | -- | -7.3% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| Mexico* | 5.1% | -2.2% | 0.7% | 0.7% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| Peru* | -8.9% | -9.2% | 0.2% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

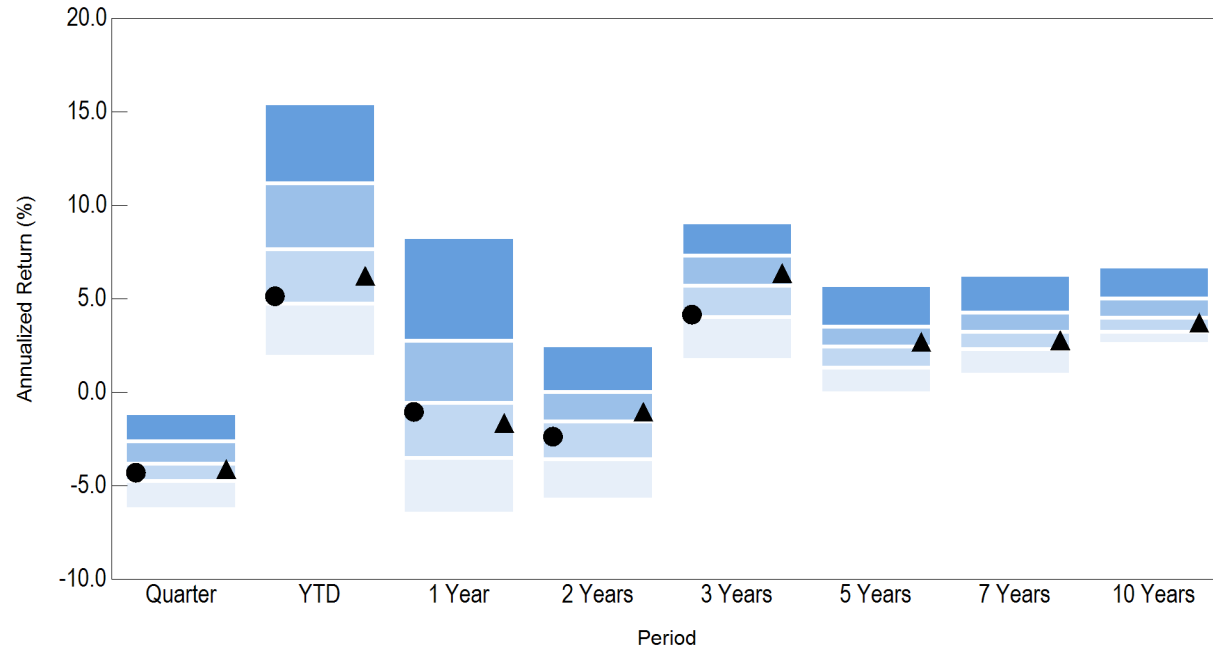
| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|-----------------------|---------------------|--------------|----------------|---------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| Other | | | | | | | | | |
| Egypt* | -- | 7.0% | 0.0% | 0.0% | -- | 0.0% | 0.0% | -- | 0.0% |
| Israel | -- | -3.6% | 0.0% | 0.4% | -- | 0.0% | 0.0% | -- | 0.0% |
| Qatar* | -6.3% | 0.0% | 0.1% | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Romania** | 7.1% | -2.7% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Saudi Arabia* | -- | -11.2% | 0.0% | 0.4% | -- | 0.0% | 0.0% | -- | 0.0% |
| South Africa* | -32.8% | -16.4% | 0.3% | 1.6% | -0.3% | 0.1% | 0.1% | 0.2% | 0.1% |
| Turkey* | -- | 11.2% | 0.0% | 0.1% | -- | 0.0% | 0.0% | -- | 0.0% |
| United Arab Emirates* | 1.9% | 1.2% | 0.3% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Totals | | | | | | | | | |
| Americas | -2.0% | -1.5% | 4.9% | 10.1% | 0.1% | -0.1% | 0.1% | 0.0% | 0.0% |
| Europe | -2.1% | -2.3% | 50.3% | 42.3% | 0.0% | 0.1% | -0.2% | 0.0% | -0.1% |
| Asia/Pacific | -2.6% | -2.8% | 42.4% | 44.6% | 0.0% | 0.0% | 0.1% | 0.0% | 0.1% |
| Other | -15.7% | -10.0% | 0.7% | 3.0% | -0.2% | 0.2% | 0.1% | 0.1% | 0.2% |
| Cash | 0.5% | -- | 1.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | -2.4% | -2.7% | 100.0% | 100.0% | -0.1% | 0.2% | 0.0% | 0.1% | 0.3% |
| Totals | | | | | | | | | |
| Developed | -1.6% | -1.4% | 78.2% | 72.9% | -0.2% | 0.1% | -0.2% | 0.0% | -0.3% |
| Emerging* | -5.5% | -6.1% | 20.0% | 27.1% | 0.2% | 0.3% | 0.2% | 0.0% | 0.6% |
| Frontier** | 7.1% | -- | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Cash | 0.5% | -- | 1.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

InvMetrics All DB Emg Mkt Eq Net Return Comparison



| | Return (Rank) | | | | | | | |
|-------------------------------|---------------|----------|-----------|-----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | -2.4 | 11.3 | 4.9 | 1.5 | 7.7 | 3.5 | 3.6 | 5.5 |
| 25th Percentile | -3.5 | 8.4 | 1.6 | -1.1 | 5.7 | 2.2 | 2.6 | 3.6 |
| Median | -4.0 | 6.2 | -1.2 | -2.4 | 4.9 | 1.4 | 2.0 | 2.8 |
| 75th Percentile | -4.8 | 4.4 | -3.1 | -3.7 | 3.5 | 0.6 | 1.7 | 2.4 |
| 95th Percentile | -7.0 | 0.0 | -7.2 | -5.6 | 1.6 | -0.4 | 0.4 | 1.8 |
| # of Portfolios | 60 | 60 | 60 | 58 | 54 | 49 | 40 | 14 |
| ● Emerging Markets | -4.3 (57) | 5.1 (67) | -1.0 (47) | -2.4 (50) | 4.2 (62) | 0.2 (85) | 1.8 (63) | -- (--) |
| ▲ MSCI Emerging Markets Gross | -4.1 (52) | 6.2 (49) | -1.6 (59) | -1.0 (24) | 6.4 (21) | 2.7 (17) | 2.8 (21) | 3.7 (24) |

eV Emg Mkts Equity Net Return Comparison



| | Quarter | | YTD | | 1 Year | | 2 Years | | 3 Years | | 5 Years | | 7 Years | | 10 Years | |
|-------------------------------|-----------|----------|-----------|-----------|----------|----------|----------|----------|---------|--|---------|--|---------|--|----------|--|
| Return (Rank) | | | | | | | | | | | | | | | | |
| 5th Percentile | -1.1 | 15.4 | 8.3 | 2.5 | 9.1 | 5.7 | 6.3 | 6.7 | | | | | | | | |
| 25th Percentile | -2.6 | 11.2 | 2.8 | 0.0 | 7.3 | 3.5 | 4.3 | 5.0 | | | | | | | | |
| Median | -3.8 | 7.7 | -0.6 | -1.5 | 5.7 | 2.5 | 3.2 | 4.0 | | | | | | | | |
| 75th Percentile | -4.7 | 4.8 | -3.5 | -3.6 | 4.1 | 1.3 | 2.3 | 3.3 | | | | | | | | |
| 95th Percentile | -6.2 | 1.9 | -6.5 | -5.7 | 1.7 | 0.0 | 1.0 | 2.6 | | | | | | | | |
| # of Portfolios | 209 | 208 | 201 | 197 | 188 | 165 | 130 | 73 | | | | | | | | |
| ● Parametric Core | -4.3 (62) | 5.1 (73) | -1.0 (55) | -2.4 (59) | 4.2 (73) | -- (--) | -- (--) | -- (--) | -- (--) | | | | | | | |
| ▲ MSCI Emerging Markets Gross | -4.1 (57) | 6.2 (65) | -1.6 (61) | -1.0 (42) | 6.4 (38) | 2.7 (46) | 2.8 (64) | 3.7 (63) | | | | | | | | |

Characteristics

| | Portfolio | MSCI Emerging Markets Gross |
|---------------------------------|-----------|--------------------------------|
| Number of Holdings | 1,177 | 1,194 |
| Weighted Avg. Market Cap. (\$B) | 22.2 | 80.2 |
| Median Market Cap. (\$B) | 3.1 | 5.3 |
| Price To Earnings | 12.8 | 13.6 |
| Price To Book | 2.2 | 2.4 |
| Price To Sales | 1.1 | 1.3 |
| Return on Equity (%) | 15.2 | 16.8 |
| Yield (%) | 3.5 | 3.1 |
| Beta (holdings; global) | 0.7 | 0.9 |

Top Holdings

| | |
|--|------|
| SBERBANK OF RUSSIA | 1.1% |
| PJSC GAZPROM ADR (OTC) CDI 1:2 | 1.0% |
| LUKOIL OAO SPN.ADR 1:1 | 0.8% |
| CREDICORP | 0.8% |
| AMERICA MOVIL SAB DE CV SPN.ADR 'L' 1:20 | 0.7% |
| SAMSUNG ELECTRONICS | 0.7% |
| GPO FINANCE BANORTE | 0.6% |
| PJSC MMC NORILSK NICKEL SPN.ADR 10:1 | 0.6% |
| MTN GROUP | 0.6% |
| PETROLEO BRASILEIRO ADR 1:2 | 0.6% |

Best Performers

| | Return % |
|----------------------------------|----------|
| SIAM CITY CEMENT FB (Q:SCCF) | 76.3% |
| NICKEL ASIA (PH:NIK) | 74.0% |
| HLB (KO:KPI) | 65.2% |
| PUBLIC POWER (G:PPC) | 59.0% |
| MIGROS TICARET (TK:MIG) | 57.2% |
| ANADOLU GRUBU HOLDING A (TK:YAZ) | 50.8% |
| SILAM INTL.HOSPS. (ID:SIO) | 50.3% |
| BUMI ARMADA (L:ARMO) | 49.2% |
| VIA VAREJO ON (BR:GLB) | 43.7% |
| MITRA KELUARGA KYST. (ID:MKE) | 43.6% |

Worst Performers

| | Return % |
|--|----------|
| SILLAJEN (KO:JLS) | -84.1% |
| HOUSING DEV.&INFR. (IN:IHD) | -76.9% |
| CENTRAL PUERTO ADR 1:10 (CEPU) | -68.2% |
| BANCO MACRO 'B' SPN.ADR 1:10 (BMA) | -64.3% |
| GRUPO FINANCIERO GALICIA CL.B SHS.SP.NADR 1:10 (GGAL) | -63.4% |
| BBVA BANCO FRANCES ADR 1:3 (BBAR) | -61.7% |
| INDIABULLS REAL ESTATE (IN:IBR) | -60.7% |
| JASTRZEBSKA SPOLKA WEGLOWA (PO:JSW) | -54.6% |
| VIROMED (KO:VIR) | -52.6% |
| LOMA NEGRA SPN.ADR 1:5 (LOMA) | -50.9% |

Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross

| | Attribution Effects | | | | Returns | | Sector Weights | | | | |
|------------------------|---------------------|------------------|-------------------|---------------------|--------------|-----------|----------------|--------------|--------------|---------------|---------------|
| | Total Effects | Selection Effect | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.0% | -0.1% | 0.0% | 0.0% | -3.6% | -3.6% | 10.1% | 7.9% | | | |
| Materials | -0.1% | 0.1% | -0.2% | 0.0% | -8.3% | -10.2% | 10.8% | 7.6% | | | |
| Industrials | -0.1% | 0.1% | -0.1% | -0.1% | -4.6% | -5.5% | 10.1% | 5.6% | | | |
| Consumer Discretionary | 0.0% | 0.1% | 0.0% | 0.0% | -3.6% | -3.2% | 8.3% | 13.5% | | | |
| Consumer Staples | -0.1% | -0.1% | 0.2% | -0.2% | -2.1% | -0.6% | 10.4% | 6.4% | | | |
| Health Care | 0.0% | 0.1% | -0.1% | 0.0% | -4.7% | -6.7% | 4.9% | 2.6% | | | |
| Financials | 0.8% | 0.5% | 0.3% | 0.0% | -5.9% | -7.7% | 16.2% | 25.2% | | | |
| Information Technology | -0.8% | -0.2% | -0.9% | 0.2% | 4.3% | 5.9% | 4.4% | 13.8% | | | |
| Communication Services | 0.2% | 0.3% | 0.0% | -0.1% | -3.6% | -4.9% | 11.0% | 11.5% | | | |
| Utilities | -0.1% | 0.0% | 0.0% | -0.2% | -4.2% | -3.5% | 6.9% | 2.7% | | | |
| Real Estate | 0.0% | 0.1% | -0.2% | 0.1% | -4.8% | -8.7% | 6.6% | 3.0% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 0.2% | 0.0% | | | |
| Unclassified | 0.0% | -- | -- | -- | -- | -- | 0.0% | 0.0% | | | |
| Portfolio | -0.2% | = | 0.8% | + | -0.9% | + | -0.1% | -4.2% | -4.1% | 100.0% | 100.0% |

Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross

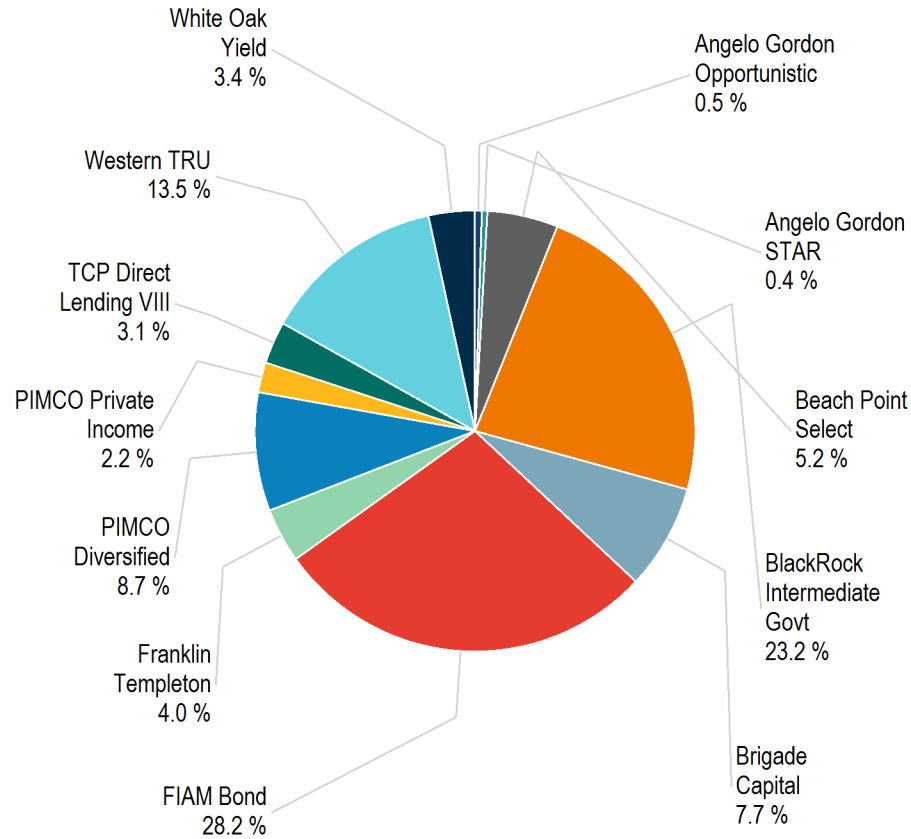
| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|--------------------|---------------------|--------------|----------------|--------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| Europe | | | | | | | | | |
| Czech Republic* | -8.9% | -9.4% | 0.8% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Greece* | -1.3% | -2.9% | 1.9% | 0.3% | 0.0% | 0.1% | -0.1% | 0.0% | 0.0% |
| Hungary* | -7.4% | -3.9% | 0.8% | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Luxembourg | -15.1% | -4.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Netherlands | -10.1% | 3.6% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Poland* | -11.6% | -11.7% | 3.6% | 1.1% | 0.0% | -0.1% | -0.2% | 0.0% | -0.2% |
| Russia* | -1.4% | -1.1% | 7.0% | 4.0% | -0.1% | 0.1% | 0.0% | 0.0% | 0.0% |
| United Kingdom | -4.3% | -2.5% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| AsiaPacific | | | | | | | | | |
| China* | -6.8% | -4.7% | 6.5% | 31.6% | -0.7% | 0.6% | 0.1% | 0.6% | 0.6% |
| Hong Kong | -4.0% | -11.9% | 5.5% | 0.0% | 0.0% | -0.5% | 0.0% | 0.4% | -0.1% |
| India* | -5.5% | -5.2% | 7.5% | 9.0% | -0.1% | 0.0% | 0.1% | 0.0% | 0.0% |
| Indonesia* | -4.7% | -5.3% | 3.6% | 2.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Korea* | -8.4% | -4.7% | 7.1% | 12.4% | -0.5% | 0.0% | 0.2% | 0.2% | -0.1% |
| Malaysia* | -4.7% | -6.4% | 3.3% | 2.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Pakistan* | -3.2% | 1.2% | 0.8% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Philippines* | -5.4% | -4.5% | 3.6% | 1.1% | 0.0% | 0.0% | 0.0% | 0.0% | -0.1% |
| Singapore | -10.8% | -5.8% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Taiwan* | -0.3% | 5.8% | 7.3% | 10.9% | -0.7% | -0.3% | 0.0% | 0.2% | -0.7% |
| Thailand* | -1.8% | -5.9% | 3.5% | 3.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| Americas | | | | | | | | | |
| Argentina* | -- | -46.7% | 0.0% | 0.3% | -- | 0.2% | 0.0% | -- | 0.2% |
| Brazil* | -0.2% | -4.7% | 7.2% | 7.6% | 0.3% | 0.0% | 0.1% | 0.0% | 0.3% |
| Chile* | -7.2% | -7.5% | 3.6% | 0.9% | 0.0% | 0.0% | -0.1% | 0.0% | -0.1% |
| Colombia* | -6.0% | -6.1% | 1.9% | 0.4% | 0.0% | 0.1% | -0.1% | 0.0% | -0.1% |
| Mexico* | -1.3% | -1.6% | 6.7% | 2.6% | 0.0% | 0.1% | -0.1% | 0.0% | 0.0% |
| Peru* | -8.6% | -9.3% | 1.5% | 0.4% | 0.0% | -0.1% | 0.0% | 0.0% | -0.1% |
| United States | 0.5% | 1.6% | 1.6% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% |

Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross

| | Returns and Weights | | | | Attribution Effects | | | | Total Effects |
|-----------------------|---------------------|--------------|----------------|---------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | |
| Other | | | | | | | | | |
| Egypt* | 3.1% | 7.4% | 0.8% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Kuwait** | -2.5% | -4.1% | 0.9% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Qatar* | -1.2% | -0.7% | 1.7% | 1.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Saudi Arabia* | -- | -9.7% | 0.0% | 1.4% | -- | 0.1% | 0.0% | -- | 0.1% |
| South Africa* | -12.1% | -12.2% | 7.1% | 5.9% | 0.0% | 0.0% | -0.1% | 0.0% | -0.1% |
| Turkey* | 11.0% | 11.6% | 2.0% | 0.5% | 0.0% | 0.2% | 0.0% | 0.0% | 0.2% |
| United Arab Emirates* | 2.6% | 0.7% | 1.4% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Totals | | | | | | | | | |
| Americas | -2.6% | -5.6% | 22.4% | 12.3% | 0.1% | 0.3% | -0.2% | 0.1% | 0.3% |
| Europe | -4.9% | -3.6% | 14.6% | 5.9% | -0.1% | 0.2% | -0.3% | -0.1% | -0.3% |
| Asia/Pacific | -4.8% | -3.3% | 48.8% | 72.3% | -1.1% | 0.1% | 0.3% | 0.4% | -0.4% |
| Other | -4.4% | -8.2% | 14.0% | 9.6% | 0.3% | -0.1% | 0.0% | 0.1% | 0.3% |
| Cash | 0.5% | -- | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | -4.2% | -4.1% | 100.0% | 100.0% | -0.8% | 0.4% | -0.2% | 0.5% | -0.2% |
| Totals | | | | | | | | | |
| Developed | -3.5% | -- | 7.8% | 0.0% | 0.0% | 0.0% | 0.0% | -0.1% | -0.1% |
| Emerging* | -4.3% | -4.1% | 91.1% | 100.0% | 0.1% | 0.0% | -0.2% | 0.0% | -0.1% |
| Frontier** | -2.5% | -- | 0.9% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Cash | 0.5% | -- | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

Fixed Income
 Manager Allocation Analysis

Period Ending: September 30, 2019



| | Actual \$ | Actual % | Manager Contribution to Excess Return % |
|-------------------------------------|------------------------|---------------|---|
| Angelo Gordon Opportunistic | \$4,913,000 | 0.5% | 0.0% |
| Angelo Gordon STAR | \$3,619,298 | 0.4% | 0.0% |
| Beach Point Select | \$53,347,131 | 5.2% | 0.0% |
| BlackRock Intermediate Govt | \$236,538,193 | 23.2% | 0.0% |
| Brigade Capital | \$78,960,255 | 7.7% | -0.2% |
| FIAM Bond | \$287,349,195 | 28.2% | 0.0% |
| Franklin Templeton | \$40,915,349 | 4.0% | -0.2% |
| PIMCO Diversified | \$88,839,498 | 8.7% | -0.1% |
| PIMCO Private Income | \$22,116,753 | 2.2% | 0.0% |
| TCP Direct Lending VIII | \$31,904,747 | 3.1% | 0.0% |
| Western TRU | \$137,965,723 | 13.5% | 0.0% |
| White Oak Yield | \$34,301,530 | 3.4% | -0.1% |
| Actual vs. Policy Weight Difference | | | -0.5% |
| Total | \$1,020,770,672 | 100.0% | -1.0% |

Statistics Summary

3 Years

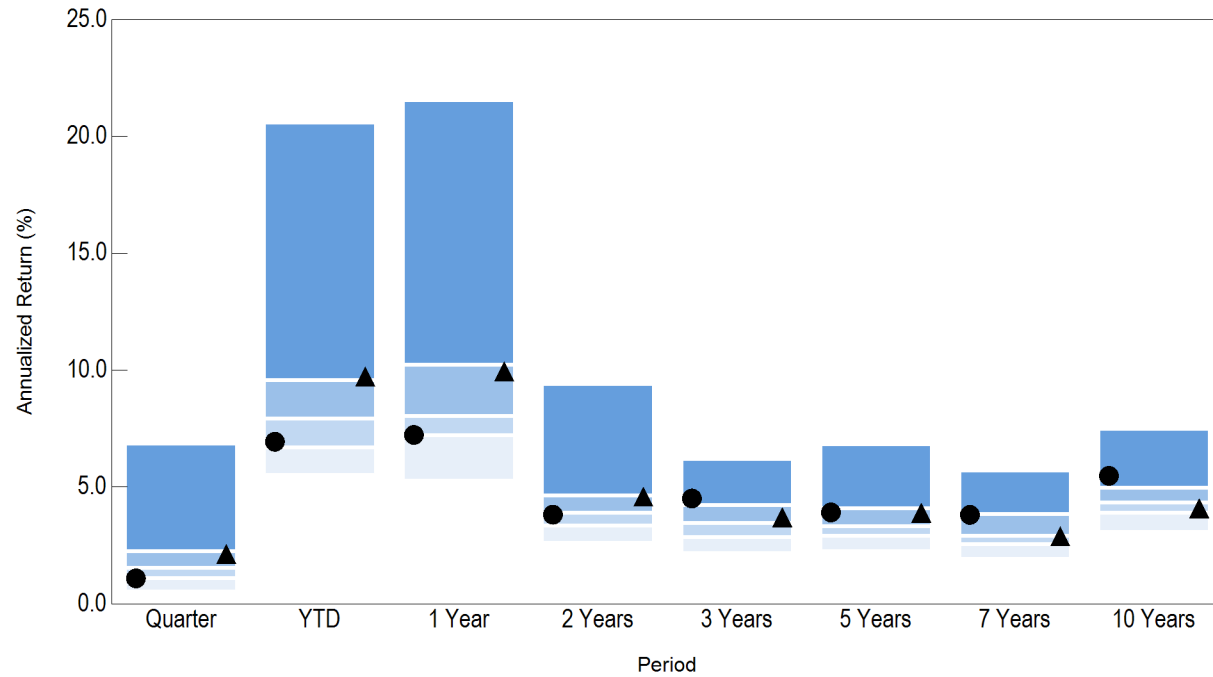
| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|--------------------------------|--------------|--------------------------|--------------|-------------------|----------------|
| Fixed Income | 4.5% | 2.0% | 1.5 | 0.4 | 1.9% |
| Blended Fixed Income Index | 3.7% | 3.0% | 0.7 | -- | 0.0% |
| Core Fixed | 3.2% | 2.5% | 0.6 | 0.2 | 1.2% |
| BBgBarc US Aggregate TR | 2.9% | 3.3% | 0.4 | -- | 0.0% |
| FIAM Bond | 3.3% | 3.2% | 0.5 | 0.7 | 0.5% |
| BBgBarc US Aggregate TR | 2.9% | 3.3% | 0.4 | -- | 0.0% |
| Western TRU | 4.1% | 3.4% | 0.8 | 0.6 | 3.5% |
| 3-Month Libor Total Return USD | 1.9% | 0.2% | 2.1 | -- | 0.0% |
| Opportunistic Credit | 6.5% | 2.7% | 1.9 | 0.4 | 2.6% |
| BBgBarc BA Intermediate HY | 5.5% | 3.6% | 1.1 | -- | 0.0% |
| Angelo Gordon Opportunistic | 17.0% | 9.0% | 1.7 | 1.5 | 9.6% |
| BBgBarc US Aggregate TR | 2.9% | 3.3% | 0.4 | -- | 0.0% |
| Angelo Gordon STAR | 17.5% | 8.6% | 1.9 | 1.7 | 8.8% |
| BBgBarc US Aggregate TR | 2.9% | 3.3% | 0.4 | -- | 0.0% |
| Beach Point Select | 7.4% | 3.0% | 2.0 | 0.7 | 2.6% |
| BBgBarc BA Intermediate HY | 5.5% | 3.6% | 1.1 | -- | 0.0% |
| Brigade Capital | 4.9% | 3.9% | 0.9 | -0.2 | 3.3% |
| BBgBarc BA Intermediate HY | 5.5% | 3.6% | 1.1 | -- | 0.0% |
| Franklin Templeton | 3.4% | 7.2% | 0.3 | 0.2 | 9.3% |
| BBgBarc Multiverse TR | 1.8% | 4.5% | 0.1 | -- | 0.0% |

Statistics Summary

5 Years

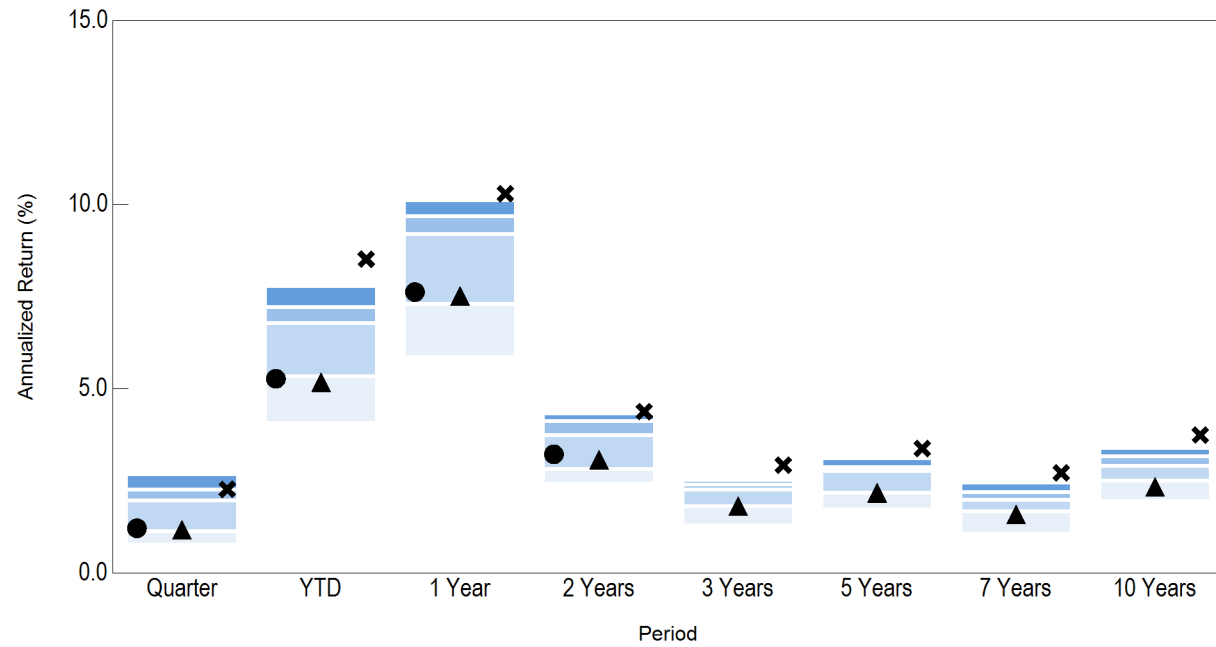
| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|-----------------------------|--------------|--------------------------|--------------|-------------------|----------------|
| Fixed Income | 3.9% | 2.5% | 1.2 | 0.0 | 1.9% |
| Blended Fixed Income Index | 3.9% | 2.9% | 1.0 | -- | 0.0% |
| Core Fixed | 3.5% | 2.7% | 0.9 | 0.1 | 1.6% |
| BBgBarc US Aggregate TR | 3.4% | 3.1% | 0.8 | -- | 0.0% |
| FIAM Bond | 3.8% | 3.1% | 0.9 | 0.5 | 0.8% |
| BBgBarc US Aggregate TR | 3.4% | 3.1% | 0.8 | -- | 0.0% |
| Opportunistic Credit | 5.6% | 3.5% | 1.3 | 0.0 | 3.2% |
| BBgBarc BA Intermediate HY | 5.5% | 4.3% | 1.1 | -- | 0.0% |
| Angelo Gordon Opportunistic | 11.0% | 7.5% | 1.3 | 0.9 | 8.4% |
| BBgBarc US Aggregate TR | 3.4% | 3.1% | 0.8 | -- | 0.0% |
| Angelo Gordon STAR | 12.6% | 7.3% | 1.6 | 1.2 | 7.8% |
| BBgBarc US Aggregate TR | 3.4% | 3.1% | 0.8 | -- | 0.0% |
| Brigade Capital | 3.7% | 6.3% | 0.4 | -0.4 | 4.3% |
| BBgBarc BA Intermediate HY | 5.5% | 4.3% | 1.1 | -- | 0.0% |
| Franklin Templeton | 1.0% | 7.0% | 0.0 | -0.1 | 8.5% |
| BBgBarc Multiverse TR | 2.1% | 4.4% | 0.3 | -- | 0.0% |

InvMetrics All DB Total Fix Inc Net Return Comparison



| | Return (Rank) | | | | | | | |
|------------------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 6.8 | 20.6 | 21.5 | 9.4 | 6.2 | 6.8 | 5.7 | 7.5 |
| 25th Percentile | 2.3 | 9.6 | 10.3 | 4.7 | 4.3 | 4.1 | 3.9 | 5.0 |
| Median | 1.6 | 7.9 | 8.1 | 3.9 | 3.5 | 3.3 | 2.9 | 4.4 |
| 75th Percentile | 1.1 | 6.7 | 7.2 | 3.4 | 2.9 | 2.9 | 2.6 | 3.9 |
| 95th Percentile | 0.5 | 5.5 | 5.3 | 2.6 | 2.2 | 2.3 | 1.9 | 3.1 |
| # of Portfolios | 286 | 285 | 285 | 278 | 263 | 246 | 224 | 178 |
| ● Fixed Income | 1.1 (81) | 6.9 (67) | 7.2 (75) | 3.8 (54) | 4.5 (21) | 3.9 (29) | 3.8 (26) | 5.5 (19) |
| ▲ Blended Fixed Income Index | 2.1 (30) | 9.7 (25) | 9.9 (27) | 4.6 (27) | 3.7 (43) | 3.9 (29) | 2.9 (53) | 4.1 (69) |

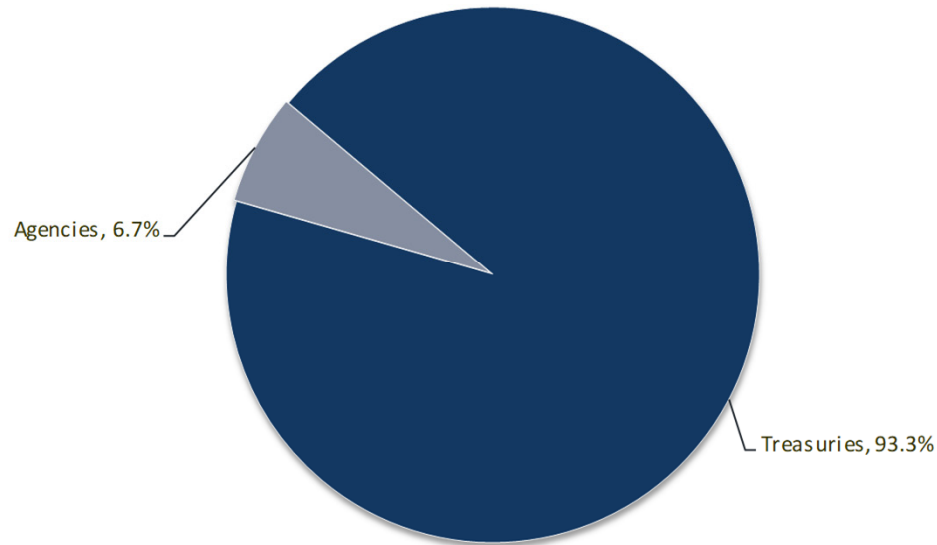
eV US Government Fixed Inc Net Return Comparison



| | Return (Rank) | | | | | | | | | | | | | | | |
|-------------------------------|---------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | Quarter | | YTD | | 1 Year | | 2 Years | | 3 Years | | 5 Years | | 7 Years | | 10 Years | |
| 5th Percentile | 2.7 | 7.8 | 10.1 | 4.3 | 2.5 | 3.1 | 2.4 | 3.4 | 2.7 | 1.1 | 2.0 | 2.2 | 2.9 | 4.1 | 3.2 | 3.7 |
| 25th Percentile | 2.3 | 7.2 | 9.7 | 4.1 | 2.4 | 2.9 | 2.2 | 3.2 | 1.8 | 1.7 | 2.0 | 2.2 | 2.8 | 3.7 | 3.1 | 3.9 |
| Median | 2.0 | 6.8 | 9.2 | 3.7 | 2.3 | 2.8 | 2.0 | 2.9 | 1.8 | 1.7 | 2.0 | 2.2 | 2.8 | 3.7 | 3.1 | 3.9 |
| 75th Percentile | 1.1 | 5.4 | 7.3 | 2.8 | 1.8 | 2.2 | 1.7 | 2.5 | 1.8 | 1.7 | 2.0 | 2.2 | 2.8 | 3.7 | 3.1 | 3.9 |
| 95th Percentile | 0.8 | 4.1 | 5.9 | 2.4 | 1.3 | 1.7 | 1.1 | 2.0 | 1.8 | 1.7 | 2.0 | 2.2 | 2.8 | 3.7 | 3.1 | 3.9 |
| # of Portfolios | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| ● BlackRock Intermediate Govt | 1.2 (72) | 5.3 (77) | 7.6 (69) | 3.2 (58) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) |
| ▲ BBgBarc US Govt Int TR | 1.2 (74) | 5.2 (79) | 7.5 (71) | 3.1 (69) | 1.8 (76) | 2.2 (77) | 1.6 (78) | 2.3 (80) | 1.8 (76) | 1.6 (78) | 2.2 (77) | 1.6 (78) | 2.2 (77) | 1.6 (78) | 2.3 (80) | 2.3 (80) |
| × BBgBarc US Aggregate TR | 2.3 (34) | 8.5 (1) | 10.3 (1) | 4.4 (3) | 2.9 (1) | 3.4 (1) | 2.7 (1) | 3.7 (1) | 2.9 (1) | 2.7 (1) | 3.4 (1) | 2.7 (1) | 3.4 (1) | 2.7 (1) | 3.7 (1) | 3.7 (1) |

BlackRock Intermediate Govt Market Duration Pool
 Bond Sector Allocation

Period Ending: September 30, 2019



| Sector | Account Weight | BBgBarc Intermediate | |
|--------------|----------------|----------------------|-------------|
| | | Govt Weight | Difference |
| Treasuries | 93.3% | 96.9% | -3.6% |
| Agencies | 6.7% | 3.1% | 3.6% |
| Corporates | 0.0% | 0.0% | 0.0% |
| Utilities | 0.0% | 0.0% | 0.0% |
| Foreign | 0.0% | 0.0% | 0.0% |
| MBS | 0.0% | 0.0% | 0.0% |
| CMO | 0.0% | 0.0% | 0.0% |
| ABS | 0.0% | 0.0% | 0.0% |
| Municipals | 0.0% | 0.0% | 0.0% |
| Others/Cash | 0.0% | 0.0% | 0.0% |
| TOTAL | 100.0% | 100.0% | 0.0% |

BlackRock Intermediate Govt Market Duration Pool
 Bond Summary Statistics

Period Ending: September 30, 2019

| Portfolio Characteristics | | Portfolio |
|----------------------------|----|-------------|
| Total Number of Securities | | 259 |
| Total Market Value | \$ | 236,538,193 |
| Current Coupon | | 2.67 |
| Yield to Maturity | | 1.65 |
| Average Life | | 4.05 |
| Duration | | 3.75 |
| Quality | | AA+ |

| BBgBarc Intermediate Govt | |
|---------------------------|------|
| Current Coupon | 2.22 |
| Yield to Maturity | 1.64 |
| Average Life | 4.06 |
| Duration | 3.78 |
| Quality | AA+ |

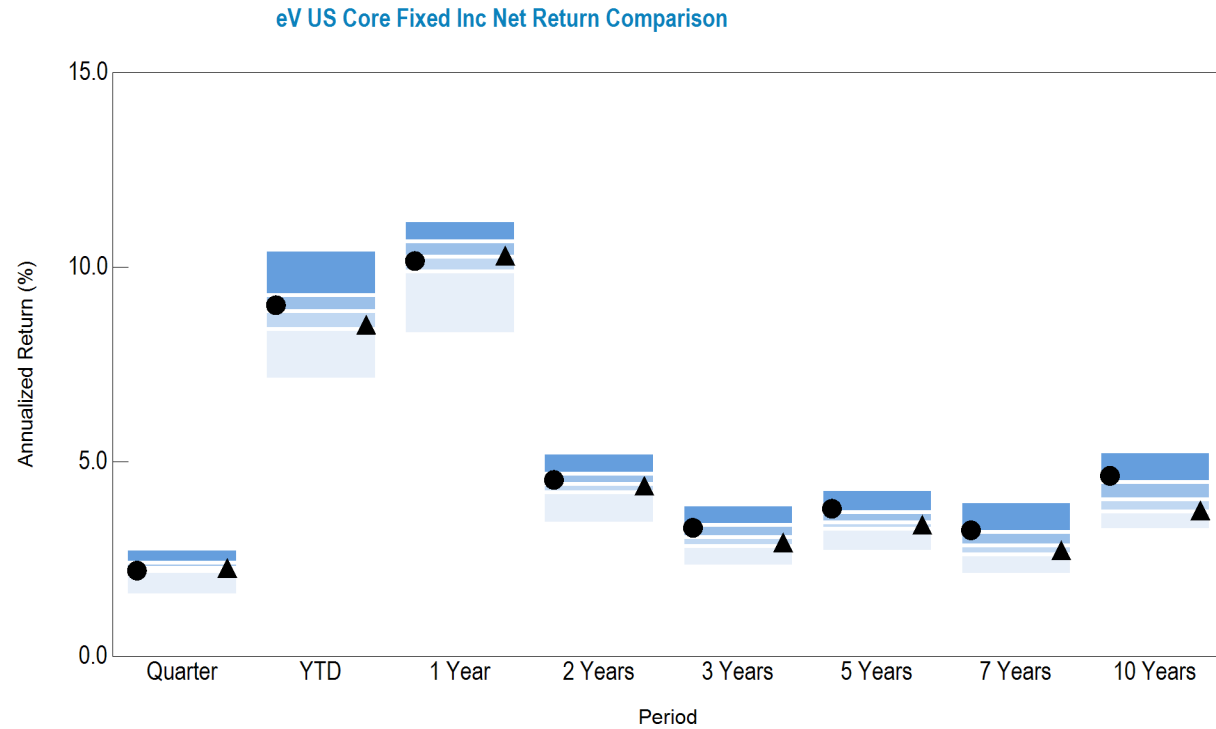
| Yield to Maturity | |
|-------------------|--------|
| Range | % Held |
| 0.0 - 5.0 | 100.0 |
| 5.0 - 7.0 | 0.0 |
| 7.0 - 9.0 | 0.0 |
| 9.0 - 11.0 | 0.0 |
| 11.0 - 13.0 | 0.0 |
| 13.0+ | 0.0 |
| Unclassified | 0.0 |

| Average Life | |
|--------------|--------|
| Range | % Held |
| 0.0 - 1.0 | n/a |
| 1.0 - 3.0 | n/a |
| 3.0 - 5.0 | n/a |
| 5.0 - 10.0 | n/a |
| 10.0 - 20.0 | n/a |
| 20.0+ | n/a |
| Unclassified | n/a |

| Duration | |
|--------------|--------|
| Range | % Held |
| 0.0 - 2.0 | 26.0 |
| 2.0 - 4.0 | 32.8 |
| 4.0 - 6.0 | 22.8 |
| 6.0 - 8.0 | 17.4 |
| 8.0+ | 1.1 |
| Unclassified | 0.0 |

| Quality | |
|-----------------|--------|
| Range | % Held |
| Govt (10) | 0.0 |
| Aaa (10) | 98.5 |
| Aa (9) | 1.6 |
| A (8) | 0.0 |
| Baa (7) | 0.0 |
| Below Baa (6-1) | 0.0 |
| Other | 0.0 |

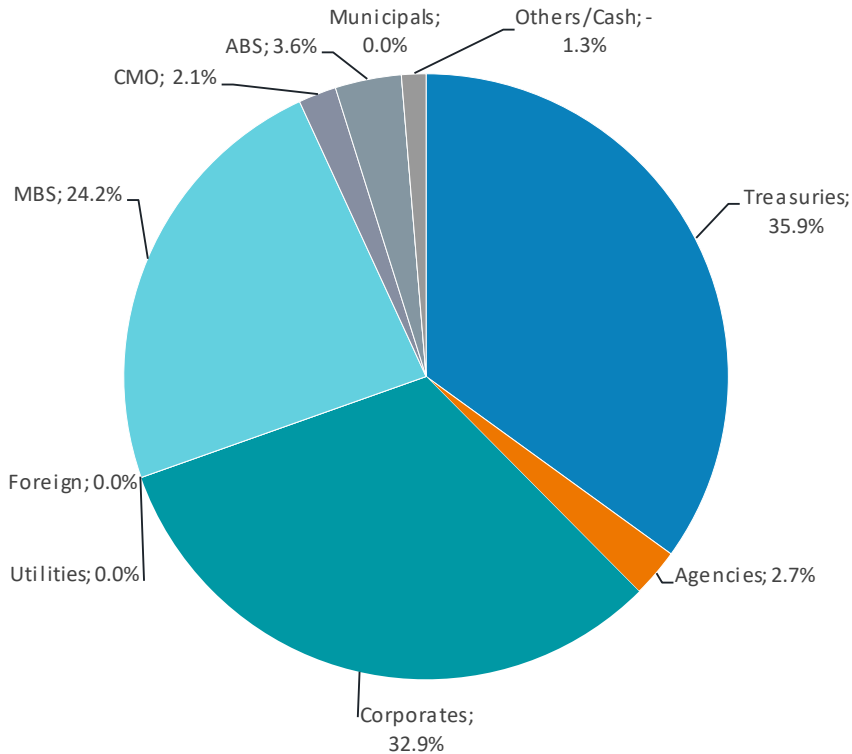
| Coupon | |
|--------------|--------|
| Range | % Held |
| 0.0 - 5.0 | 100.0 |
| 5.0 - 7.0 | 0.0 |
| 7.0 - 9.0 | 0.0 |
| 9.0 - 10.0 | 0.0 |
| 10.0+ | 0.0 |
| Unclassified | 0.0 |



| | Return (Rank) | | | | | | | |
|---------------------------|---------------|----------|-----------|----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 2.8 | 10.4 | 11.2 | 5.2 | 3.9 | 4.3 | 4.0 | 5.3 |
| 25th Percentile | 2.4 | 9.3 | 10.7 | 4.7 | 3.4 | 3.7 | 3.2 | 4.5 |
| Median | 2.3 | 8.9 | 10.3 | 4.4 | 3.1 | 3.5 | 2.9 | 4.0 |
| 75th Percentile | 2.2 | 8.4 | 9.9 | 4.2 | 2.8 | 3.3 | 2.6 | 3.7 |
| 95th Percentile | 1.6 | 7.1 | 8.3 | 3.4 | 2.3 | 2.7 | 2.1 | 3.2 |
| # of Portfolios | 138 | 138 | 137 | 136 | 135 | 133 | 131 | 119 |
| ● FIAM Bond | 2.2 (75) | 9.0 (42) | 10.2 (56) | 4.5 (40) | 3.3 (31) | 3.8 (22) | 3.2 (24) | 4.6 (19) |
| ▲ BBgBarc US Aggregate TR | 2.3 (55) | 8.5 (73) | 10.3 (49) | 4.4 (54) | 2.9 (66) | 3.4 (63) | 2.7 (66) | 3.7 (73) |

FIAM Bond Market Duration Pool
Bond Sector Allocation

Period Ending: September 30, 2019



| Sector | Account Weight | BBgBarc Aggregate | |
|--------------|----------------|-------------------|-------------|
| | | Weight | Difference |
| Treasuries | 35.9% | 39.7% | -3.8% |
| Agencies | 2.7% | 5.8% | -3.1% |
| Corporates | 32.9% | 25.1% | 7.8% |
| Utilities | 0.0% | 0.0% | 0.0% |
| Foreign | 0.0% | 0.0% | 0.0% |
| MBS | 24.2% | 27.0% | -2.8% |
| CMO | 2.1% | 0.0% | 2.1% |
| ABS | 3.6% | 2.5% | 1.2% |
| Municipals | 0.0% | 0.0% | 0.0% |
| Others/Cash | -1.3% | 0.0% | -1.4% |
| TOTAL | 100.0% | 100.0% | 0.0% |

FIAM Bond Market Duration Pool
Bond Summary Statistics

Period Ending: September 30, 2019

| Portfolio Characteristics | | |
|----------------------------|-----------|-------------|
| | Portfolio | |
| Total Number of Securities | | 914 |
| Total Market Value | \$ | 287,349,195 |
| Current Coupon | | 3.36 |
| Yield to Maturity | | 2.55 |
| Average Life | | 8.00 |
| Duration | | 5.43 |
| Quality | | AA- |

| BBgBarc Aggregate | |
|-------------------|------|
| | 3.27 |
| | 2.27 |
| | 7.91 |
| | 5.64 |
| | AA |

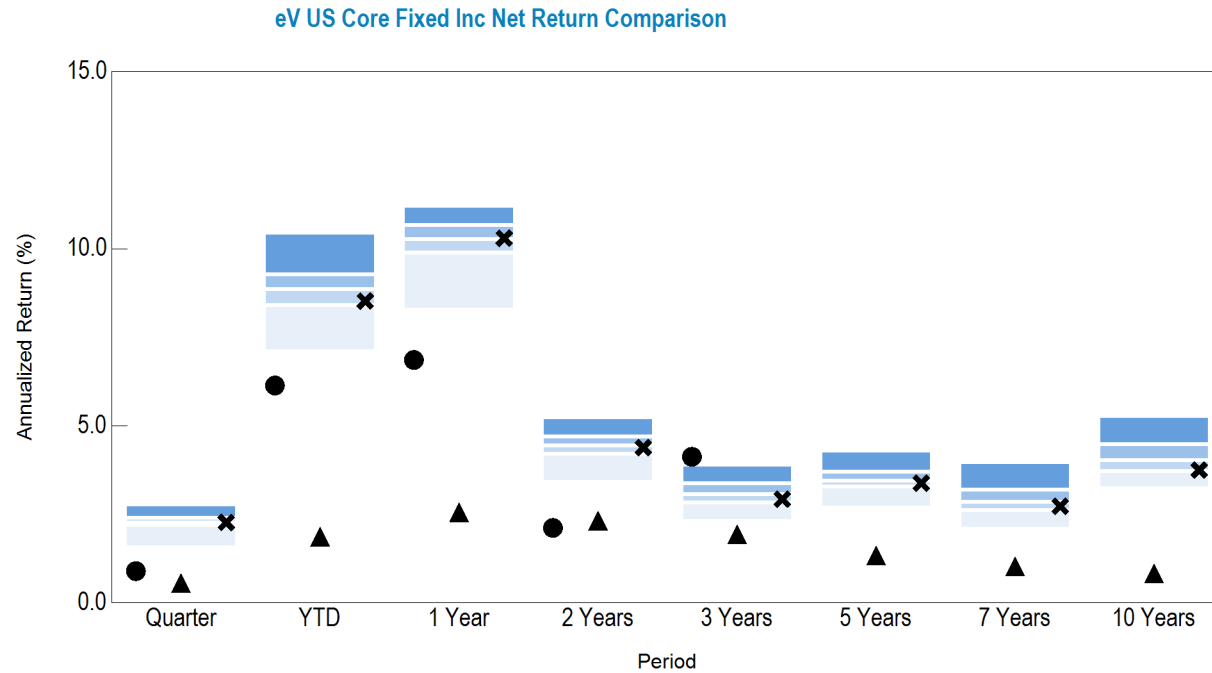
| Yield to Maturity | |
|-------------------|--------|
| Range | % Held |
| 0.0 - 5.0 | 97.5 |
| 5.0 - 7.0 | 1.4 |
| 7.0 - 9.0 | 0.9 |
| 9.0 - 11.0 | 0.0 |
| 11.0 - 13.0 | 0.0 |
| 13.0+ | 0.1 |
| Unclassified | 0.0 |

| Average Life | |
|--------------|--------|
| Range | % Held |
| 0.0 - 1.0 | 1.1 |
| 1.0 - 3.0 | 16.4 |
| 3.0 - 5.0 | 31.4 |
| 5.0 - 10.0 | 35.5 |
| 10.0 - 20.0 | 4.2 |
| 20.0+ | 11.5 |
| Unclassified | 0.0 |

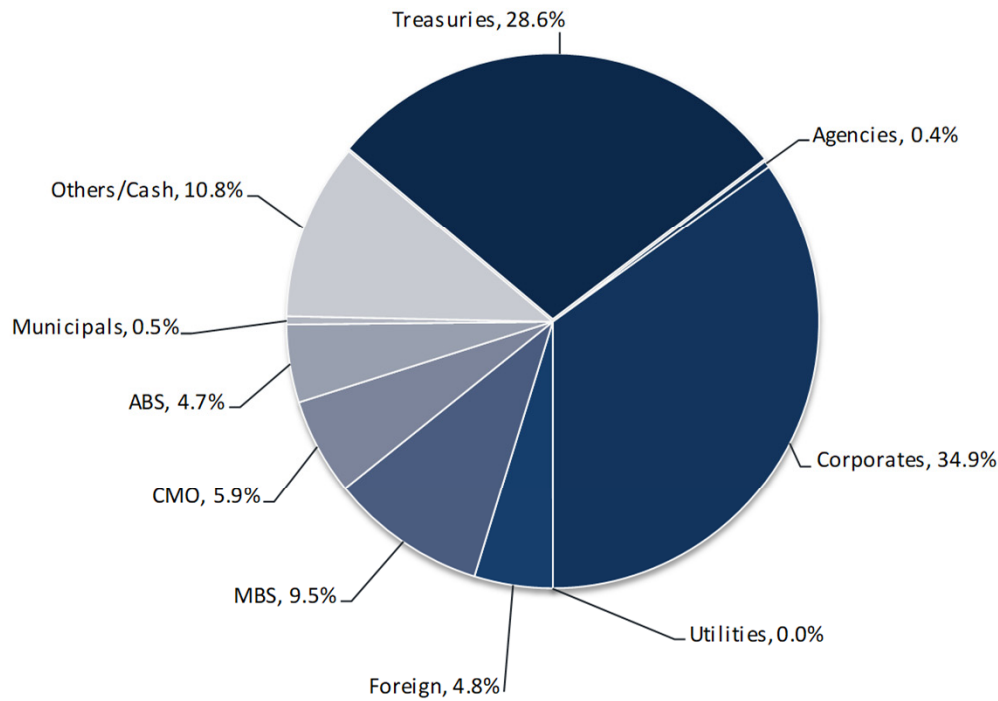
| Duration | |
|--------------|--------|
| Range | % Held |
| 0.0 - 1.0 | 2.8 |
| 1.0 - 3.0 | 31.4 |
| 3.0 - 5.0 | 28.6 |
| 5.0 - 7.0 | 12.7 |
| 7.0 - 10.0 | 9.0 |
| 10.0+ | 15.5 |
| Unclassified | 0.0 |

| Quality | |
|-----------------|--------|
| Range | % Held |
| Govt (10) | 61.4 |
| Aaa (10) | 2.1 |
| Aa (9) | 1.9 |
| A (8) | 15.1 |
| Baa (7) | 19.6 |
| Below Baa (6-1) | 0.6 |
| Other | -0.7 |

| Coupon | |
|--------------|--------|
| Range | % Held |
| 0.0 - 5.0 | 87.9 |
| 5.0 - 7.0 | 9.3 |
| 7.0 - 9.0 | 1.2 |
| 9.0 - 11.0 | 0.0 |
| 11.0 - 13.0 | 0.0 |
| 13.0+ | 1.7 |
| Unclassified | 0.0 |



| | Return (Rank) | | | | | | | |
|----------------------------------|---------------|----------|-----------|----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 2.8 | 10.4 | 11.2 | 5.2 | 3.9 | 4.3 | 4.0 | 5.3 |
| 25th Percentile | 2.4 | 9.3 | 10.7 | 4.7 | 3.4 | 3.7 | 3.2 | 4.5 |
| Median | 2.3 | 8.9 | 10.3 | 4.4 | 3.1 | 3.5 | 2.9 | 4.0 |
| 75th Percentile | 2.2 | 8.4 | 9.9 | 4.2 | 2.8 | 3.3 | 2.6 | 3.7 |
| 95th Percentile | 1.6 | 7.1 | 8.3 | 3.4 | 2.3 | 2.7 | 2.1 | 3.2 |
| # of Portfolios | 138 | 138 | 137 | 136 | 135 | 133 | 131 | 119 |
| ● Western TRU | 0.9 (99) | 6.1 (98) | 6.9 (99) | 2.1 (99) | 4.1 (5) | -- (--) | -- (--) | -- (--) |
| ▲ 3-Month Libor Total Return USD | 0.6 (99) | 1.9 (99) | 2.6 (99) | 2.3 (99) | 1.9 (98) | 1.3 (99) | 1.0 (99) | 0.8 (99) |
| ✕ BBgBarc US Aggregate TR | 2.3 (55) | 8.5 (73) | 10.3 (49) | 4.4 (54) | 2.9 (66) | 3.4 (63) | 2.7 (66) | 3.7 (73) |



| Sector | Account Weight | BBgBarc Aggregate | |
|--------------|----------------|-------------------|--------------|
| | | Weight | Difference |
| Treasuries | 28.6% | 39.7% | -11.1% |
| Agencies | 0.4% | 5.8% | -5.4% |
| Corporates | 34.9% | 25.1% | 9.9% |
| Utilities | 0.0% | 0.0% | 0.0% |
| Foreign | 4.8% | 0.0% | 4.8% |
| MBS | 9.5% | 27.0% | -17.6% |
| CMO | 5.9% | 0.0% | 5.9% |
| ABS | 4.7% | 2.5% | 2.3% |
| Municipals | 0.5% | 0.0% | 0.5% |
| Others/Cash | 10.8% | 0.0% | 10.7% |
| TOTAL | 100.0% | 100.0% | -0.1% |

| Portfolio Characteristics | | Portfolio | BBgBarc Aggregate |
|----------------------------|----|-------------|-------------------|
| Total Number of Securities | | 5,108 | |
| Total Market Value | \$ | 137,965,723 | |
| Current Coupon | | 4.59 | 3.27 |
| Yield to Maturity | | 4.71 | 2.27 |
| Average Life | | 8.53 | 7.91 |
| Duration | | 1.83 | 5.64 |
| Quality | | A | AA |

| Yield to Maturity | |
|-------------------|--------|
| Range | % Held |
| 0.0 - 5.0 | 72.7 |
| 5.0 - 7.0 | 22.3 |
| 7.0 - 9.0 | 5.8 |
| 9.0 - 11.0 | 0.9 |
| 11.0 - 13.0 | 0.7 |
| 13.0+ | 1.8 |
| Unclassified | -4.2 |

| Average Life | |
|--------------|--------|
| Range | % Held |
| 0.0 - 1.0 | 16.7 |
| 1.0 - 3.0 | 16.0 |
| 3.0 - 5.0 | 19.0 |
| 5.0 - 10.0 | 15.6 |
| 10.0 - 20.0 | 14.1 |
| 20.0+ | 18.6 |
| Unclassified | 0.0 |

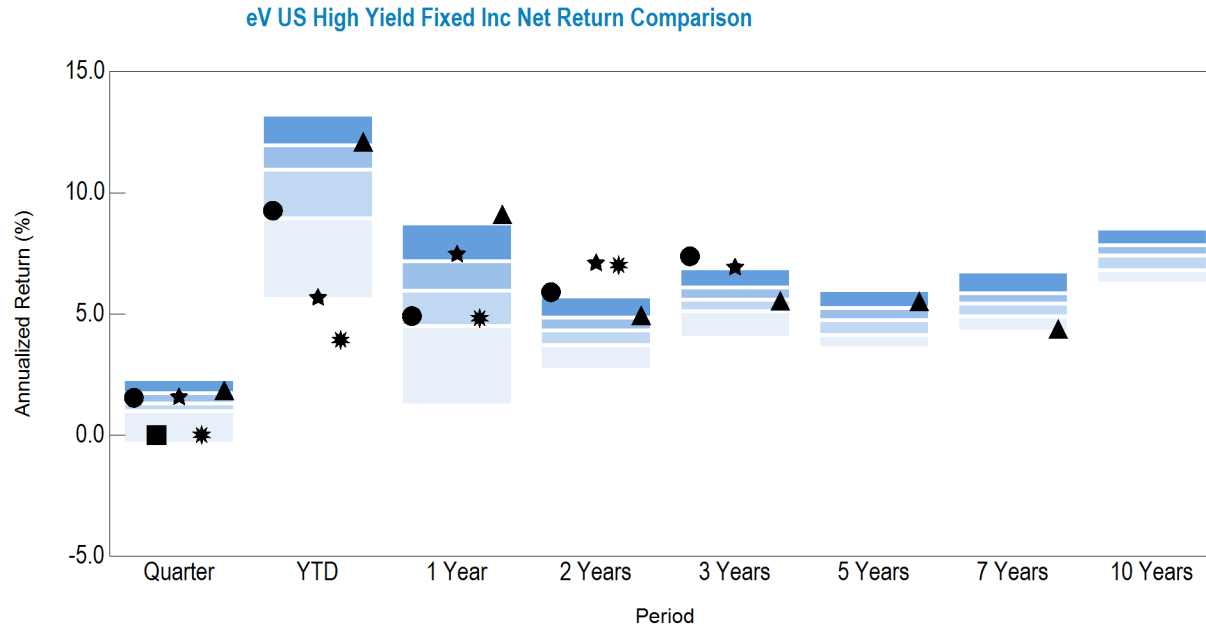
| Duration | |
|--------------|--------|
| Range | % Held |
| < 1.0 | 29.6 |
| 1.0 - 3.0 | 15.9 |
| 3.0 - 5.0 | 16.5 |
| 5.0 - 7.0 | 18.1 |
| 7.0 - 10.0 | 3.8 |
| 10.0+ | 16.2 |
| Unclassified | 0.0 |

*Unclassified includes negative YTM

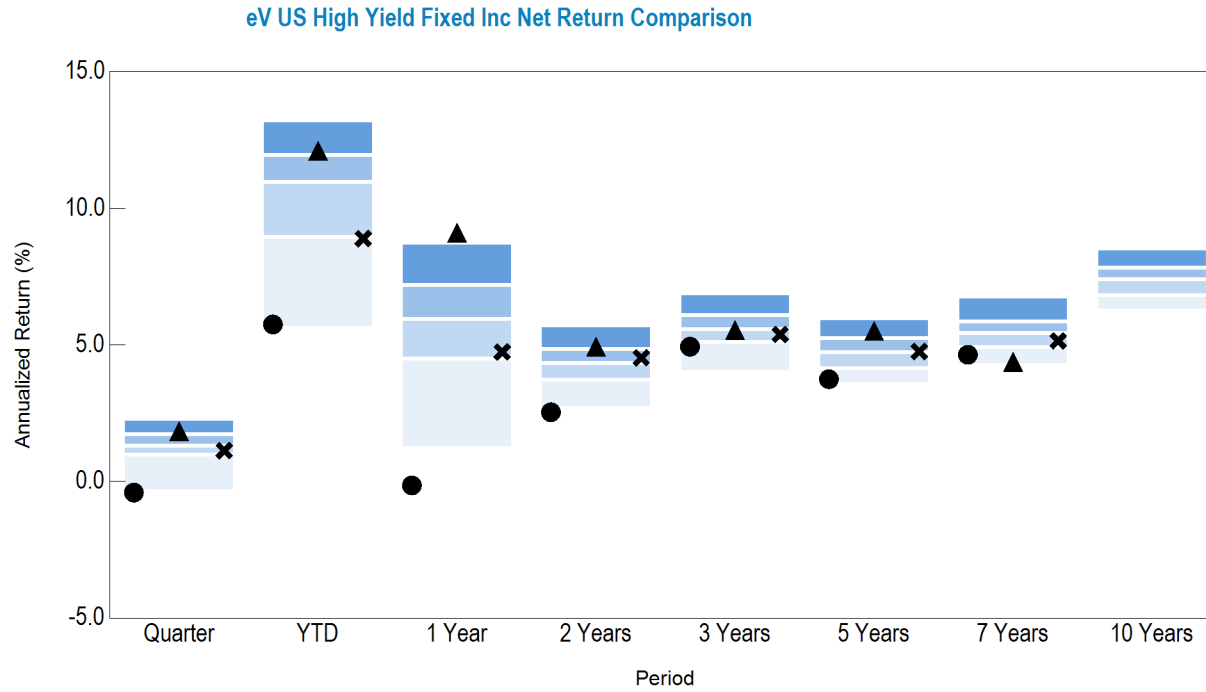
| Quality | |
|-----------------|--------|
| Range | % Held |
| Govt* (10) | 5.8 |
| Aaa (10) | 19.9 |
| Aa (9) | 2.1 |
| A (8) | 19.9 |
| Baa (7) | 26.5 |
| Below Baa (6-1) | 25.1 |
| Other | 0.5 |

| Coupon | |
|--------------|--------|
| Range | % Held |
| 0.0 - 5.0 | 53.6 |
| 5.0 - 7.0 | 27.3 |
| 7.0 - 9.0 | 13.6 |
| 9.0 - 10.0 | 0.6 |
| 10.0+ | 4.9 |
| Unclassified | 0.0 |

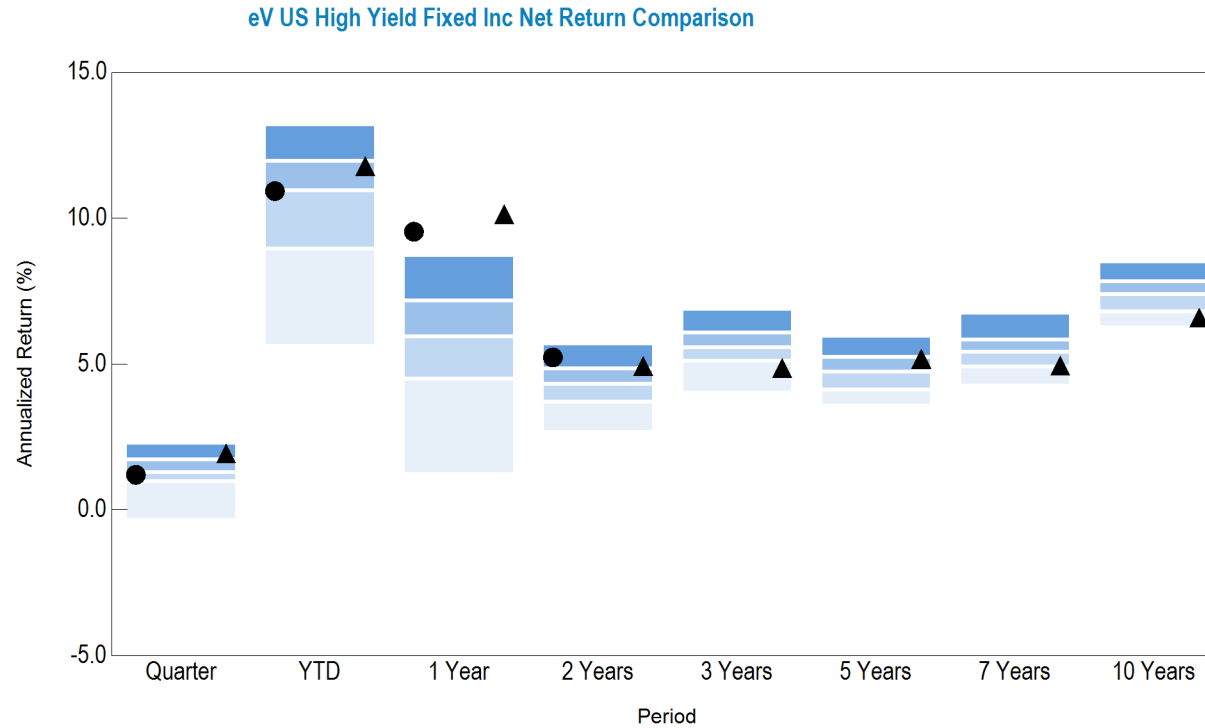
*Govt is specifically U.S Govt securities



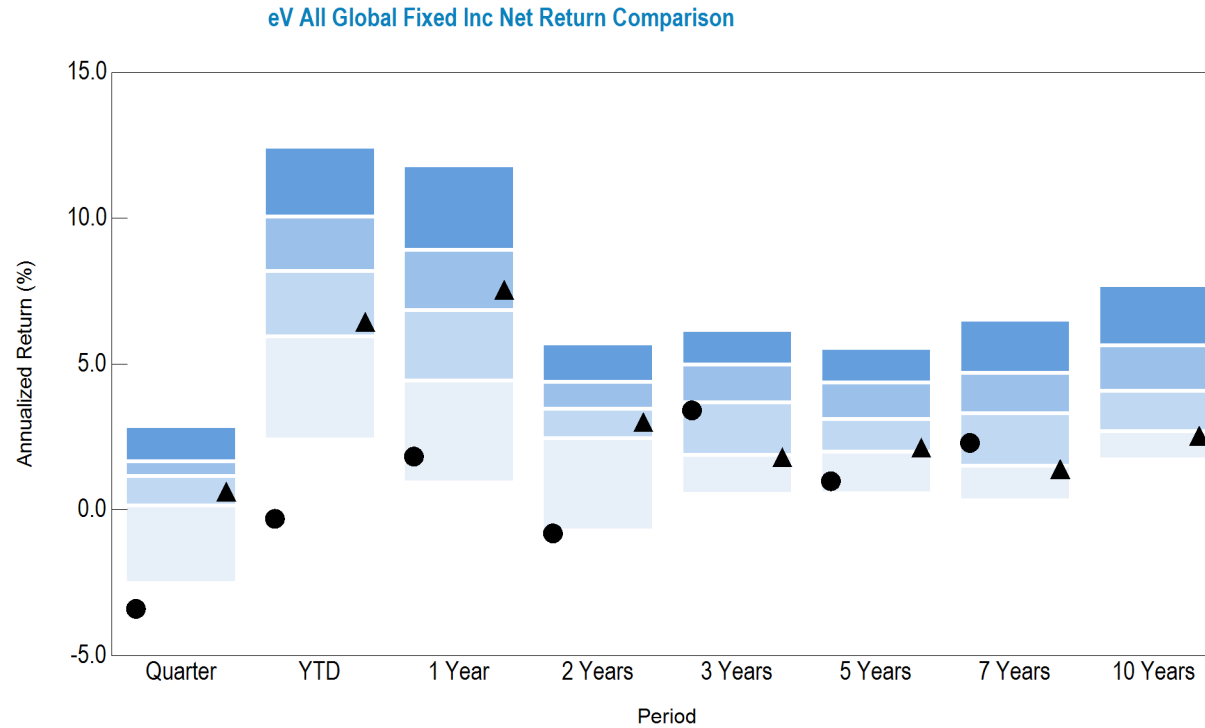
| | Return (Rank) | | | | | | | |
|------------------------------|---------------|-----------|----------|----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 2.3 | 13.2 | 8.7 | 5.7 | 6.9 | 6.0 | 6.7 | 8.5 |
| 25th Percentile | 1.7 | 12.0 | 7.2 | 4.9 | 6.1 | 5.3 | 5.9 | 7.8 |
| Median | 1.3 | 11.0 | 6.0 | 4.3 | 5.6 | 4.7 | 5.4 | 7.4 |
| 75th Percentile | 1.0 | 9.0 | 4.5 | 3.7 | 5.1 | 4.1 | 4.9 | 6.8 |
| 95th Percentile | -0.3 | 5.6 | 1.2 | 2.7 | 4.0 | 3.6 | 4.3 | 6.3 |
| # of Portfolios | 137 | 137 | 137 | 136 | 132 | 119 | 99 | 79 |
| ● Beach Point Select | 1.5 (40) | 9.3 (72) | 4.9 (72) | 5.9 (4) | 7.4 (2) | -- (--) | -- (--) | -- (--) |
| ■ PIMCO Private Income | 0.0 (92) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) | -- (--) |
| ★ TCP Direct Lending VIII | 1.6 (38) | 5.7 (95) | 7.5 (22) | 7.1 (1) | 6.9 (4) | -- (--) | -- (--) | -- (--) |
| * White Oak Yield | 0.0 (92) | 3.9 (98) | 4.8 (73) | 7.0 (1) | -- (--) | -- (--) | -- (--) | -- (--) |
| ▲ BBgBarc BA Intermediate HY | 1.8 (19) | 12.1 (23) | 9.1 (4) | 4.9 (22) | 5.5 (54) | 5.5 (15) | 4.4 (92) | -- (--) |



| | Return (Rank) | | | | | | | |
|----------------------------------|---------------|-----------|-----------|----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 2.3 | 13.2 | 8.7 | 5.7 | 6.9 | 6.0 | 6.7 | 8.5 |
| 25th Percentile | 1.7 | 12.0 | 7.2 | 4.9 | 6.1 | 5.3 | 5.9 | 7.8 |
| Median | 1.3 | 11.0 | 6.0 | 4.3 | 5.6 | 4.7 | 5.4 | 7.4 |
| 75th Percentile | 1.0 | 9.0 | 4.5 | 3.7 | 5.1 | 4.1 | 4.9 | 6.8 |
| 95th Percentile | -0.3 | 5.6 | 1.2 | 2.7 | 4.0 | 3.6 | 4.3 | 6.3 |
| # of Portfolios | 137 | 137 | 137 | 136 | 132 | 119 | 99 | 79 |
| ● Brigade Capital | -0.4 (96) | 5.7 (95) | -0.1 (98) | 2.5 (97) | 4.9 (80) | 3.7 (91) | 4.6 (85) | -- (--) |
| ▲ BBgBarc BA Intermediate HY | 1.8 (19) | 12.1 (23) | 9.1 (4) | 4.9 (22) | 5.5 (54) | 5.5 (15) | 4.4 (92) | -- (--) |
| ✕ 50% Barclays HY/ 50% Bank Loan | 1.1 (65) | 8.9 (76) | 4.7 (73) | 4.5 (44) | 5.4 (63) | 4.8 (50) | 5.1 (69) | -- (--) |



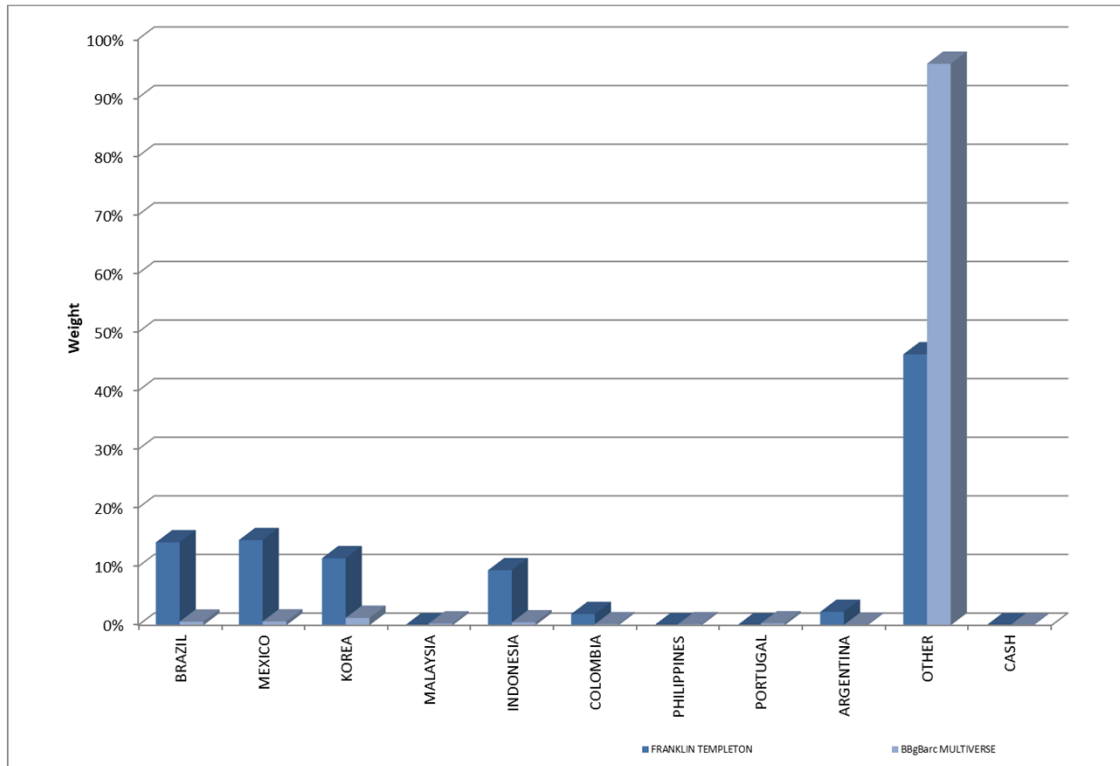
| | Return (Rank) | | | | | | | |
|-----------------------------------|---------------|-----------|----------|----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 2.3 | 13.2 | 8.7 | 5.7 | 6.9 | 6.0 | 6.7 | 8.5 |
| 25th Percentile | 1.7 | 12.0 | 7.2 | 4.9 | 6.1 | 5.3 | 5.9 | 7.8 |
| Median | 1.3 | 11.0 | 6.0 | 4.3 | 5.6 | 4.7 | 5.4 | 7.4 |
| 75th Percentile | 1.0 | 9.0 | 4.5 | 3.7 | 5.1 | 4.1 | 4.9 | 6.8 |
| 95th Percentile | -0.3 | 5.6 | 1.2 | 2.7 | 4.0 | 3.6 | 4.3 | 6.3 |
| # of Portfolios | 137 | 137 | 137 | 136 | 132 | 119 | 99 | 79 |
| ● PIMCO Diversified | 1.2 (58) | 10.9 (51) | 9.5 (2) | 5.2 (11) | -- (--) | -- (--) | -- (--) | -- (--) |
| ▲ Blended PIMCO Diversified Index | 1.9 (14) | 11.8 (31) | 10.1 (1) | 4.9 (22) | 4.9 (82) | 5.2 (31) | 4.9 (75) | 6.6 (87) |



| | Return (Rank) | | | | | | | |
|-------------------------|---------------|-----------|----------|-----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 2.9 | 12.4 | 11.8 | 5.7 | 6.2 | 5.6 | 6.5 | 7.7 |
| 25th Percentile | 1.7 | 10.1 | 8.9 | 4.4 | 5.0 | 4.4 | 4.7 | 5.7 |
| Median | 1.2 | 8.2 | 6.9 | 3.5 | 3.7 | 3.1 | 3.3 | 4.1 |
| 75th Percentile | 0.2 | 6.0 | 4.4 | 2.5 | 1.9 | 2.0 | 1.5 | 2.7 |
| 95th Percentile | -2.5 | 2.4 | 1.0 | -0.7 | 0.6 | 0.6 | 0.3 | 1.7 |
| # of Portfolios | 227 | 225 | 216 | 212 | 205 | 186 | 161 | 108 |
| ● Franklin Templeton | -3.4 (98) | -0.3 (99) | 1.8 (92) | -0.8 (96) | 3.4 (57) | 1.0 (91) | 2.3 (63) | -- (--) |
| ▲ BBgBarc Multiverse TR | 0.6 (65) | 6.5 (70) | 7.5 (40) | 3.0 (64) | 1.8 (77) | 2.1 (70) | 1.4 (77) | 2.5 (85) |

Franklin Templeton
Portfolio Country Weights

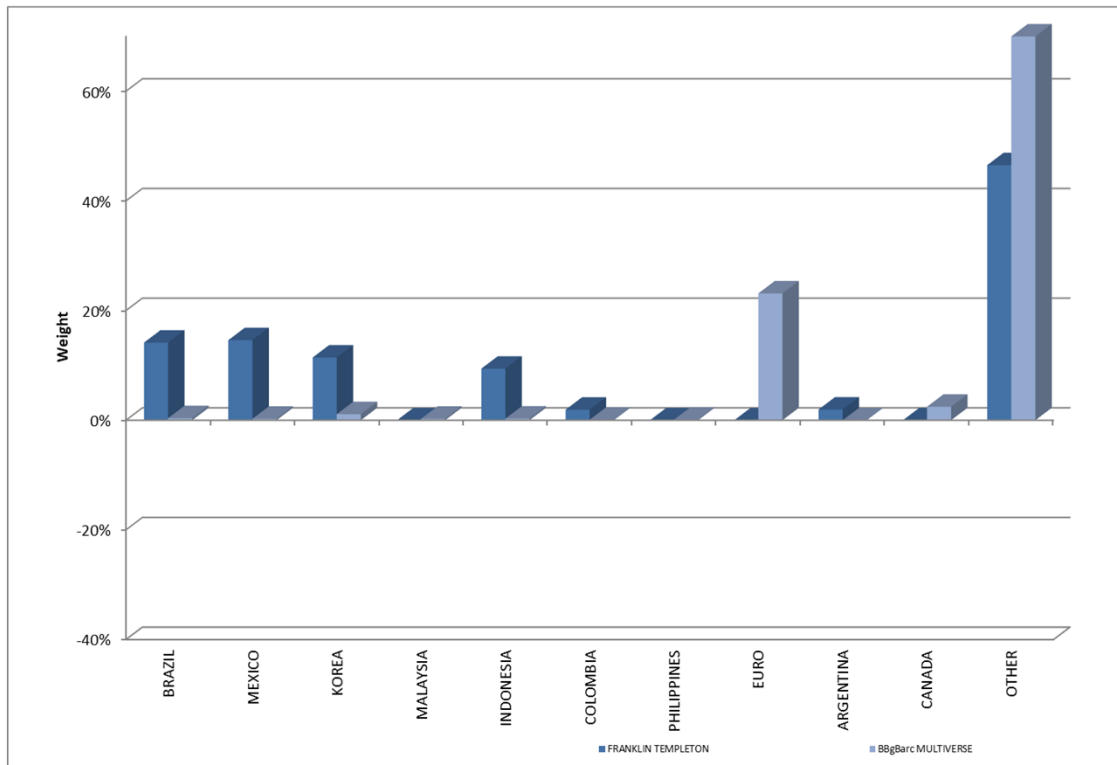
Period Ending: September 30, 2019



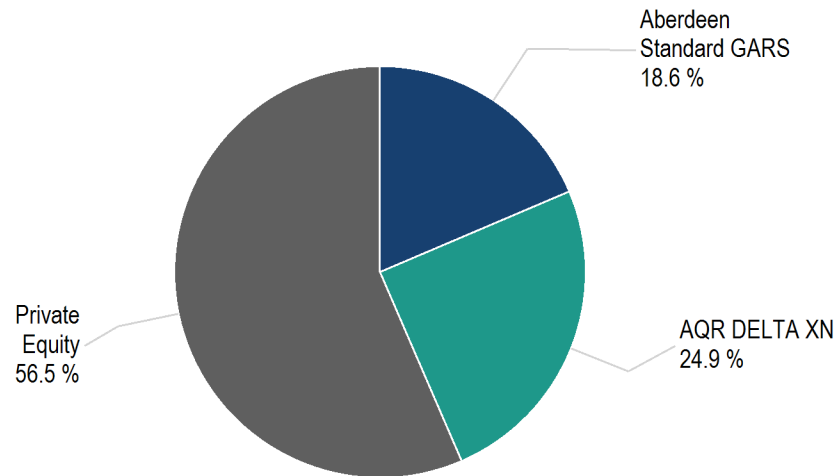
| COUNTRY | MARKET VALUE | FRANKLIN TEMPLETON | BBgBarc MULTIVERSE | DIFF |
|-------------|--------------|--------------------|--------------------|--------|
| BRAZIL | \$ 5,792 | 14.2% | 0.6% | +13.5% |
| MEXICO | \$ 5,951 | 14.5% | 0.7% | +13.9% |
| KOREA | \$ 4,680 | 11.4% | 1.3% | +10.2% |
| MALAYSIA | \$ - | 0.0% | 0.3% | -0.3% |
| INDONESIA | \$ 3,847 | 9.4% | 0.5% | +8.9% |
| COLOMBIA | \$ 786 | 1.9% | 0.2% | +1.7% |
| PHILIPPINES | \$ - | 0.0% | 0.2% | -0.2% |
| PORTUGAL | \$ - | 0.0% | 0.3% | -0.3% |
| ARGENTINA | \$ 938 | 2.3% | 0.1% | +2.2% |
| OTHER | \$ 18,921 | 46.2% | 95.8% | -49.6% |
| CASH | \$ - | 0.0% | 0.0% | 0.0% |
| | \$ 40,915 | 100.0% | 100.0% | 0.0% |

Franklin Templeton
Portfolio Currency Exposures

Period Ending: September 30, 2019



| CURRENCY | MARKET VALUE | FRANKLIN TEMPLETON | BBgBarc MULTIVERSE | DIFF |
|-------------|--------------|--------------------|--------------------|--------|
| BRAZIL | \$ 5,792 | 14.2% | 0.4% | +13.8% |
| MEXICO | \$ 5,974 | 14.6% | 0.3% | +14.3% |
| KOREA | \$ 4,680 | 11.4% | 1.1% | +10.3% |
| MALAYSIA | \$ - | 0.0% | 0.3% | -0.3% |
| INDONESIA | \$ 3,847 | 9.4% | 0.3% | +9.1% |
| COLOMBIA | \$ 786 | 1.9% | 0.1% | +1.8% |
| PHILIPPINES | \$ - | 0.0% | 0.1% | -0.1% |
| EURO | \$ 1 | 0.0% | 23.1% | -23.1% |
| ARGENTINA | \$ 800 | 2.0% | 0.0% | +2.0% |
| CANADA | \$ - | 0.0% | 2.5% | -2.5% |
| OTHER | \$ 19,035 | 46.5% | 71.9% | -25.3% |
| | \$ 40,915 | 100.0% | 100.0% | 0.0% |



| | Actual \$ | Actual % | Manager Contribution to Excess Return % |
|-------------------------------------|----------------------|---------------|---|
| Aberdeen Standard GARS | \$104,074,795 | 18.6% | 0.0% |
| AQR DELTA XN | \$138,918,173 | 24.9% | -0.7% |
| Private Equity | \$315,113,728 | 56.5% | 6.4% |
| Actual vs. Policy Weight Difference | | | -0.1% |
| Total | \$558,106,696 | 100.0% | 5.6% |

Statistics Summary

3 Years

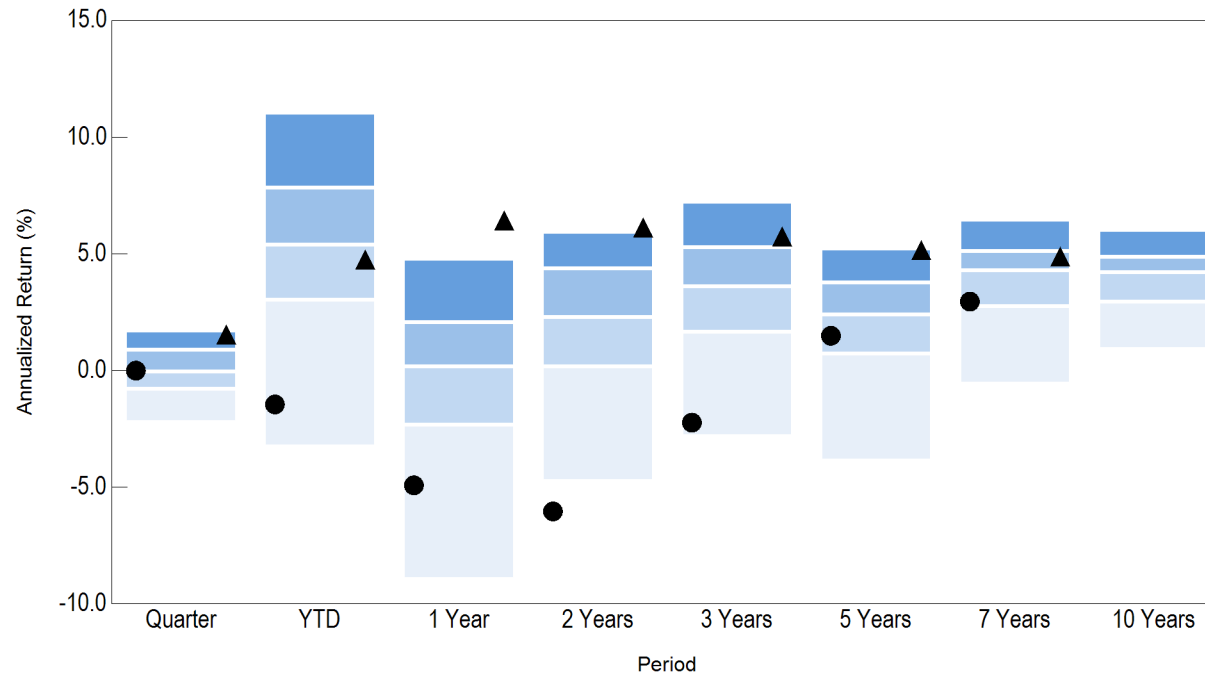
| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Alternatives | 8.7% | 6.7% | 1.1 | -0.3 | 7.9% |
| Blended Alternatives Index | 10.9% | 6.5% | 1.4 | -- | 0.0% |
| Private Equity | 19.4% | 11.3% | 1.6 | 0.3 | 14.4% |
| Blended Private Equity Index | 15.1% | 12.7% | 1.1 | -- | 0.0% |
| Hedge Fund/Absolute Return | -2.2% | 4.6% | -0.8 | -1.7 | 4.7% |
| Libor 1 month +4% | 5.7% | 0.2% | 20.7 | -- | 0.0% |
| AQR DELTA XN | -5.3% | 6.0% | -1.2 | -1.8 | 6.1% |
| Libor 1 month +4% | 5.7% | 0.2% | 20.7 | -- | 0.0% |
| Aberdeen Standard GARS | 2.4% | 3.6% | 0.2 | -0.9 | 3.7% |
| Libor 1 month +4% | 5.7% | 0.2% | 20.7 | -- | 0.0% |

Statistics Summary

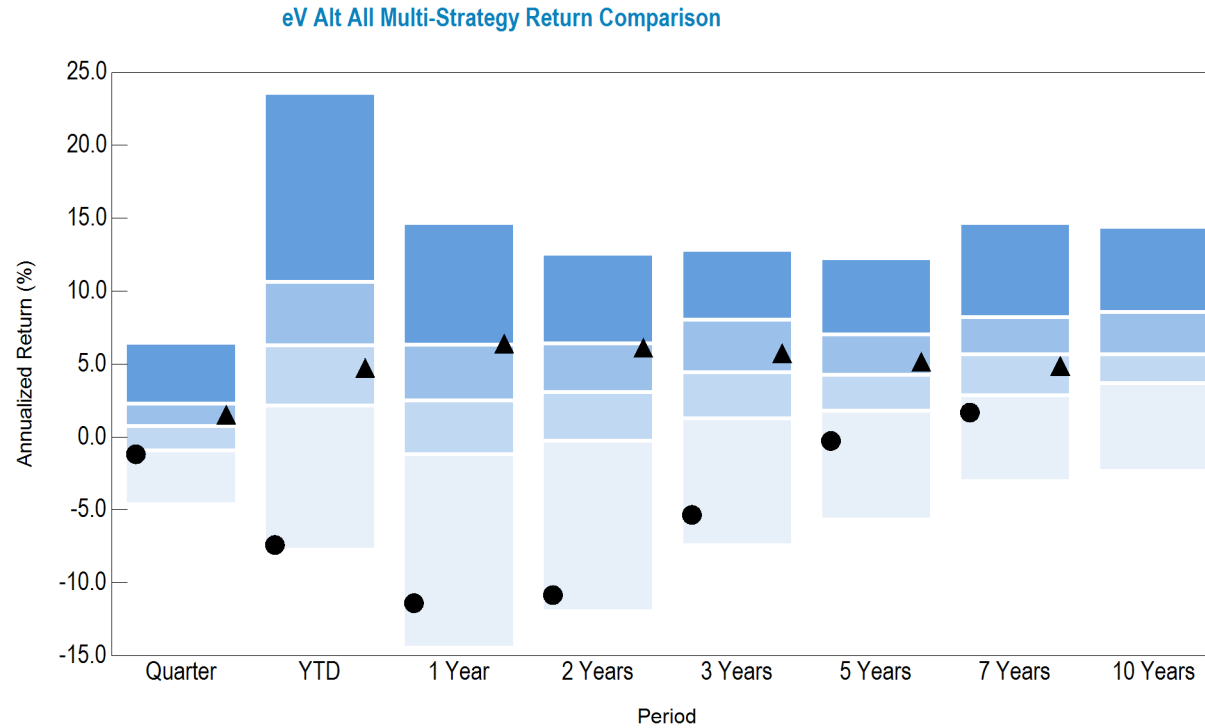
5 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Alternatives | 7.9% | 6.2% | 1.1 | 0.0 | 7.5% |
| Blended Alternatives Index | 7.6% | 6.4% | 1.0 | -- | 0.0% |
| Private Equity | 18.9% | 11.0% | 1.6 | 0.4 | 14.4% |
| Blended Private Equity Index | 13.0% | 12.2% | 1.0 | -- | 0.0% |
| Hedge Fund/Absolute Return | 1.5% | 5.2% | 0.1 | -0.7 | 5.3% |
| Libor 1 month +4% | 5.2% | 0.3% | 16.1 | -- | 0.0% |
| AQR DELTA XN | -0.3% | 6.2% | -0.2 | -0.9 | 6.3% |
| Libor 1 month +4% | 5.2% | 0.3% | 16.1 | -- | 0.0% |

InvMetrics All DB Hedge Funds Net Return Comparison

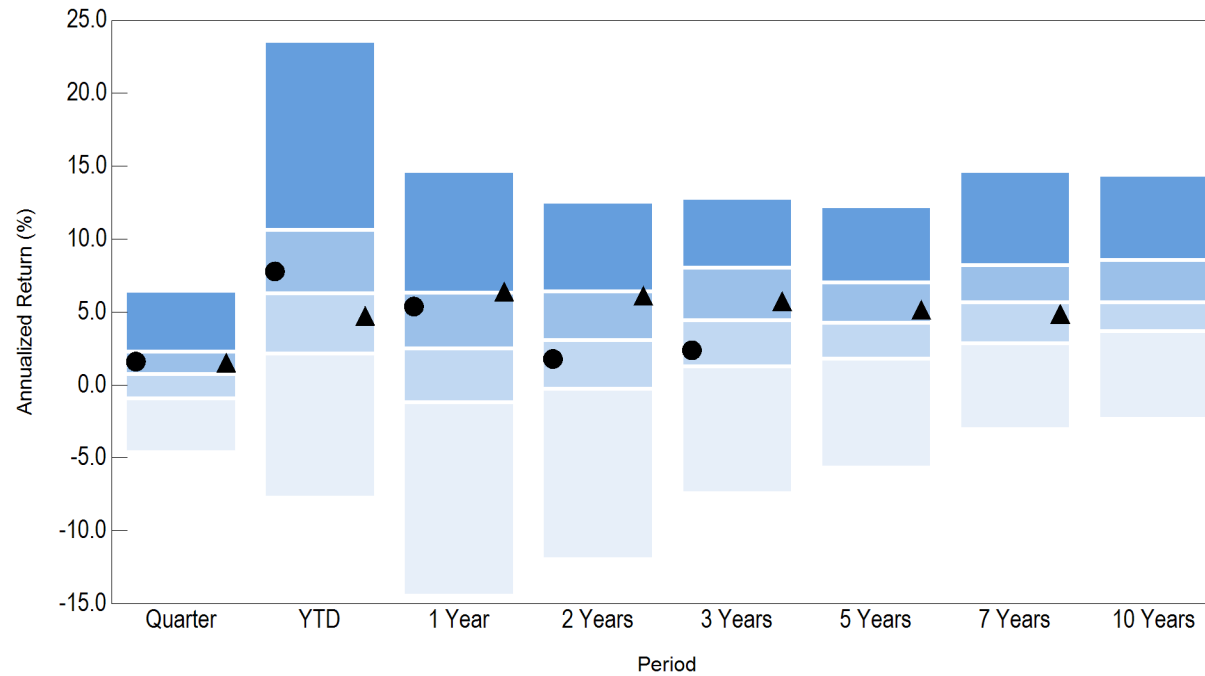


| | Return (Rank) | | | | | | | |
|------------------------------|---------------|-----------|-----------|-----------|-----------|----------|----------|---------|
| 5th Percentile | 1.7 | 11.0 | 4.8 | 5.9 | 7.2 | 5.2 | 6.4 | 6.0 |
| 25th Percentile | 0.9 | 7.8 | 2.1 | 4.4 | 5.3 | 3.8 | 5.1 | 4.9 |
| Median | 0.0 | 5.4 | 0.2 | 2.3 | 3.6 | 2.4 | 4.3 | 4.2 |
| 75th Percentile | -0.8 | 3.0 | -2.3 | 0.2 | 1.7 | 0.8 | 2.8 | 3.0 |
| 95th Percentile | -2.2 | -3.2 | -8.9 | -4.7 | -2.8 | -3.8 | -0.5 | 0.9 |
| # of Portfolios | 162 | 161 | 160 | 159 | 151 | 144 | 128 | 83 |
| ● Hedge Fund/Absolute Return | 0.0 (50) | -1.5 (93) | -4.9 (90) | -6.0 (97) | -2.2 (93) | 1.5 (65) | 2.9 (73) | -- (--) |
| ▲ Libor 1 month +4% | 1.5 (15) | 4.7 (57) | 6.4 (1) | 6.1 (4) | 5.7 (18) | 5.2 (7) | 4.9 (35) | -- (--) |



| | Return (Rank) | | | | | | | |
|----------------------------|---------------|-----------|------------|------------|-----------|-----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 6.4 | 23.6 | 14.6 | 12.5 | 12.8 | 12.2 | 14.7 | 14.4 |
| 25th Percentile | 2.3 | 10.6 | 6.4 | 6.4 | 8.1 | 7.0 | 8.2 | 8.6 |
| Median | 0.8 | 6.3 | 2.5 | 3.1 | 4.5 | 4.3 | 5.7 | 5.7 |
| 75th Percentile | -0.9 | 2.2 | -1.1 | -0.2 | 1.3 | 1.8 | 2.9 | 3.7 |
| 95th Percentile | -4.6 | -7.7 | -14.4 | -11.9 | -7.4 | -5.6 | -3.0 | -2.3 |
| # of Portfolios | 253 | 245 | 240 | 234 | 218 | 188 | 153 | 113 |
| ● AQR DELTA XN | -1.2 (78) | -7.4 (95) | -11.4 (92) | -10.8 (94) | -5.3 (93) | -0.3 (87) | 1.7 (84) | -- (--) |
| ▲ Libor 1 month +4% | 1.5 (37) | 4.7 (60) | 6.4 (25) | 6.1 (28) | 5.7 (42) | 5.2 (41) | 4.9 (55) | -- (--) |

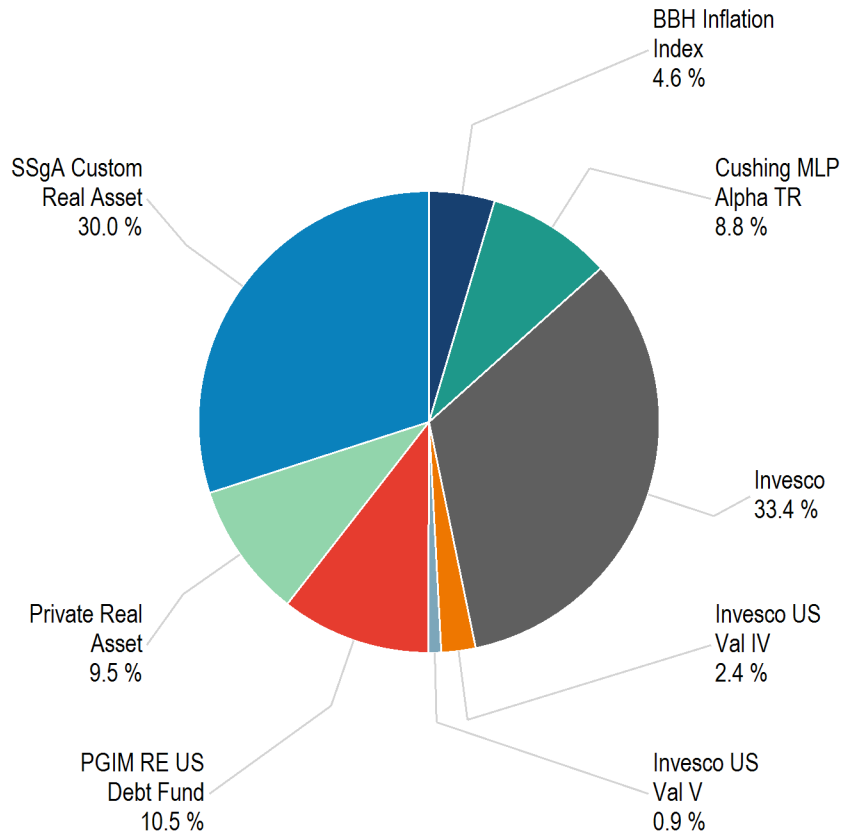
eV Alt All Multi-Strategy Return Comparison



| | Return (Rank) | | | | | | | |
|--------------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
| | Quarter | YTD | 1 Year | 2 Years | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 6.4 | 23.6 | 14.6 | 12.5 | 12.8 | 12.2 | 14.7 | 14.4 |
| 25th Percentile | 2.3 | 10.6 | 6.4 | 6.4 | 8.1 | 7.0 | 8.2 | 8.6 |
| Median | 0.8 | 6.3 | 2.5 | 3.1 | 4.5 | 4.3 | 5.7 | 5.7 |
| 75th Percentile | -0.9 | 2.2 | -1.1 | -0.2 | 1.3 | 1.8 | 2.9 | 3.7 |
| 95th Percentile | -4.6 | -7.7 | -14.4 | -11.9 | -7.4 | -5.6 | -3.0 | -2.3 |
| # of Portfolios | 253 | 245 | 240 | 234 | 218 | 188 | 153 | 113 |
| ● Aberdeen Standard GARS | 1.6 (36) | 7.8 (37) | 5.4 (32) | 1.8 (65) | 2.4 (67) | -- (--) | -- (--) | -- (--) |
| ▲ Libor 1 month +4% | 1.5 (37) | 4.7 (60) | 6.4 (25) | 6.1 (28) | 5.7 (42) | 5.2 (41) | 4.9 (55) | -- (--) |

Inflation Hedge
 Manager Allocation Analysis

Period Ending: September 30, 2019



| | Actual \$ | Actual % | Manager Contribution to Excess Return % |
|-------------------------------------|----------------------|---------------|---|
| Brown Brother Harriman | \$37,278,220 | 4.6% | 0.0% |
| Cushing MLP Alpha TR | \$71,794,624 | 8.8% | -0.3% |
| Invesco | \$272,016,461 | 33.4% | 0.2% |
| Invesco US Val IV | \$19,450,833 | 2.4% | 0.0% |
| Invesco US Val V | \$7,457,351 | 0.9% | 0.0% |
| PGIM RE US Debt Fund | \$85,274,457 | 10.5% | 0.0% |
| Private Real Asset | \$77,239,837 | 9.5% | -0.4% |
| SSgA Custom Real Asset | \$244,764,211 | 30.0% | 0.0% |
| Actual vs. Policy Weight Difference | | | -0.2% |
| Total | \$815,275,995 | 100.0% | -0.6% |

Statistics Summary

3 Years

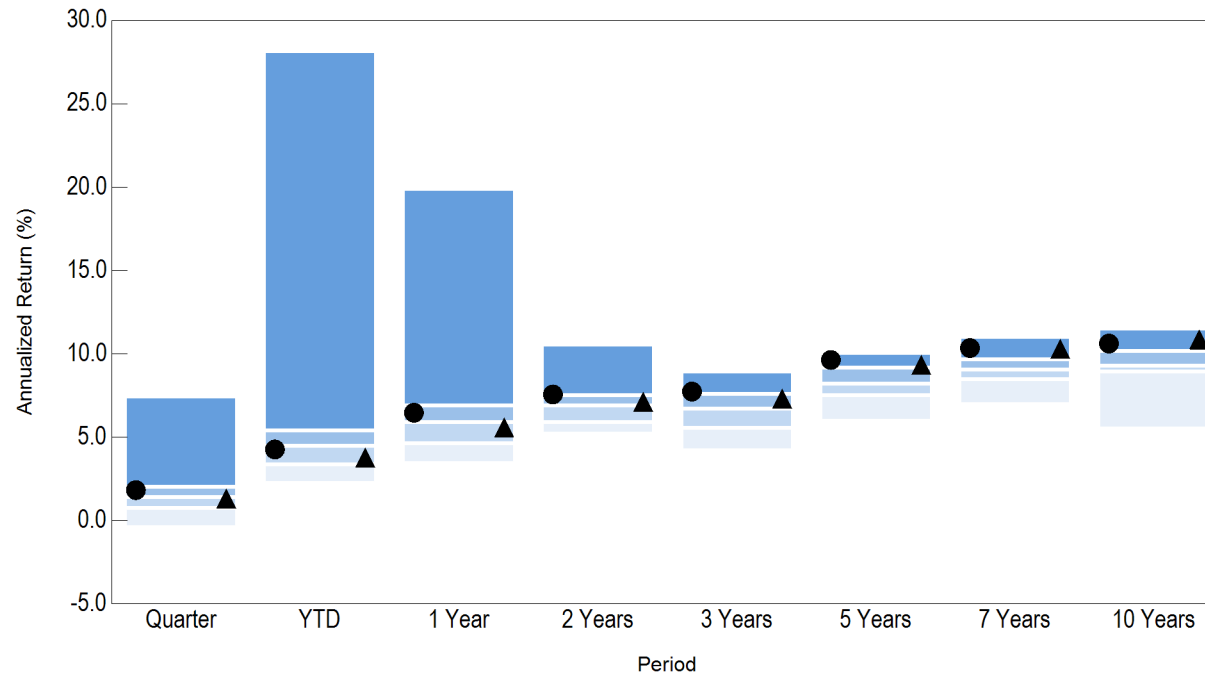
| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|----------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Real Estate | 7.73% | 3.22% | 1.92 | 0.65 | 0.66% |
| NCREIF ODCE | 7.30% | 3.03% | 1.90 | -- | 0.00% |
| Invesco | 7.70% | 3.26% | 1.89 | 0.54 | 0.74% |
| NCREIF ODCE | 7.30% | 3.03% | 1.90 | -- | 0.00% |
| Invesco US Val IV | 10.42% | 4.89% | 1.81 | 1.08 | 2.88% |
| NCREIF ODCE | 7.30% | 3.03% | 1.90 | -- | 0.00% |
| Private Real Asset | -3.32% | 8.86% | -0.55 | -0.78 | 11.44% |
| Blended Private Real Asset Index | 5.59% | 10.77% | 0.38 | -- | 0.00% |
| TIPS | 2.38% | 2.33% | 0.36 | 0.13 | 1.24% |
| BBgBarc US TIPS TR | 2.21% | 3.28% | 0.20 | -- | 0.00% |
| Brown Brothers Harriman | 2.38% | 2.33% | 0.36 | 0.13 | 1.24% |
| BBgBarc US TIPS TR | 2.21% | 3.28% | 0.20 | -- | 0.00% |

Statistics Summary

5 Years

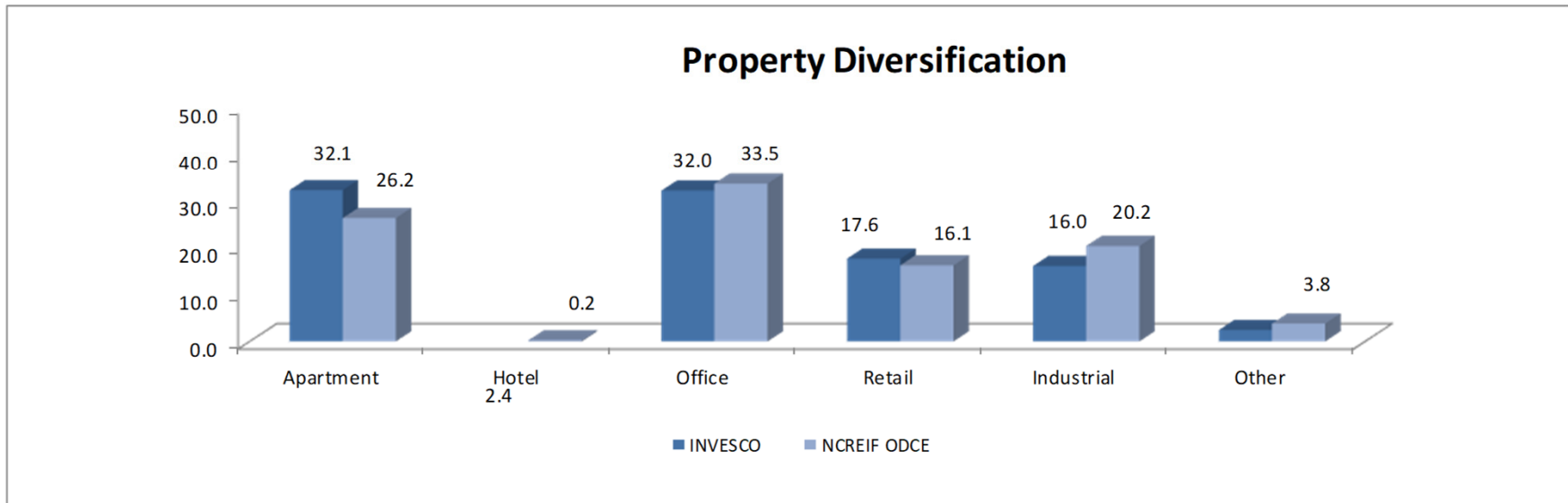
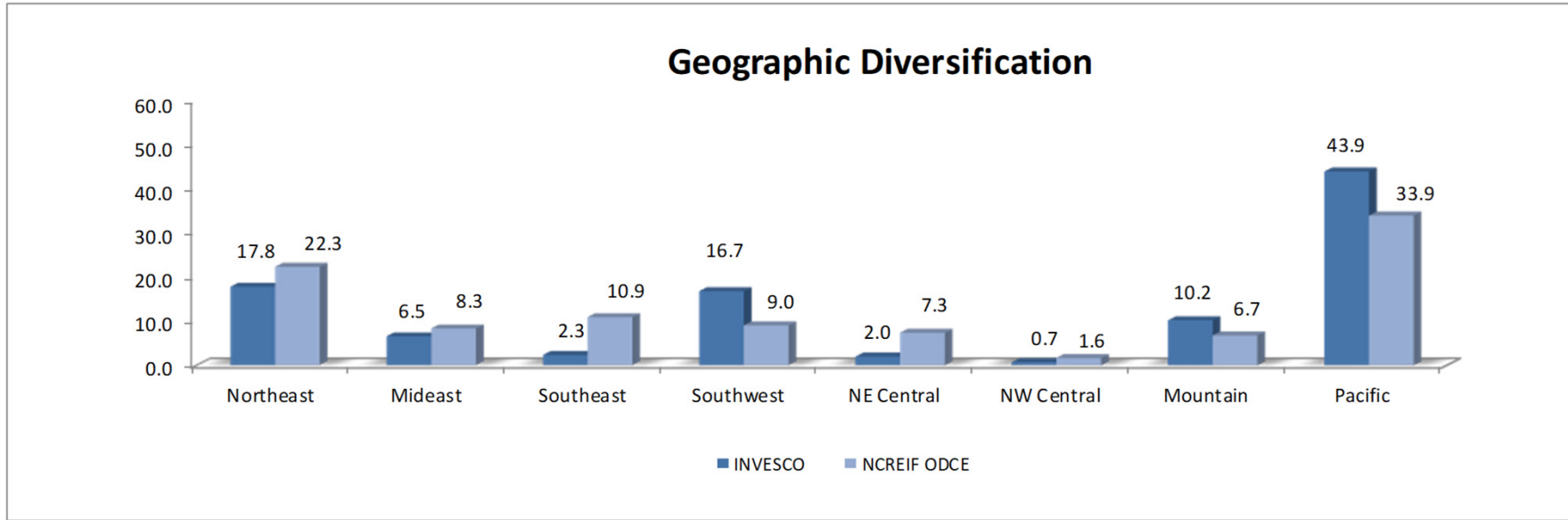
| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error Rank |
|-------------------------|--------------|-----------------------------|--------------|-------------------|---------------------|
| Real Estate | 9.63% | 4.29% | 2.02 | 0.25 | 34 |
| NCREIF ODCE | 9.34% | 4.04% | 2.07 | -- | 1 |
| Invesco | 9.53% | 4.28% | 2.00 | 0.15 | -- |
| NCREIF ODCE | 9.34% | 4.04% | 2.07 | -- | -- |
| TIPS | 2.09% | 2.58% | 0.43 | -0.27 | -- |
| BBgBarc US TIPS TR | 2.45% | 3.51% | 0.42 | -- | -- |
| Brown Brothers Harriman | 2.09% | 2.58% | 0.43 | -0.27 | 63 |
| BBgBarc US TIPS TR | 2.45% | 3.51% | 0.42 | -- | 1 |

InvMetrics All DB Real Estate Pub Net Return Comparison



Return (Rank)

| | | | | | | | | |
|-----------------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 5th Percentile | 7.4 | 28.1 | 19.9 | 10.5 | 8.9 | 10.0 | 11.0 | 11.5 |
| 25th Percentile | 2.0 | 5.4 | 6.9 | 7.5 | 7.6 | 9.2 | 9.7 | 10.2 |
| Median | 1.4 | 4.5 | 5.9 | 6.9 | 6.7 | 8.2 | 9.1 | 9.3 |
| 75th Percentile | 0.8 | 3.4 | 4.6 | 5.9 | 5.6 | 7.5 | 8.5 | 9.0 |
| 95th Percentile | -0.4 | 2.3 | 3.4 | 5.2 | 4.2 | 6.0 | 7.0 | 5.5 |
| # of Portfolios | 89 | 86 | 86 | 85 | 81 | 79 | 70 | 49 |
| ● Real Estate | 1.8 (31) | 4.3 (55) | 6.5 (33) | 7.6 (24) | 7.7 (20) | 9.6 (15) | 10.3 (8) | 10.6 (15) |
| ▲ NCREIF ODCE | 1.3 (58) | 3.8 (65) | 5.6 (58) | 7.1 (44) | 7.3 (35) | 9.3 (21) | 10.3 (8) | 10.9 (8) |



INVESCO Core Real Estate
Real Estate Valuation Analysis

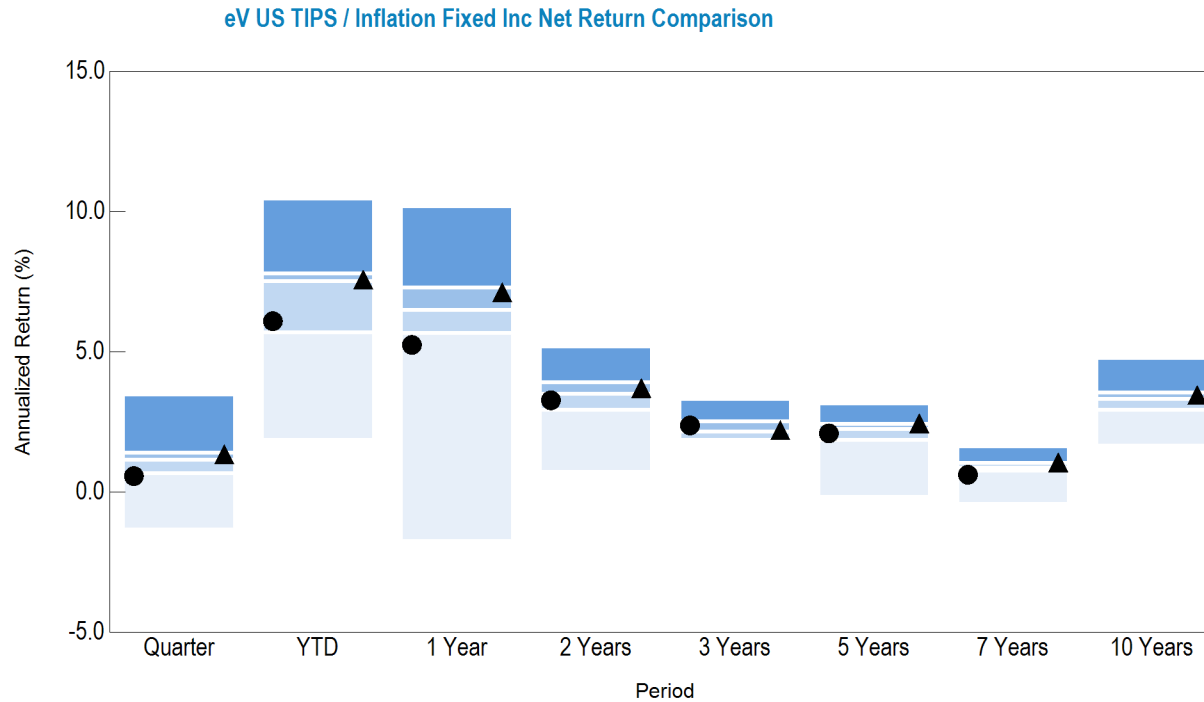
Period Ending: September 30, 2019

| Property Name | MSA | Prior Quarter Carry Value | Current Quarter Carry Value | Net Market Value | Date Added to Fund | Last Valuation Date | SamCERA ownership as of 9/30/2019 2.60% |
|---|--------------------------|---------------------------|-----------------------------|------------------------|--------------------|---------------------|---|
| APARTMENTS | | | | | | | |
| Stoneridge Apartments | Pleasanton, CA | \$240,000,000 | \$240,000,000 | \$240,000,000 | 4Q06 | September-19 | \$6,241,710 |
| Instrata Pentagon City | Arlington, VA | \$160,000,000 | \$167,000,000 | \$167,000,000 | 3Q10 | September-19 | \$4,343,190 |
| Ladd Tower | Portland, OR | \$126,000,000 | \$126,000,000 | \$68,693,737 | 4Q10 | September-19 | \$1,786,527 |
| Legacy Fountain Plaza | San Jose, CA | \$163,000,000 | \$166,000,000 | \$166,000,000 | 1Q11 | September-19 | \$4,317,183 |
| Instrata Gramercy (fka The Elektra) | New York, NY | \$173,000,000 | \$174,000,000 | \$102,427,918 | 1Q11 | September-19 | \$2,663,856 |
| Instrata Brooklyn Heights (fka 75 Clinton Street) | Brooklyn, NY | \$67,000,000 | \$62,900,000 | \$62,900,000 | 1Q12 | September-19 | \$1,635,848 |
| The Artisan Laguna Beach | Orange County, CA | \$166,000,000 | \$169,000,000 | \$106,982,779 | 3Q12 | September-19 | \$2,782,315 |
| The GoodWynn | Atlanta, GA | \$98,478,820 | \$0 | \$0 | 4Q12 | September-19 | \$0 |
| Instrata Hell's Kitchen | New York, NY | \$185,000,000 | \$190,000,000 | \$190,000,000 | 1Q13 | September-19 | \$4,941,354 |
| Sunset Vine Tower | Los Angeles, CA | \$104,000,000 | \$104,300,000 | \$104,300,000 | 2Q13 | September-19 | \$2,712,543 |
| Instrata Ashton Uptown | Dallas, TX | \$115,000,000 | \$115,000,000 | \$57,390,293 | 4Q13 | September-19 | \$1,492,557 |
| 206 Bell | Seattle, WA | \$49,000,000 | \$49,100,000 | \$49,100,000 | 4Q13 | September-19 | \$1,276,950 |
| Cadence Union Station | Denver, CO | \$94,600,000 | \$92,000,000 | \$55,397,119 | 1Q14 | September-19 | \$1,440,720 |
| Joseph Arnold Lofts | Seattle, WA | \$70,400,000 | \$72,771,160 | \$38,270,664 | 2Q14 | September-19 | \$995,310 |
| Verve | Denver, CO | \$107,400,000 | \$107,500,000 | \$107,500,000 | 3Q14 | September-19 | \$2,795,766 |
| Broadstone Little Italy | San Diego CA | \$120,000,000 | \$120,000,000 | \$66,399,600 | 3Q14 | September-19 | \$1,726,863 |
| 33 Tehama | San Francisco, CA | \$304,551,162 | \$304,641,337 | \$165,786,926 | 3Q14 | September-19 | \$4,311,642 |
| The Parker | Portland, OR | \$62,600,000 | \$62,600,000 | \$30,714,918 | 1Q15 | September-19 | \$798,807 |
| Legacy West Apartments | Plano, TX | \$145,000,000 | \$145,000,000 | \$52,793,226 | 1Q15 | September-19 | \$1,373,000 |
| The Royce | Irvine, CA | \$214,139,657 | \$217,614,827 | \$110,381,648 | 2Q15 | September-19 | \$2,870,709 |
| Jefferson Marketplace | Washington, DC | \$159,000,000 | \$160,000,000 | \$88,794,316 | 4Q15 | September-19 | \$2,309,285 |
| Retreat at Park Meadows | Littleton, CO | \$161,000,000 | \$162,000,000 | \$162,000,000 | 4Q15 | September-19 | \$4,213,154 |
| North Water Apartments | Chicago, IL | \$256,000,000 | \$256,000,000 | \$256,000,000 | 1Q16 | September-19 | \$6,657,824 |
| 2270 Broadway | Oakland, CA | \$28,208,950 | \$28,211,284 | \$28,211,284 | 1Q16 | September-19 | \$733,694 |
| Runway at Playa Vista Apartments | Playa Vista, CA | \$167,480,000 | \$167,480,000 | \$104,846,263 | 1Q16 | September-19 | \$2,726,750 |
| Clayton Lane Apartments | Denver, CO | \$39,669,161 | \$42,072,964 | \$42,072,964 | 1Q16 | September-19 | \$1,094,197 |
| Biscayne 27 | Miami, FL | \$102,870,604 | \$106,190,134 | \$55,321,326 | 2Q16 | September-19 | \$1,438,749 |
| Flats 8300 | Washington DC | \$244,000,000 | \$236,000,000 | \$236,000,000 | 2Q16 | September-19 | \$6,137,682 |
| 407 1st Ave | New York, NY | \$203,000,000 | \$204,200,000 | \$204,200,000 | 4Q16 | September-19 | \$5,310,655 |
| 5250 Park | Miami, FL | \$45,253,423 | \$46,045,322 | \$28,907,997 | 2Q17 | September-19 | \$751,814 |
| The Mason | Pleasanton, CA | \$104,000,000 | \$104,000,000 | \$104,000,000 | 3Q17 | September-19 | \$2,704,741 |
| The Arnold | Austin, TX | \$103,000,000 | \$110,000,000 | \$110,000,000 | 4Q18 | September-19 | \$2,860,784 |
| The Harlo | Boston, MA | \$155,000,000 | \$158,000,000 | \$158,000,000 | 1Q19 | September-19 | \$4,109,126 |
| Sunset Vine Tower II | Hollywood, CA | \$19,014,857 | \$19,019,023 | \$19,019,023 | 2Q19 | September-19 | \$494,630 |
| Legacy West - Block H - Apartment | Plano, TX | \$6,344,160 | \$6,291,532 | \$6,291,532 | 2Q19 | September-19 | \$163,625 |
| | | \$4,559,010,793 | \$4,491,737,584 | \$3,545,703,534 | | | \$92,213,559 |
| INDUSTRIAL | | | | | | | |
| Arjons Industrial Park | San Diego CA | \$49,100,000 | \$49,700,000 | \$49,700,000 | 2Q04 | September-19 | \$1,292,554 |
| Gateway Business Park | Dallas TX | \$14,500,000 | \$14,600,000 | \$14,600,000 | 2Q04 | September-19 | \$379,704 |
| Hayward Industrial | Oakland CA | \$218,000,000 | \$224,900,000 | \$224,900,000 | 3Q04-3Q07 | September-19 | \$5,849,003 |
| Oakdale Commerce Center | Seattle - Belle - Eve WA | \$69,700,000 | \$71,400,000 | \$71,400,000 | 1Q06 | September-19 | \$1,856,909 |
| South Bay Industrial | Los Angeles, CA | \$62,600,000 | \$70,700,000 | \$70,700,000 | 4Q06 | September-19 | \$1,838,704 |
| Steeplechase Portfolio | Capitol Heights, MD | \$109,100,000 | \$110,300,000 | \$110,300,000 | 1Q11 | September-19 | \$2,868,586 |
| Airport Trade Center Portfolio | Dallas, TX | \$148,100,000 | \$148,400,000 | \$148,400,000 | 1Q11 | September-19 | \$3,859,458 |
| IE Logistics | San Bernardino, CA | \$168,000,000 | \$172,800,000 | \$172,800,000 | 3Q11 | September-19 | \$4,494,031 |
| Railhead Industrial | Dallas, TX | \$66,500,000 | \$66,100,000 | \$66,100,000 | 4Q11 | September-19 | \$1,719,071 |
| Empire Gateway aka Chino South Logistics Center | Chino, CA | \$311,000,000 | \$317,000,000 | \$317,000,000 | 4Q12 | September-19 | \$8,244,259 |
| SFO Logistics Center | San Francisco, CA | \$164,000,000 | \$165,000,000 | \$165,000,000 | 4Q13 | September-19 | \$4,291,176 |
| Miami Industrial Portfolio | Various, FL | \$86,915,006 | \$87,654,891 | \$61,019,916 | 1Q16 | September-19 | \$1,586,953 |
| Miami Industrial Portfolio - Fedex | Hollywood, FL | \$47,400,000 | \$47,400,000 | \$33,647,318 | 1Q16 | September-19 | \$875,070 |
| OMP Burbank | Los Angeles, CA | \$130,620,348 | \$143,095,390 | \$143,095,390 | 2Q16 | September-19 | \$3,721,500 |
| Pacific Commons | Freemont, CA | \$225,613,743 | \$256,112,410 | \$215,739,023 | 1Q17 | September-19 | \$5,610,752 |
| Gateway 80 Business Park | Fairfield, CA | \$107,500,000 | \$107,800,000 | \$107,800,000 | 1Q18 | September-19 | \$2,803,568 |
| Meridian Distribution Center II | Riverside, CA | \$60,300,000 | \$61,100,000 | \$61,100,000 | 3Q18 | September-19 | \$1,589,035 |
| Bayport North Industrial Building II and III | Riverside, CA | \$60,400,000 | \$60,700,000 | \$60,700,000 | 4Q18 | September-19 | \$1,578,633 |
| Skyline Industrial | Riverside, CA | \$0 | \$65,684,266 | \$65,684,266 | 3Q19 | Acq in 3Q19 | \$1,708,259 |
| | | \$2,099,349,097 | \$2,240,646,956 | \$2,159,685,913 | | | \$56,167,224 |

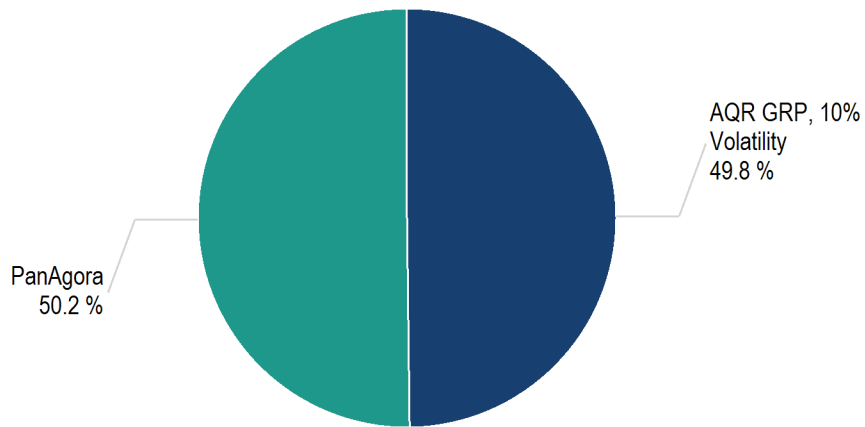
INVESCO Core Real Estate
Real Estate Valuation Analysis

Period Ending: September 30, 2019

| OFFICE | | | | | | | |
|-------------------------------------|----------------------|-------------------------|-------------------------|-------------------------|------|--------------|----------------------|
| 55 Cambridge Parkway | Boston MA - NH | \$367,000,000 | \$369,000,000 | \$369,000,000 | 4Q06 | September-19 | \$9,596,630 |
| 1800 Larimer | Denver, CO | \$339,000,000 | \$338,000,000 | \$338,000,000 | 1Q11 | September-19 | \$8,790,409 |
| Hillview Office | San Jose, CA | \$70,000,000 | \$68,700,000 | \$68,700,000 | 3Q12 | September-19 | \$1,786,690 |
| Williams Tower | Houston, TX | \$619,000,000 | \$613,000,000 | \$427,547,272 | 1Q13 | September-19 | \$11,119,276 |
| Westlake Park Place | Westlake Village, CA | \$109,000,000 | \$109,000,000 | \$109,000,000 | 4Q13 | September-19 | \$2,834,777 |
| 101 Second | San Francisco, CA | \$471,000,000 | \$493,000,000 | \$493,000,000 | 1Q14 | September-19 | \$12,821,513 |
| Energy Crossing II | Houston, TX | \$103,000,000 | \$104,000,000 | \$104,000,000 | 2Q14 | September-19 | \$2,704,741 |
| 1776 Wilson Blvd. | Arlington, VA | \$85,400,000 | \$85,100,000 | \$85,100,000 | 3Q14 | September-19 | \$2,213,206 |
| 631 Howard | San Francisco, CA | \$108,000,000 | \$117,000,000 | \$117,000,000 | 3Q14 | September-19 | \$3,042,834 |
| Barton Oaks | Austin, TX | \$105,000,000 | \$112,000,000 | \$112,000,000 | 3Q14 | September-19 | \$2,912,798 |
| Hercules East and South Campus | Los Angeles, CA | \$192,435,398 | \$193,429,166 | \$193,429,166 | 3Q14 | September-19 | \$5,030,537 |
| The Reserve | Playa Vista, CA | \$399,017,940 | \$400,189,063 | \$400,189,063 | 1Q15 | September-19 | \$10,407,767 |
| Fort Point Portfolio | Boston, MA | \$287,899,699 | \$291,857,083 | \$291,857,083 | 2Q15 | September-19 | \$7,590,364 |
| Legacy West Office | Plano, TX | \$146,000,000 | \$152,000,000 | \$59,793,226 | 1Q15 | September-19 | \$1,555,050 |
| 1101 Westlake | Seattle, WA | \$149,000,000 | \$148,000,000 | \$148,000,000 | 3Q15 | September-19 | \$3,849,055 |
| PearlWest | Boulder, CO | \$132,000,000 | \$135,000,000 | \$135,000,000 | 4Q16 | September-19 | \$3,510,962 |
| The Mark 302 | Santa Monica, CA | \$58,170,374 | \$60,074,234 | \$60,074,234 | 1Q18 | September-19 | \$1,562,358 |
| 430 West 15th Street | New York NY | \$164,000,000 | \$164,000,000 | \$164,000,000 | 2Q18 | September-19 | \$4,265,169 |
| Ten Fawcett | Cambridge, MA | \$59,752,000 | \$60,916,000 | \$31,816,000 | 3Q18 | September-19 | \$827,443 |
| Press Blocks | Portland, OR | \$19,868,763 | \$27,070,467 | \$27,070,467 | 3Q18 | September-19 | \$704,025 |
| Union Tower West | Denver, CO | \$70,500,000 | \$70,600,000 | \$70,600,000 | 4Q18 | September-19 | \$1,836,103 |
| Tryon South End | Denver, CO | \$33,730,259 | \$57,115,990 | \$57,115,990 | 1Q19 | September-19 | \$1,485,423 |
| 22 Boston Wharf Rd | Boston, MA | \$182,000,000 | \$183,000,000 | \$183,000,000 | 1Q19 | September-19 | \$4,759,304 |
| Legacy West - Block H - Office | Plano, TX | \$7,645,526 | \$10,244,324 | \$10,244,324 | 2Q19 | September-19 | \$266,425 |
| | | \$4,390,419,959 | \$4,476,296,327 | \$4,169,536,825 | | | \$108,437,671 |
| RETAIL | | | | | | | |
| Chandler Pavilion | Phoenix - Mesa AZ | \$22,500,000 | \$22,500,000 | \$22,500,000 | 2Q04 | September-19 | \$585,160 |
| Cityline at Tenley | Washington, D.C. | \$64,100,000 | \$66,000,000 | \$66,000,000 | 4Q05 | September-19 | \$1,716,470 |
| Ridgehaven Shopping Center | Minnetonka, MN | \$41,600,000 | \$40,100,000 | \$40,100,000 | 4Q05 | September-19 | \$1,042,886 |
| The Beacon Garage (units) | San Francisco, CA | \$38,800,000 | \$38,800,000 | \$38,800,000 | 1Q06 | September-19 | \$1,009,076 |
| The Beacon Office (210 King) | San Francisco, CA | \$30,400,000 | \$31,400,000 | \$31,400,000 | 1Q15 | September-19 | \$816,624 |
| Hawthorne Plaza | Overland Park, KS | \$53,275,000 | \$52,000,000 | \$52,000,000 | 4Q07 | September-19 | \$1,352,371 |
| The Loop | Boston MA - NH | \$75,000,000 | \$73,400,000 | \$73,400,000 | 1Q08 | September-19 | \$1,908,923 |
| Westbank Market | Austin, TX | \$66,100,000 | \$66,100,000 | \$66,100,000 | 3Q10 | September-19 | \$1,719,071 |
| 910 Lincoln Road | Miami, FL | \$30,500,000 | \$30,900,000 | \$30,900,000 | 4Q10 | September-19 | \$803,620 |
| Lake Pointe Village | Houston, TX | \$88,250,000 | \$88,250,000 | \$88,250,000 | 4Q11 | September-19 | \$2,295,129 |
| Safeway Kapahulu | Hawaii | \$95,400,000 | \$95,100,000 | \$58,820,541 | 4Q11 | September-19 | \$1,529,753 |
| Safeway Burlingame | San Francisco, CA | \$58,800,000 | \$58,300,000 | \$35,550,054 | 4Q11 | September-19 | \$924,555 |
| Shamrock Plaza | Oakland, CA | \$40,700,000 | \$40,800,000 | \$24,514,367 | 4Q11 | September-19 | \$637,548 |
| Pavilions Marketplace | West Hollywood, CA | \$71,000,000 | \$71,200,000 | \$46,470,197 | 1Q12 | September-19 | \$1,208,556 |
| 130 Prince | New York, NY | \$198,735,712 | \$0 | \$0 | 2Q12 | September-19 | \$0 |
| Safeway Pleasanton | Pleasanton, CA | \$86,600,000 | \$86,500,000 | \$86,500,000 | 4Q12 | September-19 | \$2,249,616 |
| Liberty Wharf | Boston, MA | \$92,000,000 | \$92,000,000 | \$92,000,000 | 4Q12 | September-19 | \$2,392,656 |
| Shops at Legacy | Plano, TX | \$124,000,000 | \$126,000,000 | \$126,000,000 | 3Q13 | September-19 | \$3,276,898 |
| Pasadena Commons | Pasadena, CA | \$63,300,000 | \$63,800,000 | \$63,800,000 | 4Q14 | September-19 | \$1,659,255 |
| Rush Street Retail | Chicago, IL | \$16,900,000 | \$16,900,000 | \$16,900,000 | 4Q14 | September-19 | \$439,520 |
| Legacy West Retail | Plano, TX | \$280,000,000 | \$280,000,000 | \$157,057,635 | 1Q15 | September-19 | \$4,084,618 |
| 131-137 Spring Street | New York, NY | \$251,000,000 | \$231,000,000 | \$231,000,000 | 3Q15 | September-19 | \$6,007,646 |
| Runway at Playas Vista - Retail | Playa Vista, CA | \$133,030,000 | \$133,560,000 | \$71,972,337 | 1Q16 | September-19 | \$1,871,794 |
| 139 Spring | New York, NY | \$100,151,603 | \$100,151,600 | \$100,151,600 | 1Q16 | September-19 | \$2,604,655 |
| Clayton Lane | Denver, CO | \$150,199,498 | \$150,754,381 | \$104,794,737 | 1Q16 | September-19 | \$2,725,410 |
| 4th & Colorado | Santa Monica, CA | \$13,280,000 | \$13,280,000 | \$13,280,000 | 1Q16 | September-19 | \$345,375 |
| Legacy West - Block H | Plano, TX | \$2,277,391 | \$13,153,668 | \$13,153,668 | 4Q17 | September-19 | \$342,089 |
| Shops at Crystals | Las Vegas, NV | \$301,500,000 | \$302,000,000 | \$164,055,085 | 2Q16 | September-19 | \$4,266,601 |
| | | \$2,662,999,204 | \$2,458,249,649 | \$1,989,770,220 | | | \$51,748,205 |
| Other | | | | | | | |
| Baranof - Walden Park | San Marcos, TX | \$9,724,008 | \$9,816,617 | \$9,816,617 | 1Q18 | September-19 | \$255,302 |
| Baranof - Ranch Road 620 | San Marcos, TX | \$9,260,960 | \$9,353,569 | \$9,353,569 | 1Q18 | September-19 | \$243,259 |
| Baranof - Glenwood Avenue | Raleigh, NC | \$9,724,008 | \$9,816,617 | \$9,816,617 | 1Q18 | September-19 | \$255,302 |
| Baranof - 1-84 & 60th | Vancouver, WA | \$23,337,619 | \$23,708,057 | \$23,708,057 | 1Q18 | September-19 | \$616,578 |
| Baranof - Fishers Landing Vancouver | Vancouver, WA | \$17,317,995 | \$17,503,214 | \$17,503,214 | 1Q18 | September-19 | \$455,208 |
| US Storage - Compton | Compton, CA | \$24,999,745 | \$29,099,353 | \$20,081,586 | 4Q17 | September-19 | \$522,264 |
| The Quad | New York NY | \$108,156,649 | \$118,473,747 | \$77,800,787 | 2Q18 | September-19 | \$2,023,375 |
| Baranof - 622 Capital | Raleigh, NC | \$20,466,721 | \$20,837,160 | \$20,837,160 | 3Q18 | September-19 | \$541,915 |
| 51st Street Self Storage | Austin, TX | \$12,200,000 | \$12,400,000 | \$12,400,000 | 3Q18 | September-19 | \$322,488 |
| Campbell Self Storage | Campbell, CA | \$17,900,000 | \$18,600,000 | \$18,600,000 | 3Q18 | September-19 | \$483,733 |
| Baranof - Belmont and 7th | Portland, OR | \$19,170,187 | \$19,540,625 | \$19,540,625 | 4Q18 | September-19 | \$508,196 |
| Boston Lane Self Storage | Austin, TX | \$16,100,000 | \$16,300,000 | \$16,300,000 | 4Q18 | September-19 | \$423,916 |
| US Storage - 4800 Valley | Los Angeles, CA | \$5,905,960 | \$6,091,061 | \$6,091,061 | 1Q19 | September-19 | \$158,411 |
| Newark Self Storage | Newark, CA | \$6,722,867 | \$8,593,119 | \$8,593,119 | 1Q19 | September-19 | \$223,482 |
| Norwood Extra Space | Norwood, MA | \$19,900,000 | \$19,300,000 | \$19,300,000 | 1Q19 | September-19 | \$501,938 |
| | | \$320,886,718 | \$339,433,141 | \$289,742,414 | | | \$7,535,368 |
| Portfolio Total | | \$14,032,665,772 | \$14,006,363,657 | \$12,154,438,905 | | | \$316,102,027 |



| | Return (Rank) | | | | | | | |
|---------------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
| 5th Percentile | 3.5 | 10.5 | 10.2 | 5.2 | 3.3 | 3.2 | 1.6 | 4.8 |
| 25th Percentile | 1.4 | 7.8 | 7.3 | 3.9 | 2.5 | 2.4 | 1.1 | 3.6 |
| Median | 1.2 | 7.5 | 6.5 | 3.5 | 2.2 | 2.3 | 0.9 | 3.3 |
| 75th Percentile | 0.7 | 5.7 | 5.7 | 3.0 | 1.9 | 1.9 | 0.8 | 3.0 |
| 95th Percentile | -1.3 | 1.9 | -1.7 | 0.7 | 1.8 | -0.2 | -0.4 | 1.7 |
| # of Portfolios | 20 | 20 | 19 | 19 | 19 | 18 | 16 | 12 |
| ● Brown Brothers Harriman | 0.6 (85) | 6.1 (73) | 5.2 (85) | 3.3 (63) | 2.4 (30) | 2.1 (60) | 0.6 (86) | -- (--) |
| ▲ BBgBarc US TIPS TR | 1.3 (38) | 7.6 (47) | 7.1 (34) | 3.7 (31) | 2.2 (41) | 2.4 (25) | 1.1 (25) | 3.5 (36) |



| | Actual \$ | Actual % | Manager Contribution to Excess Return % |
|-------------------------------------|----------------------|---------------|---|
| AQR GRP, 10% Volatility | \$198,846,488 | 49.8% | -0.1% |
| PanAgora | \$200,667,018 | 50.2% | 1.4% |
| Actual vs. Policy Weight Difference | | | 0.0% |
| Total | \$399,513,506 | 100.0% | 1.3% |

Statistics Summary

3 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---------------------------|--------------|--------------------------|--------------|-------------------|----------------|
| Risk Parity | 7.3% | 7.8% | 0.7 | -0.2 | 5.5% |
| Blended Risk Parity Index | 8.1% | 6.8% | 1.0 | -- | 0.0% |
| AQR GRP, 10% Volatility | 7.9% | 7.8% | 0.8 | 0.0 | 4.9% |
| Blended Risk Parity Index | 8.1% | 6.8% | 1.0 | -- | 0.0% |
| PanAgora | 6.8% | 8.1% | 0.7 | -0.2 | 6.6% |
| Blended Risk Parity Index | 8.1% | 6.8% | 1.0 | -- | 0.0% |

Statistics Summary

5 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---------------------------|--------------|--------------------------|--------------|-------------------|----------------|
| Risk Parity | 6.4% | 8.0% | 0.7 | -0.2 | 6.0% |
| Blended Risk Parity Index | 7.3% | 6.8% | 0.9 | -- | 0.0% |
| AQR GRP, 10% Volatility | 4.8% | 8.1% | 0.5 | -0.4 | 5.7% |
| Blended Risk Parity Index | 7.3% | 6.8% | 0.9 | -- | 0.0% |

Total Fund
Performance Summary (Gross of Fees)

Period Ending: September 30, 2019

| | 3 Mo (%) | YTD (%) | 1 Yr (%) | 2 Yrs (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|---|-------------|-------------|--------------|--------------|--------------|--------------|---------------|
| Total Fund | 1.6 | 12.1 | 5.1 | 5.3 | 7.6 | 6.6 | 8.5 |
| <i>Policy Index</i> | 1.1 | 11.9 | 5.3 | 5.9 | 8.1 | 6.7 | 8.6 |
| Total Fund ex Overlay | 1.4 | 11.6 | 4.6 | 5.1 | 7.4 | 6.4 | 8.4 |
| <i>Policy Index</i> | 1.1 | 11.9 | 5.3 | 5.9 | 8.1 | 6.7 | 8.6 |
| Public Equity | 0.6 | 16.8 | 1.5 | 5.7 | 9.9 | 7.8 | 10.0 |
| <i>Blended Public Equity Index</i> | 0.4 | 16.6 | 1.4 | 5.7 | 10.1 | 7.6 | 10.0 |
| US Equity | 1.7 | 19.9 | 2.4 | 9.6 | 12.8 | 10.4 | 12.9 |
| <i>Blended US Equity Index</i> | 1.2 | 20.1 | 2.9 | 10.0 | 12.8 | 10.5 | 13.0 |
| <i>Russell 3000</i> | 1.2 | 20.1 | 2.9 | 10.0 | 12.8 | 10.4 | 13.1 |
| Large Cap Equity | 1.9 | 20.6 | 4.5 | 11.0 | 14.1 | 11.4 | 13.3 |
| <i>Russell 1000</i> | 1.4 | 20.5 | 3.9 | 10.6 | 13.2 | 10.6 | 13.2 |
| Acadian US MGD V | 2.8 | 19.2 | -- | -- | -- | -- | -- |
| BlackRock Russell 1000 | 1.4 | 20.6 | 3.9 | 10.6 | -- | -- | -- |
| DE Shaw | 1.5 | 17.6 | 1.0 | 9.5 | 13.8 | 12.1 | 14.2 |
| PanAgora Defuseq | 3.2 | 25.3 | -- | -- | -- | -- | -- |
| <i>Russell 1000</i> | 1.4 | 20.5 | 3.9 | 10.6 | 13.2 | 10.6 | 13.2 |
| Small Cap Equity | -0.6 | 12.3 | -10.7 | 0.4 | 7.3 | 6.1 | 11.3 |
| <i>Russell 2000</i> | -2.4 | 14.2 | -8.9 | 2.5 | 8.2 | 8.2 | 11.2 |
| QMA US Small Cap | -0.6 | 12.3 | -10.7 | 0.4 | 7.3 | -- | -- |
| <i>Russell 2000</i> | -2.4 | 14.2 | -8.9 | 2.5 | 8.2 | 8.2 | 11.2 |
| International Equity | -0.8 | 13.5 | 0.6 | 1.3 | 6.5 | 4.1 | 4.9 |
| <i>Blended International Equity Index</i> | -0.6 | 12.7 | -0.5 | 0.6 | 6.7 | 3.6 | 5.0 |
| <i>MSCI EAFE Gross</i> | -1.0 | 13.3 | -0.8 | 1.2 | 7.0 | 3.8 | 5.4 |
| Developed Markets | -1.5 | 13.3 | -0.5 | 1.0 | 6.2 | 4.2 | 5.1 |
| <i>MSCI ACWI ex USA Gross</i> | -1.7 | 12.1 | -0.7 | 0.8 | 6.8 | 3.4 | 4.9 |
| Baillie Gifford | -0.9 | 19.1 | 1.1 | 2.3 | 7.0 | 6.1 | -- |
| <i>MSCI ACWI ex US</i> | -1.7 | 12.1 | -0.7 | 0.8 | 6.8 | 3.4 | -- |
| <i>MSCI ACWI ex US Growth</i> | -0.8 | 16.6 | 2.4 | 2.9 | 7.8 | 5.3 | -- |

Total Fund
Performance Summary (Gross of Fees)

Period Ending: September 30, 2019

| | 3 Mo (%) | YTD (%) | 1 Yr (%) | 2 Yrs (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|---------------------------------------|-------------|------------|-------------|--------------|--------------|--------------|---------------|
| BlackRock EAFE Index | -1.0 | 13.2 | -1.0 | 1.1 | 6.9 | 3.7 | -- |
| <i>MSCI EAFE</i> | -1.1 | 12.8 | -1.3 | 0.7 | 6.5 | 3.3 | 4.9 |
| <i>MSCI EAFE Gross</i> | -1.0 | 13.3 | -0.8 | 1.2 | 7.0 | 3.8 | 5.4 |
| Mondrian | -2.7 | 7.9 | -1.7 | -0.4 | 5.2 | 2.4 | 4.6 |
| <i>MSCI ACWI ex USA Value Gross</i> | -2.7 | 7.5 | -3.9 | -1.5 | 5.9 | 1.5 | 3.6 |
| <i>MSCI ACWI ex USA Gross</i> | -1.7 | 12.1 | -0.7 | 0.8 | 6.8 | 3.4 | 4.9 |
| Emerging Markets | -4.2 | 5.4 | -0.8 | -2.1 | 4.5 | 0.7 | -- |
| <i>MSCI Emerging Markets Gross</i> | -4.1 | 6.2 | -1.6 | -1.0 | 6.4 | 2.7 | 3.7 |
| Parametric Core | -4.2 | 5.4 | -0.8 | -2.1 | 4.5 | -- | -- |
| <i>MSCI Emerging Markets Gross</i> | -4.1 | 6.2 | -1.6 | -1.0 | 6.4 | 2.7 | 3.7 |
| Parametric Currency Overlay | 31.4 | 45.5 | 63.7 | -- | -- | -- | -- |
| Fixed Income | 1.1 | 7.0 | 7.3 | 3.9 | 4.7 | 4.2 | 5.7 |
| <i>Blended Fixed Income Index</i> | 2.1 | 9.7 | 9.9 | 4.6 | 3.7 | 3.9 | 4.1 |
| Core Fixed | 1.6 | 7.2 | 8.7 | 3.7 | 3.4 | 3.7 | 5.0 |
| <i>BBgBarc US Aggregate TR</i> | 2.3 | 8.5 | 10.3 | 4.4 | 2.9 | 3.4 | 3.7 |
| BlackRock Intermediate Govt | 1.2 | 5.3 | 7.7 | 3.3 | -- | -- | -- |
| <i>BBgBarc US Govt Int TR</i> | 1.2 | 5.2 | 7.5 | 3.1 | 1.8 | 2.2 | 2.3 |
| FIAM Bond | 2.2 | 9.1 | 10.3 | 4.7 | 3.4 | 3.9 | 4.8 |
| <i>BBgBarc US Aggregate TR</i> | 2.3 | 8.5 | 10.3 | 4.4 | 2.9 | 3.4 | 3.7 |
| Western TRU | 1.0 | 6.4 | 7.2 | 2.5 | 4.7 | -- | -- |
| <i>3-Month Libor Total Return USD</i> | 0.6 | 1.9 | 2.6 | 2.3 | 1.9 | 1.3 | 0.8 |
| <i>BBgBarc US Aggregate TR</i> | 2.3 | 8.5 | 10.3 | 4.4 | 2.9 | 3.4 | 3.7 |
| Opportunistic Credit | 0.2 | 6.8 | 4.7 | 4.5 | 6.6 | 6.1 | -- |
| <i>BBgBarc BA Intermediate HY</i> | 1.8 | 12.1 | 9.1 | 4.9 | 5.5 | 5.5 | -- |
| Angelo Gordon Opportunistic | 3.3 | 9.8 | 10.2 | 20.4 | 17.2 | 11.5 | -- |
| Angelo Gordon STAR | -0.9 | 10.3 | 12.9 | 17.5 | 17.7 | 13.4 | -- |
| <i>BBgBarc US Aggregate TR</i> | 2.3 | 8.5 | 10.3 | 4.4 | 2.9 | 3.4 | 3.7 |

Total Fund
Performance Summary (Gross of Fees)

Period Ending: September 30, 2019

| | 3 Mo (%) | YTD (%) | 1 Yr (%) | 2 Yrs (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|---|-------------|-------------|-------------|--------------|--------------|--------------|---------------|
| Beach Point Select | 1.5 | 9.3 | 4.9 | 5.9 | 7.5 | -- | -- |
| <i>BBgBarc BA Intermediate HY</i> | 1.8 | 12.1 | 9.1 | 4.9 | 5.5 | 5.5 | -- |
| Brigade Capital | -0.4 | 5.7 | -0.1 | 2.5 | 5.0 | 4.1 | -- |
| <i>BBgBarc BA Intermediate HY</i> | 1.8 | 12.1 | 9.1 | 4.9 | 5.5 | 5.5 | -- |
| <i>50% Barclays HY/ 50% Bank Loan</i> | 1.1 | 8.9 | 4.7 | 4.5 | 5.4 | 4.8 | -- |
| PIMCO Diversified | 1.2 | 10.9 | 9.5 | 5.2 | -- | -- | -- |
| <i>Blended PIMCO Diversified Index</i> | 1.9 | 11.8 | 10.1 | 4.9 | 4.9 | 5.2 | 6.6 |
| <i>BBgBarc BA Intermediate HY</i> | 1.8 | 12.1 | 9.1 | 4.9 | 5.5 | 5.5 | -- |
| Franklin Templeton | -3.4 | -0.3 | 1.8 | -0.8 | 3.4 | 1.0 | -- |
| <i>BBgBarc Multiverse TR</i> | 0.6 | 6.5 | 7.5 | 3.0 | 1.8 | 2.1 | 2.5 |
| Private Credit | 0.6 | 4.5 | 5.9 | 7.0 | 6.6 | -- | -- |
| <i>Cliffwater Direct Lending Index</i> | 2.3 | 7.5 | 8.4 | 8.8 | 9.0 | 8.4 | 10.6 |
| PIMCO Private Income | 0.0 | -- | -- | -- | -- | -- | -- |
| <i>BBgBarc BA Intermediate HY</i> | 1.8 | 12.1 | 9.1 | 4.9 | 5.5 | 5.5 | -- |
| <i>Cliffwater Direct Lending Index</i> | 2.3 | 7.5 | 8.4 | 8.8 | 9.0 | 8.4 | 10.6 |
| TCP Direct Lending VIII | 1.6 | 5.7 | 7.5 | 7.1 | 6.9 | -- | -- |
| White Oak Yield | 0.0 | 3.9 | 4.8 | 7.0 | -- | -- | -- |
| <i>Cliffwater Direct Lending Index</i> | 2.3 | 7.5 | 8.4 | 8.8 | 9.0 | 8.4 | 10.6 |
| Risk Parity | 2.7 | 20.6 | 14.9 | 8.2 | 7.3 | 6.4 | -- |
| <i>Blended Risk Parity Index</i> | 1.4 | 14.2 | 5.7 | 6.4 | 8.1 | 7.3 | -- |
| AQR GRP, 10% Volatility | 1.2 | 18.9 | 12.4 | 7.8 | 7.9 | 4.8 | -- |
| PanAgora | 4.2 | 22.4 | 17.4 | 8.7 | 6.8 | 7.8 | -- |
| <i>Blended Risk Parity Index</i> | 1.4 | 14.2 | 5.7 | 6.4 | 8.1 | 7.3 | -- |
| <i>S&P Risk Parity 10% Target Volatility Index TR USD</i> | 2.4 | 15.4 | 10.3 | 7.0 | 6.2 | 4.4 | 6.2 |
| Alternatives | 8.5 | 10.4 | 11.3 | 7.1 | 8.7 | 7.9 | -- |
| <i>Blended Alternatives Index</i> | 2.9 | 4.6 | 9.6 | 9.4 | 10.9 | 7.6 | -- |
| Private Equity | 15.9 | 21.2 | 26.9 | 20.3 | 19.4 | 18.9 | -- |
| <i>Blended Private Equity Index</i> | 4.1 | 3.5 | 12.0 | 11.9 | 15.1 | 13.0 | 15.9 |

Total Fund
Performance Summary (Gross of Fees)

Period Ending: September 30, 2019

| | 3 Mo (%) | YTD (%) | 1 Yr (%) | 2 Yrs (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|---|-------------|--------------|-------------|--------------|--------------|--------------|---------------|
| Hedge Fund/Absolute Return | 0.0 | -1.5 | -4.9 | -6.0 | -2.2 | 1.5 | -- |
| <i>Libor 1 month +4%</i> | 1.5 | 4.7 | 6.4 | 6.1 | 5.7 | 5.2 | -- |
| AQR DELTA XN | -1.2 | -7.4 | -11.4 | -10.8 | -5.3 | -0.3 | -- |
| Aberdeen Standard GARS | 1.6 | 7.8 | 5.4 | 1.8 | 2.4 | -- | -- |
| <i>Libor 1 month +4%</i> | 1.5 | 4.7 | 6.4 | 6.1 | 5.7 | 5.2 | -- |
| Inflation Hedge | -0.3 | 5.4 | 2.0 | 3.5 | 4.7 | -- | -- |
| <i>Blended Inflation Hedge Index</i> | 0.3 | 6.7 | 4.1 | 4.5 | 5.3 | -- | -- |
| Real Estate | 1.9 | 4.6 | 6.9 | 8.0 | 8.2 | 10.0 | 11.1 |
| <i>NCREIF ODCE</i> | 1.3 | 3.8 | 5.6 | 7.1 | 7.3 | 9.3 | 10.9 |
| Invesco | 2.0 | 4.2 | 6.4 | 7.9 | 8.1 | 9.9 | 11.0 |
| <i>NCREIF ODCE</i> | 1.3 | 3.8 | 5.6 | 7.1 | 7.3 | 9.3 | 10.9 |
| Invesco US Val IV | 2.1 | 7.7 | 12.2 | 11.1 | 11.5 | -- | -- |
| <i>NCREIF ODCE</i> | 1.3 | 3.8 | 5.6 | 7.1 | 7.3 | 9.3 | 10.9 |
| <i>NCREIF CEVA 1Q Lag - NET</i> | 3.0 | 9.1 | 12.3 | 12.2 | 11.3 | 13.0 | -- |
| Invesco US Val V | 1.1 | -- | -- | -- | -- | -- | -- |
| <i>NCREIF ODCE</i> | 1.3 | 3.8 | 5.6 | 7.1 | 7.3 | 9.3 | 10.9 |
| <i>NCREIF CEVA 1Q Lag - NET</i> | 3.0 | 9.1 | 12.3 | 12.2 | 11.3 | 13.0 | -- |
| PGIM RE US Debt Fund | 1.6 | 5.1 | 7.0 | 7.2 | -- | -- | -- |
| <i>NCREIF ODCE</i> | 1.3 | 3.8 | 5.6 | 7.1 | 7.3 | 9.3 | 10.9 |
| Private Real Asset | -0.8 | -11.0 | -7.3 | -4.8 | -3.3 | 6.1 | -- |
| <i>Blended Private Real Asset Index</i> | 3.7 | 7.0 | 6.8 | 4.0 | 5.6 | 5.5 | -- |
| <i>Blended Secondary CA Private RA Index</i> | -0.1 | -0.1 | 2.0 | 6.5 | 8.7 | 3.8 | -- |
| Public Real Assets | -2.8 | 10.3 | -2.0 | 0.4 | -- | -- | -- |
| <i>Blended Public Real Asset Index</i> | -2.7 | 9.4 | -0.6 | 1.3 | 4.5 | 4.9 | -- |
| Cushing MLP Alpha TR | -3.7 | 12.3 | -7.5 | -- | -- | -- | -- |
| <i>50% BBgBarc US TIPS/ 50% Blended PRA Index</i> | -0.6 | 8.7 | 3.4 | -- | -- | -- | -- |
| <i>Alerian MLP TR USD</i> | -5.0 | 11.1 | -8.1 | -1.8 | -2.5 | -8.6 | 6.3 |
| SSgA Custom Real Asset | -2.6 | 9.7 | -0.3 | 1.6 | -- | -- | -- |
| <i>SSgA Custom Real Asset Index</i> | -2.7 | 9.4 | -0.6 | 1.3 | 4.5 | -- | -- |

Total Fund
Performance Summary (Gross of Fees)

Period Ending: September 30, 2019

| | 3 Mo (%) | YTD (%) | 1 Yr (%) | 2 Yrs (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|---------------------------|-------------|------------|-------------|--------------|--------------|--------------|---------------|
| TIPS | 0.6 | 6.2 | 5.4 | 3.4 | 2.5 | 2.3 | -- |
| <i>BBgBarc US TIPS TR</i> | 1.3 | 7.6 | 7.1 | 3.7 | 2.2 | 2.4 | 3.5 |
| Brown Brothers Harriman | 0.6 | 6.2 | 5.4 | 3.4 | 2.5 | 2.3 | -- |
| <i>BBgBarc US TIPS TR</i> | 1.3 | 7.6 | 7.1 | 3.7 | 2.2 | 2.4 | 3.5 |
| Cash | 0.3 | 0.9 | 1.4 | 1.2 | 1.1 | 1.0 | 0.9 |
| <i>91 Day T-Bills</i> | 0.5 | 1.7 | 2.3 | 2.0 | 1.5 | 1.0 | 0.5 |
| General Account | 0.6 | 2.6 | 5.1 | 4.1 | 3.2 | 2.5 | 1.4 |
| Treasury & LAIF | 0.8 | 2.4 | 3.1 | 3.7 | 2.7 | 2.0 | 1.4 |
| <i>91 Day T-Bills</i> | 0.5 | 1.7 | 2.3 | 2.0 | 1.5 | 1.0 | 0.5 |

Acadian Asset Management – Acadian U.S. Managed Volatility

Acadian attempts to take advantage of the mispricing of risk by building low-risk equity portfolios that hold predominantly low-risk stocks, and then also adding information on the correlation structure of equities to help further reduce risk through diversification.

Angelo, Gordon & Co. – AG STAR Fund

The STAR Fund will focus on CMBS and non-Agency RMBS priced between 25-75% of par, which AG believes are even today mispriced due to their complex nature and a dearth of natural buyers capable of accurately valuing these assets. In addition, AG will target securities that are well-positioned to benefit from home and commercial property price stabilization and recovery, and/or borrower credit quality improvement. In this regard the STAR Fund will be more aggressive than the PPIP Fund since it will target securities that are more geared to a recovery of the commercial and residential real estate markets. The Fund will utilize a moderate amount of leverage (1x to 1.5x) and is targeting a base-case 15% net IRR with a downside return in the mid/high single digits and an upside projection of 25%+ returns.

Angelo, Gordon & Co. – AG Opportunistic Whole Loan Fund

As bank balance sheets have strengthened since the crisis, Angelo Gordon expects approximately \$40 billion of re-performing loans and non-performing loans will trade hands each year in the near term. By acquiring these loans at a discounted price and replacing original servicers with better-focused special servicers, Angelo Gordon believes it can improve operational efficiency and generate attractive returns. To take advantage of this opportunity, Angelo Gordon established this Opportunistic Whole Loan Fund to make investments primarily in a portfolio of non-performing loans and re-performing, but will also include investments in new residential mortgage loans and excess mortgage servicing rights. Opportunistic investments in commercial mortgage loans and other mortgage related investments may also be included in the Fund's portfolio. Angelo Gordon has been an active participant in the residential and consumer debt market since 2008. The Partnership's investment approach to residential mortgage loans and securities is guided by an analytically based investment process anchored by distressed asset valuation and cash flow modeling. Angelo Gordon's analysis of re-performing and non-performing loans begins with its loan due diligence process. This process will include a review of substantially all of the properties in the pool, as well as a review of the loan files backing the loan pool. In addition, a macro overlay is embedded in the investment process which incorporates general economic trends, along with specific views on interest rates, unemployment, collateral appreciation or depreciation, governmental intervention in creditors' rights and liquidation timelines.

AQR Capital Management - AQR Delta

The AQR DELTA Fund aims to deliver efficient exposure to a well-diversified portfolio of hedge fund strategies, including Convertible Arbitrage, Event Driven, Fixed Income Relative Value, Equity Market Neutral, Long/Short Equity, Dedicated Short Bias, Global Macro, Managed Futures, and Emerging Markets. The Delta Fund's approach is to capture and deliver the "hedge fund risk premiums" that explain much of the returns of each of these strategies by building bottom-up positions in each strategy. AQR's research has demonstrated that many hedge funds use similar strategies to generate returns. These strategies are often well-known, widely understood and share common exposures. AQR's experience and research suggests much of the insight underlying these strategies - as well as a meaningful portion of their returns - can be captured using a dynamic, disciplined investment approach. Just as the equity risk premium can explain a large portion of the returns from equity investing, hedge fund risk premiums can explain the returns from hedge fund investing. Importantly, while compensation for equity risk is dependent on economic growth, hedge fund risk premiums are largely unrelated to economic activity, and thus provide attractive diversification properties.

AQR – Risk Parity

The objective of Global Risk Parity (GRP) is to generate excess returns from a risk diversified portfolio of asset exposures. AQR believes that its approach maximizes the diversification benefit across a broad range of economic environments. For many institutional portfolios, equity risk has historically been the predominant risk and the source of most return expectations since equities offer higher expected returns to compensate for their high risk. Investor preference for and concentration in equities has been driven by their expected return needs, which cannot be satisfied in a well-diversified un-levered portfolio. GRP is a diversified portfolio that can be scaled to similar levels of risk as a portfolio concentrated in equities, but with a higher expected return resulting from diversification across asset class risk. The approach helps do away with the compromise of concentrating in high risk assets to meet high return needs. Consistent with portfolio theory, the GRP strategy is designed to maximize diversification across a broad spectrum of liquid global risk premia to create a portfolio with higher expected risk-adjusted returns. Research shows that risk-adjusted returns across asset classes are similar over the long-term. Since realized risk-adjusted returns across asset classes are similar, AQR expects a portfolio that is diversified equally by risk to perform better. The Global Risk Premium strategy aims to deliver efficient market exposure across four broad asset classes in a risk balanced fashion.

Baillie Gifford – ACWI ex US Focus Equities

ACWI ex US Focus is a fundamental growth strategy. Research is organized primarily by regional teams, with each member of the ACWI ex US Focus Portfolio Construction Group representing a regional team. Four global sector groups also contribute research. Baillie Gifford conducts approximately 2000 company meetings annually both in Edinburgh and onsite. Companies are evaluated on their growth opportunity relative to the average company, their ability to execute on that opportunity, and the degree to which probability of future success is already valued by the market. Baillie Gifford's basic philosophy is that share prices ultimately follow earnings. They believe that the stock market has a recurring tendency to under-appreciate the value of long-term compound growth. The process seeks to add value through use of proprietary fundamental research to identify companies exhibiting some combination of sustained above average growth, and attractive financial characteristics. The portfolio generally holds 80-120 stocks, with country and sector weights +/-6% relative to the index and industry weights +/- 5% relative to the index.

Beach Point Capital Management, L.P. - Beach Point Select Fund

Beach Point Select Fund is a commingled fund vehicle within the firm's Opportunistic Credit strategy. This fund focuses on off-the-run, complex, and less-liquid securities. It is a best ideas portfolio of distressed debt, special situations, private/direct loans, catalyst-driven high yield bonds and bank loans, and credit-informed equities with a North American and European focus. The Select Fund differs from other funds and accounts in the Opportunistic Credit strategy by pursuing a more concentrated portfolio and emphasizing a higher percentage of less-liquid/private investments. Beach Point invests up and down the entire capital structure and it constructs portfolios with a bottom-up, research-driven approach that also takes into account top-down macro considerations. Its investment process includes idea generation, detailed credit analysis, relative value decision making and investment selection, portfolio construction and on-going monitoring. The ultimate goal of its investment process is to produce a well-diversified investment portfolio with limited downside risk and substantial upside potential.

BlackRock – EAFE Index

The EAFE Index Fund seeks to replicate the return of the MSCI EAFE Index. This index represents the developed equity markets outside of North America: Europe, Austral, Asia and the Far East.

BlackRock – Intermediate Government Index

The Intermediate Government Index Fund seeks to track the results of an index composed of U.S. dollar-denominated government, government related, and investment grade U.S. corporate bonds with maturities between 1 and 10 years.

BlackRock – Russell 1000 Index

The Russell 1000 Index Fund tracks large U.S. companies and achieve broad diversification with low costs by fully replicating the Russell 1000 Index.

Brigade – Opportunistic Credit

Opportunistic Credit is a fundamental, bottom-up strategy focused on high yield corporate bonds and bank loans with tactical allocations to structured securities, convertibles and other sectors of the bond markets as they become attractive on a relative value basis. While performing credits represent the majority, Brigade will invest up to 35% of the portfolio in distressed securities and restructuring situations if these types of opportunities are attractive on a risk-adjusted basis and the timing is right with respect to the credit cycle. The portfolio is comprised of mostly North American issuers, but they are not restricted geographically and expect to have a moderate allocation to Europe over time. Although the portfolio is generally long-only, Brigade has the ability to implement a limited amount of tactical macro hedges.

Brown Brothers Harriman – Inflation Indexed Securities

BBH manages TIPS using three main types of strategies: Fundamental, Technical and Opportunistic. The Fundamental bucket has two sub-strategies, real yield duration and real yield curve slope vs. nominal yield curve slope. The Technical strategies consist of yield curve roll-down, auction cycle trading, seasonal vs. non-seasonal CPI and security selection/option value analysis. Finally, nominal Treasuries vs. TIPS, sector relative value (i.e., corporate or Agency inflation-linked bonds) and non-Dollar inflation-linked bonds make up the Opportunistic group. Real yield duration is held to +/- 1 year vs. the benchmark and the portfolio has a limited allocation to non-index securities, typically 5-10% with a maximum of 20% (including nominal Treasuries).

Cushing MLP Alpha TR

A strategy focusing on bottom-up research of company and sectors that will allow them to identify superior distribution growth opportunities in public MLPs.

DE Shaw – DE Shaw US Broad Market Core Alpha Extension Fund

The D. E. Shaw group believes that there exist some market inefficiencies that may be identified through quantitative analysis, advanced technology, and the insight of practitioners. Identifying these inefficiencies involves a process of hypothesis formulation, testing, and validation. Importantly, to avoid data-mining, the hypothesis formulation precedes the analysis of the historical data. D.E. Shaw's Structured Equity strategies rely largely on quantitative and computational investment techniques developed by the D. E. Shaw over the last 19 years in the course of research conducted for purposes of managing the firm's hedge funds. In addition to its beta one strategies, D.E. Shaw manages substantial assets in its hedge fund strategies. D.E. Shaw's investment process involves a suite of quantitative models, each designed to capitalize on a distinct and uncorrelated set of market inefficiencies. Some of these models are technical in nature and involve price and volume inputs. Other models rely on fundamental data, such as figures gleaned from corporate balance sheets or income statements. Still others, again quantitative, anticipate or react to a particular corporate event or set of events. These models typically operate with forecast horizons of a few weeks to many months. The ability to trade on shorter-term signals distinguishes D.E. Shaw from many of its long only and 130/30 peers. Portfolio construction involves the use of a proprietary optimizer which runs dynamically throughout the trading day. The portfolio is broadly diversified with several hundred long and short positions. Over- and under-weighting of sectors and industries relative to the benchmark will be quite modest, with the intention that most of the alpha be generated by security selection. The US Broad Market Core Alpha Extension Fund is a 130/30 strategy which maintains a beta that is approximately neutral to the Russell 1000 Index.

Eaton Vance/Parametric – Structured Emerging Markets Core Equity

Parametric utilizes a structured, rules-based approach, which they believe is capable of generating enhanced returns with lower volatility compared to both traditional active management and passive capitalization weighted indices. The basic idea is to structure the portfolio with more balanced country weights than the market cap weighted indices, and also to capture a rebalancing premium. This provides more diversification and greater exposure to smaller countries than is provided by the market cap weighted indices. The approach is to divide emerging markets countries into three tiers, and to equally weight the countries within each tier. Tier 1 countries are the largest eight countries that dominate the cap weighted index. Each successive tier is comprised of smaller countries, each of which is given a smaller target weighting in the model portfolio. In aggregate, the eight Tier 1 countries are given a much lower weighting than in the capitalization weighted index, but they nevertheless comprise more than 50% of the portfolio. The Core SEM strategy targets excess return of 3% over a market cycle with 2.5%-4.5% tracking error. It is designed to generate a level of volatility 90%-100% of the MSCI EM index. The strategy invests in 44 countries and will typically hold 700-1,000 securities. Turnover is expected to be in the range of 5%-15%.

Franklin Templeton Investments – Global Fixed Income

Franklin Templeton manages the global bond mandate in an unconstrained fashion using a top-down, fundamental framework. In the short term and on a country-by-country basis there are often inefficiencies in global bond and currency markets, however, over the longer term the market will generally price to fundamentals. Thus, FT focuses on fundamental research to identify long-term opportunities and uses short-term market inefficiencies to build positions in such investments. The investment and portfolio construction process begin with the determination of the Fund's or institutional client's investment objectives, resulting in a set of risk-return parameters and exposure limits within which the portfolio is managed. Next the firm's global economic outlook for the industrialized countries is developed, with a focus on interest rate and exchange rate forecasts. The portfolio's interest rate outlook is a function of global general equilibrium macroeconomic analysis as well as country-specific research. Macroeconomic conditions in the G-3 economies are analyzed first, primarily with respect to how current and projected growth and inflation dynamics are expected to influence monetary policy. This analysis is then extended out to the rest of the industrialized countries (G-13) as well as emerging markets, which results in broad targets for cash, duration, currencies and the developed/emerging market mix. Using the firm's interest rate and exchange rate outlook, probability-weighted horizon returns for bonds of various countries are then calculated. This analysis is used to establish specific country weights and duration targets based on risk-adjusted expected total return measured in the portfolio's base currency. Analysis of emerging markets includes sovereign credit analysis along with greater emphasis on capital flows, inter-market dynamics and trends in the level of risk aversion in the market.

INVESCO Realty Advisors – INVESCO Core Equity, LLC

SamCERA is a founding member of INVESCO's open-end Core Equity real estate fund and rolled its separate account properties into the fund. INVESCO Core Equity, LLC (the "Fund") is a perpetual life, open-end vehicle which invests in a diversified portfolio of institutional quality office, retail, industrial and multifamily residential real estate assets. The Fund buys core properties that are located within the United States, typically requiring an investment of \$10 million or more. The portfolio cannot be more than 30% leveraged.

INVESCO Realty Advisors – INVESCO US Val IV

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund. The Invesco real estate team manages around \$62B in assets with investments and offices around the globe. Invesco Value Fund IV will look to acquire fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. Investments will be limited to direct equity interests in office, multi-family, retail and industrial properties across the US. The Fund is expected to be geographically concentrated in U.S. gateway cities and top 25 Metropolitan Statistical Areas (MSA's). Invesco Value Fund IV will provide a nice compliment to the more conservative Invesco Core Fund and offer the potential of enhanced returns to the SamCERA Real Estate portfolio.

INVESCO Realty Advisors – INVESCO US Val V

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund and through the Invesco US Value IV Fund since December 2015. The Invesco real estate team manages around \$62B in assets with investments and offices around the globe. Invesco Value Fund V will be similar to the Value Add IV and look to acquire fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. Investments will be limited to direct equity interests in office, multi-family, retail and industrial properties across the US. The Fund is expected to be geographically concentrated in U.S. gateway cities and top 25 Metropolitan Statistical Areas (MSA's).

Mondrian Investment Partners – International Equity

Mondrian is a value-oriented, defensive manager whose investment philosophy is based on the principle that investments must be evaluated for their fundamental long-term value. The firm's philosophy involves three stated investment objectives: 1) provide a rate of return meaningfully greater than the client's domestic rate of inflation, 2) structure client portfolios that preserve capital during protracted international market declines, and 3) provide portfolio performance that is less volatile than benchmark indices and other international managers. Mondrian applies typical value screening criteria to a universe of 1,500 stocks, from which 500 are selected for more detailed work. Through fundamental research, and the deliberations of the Investment Committee, the universe is further reduced to a list of 150 stocks. The investment team conducts detailed fundamental analysis on the remaining stocks, a process which includes applying the firm's dividend discount model consistently across all markets and industries. Mondrian also uses a purchasing power parity model to give an accurate currency comparison of the value of the stocks under consideration. The firm will only consider buying stocks in countries with good investor protection practices and relatively simple repatriation procedures. A computer-based optimization program is employed in the portfolio construction process. Mondrian's portfolio holds 80-125 issues.

PanAgora Asset Management – Defensive U.S. Equity Low Volatility

PanAgora's Defensive Equity strategy seeks to balance risk exposures within the portfolio across multiple dimensions to achieve true diversification. The Defensive Equity approach is used to construct equity portfolios designed to achieve tailored exposure to certain factors, including low volatility, multi-factor (value, quality, and momentum), and high dividend yield while maintaining less risk concentration throughout the portfolio.

Panagora – Diversified Risk Multi Asset Fund

The Multi Asset team is headed up by Edward Qian, CIO of the group, and the founder of Panagora’s risk parity strategy. A staff of approximately thirteen works in this group on research and portfolio construction, with some people spending more time on the former and some more on the latter. Panagora implements risk parity by distinguishing between three categories of assets: equities, nominal fixed income, and inflation protection. Each of these categories corresponds to a respective economic environment: economic growth, economic contraction and inflation. Panagora’s risk allocation targets 40% each from equities and nominal fixed income, and 20% from inflation protection. In addition to applying concept of risk parity between asset classes, Panagora also applies it within each asset class. The 40/40/20 allocation to equities/nominal fixed income/inflation protection is a long-term strategic allocation. In 2009 Panagora introduced what they refer to as “Dynamic Risk Allocation” or “DRA,” which involves tactically tilting the risk allocations away from the neutral targets in order to enhance returns and reduce risk.

Parametric Currency Overlay – Currency Hedge

An overlay hedge placed on half of the notional value of international equities. The portfolio uses Parametric for this overlay.

PIMCO Diversified

PIMCO Diversified Income Fund offers a broad and flexible multi-credit approach in a liquid and cost-effective format. The Diversified Income Fund seeks to produce consistent above benchmark performance using diversified sources of alpha from a universe that includes global credit as well as “non-core” credit sectors (ex., securitized, emerging markets).

PIMCO Private Income Fund

PIMCO Private Income Fund provides an attractive total return oriented global credit exposure utilizing both top-down sector relative value and bottom up security selection. The strategy invests across private residential, commercial, corporate and specialty finance markets.

PGIM RE Debt

PGIM Real Estate US Debt Fund focuses on a loan origination strategy with a mix of 20% senior long duration loans on stable assets, 60% senior short/medium duration loans on stable and transitional assets, and 20% mezzanine mid/long duration debt.

Pyramis Global Advisors – Broad Market Duration Commingled Pool

Pyramis’ Broad Market Duration (BMD) investment strategy seeks to achieve absolute and risk-adjusted returns in excess of the BC U.S. Aggregate Index, focusing its investments in US Treasuries, agencies, investment grade corporate bonds, mortgage-backed and asset-backed securities. The BMD commingled pool can also hold small, opportunistic positions in out-of-benchmark securities, such as inflation-linked bonds. The investable universe includes all US dollar denominated, investment grade debt securities. The BMD investment approach emphasizes issuer and sector valuation and individual security selection. Through the integration of fundamental and quantitative research and trading, the BMD strategy is implemented in a team environment. Risk management technology is utilized to explicitly quantify benchmark exposures on a daily basis, and Pyramis uses the same analytical framework to assess both index and portfolio risk. Tracking error should range between 40 and 60 basis points per annum over the benchmark, and stringent portfolio construction risk control rules are strictly adhered to.

Quantitative Management Associates – QMA Small-Cap Core

Quantitative Management Associates (QMA) utilizes a bottom-up quantitative framework in order provide a diversified exposure to core U.S. small-cap stocks, while attempting to produce consistent outperformance versus the benchmark with moderate tracking error levels. QMA uses an adaptive, systematic investment process to exploit opportunities created by mispriced securities to consistently add value over long time periods. Bottom-up stock selection drives exposure to key sources of alpha (valuation, growth, and quality). The QMA stock selection model adapts to changes in company growth rates and market environments by putting more emphasis on valuation for slowly growing companies, and more emphasis on future growth projections for companies with higher projected growth rates.

Standard Life Aberdeen Global Absolute Return Strategy (GARS)

The Standard Life Aberdeen Global Absolute Return Strategy (GARS) was initially launched in 2005 to help address Standard Life's own pension plan's deficit problem. GARS' primary investment objective is to deliver a positive absolute return over the medium to long term with lower volatility than equities, irrespective of market conditions. It seeks returns through dynamic allocation to investment opportunities in traditional and advanced asset classes, and also separately exploits the team's security selection expertise. In the search for attractive investment positions, the team follows a rigorous research process. This includes a variety of research techniques, including broad global macro-economic, fundamental analysis, quantitative research and valuation modeling. The GARS investment process is designed to capitalize on an array of research and investment techniques and draws together the team's three-year investment insights. The team then rigorously examines and review position proposals to approve a high conviction, short list of positions that work well together. Having a cash benchmark means that GARS has a potentially unrestricted investment universe and all portfolio holdings are at the Portfolio Manager's discretion. The GARS portfolio also routinely uses a variety of conventional derivatives for investment, liquidity, efficiency and hedging purposes. The GARS strategy has experienced significant growth in its asset under management since it becomes available to external investors in 2006.

State Street Global Advisors (SSgA) Custom Real Asset

SSgA Custom Real Asset portfolio uses a portfolio of liquid real assets to proxy private real assets. The portfolio is comprised of equal weightings of the Bloomberg Commodity Index, S&P Global Natural Resources Index, and S&P Global Infrastructure Index. The portfolio is used to fund upcoming private real asset mandates.

Tennenbaum Capital Partners - TCP Direct Lending Fund VIII

TCP Direct Lending Fund VIII is a private investment fund managed by Tennenbaum Capital Partners ("TCP"). The Fund is designed to continue TCP's successful strategy of investing in privately-originated, performing senior secured debt primarily in North America-based companies with target enterprise values between \$100 million and \$1.5 billion. The Fund will include positions in 1st lien, 2nd lien and unitranche debt, with a preference for floating-rate debt, which TCP believes provides better flexibility to adapt to market conditions. TCP's direct lending strategy has generated attractive investment opportunities across market cycles, as evidenced by the Firm's prior direct lending track record. Fund VIII targets an unlevered annual yield of approximately 9-12%, with its return primarily driven by current income.

Western Asset Management – Total Return Unconstrained (TRU)

Western Asset's Total Return Unconstrained strategy (TRU) seeks to provide bond-like risk and return over the long term but does not have a benchmark. This allows for asset allocation based on value rather than using the construction of a benchmark as baseline positioning. The investment approach is active with very broad latitude on duration (-3 to +8 years) and on asset allocation across all of the eligible sectors in a core plus mandate. The portfolio must have at least 50% of its holdings in investment-grade securities. The flexibility offered by this strategy allows for defensive positioning in rising rate environments and opportunistic deployment of capital when value opportunities arise. It also allows the portfolio managers to emphasize (or deemphasize) either credit or rates when one or the other appears to offer greater (or lesser) value. um non-US exposure.

White Oak - White Oak Yield Spectrum Fund

The White Oak Yield Spectrum Fund's objective is to earn substantial current income by originating, extending, and/or investing in a diversified portfolio of primarily senior secured corporate credit and debt instruments consisting of term loans, asset-based loans and equipment leases and loans issued by small to middle-market companies located primarily in the United States and Canada. It focuses on providing self-originated deals for predominantly non-sponsored, privately-held borrowers.

Policy Index and Benchmark History

Period Ending: September 30, 2019

| Total Plan Policy Index | As of | | | | |
|--|--------|--------|--------|---------|--------|
| | 7/1/19 | 4/1/19 | 1/1/19 | 10/1/18 | 4/1/18 |
| 10 Year Treasury +2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 60/40 MSCI World/BBgBarc Global Aggregate (RP) | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% |
| 60/40 Russell 3000/BBgBarc US Aggregate (RP) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc Aggregate | 14.0% | 14.0% | 14.0% | 14.0% | 14.0% |
| BBgBarc BA Intermediate HY | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% |
| BBgBarc BBB | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc Credit BAA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc Multiverse | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc TIPS | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| Bloomberg Commodity | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Citigroup non-US WGBI | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| CPI + 5% (RA) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Blended Liquid Real Asset | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% |
| Blended Private Real Asset | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| Libor +4% (HF) | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% |
| MSCI ACWI ex-US | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex US IMI 100% Hedged (Net) | 7.6% | 5.7% | 3.8% | 1.9% | 0.0% |
| MSCI ACWI ex-US IMI | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex-US IMI (Net) | 11.4% | 13.3% | 15.2% | 17.1% | 19.0% |
| MSCI EAFE | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| NCREIF ODCE | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% |
| NCREIF Property | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 1000 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 1000 Value | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 2000 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 3000 | 22.0% | 22.0% | 22.0% | 22.0% | 21.0% |
| Russell 3000 +3% (PE) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 3000 +3% 1Q Lag (PE) | 6.0% | 6.0% | 6.0% | 6.0% | 7.0% |
| S&P 500 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

| | 10/1/17 | 2/1/17 | 1/1/17 | 10/1/16 | 9/1/16 | 1/1/16 | 7/1/14 | 1/1/14 | 2/1/13 | 1/1/11 | 10/1/10 | 1/1/09 | 5/1/07 | 6/1/00 | 3/1/99 | 9/1/98 | 7/1/96 |
|--|---------|--------|--------|---------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|
| 10 Year Treasury +2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 8.0% | 10.0% | 10.0% |
| 60/40 MSCI World/BBgBarc Global Aggregate (RP) | 8.0% | 8.0% | 8.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 60/40 Russell 3000/BBgBarc US Aggregate (RP) | 0.0% | 0.0% | 0.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 6.0% | 6.0% | 6.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc Aggregate | 14.0% | 12.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 9.3% | 11.0% | 11.0% | 12.9% | 27.0% | 27.0% | 29.0% | 25.0% | 21.0% | 21.0% |
| BBgBarc BA Intermediate HY | 7.0% | 6.0% | 6.0% | 6.0% | 5.0% | 5.0% | 5.0% | 5.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc BBB | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 1.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc Credit BAA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 3.5% | 3.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc Multiverse | 0.0% | 3.0% | 3.0% | 3.0% | 3.0% | 3.0% | 3.0% | 3.8% | 4.4% | 4.4% | 4.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc TIPS | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 3.1% | 3.3% | 3.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Bloomberg Commodity | 0.0% | 0.0% | 0.0% | 0.0% | 3.0% | 3.0% | 3.0% | 3.0% | 3.0% | 3.0% | 3.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Citigroup non-US WGBI | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 5.0% | 9.0% | 9.0% |
| CPI + 5% (RA) | 0.0% | 0.0% | 0.0% | 0.0% | 2.0% | 2.0% | 2.0% | 2.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Blended Liquid Real Asset | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Blended Private Real Asset | 8.0% | 7.0% | 5.0% | 5.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Libor +4% (HF) | 6.0% | 6.0% | 5.0% | 5.0% | 5.0% | 5.0% | 4.0% | 4.0% | 3.0% | 3.0% | 3.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex-US | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 18.0% | 18.0% | 18.0% | 21.0% | 21.0% | 15.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex US IMI 100% Hedged (Net) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex-US IMI | 0.0% | 19.0% | 19.0% | 19.0% | 20.0% | 20.0% | 20.0% | 20.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex-US IMI (Net) | 19.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI EAFE | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 20.0% | 20.0% | 20.0% |
| NCREIF ODCE | 8.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 6.0% | 6.0% | 5.0% | 5.0% | 5.0% | 6.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| NCREIF Property | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 6.0% | 6.0% | 0.0% | 0.0% | 0.0% |
| Russell 1000 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 24.0% | 24.0% | 24.0% | 28.0% | 28.0% | 28.0% | 37.0% | 37.0% | 40.0% | 22.0% | 20.0% | 20.0% |
| Russell 1000 Value | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 5.0% | 5.0% | 0.0% |
| Russell 2000 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 4.0% | 6.0% | 6.0% | 7.0% | 7.0% | 7.0% | 9.0% | 9.0% | 10.0% | 15.0% | 15.0% | 15.0% |
| Russell 3000 | 21.0% | 23.0% | 28.0% | 28.0% | 28.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 3000 +3% (PE) | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 8.0% | 8.0% | 8.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 3000 +3% 1Q Lag (PE) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| S&P 500 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 5.0% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Policy Index and Benchmark History

Period Ending: September 30, 2019

| Public Equity Benchmark | As of: | | | | | | | | | | | | | | | |
|---------------------------------------|--------|--------|--------|---------|---------|--------|---------|--------|--------|--------|---------|--------|--------|--------|--------|--------|
| | 7/1/19 | 4/1/19 | 1/1/19 | 10/1/18 | 10/1/17 | 2/1/17 | 10/1/16 | 9/1/16 | 1/1/16 | 1/1/14 | 10/1/10 | 5/1/07 | 6/1/00 | 3/1/99 | 9/1/98 | 1/1/96 |
| MSCI ACWI ex-US | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 34.0% | 31.3% | 23.1% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex US IMI 100% Hedged (Net) | 18.5% | 13.9% | 9.3% | 4.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex-US IMI | 0.0% | 0.0% | 0.0% | 0.0% | 47.5% | 45.2% | 40.4% | 41.7% | 41.7% | 40.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex US IMI (Net) | 27.8% | 32.4% | 37.0% | 41.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI EAFE | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 32.3% | 33.3% | 33.3% |
| Russell 1000 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 50.0% | 48.0% | 52.8% | 55.2% | 61.5% | 35.5% | 33.3% | 33.3% |
| Russell 1000 Value | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 8.0% | 8.4% | 0.0% |
| Russell 2000 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 8.3% | 12.0% | 13.2% | 13.5% | 15.4% | 24.2% | 25.0% | 25.0% |
| Russell 3000 | 53.7% | 53.7% | 53.7% | 53.7% | 52.5% | 54.8% | 59.6% | 58.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| S&P 500 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 8.4% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

| US Equity Benchmark | As of: | | | | | | |
|---------------------|--------|--------|--------|--------|--------|--------|--------|
| | 9/1/16 | 1/1/16 | 6/1/00 | 3/1/99 | 9/1/98 | 7/1/96 | 1/1/95 |
| Russell 1000 | 0.0% | 85.7% | 80.0% | 52.0% | 50.0% | 50.0% | 69.0% |
| Russell 1000 Value | 0.0% | 0.0% | 0.0% | 12.0% | 12.5% | 0.0% | 0.0% |
| Russell 2000 | 0.0% | 14.3% | 20.0% | 36.0% | 37.5% | 37.5% | 14.0% |
| Russell 3000 | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| S & P 500 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 12.5% | 17.0% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

| International Equity Benchmark | As of: | | | | | | | |
|---------------------------------------|--------|--------|--------|---------|---------|--------|--------|--------|
| | 7/1/19 | 4/1/19 | 1/1/19 | 10/1/18 | 10/1/17 | 1/1/14 | 6/1/00 | 1/1/96 |
| MSCI ACWI ex US | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% |
| MSCI ACWI ex US IMI 100% Hedged (Net) | 40.0% | 30.0% | 20.0% | 10.0% | 0.0% | 0.0% | 100.0% | 0.0% |
| MSCI ACWI ex-US IMI | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% |
| MSCI ACWI ex US IMI (Net) | 60.0% | 70.0% | 80.0% | 90.0% | 100.0% | 0.0% | 0.0% | 0.0% |
| MSCI EAFE | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

| Fixed Income Benchmark | As of: | | | | | | | | | | | |
|----------------------------|---------|--------|---------|--------|--------|--------|--------|--------|---------|--------|--------|--------|
| | 10/1/17 | 2/1/17 | 10/1/16 | 4/1/16 | 7/1/14 | 1/1/14 | 2/1/13 | 1/1/11 | 10/1/10 | 6/1/00 | 3/1/99 | 7/1/96 |
| BBgBarc Aggregate | 66.7% | 57.1% | 52.6% | 55.5% | 50.0% | 46.3% | 50.0% | 50.0% | 58.6% | 100.0% | 83.3% | 70.0% |
| BBgBarc BA Intermediate HY | 33.3% | 28.6% | 31.6% | 27.8% | 25.0% | 25.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc BBB | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 7.3% | 0.0% | 0.0% | 0.0% |
| BBgBarc Credit BAA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 16.0% | 15.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc Multiverse | 0.0% | 14.3% | 15.8% | 16.7% | 15.0% | 18.8% | 20.0% | 20.0% | 20.5% | 0.0% | 0.0% | 0.0% |
| BBgBarc TIPS | 0.0% | 0.0% | 0.0% | 0.0% | 10.0% | 10.0% | 14.0% | 15.0% | 13.6% | 0.0% | 0.0% | 0.0% |
| Citigroup non-US WGBI | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 16.7% | 30.0% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

| Opportunistic Credit Benchmark | As of: | |
|--------------------------------|--------|---------|
| | 1/1/14 | 12/1/09 |
| BBgBarc BA Intermediate HY | 100.0% | 0.0% |
| BBgBarc Credit BAA | 0.0% | 100.0% |
| | 100.0% | 100.0% |

| Risk Parity Benchmark | As of: | |
|--------------------------|--------|---------|
| | 1/1/17 | 10/1/10 |
| BBgBarc Aggregate | 0.0% | 40.0% |
| BBgBarc Global Aggregate | 40.0% | 0.0% |
| MSCI World | 60.0% | 0.0% |
| Russell 3000 | 0.0% | 60.0% |
| | 100.0% | 100.0% |

Policy Index and Benchmark History

Period Ending: September 30, 2019

| Alternatives Benchmark | As of: | | | | | | |
|--|---------|--------|--------|--------|--------|--------|--------|
| | 10/1/18 | 4/1/18 | 2/1/17 | 4/1/16 | 1/1/16 | 1/1/14 | 1/1/11 |
| 60/40 Russell 3000/BBgBarc US Aggregate (RP) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 30.0% |
| Bloomberg Commodity | 0.0% | 0.0% | 0.0% | 0.0% | 17.7% | 18.8% | 15.0% |
| CPI + 5% (RA) | 0.0% | 0.0% | 0.0% | 0.0% | 11.8% | 12.5% | 0.0% |
| Libor +4% (HF) | 50.0% | 46.2% | 46.2% | 41.7% | 29.4% | 25.0% | 15.0% |
| Russell 3000 +3% (PE) | 0.0% | 0.0% | 53.8% | 58.3% | 41.2% | 43.8% | 40.0% |
| Russell 3000 +3% 1Q Lag (PE) | 50.0% | 53.8% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

| Private Equity Benchmark | As of: | |
|--------------------------|--------|---------|
| | 4/1/18 | 10/1/10 |
| Russell 3000 +3% 1Q Lag | 100.0% | 0.0% |
| Russell 3000 +3% | 0.0% | 100.0% |
| | 100.0% | 100.0% |

| Hedge Fund Benchmark | As of: | |
|----------------------|---------|--|
| | 10/1/10 | |
| Libor +4% | 100.0% | |
| | 100.0% | |

| Inflation Hedge | As of: | | | |
|----------------------------|--------|--------|---------|--------|
| | 4/1/18 | 2/1/17 | 10/1/16 | 4/1/16 |
| BBgBarc TIPS | 11.11% | 12.50% | 14.3% | 14.3% |
| Bloomberg Commodity | 0.00% | 0.00% | 0.0% | 21.4% |
| CPI + 5% (RA) | 0.00% | 0.00% | 0.0% | 14.3% |
| Blended Liquid Real Asset | 33.34% | 0.00% | 0.0% | 0.0% |
| Blended Private Real Asset | 11.11% | 43.75% | 35.7% | 0.0% |
| NCREIF ODCE | 44.44% | 43.75% | 50.0% | 50.0% |
| | 100.0% | 100.0% | 100.0% | 100.0% |

| Public Real Asset Benchmark | As of: | |
|---|---------|---------|
| | 10/1/16 | 1/1/14 |
| Bloomberg Roll Select Commodity | 34.00% | 0.00% |
| S&P Global Large-MidCap Commodity and Resources | 33.00% | 0.00% |
| S&P Global Infrastructure | 33.00% | 0.00% |
| CPI + 5% | 0.00% | 100.00% |
| | 100.0% | 100.0% |

| Private Real Asset Benchmark | As of: | | |
|---|---------|---------|--------|
| | 4/1/18 | 10/1/16 | 1/1/14 |
| Bloomberg Roll Select Commodity | 0.00% | 34.00% | 0.0% |
| S&P Global Large-MidCap Commodity and Resources | 0.00% | 33.00% | 0.0% |
| 50/50 S&P Global Infra & Lrg-MidCap Com & Resources +2% 1QL | 100.00% | 0.00% | 0.0% |
| S&P Global Infrastructure | 0.00% | 33.00% | 0.0% |
| CPI + 5% | 0.00% | 0.00% | 100.0% |
| | 100.0% | 100.0% | 100.0% |

| Private RA Secondary Benchmark | As of: | |
|--|--------|--|
| | 9/1/14 | |
| Cambridge Associates Private Natural Resources 1 Qtr Lag | 50.0% | |
| Cambridge Associates Private Infrastructure 1 Qtr Lag | 50.0% | |
| | 100.0% | |

| Real Estate Benchmark | As of: | | |
|-----------------------|--------|--------|--------|
| | 1/1/09 | 6/1/00 | 7/1/96 |
| 10 Year Treasury +2% | 0.0% | 0.0% | 100.0% |
| NCREIF ODCE | 100.0% | 0.0% | 0.0% |
| NCREIF Property | 0.0% | 100.0% | 0.0% |
| | 100.0% | 100.0% | 100.0% |

| Baillie Gifford Benchmark | As of: | |
|---------------------------|---------------|---------------|
| | 1/1/14 | 5/1/12 |
| MSCI ACWI ex-US | 100.0% | 0.0% |
| MSCI EAFE | 0.0% | 100.0% |
| | 100.0% | 100.0% |

| Baillie Gifford Secondary Benchmark | As of: | |
|-------------------------------------|---------------|---------------|
| | 1/1/14 | 5/1/12 |
| MSCI ACWI ex-US Growth | 100.0% | 0.0% |
| MSCI EAFE Growth | 0.0% | 100.0% |
| | 100.0% | 100.0% |

| Brigade Secondary Benchmark | As of: | |
|-------------------------------|---------------|--|
| | 8/1/10 | |
| BBgBarc High Yield | 50.0% | |
| Credit Suisse Leveraged Loans | 50.0% | |
| | 100.0% | |

| AQR GRP, 10% Volatility | As of: | |
|--------------------------|---------------|---------------|
| | 1/1/17 | 3/1/11 |
| BBgBarc Aggregate | 0.0% | 40.0% |
| BBgBarc Global Aggregate | 40.0% | 0.0% |
| MSCI World | 60.0% | 0.0% |
| Russell 3000 | 0.0% | 60.0% |
| | 100.0% | 100.0% |

| PanAgora | As of: | |
|--------------------------|---------------|---------------|
| | 1/1/17 | 8/1/14 |
| BBgBarc Aggregate | 0.0% | 40.0% |
| BBgBarc Global Aggregate | 40.0% | 0.0% |
| MSCI World | 60.0% | 0.0% |
| Russell 3000 | 0.0% | 60.0% |
| | 100.0% | 100.0% |

| PIMCO Diversified | As of: | |
|--------------------------------------|---------------|--|
| | 9/1/17 | |
| JPMorgan EMBI Global | 33.3% | |
| ICE BofAMLBB-BRatedDvlpdMktsHYHgdUSD | 33.3% | |
| Global Agg Credit Ex EM USD hedged | 33.4% | |
| | 100.0% | |

| SSgA Custom Real Asset | As of: | |
|---|---------------|--|
| | 10/1/16 | |
| Bloomberg Roll Select Commodity TR | 33.34% | |
| S&P Global Large-MidCap Commodity and Resources | 33.33% | |
| S&P Global Infrastructure | 33.33% | |
| | 100.0% | |

Fee Schedule

Period Ending: September 30, 2019

Baillie Gifford

| | |
|---------------------|-----------------|
| First \$25 million: | 0.60% per annum |
| Next \$75 million: | 0.50% per annum |
| Next \$300 million: | 0.40% per annum |
| Thereafter: | 0.30% per annum |

BlackRock-EAFE Equity Index Fund

| | |
|----------------|-----------------|
| On All Assets: | 0.03% per annum |
|----------------|-----------------|

BlackRock-Russell 1000 Index Fund

| | |
|----------------|-----------------|
| On All Assets: | 0.01% per annum |
|----------------|-----------------|

BlackRock-Intermediate Govt Bond Index Fund

| | |
|----------------|------------------|
| On All Assets: | 0.025% per annum |
|----------------|------------------|

Brown Brothers Harriman

| | |
|----------------|-----------------|
| On All Assets: | 0.15% per annum |
|----------------|-----------------|

Parametric

| | |
|----------------|-----------------|
| On All Assets: | 0.30% per annum |
|----------------|-----------------|

Acadian Asset Management

| | |
|---------------------|------------------|
| First \$50 million: | 0.27% per annum |
| Next \$50 million: | 0.225% per annum |
| Thereafter: | 0.18% per annum |

Parametric Overlay

| | |
|--------------------------------------|-----------------|
| First \$50 million: | 0.12% per annum |
| Next \$100 million: | 0.10% per annum |
| Thereafter: | 0.05% per annum |
| Plus monthly reporting fee of \$1500 | |

Parametric Currency Overlay

| | |
|----------------------|-----------------|
| First \$250 million: | 0.05% per annum |
| Thereafter: | 0.03% per annum |

Cushing Asset Management

| | |
|---------------------|-----------------|
| First \$50 million: | 0.70% per annum |
| Next \$50 million: | 0.60% per annum |
| Thereafter: | 0.55% per annum |

Franklin Templeton Investment

| | |
|---------------------|-----------------|
| First \$50 million: | 0.40% per annum |
| Next \$50 million: | 0.30% per annum |
| Thereafter: | 0.25% per annum |

FIAM Bond

| | |
|---------------------|------------------|
| First \$50 million: | 0.20% per annum |
| Next \$50 million: | 0.175% per annum |
| Next \$100 million: | 0.10% per annum |
| Thereafter: | 0.085% per annum |

PanAgora Asset Management

| | |
|---------------------|-----------------|
| First \$50 million: | 0.25% per annum |
| Next \$50 million: | 0.15% per annum |
| Thereafter: | 0.10% per annum |

PIMCO Diversified

| | |
|----------------|-----------------|
| On All Assets: | 0.75% per annum |
|----------------|-----------------|

QMA

| | |
|---------------------|-----------------|
| First \$50 million: | 0.55% per annum |
| Thereafter: | 0.50% per annum |

Western Asset Management

| | |
|------------------|-----------------|
| On All Assets: | 0.25% per annum |
| Performance Fee: | 20.00% |

Mondrian Investment Partners

Assets Below \$190 million

| | |
|---------------------|-----------------|
| First \$20 million: | 1.00% per annum |
| Thereafter: | 0.33% per annum |

Assets Above \$190 million

| | |
|---------------------|-----------------|
| First \$50 million: | 1.00% per annum |
| Next \$150 million: | 0.19% per annum |
| Thereafter: | 0.33% per annum |

| Name | Primary Benchmark | Rule 1 | Rule 2 | Rule 3 |
|-----------------------------|---------------------------------|--------|--------|--------|
| Acadian US MGD V | Russell 1000 | -- | -- | -- |
| DE Shaw | Russell 1000 | ✓ | ✓ | ✓ |
| PanAgora Defuseq | Russell 1000 | -- | -- | -- |
| QMA US Small Cap | Russell 2000 | -- | -- | -- |
| Baillie Gifford | MSCI ACWI ex US | ✓ | ✗ | ✓ |
| Mondrian | MSCI ACWI ex USA Value Gross | ✓ | ✓ | ✓ |
| Parametric Core | MSCI Emerging Markets Gross | -- | -- | -- |
| FIAM Bond | BBgBarc US Aggregate TR | ✓ | ✓ | ✓ |
| Western TRU | 3-Month Libor Total Return USD | -- | -- | -- |
| Angelo Gordon Opportunistic | BBgBarc US Aggregate TR | ✓ | -- | ✓ |
| Angelo Gordon STAR | BBgBarc US Aggregate TR | ✓ | -- | ✓ |
| Beach Point Select | BBgBarc BA Intermediate HY | -- | -- | -- |
| Brigade Capital | BBgBarc BA Intermediate HY | ✗ | ✗ | ✗ |
| PIMCO Diversified | Blended PIMCO Diversified Index | -- | -- | -- |
| Franklin Templeton | BBgBarc Multiverse TR | -- | -- | -- |
| PIMCO Private Income | BBgBarc BA Intermediate HY | -- | -- | -- |
| TCP Direct Lending VIII | Cliffwater Direct Lending Index | -- | -- | -- |
| White Oak Yield | Cliffwater Direct Lending Index | -- | -- | -- |
| AQR DELTA XN | Libor 1 month +4% | ✗ | ✗ | ✗ |
| Aberdeen Standard GARS | Libor 1 month +4% | -- | -- | -- |

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

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

Rule 3 - Excess 5 Year Sharpe Ratio vs. Benchmark is positive

Manager Compliance (Gross)

Period Ending: September 30, 2019

| Name | Primary Benchmark | Rule 1 | Rule 2 | Rule 3 |
|-----------------------------|---------------------------------|--------|--------|--------|
| Acadian US MGD V | Russell 1000 | -- | -- | -- |
| DE Shaw | Russell 1000 | ✓ | ✓ | ✓ |
| PanAgora Defuseq | Russell 1000 | -- | -- | -- |
| QMA US Small Cap | Russell 2000 | -- | -- | -- |
| Baillie Gifford | MSCI ACWI ex US | ✓ | ✓ | ✓ |
| Mondrian | MSCI ACWI ex USA Value Gross | ✓ | ✓ | ✓ |
| Parametric Core | MSCI Emerging Markets Gross | -- | -- | -- |
| FIAM Bond | BBgBarc US Aggregate TR | ✓ | ✓ | ✓ |
| Western TRU | 3-Month Libor Total Return USD | -- | -- | -- |
| Angelo Gordon Opportunistic | BBgBarc US Aggregate TR | ✓ | -- | ✓ |
| Angelo Gordon STAR | BBgBarc US Aggregate TR | ✓ | -- | ✓ |
| Beach Point Select | BBgBarc BA Intermediate HY | -- | -- | -- |
| Brigade Capital | BBgBarc BA Intermediate HY | ✗ | ✗ | ✗ |
| PIMCO Diversified | Blended PIMCO Diversified Index | -- | -- | -- |
| Franklin Templeton | BBgBarc Multiverse TR | -- | -- | -- |
| PIMCO Private Income | BBgBarc BA Intermediate HY | -- | -- | -- |
| TCP Direct Lending VIII | Cliffwater Direct Lending Index | -- | -- | -- |
| White Oak Yield | Cliffwater Direct Lending Index | -- | -- | -- |
| AQR DELTA XN | Libor 1 month +4% | ✗ | ✗ | ✗ |
| Aberdeen Standard GARS | Libor 1 month +4% | -- | -- | -- |

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

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

Rule 3 - Excess 5 Year Sharpe Ratio vs. Benchmark is positive

Manager Performance Comparison (Gross of Fees)

Period Ending: September 30, 2019

| | Jul | Aug | Sep | 3rd Qtr. 2019 | Difference | 2nd Qtr. 2019 | Difference | 1st Qtr. 2019 | Difference | 4th Qtr. 2018 | Difference | 3rd Qtr. 2018 | Difference |
|------------------------------|--------|--------|--------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|
| Verus | 2.10% | -0.98% | 1.71% | 2.82% | | 4.71% | | 10.70% | | -13.79% | | 7.41% | |
| Acadian US MGD V | 2.10% | -0.98% | 1.71% | 2.82% | 0.00% | 4.71% | 0.00% | 10.69% | 0.01% | -13.79% | 0.00% | 7.41% | 0.00% |
| Russell 1000 Index | 1.55% | -1.83% | 1.73% | 1.42% | | 4.25% | | 14.00% | | -13.82% | | 7.42% | |
| Verus | 1.55% | -1.83% | 1.74% | 1.43% | | 4.25% | | 14.02% | | -13.79% | | 7.41% | |
| BlackRock Russell 1000 | 1.55% | -1.83% | 1.73% | 1.42% | 0.01% | 4.25% | 0.00% | 14.02% | 0.00% | -13.79% | 0.00% | 7.41% | 0.00% |
| Russell 1000 Index | 1.55% | -1.83% | 1.73% | 1.42% | | 4.25% | | 14.00% | | -13.82% | | 7.42% | |
| Verus | 1.34% | -1.66% | 1.88% | 1.53% | | 2.75% | | 12.68% | | -14.04% | | 7.23% | |
| D.E. Shaw | 1.34% | -1.66% | 1.89% | 1.54% | -0.01% | 2.75% | 0.00% | 12.69% | -0.01% | -14.04% | 0.00% | 7.24% | -0.01% |
| Russell 1000 Index | 1.55% | -1.83% | 1.73% | 1.42% | | 4.25% | | 14.00% | | -13.82% | | 7.42% | |
| Verus | 0.96% | 0.66% | 1.55% | 3.20% | | 5.51% | | 15.01% | | -14.04% | | 7.23% | |
| PanAgora Defuseq | 0.96% | 0.66% | 1.54% | 3.19% | 0.01% | 5.55% | -0.04% | 15.01% | 0.00% | -14.04% | 0.00% | 7.24% | -0.01% |
| Russell 1000 Index | 1.55% | -1.83% | 1.73% | 1.42% | | 4.25% | | 14.00% | | -13.82% | | 7.42% | |
| Verus | 0.89% | -5.08% | 3.77% | -0.62% | | 0.37% | | 12.59% | | -20.52% | | 3.70% | |
| QMA US Small Cap | 0.89% | -5.08% | 3.77% | -0.62% | 0.00% | 0.38% | -0.01% | 12.59% | 0.00% | -20.52% | 0.00% | 3.70% | 0.00% |
| Russell 2000 Index | 0.58% | -4.94% | 2.08% | -2.40% | | 2.10% | | 14.58% | | -20.20% | | 3.58% | |
| Verus | 0.62% | -2.46% | 0.96% | -0.92% | | 5.96% | | 13.47% | | -15.28% | | -1.31% | |
| Baillie Gifford | 0.61% | -2.46% | 0.93% | -0.95% | 0.03% | 5.89% | 0.08% | 13.41% | 0.06% | -15.28% | 0.00% | -1.29% | -0.01% |
| MSCI ACWI ex US | -1.18% | -3.07% | 2.62% | -1.70% | | 3.22% | | 10.44% | | -11.41% | | 0.80% | |
| MSCI ACWI ex US Growth | -0.19% | -1.80% | 1.22% | -0.79% | | 4.55% | | 12.42% | | -12.16% | | -0.20% | |
| Verus | -1.27% | -2.60% | 2.89% | -1.05% | | 3.92% | | 10.08% | | -12.52% | | 1.40% | |
| BlackRock EAFE Equity | -1.27% | -2.60% | 2.89% | -1.05% | 0.00% | 3.92% | 0.00% | 10.08% | 0.00% | -12.52% | 0.00% | 1.40% | 0.00% |
| MSCI EAFE (Net) | -1.27% | -2.59% | 2.87% | -1.07% | | 3.68% | | 9.98% | | -12.54% | | 1.35% | |
| MSCI EAFE (Gross) | -1.26% | -2.58% | 2.92% | -1.00% | | 3.97% | | 10.13% | | -12.50% | | 1.42% | |
| Verus | -1.82% | -4.30% | 3.60% | -2.66% | | 1.47% | | 9.19% | | -8.82% | | 1.54% | |
| Mondrian | -1.81% | -4.28% | 3.61% | -2.62% | -0.04% | 1.48% | -0.01% | 9.18% | 0.01% | -8.79% | -0.03% | 1.55% | -0.01% |
| MSCI ACWI -ex US Value Index | -2.22% | -4.45% | 4.18% | -2.66% | | 1.86% | | 8.46% | | -10.63% | | 1.85% | |
| MSCI ACWI -ex US | -1.18% | -3.07% | 2.62% | -1.70% | | 3.22% | | 10.44% | | -11.41% | | 0.80% | |
| Verus | -1.65% | -4.01% | 1.45% | -4.23% | | 2.13% | | 7.73% | | -5.81% | | -0.11% | |
| Parametric Core | -1.64% | -4.00% | 1.47% | -4.19% | -0.04% | 2.19% | -0.06% | 7.80% | -0.07% | -5.77% | -0.04% | -0.06% | -0.05% |
| MSCI EM Market Index | -1.14% | -4.85% | 1.94% | -4.11% | | 0.74% | | 9.97% | | -7.40% | | -0.95% | |
| Verus | -0.15% | 1.81% | -0.43% | 1.22% | | 2.37% | | 1.63% | | 2.24% | | -0.07% | |
| BlackRock Intermediate Govt | -0.15% | 1.81% | -0.43% | 1.22% | 0.00% | 2.37% | 0.00% | 1.63% | 0.00% | 2.24% | 0.00% | -0.07% | 0.00% |
| BBgBarc US Govt Int Index | -0.17% | 1.80% | -0.44% | 1.18% | | 2.34% | | 1.58% | | 2.22% | | -0.11% | |
| Verus | 0.35% | 2.37% | -0.47% | 2.23% | | 3.16% | | 3.47% | | 1.07% | | 0.15% | |
| FIAM Bond | 0.35% | 2.37% | -0.47% | 2.23% | 0.00% | 3.16% | 0.00% | 3.47% | 0.00% | 1.07% | 0.00% | 0.15% | 0.00% |
| BBgBarc US Aggregate Index | 0.22% | 2.59% | -0.53% | 2.27% | | 3.08% | | 2.94% | | 1.64% | | 0.02% | |

Manager Performance Comparison (Gross of Fees)

Period Ending: September 30, 2019

| | Jul | Aug | Sep | 3rd Qtr. 2019 | Difference | 2nd Qtr. 2019 | Difference | 1st Qtr. 2019 | Difference | 4th Qtr. 2018 | Difference | 3rd Qtr. 2018 | Difference |
|--------------------------------------|--------|--------|--------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|
| Verus | 0.49% | -1.27% | 1.82% | 1.02% | | 2.31% | | 2.95% | | 0.74% | | 0.17% | |
| Western TRU | 0.49% | -1.27% | 1.82% | 1.02% | 0.00% | 2.31% | 0.00% | 2.95% | 0.00% | 0.74% | 0.00% | 0.17% | 0.00% |
| 3-Month Libor Total Return USD Index | 0.20% | 0.18% | 0.17% | 0.55% | | 0.62% | | 0.67% | | 0.68% | | 0.60% | |
| BBgBarc US Aggregate Index | 0.22% | 2.59% | -0.53% | 2.27% | | 3.08% | | 2.94% | | 1.64% | | 0.02% | |
| Verus (Net) | | | | 3.34% | | 5.43% | | 0.89% | | 0.45% | | 5.35% | |
| Angelo Gordon Opportunistic | | | | 3.34% | 0.00% | 5.43% | 0.00% | 0.89% | 0.00% | 0.45% | 0.00% | 5.35% | 0.00% |
| BBgBarc US Aggregate Index | | | | 2.27% | | 3.08% | | 2.94% | | 1.64% | | 0.02% | |
| Verus (Net) | | | | -3.95% | | 6.24% | | 5.44% | | 2.51% | | 6.59% | |
| Angelo Gordon STAR Fund (Net) | | | | -3.95% | 0.00% | 6.24% | 0.00% | 5.44% | 0.00% | 2.51% | 0.00% | 6.59% | 0.00% |
| BBgBarc US Aggregate Index | | | | 2.27% | | 3.08% | | 2.94% | | 1.64% | | 0.02% | |
| Verus | 0.80% | -0.03% | 0.76% | 1.54% | | 3.03% | | 4.44% | | -3.98% | | 1.80% | |
| Beach Point Select (Net) | 0.80% | -0.03% | 0.76% | 1.54% | 0.00% | 3.03% | 0.00% | 4.44% | 0.00% | -3.98% | 0.00% | 1.80% | 0.00% |
| BBgBarc BA Intermediate HY | 0.52% | 1.06% | 0.25% | 1.84% | | 2.87% | | 7.00% | | -2.67% | | 2.27% | |
| Verus | 0.18% | -1.25% | 0.67% | -0.41% | | 1.92% | | 4.26% | | -5.56% | | 2.28% | |
| Brigade Capital (Net) | 0.18% | -1.25% | 0.67% | -0.41% | 0.00% | 1.92% | 0.00% | 4.18% | 0.08% | -5.55% | -0.01% | 2.21% | 0.07% |
| BBgBarc BA Intermediate HY | 0.52% | 1.06% | 0.25% | 1.84% | | 2.87% | | 7.00% | | -2.67% | | 2.27% | |
| 50% BBgBarc HY/ 50% Bank Loan | 0.67% | 0.06% | 0.39% | 1.13% | | 2.05% | | 5.51% | | -3.81% | | 2.17% | |
| Verus | 0.62% | 0.73% | -0.15% | 1.20% | | 3.59% | | 5.82% | | -1.26% | | 1.66% | |
| PIMCO Diversified (Net) | 0.62% | 0.73% | -0.15% | 1.20% | 0.00% | 3.59% | 0.00% | 5.81% | 0.01% | -1.26% | 0.00% | 1.66% | 0.00% |
| Blended PIMCO Diversified Index | 0.91% | 1.22% | -0.20% | 1.93% | | 3.48% | | 5.97% | | -1.47% | | 1.65% | |
| BBgBarc BA Intermediate HY | 0.52% | 1.06% | 0.25% | 1.84% | | 2.87% | | 7.00% | | -2.67% | | 2.27% | |
| Verus | 1.62% | -5.55% | 0.65% | -3.39% | | 1.45% | | 1.72% | | 2.14% | | 0.32% | |
| Franklin Templeton Investments | 1.62% | -5.55% | 0.65% | -3.39% | 0.00% | 1.45% | 0.00% | 1.72% | 0.00% | 2.14% | 0.00% | 0.32% | 0.00% |
| BBgBarc Multiverse Index | -0.23% | 1.83% | -0.95% | 0.63% | | 3.31% | | 2.40% | | 1.02% | | 0.00% | |
| Verus | | | | 0.00% | | | | | | | | | |
| PIMCO Private Income | | | | 0.00% | 0.00% | | | | | | | | |
| BBgBarc BA Intermediate HY | | | | 1.84% | | | | | | | | | |
| Cliffwater Direct Lending Index | | | | 2.25% | | | | | | | | | |
| Verus | | | | 1.57% | | 1.75% | | 2.41% | | 1.75% | | 3.41% | |
| TCP Direct Lending VIII | | | | 1.57% | 0.00% | 1.75% | 0.00% | 2.41% | 0.00% | 1.75% | 0.00% | 3.41% | 0.00% |
| Cliffwater Direct Lending Index | | | | 2.25% | | 2.78% | | 0.84% | | 2.38% | | 2.44% | |
| Verus | | | | 0.00% | | 0.00% | | 0.00% | | 2.03% | | 0.00% | |
| White Oak Yield | | | | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 2.03% | 0.00% | 0.00% | 0.00% |
| Cliffwater Direct Lending Index | | | | 2.25% | | 2.78% | | 0.84% | | 2.38% | | 2.44% | |

Manager Performance Comparison (Gross of Fees)

Period Ending: September 30, 2019

| | Jul | Aug | Sep | 3rd_Qtr. 2019 | Difference | 2nd_Qtr. 2019 | Difference | 1st_Qtr. 2019 | Difference | 4th_Qtr. 2018 | Difference | 3rd_Qtr. 2018 | Difference |
|--|--------|--------|--------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|
| Verus | 1.24% | -0.12% | 0.12% | 1.23% | | 5.70% | | 11.14% | | -5.44% | | 0.30% | |
| AQR GRP, 10% Volatility (Net) | 1.24% | -0.12% | 0.12% | 1.23% | 0.00% | 5.70% | 0.00% | 11.14% | 0.00% | -5.44% | 0.00% | 0.30% | 0.00% |
| 60% R3000/ 40% BBgBarc Agg | 0.61% | -0.32% | 1.09% | 1.38% | | 3.68% | | 8.65% | | -7.49% | | 2.95% | |
| S&P Risk Parity 10% Target Volatility TR | 0.23% | 0.84% | 1.31% | 2.41% | | 4.34% | | 7.98% | | | | | |
| Verus | 0.91% | 3.26% | -0.03% | 4.18% | | 5.44% | | 11.43% | | -4.10% | | -2.11% | |
| PanAgora (Net) | 0.91% | 3.26% | -0.03% | 4.18% | 0.00% | 5.44% | 0.00% | 11.43% | 0.00% | -4.10% | 0.00% | -2.11% | 0.00% |
| 60% R3000/ 40% BBgBarc Agg | 0.61% | -0.32% | 1.09% | 1.38% | | 3.68% | | 8.65% | | -7.49% | | 2.95% | |
| S&P Risk Parity 10% Target Volatility TR | 0.23% | 0.84% | 1.31% | 2.41% | | 4.34% | | 7.98% | | -8.05% | | 4.25% | |
| Verus | 1.28% | -2.59% | 0.16% | -1.18% | | -4.43% | | -1.95% | | -4.31% | | -1.94% | |
| AQR DELTA XN (Net) | 1.28% | -2.59% | 0.16% | -1.18% | 0.00% | -4.43% | 0.00% | -1.97% | 0.02% | -4.31% | 0.00% | -1.94% | 0.00% |
| Libor + 4% | 0.53% | 0.49% | 0.51% | 1.54% | | 1.62% | | 1.52% | | 1.59% | | 1.55% | |
| Verus | 0.98% | 0.60% | 0.02% | 1.60% | | 1.39% | | 4.63% | | -2.24% | | 0.54% | |
| Aberdeen Standard GARS (Net) | 0.98% | 0.60% | 0.02% | 1.60% | 0.00% | 1.39% | 0.00% | 4.63% | 0.00% | -2.25% | 0.01% | 0.54% | 0.00% |
| Libor + 4% | 0.53% | 0.49% | 0.51% | 1.54% | | 1.62% | | 1.52% | | 1.59% | | 1.55% | |
| Verus | | | | 2.01% | | 1.04% | | 1.09% | | 2.16% | | 2.56% | |
| INVESCO Real Estate | | | | 2.00% | 0.01% | 1.04% | 0.00% | 1.11% | -0.02% | 2.16% | 0.00% | 2.57% | -0.01% |
| NCREIF NFI ODCE Index | | | | 1.31% | | 0.99% | | 1.42% | | 1.76% | | 2.09% | |
| Verus | | | | 2.12% | | 1.20% | | 4.17% | | 4.25% | | 2.98% | |
| Invesco US Val IV | | | | 2.12% | 0.00% | 1.20% | 0.00% | 4.17% | 0.00% | 4.25% | 0.00% | 2.98% | 0.00% |
| NCREIF NFI ODCE Index | | | | 1.31% | | 0.99% | | 1.42% | | 1.76% | | 2.09% | |
| NCREIF CEVA 1Q Lag - NET | | | | 2.95% | | 2.95% | | 2.95% | | 2.95% | | 2.95% | |
| Verus | | | | 1.09% | | 5.72% | | | | | | | |
| Invesco US Val V | | | | 1.09% | 0.00% | 5.72% | 0.00% | | | | | | |
| NCREIF NFI ODCE Index | | | | 1.31% | | 0.99% | | | | | | | |
| NCREIF CEVA 1Q Lag - NET | | | | 2.95% | | 2.95% | | | | | | | |
| Verus (net) | | | | 1.57% | | 1.45% | | 1.61% | | 1.64% | | 2.12% | |
| PGIM RE US Debt Fund (net) | | | | 1.57% | 0.00% | 1.45% | 0.00% | 1.61% | 0.00% | 1.64% | 0.00% | 1.95% | 0.17% |
| NCREIF NFI ODCE Index | | | | 1.31% | | 0.99% | | 1.42% | | 1.76% | | 2.09% | |
| Verus | -1.43% | -4.60% | 2.39% | -3.73% | | -1.06% | | 17.88% | | -17.65% | | | |
| Cushing MLP Alpha TR | -1.43% | -4.60% | 2.39% | -3.73% | 0.00% | -1.06% | 0.00% | 17.88% | 0.00% | -17.65% | 0.00% | | |
| 50% BBgBarc US TIPS/ 50% Blended PRA | -0.63% | -0.23% | 0.22% | -0.63% | | 2.17% | | 6.62% | | -4.98% | | | |
| Alerian MLP TR USD | -0.19% | -5.51% | 0.71% | -5.02% | | 0.12% | | 16.82% | | -17.30% | | | |
| Verus | 0.09% | 1.52% | -1.03% | 0.57% | | 2.63% | | 2.86% | | -0.69% | | -0.33% | |
| BBH Inflation Index | 0.09% | 1.52% | -1.03% | 0.57% | 0.00% | 2.63% | 0.00% | 2.85% | 0.01% | -0.67% | -0.02% | -0.33% | 0.00% |
| BBgBarc U.S Tips | 0.35% | 2.38% | -1.36% | 1.34% | | 2.87% | | 3.19% | | -0.42% | | -0.82% | |

1 MSCI

1.1 MSCI US MARKET BREAKPOINTS

| Break Point* | Companies included |
|------------------|--------------------|
| Large Cap | 1-200 |
| Medium-Large Cap | 201-550 |
| Medium Cap | 551-750 |
| Medium-Small Cap | 751-2500 |
| Small Cap | 2501+ |

*MSCI only categorizes equities per size into large, mid and small cap. For InvestorForce Report analytics coherence regarding domestic benchmarks the buffer zones of the mid-cap category are used to determine Medium-Large and Medium-Small Cap categories.

| As Of | Large Cap | Medium Large Cap | Medium Cap | Medium Small Cap | Small Cap |
|------------|-----------|------------------|------------|------------------|-----------|
| 9/30/2019 | 19.41 | 11.708 | 5.699 | 2.981 | 0 |
| 6/30/2019 | 17.991 | 11.416 | 5.265 | 3.039 | 0 |
| 3/31/2019 | 17.991 | 11.416 | 5.265 | 3.039 | 0 |
| 12/31/2018 | 18.559 | 11.536 | 5.547 | 3.012 | 0 |
| 09/30/2018 | 18.559 | 11.536 | 5.547 | 3.012 | 0 |
| 06/30/2018 | 17.921 | 10.888 | 5.334 | 3.023 | 0 |
| 03/31/2018 | 17.921 | 10.888 | 5.334 | 3.023 | 0 |
| 12/31/2017 | 17.679 | 9.979 | 5.011 | 2.793 | 0 |
| 9/30/2017 | 17.696 | 9.979 | 5.011 | 2.793 | 0 |
| 6/30/2017 | 15.834 | 9.267 | 4.517 | 2.573 | 0 |
| 3/31/2017 | 15.834 | 9.267 | 4.517 | 2.573 | 0 |
| 12/31/2016 | 15.239 | 9.375 | 4.416 | 2.520 | 0 |
| 9/30/2016 | 15.239 | 9.375 | 4.416 | 2.520 | 0 |
| 6/30/2016 | 15.358 | 9.43 | 4.548 | 2.591 | 0 |
| 3/31/2016 | 15.358 | 9.43 | 4.548 | 2.591 | 0 |
| 12/31/2015 | 16.507 | 9.968 | 5.069 | 2.917 | 0 |
| 9/30/2015 | 16.507 | 9.968 | 5.069 | 2.917 | 0 |
| 6/30/2015 | 15.288 | 9.09 | 4.506 | 2.596 | 0 |
| 3/31/2015 | 15.356 | 9.083 | 4.491 | 2.577 | 0 |
| 12/31/2014 | 15.356 | 9.083 | 4.491 | 2.577 | 0 |

Number in billion USD

InvestorForce Report reflects changes in the MSCI breakpoints once MSCI publishes new breakpoints. For months when no new breakpoints are published always the last breakpoints are applied. Changes usually but always happen around re-balancing of the indexes. Some index reviews do not contain changes to the market-cap breakpoints.

1.2 MSCI DEVELOPED AND EMERGING MARKET BREAKPOINTS

In case of MSCI Indexes to define the Size - Segment Indexes for a market, the following free float - adjusted market capitalization Market Coverage Target Ranges are applied to the Market Investable Equity Universe:

| Break Point | Companies included |
|---------------------------|--------------------|
| Large Cap Index | 70% ±5% |
| Standard Index* | 85% ±5% |
| Investable Market Index** | 99%+1% or -0.5% |

* Standard Index (Large+Mid)

**Investable Market Index (Large+Mid+Small)

MSCI Country Classification can be found here: <https://www.msci.com/market-classification>

For Emerging Markets, the Global Minimum Size Reference is set at *one-half* the corresponding level of full market capitalization used for the Developed Markets for each size-segment.

| As Of | Large Cap DM | Large Cap EM | Medium Cap DM | Medium Cap EM | Small Cap |
|------------|--------------|--------------|---------------|---------------|-----------|
| 9/30/2019 | 17.274 | 8.637 | 6.203 | 3.1015 | 0 |
| 6/30/2019 | 17.274 | 8.637 | 6.203 | 3.1015 | 0 |
| 3/31/2019 | 16.204 | 8.102 | 5.928 | 2.964 | 0 |
| 12/31/2018 | 16.204 | 8.102 | 5.928 | 2.964 | 0 |
| 9/30/2018 | 17.201 | 8.6005 | 6.374 | 3.187 | 0 |
| 6/30/2018 | 17.201 | 8.6005 | 6.374 | 3.187 | 0 |
| 3/31/2018 | 16.392 | 8.196 | 6.106 | 3.053 | 0 |
| 12/31/2017 | 16.392 | 8.196 | 6.106 | 3.053 | 0 |
| 9/30/2017 | 15.008 | 7.504 | 5.500 | 2.750 | 0 |
| 6/30/2017 | 15.008 | 7.504 | 5.500 | 2.750 | 0 |
| 3/31/2017 | 14.361 | 7.180 | 5.077 | 2.538 | 0 |
| 12/31/2016 | 14.361 | 7.180 | 5.077 | 2.538 | 0 |
| 9/30/2016 | 14.180 | 7.090 | 5.076 | 2.538 | 0 |
| 6/30/2016 | 14.180 | 7.090 | 5.076 | 2.538 | 0 |
| 3/31/2016 | 14.077 | 7.0385 | 5.046 | 2.523 | 0 |
| 12/31/2015 | 14.077 | 7.0385 | 5.046 | 2.5230 | 0 |
| 9/30/2015 | 14.883 | 7.4415 | 5.359 | 2.6795 | 0 |
| 6/30/2015 | 14.883 | 7.4415 | 5.359 | 2.6795 | 0 |
| 3/31/2015 | 13.368 | 6.684 | 4.781 | 2.3905 | 0 |
| 12/31/2014 | 13.368 | 6.684 | 4.781 | 2.3905 | 0 |

Number in billion USD

InvestorForce Report shows changes in the MSCI breakpoints once MSCI publishes a new one. For months when no new breakpoints are published always the last breakpoint is applied. Changes usually happen around re-balancing of the indexes.

2 RUSSELL US BREAKPOINTS

The market capitalization breakpoints that appear in the Market Capitalization Chart are defined by the Russell 3000 Index and change for each period end. Russell calculated the total market capitalization of each security for the end of the period, based on the total shares and price, to determine whether it is large enough for inclusion in one or more of the Russell Breakpoints.

Once the market capitalization for each security is determined, each security is then placed in the appropriate market capitalization breakpoint. A market capitalization breakpoint is determined by the break between the companies below.

| Break Point | Companies included |
|------------------|--------------------------------------|
| Large Cap | 50 Largest US Companies |
| Medium Large Cap | Next largest 150 US Companies |
| Medium Cap | Next largest 300 US Companies |
| Medium Small Cap | Next largest 500 US Companies |
| Small Cap | All US Companies below 1,000 largest |

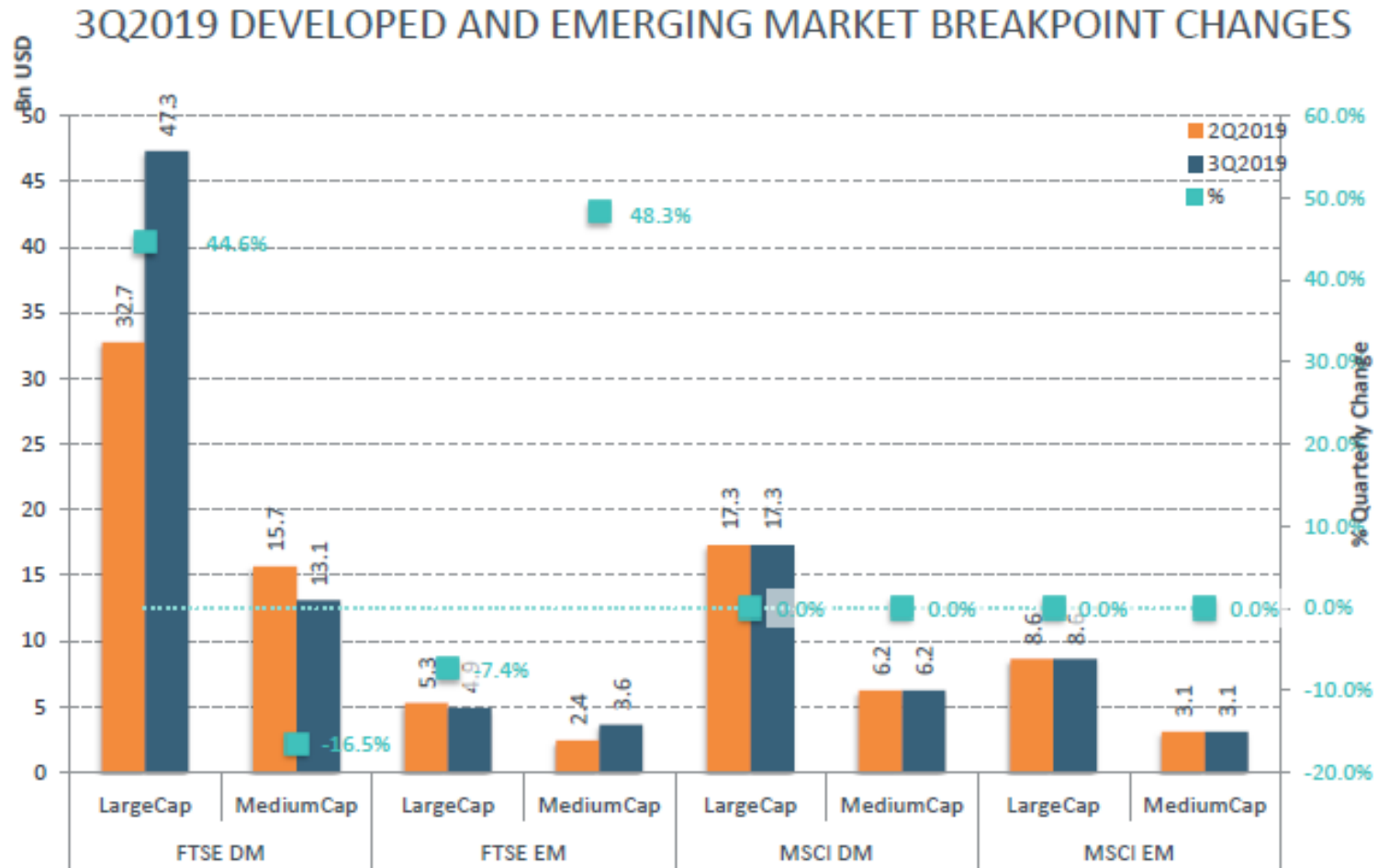
After the breakpoints are determined by the ranges above, new members are assigned on the basis of the breakpoints and existing members are reviewed to determine if they fall within a cumulative 5% market cap range around the new market capitalization breakpoints. If an existing securities market cap falls within this 5%, it will remain in its current index rather than move into a new market capitalization based index.

Market Capitalization Breakpoints

Period Ending: September 30, 2019

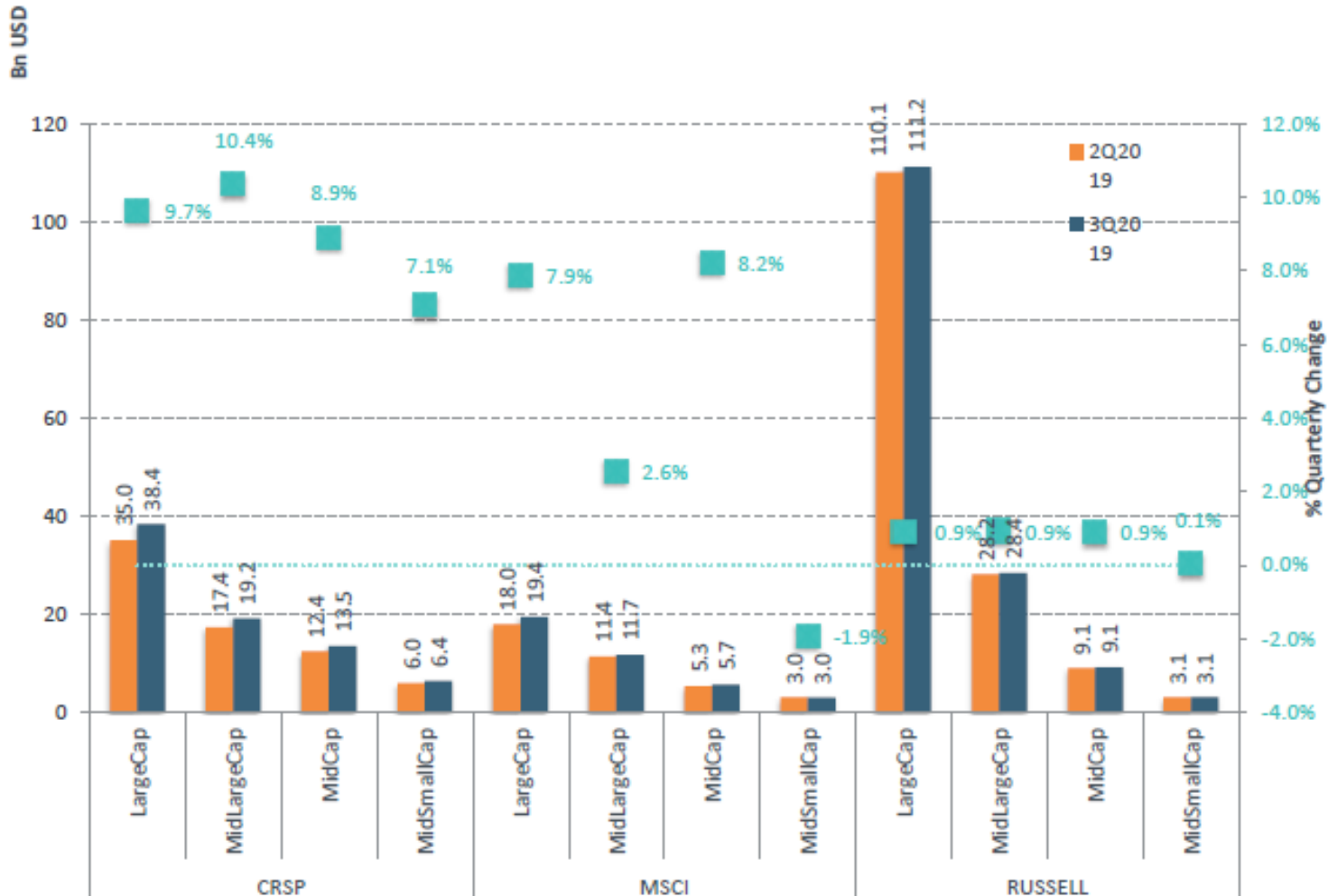
| As Of | Large Cap | Medium Large Cap | Medium Cap | Medium Small Cap | Small Cap |
|------------|-----------|------------------|------------|------------------|-----------|
| 9/30/2019 | 111.164 | 28.416 | 9.142 | 3.059 | 0 |
| 6/30/2019 | 110.136 | 28.151 | 9.061 | 3.057 | 0 |
| 3/31/2019 | 113.008 | 26.539 | 8.787 | 2.951 | 0 |
| 12/31/2018 | 93.377 | 23.285 | 7.693 | 2.595 | 0 |
| 9/30/2018 | 106.633 | 28.088 | 9.457 | 3.273 | 0 |
| 6/30/2018 | 104.455 | 26.511 | 9.202 | 3.171 | 0 |
| 3/31/2018 | 101.922 | 26.399 | 8.890 | 2.958 | 0 |
| 12/31/2017 | 95.036 | 26.237 | 8.819 | 3.021 | 0 |
| 9/30/2017 | 93.539 | 24.882 | 8.344 | 2.935 | 0 |
| 6/30/2017 | 87.845 | 25.481 | 8.204 | 2.859 | 0 |
| 3/31/2017 | 89.968 | 25.293 | 8.241 | 2.737 | 0 |
| 12/31/2016 | 84.960 | 23.168 | 7.890 | 2.702 | 0 |
| 9/30/2016 | 78.745 | 23.385 | 7.394 | 2.533 | 0 |
| 6/30/2016 | 77.349 | 22.250 | 7.1432 | 2.444 | 0 |
| 3/31/2016 | 83.360 | 22.414 | 7.435 | 2.395 | 0 |
| 12/31/2015 | 90.075 | 24.308 | 8.141 | 2.936 | 0 |
| 9/30/2015 | 88.944 | 23.139 | 7.993 | 2.946 | 0 |
| 6/30/2015 | 92.87 | 25.07 | 8.797 | 3.352 | 0 |
| 3/31/2015 | 93.082 | 25.494 | 8.794 | 3.384 | 0 |
| 12/31/2014 | 89.92 | 25.19 | 8.51 | 3.29 | 0 |
| 9/30/2014 | 84.51 | 24.44 | 7.97 | 3.04 | 0 |
| 6/30/2014 | 80.39 | 23.62 | 8.07 | 3.24 | 0 |
| 3/31/2014 | 76.77 | 23.15 | 7.83 | 3.06 | 0 |
| 12/31/2013 | 77.11 | 22.27 | 7.65 | 3.03 | 0 |
| 9/30/2013 | 72.4 | 19.93 | 7.15 | 2.71 | 0 |
| 6/30/2013 | 68.47 | 19.36 | 6.48 | 2.46 | 0 |
| 3/31/2013 | 64.31 | 18.64 | 6.39 | 2.39 | 0 |
| 12/31/2012 | 58.45 | 16.8 | 5.75 | 2.13 | 0 |
| 9/30/2012 | 57.06 | 16.48 | 5.49 | 2.08 | 0 |
| 6/30/2012 | 55.65 | 16.13 | 5.14 | 1.99 | 0 |
| 3/31/2012 | 57.58 | 16.43 | 5.55 | 2.13 | 0 |
| 12/31/2011 | 51.97 | 14.66 | 4.93 | 1.93 | 0 |
| 9/30/2011 | 45.35 | 13.88 | 4.38 | 1.66 | 0 |
| 6/30/2011 | 54.25 | 15.95 | 5.66 | 2.16 | 0 |
| 3/31/2011 | 52.22 | 15.69 | 5.7 | 2.16 | 0 |
| 12/31/2010 | 49.54 | 14.8 | 5.16 | 2.04 | 0 |
| 9/30/2010 | 42.83 | 13.13 | 4.64 | 1.8 | 0 |
| 6/30/2010 | 39.95 | 11.58 | 4.1 | 1.59 | 0 |

Numbers are billions USD



MSCI is releasing market capitalization breakpoints less frequently than FTSE, hence the market capitalization breakpoints are longer in effect. This could result in no change.

3Q2019 US MARKET BREAKPOINT CHANGES



MSCI is releasing market capitalization breakpoints less frequently than others, hence the market capitalization breakpoints are longer in effect. This could result in no change.



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4TH QUARTER 2019
Investment Landscape

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Annual outlooks

PRIVATE EQUITY OUTLOOK

In our annual outlook we discuss the following trends occurring in the private markets:

- Continued strong deal flow in 2018, surpassing the all-time high of 2017.
- Another strong year for M&A activity by strategic buyers in response to slowing global growth to shore up profit margins.
- Europe's continued deployment into new investments to surpass exits by almost 2x, despite the uncertainty of political policies.
- Persistent excess returns above public markets and borrower-friendly leveraged financing driving more capital into the private markets, however investors are gravitating towards larger fund managers with longer track records.
- The continued evolution of secondary markets encompassing increasingly complex transactions.

Topics of interests

CRISIS RISK MITIGATION

We went back in time to find the worst periods in U.S. stock market history. There is always a question regarding whether it is possible to employ risk mitigation within a portfolio without giving up too much in terms of returns or paying too much in expenses.

We briefly examine strategies which are thought to mitigate these effects and find that some are better than others. Most institutional investors already have an effective program of crisis risk mitigation in the form of a significant allocation to high-quality bonds. For those wishing to construct a dedicated crisis risk allocation, we suggest a roadmap.

THE INVESTMENT GOLDEN RULE

Effective capital allocation involves distributing financial resources in a way that aligns the goals and objectives of an organization with its investment program. For institutional investors, this involves designing an appropriate strategic asset allocation (SAA), selecting competent investment managers, and then managing the resulting portfolio well. We believe there is a framework that can help. The "Investment Golden Rule" combines the components of the capital allocation process with the return objective in order to improve investment decisions across the organization. In this paper we analyze some practical examples of the capital allocation process through the lens of this framework.

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3rd quarter summary

THE ECONOMIC CLIMATE

- Real GDP grew at a 2.3% rate year-over-year in the second quarter (2.0% quarterly annualized rate). U.S. Q2 consumer spending came in stronger than any time since 2014, while weak business inventory investment acted as a slight drag. **p. 7**
- Trade policies and conflict likely weighed on economic progress. Uncertainty regarding the future of U.S.-China trade relations and supply chain disruptions caused by new tariff impositions are expected to hinder growth in the future. **p. 16**

PORTFOLIO IMPACTS

- U.S. equities outperformed international in Q3 (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter. **p. 26**
- Core inflation has crept up to cycle-highs in 2019, increasing to 2.4% YoY in September. Headline inflation rose 1.7% YoY, dragged down by falling energy prices. Neither the media nor investors appear to be concerned about rising inflation, as of yet. Investors remain focused on deflationary forces in the global economy. **p. 9**

THE INVESTMENT CLIMATE

- The Federal Open Market Committee cut the range for its benchmark interest rate by 0.25% in both its July and September meetings, bringing the new range for federal funds to 1.75-2.00%. **p. 18**
- Global sovereign bonds rallied, encouraged by muted inflation expectations and dovish guidance from global central banks. Central bankers appealed for fiscal action, citing the limited capacity of monetary policy to sustain further economic expansion. **p. 18**

ASSET ALLOCATION ISSUES

- Risk assets were flat over the quarter. Global equities gained 0.0% and U.S. Treasuries gained 2.4% as domestic interest rates fell. Longer duration exposures continued to outperform. **p. 41**
- The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted basket of currencies. Dollar volatility has been suppressed so far in 2019, following large swings experienced during years 2014-2018. Emerging market currencies fell -4.0% in Q3 on the back of U.S. dollar strength. These currencies remain depressed relative to history. **p. 36**

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

What drove the market in Q3?

“Trade talks seen as unlikely to mend U.S.-China divide”

U.S. TREASURY FEDERAL BUDGET NET CUSTOMS RECEIPTS (\$BILLIONS)

| Apr | May | Jun | Jul | Aug |
|--------|--------|--------|--------|--------|
| \$5.24 | \$4.93 | \$5.61 | \$6.47 | \$7.01 |

Article Source: Reuters, September 16th, 2019

“World Economy Sends Up Flares as Manufacturing Slump Hits U.S.”

ISM MANUFACTURING PURCHASING MANAGERS’ INDEX

| Apr | May | Jun | Jul | Aug | Sep |
|------|------|------|------|------|------|
| 52.8 | 52.1 | 51.7 | 51.2 | 49.1 | 47.8 |

Article Source: Bloomberg, September 30th, 2019

“Fed Will Weigh Resuming Balance Sheet Growth at October Meeting”

SIZE OF FEDERAL RESERVE BALANCE SHEET (\$TRILLIONS)

| Apr | May | Jun | Jul | Aug | Sep |
|--------|--------|--------|--------|--------|--------|
| \$3.93 | \$3.85 | \$3.83 | \$3.78 | \$3.76 | \$3.86 |

Article Source: The Wall Street Journal, September 19th, 2019

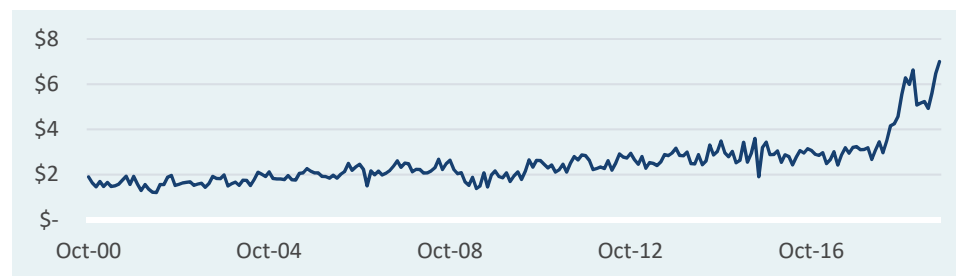
“Can Boris Johnson deliver Brexit as he pledged?”

GBP/USD SPOT EXCHANGE RATE (PRICE OF 1 GBP in USD)

| Apr | May | Jun | Jul | Aug | Sep |
|--------|--------|--------|--------|--------|--------|
| \$1.30 | \$1.26 | \$1.27 | \$1.22 | \$1.22 | \$1.23 |

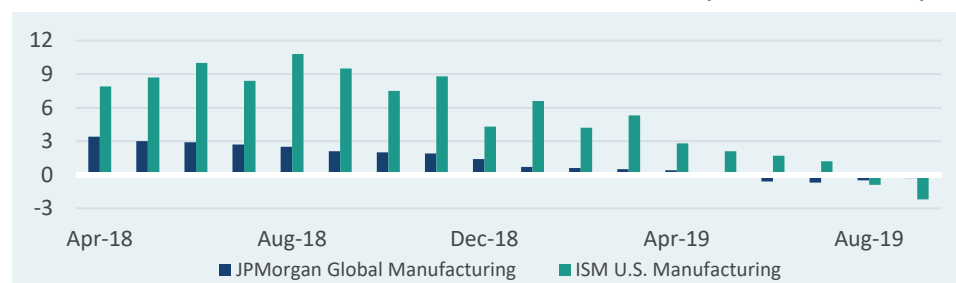
Article Source: The Australian Financial Review, September 11th, 2019

U.S. TREASURY FEDERAL BUDGET NET RECEIPTS CUSTOMS (\$BILLIONS)



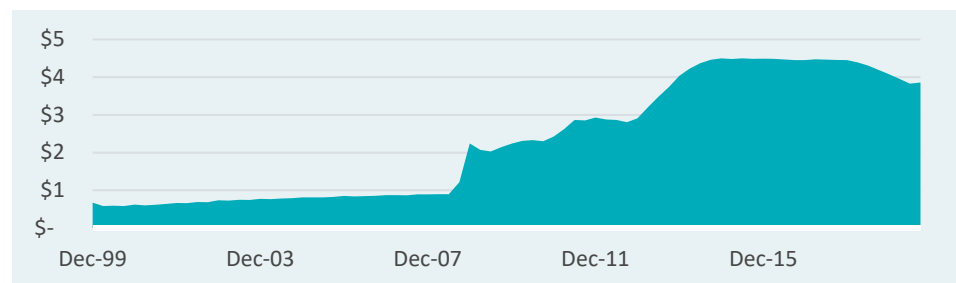
Source: Bloomberg, as of 8/31/19

MANUFACTURING PURCHASING MANAGERS INDEXES (RELATIVE TO 50)



Source: Bloomberg, Federal Reserve, as of 9/30/19. A reading of 0 is considered neutral.

FEDERAL RESERVE BALANCE SHEET (\$TRILLIONS)



Source: Bloomberg, Federal Reserve, as of 9/30/19

Economic environment

U.S. economics summary

- Real GDP grew at a 2.3% rate year-over-year in the second quarter (2.0% quarterly annualized rate). U.S. Q2 consumer spending came in stronger than any time since 2014, while weak business inventory investment acted as a slight drag.
- U.S-China trade remained a major story in Q3. The U.S. scheduled tariff rate hikes on \$250B in already-tariffed Chinese imports, as well as tariff impositions of up to 15% on the remaining \$300B in Chinese imports not currently exposed to duties. The Chinese retaliated with commensurate tariff adjustments. The two sides agreed to continued trade talks in Washington D.C. at the beginning of October.
- Trade conflict has likely weighed on economic progress. Uncertainty regarding the future of U.S.-China trade relations and supply chain disruptions caused by new tariff impositions are expected to act as a drag on growth in the future.
- Core inflation has crept up to cycle-highs, rising 2.4% YoY in September. Headline inflation increased 1.7% YoY, dragged down by falling energy prices.
- The U.S. unemployment rate reached a 50-year low of 3.5% in September. Historically, the rate of unemployment has risen prior to the beginning of each U.S. recession, which suggests the U.S. expansion may still have room to run.
- Despite record unemployment, wage growth remains lukewarm, decelerating from a cycle high of 3.4% achieved in February, to 2.9% in September.
- In October, the IMF cut its 2019 global economic growth forecast from 3.2% to 3.0%, referencing global trade friction as a primary driver.

| | Most Recent | 12 Months Prior |
|---|--------------------------------|--------------------------------|
| GDP (YoY) | 2.3% <i>6/30/19</i> | 3.2% <i>6/30/18</i> |
| Inflation (CPI YoY, Core) | 2.4% <i>9/30/19</i> | 2.3% <i>9/30/18</i> |
| Expected Inflation (5yr-5yr forward) | 1.7% <i>9/30/19</i> | 2.2% <i>9/30/18</i> |
| Fed Funds Target Range | 1.75 – 2.00% <i>9/30/19</i> | 2.00 – 2.25% <i>9/30/18</i> |
| 10 Year Rate | 1.7% <i>9/30/19</i> | 3.1% <i>9/30/18</i> |
| U-3 Unemployment | 3.5% <i>9/30/19</i> | 3.7% <i>9/30/18</i> |
| U-6 Unemployment | 6.9% <i>9/30/19</i> | 7.5% <i>9/30/18</i> |

GDP growth

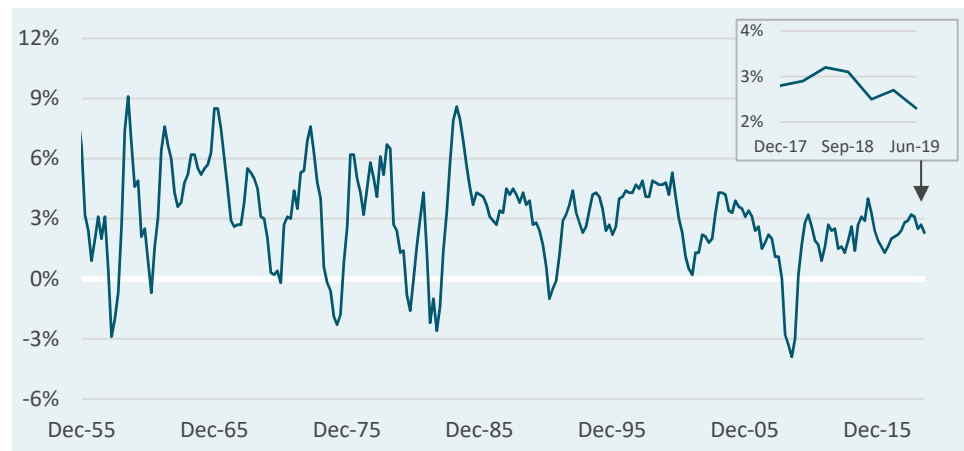
Real GDP grew at a 2.3% rate year-over-year in the second quarter (2.0% quarterly annualized rate). A lack of corporate inventory investment detracted -0.9% from the overall GDP print, perhaps fueled by frontloaded business purchases in efforts to avoid tariffs. Business investment also acted as a slight drag. Weakness was offset by strength in consumer spending not seen since late 2014. Economists broadly expect U.S. economic growth to moderate to a 2.0% pace in 2020.

economic growth. Uncertainty regarding the future of U.S.-China trade relations and supply chain disruptions caused by new tariff impositions are expected to further weigh on trade, spending, and business investment.

On October 9th, the Federal Reserve Bank of Atlanta GDPNow forecast indicated GDP growth of 1.7% in the third quarter. This forecast has recently fallen due to weaker than expected inventory investment.

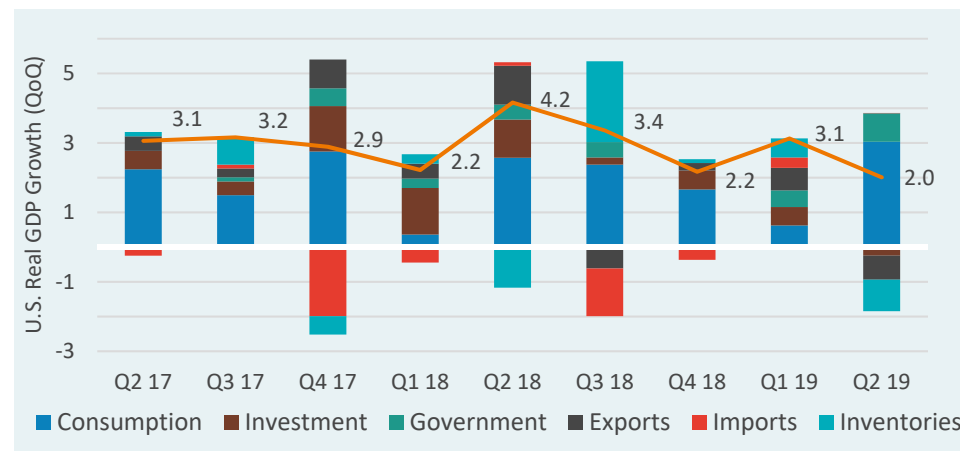
Trade policies and conflict likely resulted in a mild drag on

U.S. REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 6/30/19

U.S. GDP GROWTH ATTRIBUTION



Source: BEA, annualized quarterly rate, as of 6/30/19

Inflation

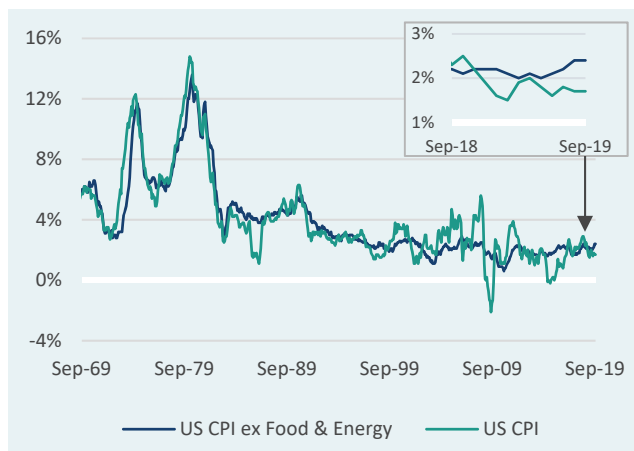
Core inflation has crept up to cycle-highs, rising 2.4% YoY in September. Headline inflation increased 1.7% YoY, held down by falling energy prices. Neither the media nor investors appear to be concerned about rising inflation, as of yet. Investors remain focused on deflationary forces across the global economy.

The market is pricing inflation to be very low over the next 10 years, as indicated by the U.S. 10yr TIPS breakeven inflation rate of 1.52%. This breakeven rate is still a ways

from its cycle low of 1.18% achieved in February 2016, when the price of oil crashed to below \$30 per barrel and pushed inflation down drastically.

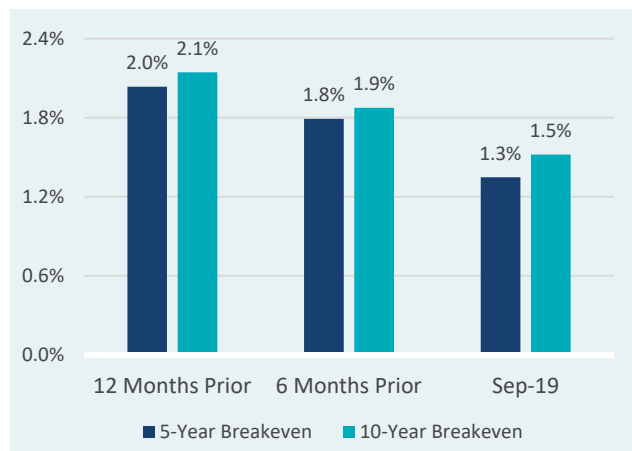
We believe it is likely that inflation will remain subdued. If inflation was to rise persistently, this might place central banks in a perilous position, given their recent unwillingness to raise interest rates. A rising inflation environment would also put upward pressure on interest rates, creating a drag on the global economy.

U.S. CPI (YOY)



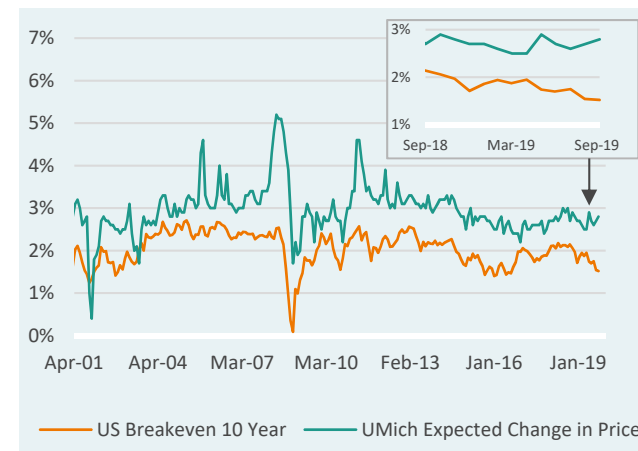
Source: Bloomberg, as of 9/30/19

U.S. BREAKEVEN INFLATION RATES



Source: FRED, as of 9/30/19

INFLATION EXPECTATIONS



Source: Bloomberg, as of 9/30/19

Labor market

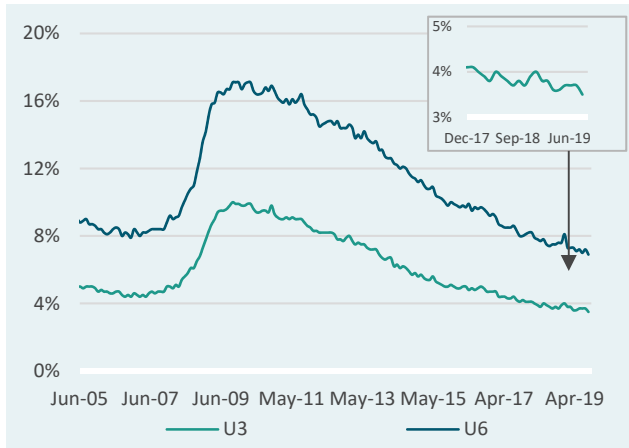
The U.S. unemployment rate reached a 50-year low of 3.5% in September. Historically, the rate of unemployment has risen prior to the beginning of each U.S. recession, which suggests the U.S. expansion may still have room to run. Despite record unemployment, wage growth remains lukewarm, decelerating to 2.9% YoY in September, down from a cycle high of 3.4% YoY achieved in February.

Interestingly, the small pool of U.S. workers who are currently unemployed have been out of work for much

longer, on average, than during past economic cycles. A shift in the composition of U.S. jobs may be contributing to this effect, as many manufacturing jobs have been outsourced/lost, and automated production processes have displaced some workers. Mismatches between the skills of available U.S. job-seekers and the skills required for current jobs appears to be creating some *structural unemployment*. Workers who are *structurally unemployed* require retraining and education to reposition themselves in the labor market.

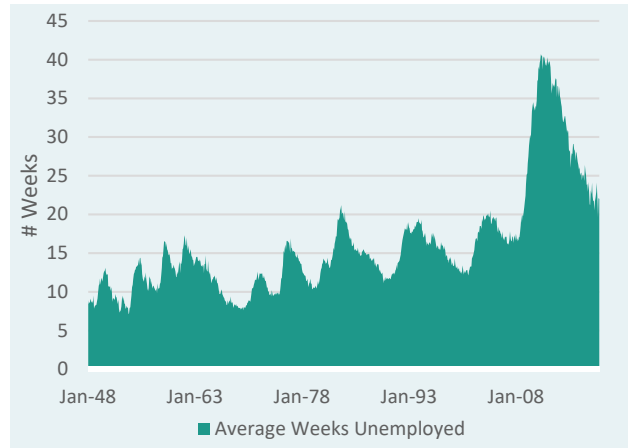
U.S. labor market remains strong, though further upside may be limited

U.S. UNEMPLOYMENT



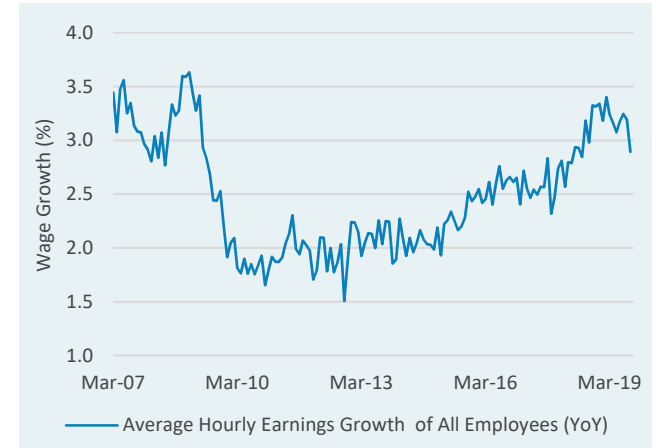
Source: FRED, as of 9/30/19

LENGTH OF UNEMPLOYMENT



Source: FRED, as 9/30/19

U.S. WAGE GROWTH



Source: FRED, as of 9/30/19

The consumer

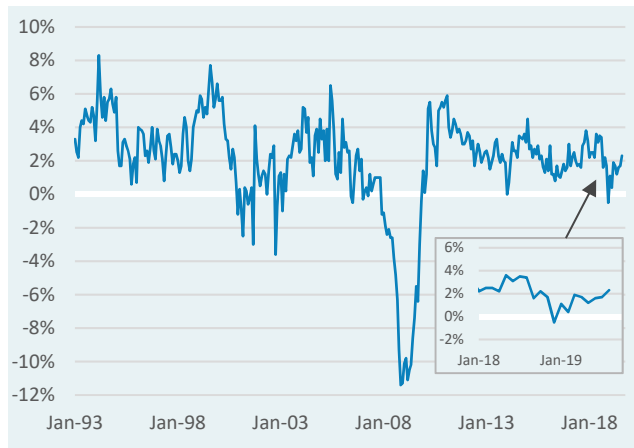
Retail sales fell in late 2018 but recovered year-to-date with a September growth rate of 2.3% YoY. Big-ticket purchases of items such as automobiles and homes have slowed from their 2016 highs.

The U.S. consumer continues to exhibit strength, as the labor market has reached record tightness, sentiment remains solid, and borrowing costs have fallen. However, slowing big ticket purchases will act as a headwind to growth. This slowing may be partly an effect of low interest rate burnout. As interest rates have been low for many years, consumers in need of big-ticket items have likely already purchased those items. Since

consumers are not likely to purchase yet another car or home, the incremental positive impacts of lower interest rates may be limited.

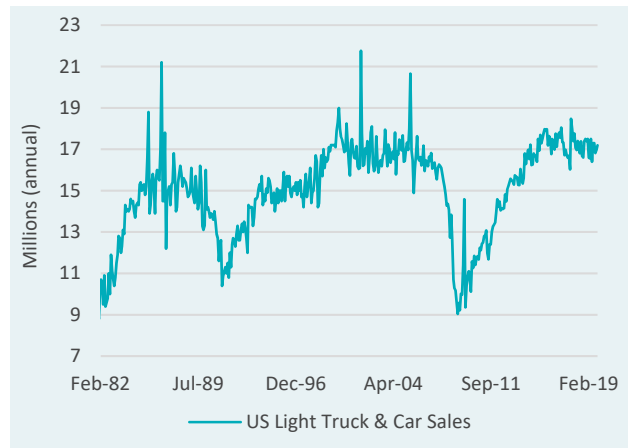
Consumer spending growth throughout this expansion has been a bright spot but has remained moderate, perhaps influenced by memories of the U.S. housing bubble and global financial crisis. Conservative spending habits are reflected in much higher savings rates than those witnessed during the economic boom of the 2000s – during which households spent more of their disposable income than any time since the Great Depression of the 1930s.

REAL RETAIL SALES GROWTH (YOY)



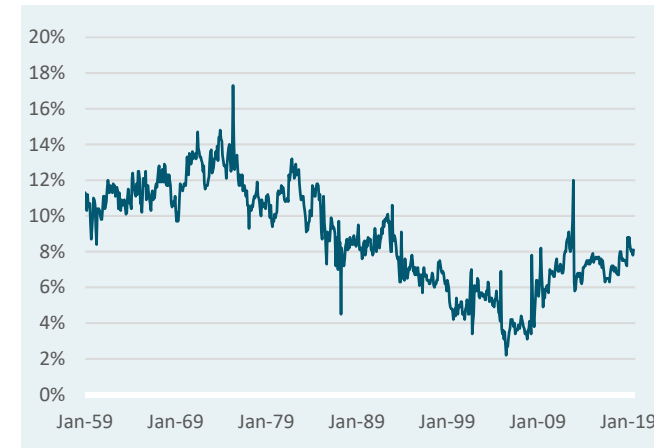
Source: FRED, as of 8/31/19

AUTO SALES



Source: Bloomberg, as of 9/30/19

PERSONAL SAVINGS RATE



Source: FRED, as of 8/31/19

Sentiment

Consumer sentiment faded but remained strong relative to history. The ratcheting up of trade tensions between the U.S. and China cast a shadow over a robust U.S. labor market.

Quits rate data from the Bureau of Labor Statistics indicated that 2.3% of total employed U.S. workers voluntarily quit their jobs in August - a level not seen since April 2001. Policymakers and economists view the quits rate as a measure of job confidence; quits rates typically rise when the labor market is relatively tight, and wages are moving higher.

Over the quarter, the University of Michigan's Consumer Sentiment Index fell from 98.2 to 93.2. Consumers remained more concerned about the near-term future than about the current situation. The two components of the index – Expectations and Current Situation - fell from 89.3 to 83.4 and from 111.9 to 108.5, respectively.

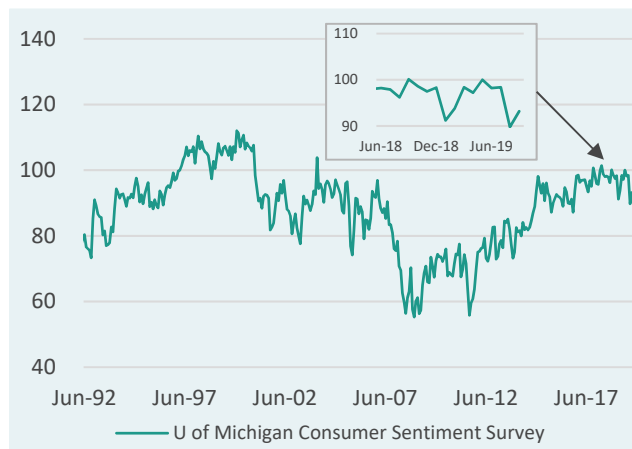
Optimism among small business owners trended lower as well. In the September NFIB report, 30% of small business owners reported they were negatively affected by tariffs.

U.S. WORKER QUIT RATE



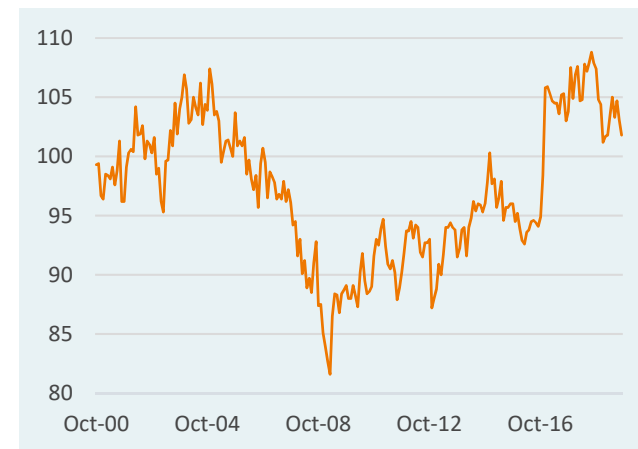
Source: FRED, as of 8/31/19

CONSUMER SENTIMENT



Source: University of Michigan, as of 9/30/19 (see Appendix)

NFIB SMALL BUSINESS OPTIMISM INDEX



Source: NFIB, as of 9/30/19

Housing

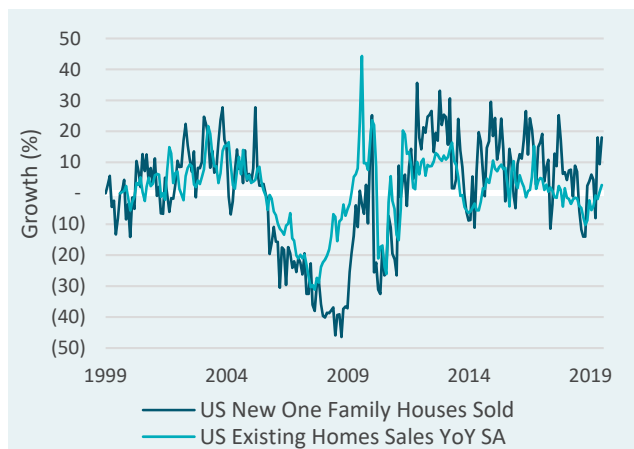
The housing market appears to be cooling off after a strong boom throughout the recent economic expansion. Home prices are falling modestly in some markets, and sales activity slowed in 2018. However, the recent drop in interest rates and mortgage rates has eased the cost of home ownership and may reignite activity.

Existing home sales grew +2.6% YoY in August. New home sales, a far smaller portion of the overall market, grew at a stronger rate of +18% YoY. An increase in new home sales likely reflects rising homebuilder activity in recent years, as indicated by the NAHB Housing Starts and Housing Permits Indices.

Home prices have fallen. The median U.S. home sale price was down -5% YoY in Q2. Falling prices and further weakening of the U.S. economy may create negative momentum as many buyers do not wish to purchase a home in a falling housing market, or in an economy that may be headed for recession.

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)



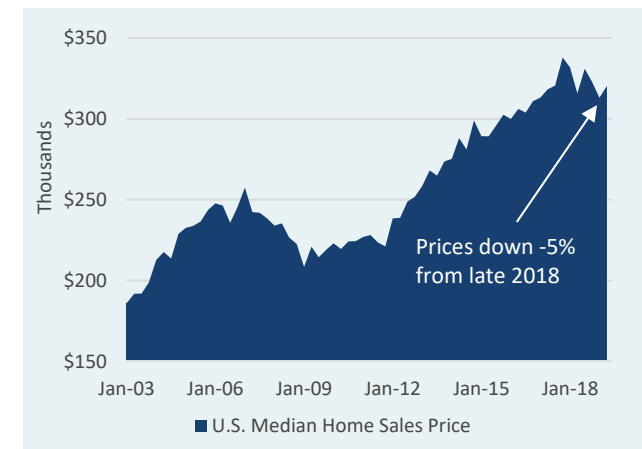
Source: FRED, as of 8/31/19

HOUSING STARTS & PERMITS



Source: Bloomberg, NAHB, as of 8/31/19 (see appendix)

MEDIAN U.S. HOME SALES PRICE



Source: FRED, as of 6/30/19

International economics summary

- The Organization for Economic Development cut its 2019 calendar year forecast for global growth from 3.2% to 2.9% and its 2020 calendar year forecast from 3.4% to 3.0%. Driving the downward revisions were trade tensions, which the OECD estimated would reduce 2019 global growth by 0.6%, cue for central banks to step in and attempt to bolster economic growth through more accommodative policy.
- Unemployment rates continued to tick lower around the globe. In the U.S., unemployment hit a 50-year low at 3.5%.
- U.S-China negotiations will likely continue to impact trade around the world. The U.S. scheduled tariff rate hikes on \$250B in already-tariffed Chinese imports, as well as tariff impositions of up to 15% on the remaining \$300B in Chinese imports not currently exposed to duties. The Chinese retaliated with commensurate tariff adjustments. The two sides agreed to continued trade talks in Washington D.C. at the beginning of October.
- Dormant trade tensions between the U.S. and the E.U. saw a resurgence over the quarter – the U.S. applied tariffs between 10-25% on \$7.5B of imports from the E.U.
- A major theme in the third quarter was the global manufacturing slowdown, which was illuminated by gloomy European manufacturing PMI data. The Markit Eurozone Manufacturing PMI fell to 45.7, further into contractionary territory indicated by a reading below 50. The German reading fell to 41.7. It has yet to be seen whether manufacturing weakness will spill into the larger services sector, where PMIs still indicate business expansion.
- Inflation has remained subdued across international developed markets, and many pundits have viewed the mild inflation data as a

| Area | GDP (Real, YoY) | Inflation (CPI, YoY) | Unemployment |
|---------------|------------------------|-------------------------|-------------------------|
| United States | 2.3% <i>6/30/19</i> | 1.7% <i>9/30/19</i> | 3.5% <i>9/30/19</i> |
| Eurozone | 1.2% <i>6/30/19</i> | 0.8% <i>9/30/19</i> | 7.4% <i>8/31/19</i> |
| Japan | 1.0% <i>6/30/19</i> | 0.4% <i>9/30/19</i> | 2.3% <i>5/31/19</i> |
| BRICS Nations | 5.0% <i>6/30/19</i> | 3.1% <i>9/30/19</i> | 5.1% <i>6/30/19</i> |
| Brazil | 1.0% <i>6/30/19</i> | 2.9% <i>9/30/19</i> | 11.8% <i>8/31/19</i> |
| Russia | 0.9% <i>6/30/19</i> | 4.0% <i>9/30/19</i> | 4.3% <i>8/31/19</i> |
| India | 5.8% <i>3/31/19</i> | 4.0% <i>9/30/19</i> | 8.5% <i>12/31/17</i> |
| China | 6.2% <i>6/30/19</i> | 3.0% <i>9/30/19</i> | 3.6% <i>6/30/19</i> |

International economics

The United States delivered year-over-year GDP growth of 2.3% in the second quarter, extending outperformance relative to other developed nations, which have posted year-over-year growth of around 1.0%.

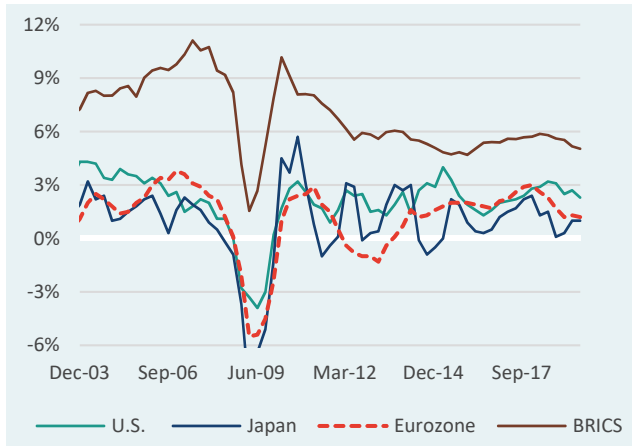
The Organization for Economic Development cut its 2019 calendar year forecast for global growth from 3.2% to 2.9% and its 2020 calendar year forecast from 3.4% to 3.0%.

Driving the downward revisions were trade tensions, which the OECD estimated would reduce 2019 global growth by 0.6%, 2019 U.S. growth by 0.7%, and 2019 Chinese growth by 1.0%

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. Unemployment rates continued to tick lower around the globe. In the U.S., unemployment hit a 50-year low at 3.5%.

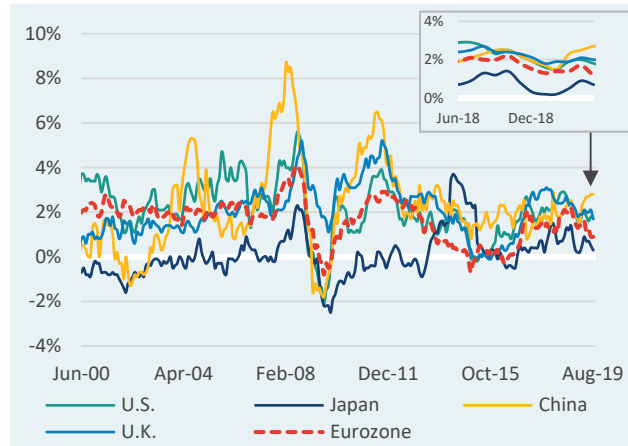
Chinese GDP expanded 6.0% year-over-year in the third quarter, its slowest rate of growth since the first quarter of 1992. Beijing's official target range for 2019 growth is between 6.0-6.5%.

REAL GDP GROWTH (YOY)



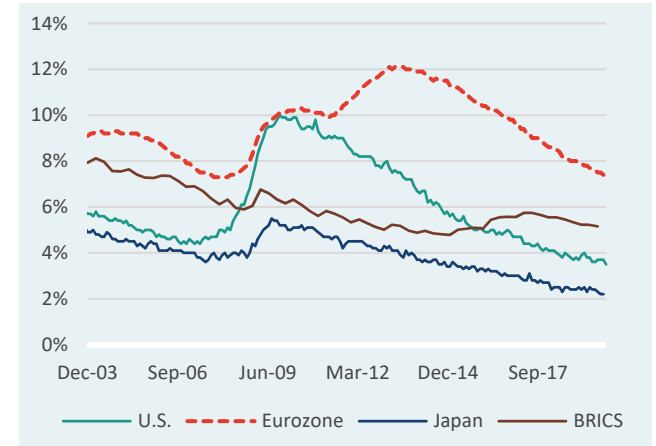
Source: Bloomberg, as of 6/30/19

INFLATION (CPI YOY)



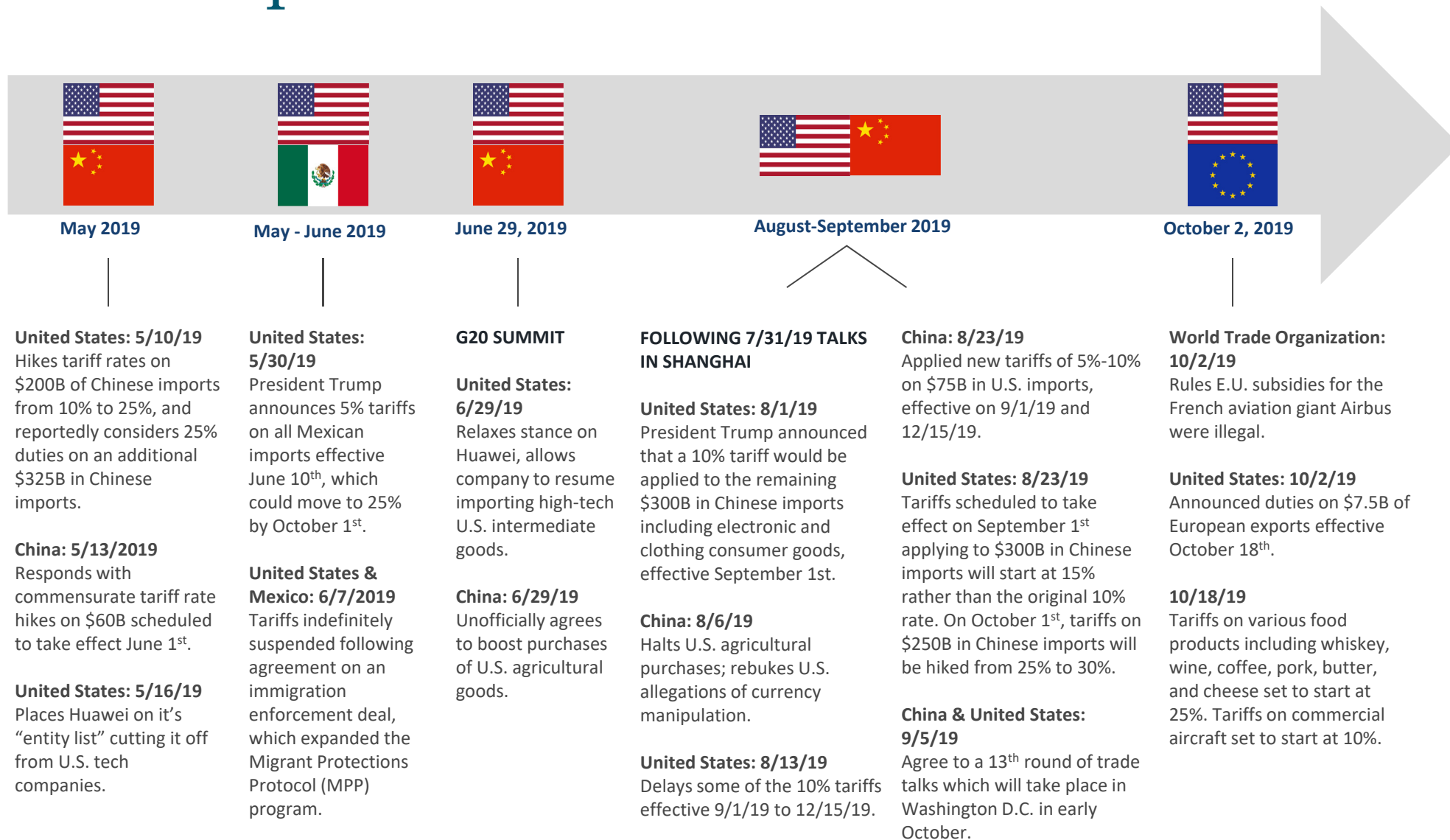
Source: Bloomberg, as of 9/30/19

UNEMPLOYMENT RATE



Source: Bloomberg, as of 9/30/19 or most recent release

Trade update



Source: Wikimedia Commons

Fixed income rates & credit

Interest rate environment

- Global sovereign bonds rallied, encouraged by muted inflation expectations and dovish guidance from global central banks. Central bankers appealed for fiscal action, citing the limited capacity of monetary policy to sustain further economic expansion.
- The Federal Open Market Committee cut the range for its benchmark interest rate by 0.25% in both its July and September meetings, bringing the new range for federal funds to 1.75-2.00%.
- FOMC members appear divided on the likely future path of interest rates. Per the September dot plot, 8 of 17 members expect one further 0.25% cut by the end of 2020, 2 expect no change, and 7 expect either one or two 0.25% rate hikes.
- The European Central Bank delivered a fresh stimulus package in September, in line with expectations. The ECB cut its main deposit rate from -0.40% to -0.50% and announced it would restart asset purchases of €20 billion per month, beginning November 1st.
- Global sovereign yields continued to plummet. In Germany, 10-year bond yields touched fresh all-time lows, and the entire German sovereign curve moved below 0%. In Italy, 10-year bond yields fell 1.28% to 0.82%, boosted by the formation of a new coalition government between the Democratic Party and the Five-Star Movement.
- Repo rates, which represent the overnight rate paid by short-term borrowers of cash, surged as overnight liquidity was constrained. The New York Fed intervened, injecting over \$300 billion into money markets over the course of a few weeks. Fed officials viewed the brief spike in repo rates as a financial “plumbing” issue, which could justify an “organic resumption of balance sheet growth”, not to be confused with crisis-era QE policy.

| Area | Short Term (3M) | 10-Year |
|---------------|-----------------|---------|
| United States | 1.81% | 1.66% |
| Germany | (0.57%) | (0.57%) |
| France | (0.59%) | (0.27%) |
| Spain | (0.54%) | 0.15% |
| Italy | (0.28%) | 0.82% |
| Greece | 0.65% | 1.35% |
| U.K. | 0.78% | 0.49% |
| Japan | (0.32%) | (0.21%) |
| Australia | 1.06% | 1.02% |
| China | 2.33% | 3.14% |
| Brazil | 5.04% | 7.05% |
| Russia | 6.58% | 7.01% |

Source: Bloomberg, as of 9/30/19

Rising global debt – two opposing forces

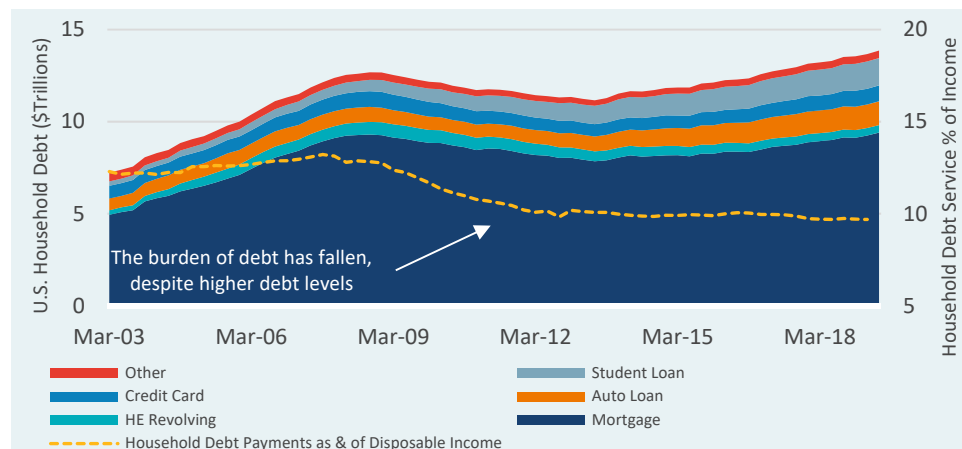
As the world has entered a low interest rate environment, many businesses and households have taken on greater debt. This is a natural trend – cheaper financing makes many purchases economical that were not when interest rates were high. As the cost of debt falls, businesses have also increasingly sought debt as a preferred source of overall financing.

Simultaneously, lower interest rates have offset much of the burden of taking on more debt. Some may argue that if an entity loads up on debt, but interest rates fall enough so that the entity's monthly debt payment does not change, this additional debt does not add significant risk to the entity's situation. It appears this is what is occurring around the world – greater use of debt, with the

burden of that debt largely offset by much lower interest rates. However, we believe risks are heightened in this environment.

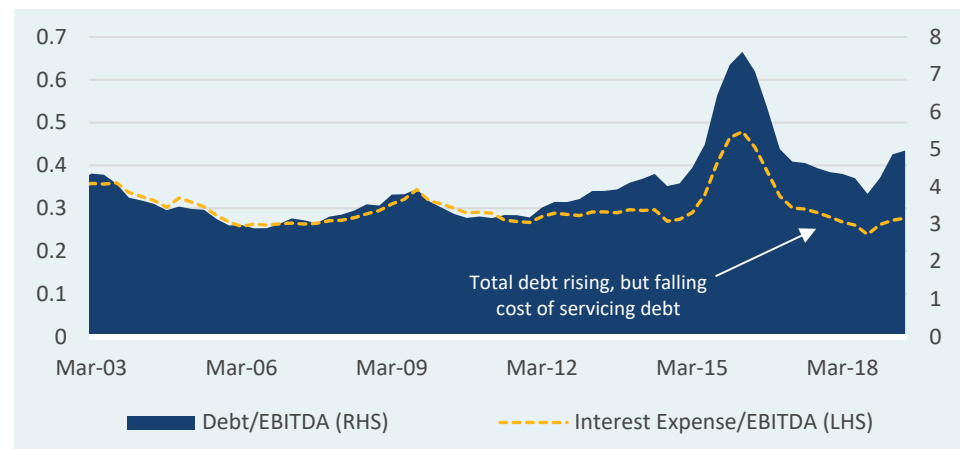
What are the investment implications? Changes in debt levels and interest rates tend to be slow-moving and secular, and difficult to act upon. But these events may in fact be informative about the future. First, expanded budgets and higher debt loads create incentives for governments to keep interest rates low to avoid economic problems. Second, significant corporate profit growth in recent years from financial engineering should not be expected to continue indefinitely. Third, higher debt loads may add to deflationary pressure, if debt service begins to take a greater share of income. We will continue to watch these secular forces.

HOUSEHOLD DEBT BURDEN



Source: FRED, as of 6/30/19

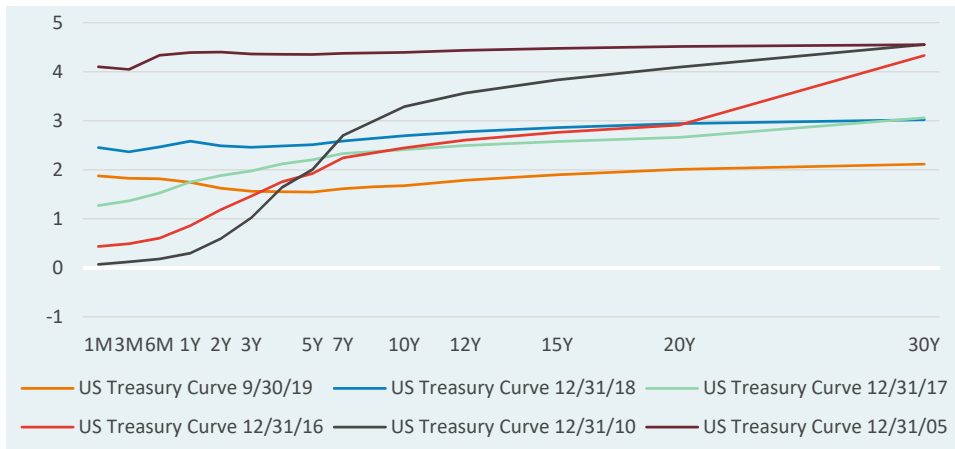
HIGH YIELD DEBT BURDEN



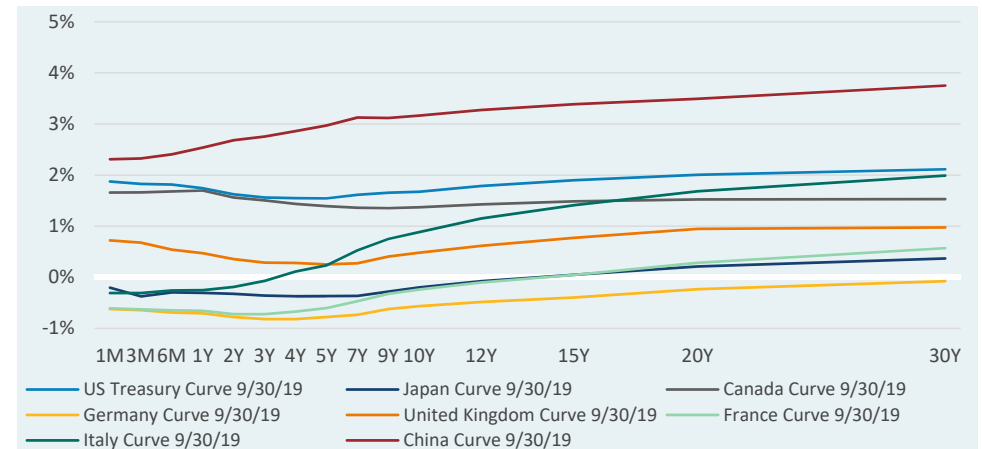
Source: Bank of America Merrill Lynch, as of 6/30/19 – Interest expense divided by total debt

Yield environment

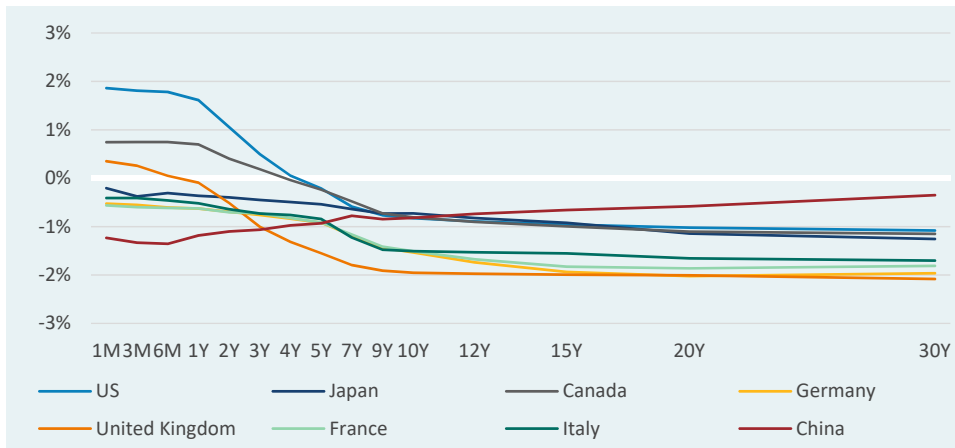
U.S. YIELD CURVE



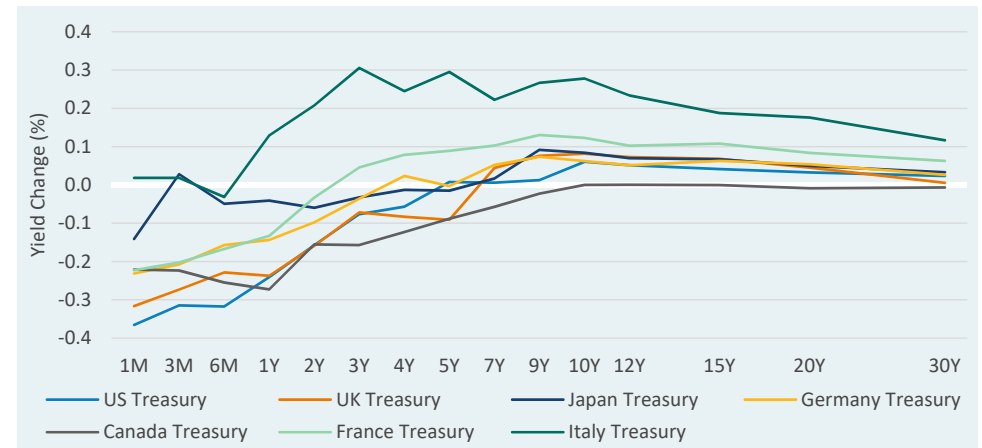
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



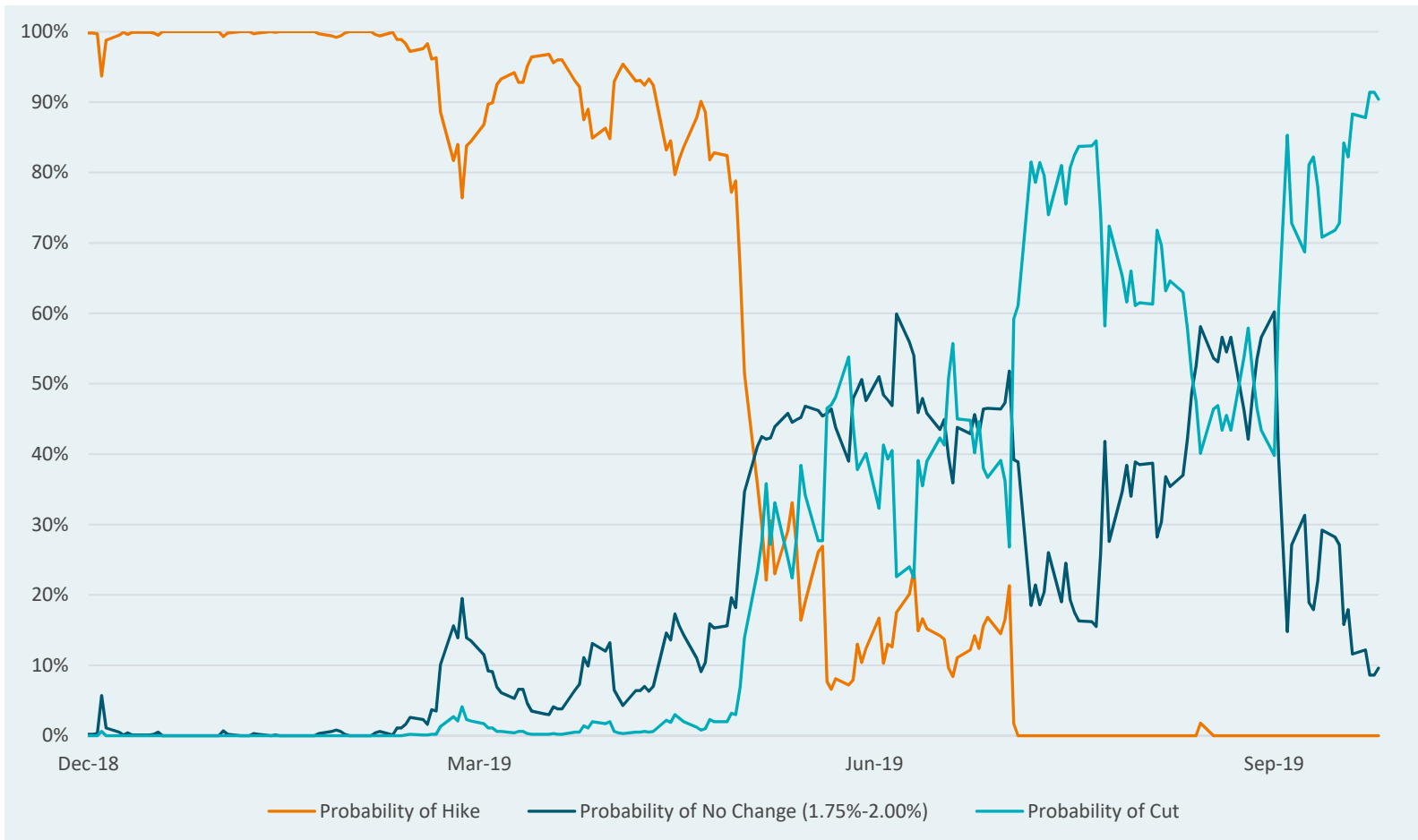
IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/19

October Fed meeting

FUTURES IMPLIED PROBABILITIES FOR OCTOBER FED RATE DECISION



In September, the Fed cut its range for federal funds by 0.25%, in line with expectations

Investors expect the Fed to cut rates again by 0.25% at the October 30th meeting

Source: Bloomberg, as of 10/24/19

Credit environment

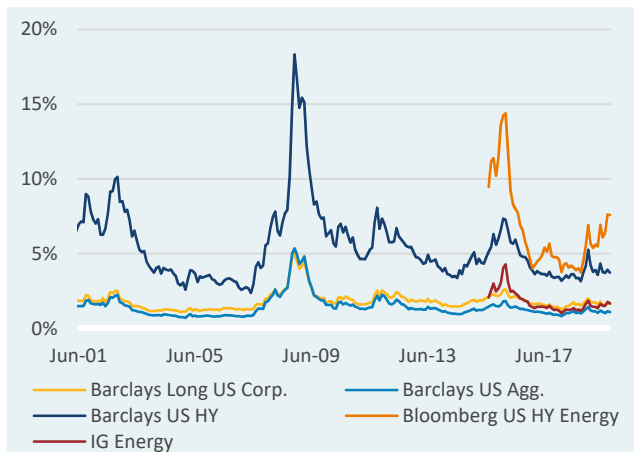
High yield bond spreads tightened slightly during Q3 as below investment grade assets remained somewhat stable over the period. Credit in general has been positively impacted by Federal Reserve dovishness. Anticipation of easier interest rate policies, which could potentially lengthen the credit cycle, has strengthened sentiment for risk assets. BB-rated bonds outperformed both CCC- and B-rated bonds in the third quarter once again. High yield bonds have returned +11.4% YTD, materially outperforming bank loans (+6.4%), but slightly underperforming investment grade credit (+12.6%).

The bank loan market has experienced some modest positive performance as interest rates rose off of their lows during the

quarter. The asset class was impacted by a pause in the Fed's hiking cycle and uncertainty surrounding future moves.

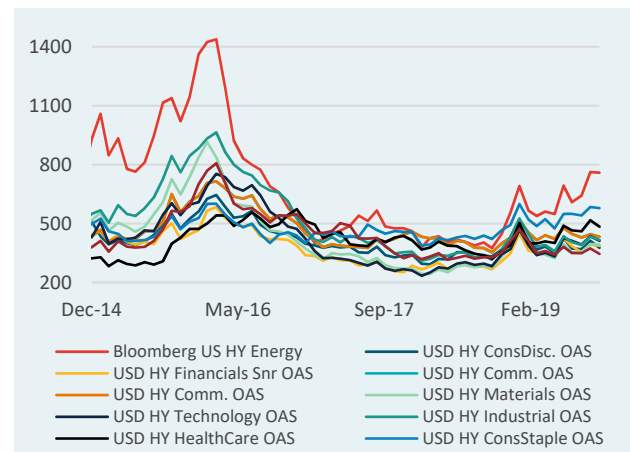
Based on concerns over late-cycle behavior in credit markets, we do not believe investors are being adequately compensated for credit risk. Late-cycle volatility tends to coincide with widening credit spreads and higher propensity for default activity. An underweight to U.S. investment grade, high yield 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



Source: Barclays, Bloomberg, as of 9/30/19

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 9/30/19

| Market | Credit Spread (OAS) | |
|---------------------|---------------------|---------|
| | 9/30/19 | 9/30/18 |
| Long U.S. Corp | 1.7% | 1.5% |
| U.S. Inv Grade Corp | 1.2% | 1.1% |
| U.S. High Yield | 3.7% | 3.2% |
| U.S. Bank Loans* | 4.5% | 3.7% |

Source: Barclays, Credit Suisse, Bloomberg, as of 9/30/19

*Discount margin (4-year life)

Default & issuance

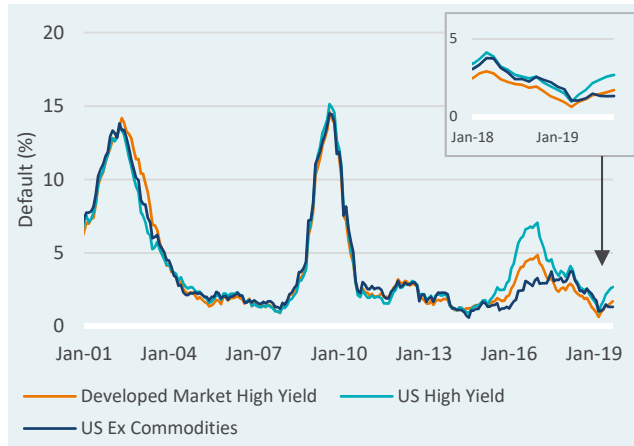
Default activity has been low and stable in the U.S. credit market, despite price volatility. The par-weighted default rate for high yield increased to 2.5% but remains below its long-term average range of 3.0-3.5%. For loans, the par-weighted default rate at the end of the third quarter was 1.4% and remains below the long-term average of 3.1%, according to data from J.P. Morgan. Consumer, retail, telecom, and utilities sectors may be especially prone to stress in the current environment.

Senior loan and high yield markets have essentially

recovered from a wave of defaults seen in 2015-2016 that were generated by energy and metals/mining sectors. High yield bond recovery rates have improved significantly since that time. However, the recent reversal in this recovery trend is notable and worth watching.

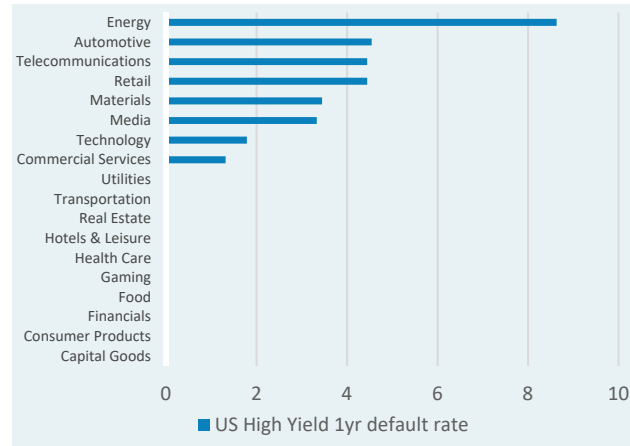
Gross high yield issue activity increased in September as investors took advantage of a dip in yields. Loan market issuance is significantly behind last year's pace, likely influenced by lower demand for floating rate securities now that the Federal Reserve has paused monetary tightening.

HY DEFAULT RATE (ROLLING 1-YEAR)



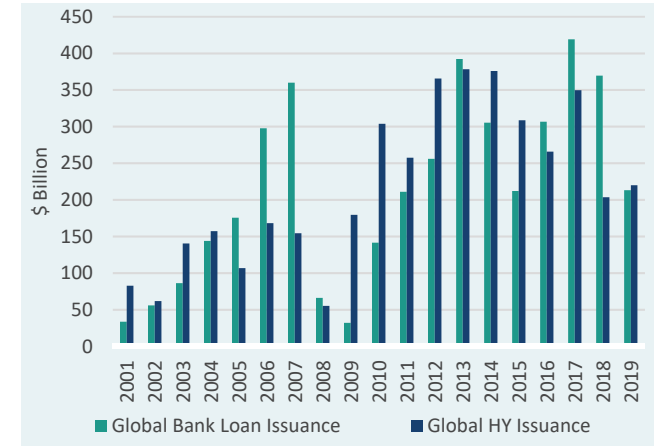
Source: BofA Merrill Lynch, as of 9/30/19

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



Source: BofA Merrill Lynch, as of 9/30/19 – par weighted

GLOBAL ISSUANCE (\$ BILLIONS)



Source: Bloomberg, BofA Merrill Lynch, as of 9/30/19

Equity

Equity environment

- U.S. equities outperformed international in Q3 (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter. We expect further declines in U.S. yields to be supportive of stocks, as low rates bolster earnings and reduce the attractiveness of fixed income.
- The S&P 500 has delivered moderate returns of 4.3% over the past year. Returns have likely been limited by flat earnings growth of 1.7%, and relatively high valuations. In the third quarter, S&P 500 YoY earnings growth is expected to be -4.1%, which would put U.S. equities on track for three consecutive quarters of earnings loss.
- The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted

basket of currencies, which created volatility and currency losses for unhedged investors.

- A large rotation from momentum stocks into value stocks occurred in Q3. The selloff was a multi-standard deviation event, with performance of the prior five months largely reversed in several days. The fall was likely due to a combination of better than expected economic news, monetary/fiscal stimulus expectations, and extreme positioning in these factors.
- Value stock performance was on par with growth stocks during the third quarter (Russell 1000 Value +1.4%, Russell 1000 Growth +1.5%) while small cap stocks underperformed large stocks (Russell 2000 -2.4%, Russell 1000 +1.4%). Year-to-date, the size factor and value factor have continued their run of underperformance.

| | QTD TOTAL RETURN | | 1 YEAR TOTAL RETURN | |
|--|------------------|----------|---------------------|----------|
| | (unhedged) | (hedged) | (unhedged) | (hedged) |
| US Large Cap (S&P 500) | 1.7% | | 4.3% | |
| US Small Cap (Russell 2000) | (2.4%) | | (8.9%) | |
| US Large Value (Russell 1000 Value) | 1.4% | | 4.0% | |
| US Large Growth (Russell 1000 Growth) | 1.5% | | 3.7% | |
| International Large (MSCI EAFE) | (1.1%) | 2.3% | (1.3%) | 4.2% |
| Eurozone (Euro Stoxx 50) | (1.4%) | 3.8% | 1.3% | 11.5% |
| U.K. (FTSE 100) | (2.2%) | 1.4% | (2.7%) | 5.4% |
| Japan (NIKKEI 225) | 2.9% | 3.6% | (8.2%) | (5.9%) |
| Emerging Markets (MSCI Emerging Markets) | (4.2%) | (2.2%) | (2.0%) | (0.4%) |

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 9/30/19

Domestic equity

U.S. equities outpaced international in the third quarter (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter. We expect further declines in U.S. yields to be supportive of stocks, as low rates bolster earnings and reduce the attractiveness of fixed income.

The S&P 500 has delivered moderate returns of 4.3% over the past year. Returns have likely been limited by slow earnings growth of 1.7%, and relatively high valuations. In the third quarter, S&P 500 YoY earnings growth is expected to be -4.1%, which would put U.S.

equities on track for three consecutive quarters of earnings loss. Revenue growth in Q3 is expected to be 2.8% YoY. Investors may point to seemingly lofty earnings growth expectations for 2020 as reason for optimism, though in reality this is a fairly average forecast. Growth expectations are typically high initially, and then fall to a more realistic level as time passes.

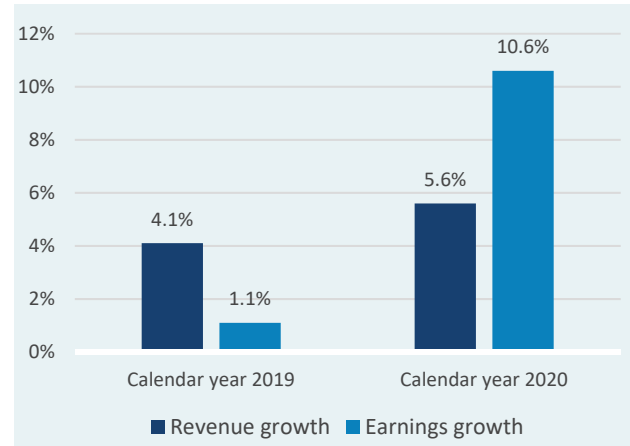
U.S. equities offer lower yields and less attractive valuations relative to other markets around the world, which suggests domestic equities might underperform over the long-term. However, U.S. may continue to outperform over the shorter-term due to relative economic and market strength.

U.S. EQUITIES



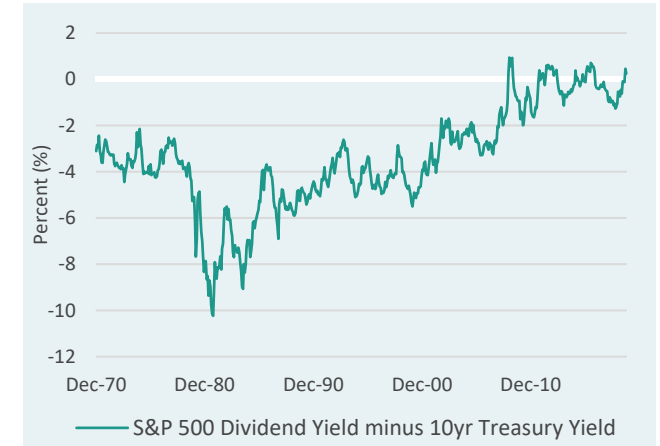
Source: Standard & Poor's, as of 9/30/19

Q3 2019 EARNINGS EXPECTATIONS



Source: FactSet, as of 10/11/19

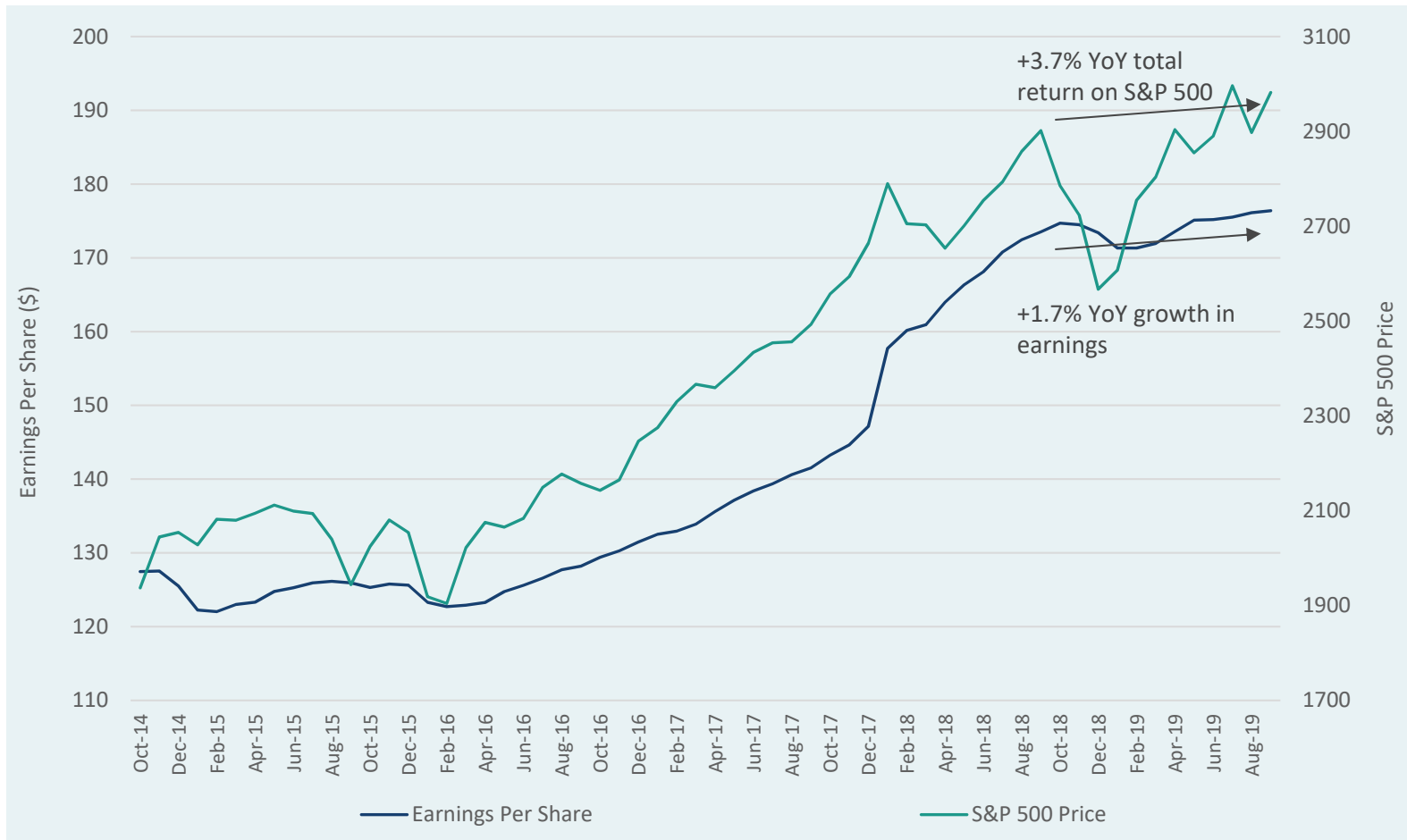
RELATIVE YIELDS



Source: Standard & Poor's, as of 9/30/19

Domestic equity

S&P 500 INDEX PRICE & EARNINGS LEVEL



U.S. equity performance has moderated

If earnings flatten out, this may lead to milder future returns

Source: Standard & Poor's, Bloomberg, as of 9/30/19

Domestic equity size & style

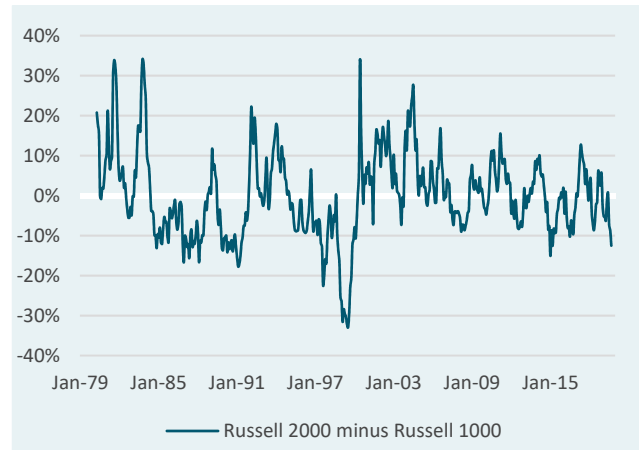
Value stock performance was on par with growth stocks during the third quarter (Russell 1000 Value +1.4%, Russell 1000 Growth +1.5%) while small cap stocks underperformed large stocks (Russell 2000 -2.4%, Russell 1000 +1.4%). Year-to-date, the size factor and value factor have extended their run of weakness.

The impact of sector performance on the value premium was mixed in the third quarter. Financials (+2.0%) and Utilities (+9.3%) outperformed the overall index (S&P 500 +1.7%) which boosted value, but poor Energy (-6.3%) performance counteracted these effects. Information Technology beat the

overall index (+3.3%) which acted as a headwind for value stocks.

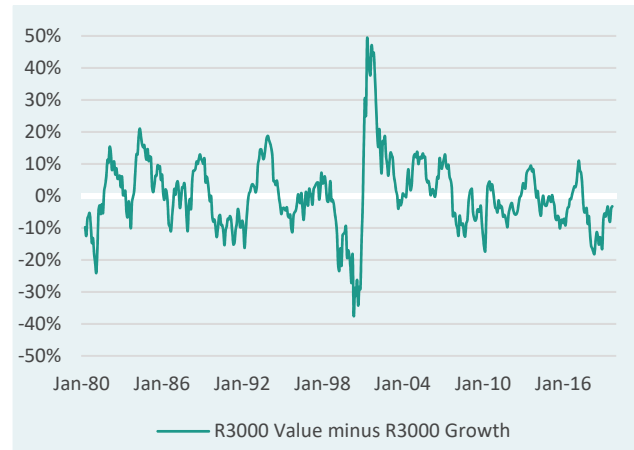
Value stocks have exhibited a long run of underperformance over the past decade. Our view has been that value stocks did not appear attractive, despite persistent performance pain. This was because value stocks had underperformed due to fundamental reasons rather than due to prices becoming stretched. Now, for the first time in this cycle it appears value prices are becoming unusually cheap, as indicated by a large disparity between Russell 1000 Value and Russell 1000 Growth P/E multiples.

SMALL CAP VS LARGE CAP (YOY)



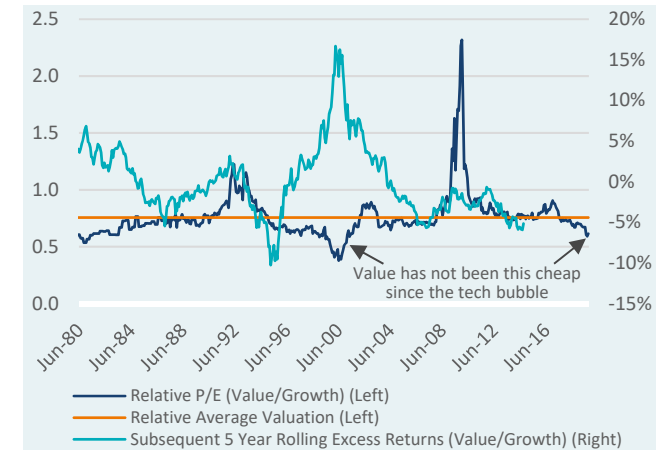
Source: FTSE, as of 9/30/19

VALUE VS GROWTH (YOY)



Source: FTSE, as of 9/30/19

VALUE STARTING TO LOOK CHEAP



Source: Russell, Bloomberg, as of 9/30/19

Domestic equity style – a closer look

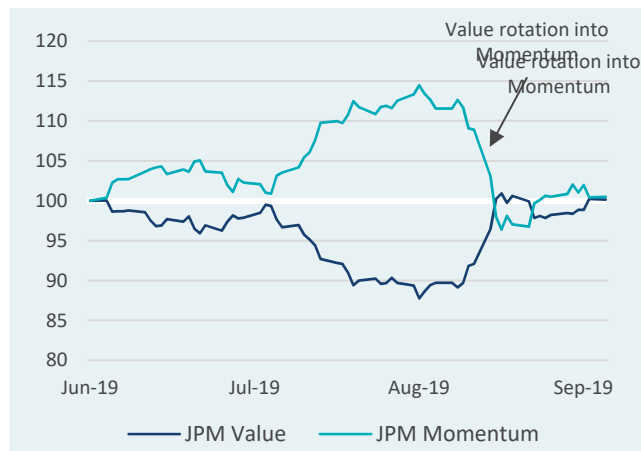
One of the largest rotations in decades into value stocks from momentum stocks occurred in Q3. The selloff was a multi-standard deviation event, with performance accruing from the prior five months largely reversed in several days. The reversal was likely due to a combination of better than expected economic news, monetary/fiscal stimulus expectations, and extreme positioning in these factors.

However, the selloff was short-lived as factor volatility reversed later in September. The Q3 reversal did not negate a long run of poor value results. As mentioned, the value factor

remains cheap relative to history.

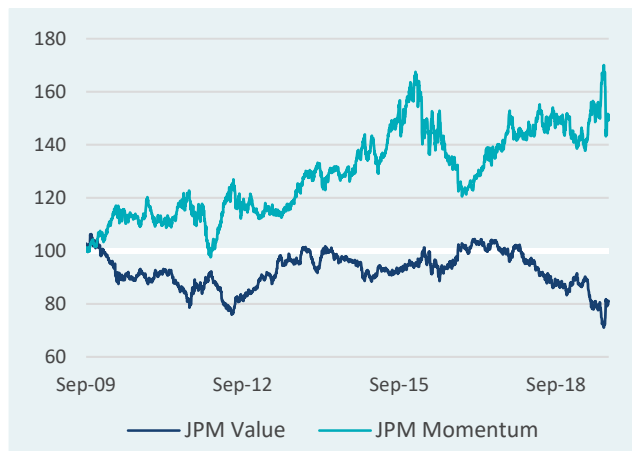
Mean reversion is a key underlying driver of the value factor. After the Global Financial Crisis, the speed at which stocks moved in/out of the respective top (cheap) and bottom (expensive) factor quintiles slowed relative to history. While expensive stocks are now exiting the bottom quintile at a somewhat faster rate, stocks with the most attractive valuations continued to remain cheap for longer periods of time relative to the pre-Global Financial Crisis period.

Q3 CUMULATIVE FACTOR PERFORMANCE
(INDEXED 6/30/2019 = 100)



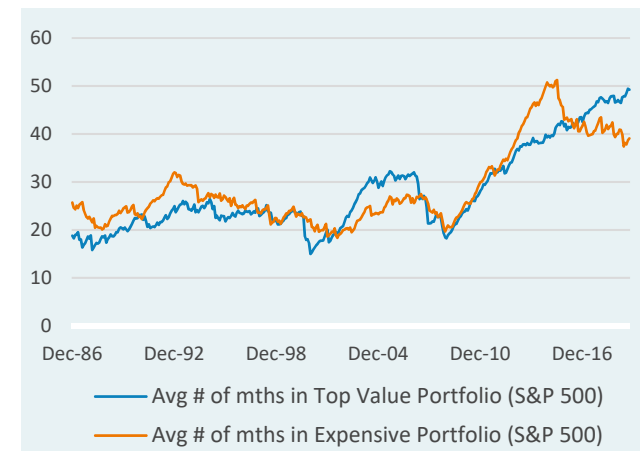
Source: J.P. Morgan Chase & Co., Copyright 2019, as of 9/30/19

10YR CUMULATIVE FACTOR PERFORMANCE
(INDEXED 9/30/2009 = 100)



Source: J.P. Morgan Chase & Co., Copyright 2019, as of 9/30/19

STRUCTURAL HEADWIND TO VALUE



Source: J.P. Morgan Chase & Co., Copyright 2019, as of 9/30/19

International developed equity

International equity performance was impacted heavily by currency movements in the third quarter. In local terms, the MSCI EAFE Index delivered a total return of 1.8%, bringing year-to-date performance to 15.7%. For unhedged U.S. investors however, the MSCI EAFE Index generated a quarterly return of -1.1%, dragging the year-to-date figure to 12.8%. Dollar strength reemerged as a powerful force driving returns due in part to widening interest rate differentials between the U.S. and the rest of the world.

Japanese equities outperformed over the period, delivering a

Q3 return of 3.5% in local terms. Unhedged U.S. investors in the MSCI Japan Index received only 3.1%, as the yen depreciated slightly vs. the U.S. dollar over the period.

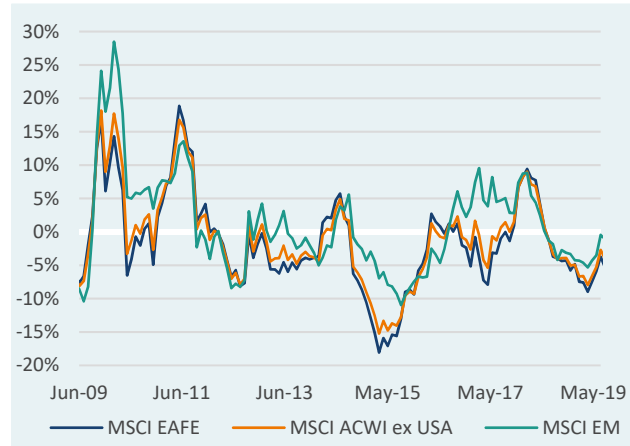
The British pound weakened in July as the new Prime Minister Boris Johnson signaled a much harder line on Brexit than his predecessor's. Toward the end of the quarter, the pound strengthened as markets began pricing a lower likelihood of a "no-deal" Brexit, which many market participants viewed as unfriendly to markets.

INTERNATIONAL DEVELOPED EQUITIES



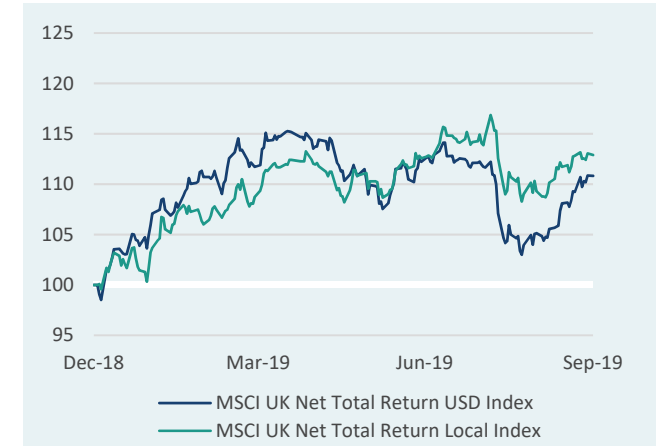
Source: MSCI, as of 9/30/19

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 9/30/19

U.K. EQUITY PERFORMANCE (YTD)



Source: Bloomberg, as of 9/30/19

Emerging market equity

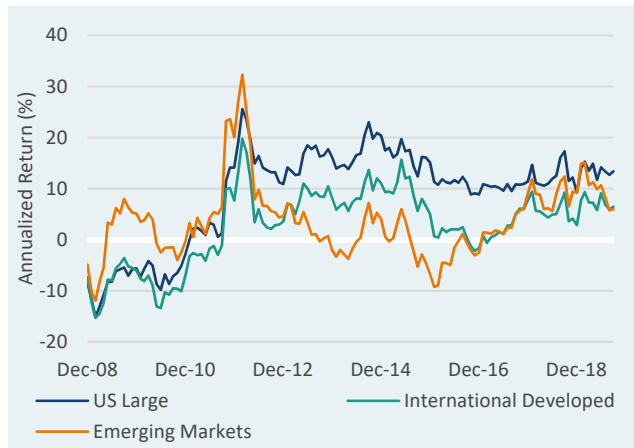
Emerging market equities (MSCI Emerging Markets -4.2%) lagged developed markets (MSCI EAFE -1.1%) over the quarter, while U.S. equities outperformed (S&P 500 +1.7%).

Equity multiples have expanded year-to-date, recovering to the levels of September 2018. Developed and emerging markets continue to appear cheap relative to domestic equity valuations.

We see two opposing forces impacting emerging markets in

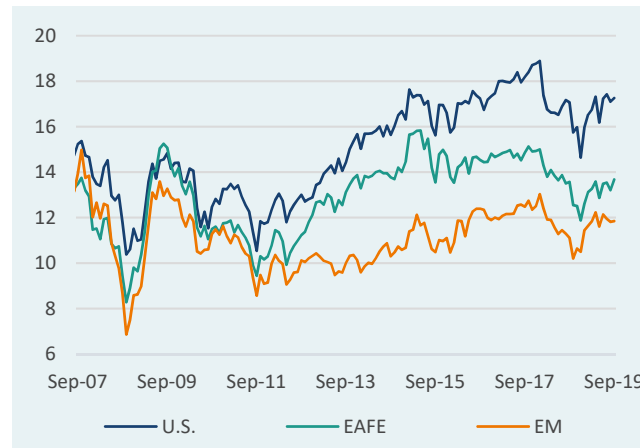
the current environment. The first force is decelerating global growth and a rising probability of recession, which likely bodes poorly for emerging market performance. However, the second force of widespread central bank dovishness may boost emerging market performance in the near term. Specifically, if global growth levels out while central banks unleash another round of easing, there may be material upside to emerging market equities. On balance, we remain moderately bullish on emerging markets, though we are watching developments closely.

EQUITY PERFORMANCE (3-YR ROLLING)



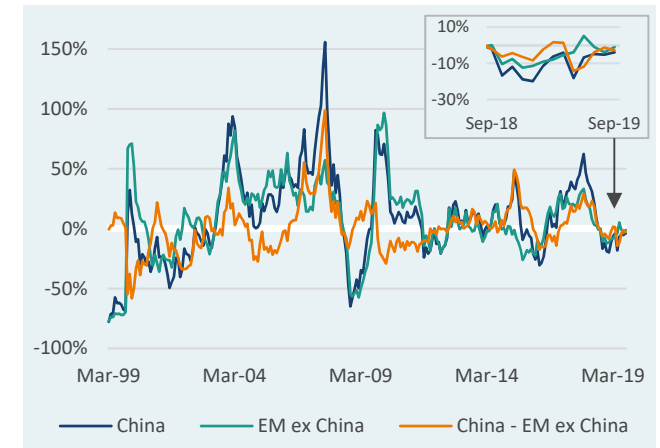
Source: Standard & Poor's, MSCI, as of 9/30/19

FORWARD P/E



Source: MSCI, as of 9/30/19

CHINA & EM: ROLLING 1-YEAR PERFORMANCE (USD)



Source: MSCI, as of 9/30/19

Equity valuations

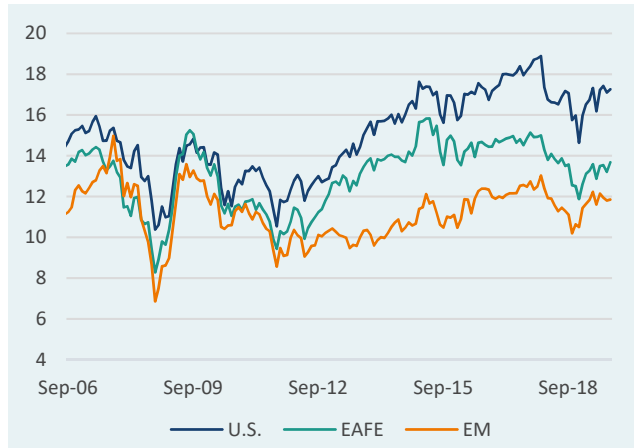
Equity valuations have climbed back up year-to-date as prices recover from their large drop in late 2018. U.S. equities are expensive relative to their long-run average, while international and emerging equities currently sit at normal levels.

The forward P/E multiple on the MSCI US Index ticked up from 17.2x to 17.3x over the quarter and remains above both its 5-year (17.1x) and 10-year (15.3x) averages. International equities remain at a forward P/E multiple (13.7x) between the

5-year (14.2x) and 10-year (13.2x) averages. Emerging market equities became a bit cheaper but are still trading at a forward P/E of 11.9x, above both their 5-year and 10-year averages.

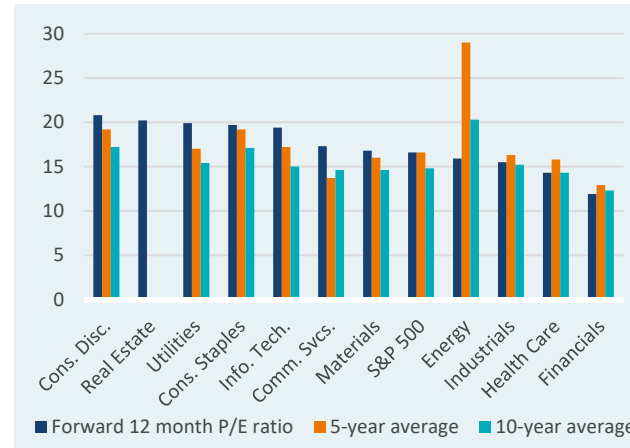
U.S. large cap stocks outperformed most unhedged international and emerging market equities. In a more uncertain geopolitical landscape, investors appear to remain willing to stomach loftier relative valuations in exchange for the quality of U.S. institutions. The U.S. economy is less reliant on exports, and U.S. companies are less reliant on foreign demand, helping to shield U.S. stocks from trade turbulence.

FORWARD P/E RATIOS



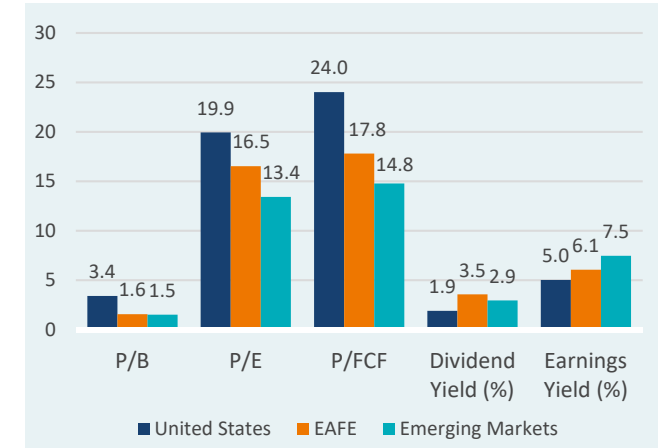
Source: MSCI, 12m forward P/E, as of 9/30/19

S&P 500 INDEX FORWARD SECTOR P/E RATIOS



Source: Standard & Poor's, FactSet, as of 10/11/19

VALUATION METRICS (3-MONTH AVERAGE)



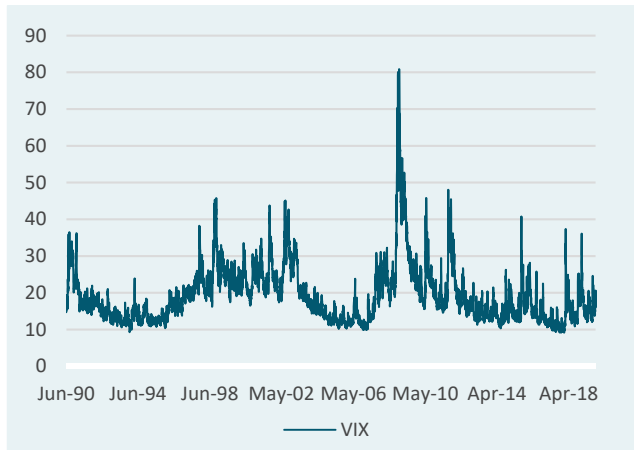
Source: Bloomberg, MSCI as of 9/30/19 - trailing P/E

Equity volatility

Implied volatility on both U.S. stocks and European stocks picked up over the quarter, albeit from depressed levels. The VIX Index which measures the 30-day implied volatility of U.S. stocks jumped to nearly 25.0 in August following a material escalation in U.S.-Chinese trade tensions. By quarter-end, the VIX settled at 16.2, up 1.1 points, and above its year-to-date average of 15.9. In Europe, the V2X Index gauging implied volatility on the Euro Stoxx 50 Index rose from 13.7 to 15.8, above its year-to-date average of 15.4.

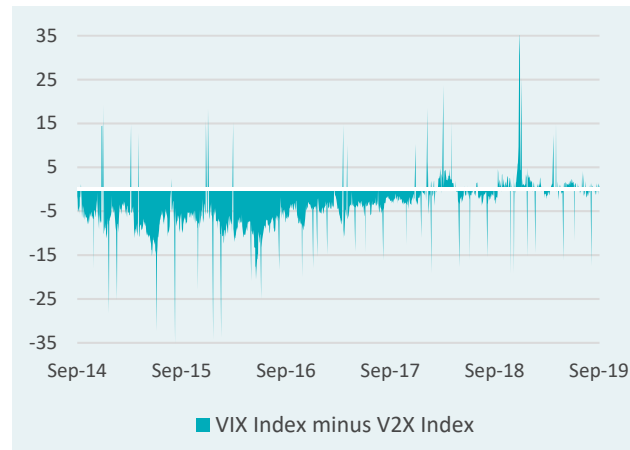
Despite the ratcheting up of trade tension in Q3, the realized trailing 30-day realized volatility on Chinese mainland shares was surprisingly low – falling from 18.0% to 12.9%. In comparison, U.S. 30-day volatility rose from 12.2% to 12.7%. Volatility of U.S. and China equities has only been this close 17% of the time. Looking ahead to Q4, despite realized volatility being low, it is important to remember that Chinese equities have been extremely volatile. As recent as 2014, 30-day annualized volatility reached 60% in mainland China.

U.S. IMPLIED VOLATILITY (VIX)



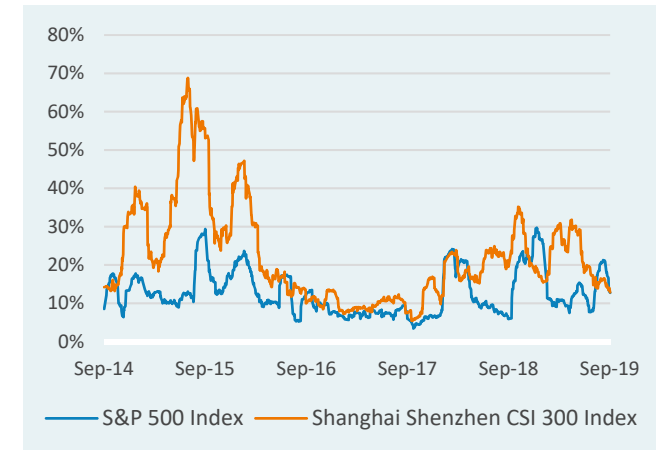
Source: CBOE, as of 9/30/19

U.S. IMPLIED VOLATILITY VS. EUROPEAN IMPLIED VOLATILITY



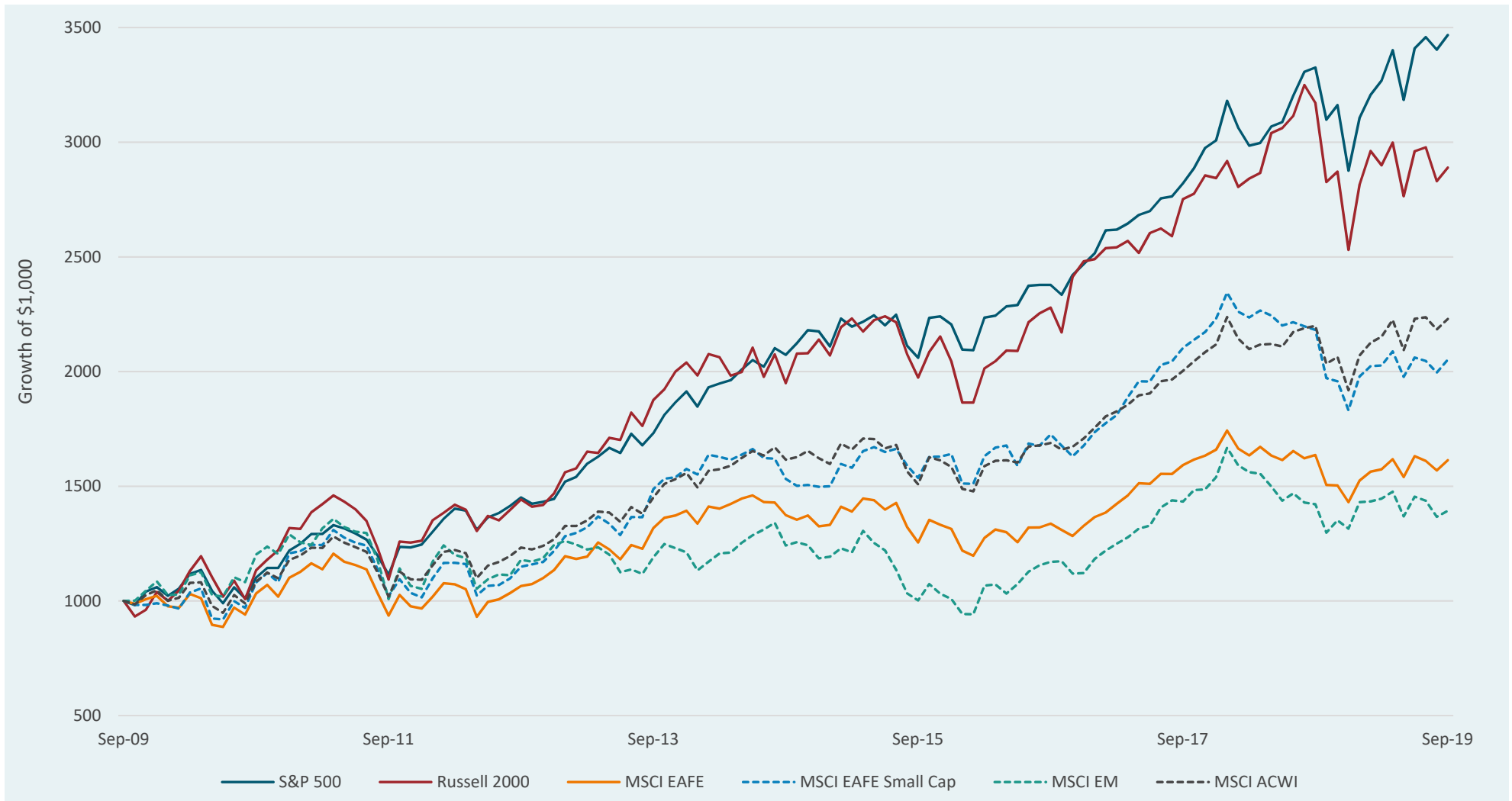
Source: Bloomberg, as of 9/30/19

30-DAY REALIZED VOLATILITY – U.S. LARGE CAP STOCKS VS. CHINESE MAINLAND STOCKS



Source: Bloomberg, as of 9/30/19

Long-term equity performance



Source: Morningstar, as of 9/30/19

Other assets

Currency

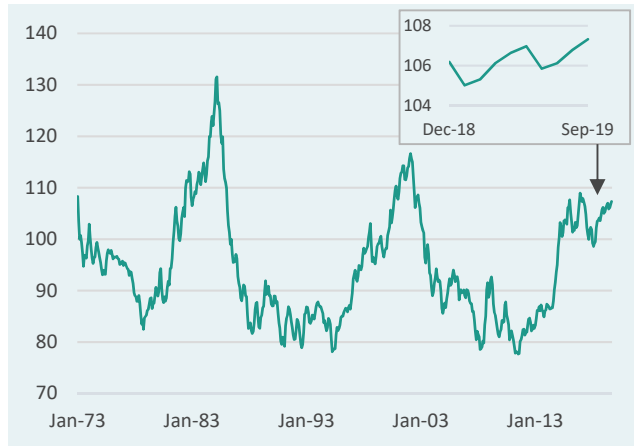
The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted basket of currencies. Dollar volatility has been suppressed so far in 2019, following large swings experienced during years 2014-2018. Investors are pricing in a 78% chance of one more 0.25% rate cut by the end of 2019, and a 25% chance of 0.50% in rate cuts. The market continues to price in more aggressive easing than what the Federal Reserve has indicated, which may contribute to volatility if actual easing measures underwhelm the market.

A variety of market scenarios may lead to U.S. dollar

weakness in the short-term, including: aggressive easing by the Federal Reserve which leads to a convergence of U.S. and international interest rates levels, further upside surprise to U.S. inflation, and/or weakening U.S. economic conditions which brings the U.S. more in line with other developed economies.

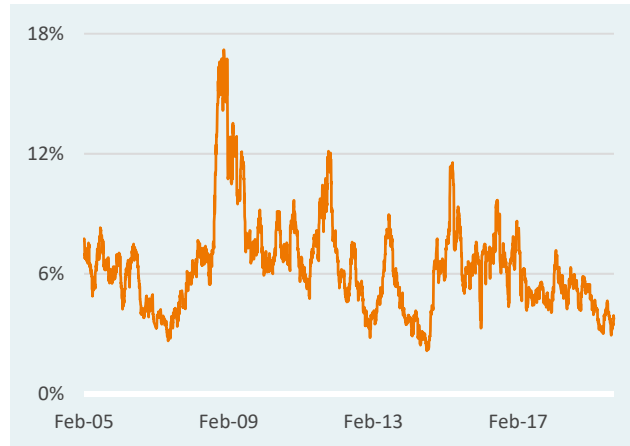
Emerging market currencies fell -4% quarter, on the back of U.S. dollar strength. These currencies remain very depressed relative to history.

U.S. DOLLAR TRADE WEIGHTED INDEX



Source: Federal Reserve, Verus, as of 9/30/19

BLOOMBERG DOLLAR SPOT INDEX REALIZED 30-DAY VOLATILITY



Source: Bloomberg, as of 9/30/19

JPM EMERGING MARKET CURRENCY INDEX



Source: Bloomberg, JPMorgan, as of 9/30/19

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 | YTD | 5-Year | 10-Year |
|-------------------------|-------|------|-------|-------|-------|------|------|------|------|------|-------|-------|------|-------|------|------|-------|-------|------|------|-------|------|--------|---------|
| Large Cap Growth | 38.7 | 66.4 | 31.8 | 14.0 | 25.9 | 56.3 | 26.0 | 34.5 | 32.6 | 39.8 | 5.2 | 79.0 | 29.1 | 14.3 | 18.6 | 43.3 | 13.5 | 13.3 | 31.7 | 37.3 | 6.7 | 23.3 | 13.1 | 15.4 |
| 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 | 18.5 | 9.9 | 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 | 16.3 | 8.8 | 13.1 |
| 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 | 13.8 | 8.1 | 11.6 |
| 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 | 11.8 | 6.6 | 11.5 |
| 60/40 Global Portfolio | 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 | 11.4 | 6.4 | 10.0 |
| 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 | 9.7 | 4.6 | 9.3 |
| US Bonds | 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 | 9.1 | 4.1 | 6.4 |
| Small Cap Value | 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 | 7.3 | 3.3 | 5.0 |
| Hedge Funds of Funds | -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 | 5.7 | 2.0 | 4.1 |
| Emerging Markets Equity | -5.1 | 7.3 | -14.0 | -12.4 | -20.5 | 11.6 | 6.9 | 4.6 | 9.1 | 4.4 | -38.4 | 11.5 | 8.2 | -5.7 | 4.8 | 0.1 | 0.0 | -4.4 | 2.6 | 7.0 | -11.2 | 3.9 | 1.9 | 3.9 |
| Real Estate | -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 | 3.3 | 0.9 | 2.9 |
| Commodities | -25.3 | -0.8 | -22.4 | -20.4 | -27.9 | 4.1 | 4.3 | 3.2 | 4.3 | -1.6 | -43.1 | 0.2 | 5.7 | -13.3 | 0.1 | -2.3 | -4.5 | -14.9 | 0.5 | 1.7 | -13.8 | 1.9 | 0.4 | 0.5 |
| 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 | 1.5 | -8.6 | -4.3 |

Large Cap Equity

Large Cap Value

Large Cap Growth

Small Cap Equity

Small Cap Value

Small Cap Growth

International Equity

Emerging Markets Equity

US Bonds

Cash

Commodities

Real Estate

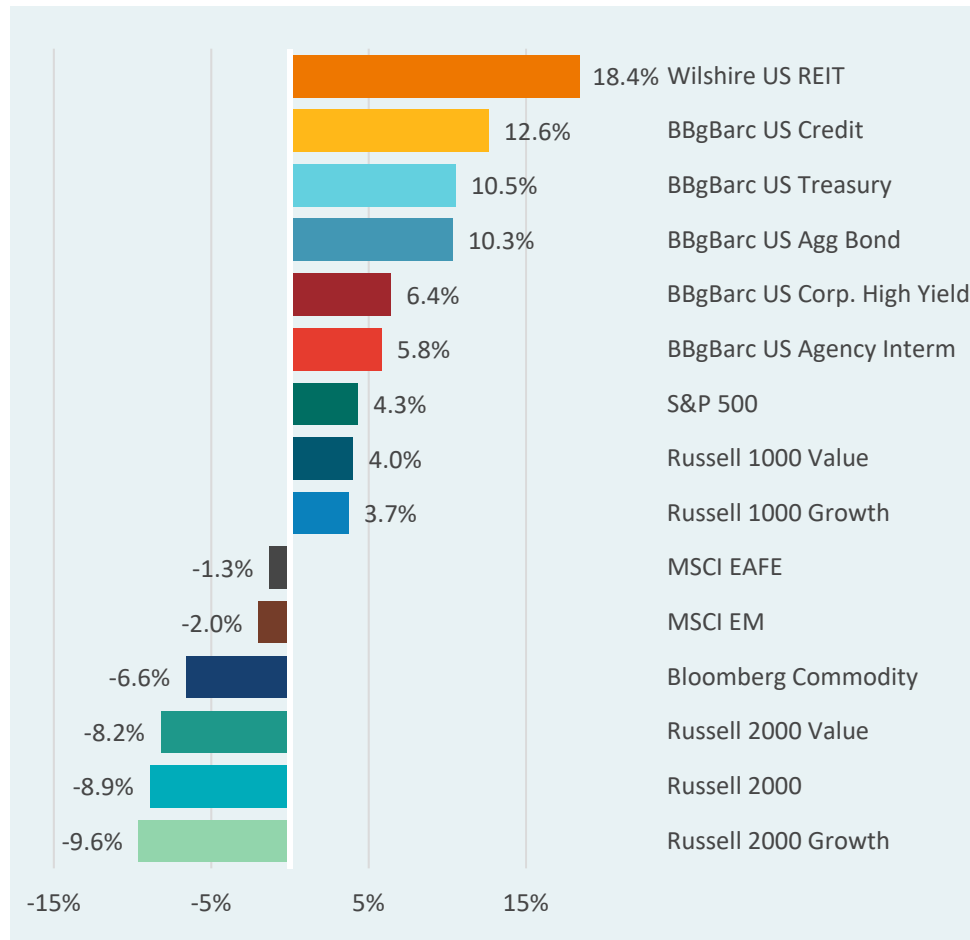
Hedge Funds of Funds

60% MSCI ACWI/40% BBgBarc Global Bond

Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 6/30/19.

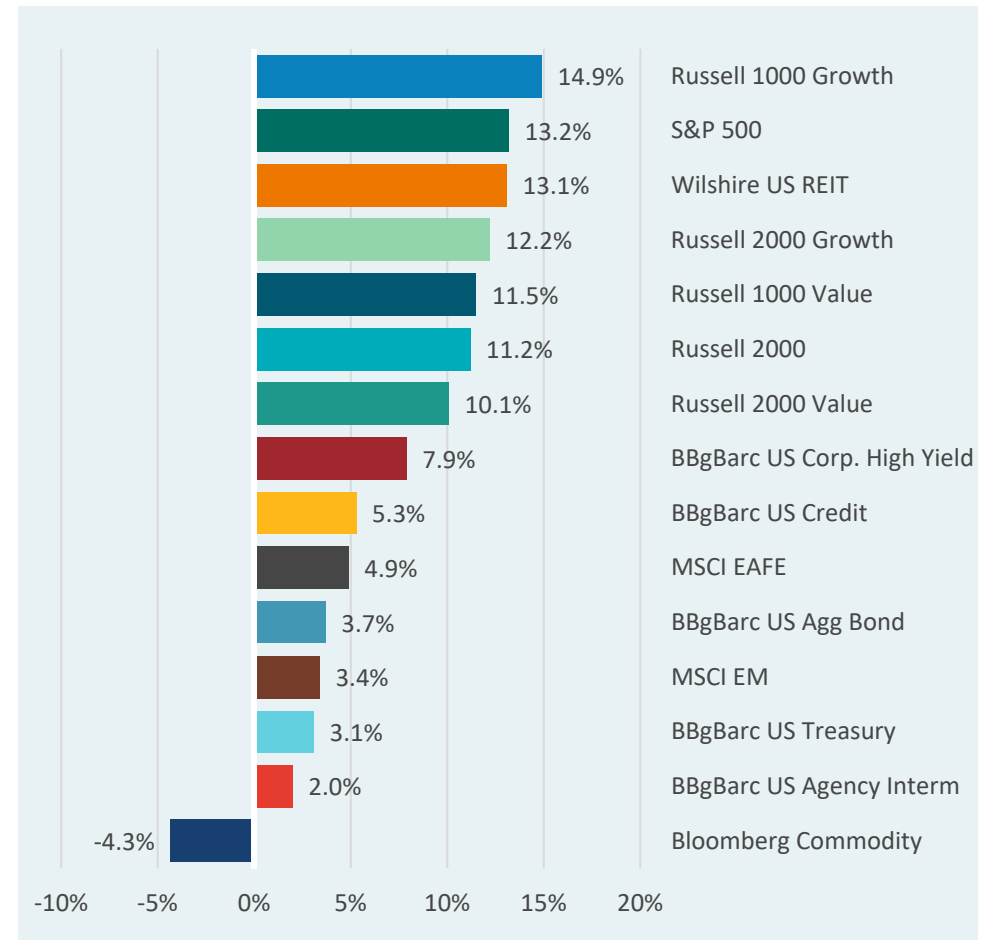
Major asset class returns

ONE YEAR ENDING SEPTEMBER



Source: Morningstar, as of 9/30/19

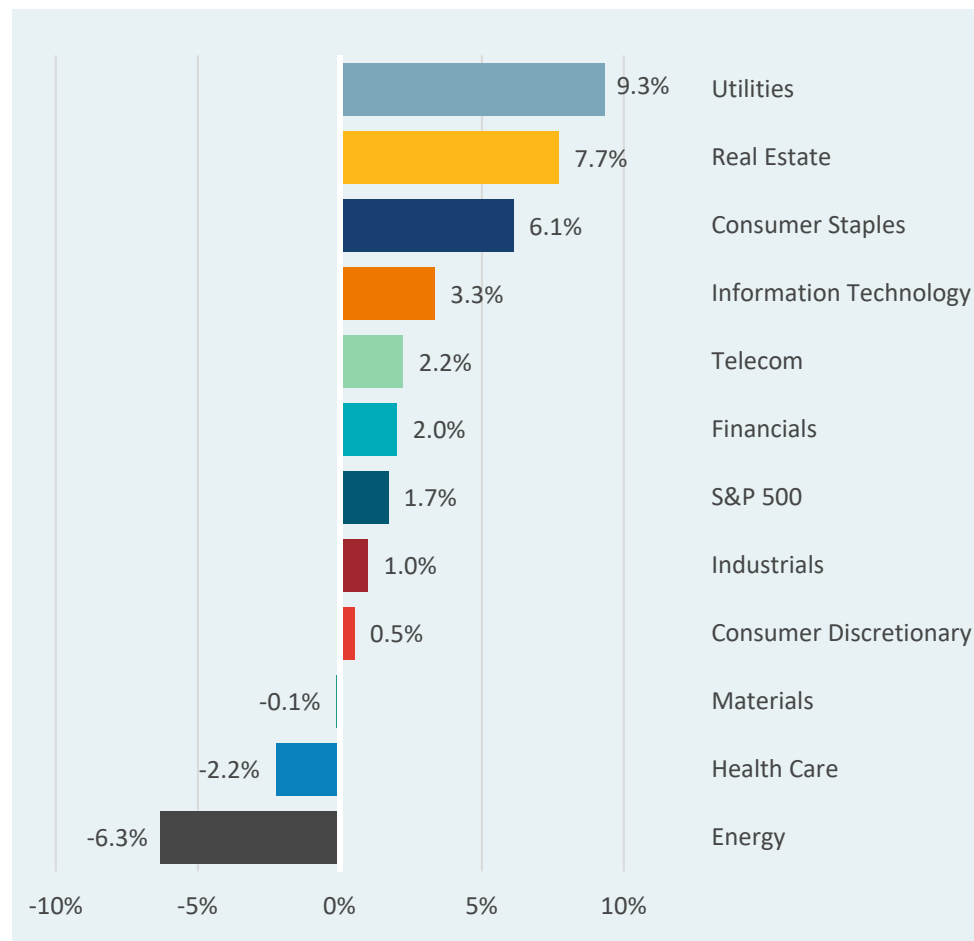
TEN YEARS ENDING SEPTEMBER



Source: Morningstar, as of 9/30/19

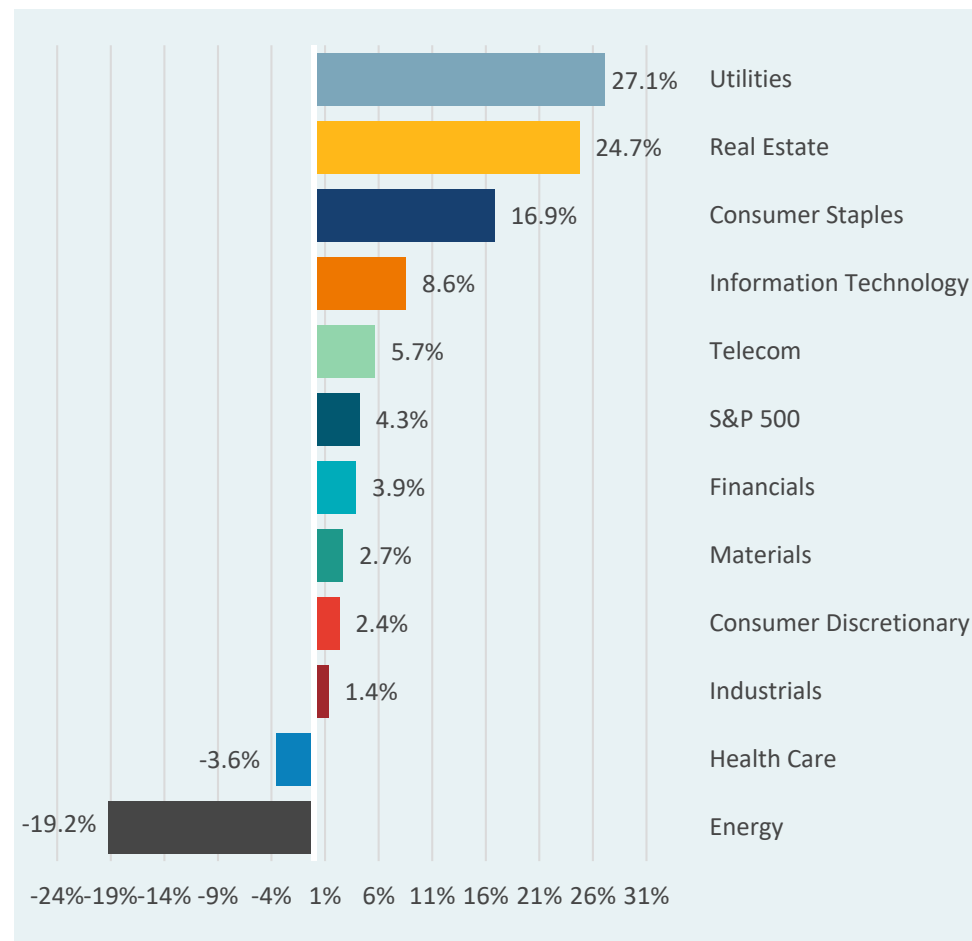
S&P 500 sector returns

Q3



Source: Morningstar, as of 9/30/19

ONE YEAR ENDING SEPTEMBER



Source: Morningstar, as of 9/30/19

Detailed index returns

DOMESTIC EQUITY

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|------------------------|-------|-------|------|--------|--------|--------|---------|
| Core Index | | | | | | | |
| S&P 500 | 1.9 | 1.7 | 20.6 | 4.3 | 13.4 | 10.8 | 13.2 |
| S&P 500 Equal Weighted | 3.1 | 0.8 | 20.1 | 3.4 | 11.1 | 9.5 | 13.4 |
| DJ Industrial Average | 2.1 | 1.8 | 17.5 | 4.2 | 16.4 | 12.3 | 13.6 |
| Russell Top 200 | 1.6 | 1.8 | 20.0 | 4.1 | 14.2 | 11.2 | 13.3 |
| Russell 1000 | 1.7 | 1.4 | 20.5 | 3.9 | 13.2 | 10.6 | 13.2 |
| Russell 2000 | 2.1 | (2.4) | 14.2 | (8.9) | 8.2 | 8.2 | 11.2 |
| Russell 3000 | 1.8 | 1.2 | 20.1 | 2.9 | 12.8 | 10.4 | 13.1 |
| Russell Mid Cap | 2.0 | 0.5 | 21.9 | 3.2 | 10.7 | 9.1 | 13.1 |
| Style Index | | | | | | | |
| Russell 1000 Growth | 0.0 | 1.5 | 23.3 | 3.7 | 16.9 | 13.4 | 14.9 |
| Russell 1000 Value | 3.6 | 1.4 | 17.8 | 4.0 | 9.4 | 7.8 | 11.5 |
| Russell 2000 Growth | (0.8) | (4.2) | 15.3 | (9.6) | 9.8 | 9.1 | 12.2 |
| Russell 2000 Value | 5.1 | (0.6) | 12.8 | (8.2) | 6.5 | 7.2 | 10.1 |

INTERNATIONAL EQUITY

| Broad Index | | | | | | | |
|------------------------|-----|-------|------|-------|-----|-------|-------|
| MSCI ACWI | 2.1 | (0.0) | 16.2 | 1.4 | 9.7 | 6.7 | 8.3 |
| MSCI ACWI ex US | 2.6 | (1.8) | 11.6 | (1.2) | 6.3 | 2.9 | 4.5 |
| MSCI EAFE | 2.9 | (1.1) | 12.8 | (1.3) | 6.5 | 3.3 | 4.9 |
| MSCI EM | 1.9 | (4.2) | 5.9 | (2.0) | 6.0 | 2.3 | 3.4 |
| MSCI EAFE Small Cap | 2.8 | (0.4) | 12.1 | (5.9) | 5.9 | 6.0 | 7.5 |
| Style Index | | | | | | | |
| MSCI EAFE Growth | 1.1 | (0.4) | 17.9 | 2.2 | 7.8 | 5.5 | 6.5 |
| MSCI EAFE Value | 4.8 | (1.7) | 7.7 | (4.9) | 5.1 | 1.0 | 3.2 |
| Regional Index | | | | | | | |
| MSCI UK | 4.2 | (2.5) | 10.1 | (2.9) | 4.6 | 0.4 | 4.8 |
| MSCI Japan | 4.0 | 3.1 | 11.1 | (4.7) | 6.2 | 5.6 | 5.5 |
| MSCI Euro | 2.8 | (2.0) | 13.9 | (1.1) | 7.1 | 2.4 | 3.1 |
| MSCI EM Asia | 2.0 | (3.4) | 6.0 | (3.9) | 6.3 | 4.1 | 5.2 |
| MSCI EM Latin American | 2.6 | (5.6) | 6.3 | 6.7 | 6.8 | (0.8) | (0.5) |

FIXED INCOME

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|-----------------------------|-------|-----|------|--------|--------|--------|---------|
| Broad Index | | | | | | | |
| BBgBarc US TIPS | (1.4) | 1.3 | 7.6 | 7.1 | 2.2 | 2.4 | 3.5 |
| BBgBarc US Treasury Bills | 0.2 | 0.6 | 1.9 | 2.4 | 1.5 | 1.0 | 0.6 |
| BBgBarc US Agg Bond | (0.5) | 2.3 | 8.5 | 10.3 | 2.9 | 3.4 | 3.7 |
| Duration | | | | | | | |
| BBgBarc US Treasury 1-3 Yr | (0.1) | 0.6 | 3.1 | 4.4 | 1.5 | 1.3 | 1.2 |
| BBgBarc US Treasury Long | (2.5) | 7.9 | 19.8 | 24.8 | 4.1 | 6.8 | 6.9 |
| BBgBarc US Treasury | (0.8) | 2.4 | 7.7 | 10.5 | 2.2 | 2.9 | 3.1 |
| Issuer | | | | | | | |
| BBgBarc US MBS | 0.1 | 1.4 | 5.6 | 7.8 | 2.3 | 2.8 | 3.1 |
| BBgBarc US Corp. High Yield | 0.4 | 1.3 | 11.4 | 6.4 | 6.1 | 5.4 | 7.9 |
| BBgBarc US Agency Interm | (0.2) | 1.0 | 4.1 | 5.8 | 1.9 | 2.0 | 2.0 |
| BBgBarc US Credit | (0.7) | 3.0 | 12.6 | 12.6 | 4.3 | 4.5 | 5.3 |

OTHER

| Index | | | | | | | |
|------------------------|-------|-------|-------|-------|-------|-------|-------|
| Bloomberg Commodity | 1.2 | (1.8) | 3.1 | (6.6) | (1.5) | (7.2) | (4.3) |
| Wilshire US REIT | 2.8 | 7.9 | 27.2 | 18.4 | 7.2 | 10.2 | 13.1 |
| CS Leveraged Loans | 0.4 | 0.9 | 6.4 | 3.1 | 4.7 | 4.1 | 5.4 |
| Alerian MLP | 0.8 | (5.1) | 11.8 | (6.4) | (2.7) | (8.2) | 7.0 |
| Regional Index | | | | | | | |
| JPM EMBI Global Div | (0.5) | 1.5 | 13.0 | 11.6 | 4.6 | 5.7 | 6.9 |
| JPM GBI-EM Global Div | 1.0 | (0.8) | 7.9 | 10.1 | 3.1 | 0.6 | 2.5 |
| Hedge Funds | | | | | | | |
| HFRI Composite | (0.3) | (0.5) | 6.7 | 0.3 | 3.8 | 2.9 | 4.0 |
| HFRI FOF Composite | (0.6) | (1.1) | 5.0 | (0.2) | 3.1 | 1.9 | 2.7 |
| Currency (Spot) | | | | | | | |
| Euro | (1.8) | (0.3) | 1.5 | 5.1 | (2.1) | 0.3 | (1.9) |
| Pound | 1.2 | (3.2) | (3.2) | (5.5) | (1.7) | (5.3) | (2.6) |
| Yen | (1.0) | (4.3) | (4.6) | (6.1) | (1.0) | (2.9) | (2.9) |

Source: Morningstar, HFR, as of 9/30/19

Definitions

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

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

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

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

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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: $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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