



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



**PERIOD ENDING: SEPTEMBER 30, 2017**

Investment Performance Review for

**Contra Costa County Employees' Retirement Association**

# Table of Contents



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Investment Landscape

TAB I

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Investment Performance  
Review

TAB II



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**

4<sup>TH</sup> QUARTER 2017  
Investment Landscape

# Table of contents



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Economic environment 5

---

Fixed income rates & credit 19

---

Equity 25

---

Other assets 37

---

Appendix 40

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

## THE ECONOMIC CLIMATE

- Growth strengthened across developed and emerging economies. Business surveys suggest conditions are improving in both manufacturing and service industries. [p. 17](#)
- The U.S. job market tightened as unemployment dropped from 4.4 to 4.2%, despite disappointing job growth data. Unemployment has not been this low since March of 2001. [p. 9](#)
- An independence movement in Catalonia has received little attention from the financial community, and risk premiums may not reflect the negative possible knock-on effects on the EU. [p. 16](#)

## PORTFOLIO IMPACTS

- Improving economic growth, low inflation, low unemployment, and supportive monetary policy across most markets has created a positive environment for global risk assets, justifying a moderate overweight risk position. [p. 16](#)
- Within risk assets, we believe opportunities exist in emerging markets. [p. 33](#)

## THE INVESTMENT CLIMATE

- Global interest rates are still at historic lows, and very little monetary tightening is priced in across developed markets over the next few years. Even in the U.S., the market is only expecting two rate hikes through the end of next year. [p. 20](#)
- Valuations across global equities and credit are elevated, and have been so for the past few years. Further price appreciation through equity multiple expansion or credit spread contraction is unlikely. [p. 23 & 34](#)

## ASSET ALLOCATION ISSUES

- Equity performance remains strong. Year-to-date returns have been fundamentally driven, supported by earnings growth rather than valuation expansion. [p. 29](#)
- Equity volatility is near historic lows. Stable economic growth and inflation have likely contributed to the muted volatility environment. Investors should monitor leverage in strategies with a specific volatility target. [p. 35](#)

We believe a moderate overweight to risk is warranted

# What drove the market in Q3?

## “Traders keep bets on Fed rate hike in December after jobs report”

### DECEMBER RATE HIKE PROBABILITY BASED ON MARKET PRICING

Apr 30 <sup>th</sup>	May 31 <sup>st</sup>	Jun 30 <sup>th</sup>	Jul 31 <sup>st</sup>	Aug 31 <sup>st</sup>	Oct 6 <sup>th</sup>
47%	43%	52%	42%	34%	80%

Article Source: Bloomberg, September 27<sup>th</sup> 2017

### DECEMBER RATE HIKE PROBABILITY



Source: Bloomberg, as of 10/6/17, based on Fed fund futures prices

## “U.S.-North Korea tensions fuel flight to safety”

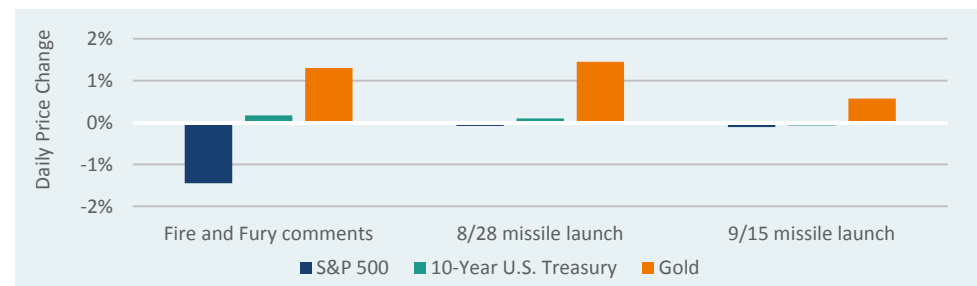
### DAILY PRICE REACTION DURING NORTH KOREA EVENTS

Fire & fury comments 8/28 missile launch 9/15 missile launch

S&P 500	Gold	S&P 500	Gold	S&P 500	Gold
-1.5%	1.3%	-0.1%	1.5%	-0.1%	0.6%

Article Source: Financial Times, August 9<sup>th</sup> 2017

### MARKET REACTION DURING NORTH KOREA EVENTS



Source: Bloomberg

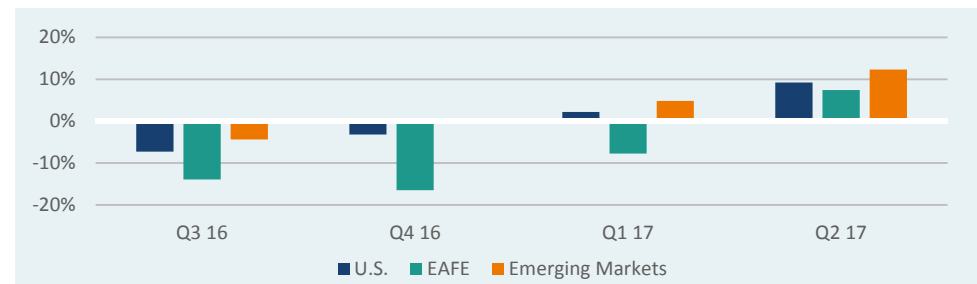
## “Strong earnings lift U.S. stocks”

### MSCI U.S. INDEX EARNINGS GROWTH (YOY)

Q3 16	Q4 16	Q1 17	Q2 17
-7.3%	-3.2%	2.2%	9.2%

Article Source: Wall Street Journal, July 25<sup>th</sup> 2017

### EQUITY EARNINGS GROWTH (YOY)



Source: Bloomberg, MSCI, as of 9/30/17

## “S&P 500 volatility hits 50-year low”

### S&P 500 30-DAY ANNUALIZED TRAILING VOLATILITY

Apr 30 <sup>th</sup>	May 31 <sup>st</sup>	Jun 30 <sup>th</sup>	Jul 31 <sup>st</sup>	Aug 31 <sup>st</sup>	Sep 30 <sup>th</sup>
7.3%	7.8%	6.8%	7.1%	8.1%	5.8%

Article Source: Forbes, August 1<sup>st</sup> 2017

# Economic environment

# U.S. economics summary

- U.S. real GDP grew 2.2% YoY in Q2, consistent with the trend of slow, but steady growth in the current expansion. Consumer spending and business investment were the primary drivers of growth.
- Purchasing manager indexes (PMIs) moved higher to above average levels, indicating a likely acceleration in economic growth over the coming quarters. The ISM Manufacturing and Services PMIs for September were 60.8 and 59.8, respectively.
- The economy added an average of 91,000 jobs per month to payrolls in the third quarter. The September employment data was heavily influenced by hurricanes Harvey and Irma, which resulted in a decline of 33,000 jobs from payrolls, the first drop since 2010. Due to the calculation methodology, a bounce back should be expected in October.
- The U3 unemployment rate (unaffected by the hurricanes) fell 0.2% to a 17-year low of 4.2% over the quarter. The broader U6 unemployment rate also tightened, dropping 0.3% to 8.3%.
- Year-over-year headline CPI accelerated from 1.6% in June to 2.2% in September, while the core inflation rate was unchanged over the quarter at 1.7%. Outside of volatile energy prices inflationary pressures still appear absent, and core inflation remains below the Fed's 2% target.
- The Fed paused from raising interest rates following three consecutive quarters with hikes. Core inflation that has persistently been below the Fed's 2% target was the primary reason given to delay further tightening. The market is expecting the Fed to raise interest rates again in December based on fed fund futures prices.

	Most Recent	12 Months Prior
GDP (YoY)	2.2% 6/30/17	1.2% 6/30/16
Inflation (CPI YoY, Headline)	2.2% 9/30/17	1.5% 9/30/16
Expected Inflation (5yr-5yr forward)	2.0% 9/30/17	1.8% 9/30/16
Fed Funds Rate	1.25% 9/30/17	0.50% 9/30/16
10 Year Rate	2.3% 9/30/17	1.6% 9/30/16
U-3 Unemployment	4.2% 9/30/17	4.9% 9/30/16
U-6 Unemployment	8.3% 9/30/17	9.7% 9/30/16



# U.S. economics – GDP growth

Real GDP grew by 2.2% YoY in Q2 (3.1% quarterly annualized rate), the fastest pace of expansion since Q3 2015. The economic recovery is nearly in its eighth year, but the level of growth remains low relative to history. Despite the length of the expansion, we do not see many of the typical signs that the economy is overheating.

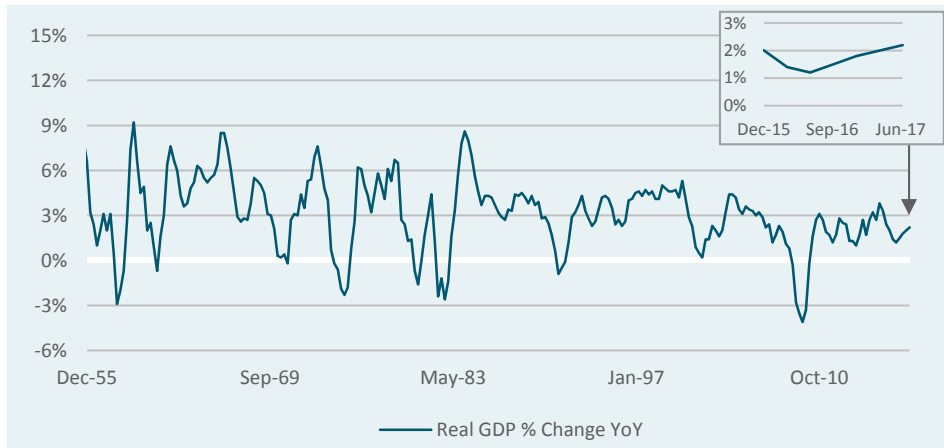
After slowing in the first quarter, consumer spending accelerated to 3.3%, and contributed 2.2% to the overall quarterly growth rate. A tight labor market and moderate wage gains should create a positive environment for consumer spending moving forward.

Business investment has picked up in recent quarters, and was the second largest contributor to GDP in Q2, while residential investment was a slight drag on growth. Trade also had a positive impact on growth, as exports increased at a quicker rate than imports.

Moderate growth is expected throughout the rest of the year – the Atlanta Fed GDP Now forecast for Q3 was 2.5% as of October 6<sup>th</sup>. Hurricanes Harvey and Irma disrupted growth in September, but the economy is likely to see a boost in Q4 once rebuilding begins.

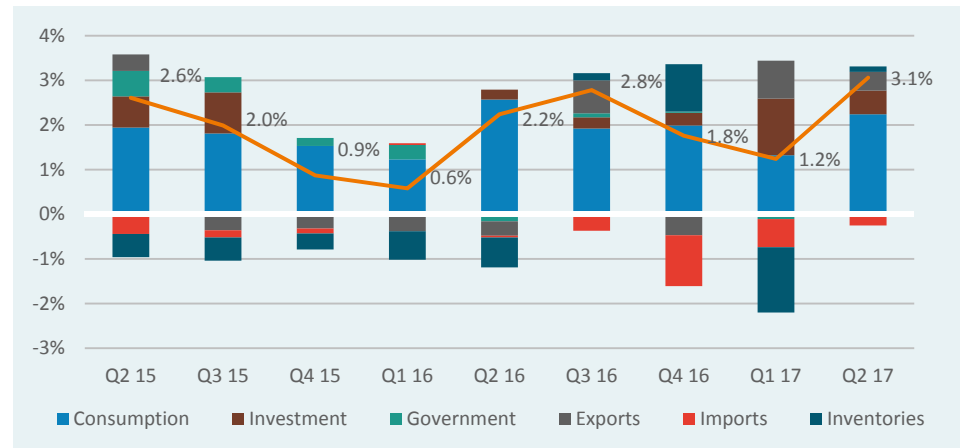
The economy experienced another quarter of moderate growth in Q2 with few signs of overheating

U.S. REAL GDP GROWTH (YOY)



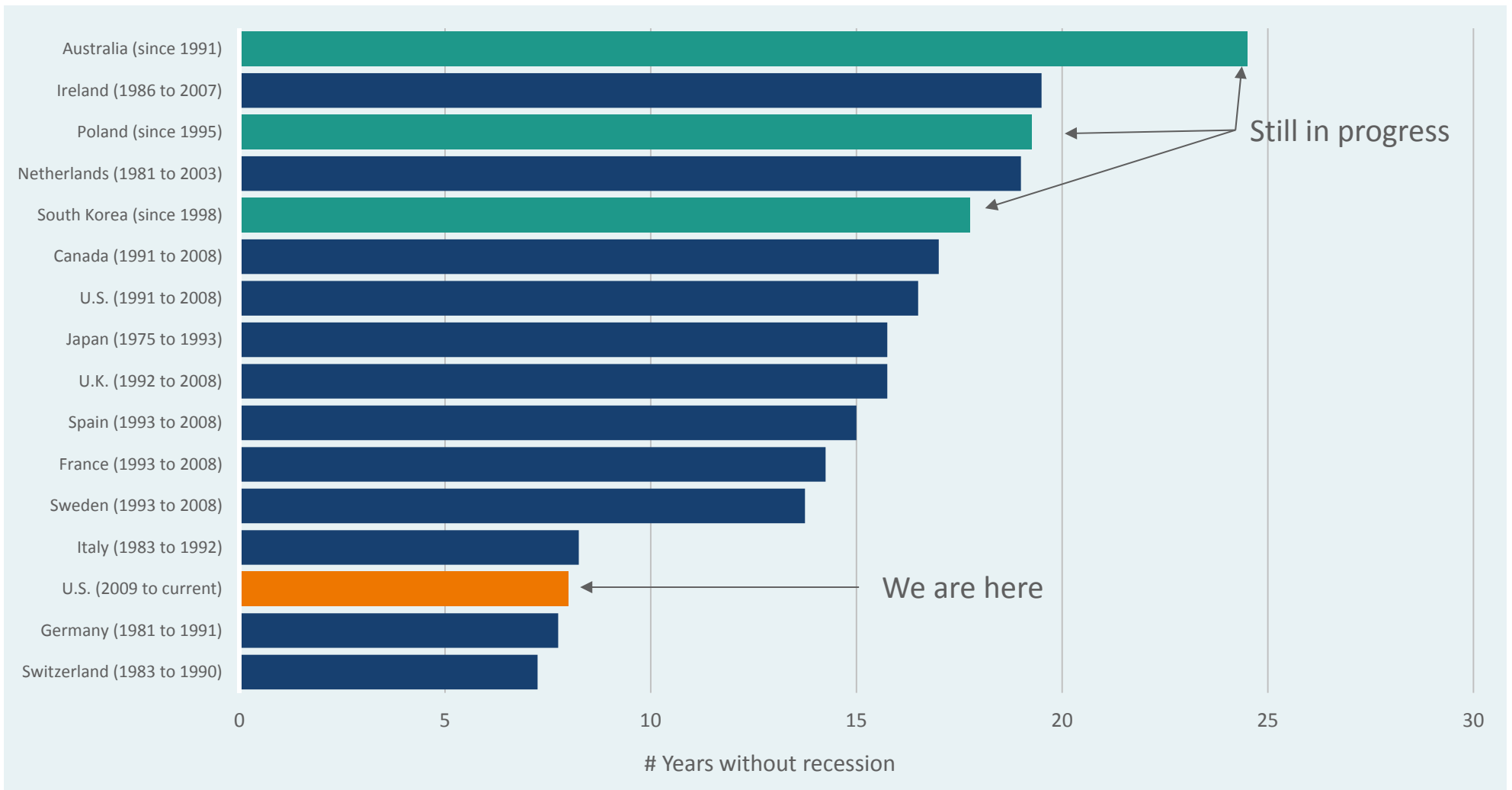
Source: FRED, as of 6/30/17

U.S. GDP COMPONENTS



Source: BEA, annualized quarterly rate, as of 6/30/17

# How long can expansions continue?



Source: Australia Trade and Investment Commission

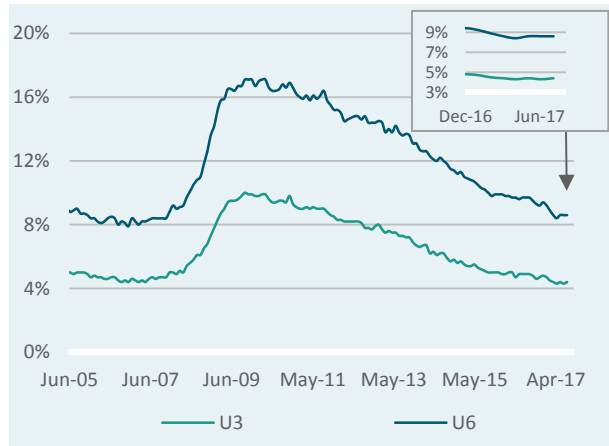
# U.S. economics – Labor market

The U.S. job market tightened as unemployment dropped from 4.4 to 4.2% - the lowest level since March of 2001. Job creation data disappointed in September, though this may largely be attributed to the effects of hurricanes Harvey and Irma.

Labor growth throughout the current U.S. expansion has tended to be tilted towards lower-skill and lower-pay jobs. It is reasonable to ask whether this indicates that the recovery is weak or unbalanced. To arrive at an answer it is

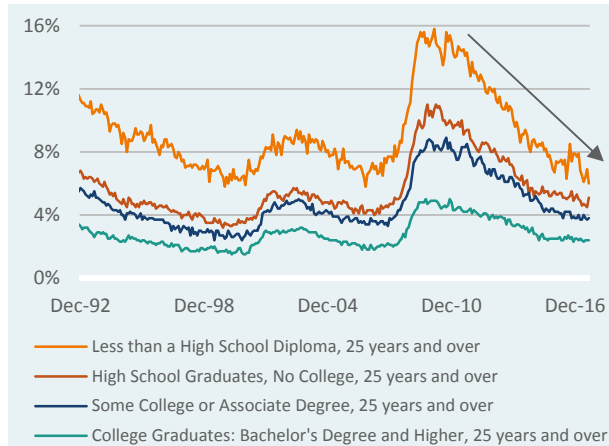
important to note that the types of jobs created during an economic recovery is partly a product of the types of jobs lost during the initial downturn. Examining unemployment by education level and age group suggests that the downturn disproportionately impacted the jobs of younger workers and those with less education. This implies that the job creation seen lately is natural and not necessarily an indication of weakness.

**U.S. UNEMPLOYMENT**



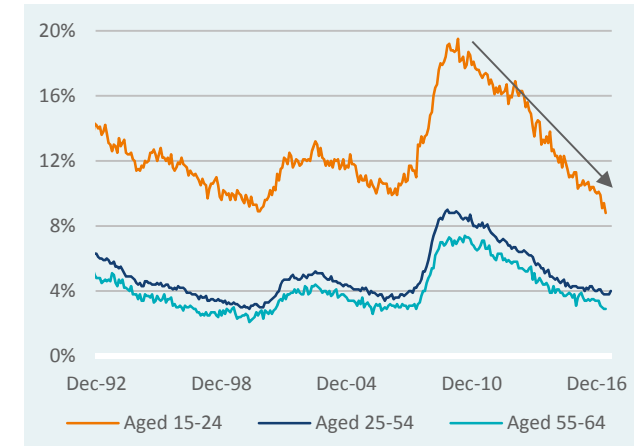
Source: FRED, as of 8/31/17

**UNEMPLOYMENT BY EDUCATION LEVEL**



Source: FRED, as of 8/31/17

**UNEMPLOYMENT BY AGE GROUP**



Source: FRED, as of 8/31/17

# U.S. economics – The consumer

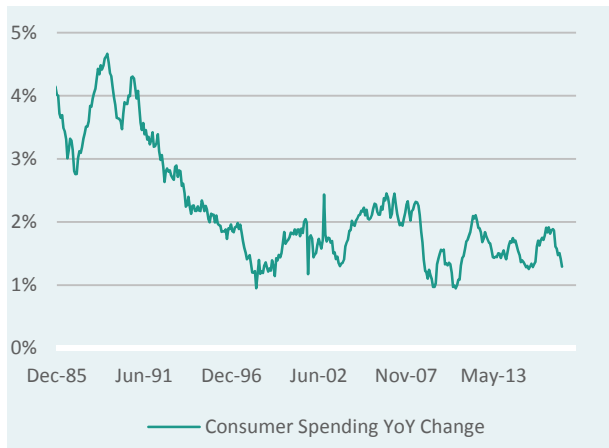
Consumer spending remained within a normal range. Savings rates, in aggregate, have declined over the past year and are now at levels consistent with past economic expansions. The fundamental picture for consumers is still positive. Low inflation, low unemployment, and moderate wage gains should provide a backdrop for further spending growth.

Total consumer debt has surpassed pre-crisis levels, fueled by student loans and auto loans. However, the

burden of debt is lower due to the lower interest rate environment.

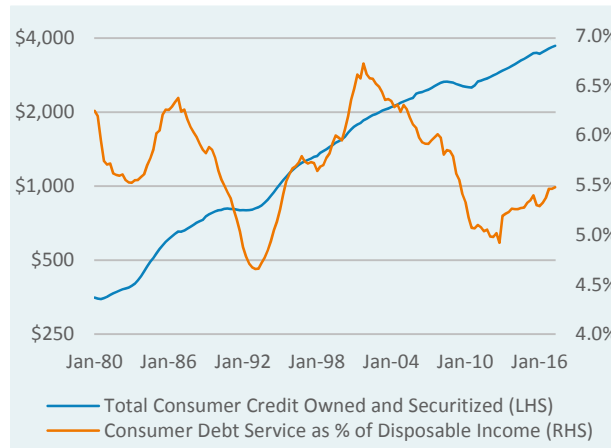
U.S. auto sales spiked in September, reversing a recent trend of weaker purchase activity. Hurricanes Irma and Harvey were estimated to have affected hundreds of thousands of vehicles, which contributed to buying activity throughout the month. However, the spike in sales will likely result in a drag on activity in future years.

**CONSUMER SPENDING (YOY GROWTH)**



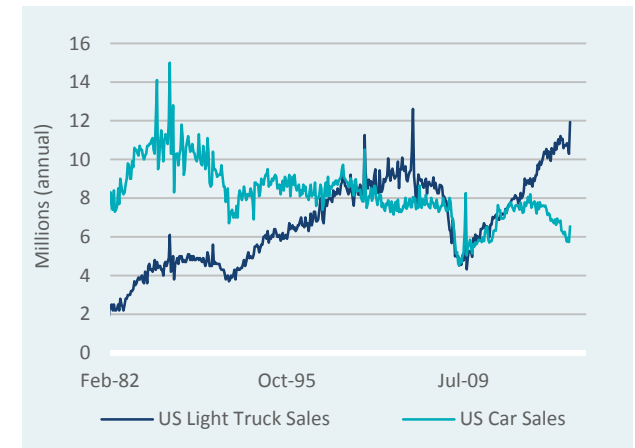
Source: Bloomberg, as of 8/31/17

**CONSUMER DEBT & DEBT BURDEN**



Source: FRED, as of 4/30/17

**U.S. AUTO SALES**



Source: Bloomberg, as of 9/30/17

# U.S. economics – Sentiment

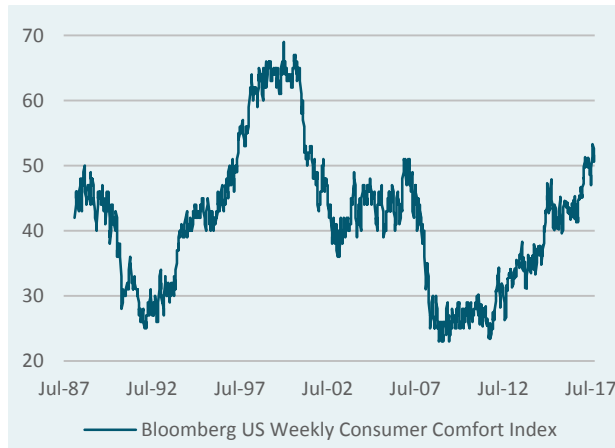
Consumer sentiment measures are above average, reflecting Americans' overall positive view of the economy. In the preliminary reading for October, The University of Michigan Consumer Sentiment Survey unexpectedly increased from 95.1 to 101.1, the highest level since 2004, which placed it in the 91<sup>st</sup> percentile since 1978. According to the survey, the elevated level of confidence is primarily due to consumers anticipating low unemployment, low inflation, small increases in interest rates, and moderate gains in income. Consumer sentiment has been high since the election last

November, but there has yet to be a material increase in consumer spending.

Other measures of sentiment, such as the NFIB Small Business Optimism Index, remain high by historical standards, but have dropped so far this year. Small businesses are still expecting to benefit from tax reform and deregulation, although significant uncertainty remains surrounding the timing and nature of these changes.

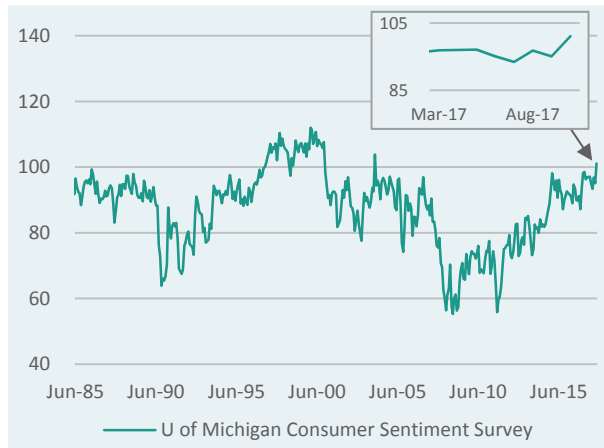
Consumers and small businesses have a positive outlook on the economy

**CONSUMER COMFORT INDEX**



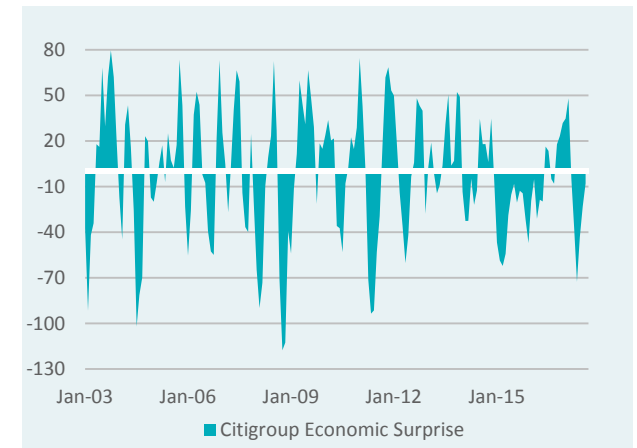
Source: Bloomberg, as of 9/24/17 (see Appendix)

**CONSUMER SENTIMENT**



Source: University of Michigan, as of 9/30/17 (see Appendix)

**U.S. ECONOMIC SURPRISE**



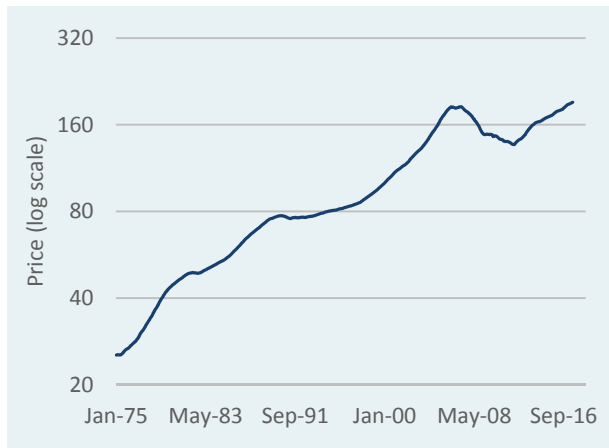
Source: Bloomberg, as of 9/29/17 (see Appendix for details)

# U.S. economics – Housing

U.S. home prices continued to climb higher with 5.9% growth YoY in July according to the S&P/Case-Shiller U.S. National Home Price Index. New and existing home sales have decelerated and are flat year-over-year, though not necessarily worrying given the volatility of sales activity. A surge in housing starts and permit applications is possible as areas of the south and southeast rebuild following hurricane damage.

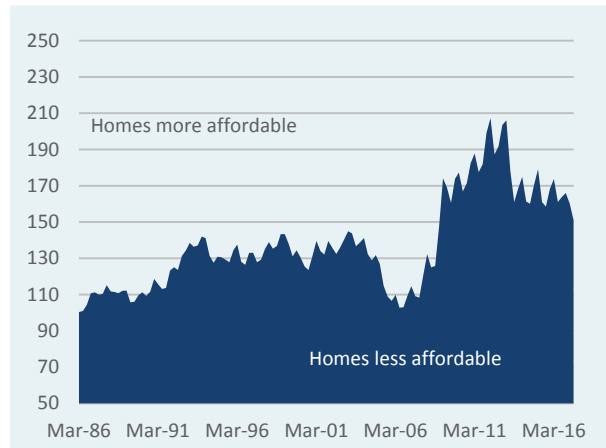
Owning a home remains affordable relative to history. A scenario of higher interest rates and further home price appreciation would result in affordability falling towards the historical average. Materially higher interest rates would make home ownership much more expensive, given the low current level of interest rates. A 1% rise in mortgage interest rates for a \$400,000 loan results in a roughly \$4,000 rise in annual cost for homeowners.

**CASE-SHILLER HOME PRICE INDEX**



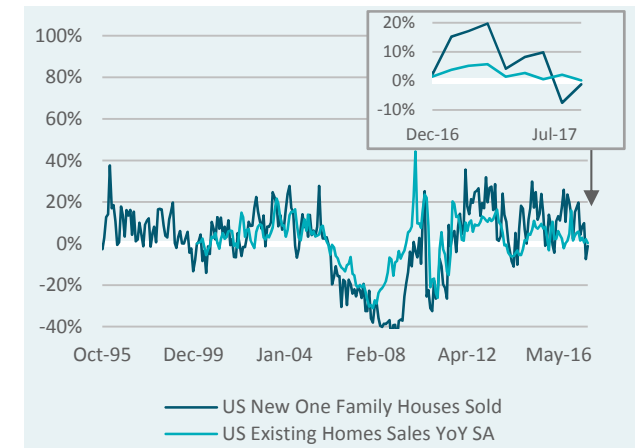
Source: FRED, as of 6/30/17

**HOME AFFORDABILITY**



Source: National Association of Realtors, as of 6/30/17 (see appendix) Source: Bloomberg, as of 8/31/17

**HOUSING SALES**



# U.S. economics – Inflation

Headline CPI inflation was 2.2% from the previous year in September, up from 1.6% in June, driven mainly by increases in gasoline prices following hurricanes Harvey and Irma. Core inflation was unchanged at 1.7%.

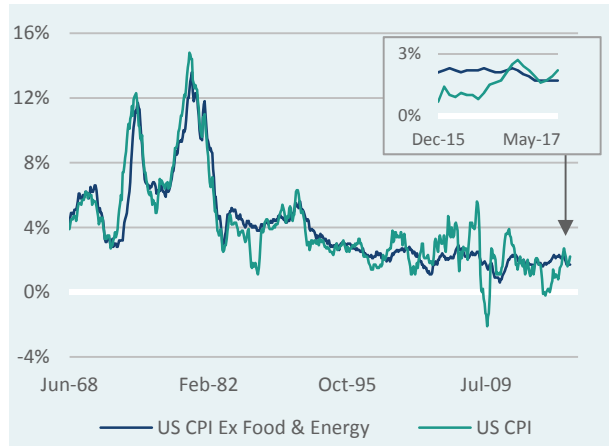
Although the Fed has belabored the “low inflation environment”, inflation measures are not extreme from a historical perspective. The perception of low inflation is likely being impacted by the long duration of the current economic expansion since rising inflation typically occurs in the late cycle. Although several Fed officials have stated they

believe below target inflation is transitory, continued softness in price levels may result in a slower pace of monetary tightening.

Market based inflation expectations increased modestly throughout the quarter with the 10-year TIPS breakeven inflation rate up 10 bps to 1.83%. Expectations are still low, and investors are receiving a low inflation premium on nominal Treasuries.

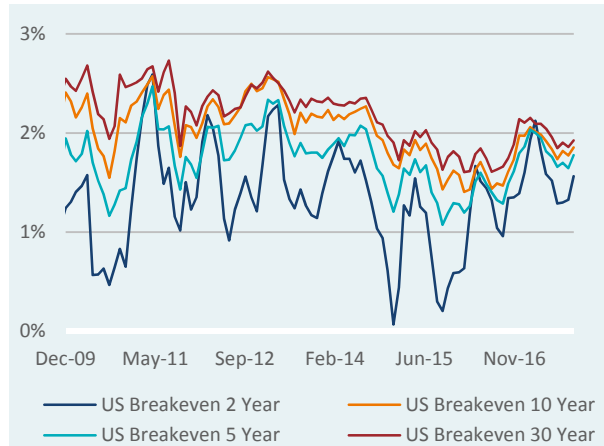
Pressures on core inflation are still low

**U.S. CPI (YOY)**



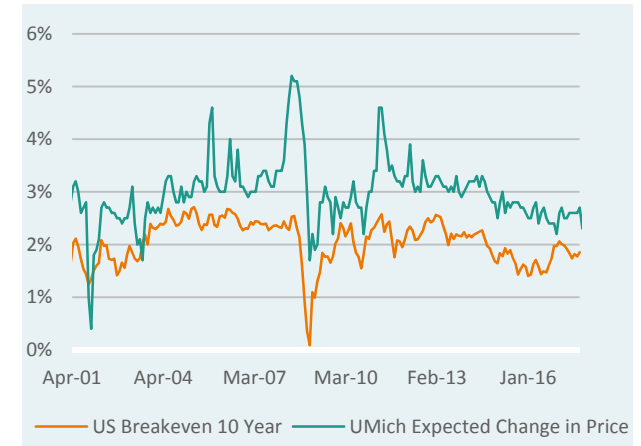
Source: FRED, as of 9/30/17

**U.S. TIPS BREAKEVEN RATES**



Source: FRED, as of 9/30/17

**INFLATION EXPECTATIONS**



Source: Bloomberg, as of 9/30/17

# Is geopolitical risk abnormally high?

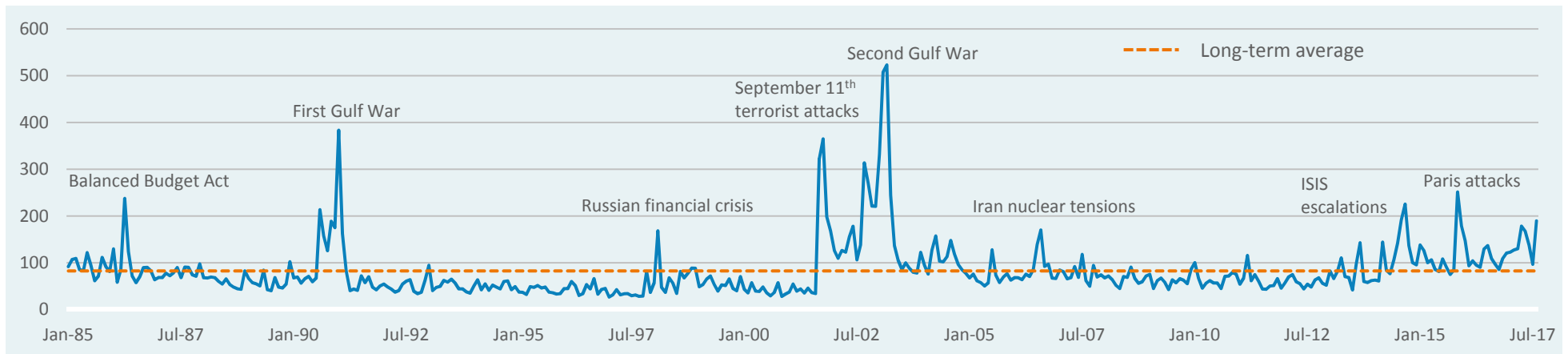
Several events over the quarter, especially increased tensions on the Korean peninsula, have led to heightened concerns over the impact of geopolitical risk on financial markets. The unique nature of each geopolitical event makes it difficult to determine whether the apparent risks are greater than past events.

The Geopolitical Risk Index (GPR) uses automated text-search results of 11 U.S. and international newspapers to give some indication of how the current environment relates to history. While the GPR is above average, it is not abnormally high. Further, given the unpredictability of

geopolitical risk and how it will affect financial markets, we do not recommend making any significant changes to portfolios.

While the concerns over a nuclear attack from North Korea have recently escalated, the threat is not a new one. Many political experts believe the probability of an attack by North Korea against the U.S. or its allies is low because it would jeopardize the existence of the current regime. Additionally, China's support of North Korea has waned in recent months after it agreed to two new rounds of sanctions through the United Nations Security Council.

## GEOPOLITICAL RISK INDEX

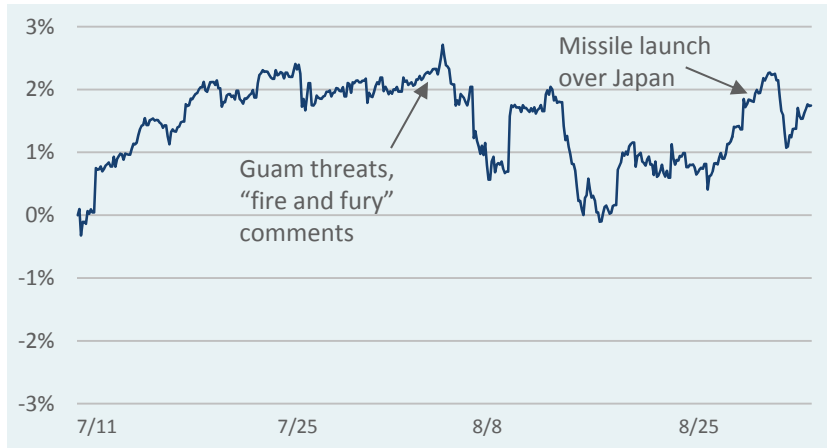


Source: *The Geopolitical Risk Index - Caldarra, Iacoviello, Federal Reserve Board, as of 8/31/17*

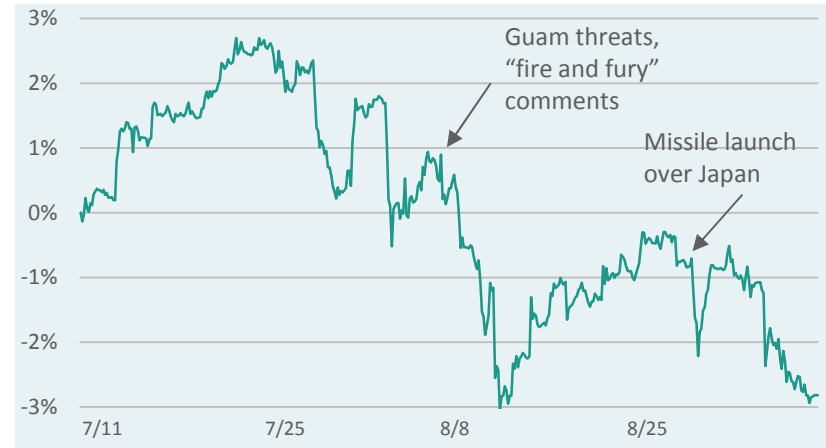


# North Korea – Market reactions

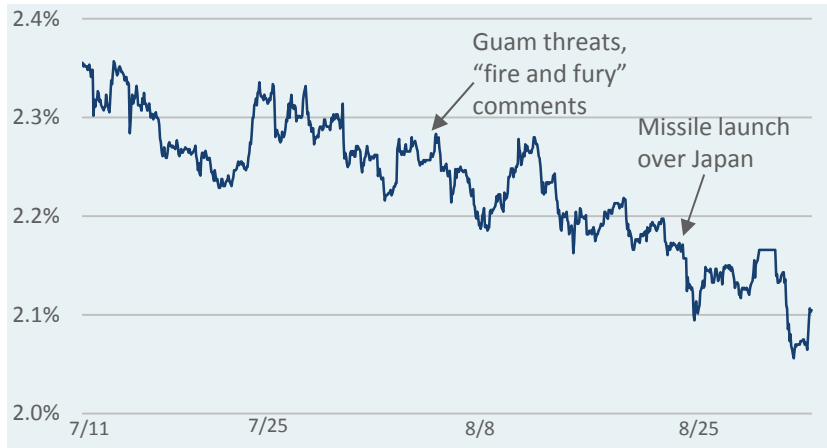
**U.S. EQUITY (CUMULATIVE PRICE MOVEMENT)**



**SOUTH KOREAN EQUITY (CUMULATIVE PRICE MOVEMENT)**



**U.S. 10-YEAR TREASURY YIELD**



**GOLD PRICES**



Source: Bloomberg, S&P 500, KOSPI, 7/11/17-9/6/17

# International economics summary

- International economic growth advanced in the second quarter in both developed and emerging markets. PMIs are above 50 (indicating expansion) in nearly every country across the world, pointing towards a continuation in the recent global growth pickup.
- The IMF raised its projections for global GDP growth 0.1% for both 2017 and 2018 to 3.6% and 3.7%, respectively. For comparison, global GDP growth was 3.2% in 2016.
- Economic conditions in emerging markets have improved. Several countries, such as Brazil and Russia, are still at the beginning stages of a recovery. Lower inflation has allowed emerging central banks to pursue looser monetary policy, which should provide a tailwind to further economic growth.
- Inflation in developed countries has yet to see much pressure outside of the U.K., and remains well below central bank targets.
- Inflation in the U.K. (headline CPI) rose 3.0% YoY in September, driven partly by a weaker pound, while wages only increased by 2.2%. The Bank of England stated that a rate hike may be necessary before the end of the year to slow price increases.
- On October 1<sup>st</sup>, Catalonia passed a referendum to declare independence from Spain, which the Spanish government declared illegal. Although the Catalan prime minister accepted the vote as a mandate to declare independence, he immediately suspended this declaration with the goal of bringing the Spanish government to the negotiating table.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.2% <i>6/30/17</i>	2.2% <i>9/30/17</i>	4.2% <i>9/30/17</i>
Western Europe	2.0% <i>6/30/17</i>	1.5% <i>9/30/17</i>	7.9% <i>6/30/17</i>
Japan	1.4% <i>6/30/17</i>	0.7% <i>8/31/17</i>	2.8% <i>8/31/17</i>
BRICS Nations	5.6% <i>6/30/17</i>	2.0% <i>6/30/17</i>	5.8% <i>6/30/17</i>
Brazil	0.3% <i>6/30/17</i>	2.5% <i>9/30/17</i>	12.7% <i>9/30/17</i>
Russia	2.5% <i>6/30/17</i>	3.0% <i>9/30/17</i>	4.9% <i>8/31/17</i>
India	5.7% <i>6/30/17</i>	3.3% <i>9/30/17</i>	8.4% <i>12/31/16</i>
China	6.9% <i>6/30/17</i>	1.6% <i>9/30/17</i>	4.0% <i>6/30/17</i>

# International economics

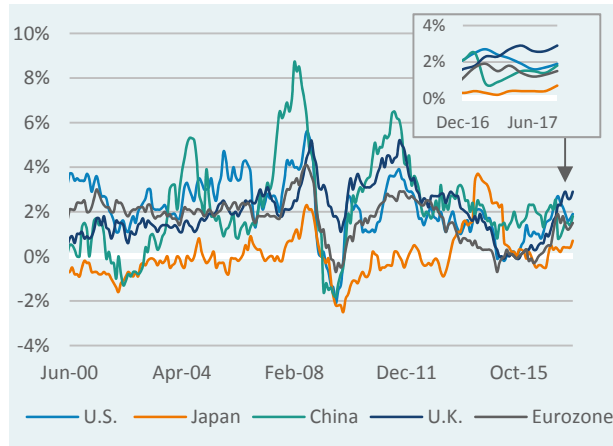
Global surveys indicate a synchronized rise in global growth which may have begun to materialize in Q2. Second quarter GDP growth improved across most countries, especially in Europe and emerging markets.

Real GDP in the Eurozone was 2.3% YoY in Q2, the fastest pace of growth in more than six years. While the ECB has discussed tapering monetary stimulus beginning next year, this will likely be a slow and delicate process. Eurozone financial conditions should continue to be supportive over the next few years. Monetary policy is not expected to change in Japan for the

foreseeable future, and will continue to be a tailwind for the Japanese economy.

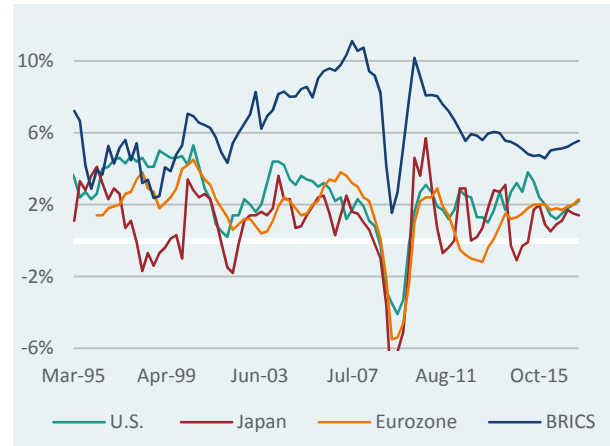
Developed market inflation remains low, with the exception of the U.K. The latest headline CPI reading for the Eurozone and Japan was 1.5% and 0.7%, respectively. Inflation in emerging economies has trended downwards, allowing central banks to cut interest rates to provide monetary stimulus. Many emerging markets are well behind developed markets in the current economic cycle.

## INFLATION (CPI)



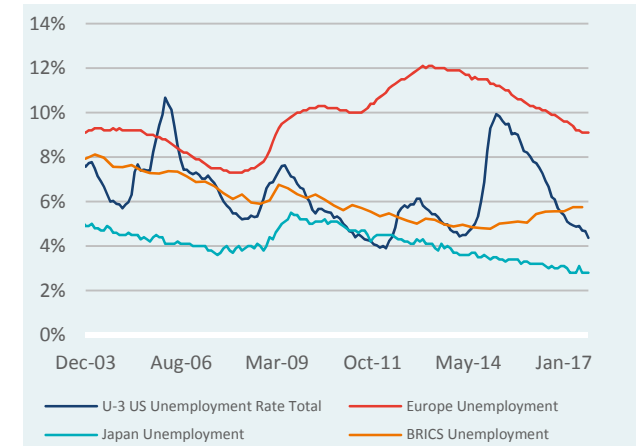
Source: Bloomberg, as of 8/31/17

## REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 6/30/17

## UNEMPLOYMENT



Source: Bloomberg, as of 8/31/17 or most recent release

# Global PMIs

## PMI 1 YEAR (CROSS SECTION) – BLUE HIGH / ORANGE LOW

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
<b>Manufacturing</b>												
Global	52	52	53	53	53	53	53	53	53	53	53	53
Developed	53	53	54	54	54	54	54	54	54	54	54	55
US	52	54	55	56	58	57	55	55	58	56	59	61
UK	54	53	56	55	55	54	57	56	54	55	57	56
Eurozone	54	54	55	55	55	56	57	57	57	57	57	58
Germany	55	54	56	56	57	58	58	60	60	58	59	61
Japan	51	51	52	53	53	52	53	53	52	52	52	53
EM	51	51	51	51	51	52	51	51	51	51	52	51
<b>Services</b>												
Global	53	53	53	54	53	54	54	54	54	54	54	54
Developed	54	54	54	55	54	54	54	54	55	55	55	55
US	55	56	57	57	58	55	58	57	57	54	55	60
UK	55	55	56	55	53	55	56	54	53	54	53	54
Eurozone	53	54	54	54	56	56	56	56	55	55	55	56
Germany	54	55	54	53	54	56	55	55	54	53	54	56
Japan	51	52	52	52	51	53	52	53	53	52	52	51
EM	53	54	54	54	56	56	56	56	55	55	55	56

Source: Bloomberg, as of 9/30/17 – PMIs are based on survey data compiled from purchasing and supply managers. Survey questions are asked about several different components of each sector, such as new orders, employment, prices, etc. The final PMI reading is based on the percentage of respondents with a positive view on the sector. A reading above 50 indicates expansion in the sector while a reading below 50 indicates contraction. Historically, PMIs have had a relatively strong positive relationship with actual economic activity.

# Fixed income rates & credit

# Interest rate environment

- After bottoming out to a post-election low of 2.04% on September 7<sup>th</sup> following increased tensions with North Korea, the U.S. 10-year rose to finish the quarter slightly higher at 2.33%.
- The Fed kept interest rates unchanged over the quarter, citing concerns over the lack of inflation. However, Fed officials have communicated that they believe recent low inflation is transitory. An additional rate hike in December appears likely based on market implied probabilities.
- The Fed will begin to reduce its balance sheet in October. The central bank's plan is to runoff \$6 billion of Treasuries and \$4 billion of mortgage-backed securities per month. This will be scaled up commensurately every 3 months to \$50 billion per month. At this pace it will take more than seven years to return the balance sheet to pre-crisis levels.
- U.K. sovereign yields experienced the biggest increase among developed countries after the Bank of England acknowledged that a rate hike may be necessary by the end of the year to slow inflation.
- Very little monetary tightening is priced into short-term developed market interest rates over the next few years. Although we expect central banks to be cautious, faster than expected increases in interest rates represents a potential risk.
- Our underweight position to both U.S. and developed sovereign rates (currency hedged) was unchanged over the quarter, primarily due to the low carry. However, Treasuries still play an important role in portfolios by offering equity risk diversification.

Area	Short Term (3M)	10 Year
United States	1.02%	2.33%
Germany	(0.70%)	0.46%
France	(0.59%)	0.74%
Spain	(0.45%)	1.60%
Italy	(0.39%)	2.11%
Greece	2.02%	5.66%
U.K.	0.28%	1.37%
Japan	(0.17%)	0.07%
Australia	1.71%	2.84%
China	3.04%	3.62%
Brazil	7.46%	9.77%
Russia	7.76%	7.66%

Source: Bloomberg, as of 9/30/17

# Fed monetary tightening

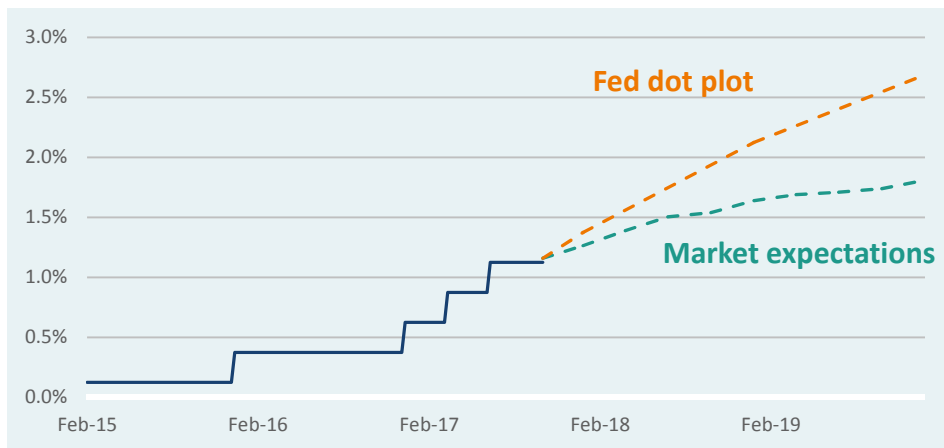
The market's expectation of a rate hike in December increased considerably throughout the quarter to 90%. Although core inflation remained below the official 2% target, several Fed officials have stated they believe the factors dampening inflation are transitory and prices should gradually increase along with wages. According to its own forecast, the Fed is expecting one additional hike this year, three hikes in 2018, and two more in 2019. However, market expectations are much more conservative, pricing in one more hike this year, and only two additional hikes through 2019.

During this tightening cycle the Fed has continually undelivered on projected rate increases. We believe it is reasonable to think this trend will continue since the risk of tightening too quickly outweighs the risk of moving too slowly.

Balance sheet reduction, which began in October also represents a form of gradual tightening. Based on the current plan, the balance sheet will fall by \$1.7 trillion to \$2.8 trillion at the end of 2020. According to the Fed, the runoff will continue as scheduled unless interest rates are brought back down to 0%.

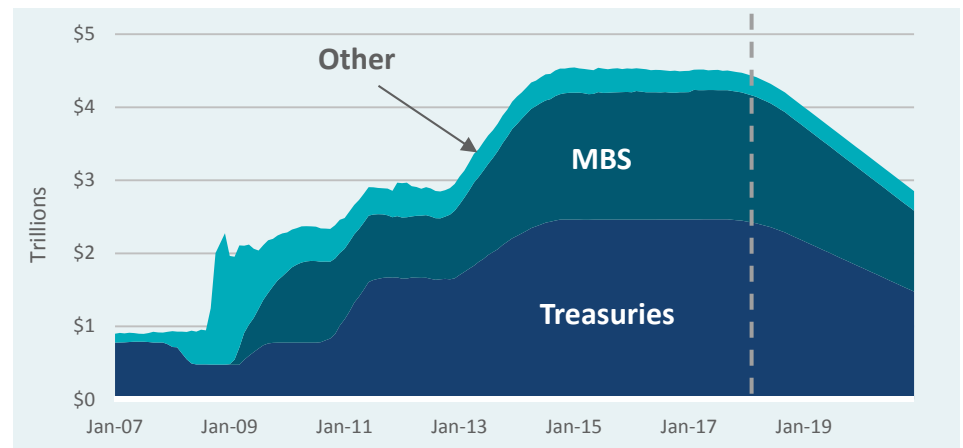
The market is expecting the Fed to move cautiously with further monetary tightening

**FED RATE HIKE EXPECTATIONS**



Source: Bloomberg, as of 10/6/17

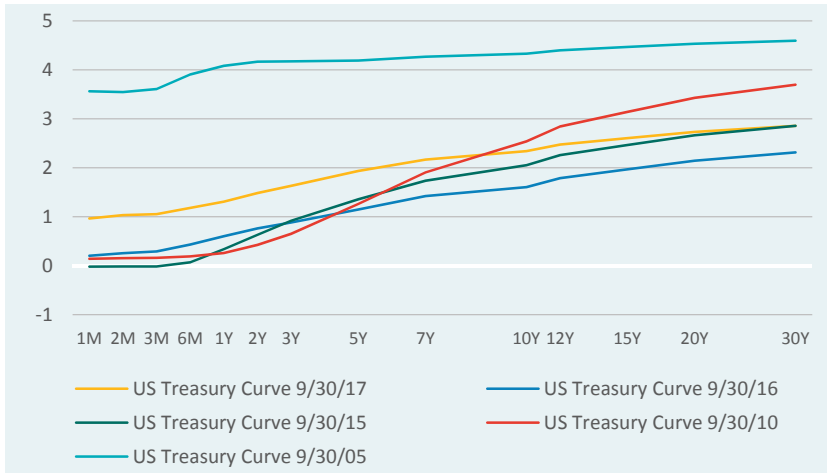
**FED BALANCE SHEET REDUCTION EXPECTATIONS**



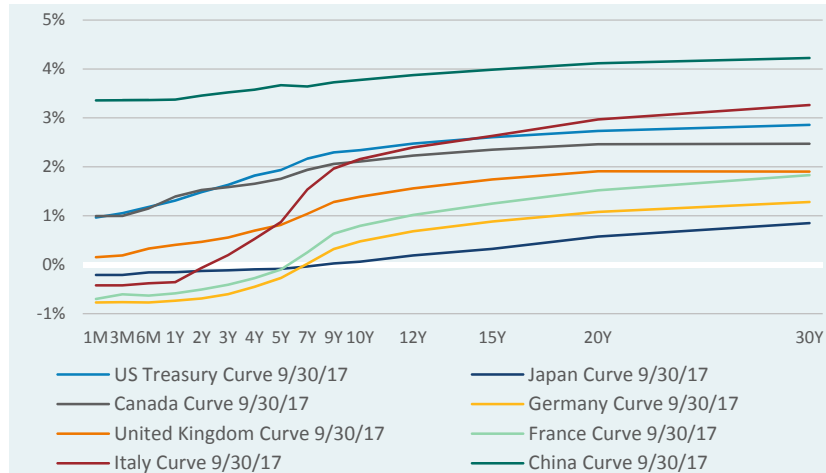
Source: Federal Reserve, as of 9/29/17, projections are based on the Fed's announced reduction plan

# Yield environment

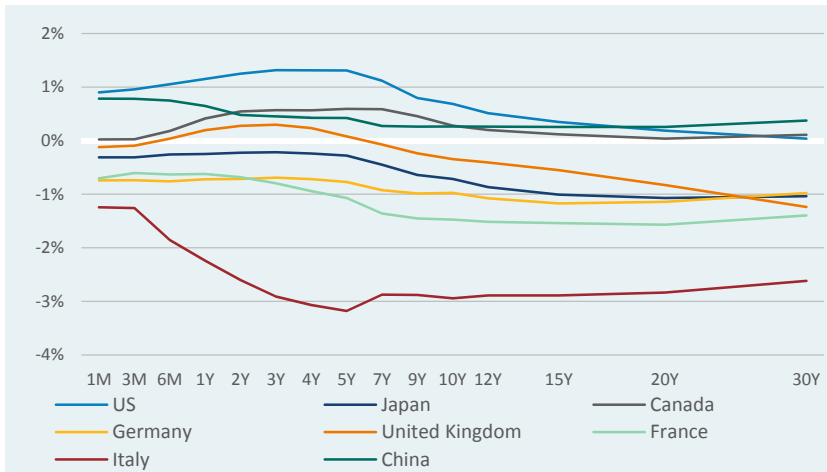
U.S. YIELD CURVE



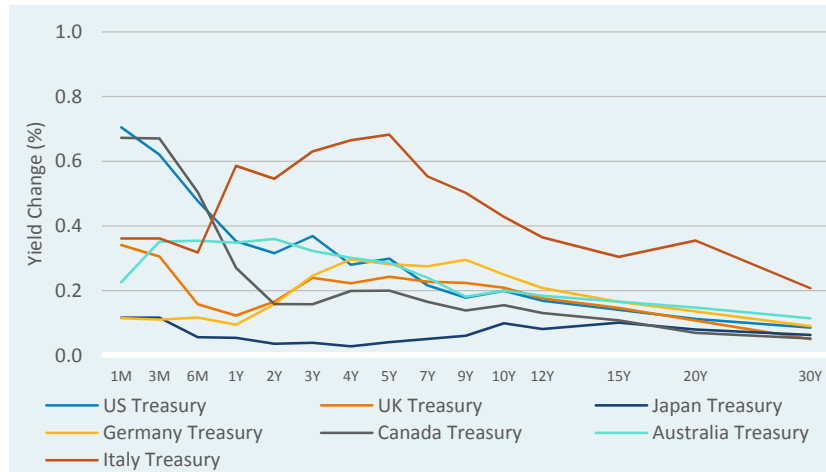
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/17



# Credit environment

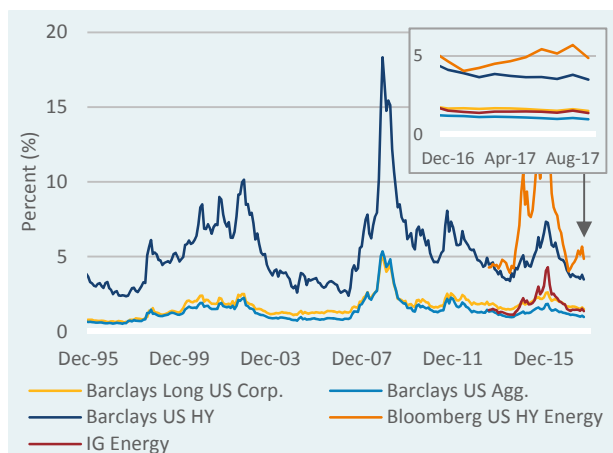
Credit spreads fell slightly over the quarter, remaining at low levels. U.S. high yield option-adjusted spreads compressed in the third quarter to 3.5%, and the asset class generated a 2.0% total return (BBgBarc U.S. Corp. High Yield Index). High yield spreads are tighter than those of bank loans on a duration neutral basis.

Credit spreads have continued to tighten close to multi-year lows, driven by strong corporate fundamentals and general macroeconomic improvement. The combination of tighter credit spreads and additional carry (greater yield) over Treasuries led credit to broadly outperform U.S. Treasuries in

Q3. High yield spreads began the year at 4.0% and have tightened by 51 bps year-to-date. Credit spreads have historically been a good indicator of future performance relative to Treasuries.

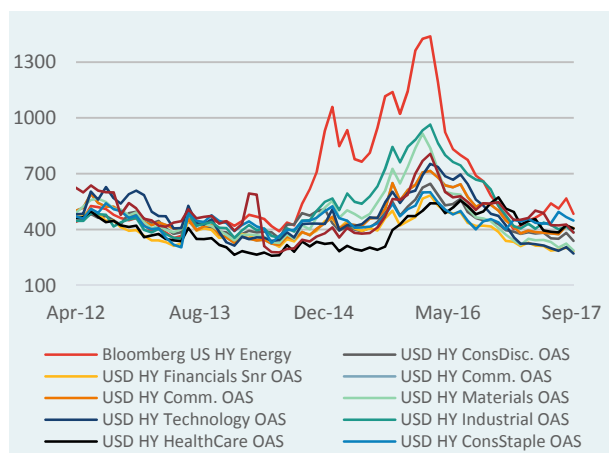
High yield energy spreads compressed over the quarter by 55 bps to 4.8% - a very moderate compression following the 2014 commodity drawdown. Year-to-date, the best performing sectors were financials and utilities. Industrials had weaker performance, most specifically consumer cyclical and the energy sector, which has been recovering from the recent commodity crisis.

## HIGH YIELD SECTOR SPREADS



Source: Barclays, Bloomberg, as of 9/30/17

## SPREADS



Source: Bloomberg, as of 9/30/17

Market	Credit Spread (9/30/17)	Credit Spread (1 Year Ago)
Long US Corporate	1.5%	2.0%
US Aggregate	1.0%	1.4%
US High Yield	3.5%	4.8%
US High Yield Energy	4.4%	6.1%
US Bank Loans	3.6%	3.9%

Source: Barclays, Credit Suisse, Bloomberg, as of 9/30/17

# Issuance and default

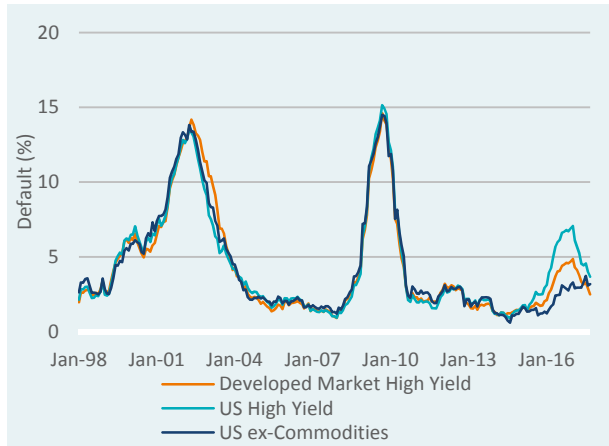
Default activity continued to stabilize in U.S. and international credit markets. Only one U.S. company defaulted in September, the third consecutive month with only one or no defaults, which was the first time this occurred since May 2011. Default volume in the third quarter was the lowest since Q4 2013.

Rolling default rates are currently running below long-term averages. Active management may offer value to investors in the high yield space.

The effects of commodity related defaults are subsiding

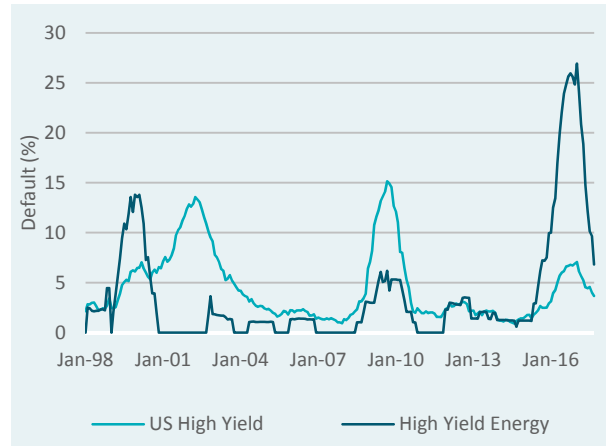
Senior loan and high yield markets stabilized further with the majority of par defaults last year coming from the energy and metals/mining sectors. The retail sector has accounted for the second most defaults.

**HY DEFAULT TRENDS (ROLLING 1 YEAR)**



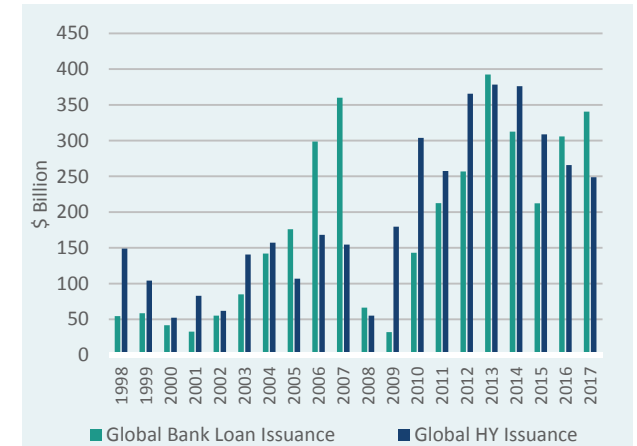
Source: BofA Merrill Lynch, as of 9/30/17

**ENERGY DEFAULT TRENDS**



Source: BofA Merrill Lynch, as of 9/30/17

**GLOBAL ISSUANCE**



Source: Bloomberg, BofA Merrill Lynch, as of 9/30/17

# Equity

# Equity environment

- We maintain a moderate overweight to equities with a preference for emerging markets. Emerging markets have historically delivered outsized economic growth and performance during strong global growth environments. These markets remain attractively valued relative to developed markets, though valuations rose over the quarter.
- U.S. equities moved upward in Q3, setting record highs. Performance has been fueled by earnings growth.
- The possibility of U.S. corporate tax reform has led the market to price in greater expectations for future equity earnings growth. Significant uncertainty remains around the timing and nature of the reform, and the outcome will have a material impact on equity prices in the short-term.
- Equity volatility remains unusually low. Lower volatility has historically indicated less downside risk in equity markets.
- According to FactSet as of October 6th, the estimated Q3 earnings growth rate of the S&P 500 was 2.8% YoY, a materially weaker figure than the 7.5% which was expected as of June 30. Much of the weakness was caused by expected insurance industry losses due to hurricane damage. Excluding the insurance sector, earnings are expected to grow by 4.9% YoY.
- U.S. dollar weakness year-to-date has caused significant earnings differences between companies with greater international sales focus and companies that are more domestically-focused. Overall, U.S. dollar movement has acted as a tailwind to earnings growth.

	QTD TOTAL RETURN		YTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	4.5%		14.2%		18.5%	
US Small Cap (Russell 2000)	5.7%		10.9%		20.7%	
US Large Value (Russell 1000 Value)	3.1%		7.9%		15.1%	
US Large Growth (Russell 1000 Growth)	5.9%		20.7%		21.9%	
International Large (MSCI EAFE)	5.4%	3.7%	20.0%	12.3%	19.1%	20.5%
Eurozone (Euro Stoxx 50)	8.5%	5.2%	25.2%	13.2%	29.2%	24.9%
U.K. (FTSE 100)	4.8%	2.1%	15.7%	7.2%	14.9%	11.9%
Japan (NIKKEI 225)	2.0%	2.7%	12.1%	9.4%	13.4%	27.0%
Emerging Markets (MSCI Emerging Markets)	7.9%	7.2%	27.8%	22.1%	22.5%	19.6%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 9/30/17

# Domestic equity

U.S. equities moved upward over the quarter (S&P 500 +4.5%), reaching record highs, but underperformed international markets (MSCI EAFE +5.4%). Earnings growth remained the primary driver of robust equity performance, though Q3 earnings growth expectations have fallen due to hurricane-related insurance industry losses. The possibility of U.S. tax reform has likely contributed to a positive domestic equity outlook.

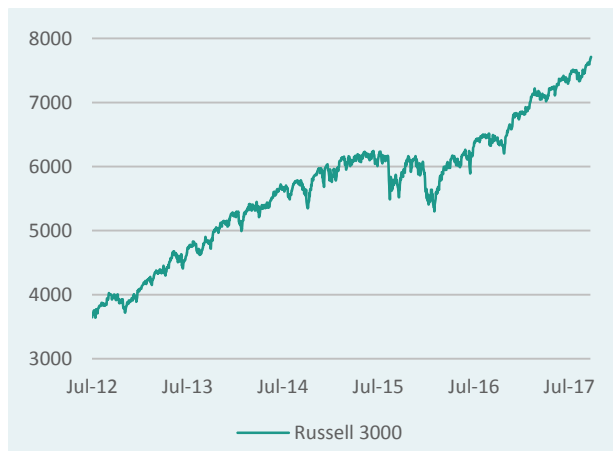
According to FactSet, as of October 6th the estimated Q3 earnings growth rate of the S&P 500 was 2.8% YoY, a

materially weaker figure than the 7.5% which was expected as of June 30. Most of the weakness was caused by insurance industry losses due to hurricane damage. Excluding this sector would result in a current estimate of 4.9% overall growth rather than 2.8%.

U.S. domestically-facing business in aggregate are expected to face flat sales and revenue growth, while externally-facing businesses are expected to produce strong growth. U.S. dollar depreciation and international growth have created a tailwind to the performance of externally-focused U.S. businesses.

We maintain a neutral weight to U.S. equities

## U.S. EQUITIES



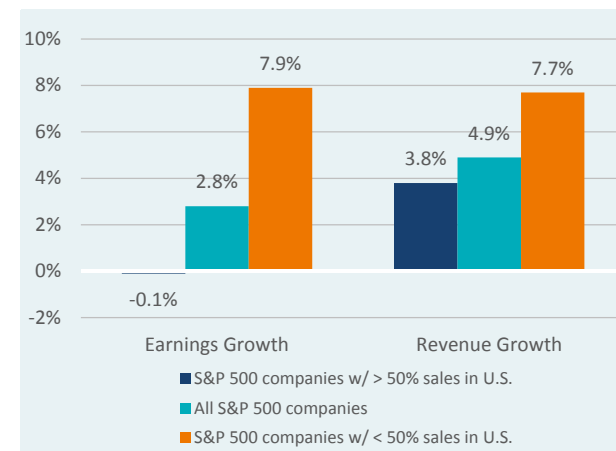
Source: Russell Investments, as of 9/29/17

## S&P 500 EPS GROWTH



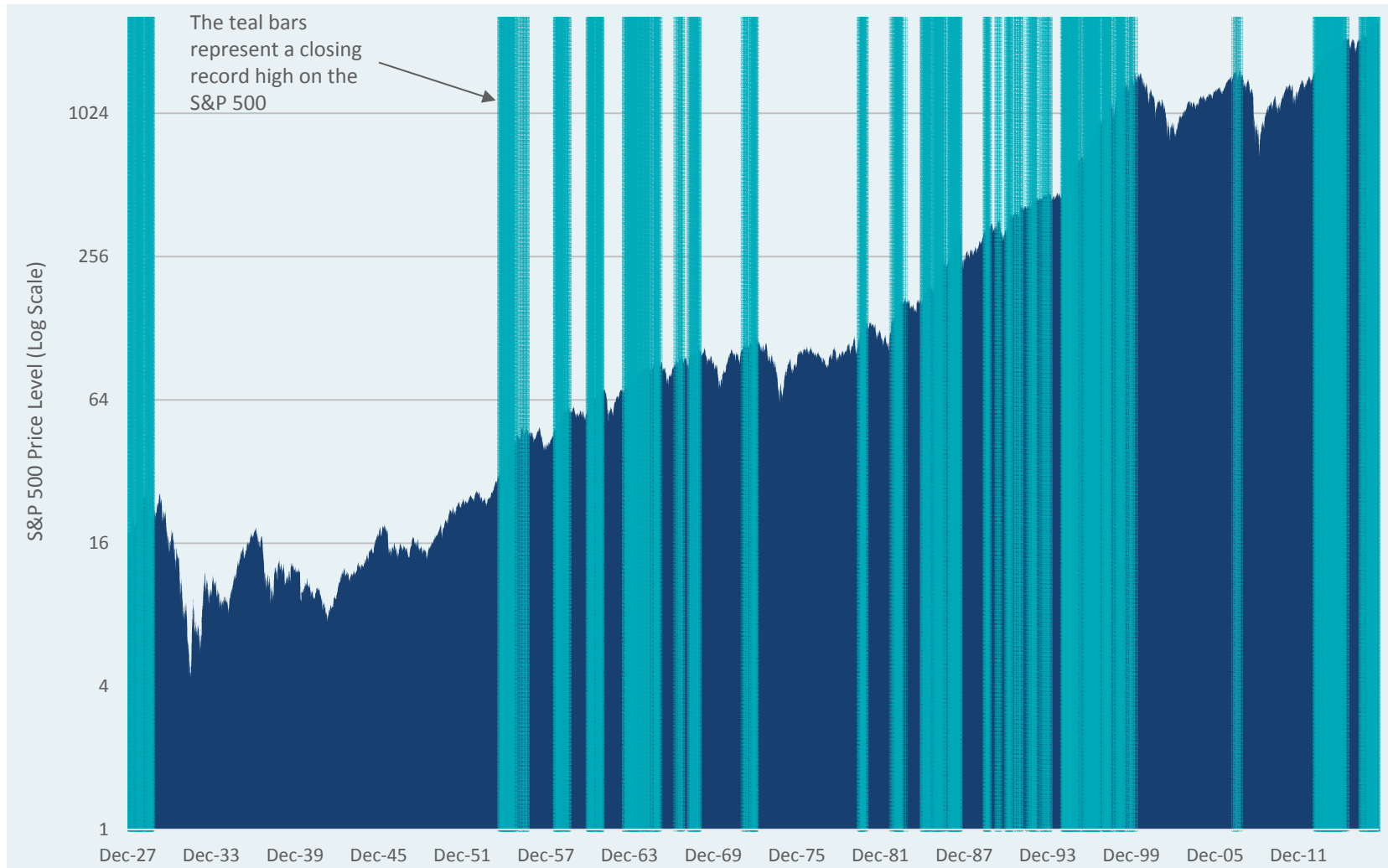
Source: Bloomberg, as of 9/30/17

## Q3 EXPECTATIONS



Source: FactSet, as of 10/6/17

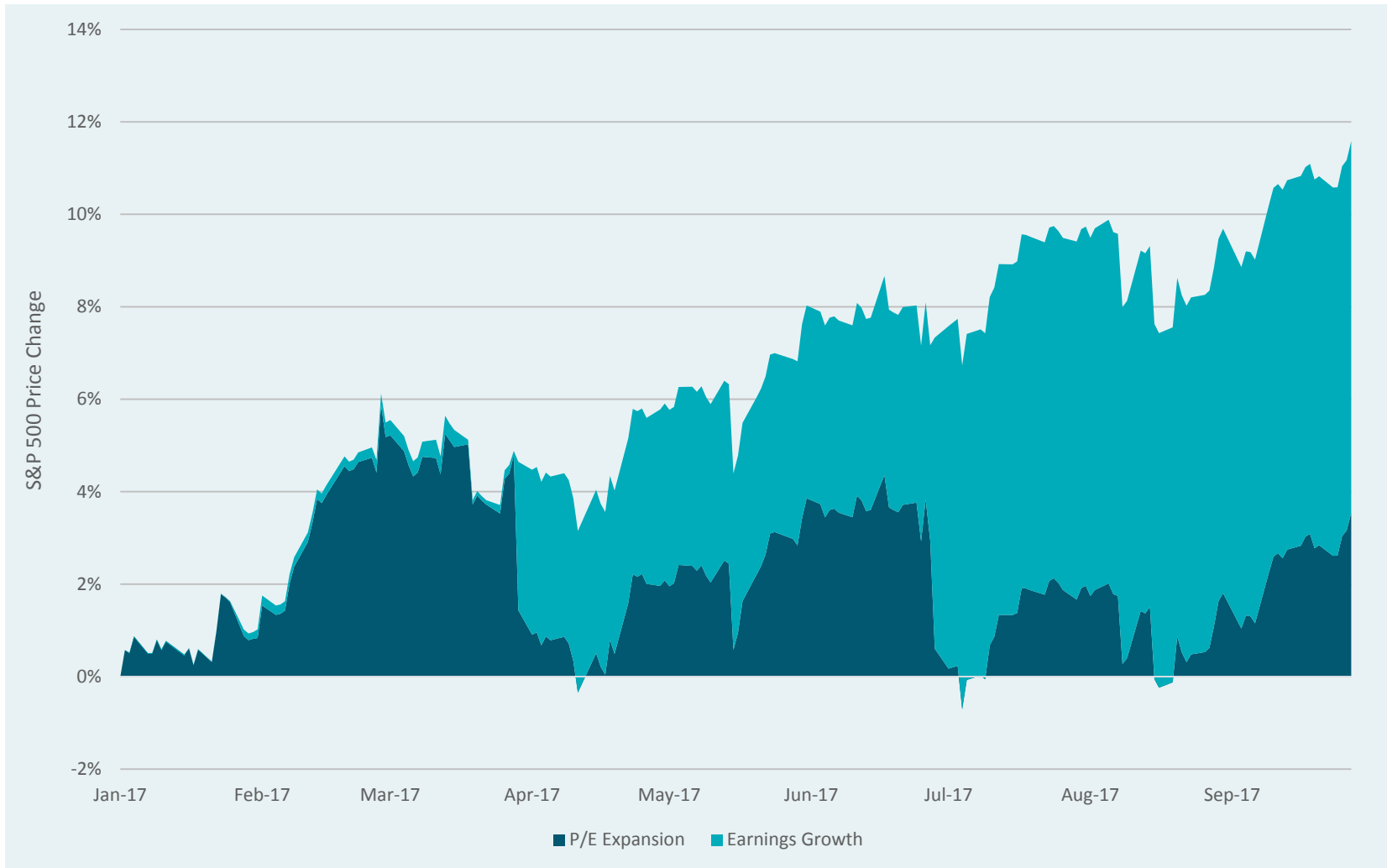
# Record highs



Equity market highs are reached on 5% of market trading days

Source: Verus, Bloomberg, as of 9/29/17, based on the closing price

# What is driving U.S. equities?



S&P 500 price appreciation has been driven by earnings growth so far this year

Source: Verus, Bloomberg, as of 9/29/17

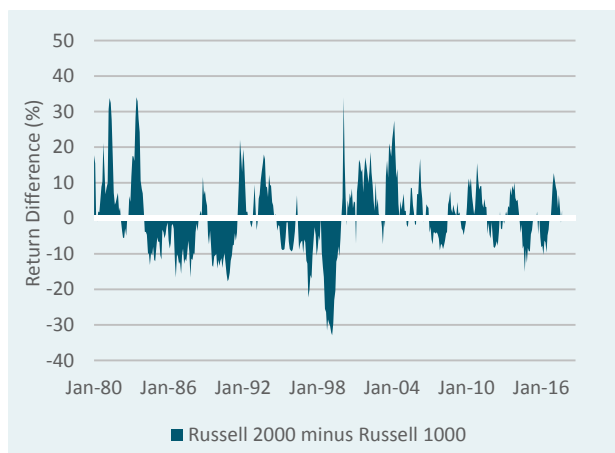
# Domestic equity size and style

Large cap equities led small cap equities through July and August. However, small cap equities rallied in September (+6.2% in the month) and outperformed large cap equities over the quarter. The move in September was partially attributed to an increased focus on U.S. tax reform. If passed, tax cuts will likely provide a greater marginal benefit to smaller companies. Expectations of lower taxes and deregulation have contributed to small cap price appreciation that has outpaced earnings. The relative P/E ratio between large and small companies is at its highest level since the financial crisis.

Large cap equities were led by the technology sector, from which the strongest contributors were semiconductor and internet software companies. The top three individual contributors were Apple, Facebook and Microsoft. Small cap equities were mainly driven by producer durables companies.

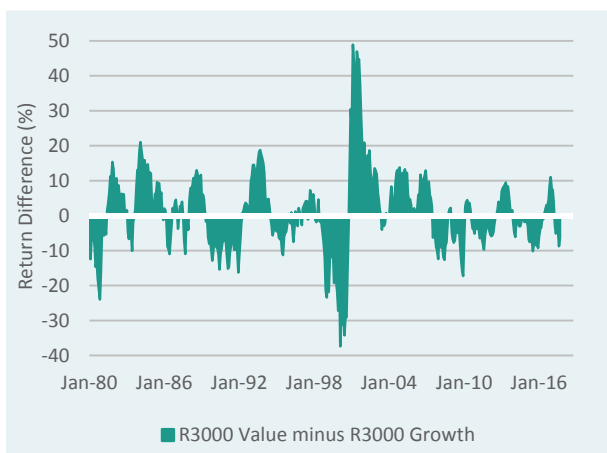
Growth outperformed value in Q3 due to a higher relative weighting to technology companies. Financial services, the most heavily weighted sector in value, returned a positive 5.0%, but still underperformed technology by 3.2%.

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



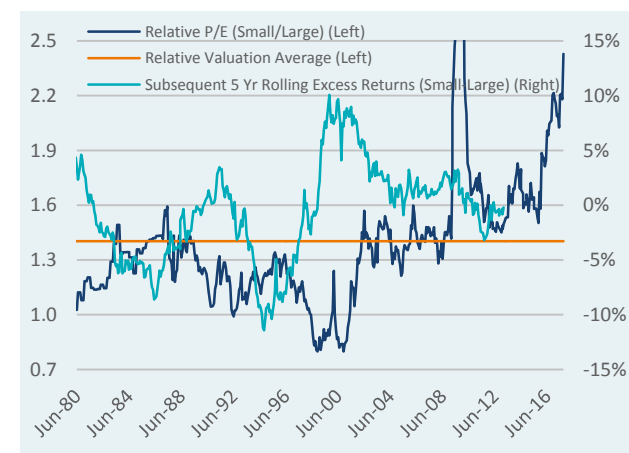
Source: Russell Investments, as of 9/30/17

**VALUE VS GROWTH (YOY)**



Source: Russell Investments, as of 9/30/17

**U.S. LARGE VS. SMALL RELATIVE VALUATIONS**



Source: Russell, Bloomberg, as of 9/30/17



# International equity

International equities outperformed domestic equities during the third quarter. The MSCI ACWI ex U.S. returned 6.2% (+4.6% hedged) while the S&P 500 returned 4.5%. Consistent with the first half of 2017, emerging markets outperformed (MSCI EM +7.9% unhedged) both the EAFE Small Cap Index (+7.5%) and the broad EAFE Index (+5.4%).

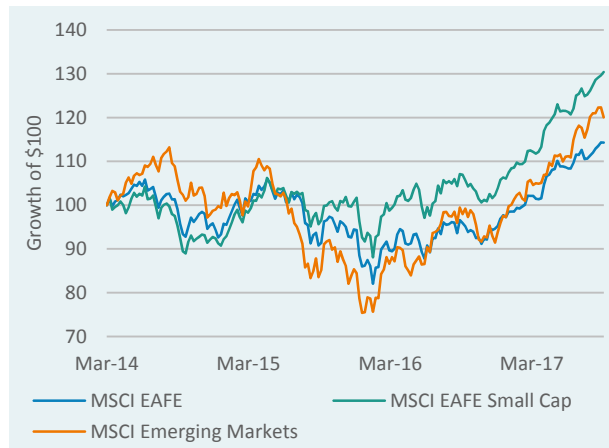
Japanese equities were the largest contributors to the EAFE index in Q3, particularly companies within the industrials and consumer discretionary sectors. Despite the positive moves, Japanese equity valuations based on earnings and

sales remain attractive relative to those in Europe and the United Kingdom.

MSCI EAFE valuations have remained relatively stable in 2017 as earnings and sales growth have kept pace with price appreciation.

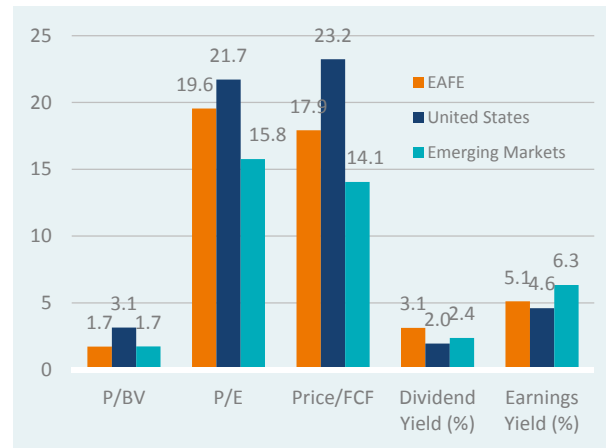
Currency effects added a positive 1.7% to the unhedged MSCI EAFE in Q3 (+7.6% year-to-date), as the U.S. dollar fell for a third consecutive quarter against a trade weighted basket of currencies.

## GLOBAL EQUITY PERFORMANCE



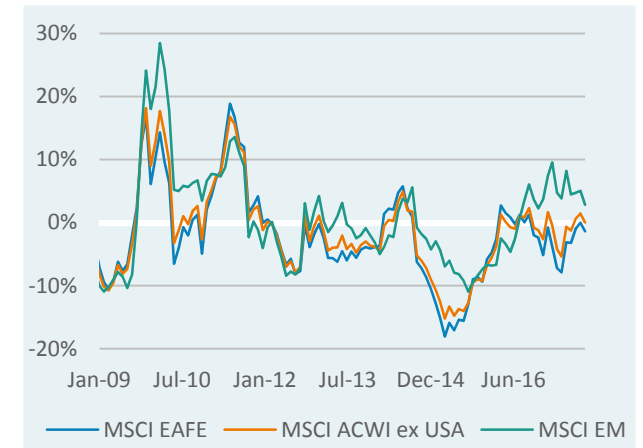
Source: Bloomberg, as of 9/30/17

## VALUATIONS



Source: Bloomberg, as of 9/30/17

## EFFECT OF CURRENCY (1 YEAR ROLLING)



Source: MSCI, as of 9/30/17

# Emerging market equity

We maintain an overweight to emerging market equities, which have historically delivered outsized economic growth and performance during stronger global growth environments.

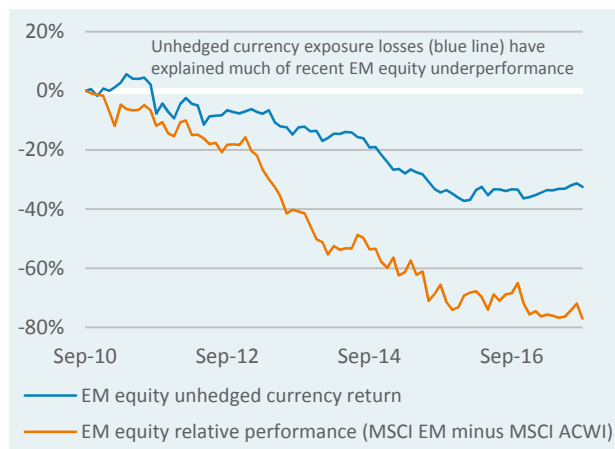
Emerging market equities have outperformed developed markets over the quarter (7.9% vs. 4.8%) and the past year (22.5% vs 18.2%), reversing an extended period of underperformance following the global financial crisis. Currency movement was a significant contributor to

emerging market underperformance during this time, and the recent reversal in currency trends has been additive to the outperformance of these markets.

Valuations have risen off of low levels, bolstering returns. These markets are no longer cheap relative to history though strong earnings growth and mean reversion of currencies could likely fuel further outsized equity gains.

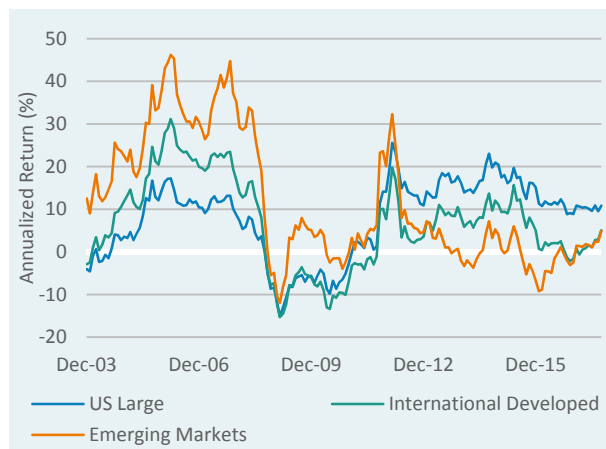
Accelerating global growth should have a positive effect on emerging economies

## EMERGING MARKET FX & RELATIVE PERFORMANCE (7YR CUMULATIVE)



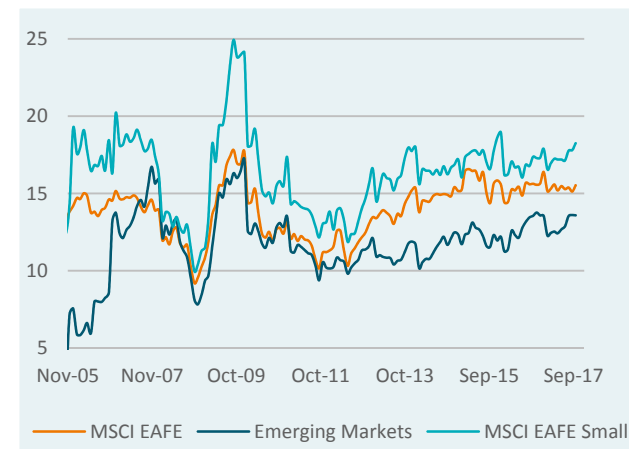
Source: MSCI, JP Morgan EM Currency Index, as of 9/30/17

## EQUITY PERFORMANCE (3YR ROLLING)



Source: Standard & Poor's, MSCI, as of 9/30/17

## FORWARD P/E RATIOS



Source: Bloomberg as of 9/30/17

# Emerging markets – High “growth beta”

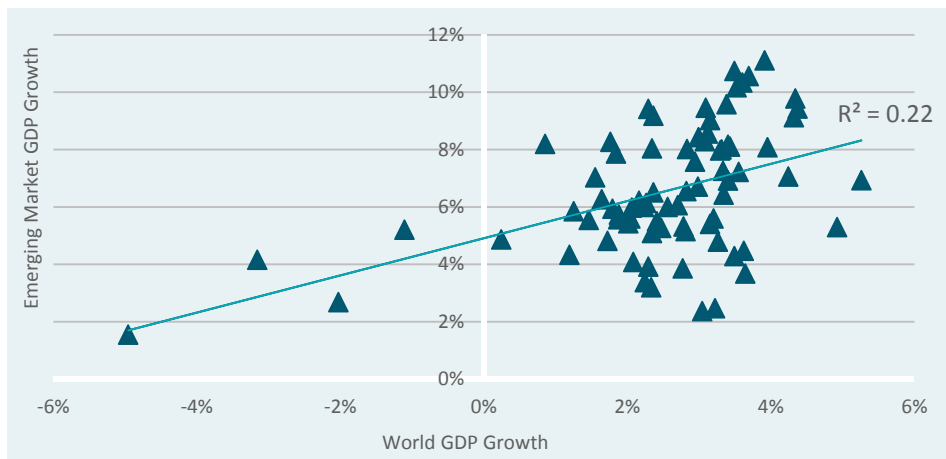
During Q3 the trend of coordinated global economic growth continued. Emerging market equities materially outperformed global equities over the quarter (7.9% MSCI EM vs. 5.2% MSCI ACWI) and year-to-date (27.8% vs. 17.3%).

Emerging markets have historically performed well during periods of global growth acceleration, in terms of both equity performance and underlying economic growth.

The relationship between emerging market equities and world economic growth has historically exhibited a beta of 9.6. This suggests that, on average, investors might expect a 1% improvement in global growth to result in emerging market equity outperformance of 9.6%.

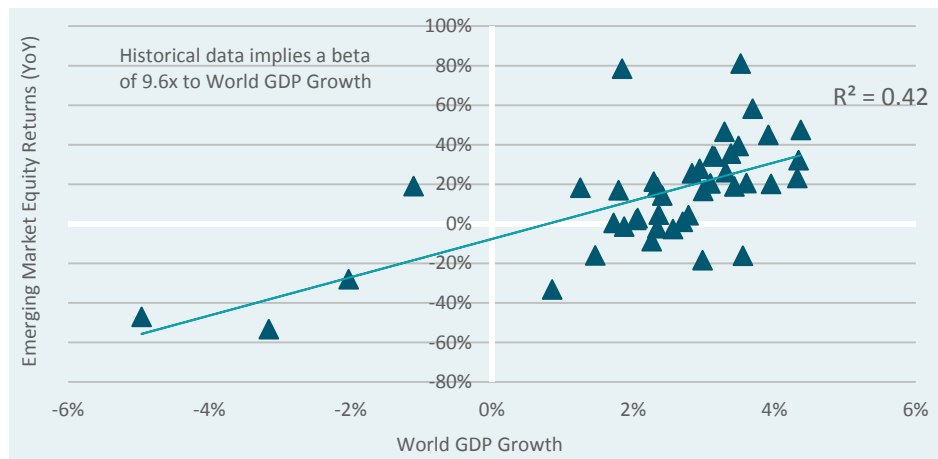
It is important to note that this relationship has also held on the downside, as emerging markets tend to produce poor returns during weak growth environments.

EM GROWTH RELATIONSHIP TO GLOBAL GROWTH



Source: Bloomberg, since 1996 – BRICS used to represent emerging market economic growth

EM EQUITY PERFORMANCE RELATIONSHIP TO GLOBAL GROWTH



Source: Bloomberg, since 1996 - MSCI

# Equity valuations

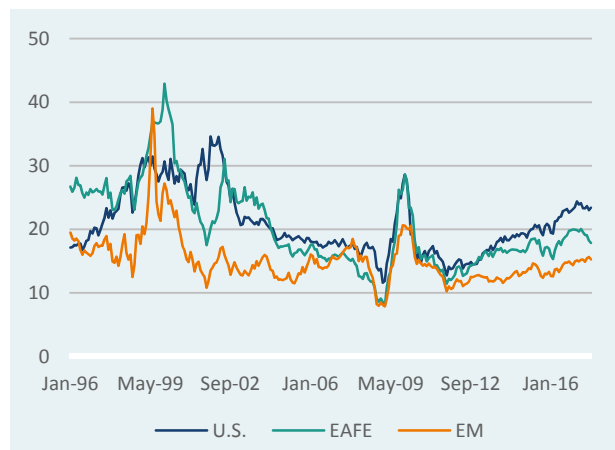
Equity valuations remain elevated compared to history, although recent price appreciation has been driven by earnings growth as opposed to multiple expansion. In international developed markets (EAFE), earnings growth over the past two quarters has outpaced price appreciation, leading to a slight decline in P/E ratios. The opposite has occurred in emerging markets where strong price gains have resulted in higher valuations. Relative to developed countries, emerging equities still appear attractive from a valuation perspective but are no longer considered cheap. Other valuation measures such as price-to-sales (P/S) ratios

also indicate equity prices are rich, especially in the U.S. The P/S ratio at the end of September was 2.1, the highest level since 2000. During this cycle, sales growth has lagged earnings growth (per share), influenced by expanding profit margins and an increase in equity buybacks.

Historically, higher valuations have led to lower future returns over the medium-term, on average. However, valuations can remain elevated for long periods of time and may be partially justified given the current environment of low interest rates and inflation.

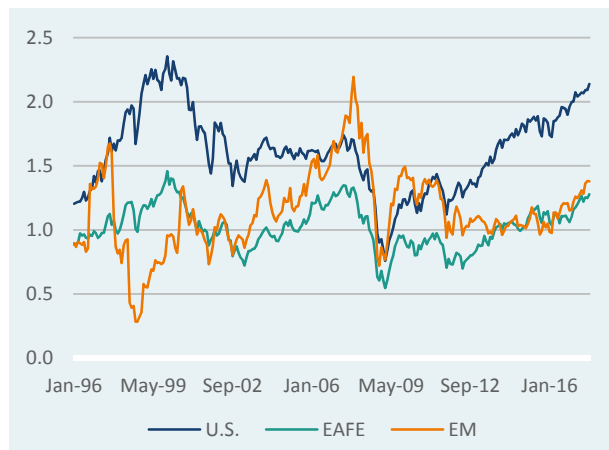
Valuations are elevated, but relative opportunities exist

TRAILING P/E RATIOS



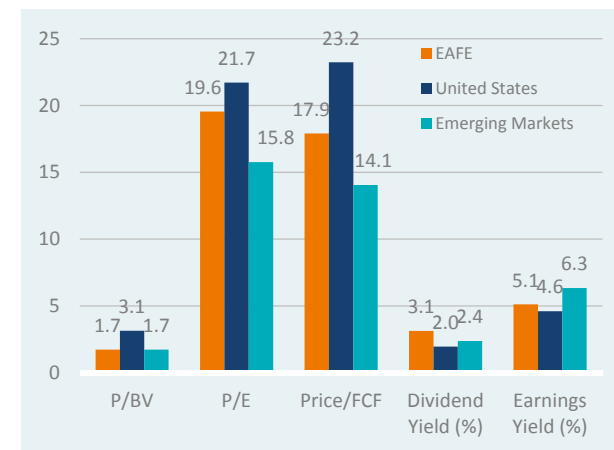
Source: Bloomberg, as of 9/30/17

TRAILING PRICE-TO-SALES RATIOS



Source: Bloomberg, as of 9/30/17

CURRENT VALUATION METRICS



Source: Bloomberg, as of 9/30/17

# Equity volatility

Despite a rise in geopolitical risks, including tensions on the Korean peninsula, realized volatility in equities over the quarter was extremely low, consistent with recent trends. In September, S&P 500 annualized volatility was 5%, the lowest level for a calendar month on record.

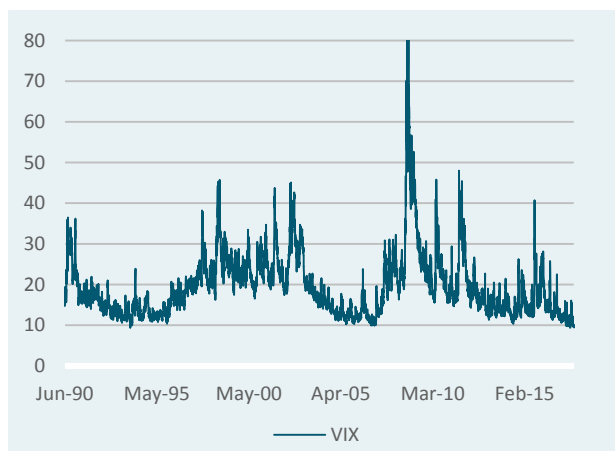
While many market participants have voiced concern over complacency, low volatility generally accompanies bull markets. We continue to watch volatility trends closely, but at this time do not view the current environment as a bearish signal. For investors in strategies with specific

volatility targets, such as risk parity, it is important to be aware of rising equity exposure and leverage. A spike in volatility may lead to forced equity selling during a downturn in order to maintain the risk target.

The CBOE Skew Index, which looks at the steepness of the volatility curve, is above its historical average. This indicates investors are still paying a premium for downside protection.

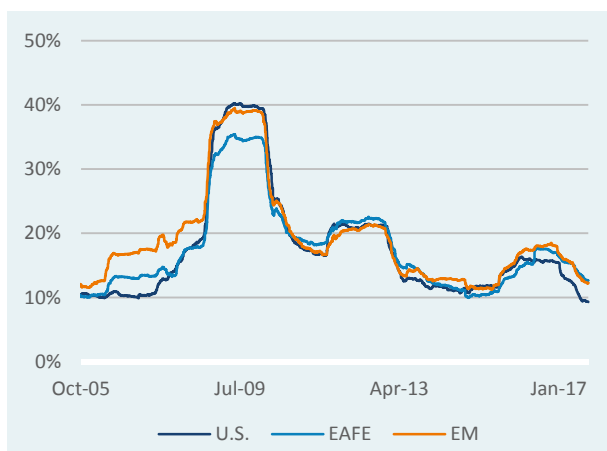
Equity volatility has trended downwards

**U.S. IMPLIED VOLATILITY**



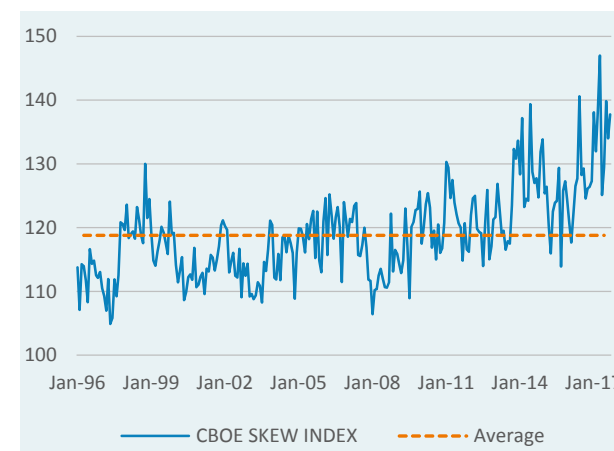
Source: CBOE, as of 9/30/17

**REALIZED 1-YEAR ROLLING VOLATILITY**



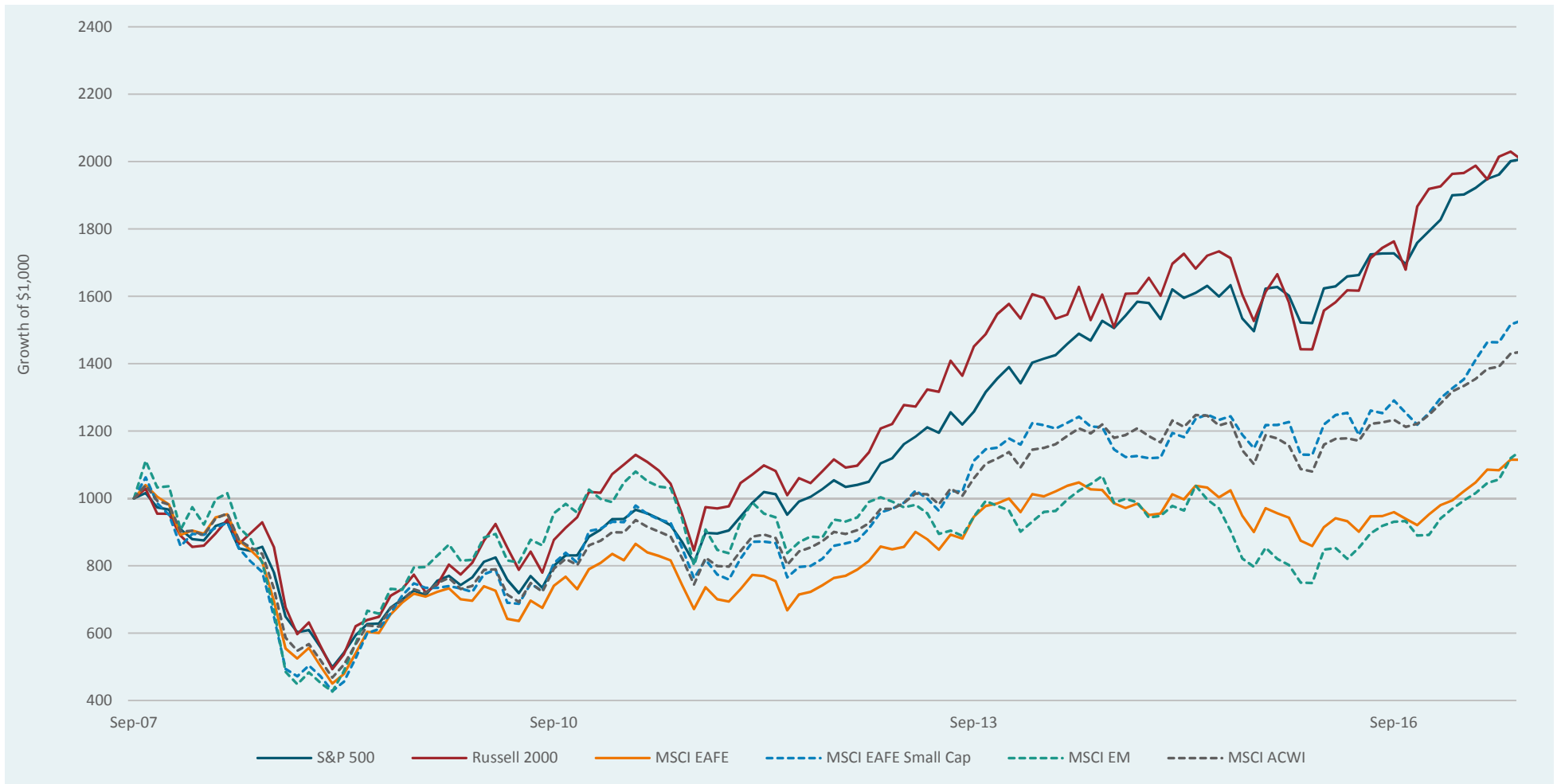
Source: Bloomberg, as of 9/30/17

**U.S. VOLATILITY SKEW**



Source: CBOE, as of 9/30/17

# Long-term equity performance



Source: MPI, as of 9/30/17

# Other assets

# Hedge funds

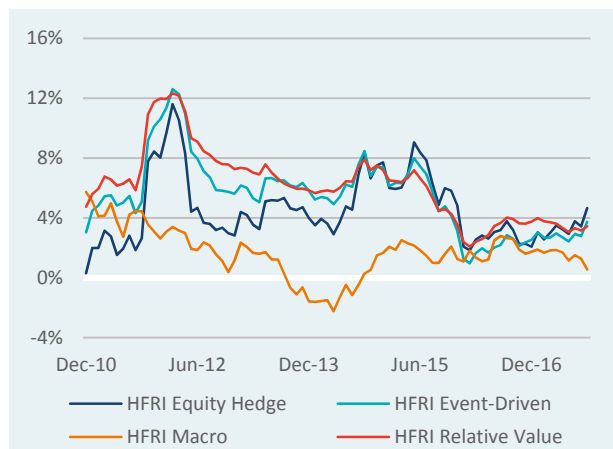
In aggregate, hedge funds returned 2.2% during Q3 and 5.5% year-to-date per HFRI. Equity hedge strategies were the top performer for both periods as they gained 3.5% and 9.6%, respectively. Short biased funds stood out as the only negative sub strategy during Q3, which is typical during equity rallies. Funds with greater net-long market exposure benefited from strong year-to-date equity market returns.

Emerging market hedge funds were notable winners this year as HFRI reported performance of 4.8% for Q3 and 14.7% year-to-date. Funds focused on Latin America (+10.2% for Q3,

16.5% YTD) were particularly strong performers. Those markets rallied due in part to a combination of pro-business politicians retaining power, improving economic growth prospects and stabilizing commodity markets.

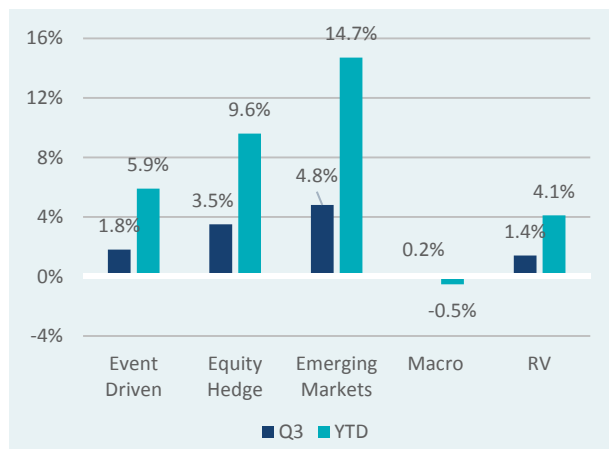
We are closely monitoring volatility levels because we understand that sudden changes in volatility regimes can negatively impact high gross leverage strategies. Our concerns are somewhat balanced due to more normal net leverage levels.

## 3-YEAR ROLLING STYLE PERFORMANCE



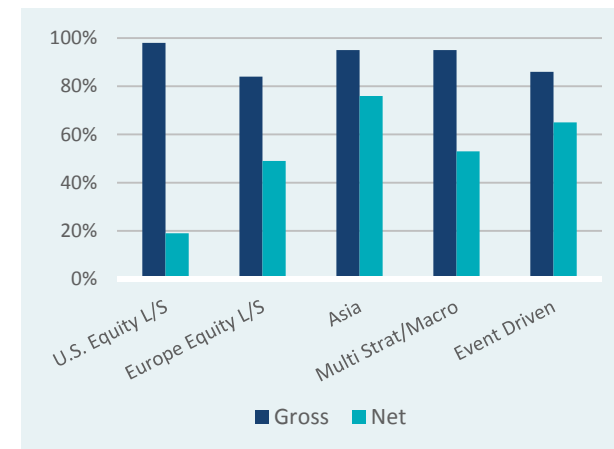
Source: HFRI, as of 9/30/17

## Q3 & YTD STYLE PERFORMANCE



Source: HFRI, as of 9/30/17

## LEVERAGE (PERCENTILE RANK SINCE 2010)



Source: Morgan Stanley, as of 9/30/17



# Currency

The U.S. dollar depreciated an additional 2.7% in Q3 against a trade weighted basket of developed currencies, which brought the year-to-date decline to 8.0%. The downward trend partially reversed in September after prospects of another interest rate hike in December from the Fed helped lead to the first month of dollar appreciation so far this year. The euro appreciated 3.4% against the dollar over the quarter, influenced by improving economic conditions and the possibility of ECB tightening monetary policy.

After several years of depreciation, emerging market

currencies have stabilized. Improved current account balances and economic growth conditions have provided a positive backdrop for these currencies moving forward. However, a quicker than expected rise in U.S. interest rates could represent a headwind to further appreciation.

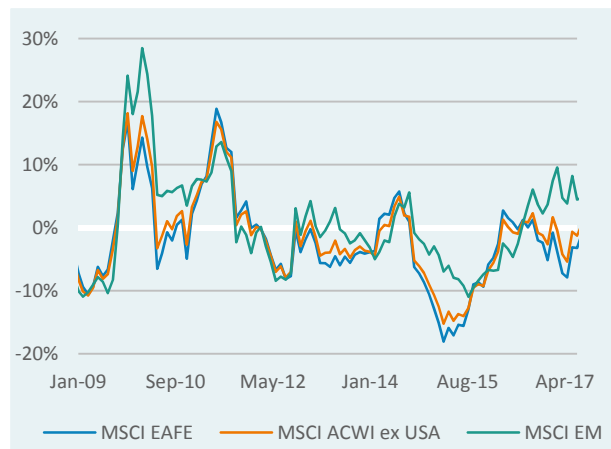
Currency losses from unhedged exposure to developed international equities has begun to reverse due to recent dollar weakness, although currency exposure has still resulted in materially higher volatility.

**U.S. DOLLAR TRADE WEIGHTED INDEX**



Source: Federal Reserve, as of 9/30/17

**EFFECT OF CURRENCY (1-YEAR ROLLING)**



Source: MPI, as of 9/30/17

**JPM EM CURRENCY INDEX**



Source: JPMorgan, as of 9/30/17

# Appendix

# Periodic table of returns

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	YTD	5-Year	10-Year
Emerging Markets Equity	16.6	38.4	23.2	35.2	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	27.8	15.3	9.1
Large Cap Growth	8.1	37.8	23.1	32.9	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	20.7	14.3	8.5
International Equity	6.4	37.2	22.4	31.8	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	20.0	14.3	7.8
Small Cap Growth	4.4	31.0	21.6	30.5	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	16.8	13.8	7.5
Large Cap Equity	3.2	28.5	21.4	22.4	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	14.2	13.3	7.1
60/40 Global Portfolio	2.6	25.7	16.5	16.2	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	12.7	13.2	6.4
Small Cap Equity	0.4	19.6	14.4	13.9	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	10.9	10.5	5.9
Large Cap Value	-1.5	18.5	11.3	12.9	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	7.9	8.4	4.3
Small Cap Value	-1.8	15.2	10.3	10.6	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	5.7	6.3	4.0
Hedge Funds of Funds	-2.0	11.6	9.9	9.7	-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	5.5	4.0	1.3
Real Estate	-2.4	11.1	6.4	5.2	-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	3.3	3.8	1.3
US Bonds	-2.9	7.5	6.0	2.1	-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	3.1	2.1	1.1
Cash	-3.5	5.7	5.1	-3.4	-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	0.6	0.2	0.4
Commodities	-7.3	-5.2	3.6	-11.6	-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	-2.9	-10.5	-6.8

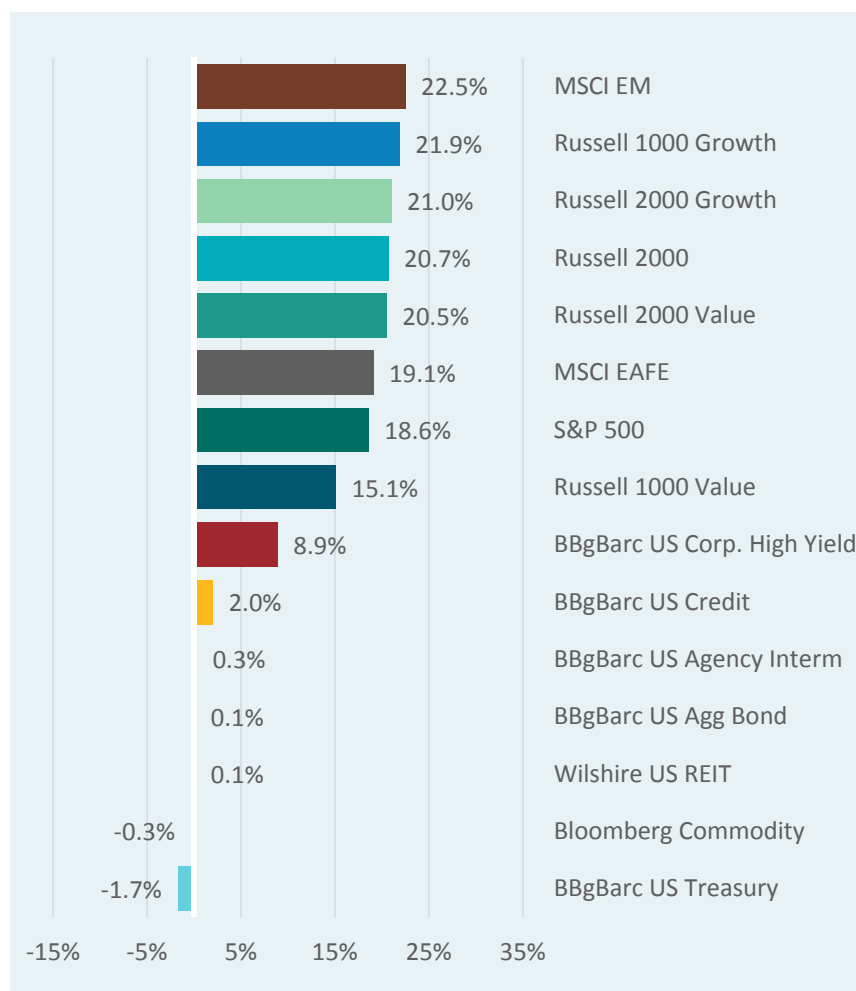
WORST

<span style="display:inline-block; width:15px; height:15px; background-color:#ADD8E6; border:1px solid black;"></span> Large Cap Equity	<span style="display:inline-block; width:15px; height:15px; background-color:#006400; border:1px solid black;"></span> Small Cap Growth	<span style="display:inline-block; width:15px; height:15px; background-color:#8B4513; border:1px solid black;"></span> Commodities
<span style="display:inline-block; width:15px; height:15px; background-color:#00008B; border:1px solid black;"></span> Large Cap Value	<span style="display:inline-block; width:15px; height:15px; background-color:#FFD700; border:1px solid black;"></span> International Equity	<span style="display:inline-block; width:15px; height:15px; background-color:#4682B4; border:1px solid black;"></span> Real Estate
<span style="display:inline-block; width:15px; height:15px; background-color:#00008B; border:1px solid black;"></span> Large Cap Growth	<span style="display:inline-block; width:15px; height:15px; background-color:#FF8C00; border:1px solid black;"></span> Emerging Markets Equity	<span style="display:inline-block; width:15px; height:15px; background-color:#90EE90; border:1px solid black;"></span> Hedge Funds of Funds
<span style="display:inline-block; width:15px; height:15px; background-color:#7FFFD4; border:1px solid black;"></span> Small Cap Equity	<span style="display:inline-block; width:15px; height:15px; background-color:#696969; border:1px solid black;"></span> US Bonds	<span style="display:inline-block; width:15px; height:15px; background-color:#FF0000; border:1px solid black;"></span> 60% MSCI ACWI/40% BBgBarc Global Bond
<span style="display:inline-block; width:15px; height:15px; background-color:#008080; border:1px solid black;"></span> Small Cap Value	<span style="display:inline-block; width:15px; height:15px; background-color:#D3D3D3; border:1px solid black;"></span> Cash	

Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 6/30/17.

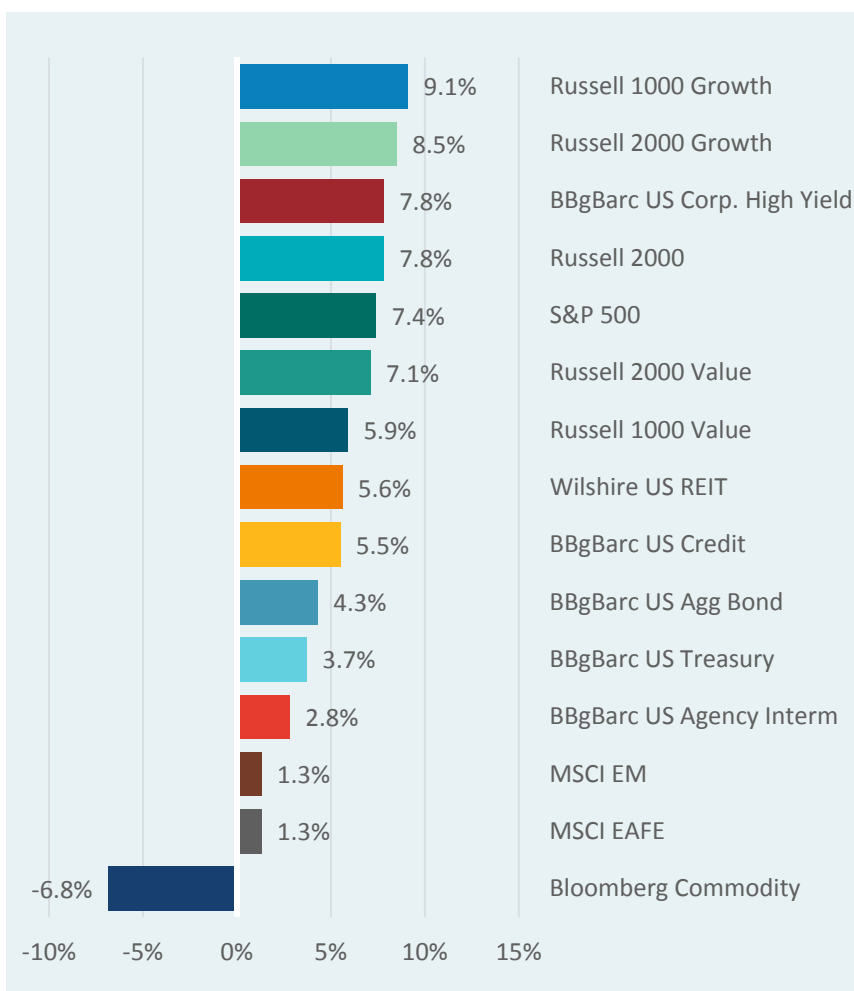
# Major asset class returns

ONE YEAR ENDING SEPTEMBER



Source: Morningstar, as of 9/30/17

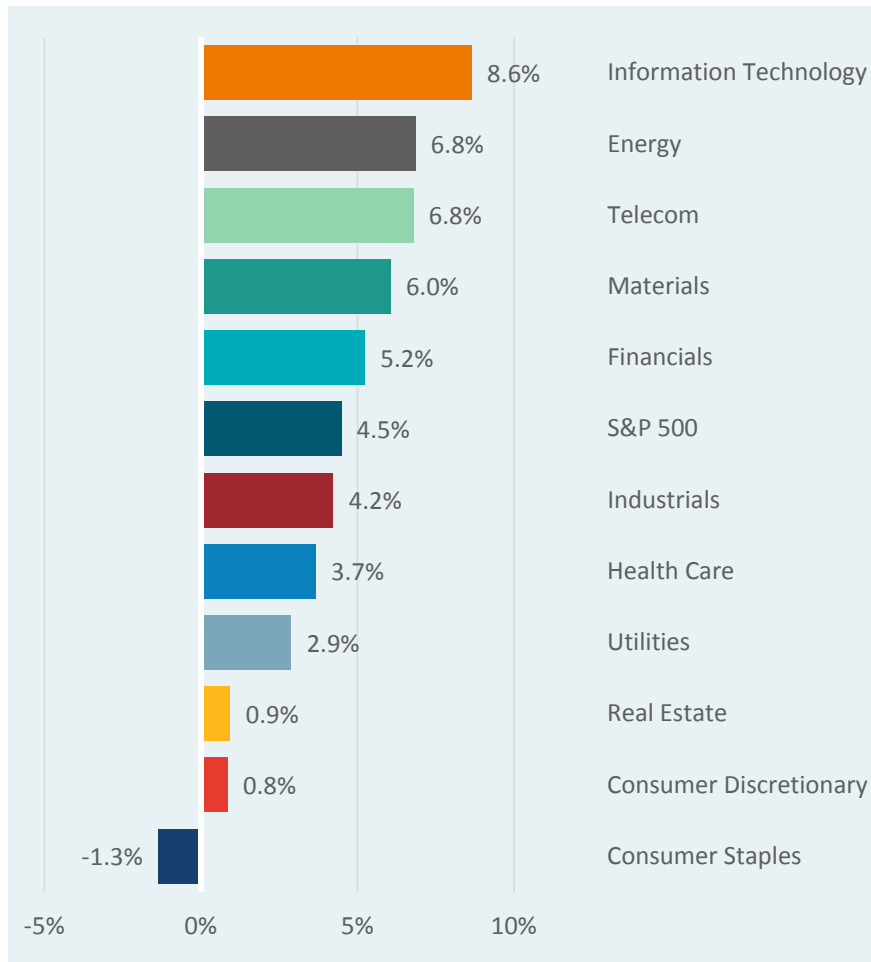
TEN YEARS ENDING SEPTEMBER



Source: Morningstar, as of 9/30/17

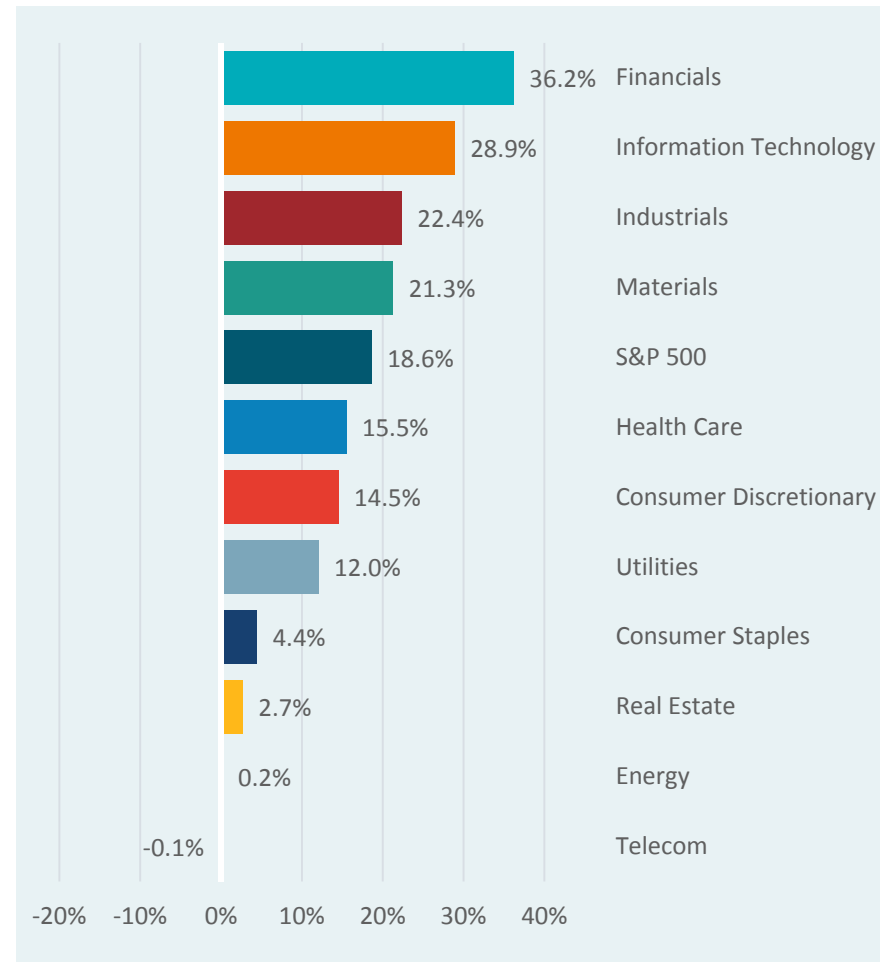
# S&P 500 sector returns

## 3<sup>RD</sup> QUARTER



Source: Morningstar, as of 9/30/17

## ONE YEAR ENDING SEPTEMBER



Source: Morningstar, as of 9/30/17

# Detailed index returns

## DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Core Index</b>							
S&P 500	2.1	4.5	14.2	18.6	10.8	14.2	7.4
S&P 500 Equal Weighted	2.9	3.6	11.9	16.2	10.1	15.0	8.9
DJ Industrial Average	2.2	5.6	15.5	25.5	12.3	13.6	7.7
Russell Top 200	1.9	4.9	15.1	19.8	11.1	14.3	7.3
Russell 1000	2.1	4.5	14.2	18.5	10.6	14.3	7.5
Russell 2000	6.2	5.7	10.9	20.7	12.2	13.8	7.8
Russell 3000	2.4	4.6	13.9	18.7	10.7	14.2	7.6
Russell Mid Cap	2.8	3.5	11.7	15.3	9.5	14.3	8.1
<b>Style Index</b>							
Russell 1000 Growth	1.3	5.9	20.7	21.9	12.7	15.3	9.1
Russell 1000 Value	3.0	3.1	7.9	15.1	8.5	13.2	5.9
Russell 2000 Growth	5.4	6.2	16.8	21.0	12.2	14.3	8.5
Russell 2000 Value	7.1	5.1	5.7	20.5	12.1	13.3	7.1

## INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Broad Index</b>							
MSCI ACWI	1.9	5.2	17.3	18.6	7.4	10.2	3.9
MSCI ACWI ex US	1.9	6.2	21.1	19.6	4.7	7.0	1.3
MSCI EAFE	2.5	5.4	20.0	19.1	5.0	8.4	1.3
MSCI EM	(0.4)	7.9	27.8	22.5	4.9	4.0	1.3
MSCI EAFE Small Cap	2.9	7.5	25.4	21.8	11.1	12.8	4.6
<b>Style Index</b>							
MSCI EAFE Growth	1.9	4.9	22.4	15.7	6.5	8.9	2.1
MSCI EAFE Value	3.1	5.9	17.6	22.5	3.5	7.8	0.5
<b>Regional Index</b>							
MSCI UK	3.3	5.2	15.7	14.6	0.8	4.9	0.7
MSCI Japan	2.0	4.0	14.3	14.1	7.7	10.6	1.7
MSCI Euro	3.9	8.0	25.9	28.4	5.6	9.9	(0.0)
MSCI EM Asia	(0.0)	7.0	31.8	23.8	8.0	7.4	2.7
MSCI EM Latin American	1.6	15.1	26.7	25.6	(0.3)	(1.9)	(0.8)

Source: Morningstar, as of 9/30/17

## FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Broad Index</b>							
BBgBarc US Treasury US TIPS	(0.6)	0.9	1.7	(0.7)	1.6	0.0	3.9
BBgBarc US Treasury Bills	0.1	0.3	0.6	0.6	0.3	0.2	0.5
BBgBarc US Agg Bond	(0.5)	0.8	3.1	0.1	2.7	2.1	4.3
<b>Duration</b>							
BBgBarc US Treasury 1-3 Yr	(0.2)	0.2	0.7	0.2	0.8	0.6	1.7
BBgBarc US Treasury Long	(2.2)	0.6	6.0	(6.4)	4.9	2.8	6.9
BBgBarc US Treasury	(0.9)	0.4	2.3	(1.7)	2.0	1.2	3.7
<b>Issuer</b>							
BBgBarc US MBS	(0.2)	1.0	2.3	0.3	2.4	2.0	4.1
BBgBarc US Corp. High Yield	0.9	2.0	7.0	8.9	5.8	6.4	7.8
BBgBarc US Agency Interm	(0.3)	0.3	1.4	0.3	1.5	1.1	2.8
BBgBarc US Credit	(0.2)	1.3	5.1	2.0	3.9	3.2	5.5

## OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Index</b>							
Bloomberg Commodity	(0.1)	2.5	(2.9)	(0.3)	(10.4)	(10.5)	(6.8)
Wilshire US REIT	(0.1)	0.6	2.4	0.1	9.7	9.5	5.6
CS Leveraged Loans	0.4	1.1	3.0	5.4	4.0	4.4	4.4
<b>Regional Index</b>							
JPM EMBI Global Div	0.0	2.6	9.0	4.6	6.5	4.9	7.5
JPM GBI-EM Global Div	(0.3)	3.6	14.3	7.3	0.3	(0.9)	3.8
<b>Hedge Funds</b>							
HFRI Composite	0.5	2.1	5.7	6.9	3.3	4.7	3.1
HFRI FOF Composite	0.4	2.2	5.5	6.4	2.2	3.8	1.1
<b>Currency (Spot)</b>							
Euro	(0.6)	3.7	12.1	5.2	(2.2)	(1.7)	(1.8)
Pound	4.1	3.3	8.6	3.3	(6.1)	(3.6)	(4.1)
Yen	(2.2)	(0.2)	3.6	(10.0)	(0.9)	(7.1)	0.2

# Definitions

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

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

**Citi Economic Surprise Index** - objective and quantitative measures of economic news. Defined as weighted historical standard deviations of data surprises (actual releases vs Bloomberg survey median). A positive reading of the Economic Surprise Index suggests that economic releases have on balance been beating consensus. The indices are calculated daily in a rolling three-month window. The weights of economic indicators are derived from relative high-frequency spot FX impacts of 1 standard deviation data surprises. The indices also employ a time decay function to replicate the limited memory of markets. ([www.Bloomberg.com](http://www.Bloomberg.com))

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

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# Contra Costa County Employees' Retirement Association

Investment Performance Review

Period Ending: September 30, 2017



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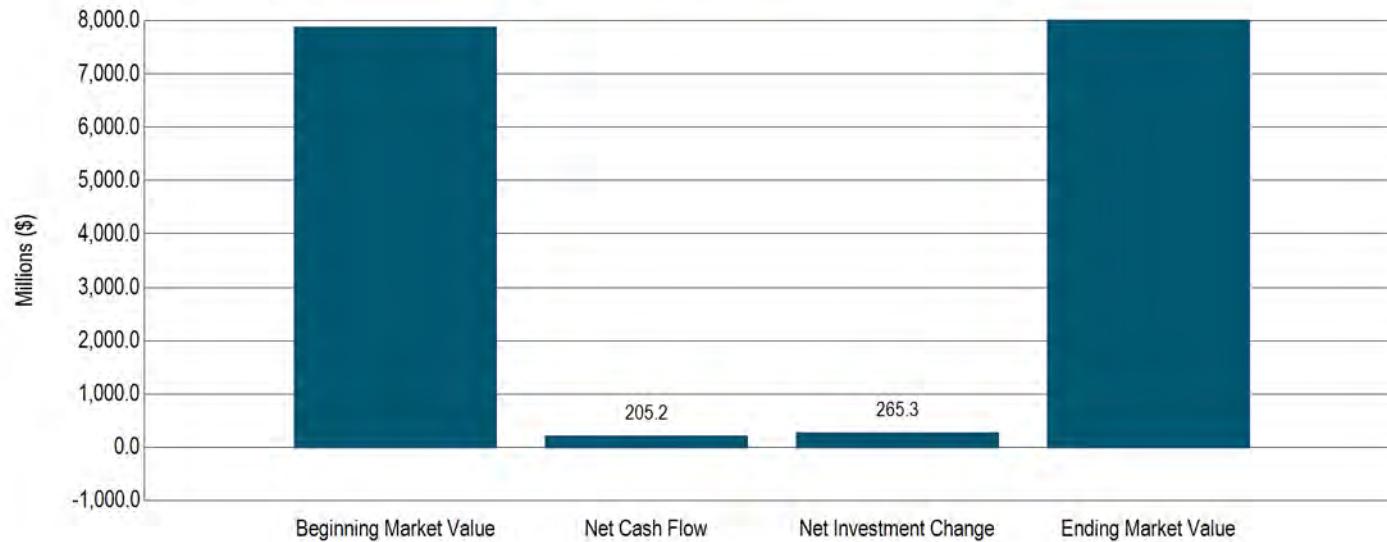
SAN FRANCISCO 415-362-3484



**Portfolio Reconciliation**

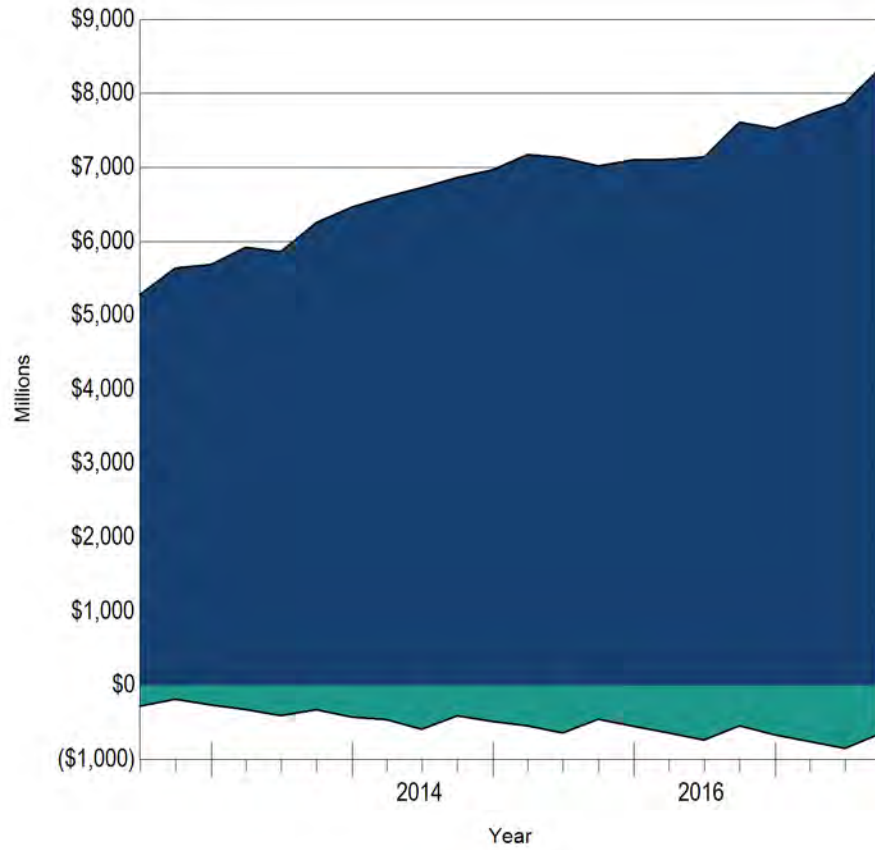
	Last Three Months	Year-To-Date
Beginning Market Value	\$7,872,495,171	\$7,526,951,623
Net Cash Flow	\$205,212,095	\$34,550,883
Net Investment Change	\$265,274,177	\$781,478,937
Ending Market Value	\$8,342,981,443	\$8,342,981,443

**Change in Market Value  
Last Three Months**



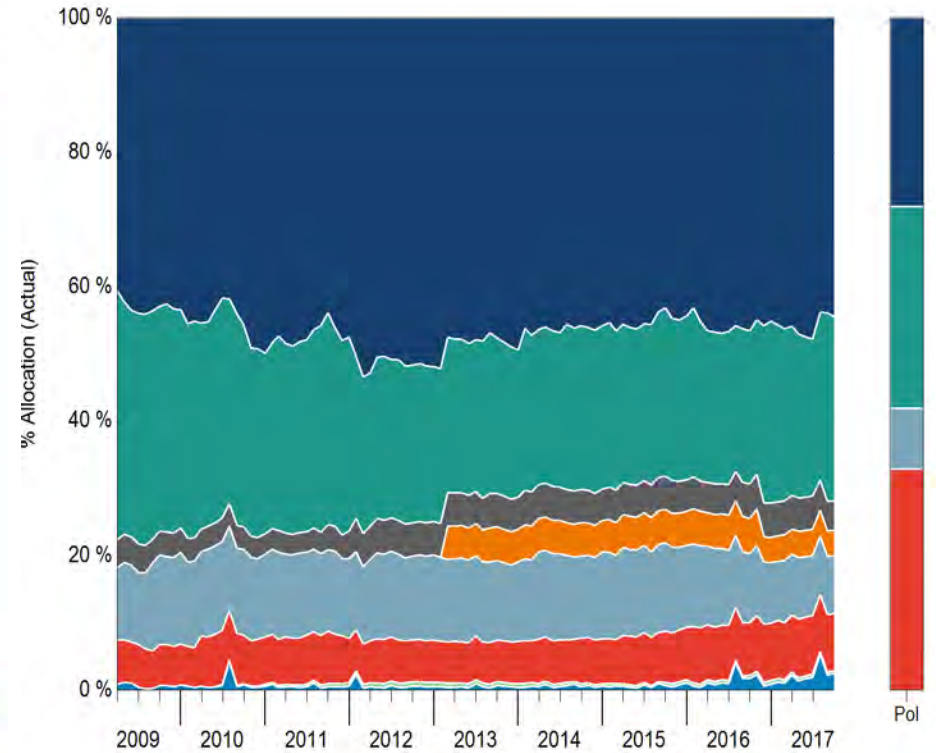
Contributions and withdrawals may include intra-account transfers between managers/funds.

Market Value History  
Cumulative Cash Flows



Market Value Net Cash Flow

Asset Allocation History



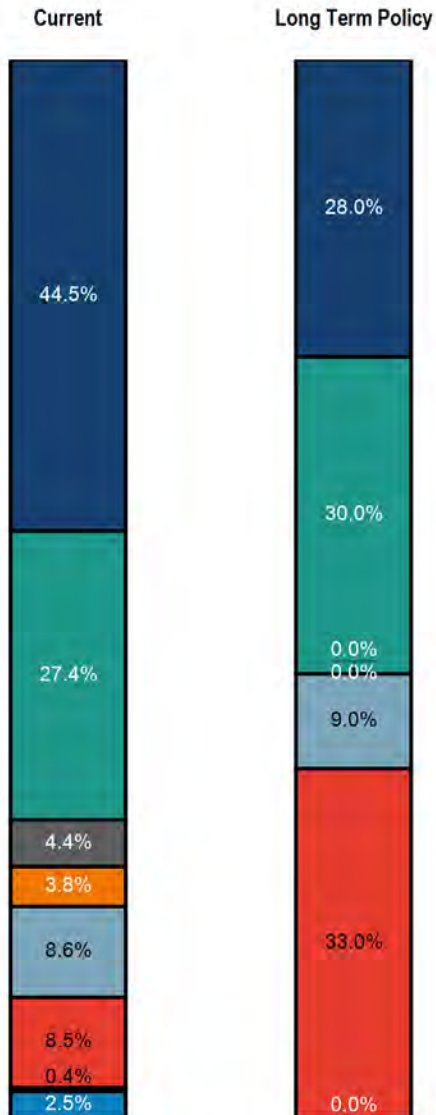
Global Equity Global Fixed Income High Yield Fixed Income Inflation Hedge/Real Assets Real Estate Alternative Investments Opportunistic Cash

Policy reflects FFP 4-Yr allocations approved in May 2017.

# Total Fund

## Asset Allocation vs. Long Term Target Policy

Period Ending: September 30, 2017



### Allocation vs. Long Term Target

	Current Balance	Current Allocation	Long Term Target	Difference
Global Equity	\$3,711,711,674	44.5%	28.0%	\$1,375,676,870
Global Fixed Income	\$2,283,078,202	27.4%	30.0%	-\$219,816,231
High Yield Fixed Income	\$364,747,075	4.4%	0.0%	\$364,747,075
Inflation Hedge/Real Assets	\$317,401,228	3.8%	0.0%	\$317,401,228
Real Estate	\$713,941,949	8.6%	9.0%	-\$36,926,381
Alternative Investments	\$712,449,633	8.5%	33.0%	-\$2,040,734,243
Opportunistic	\$33,182,759	0.4%	0.0%	\$33,182,759
Cash	\$206,468,923	2.5%	0.0%	\$206,468,923
<b>Total</b>	<b>\$8,342,981,443</b>	<b>100.0%</b>	<b>100.0%</b>	

### Allocation vs. Current Targets

	Current Balance	Current Allocation	Current Target	Difference
Global Equity	\$3,711,711,674	44.5%	44.4%	\$7,427,914
Global Fixed Income	\$2,283,078,202	27.4%	27.4%	-\$2,898,714
High Yield Fixed Income	\$364,747,075	4.4%	5.0%	-\$52,401,997
Inflation Hedge/Real Assets	\$317,401,228	3.8%	3.9%	-\$7,975,048
Real Estate	\$713,941,949	8.6%	9.2%	-\$53,612,344
Alternative Investments	\$712,449,633	8.5%	8.2%	\$28,325,155
Opportunistic	\$33,182,759	0.4%	0.5%	-\$8,532,149
Cash	\$206,468,923	2.5%	1.4%	\$89,667,183
<b>Total</b>	<b>\$8,342,981,443</b>	<b>100.0%</b>	<b>100.0%</b>	

Long Term Targets reflect FFP 4-Yr allocations approved in May 2017.

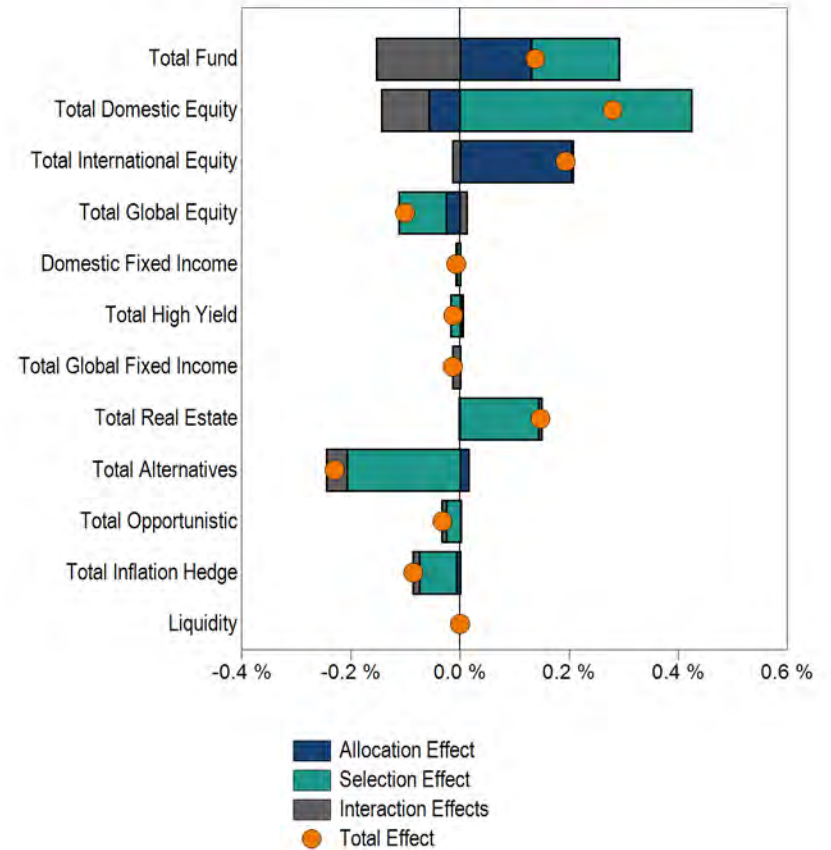
Current Targets reflect Phase 2a Targets approved in March 2017.

# Total Fund Executive Summary (Gross of Fees)

Period Ending: September 30, 2017

	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Total Fund</b>	<b>100.0</b>	<b>3.3</b>	<b>10.5</b>	<b>11.0</b>	<b>7.7</b>	<b>9.5</b>	<b>6.2</b>
Policy Index		3.1	10.2	10.6	7.3	9.2	--
InvestorForce Public DB > \$1B Gross Rank		77	78	83	33	32	18
<b>Total Fund ex Overlay &amp; Cash</b>	<b>97.5</b>	<b>3.3</b>	<b>10.5</b>	<b>11.0</b>	<b>7.7</b>	<b>9.5</b>	<b>6.2</b>
Policy Index		3.1	10.2	10.6	7.3	9.2	--
InvestorForce Public DB > \$1B Gross Rank		78	78	83	33	32	18
<b>Growth</b>	<b>68.2</b>	<b>4.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
Total Domestic Equity	16.8	6.4	16.7	20.7	12.2	15.0	8.3
Russell 3000		4.6	13.9	18.7	10.7	14.2	7.6
InvestorForce Public DB US Eq Gross Rank		1	4	9	4	6	14
Total International Equity	19.1	6.3	18.3	14.2	5.2	8.3	0.7
MSCI ACWI ex USA Gross		6.3	21.6	20.2	5.2	7.5	1.7
MSCI EAFE Gross		5.5	20.5	19.7	5.5	8.9	1.8
InvestorForce Public DB ex-US Eq Gross Rank		52	96	97	75	59	91
International Equity	11.0	5.7	20.1	15.9	5.8	8.6	0.8
MSCI ACWI ex USA Gross		6.3	21.6	20.2	5.2	7.5	1.7
InvestorForce Public DB ex-US Eq Gross Rank		76	90	95	57	46	87
Emerging Markets Equity	8.1	8.3	--	--	--	--	--
MSCI Emerging Markets		7.9	--	--	--	--	--
InvestorForce Public DB Emg Mkt Eq Gross Rank		16	--	--	--	--	--

Attribution Effects  
3 Months Ending September 30, 2017



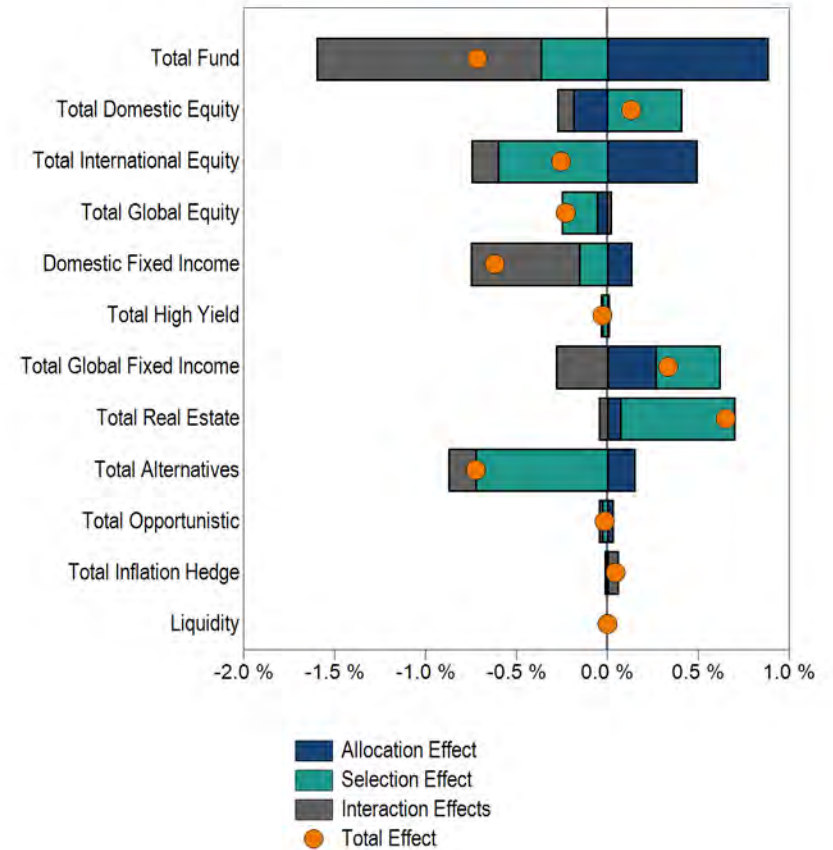
Policy Index (12/1/2016 -present): 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 22.4% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc US Aggregate, 1.7% BofA High Yield Master II +2%, 5.1% BofA High Yield Master II, 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%, 1.6% 90-day T-Bills.  
 Policy Index (4/1/2012-11/30/16): 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% BofA High Yield Master II, 4% BBgBarc Global Aggregate, 5.4% Wilshire REIT, 6.75% NCREIF Property Index, 1.35% FTSE/EPRA NAREIT Developed exUS, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.  
 Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

# Total Fund Executive Summary (Gross of Fees)

Period Ending: September 30, 2017

	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Global Equity	8.6	4.4	18.5	17.1	9.6	11.7	--
MSCI ACWI		5.2	17.3	18.6	7.4	10.2	--
InvestorForce Public DB Total Eq Gross Rank		76	14	95	35	60	--
Domestic Fixed Income	1.8	0.5	4.9	1.0	3.6	4.0	--
BofA ML High Yield Master II +2%		2.5	8.6	11.2	8.0	8.5	--
Total High Yield	4.4	1.7	6.3	8.4	4.9	5.9	7.8
BofA ML High Yield Master II		2.0	7.0	9.1	5.9	6.4	7.7
eA US High Yield Fixed Inc Gross Rank		73	67	51	72	68	43
Total Real Estate	8.6	3.2	8.3	9.1	11.2	12.4	5.2
Real Estate Benchmark		1.7	5.1	3.6	9.4	9.8	6.6
NCREIF-ODCE		1.9	5.4	7.7	10.8	11.6	5.0
NCREIF Property Index		1.7	5.1	6.9	9.8	10.3	6.2
Total Alternatives	8.5	1.4	8.0	12.6	10.6	12.9	10.1
S&P 500 Index +4% (Lagged)		4.1	16.9	22.5	14.0	19.2	11.4
Total Opportunistic	0.4	-2.4	9.1	13.1	0.8	6.5	--
CPI + 4%		1.8	5.3	6.3	5.3	5.3	--
<b>Risk Diversifying</b>	<b>7.1</b>	<b>0.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
Risk Diversifying Fixed Income	3.3	0.9	3.3	0.3	3.0	2.4	4.6
eA US Core Fixed Inc Gross Rank		60	69	75	54	64	72
Total Inflation Hedge	3.8	-0.1	5.2	7.3	1.1	--	--
CPI + 4%		1.8	5.3	6.3	5.3	--	--

Attribution Effects  
1 Year Ending September 30, 2017



Policy Index (12/1/2016 -present): 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 22.4% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc US Aggregate, 1.7% BofA High Yield Master II +2%, 5.1% BofA High Yield Master II, 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%, 1.6% 90-day T-Bills.  
 Policy Index (4/1/2012-11/30/16): 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% BofA High Yield Master II, 4% BBgBarc Global Aggregate, 5.4% Wilshire REIT, 6.75% NCREIF Property Index, 1.35% FTSE/EPRA NAREIT Developed exUS, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.  
 Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund  
Executive Summary (Gross of Fees)

Period Ending: September 30, 2017

	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Liquidity</b>	<b>22.2</b>	<b>0.5</b>	<b>1.6</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
BBgBarc US Govt/Credit 1-3 Yr. TR		0.3	1.1	--	--	--	--
eA US Short Duration Fixed Inc Gross Rank		39	47	--	--	--	--
<b>Total Cash</b>	<b>2.2</b>	<b>0.2</b>	<b>0.6</b>	<b>1.2</b>	<b>0.6</b>	<b>1.6</b>	<b>--</b>
91 Day T-Bills		0.3	0.6	0.7	0.3	0.2	--

Policy Index (12/1/2016 -present): 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 22.4% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc US Aggregate, 1.7% BofA High Yield Master II +2%, 5.1% BofA High Yield Master II, 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%, 1.6% 90-day T-Bills.

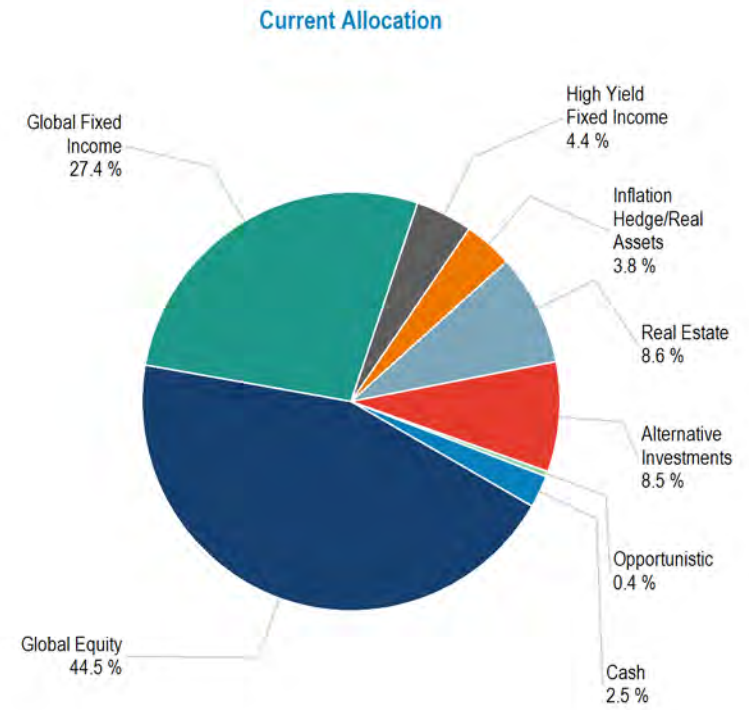
Policy Index (4/1/2012-11/30/16): 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% BofA High Yield Master II, 4% BBgBarc Global Aggregate, 5.4% Wilshire REIT, 6.75% NCREIF Property Index, 1.35% FTSE/EPRA NAREIT Developed exUS, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.

Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

# Total Fund Executive Summary (Net of Fees)

Period Ending: September 30, 2017

	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Total Fund</b>	<b>100.0</b>	<b>3.2</b>	<b>10.3</b>	<b>10.7</b>	<b>7.2</b>	<b>8.9</b>	<b>5.6</b>
<i>Policy Index</i>		3.1	10.2	10.6	7.3	9.2	--
<b>Total Fund ex Overlay &amp; Cash</b>	<b>97.5</b>	<b>3.2</b>	<b>10.3</b>	<b>10.7</b>	<b>7.2</b>	<b>8.9</b>	<b>5.6</b>
<i>Policy Index</i>		3.1	10.2	10.6	7.3	9.2	--
<b>Growth</b>	<b>68.2</b>	<b>4.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
Total Domestic Equity	16.8	6.3	16.3	20.2	11.7	14.5	7.9
<i>Russell 3000</i>		4.6	13.9	18.7	10.7	14.2	7.6
Total International Equity	19.1	6.1	18.0	13.7	4.8	7.9	0.2
<i>MSCI ACWI ex USA Gross</i>		6.3	21.6	20.2	5.2	7.5	1.7
<i>MSCI EAFE Gross</i>		5.5	20.5	19.7	5.5	8.9	1.8
International Equity	11.0	5.6	19.8	15.5	5.3	8.2	0.5
<i>MSCI ACWI ex USA Gross</i>		6.3	21.6	20.2	5.2	7.5	1.7
Emerging Markets Equity	8.1	8.1	--	--	--	--	--
<i>MSCI Emerging Markets</i>		7.9	--	--	--	--	--
Total Global Equity	8.6	4.2	17.9	16.3	8.9	11.0	--
<i>MSCI ACWI</i>		5.2	17.3	18.6	7.4	10.2	--
Domestic Fixed Income	1.8	0.5	4.9	0.9	3.4	3.6	--
<i>BofA ML High Yield Master II +2%</i>		2.5	8.6	11.2	8.0	8.5	--
Total High Yield	4.4	1.6	6.0	8.0	4.5	5.5	7.5
<i>BofA ML High Yield Master II</i>		2.0	7.0	9.1	5.9	6.4	7.7
Total Real Estate	8.6	3.2	8.3	9.0	10.4	11.3	4.2
<i>Real Estate Benchmark</i>		1.7	5.1	3.6	9.4	9.8	6.6
<i>NCREIF-ODCE</i>		1.9	5.4	7.7	10.8	11.6	5.0
<i>NCREIF Property Index</i>		1.7	5.1	6.9	9.8	10.3	6.2



*Policy Index (12/1/2016 -present): 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 22.4% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc US Aggregate, 1.7% BofA High Yield Master II +2%, 5.1% BofA High Yield Master II, 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%, 1.6% 90-day T-Bills.*

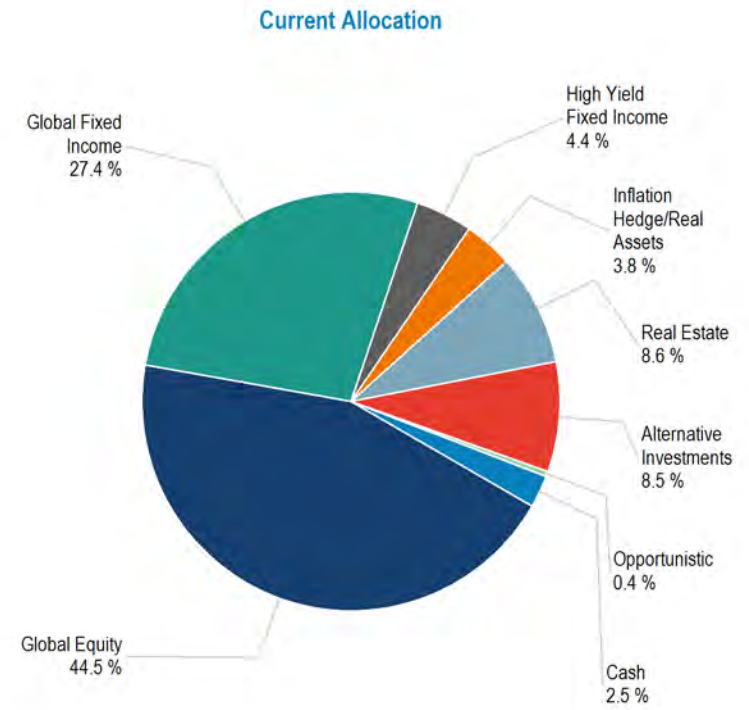
*Policy Index (4/1/2012-11/30/16): 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% BofA High Yield Master II, 4% BBgBarc Global Aggregate, 5.4% Wilshire REIT, 6.75% NCREIF Property Index, 1.35% FTSE/EPRA NAREIT Developed exUS, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.*

*Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.*

# Total Fund Executive Summary (Net of Fees)

Period Ending: September 30, 2017

	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Alternatives	8.5	1.4	8.0	12.6	9.8	11.5	7.9
S&P 500 Index +4% (Lagged)		4.1	16.9	22.5	14.0	19.2	11.4
Total Opportunistic	0.4	-2.4	9.1	13.1	0.6	6.4	--
CPI + 4%		1.8	5.3	6.3	5.3	5.3	--
<b>Risk Diversifying</b>	<b>7.1</b>	<b>0.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
Risk Diversifying Fixed Income	3.3	0.8	2.9	-0.2	2.6	1.9	4.2
Total Inflation Hedge	3.8	-0.1	5.2	7.2	0.4	--	--
CPI + 4%		1.8	5.3	6.3	5.3	--	--
<b>Liquidity</b>	<b>22.2</b>	<b>0.5</b>	<b>1.5</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
BBgBarc US Govt/Credit 1-3 Yr. TR		0.3	1.1	--	--	--	--
<b>Total Cash</b>	<b>2.2</b>	<b>0.2</b>	<b>0.6</b>	<b>1.2</b>	<b>0.6</b>	<b>1.6</b>	<b>--</b>
91 Day T-Bills		0.3	0.6	0.7	0.3	0.2	--



Policy Index (12/1/2016 -present): 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 22.4% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc US Aggregate, 1.7% BofA High Yield Master II +2%, 5.1% BofA High Yield Master II, 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%, 1.6% 90-day T-Bills.

Policy Index (4/1/2012-11/30/16): 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% BofA High Yield Master II, 4% BBgBarc Global Aggregate, 5.4% Wilshire REIT, 6.75% NCREIF Property Index, 1.35% FTSE/EPRA NAREIT Developed exUS, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.

Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

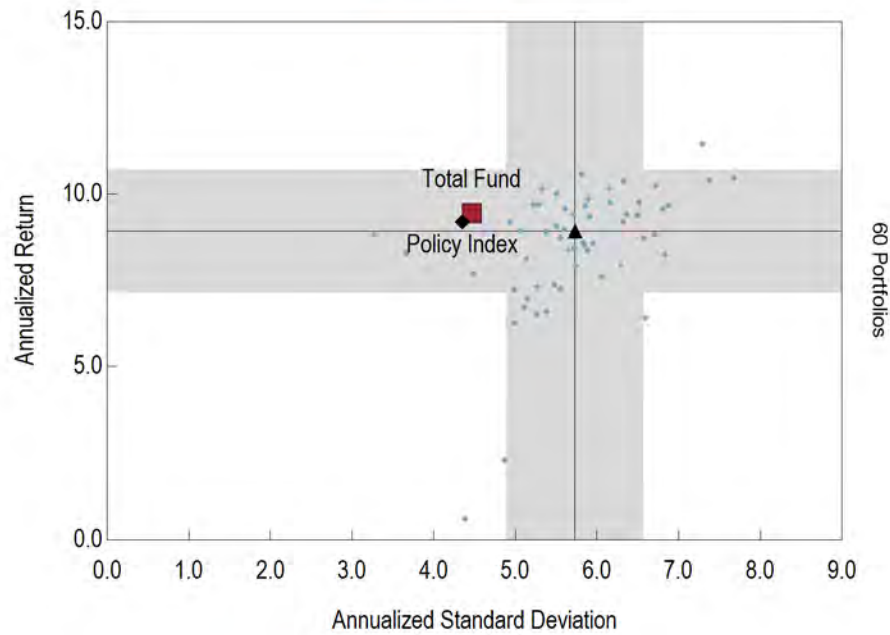


Total Fund  
Risk Analysis - 5 Years (Gross of Fees)

Period Ending: September 30, 2017

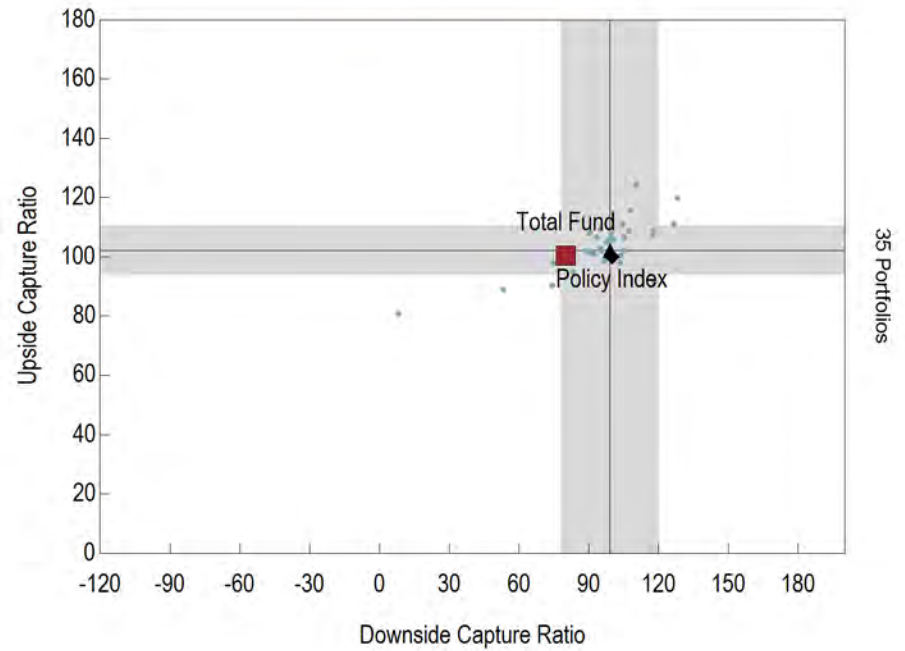
	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Total Fund	9.45%	0.26%	4.47%	0.30%	1.00	1.07%	0.94	2.07	0.24	100.34%	80.15%

Risk vs. Return



- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB > \$1B Gross

Up Markets vs. Down Markets



- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB > \$1B Gross

# Total Fund Performance Summary (Gross of Fees)

Period Ending: September 30, 2017

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
<b>Total Fund</b>	<b>8,342,981,443</b>	<b>100.0</b>	<b>3.3</b>	<b>10.5</b>	<b>11.0</b>	<b>7.7</b>	<b>9.5</b>	<b>6.2</b>	<b>7.4</b>	<b>2.7</b>	<b>8.4</b>	<b>16.4</b>	<b>14.3</b>
Policy Index			3.1	10.2	10.6	7.3	9.2	--	8.8	0.6	9.0	15.6	14.6
InvestorForce Public DB > \$1B Gross Rank			77	78	83	33	32	18	74	5	6	33	13
<b>Total Fund ex Overlay &amp; Cash</b>	<b>8,136,512,519</b>	<b>97.5</b>	<b>3.3</b>	<b>10.5</b>	<b>11.0</b>	<b>7.7</b>	<b>9.5</b>	<b>6.2</b>	<b>7.4</b>	<b>2.7</b>	<b>8.4</b>	<b>16.4</b>	<b>14.3</b>
Policy Index			3.1	10.2	10.6	7.3	9.2	--	8.8	0.6	9.0	15.6	14.6
InvestorForce Public DB > \$1B Gross Rank			78	78	83	33	32	18	74	5	6	33	13
<b>Growth</b>	<b>5,689,131,854</b>	<b>68.2</b>	<b>4.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Total Domestic Equity</b>	<b>1,400,763,516</b>	<b>16.8</b>	<b>6.4</b>	<b>16.7</b>	<b>20.7</b>	<b>12.2</b>	<b>15.0</b>	<b>8.3</b>	<b>11.5</b>	<b>1.1</b>	<b>11.4</b>	<b>36.2</b>	<b>18.2</b>
Russell 3000			4.6	13.9	18.7	10.7	14.2	7.6	12.7	0.5	12.6	33.6	16.4
InvestorForce Public DB US Eq Gross Rank			1	4	9	4	6	14	77	21	50	19	3
BlackRock Russell 1000 Index	112,583,795	1.3	4.5	--	--	--	--	--	--	--	--	--	--
Russell 1000			4.5	--	--	--	--	--	--	--	--	--	--
eA US Large Cap Equity Gross Rank			55	--	--	--	--	--	--	--	--	--	--
Jackson Square Partners	388,754,424	4.7	9.0	25.0	20.0	10.6	14.2	9.0	-4.4	6.1	13.9	35.4	16.9
Russell 1000 Growth			5.9	20.7	21.9	12.7	15.3	9.1	7.1	5.7	13.0	33.5	15.3
eA US Large Cap Growth Equity Gross Rank			2	17	63	71	65	46	98	37	31	40	37
Robeco Boston Partners	379,356,305	4.5	4.8	12.0	21.3	9.4	14.1	8.0	15.1	-3.9	12.0	37.4	21.6
Russell 1000 Value			3.1	7.9	15.1	8.5	13.2	5.9	17.3	-3.8	13.5	32.5	17.5
eA US Large Cap Value Equity Gross Rank			28	30	16	43	37	23	50	65	55	24	5
Emerald Advisers	268,058,074	3.2	6.7	19.4	24.2	15.3	16.9	10.1	10.1	4.1	7.3	50.3	18.5
Russell 2000 Growth			6.2	16.8	21.0	12.2	14.3	8.5	11.3	-1.4	5.6	43.3	14.6
eA US Small Cap Growth Equity Gross Rank			37	44	27	21	22	24	54	19	21	27	22
Ceredex	248,362,054	3.0	4.3	3.8	10.6	12.3	14.0	--	29.8	-4.4	3.3	36.5	19.0
Russell 2000 Value			5.1	5.7	20.5	12.1	13.3	--	31.7	-7.5	4.2	34.5	18.1
eA US Small Cap Value Equity Gross Rank			69	82	98	43	64	--	32	52	74	66	38
<b>Total International Equity</b>	<b>1,591,416,957</b>	<b>19.1</b>	<b>6.3</b>	<b>18.3</b>	<b>14.2</b>	<b>5.2</b>	<b>8.3</b>	<b>0.7</b>	<b>1.2</b>	<b>-1.2</b>	<b>0.3</b>	<b>17.8</b>	<b>18.5</b>
MSCI ACWI ex USA Gross			6.3	21.6	20.2	5.2	7.5	1.7	5.0	-5.3	-3.4	15.8	17.4
MSCI EAFE Gross			5.5	20.5	19.7	5.5	8.9	1.8	1.5	-0.4	-4.5	23.3	17.9
InvestorForce Public DB ex-US Eq Gross Rank			52	96	97	75	59	91	89	28	5	50	49
<b>International Equity</b>	<b>918,125,905</b>	<b>11.0</b>	<b>5.7</b>	<b>20.1</b>	<b>15.9</b>	<b>5.8</b>	<b>8.6</b>	<b>0.8</b>	<b>1.2</b>	<b>-1.2</b>	<b>0.3</b>	<b>17.8</b>	<b>18.5</b>
MSCI ACWI ex USA Gross			6.3	21.6	20.2	5.2	7.5	1.7	5.0	-5.3	-3.4	15.8	17.4
InvestorForce Public DB ex-US Eq Gross Rank			76	90	95	57	46	87	89	28	5	50	49

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has \$16,946 of residual cash. JPM Global has \$219,748 of residual cash. Lazard has \$6,265 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -\$6,260 of residual cash. Intech Global Low Vol has \$25,008 of residual cash. PIMCO Stock Plus has \$3,655,124 of residual cash. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: September 30, 2017

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
Pyrford	445,746,577	5.3	3.0	15.4	11.9	4.4	--	--	3.4	-2.9	--	--	--
<i>MSCI ACWI ex USA Value</i>			6.0	17.7	21.6	2.9	--	--	8.9	-10.1	--	--	--
<i>eA ACWI ex-US Value Equity Gross Rank</i>			92	87	97	73	--	--	74	59	--	--	--
William Blair	472,379,327	5.7	8.5	24.8	20.0	7.0	9.4	--	-1.4	0.5	-1.2	20.9	24.3
<i>MSCI ACWI ex USA Growth</i>			6.3	24.8	17.7	6.4	7.9	--	0.1	-1.3	-2.6	15.5	16.7
<i>eA ACWI ex-US Growth Equity Gross Rank</i>			44	76	60	74	68	--	55	69	37	44	6
<b>Emerging Markets Equity</b>	<b>673,291,052</b>	<b>8.1</b>	<b>8.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>MSCI Emerging Markets</i>			7.9	--	--	--	--	--	--	--	--	--	--
<i>InvestorForce Public DB Emg Mkt Eq Gross Rank</i>			16	--	--	--	--	--	--	--	--	--	--
PIMCO RAE Emerging Markets	346,965,219	4.2	8.3	--	--	--	--	--	--	--	--	--	--
<i>MSCI Emerging Markets</i>			7.9	--	--	--	--	--	--	--	--	--	--
<i>eA Emg Mkts Equity Gross Rank</i>			42	--	--	--	--	--	--	--	--	--	--
TT Emerging Markets	326,325,833	3.9	--	--	--	--	--	--	--	--	--	--	--
<i>MSCI Emerging Markets</i>			--	--	--	--	--	--	--	--	--	--	--
<i>eA Emg Mkts Equity Gross Rank</i>			--	--	--	--	--	--	--	--	--	--	--
<b>Total Global Equity</b>	<b>719,531,201</b>	<b>8.6</b>	<b>4.4</b>	<b>18.5</b>	<b>17.1</b>	<b>9.6</b>	<b>11.7</b>	<b>--</b>	<b>7.6</b>	<b>2.2</b>	<b>5.2</b>	<b>23.7</b>	<b>11.1</b>
<i>MSCI ACWI</i>			5.2	17.3	18.6	7.4	10.2	--	7.9	-2.4	4.2	22.8	16.1
<i>InvestorForce Public DB Total Eq Gross Rank</i>			76	14	95	35	60	--	74	3	61	91	99
Artisan Partners	364,485,435	4.4	5.7	26.9	20.0	13.4	14.1	--	5.6	9.2	3.9	26.1	--
<i>MSCI ACWI</i>			5.2	17.3	18.6	7.4	10.2	--	7.9	-2.4	4.2	22.8	--
<i>eA All Global Equity Gross Rank</i>			40	7	39	7	15	--	61	4	56	51	--
First Eagle	354,801,009	4.3	3.1	10.7	10.9	7.6	9.3	--	11.7	0.2	4.5	17.9	13.9
<i>MSCI ACWI</i>			5.2	17.3	18.6	7.4	10.2	--	7.9	-2.4	4.2	22.8	16.1
<i>eA All Global Equity Gross Rank</i>			84	87	86	68	81	--	19	49	51	80	78
<b>Domestic Fixed Income</b>	<b>153,092,499</b>	<b>1.8</b>	<b>0.5</b>	<b>4.9</b>	<b>1.0</b>	<b>3.6</b>	<b>4.0</b>	<b>--</b>	<b>2.6</b>	<b>1.7</b>	<b>7.4</b>	<b>2.0</b>	<b>10.0</b>
<i>BofA ML High Yield Master II +2%</i>			2.5	8.6	11.2	8.0	8.5	--	19.8	-2.7	4.5	9.6	17.9
<b>Total High Yield</b>	<b>364,747,075</b>	<b>4.4</b>	<b>1.7</b>	<b>6.3</b>	<b>8.4</b>	<b>4.9</b>	<b>5.9</b>	<b>7.8</b>	<b>14.3</b>	<b>-3.5</b>	<b>1.2</b>	<b>8.8</b>	<b>14.1</b>
<i>BofA ML High Yield Master II</i>			2.0	7.0	9.1	5.9	6.4	7.7	17.5	-4.6	2.5	7.4	15.6
<i>eA US High Yield Fixed Inc Gross Rank</i>			73	67	51	72	68	43	47	68	83	28	73

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has \$16,946 of residual cash. JPM Global has \$219,748 of residual cash. Lazard has \$6,265 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -\$6,260 of residual cash. Intech Global Low Vol has \$25,008 of residual cash. PIMCO Stock Plus has \$3,655,124 of residual cash. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: September 30, 2017

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
Allianz Global Investors	364,747,075	4.4	1.7	6.3	8.4	4.9	5.9	7.8	14.3	-3.5	1.2	8.8	14.1
<i>BofA ML High Yield Master II</i>			2.0	7.0	9.1	5.9	6.4	7.7	17.5	-4.6	2.5	7.4	15.6
<i>eA US High Yield Fixed Inc Gross Rank</i>			73	67	51	72	68	43	47	68	83	28	73
<b>Total Real Estate</b>	<b>713,941,949</b>	<b>8.6</b>	<b>3.2</b>	<b>8.3</b>	<b>9.1</b>	<b>11.2</b>	<b>12.4</b>	<b>5.2</b>	<b>5.5</b>	<b>13.5</b>	<b>20.6</b>	<b>10.5</b>	<b>16.7</b>
<i>Real Estate Benchmark</i>			1.7	5.1	3.6	9.4	9.8	6.6	6.7	8.3	18.8	7.1	13.6
<i>NCREIF-ODCE</i>			1.9	5.4	7.7	10.8	11.6	5.0	8.8	15.0	12.5	13.9	10.9
<i>NCREIF Property Index</i>			1.7	5.1	6.9	9.8	10.3	6.2	8.0	13.3	11.8	11.0	10.5
Adelante	67,110,199	0.8	1.6	5.3	2.5	9.8	10.2	5.1	4.1	5.1	33.4	3.6	17.7
<i>Wilshire REIT</i>			0.6	2.4	0.1	9.7	9.5	5.6	7.2	4.2	31.8	1.9	17.6
<b>Total Alternatives</b>	<b>712,449,633</b>	<b>8.5</b>	<b>1.4</b>	<b>8.0</b>	<b>12.6</b>	<b>10.6</b>	<b>12.9</b>	<b>10.1</b>	<b>9.0</b>	<b>13.3</b>	<b>17.3</b>	<b>15.0</b>	<b>10.9</b>
<i>S&amp;P 500 Index +4% (Lagged)</i>			4.1	16.9	22.5	14.0	19.2	11.4	20.0	3.4	24.5	24.0	35.3
<b>Total Opportunistic</b>	<b>33,182,759</b>	<b>0.4</b>	<b>-2.4</b>	<b>9.1</b>	<b>13.1</b>	<b>0.8</b>	<b>6.5</b>	<b>--</b>	<b>10.1</b>	<b>-12.2</b>	<b>8.7</b>	<b>16.8</b>	<b>13.6</b>
<i>CPI + 4%</i>			1.8	5.3	6.3	5.3	5.3	--	6.2	4.8	4.8	5.6	5.8
<b>Risk Diversifying</b>	<b>595,936,946</b>	<b>7.1</b>	<b>0.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Risk Diversifying Fixed Income</b>	<b>278,535,718</b>	<b>3.3</b>	<b>0.9</b>	<b>3.3</b>	<b>0.3</b>	<b>3.0</b>	<b>2.4</b>	<b>4.6</b>	<b>2.4</b>	<b>1.6</b>	<b>6.6</b>	<b>-1.9</b>	<b>4.6</b>
<i>eA US Core Fixed Inc Gross Rank</i>			60	69	75	54	64	72	87	15	25	78	82
AFL-CIO	278,535,718	3.3	0.9	3.3	0.3	3.0	2.4	4.7	2.4	1.6	6.6	-1.9	4.7
<i>BBgBarc US Aggregate TR</i>			0.8	3.1	0.1	2.7	2.1	4.3	2.6	0.6	6.0	-2.0	4.2
<i>eA US Core Fixed Inc Gross Rank</i>			60	69	75	54	64	68	87	15	25	78	80
<b>Total Inflation Hedge</b>	<b>317,401,228</b>	<b>3.8</b>	<b>-0.1</b>	<b>5.2</b>	<b>7.3</b>	<b>1.1</b>	<b>--</b>	<b>--</b>	<b>7.4</b>	<b>-4.9</b>	<b>-0.6</b>	<b>1.3</b>	<b>--</b>
<i>CPI + 4%</i>			1.8	5.3	6.3	5.3	--	--	6.2	4.8	4.8	5.6	--
Wellington Real Total Return	189,012,873	2.3	1.8	1.5	1.4	-2.8	--	--	-0.1	-4.9	-2.5	--	--
<i>CPI + 4%</i>			1.8	5.3	6.3	5.3	--	--	6.2	4.8	4.8	--	--
<b>Liquidity</b>	<b>1,851,443,719</b>	<b>22.2</b>	<b>0.5</b>	<b>1.6</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>BBgBarc US Govt/Credit 1-3 Yr. TR</i>			0.3	1.1	--	--	--	--	--	--	--	--	--
<i>eA US Short Duration Fixed Inc Gross Rank</i>			39	47	--	--	--	--	--	--	--	--	--
DFA Short Credit	446,571,058	5.4	0.5	2.1	--	--	--	--	--	--	--	--	--
<i>BofA Merrill Lynch US Corp &amp; Gov 1-5 Yrs</i>			0.4	1.6	--	--	--	--	--	--	--	--	--
<i>eA US Short Duration Fixed Inc Gross Rank</i>			34	18	--	--	--	--	--	--	--	--	--

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Total Fund  
Performance Summary (Gross of Fees)

Period Ending: September 30, 2017

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
Insight Short Duration	912,652,577	10.9	0.4	1.5	--	--	--	--	--	--	--	--	--
BBgBarc US Govt/Credit 1-3 Yr. TR			0.3	1.1	--	--	--	--	--	--	--	--	--
eA US Short Duration Fixed Inc Gross Rank			59	56	--	--	--	--	--	--	--	--	--
Sit Short Duration	492,220,084	5.9	0.7	1.4	--	--	--	--	--	--	--	--	--
BBgBarc US Govt 1-3 Yr TR			0.2	0.7	--	--	--	--	--	--	--	--	--
eA US Short Duration Fixed Inc Gross Rank			14	61	--	--	--	--	--	--	--	--	--
<b>Total Cash</b>	<b>179,404,730</b>	<b>2.2</b>	<b>0.2</b>	<b>0.6</b>	<b>1.2</b>	<b>0.6</b>	<b>1.6</b>	<b>--</b>	<b>0.9</b>	<b>0.1</b>	<b>-3.0</b>	<b>8.8</b>	<b>--</b>
91 Day T-Bills			0.3	0.6	0.7	0.3	0.2	--	0.3	0.0	0.0	0.0	--
Cash	179,404,730	2.2	0.2	0.6	1.2	0.6	1.7	3.4	0.9	0.1	1.4	4.5	14.9

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has \$16,946 of residual cash. JPM Global has \$219,748 of residual cash. Lazard has \$6,265 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -\$6,260 of residual cash. Intech Global Low Vol has \$25,008 of residual cash. PIMCO Stock Plus has \$3,655,124 of residual cash. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: September 30, 2017

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
<b>Total Fund</b>	<b>8,342,981,443</b>	<b>100.0</b>	<b>3.2</b>	<b>10.3</b>	<b>10.7</b>	<b>7.2</b>	<b>8.9</b>	<b>5.6</b>	<b>6.9</b>	<b>2.1</b>	<b>7.7</b>	<b>15.6</b>	<b>13.6</b>
<i>Policy Index</i>			3.1	10.2	10.6	7.3	9.2	--	8.8	0.6	9.0	15.6	14.6
<b>Total Fund ex Overlay &amp; Cash</b>	<b>8,136,512,519</b>	<b>97.5</b>	<b>3.2</b>	<b>10.3</b>	<b>10.7</b>	<b>7.2</b>	<b>8.9</b>	<b>5.6</b>	<b>6.9</b>	<b>2.1</b>	<b>7.7</b>	<b>15.6</b>	<b>13.6</b>
<i>Policy Index</i>			3.1	10.2	10.6	7.3	9.2	--	8.8	0.6	9.0	15.6	14.6
<b>Growth</b>	<b>5,689,131,854</b>	<b>68.2</b>	<b>4.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Total Domestic Equity</b>	<b>1,400,763,516</b>	<b>16.8</b>	<b>6.3</b>	<b>16.3</b>	<b>20.2</b>	<b>11.7</b>	<b>14.5</b>	<b>7.9</b>	<b>11.1</b>	<b>0.6</b>	<b>11.0</b>	<b>35.7</b>	<b>17.8</b>
<i>Russell 3000</i>			4.6	13.9	18.7	10.7	14.2	7.6	12.7	0.5	12.6	33.6	16.4
BlackRock Russell 1000 Index	112,583,795	1.3	4.5	--	--	--	--	--	--	--	--	--	--
<i>Russell 1000</i>			4.5	--	--	--	--	--	--	--	--	--	--
Jackson Square Partners	388,754,424	4.7	8.9	24.7	19.5	10.2	13.8	8.5	-4.8	5.6	13.4	35.0	16.4
<i>Russell 1000 Growth</i>			5.9	20.7	21.9	12.7	15.3	9.1	7.1	5.7	13.0	33.5	15.3
Robeco Boston Partners	379,356,305	4.5	4.7	11.8	20.9	9.0	13.8	7.7	14.7	-4.2	11.6	37.0	21.2
<i>Russell 1000 Value</i>			3.1	7.9	15.1	8.5	13.2	5.9	17.3	-3.8	13.5	32.5	17.5
Emerald Advisers	268,058,074	3.2	6.5	18.9	23.4	14.6	16.1	9.5	9.4	3.5	6.6	49.4	17.8
<i>Russell 2000 Growth</i>			6.2	16.8	21.0	12.2	14.3	8.5	11.3	-1.4	5.6	43.3	14.6
Ceredex	248,362,054	3.0	4.1	3.4	10.0	11.7	13.4	--	29.1	-5.0	2.7	35.8	18.6
<i>Russell 2000 Value</i>			5.1	5.7	20.5	12.1	13.3	--	31.7	-7.5	4.2	34.5	18.1
<b>Total International Equity</b>	<b>1,591,416,957</b>	<b>19.1</b>	<b>6.1</b>	<b>18.0</b>	<b>13.7</b>	<b>4.8</b>	<b>7.9</b>	<b>0.2</b>	<b>0.8</b>	<b>-1.6</b>	<b>0.0</b>	<b>17.4</b>	<b>17.9</b>
<i>MSCI ACWI ex USA Gross</i>			6.3	21.6	20.2	5.2	7.5	1.7	5.0	-5.3	-3.4	15.8	17.4
<i>MSCI EAFE Gross</i>			5.5	20.5	19.7	5.5	8.9	1.8	1.5	-0.4	-4.5	23.3	17.9
<b>International Equity</b>	<b>918,125,905</b>	<b>11.0</b>	<b>5.6</b>	<b>19.8</b>	<b>15.5</b>	<b>5.3</b>	<b>8.2</b>	<b>0.5</b>	<b>0.8</b>	<b>-1.6</b>	<b>0.0</b>	<b>17.4</b>	<b>18.0</b>
<i>MSCI ACWI ex USA Gross</i>			6.3	21.6	20.2	5.2	7.5	1.7	5.0	-5.3	-3.4	15.8	17.4
Pyrford	445,746,577	5.3	2.9	15.1	11.4	3.9	--	--	3.0	-3.3	--	--	--
<i>MSCI ACWI ex USA Value</i>			6.0	17.7	21.6	2.9	--	--	8.9	-10.1	--	--	--
William Blair	472,379,327	5.7	8.4	24.5	19.5	6.6	9.0	--	-1.8	0.0	-1.7	20.4	23.7
<i>MSCI ACWI ex USA Growth</i>			6.3	24.8	17.7	6.4	7.9	--	0.1	-1.3	-2.6	15.5	16.7
<b>Emerging Markets Equity</b>	<b>673,291,052</b>	<b>8.1</b>	<b>8.1</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>MSCI Emerging Markets</i>			7.9	--	--	--	--	--	--	--	--	--	--
PIMCO RAE Emerging Markets	346,965,219	4.2	8.2	--	--	--	--	--	--	--	--	--	--
<i>MSCI Emerging Markets</i>			7.9	--	--	--	--	--	--	--	--	--	--
TT Emerging Markets	326,325,833	3.9	--	--	--	--	--	--	--	--	--	--	--
<i>MSCI Emerging Markets</i>			--	--	--	--	--	--	--	--	--	--	--
<b>Total Global Equity</b>	<b>719,531,201</b>	<b>8.6</b>	<b>4.2</b>	<b>17.9</b>	<b>16.3</b>	<b>8.9</b>	<b>11.0</b>	<b>--</b>	<b>6.9</b>	<b>1.6</b>	<b>4.5</b>	<b>22.9</b>	<b>10.6</b>
<i>MSCI ACWI</i>			5.2	17.3	18.6	7.4	10.2	--	7.9	-2.4	4.2	22.8	16.1

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has \$16,946 of residual cash. JPM Global has \$219,748 of residual cash. Lazard has \$6,265 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -\$6,260 of residual cash. Intech Global Low Vol has \$25,008 of residual cash. PIMCO Stock Plus has \$3,655,124 of residual cash.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: September 30, 2017

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
Artisan Partners	364,485,435	4.4	5.5	26.2	19.1	12.5	13.3	--	4.8	8.4	3.1	25.2	--
<i>MSCI ACWI</i>			5.2	17.3	18.6	7.4	10.2	--	7.9	-2.4	4.2	22.8	--
First Eagle	354,801,009	4.3	2.9	10.1	10.1	6.8	8.5	--	10.9	-0.6	3.7	17.1	13.1
<i>MSCI ACWI</i>			5.2	17.3	18.6	7.4	10.2	--	7.9	-2.4	4.2	22.8	16.1
<b>Domestic Fixed Income</b>	<b>153,092,499</b>	<b>1.8</b>	<b>0.5</b>	<b>4.9</b>	<b>0.9</b>	<b>3.4</b>	<b>3.6</b>	<b>--</b>	<b>2.1</b>	<b>1.4</b>	<b>6.9</b>	<b>1.6</b>	<b>9.6</b>
<i>BofA ML High Yield Master II +2%</i>			2.5	8.6	11.2	8.0	8.5	--	19.8	-2.7	4.5	9.6	17.9
<b>Total High Yield</b>	<b>364,747,075</b>	<b>4.4</b>	<b>1.6</b>	<b>6.0</b>	<b>8.0</b>	<b>4.5</b>	<b>5.5</b>	<b>7.5</b>	<b>13.9</b>	<b>-3.9</b>	<b>0.8</b>	<b>8.4</b>	<b>13.7</b>
<i>BofA ML High Yield Master II</i>			2.0	7.0	9.1	5.9	6.4	7.7	17.5	-4.6	2.5	7.4	15.6
Allianz Global Investors	364,747,075	4.4	1.6	6.0	8.0	4.5	5.5	7.3	13.9	-3.9	0.8	8.4	13.6
<i>BofA ML High Yield Master II</i>			2.0	7.0	9.1	5.9	6.4	7.7	17.5	-4.6	2.5	7.4	15.6
<b>Total Real Estate</b>	<b>713,941,949</b>	<b>8.6</b>	<b>3.2</b>	<b>8.3</b>	<b>9.0</b>	<b>10.4</b>	<b>11.3</b>	<b>4.2</b>	<b>4.8</b>	<b>12.4</b>	<b>19.1</b>	<b>8.9</b>	<b>15.7</b>
<i>Real Estate Benchmark</i>			1.7	5.1	3.6	9.4	9.8	6.6	6.7	8.3	18.8	7.1	13.6
<i>NCREIF-ODCE</i>			1.9	5.4	7.7	10.8	11.6	5.0	8.8	15.0	12.5	13.9	10.9
<i>NCREIF Property Index</i>			1.7	5.1	6.9	9.8	10.3	6.2	8.0	13.3	11.8	11.0	10.5
Adelante	67,110,199	0.8	1.4	4.9	2.0	9.3	9.7	4.6	3.6	4.6	32.7	3.0	17.2
<i>Wilshire REIT</i>			0.6	2.4	0.1	9.7	9.5	5.6	7.2	4.2	31.8	1.9	17.6
<b>Total Alternatives</b>	<b>712,449,633</b>	<b>8.5</b>	<b>1.4</b>	<b>8.0</b>	<b>12.6</b>	<b>9.8</b>	<b>11.5</b>	<b>7.9</b>	<b>8.6</b>	<b>11.7</b>	<b>15.2</b>	<b>12.7</b>	<b>8.5</b>
<i>S&amp;P 500 Index +4% (Lagged)</i>			4.1	16.9	22.5	14.0	19.2	11.4	20.0	3.4	24.5	24.0	35.3
<b>Total Opportunistic</b>	<b>33,182,759</b>	<b>0.4</b>	<b>-2.4</b>	<b>9.1</b>	<b>13.1</b>	<b>0.6</b>	<b>6.4</b>	<b>--</b>	<b>9.5</b>	<b>-12.3</b>	<b>8.7</b>	<b>16.8</b>	<b>13.6</b>
<i>CPI + 4%</i>			1.8	5.3	6.3	5.3	5.3	--	6.2	4.8	4.8	5.6	5.8
<b>Risk Diversifying</b>	<b>595,936,946</b>	<b>7.1</b>	<b>0.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Risk Diversifying Fixed Income</b>	<b>278,535,718</b>	<b>3.3</b>	<b>0.8</b>	<b>2.9</b>	<b>-0.2</b>	<b>2.6</b>	<b>1.9</b>	<b>4.2</b>	<b>1.9</b>	<b>1.1</b>	<b>6.1</b>	<b>-2.4</b>	<b>4.3</b>
AFL-CIO	278,535,718	3.3	0.8	2.9	-0.2	2.6	1.9	4.2	1.9	1.1	6.1	-2.4	4.3
<i>BBgBarc US Aggregate TR</i>			0.8	3.1	0.1	2.7	2.1	4.3	2.6	0.6	6.0	-2.0	4.2
<b>Total Inflation Hedge</b>	<b>317,401,228</b>	<b>3.8</b>	<b>-0.1</b>	<b>5.2</b>	<b>7.2</b>	<b>0.4</b>	<b>--</b>	<b>--</b>	<b>6.5</b>	<b>-5.8</b>	<b>-1.5</b>	<b>0.3</b>	<b>--</b>
<i>CPI + 4%</i>			1.8	5.3	6.3	5.3	--	--	6.2	4.8	4.8	5.6	--
Wellington Real Total Return	189,012,873	2.3	1.8	1.5	1.3	-3.2	--	--	-0.6	-5.4	-3.1	--	--
<i>CPI + 4%</i>			1.8	5.3	6.3	5.3	--	--	6.2	4.8	4.8	--	--
<b>Liquidity</b>	<b>1,851,443,719</b>	<b>22.2</b>	<b>0.5</b>	<b>1.5</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>BBgBarc US Govt/Credit 1-3 Yr. TR</i>			0.3	1.1	--	--	--	--	--	--	--	--	--
DFA Short Credit	446,571,058	5.4	0.5	2.0	--	--	--	--	--	--	--	--	--
<i>BofA Merrill Lynch US Corp &amp; Gov 1-5 Yrs</i>			0.4	1.6	--	--	--	--	--	--	--	--	--
Insight Short Duration	912,652,577	10.9	0.4	1.4	--	--	--	--	--	--	--	--	--
<i>BBgBarc US Govt/Credit 1-3 Yr. TR</i>			0.3	1.1	--	--	--	--	--	--	--	--	--

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has \$16,946 of residual cash. JPM Global has \$219,748 of residual cash. Lazard has \$6,265 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -\$6,260 of residual cash. Intech Global Low Vol has \$25,008 of residual cash. PIMCO Stock Plus has \$3,655,124 of residual cash.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: September 30, 2017

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
Sit Short Duration	492,220,084	5.9	0.6	1.3	--	--	--	--	--	--	--	--	--
BBgBarc US Govt 1-3 Yr TR			0.2	0.7	--	--	--	--	--	--	--	--	--
<b>Total Cash</b>	<b>179,404,730</b>	<b>2.2</b>	<b>0.2</b>	<b>0.6</b>	<b>1.2</b>	<b>0.6</b>	<b>1.6</b>	<b>--</b>	<b>0.9</b>	<b>0.1</b>	<b>-3.0</b>	<b>8.8</b>	<b>--</b>
91 Day T-Bills			0.3	0.6	0.7	0.3	0.2	--	0.3	0.0	0.0	0.0	--
Cash	179,404,730	2.2	0.2	0.6	1.2	0.6	1.7	3.0	0.9	0.1	1.4	4.5	14.6

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has \$16,946 of residual cash. JPM Global has \$219,748 of residual cash. Lazard has \$6,265 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -\$6,260 of residual cash. Intech Global Low Vol has \$25,008 of residual cash. PIMCO Stock Plus has \$3,655,124 of residual cash.



Total Fund  
Closed End Funds - Investment Summary

Period Ending: September 30, 2017

Verus Internal Analysis												
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 9/30/17 <sup>3</sup>	Total Commitment	% Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions <sup>4</sup>	Remaining Commitment	Distrib./Paid-In (DPI) <sup>1</sup>	Tot. Value/Paid-In (TVPI) <sup>2</sup>	Latest Valuation
<b>Fixed Income</b>												
7/1/2006	Torchlight II	\$44,497,560	\$128,000,000	100%	\$128,000,000	\$0	\$0	\$158,211,379	\$0	1.24	1.58	9/30/2017
12/12/2008	Torchlight III	\$9,014,298	\$75,000,000	100%	\$75,000,000	\$0	\$0	\$101,629,571	\$0	1.36	1.48	9/30/2017
8/1/2012	Torchlight IV	\$52,024,962	\$60,000,000	100%	\$60,000,000	\$0	\$6,511,691	\$54,375,200	\$0	0.91	1.77	9/30/2017
3/12/2015	Torchlight V	\$47,531,295	\$75,000,000	60%	\$44,999,912	\$18,750,000	\$558,819	\$0	\$30,000,088	0.00	1.06	6/30/2017
<b>Total Fixed Income</b>		<b>\$153,068,115</b>										
% of Portfolio (Market Value)		1.8%										
<b>Inflation Hedge</b>												
11/27/2013	Aether Real Assets III	\$20,993,230	\$25,000,000	71%	\$17,659,058	\$1,068,270	\$260,947	\$758,683	\$8,089,813	0.04	1.23	6/30/2017
11/27/2013	Aether Real Assets III Surplus	\$53,856,440	\$50,000,000	83%	\$41,537,022	\$3,134,625	\$0	\$511,975	\$8,926,461	0.01	1.31	6/30/2017
3/16/2016	Aether Real Assets IV	\$14,886,598	\$50,000,000	32%	\$16,106,216	\$8,078,094	\$32,129	\$129,053	\$33,893,784	0.01	0.93	6/30/2017
6/28/2013	Commonfund	\$38,652,087	\$50,000,000	72%	\$36,000,000	\$2,000,000	\$1,564,992	\$0	\$14,000,000	0.00	1.07	6/30/2017
<b>Total Inflation Hedge</b>		<b>\$128,388,355</b>										
% of Portfolio (Market Value)		1.5%										
<b>Opportunistic</b>												
2/18/2010	Oaktree PIF 2009	\$12,610,586	\$40,000,000	87%	\$34,800,000	\$0	\$2,400,000	\$34,638,579	\$6,308,960	1.00	1.36	9/30/2017
9/24/2015	Angelo Gordon Energy Credit Opp.	\$13,818,009	\$28,125,000	67%	\$18,750,000	\$0	\$4,785,000	\$9,424,566	\$9,375,000	0.50	1.24	6/30/2017
12/8/2015	Wastewater Opportunity Fund	\$6,754,164	\$25,000,000	31%	\$7,721,934	\$1,679,183	\$0	\$0	\$17,278,066	0.00	0.87	6/30/2017
<b>Total Opportunistic</b>		<b>\$33,182,759</b>										
% of Portfolio (Market Value)		0.4%										

<sup>1</sup>(DPI) is equal to (capital returned / capital called)

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

<sup>3</sup>Latest valuation + capital calls - distributions

<sup>4</sup>Total distributions may contain recallable capital

Total Fund  
Closed End Funds - Investment Summary

Period Ending: September 30, 2017

Verus Internal Analysis												
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 9/30/17 <sup>3</sup>	Total Commitment	Total % Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions <sup>6</sup>	Remaining Commitment	Distrib./Paid-In (DPI) <sup>1</sup>	Tot. Value/Paid-In (TVPI) <sup>2</sup>	Latest Valuation
<b>Real Estate</b>												
1/23/2012	Angelo Gordon Realty Fund VIII	\$45,739,128	\$80,000,000	94%	\$75,401,855	\$0	\$2,800,000	\$70,552,397	\$12,334,302	0.94	1.54	6/30/2017
12/8/2014	Angelo Gordon Realty Fund IX	\$42,766,417	\$65,000,000	61%	\$39,487,500	\$0	\$0	\$975,000	\$25,844,000	0.02	1.11	6/30/2017
6/23/2005	DLJ RECP III	\$28,372,136	\$75,000,000	95%	\$70,968,662	\$0	\$1,590,319	\$70,841,830	\$4,031,338	1.00	1.40	6/30/2017
2/11/2008	DLJ RECP IV	\$90,463,322	\$100,000,000	91%	\$90,943,569	\$0	\$0	\$56,595,635	\$9,056,431	0.62	1.62	6/30/2017
7/1/2014	DLJ RECP V	\$33,364,528	\$75,000,000	67%	\$50,552,862	\$0	\$0	\$35,722,220	\$43,777,551	0.71	1.37	6/30/2017
6/17/1998	Hearthstone II <sup>4</sup>	-\$15,218	\$25,000,000	80%	\$19,932,386	\$0	\$0	\$19,952,734	\$2,520,348	1.00	1.00	6/30/2017
2/1/2005	Invesco Real Estate I	\$14,095	\$50,000,000	92%	\$46,241,947	\$0	\$77,241	\$50,078,147	\$3,758,053	1.08	1.08	3/31/2017
11/26/2007	Invesco Real Estate II	\$445,630	\$85,000,000	92%	\$78,202,813	\$0	\$0	\$100,620,489	\$6,797,187	1.29	1.29	9/30/2017
6/30/2013	Invesco Real Estate III	\$15,500,919	\$35,000,000	91%	\$32,009,674	\$0	\$0	\$30,621,535	\$2,990,326	0.96	1.44	9/30/2017
6/30/2014	Invesco Real Estate IV	\$23,290,045	\$35,000,000	70%	\$24,520,622	\$0	\$0	\$4,729,246	\$15,208,624	0.19	1.14	9/30/2017
7/16/2013	LaSalle Income & Growth VI	\$39,574,715	\$75,000,000	95%	\$71,428,571	\$0	\$3,933,581	\$63,890,818	\$3,571,429	0.89	1.45	6/30/2017
2/28/2017	LaSalle Income & Growth VII	\$44,873,173	\$75,000,000	56%	\$41,804,354	\$0	\$0	\$0	\$33,195,646	0.00	1.07	6/30/2017
3/30/2007	Long Wharf Fund III	\$1,672,647	\$75,000,000	89%	\$66,940,230	\$0	\$0	\$86,974,484	\$8,059,770	1.30	1.32	9/30/2017
7/3/2013	Long Wharf Fund IV	\$20,060,333	\$25,000,000	100%	\$25,000,000	\$0	\$0	\$13,572,697	\$0	0.54	1.35	9/30/2017
9/30/2016	Long Wharf Fund V	\$20,959,435	\$50,000,000	44%	\$22,032,446	\$5,940,820	\$456,986	\$1,028,219	\$27,967,554	0.05	1.00	9/30/2017
12/31/2011	Oaktree REOF V	\$13,188,617	\$50,000,000	100%	\$50,000,000	\$0	\$2,804,099	\$70,554,099	\$25,750,000	1.41	1.67	9/30/2017
9/30/2013	Oaktree REOF VI <sup>5</sup>	\$68,997,184	\$80,000,000	100%	\$80,000,000	\$0	\$2,450,481	\$37,600,000	\$18,400,000	0.47	1.33	9/30/2017
4/1/2015	Oaktree REOF VII	\$4,570,343	\$65,000,000	10%	\$6,500,000	\$0	\$0	\$2,564,329	\$62,335,000	0.39	1.10	9/30/2017
11/10/2013	Paulson Real Estate Fund II	\$25,286,602	\$20,000,000	85%	\$17,007,123	\$0	\$0	\$0	\$2,992,877	0.00	1.49	6/30/2017
1/25/2012	Siguler Guff DREOF	\$52,948,375	\$75,000,000	93%	\$69,375,000	\$0	\$3,031,933	\$61,818,603	\$5,625,000	0.89	1.65	6/30/2017
8/31/2013	Siguler Guff DREOF II	\$58,637,238	\$70,000,000	75%	\$52,605,000	\$0	\$40,000	\$5,497,512	\$17,395,000	0.10	1.22	6/30/2017
1/27/2016	Siguler Guff DREOF II Co-Inv	\$16,122,086	\$25,000,000	60%	\$15,100,362	\$600,000	\$0	\$0	\$9,899,638	0.00	1.07	6/30/2017
<b>Total Closed End Real Estate</b>		<b>\$646,831,750</b>	<b>\$1,310,000,000</b>	<b>80%</b>	<b>\$1,046,054,977</b>	<b>\$6,540,820</b>	<b>\$17,184,640</b>	<b>\$784,189,994</b>	<b>\$341,510,073</b>	<b>0.33</b>	<b>0.94</b>	
<b>% of Portfolio (Market Value)</b>		<b>7.8%</b>										

<sup>1</sup>(DPI) is equal to (capital returned / capital called)

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

<sup>3</sup>Latest valuation + capital calls - distributions

<sup>4</sup>No further capital to be called

<sup>5</sup>Actual capital called is \$85,600,000 which includes recallable distributions

<sup>6</sup>Total distributions may include recallable distributions

Total Fund  
Closed End Funds - Investment Summary

Period Ending: September 30, 2017

Verus Internal Analysis												
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 9/30/17 <sup>3</sup>	Total Commitment	Total % Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions	Remaining Commitment	Distrib./Paid-In (DPI) <sup>1</sup>	Tot. Value/Paid-In (TVPI) <sup>2</sup>	Latest Valuation
<b>Private Equity &amp; Venture Capital</b>												
3/18/1996	Adams Street Partners	\$134,091,741	\$210,000,000	81%	\$169,714,125	\$7,450,000	\$7,304,869	\$103,808,805	\$40,285,875	0.61	1.40	6/30/2017
1/16/2009	Adams Street Partners II	\$12,668,989	\$30,000,000	95%	\$28,365,000	\$0	\$1,342,293	\$33,715,530	\$1,635,000	1.19	1.64	6/30/2017
9/21/2012	Adams Street Partners - Fund 5	\$23,856,537	\$40,000,000	75%	\$29,811,900	\$800,000	\$0	\$8,810,703	\$10,188,100	0.30	1.10	6/30/2017
1/18/1996	Adams Street Partners - BPF	\$3,454,265	\$59,565,614	97%	\$57,517,409	\$0	\$573,696	\$100,808,319	\$2,048,205	1.75	1.81	6/30/2017
4/28/2017	Adams Street Venture Innovation	\$2,634,131	\$75,000,000	5%	\$3,412,500	\$0	\$0	\$0	\$71,587,500	0.00	0.77	6/30/2017
6/14/2004	Bay Area Equity Fund	\$2,962,496	\$10,000,000	100%	\$10,000,000	\$0	\$0	\$36,331,243	\$0	3.63	3.93	6/30/2017
12/7/2009	Bay Area Equity Fund II	\$9,042,171	\$10,000,000	100%	\$10,000,000	\$0	\$0	\$2,026,313	\$0	0.20	1.11	6/30/2017
11/26/2003	EIF US Power Fund I	\$754,404	\$30,000,000	100%	\$30,000,000	\$0	\$0	\$64,404,030	\$0	2.15	2.17	6/30/2017
8/16/2005	EIF US Power Fund II <sup>5</sup>	\$33,882,887	\$50,000,000	100%	\$50,000,000	\$0	\$932,437	\$48,553,275	\$0	0.97	1.65	6/30/2017
5/30/2007	EIF US Power Fund III <sup>6</sup>	\$43,920,393	\$65,000,000	100%	\$65,000,000	\$0	\$674,074	\$54,782,083	\$0	0.84	1.52	6/30/2017
11/28/2011	EIF US Power Fund IV <sup>4</sup>	\$51,443,881	\$50,000,000	112%	\$55,770,845	\$0	\$0	\$17,817,527	\$6,308,439	0.32	1.24	6/30/2017
11/28/2016	EIF US Power Fund V	\$10,716,572	\$50,000,000	22%	\$11,078,680	\$0	\$1,779,432	\$3,923,637	\$38,921,320	0.35	1.32	6/30/2017
5/24/2011	Pathway 6	\$34,664,669	\$40,000,000	80%	\$32,029,574	\$812,155	\$1,695,710	\$8,545,396	\$7,970,426	0.27	1.35	6/30/2017
2/7/2013	Pathway 7	\$48,378,975	\$70,000,000	68%	\$47,276,400	\$4,517,701	\$624,147	\$4,623,748	\$22,723,600	0.10	1.12	6/30/2017
11/23/2015	Pathway 8	\$20,033,821	\$50,000,000	37%	\$18,672,401	\$2,576,538	\$163,517	\$866,410	\$31,327,599	0.05	1.12	6/30/2017
11/9/1998	Pathway	\$30,287,917	\$125,000,000	98%	\$122,220,664	\$251,460	\$1,412,250	\$153,156,117	\$2,779,336	1.25	1.50	6/30/2017
12/26/2008	Pathway 2008	\$24,236,154	\$30,000,000	91%	\$27,314,963	\$818,196	\$1,951,189	\$16,183,383	\$2,685,037	0.59	1.48	6/30/2017
1/31/2008	Carpenter Bancfund	\$25,005,297	\$30,000,000	97%	\$29,239,890	\$0	\$0	\$24,414,128	\$979,075	0.83	1.69	6/30/2017
2/15/2004	Nogales	\$45,966	\$15,000,000	99%	\$14,805,103	\$0	\$0	\$12,314,799	\$111,251	0.83	0.83	12/31/2016
11/30/2007	Paladin III	\$26,393,072	\$25,000,000	99%	\$24,799,193	\$141,311	\$19,436	\$15,604,222	\$1,224,568	0.63	1.69	6/30/2017
6/11/2014	Ocean Avenue Fund II	\$19,895,762	\$30,000,000	65%	\$19,500,000	\$0	\$0	\$2,089,938	\$10,500,000	0.11	1.13	6/30/2017
4/15/2016	Ocean Avenue Fund III	\$9,596,509	\$50,000,000	20%	\$10,000,000	\$0	\$0	\$0	\$40,000,000	0.00	0.96	6/30/2017
6/3/2014	Siguler Guff CCCERA Opportunities	\$134,384,629	\$200,000,000	58%	\$115,652,500	\$17,150,000	\$0	\$5,712,984	\$84,347,500	0.05	1.21	6/30/2017
11/30/2016	Siguler Guff Secondary Opportunities	\$10,098,395	\$50,000,000	17%	\$8,250,000	\$0	\$0	\$4,407,569	\$41,750,000	0.53	1.76	6/30/2017
<b>Total Private Equity and Venture Capital</b>		<b>\$712,449,633</b>	<b>\$1,394,565,614</b>	<b>70%</b>	<b>\$982,181,147</b>	<b>\$34,517,362</b>	<b>\$18,473,050</b>	<b>\$722,900,158</b>	<b>\$417,372,831</b>	<b>0.74</b>	<b>1.46</b>	
<b>% of Portfolio (Market Value)</b>		<b>8.5%</b>										

<sup>1</sup>(DPI) is equal to (capital returned / capital called)

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

<sup>3</sup>Latest valuation + capital calls - distributions

<sup>4</sup>EIF IV has \$12,677,767 of recallable distributions

<sup>5</sup>EIF II has \$15,029,557 of recallable distributions

<sup>6</sup>EIF III has \$6,125,861 of recallable distributions

Total Fund  
Closed End Funds - IRR Summary

Period Ending: September 30, 2017

Fixed Income	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Torchlight II	07/01/2006	-	-0.0%	-	-1.3%	06/30/2017
Torchlight III	12/12/2008	-	17.9%	-	13.7%	06/30/2017
Torchlight IV	08/01/2012	-	13.7%	-	11.1%	06/30/2017
Torchlight V	03/12/2015	-	27.2%	-	14.3%	03/31/2017
Inflation Hedge	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Aether Real Assets III <sup>4</sup>	11/27/2013	17.9%	-	14.2%	-	06/30/2017
Aether Real Assets III Surplus <sup>4</sup>	11/27/2013	18.6%	-	16.7%	-	06/30/2017
Aether Real Assets IV <sup>1</sup>	01/01/2016	-	-	-	-	-
CommonFund <sup>2</sup>	06/28/2013	-	9.2%	-	6.2%	06/30/2017
Wastewater Opportunity Fund <sup>1</sup>	12/08/2015	-3.1%	-	-35.1%	-	03/31/2017
Opportunistic	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Oaktree PIF 2009	02/18/2010	7.3%	-	7.1%	-	09/30/2017
Angelo Gordon Energy Cred Opp. <sup>1</sup>	09/24/2015	-	-	-	15.9%	06/30/2017
Real Estate	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Angelo Gordon VIII	01/23/2012	-	-	-	16.7%	06/30/2017
Angelo Gordon IX <sup>1</sup>	12/08/2014	-	-	-	12.0%	06/30/2017
DLJ RECP III	06/23/2005	6.0%	-	-	-	03/31/2017
DLJ RECP IV	02/11/2008	6.0%	-	-	32.0%	06/30/2017
DLJ RECP V <sup>1</sup>	07/01/2014	-	-	-	-	-
Hearthstone II	06/17/1998	-	30.1%	-	30.1%	03/31/2017
Invesco Fund I	02/01/2005	3.2%	-	1.6%	-	12/31/2016
Invesco Fund II	11/26/2007	8.2%	-	6.8%	-	12/31/2016
Invesco Fund III	06/30/2013	19.4%	21.9%	-	15.9%	06/30/2017
Invesco Fund IV	06/30/2014	16.6%	22.6%	-	15.9%	06/30/2017
LaSalle Income & Growth VI	07/16/2013	-	13.9%	-	-	09/30/2017
LaSalle Income & Growth VII	02/28/2017	-	-	-	-	-
Long Wharf III	03/30/2007	9.4%	9.3%	7.3%	7.0%	09/30/2017
Long Wharf IV	07/03/2013	18.1%	17.4%	12.9%	12.0%	09/30/2017
Long Wharf V <sup>1</sup>	09/30/2016	8.3%	12.2%	-0.2%	-0.3%	09/30/2017
Oaktree REOF V	12/31/2011	17.5%	-	12.9%	-	09/30/2017
Oaktree REOF VI	09/30/2013	15.9%	-	10.7%	-	09/30/2017
Oaktree REOF VII <sup>1</sup>	04/01/2015	157.6%	-	60.5%	-	09/30/2017
Paulson <sup>1</sup>	11/10/2013	-	-	-	-	-
Siguler Guff I	01/25/2012	-	18.8%	-	13.9%	06/30/2017
Siguler Guff II	08/31/2013	-	13.2%	-	9.2%	06/30/2017
Siguler Guff DREOF II Co-Inv <sup>1</sup>	01/27/2016	-	8.6	-	6.3	06/30/2017

<sup>1</sup>Manager has yet to report IRR figure due to no capital invested or meaningful distributions.

<sup>2</sup>Fund level data includes CCCERA and all other fund investors.

<sup>3</sup>Net IRR calculated after deductions of management fees and carried interest to the General Partner.

<sup>4</sup>Manager has reported IRR figures, but does not consider them to be meaningful, due to the age of the fund.

Total Fund  
Closed End Funds - IRR Summary

Period Ending: September 30, 2017

Private Equity & Venture Capital	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Adams Street Partners	03/18/1996	-	11.9%	-	9.2%	06/30/2017
Adams Street Partners II	01/16/2009	-	-	18.8%	15.0%	06/30/2017
Adams Street Partners - Fund 5	09/21/2012	-	-	8.2%	5.0%	06/30/2017
Adams Street Partners Venture <sup>1</sup>	04/28/2017	-	-	-	-	-
Adams Street Partners - BPF	01/18/1996	-	14.3%	-	11.6%	06/30/2017
Bay Area Equity Fund I	06/14/2004	26.0%	-	23.4%	-	03/31/2017
Bay Area Equity Fund II	12/07/2009	1.8%	-	1.4%	-	03/31/2017
Energy Investor Fund	11/26/2003	33.6%	34.7%	28.6%	28.4%	06/30/2017
Energy Investor Fund II	08/16/2005	7.3%	6.8%	4.6%	4.1%	06/30/2017
Energy Investor Fund III	05/30/2007	9.3%	9.3%	6.8%	6.8%	06/30/2017
Energy Investor Fund IV	11/28/2011	14.9%	15.2%	9.6%	9.4%	06/30/2017
Energy Investor Fund V	11/26/2016	-	-	-	-	-
Pathway 6	05/24/2011	15.5%	15.5%	12.2%	12.2%	06/30/2017
Benchmark <sup>4</sup>		13.4%	-	-	-	06/30/2017
Pathway 7 <sup>1</sup>	02/07/2013	11.3%	11.3%	7.2%	7.2%	06/30/2017
Pathway 8 <sup>1</sup>	11/06/2015	-	-	-	-	-
Pathway Private Equity Fund	11/09/1998	10.2%	10.2%	8.4%	8.4%	06/30/2017
Benchmark <sup>2</sup>		10.3%	-	-	-	06/30/2017
Pathway Private Equity Fund 2008	12/26/2008	14.9%	14.9%	11.9%	11.9%	06/30/2017
Benchmark <sup>6</sup>		12.7%	-	-	-	06/30/2017
Carpenter Bancfund	01/31/2008	-	-	-	10.7%	06/30/2017
Nogales	02/15/2004	-	-4.5%	-8.6%	-8.8%	03/31/2017
Paladin III	11/30/2007	15.6%	-	-	-	06/30/2017
Ocean Avenue II	06/11/2014	-	-	5.6%	-	06/30/2017
Ocean Avenue III	04/15/2016	-	-	-7.1%	-	06/30/2017
Siguler Guff CCCERA Opportunities	06/03/2014	-	24.6%	-	18.6%	06/30/2017
Siguler Guff Secondary Opportunities	11/30/2016	-	-	-	25+%	06/30/2017

<sup>1</sup>Manager has yet to report IRR figure due to no capital invested or meaningful distributions.

<sup>2</sup>Fund level data includes CCCERA and all other fund investors.

<sup>3</sup>Net IRR calculated after deductions of management fees and carried interest to the General Partner.

<sup>4</sup>Private iQ global all private equity median pooled return for vintage years 2011-2014, as of March 31, 2015.

<sup>5</sup>Private iQ global all private equity median pooled return for vintage years 1999-2011, as of March 31, 2015.

<sup>6</sup>Private iQ global all private equity median pooled return for vintage years 2008-2014, as of March 31, 2015.

Total Fund  
Performance Analysis - 3 Years (Net of Fees)

Period Ending: September 30, 2017

	3 Years										
	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Intech Large Cap Core	13.37%	2.56%	8.08%	4.08%	0.86	5.47%	0.56	1.61	0.47	113.23%	58.84%
PIMCO Stocks+ Absolute Return	11.38%	0.57%	9.36%	-2.73%	1.31	2.88%	0.96	1.18	0.20	118.62%	158.51%
Jackson Square Partners	10.17%	-2.52%	11.94%	-7.18%	1.37	6.32%	0.78	0.82	-0.40	86.29%	136.22%
Robeco Boston Partners	9.02%	0.49%	8.68%	0.25%	1.03	2.87%	0.89	1.00	0.17	104.10%	98.30%
Emerald Advisers	14.61%	2.44%	13.38%	2.75%	0.97	5.23%	0.85	1.07	0.47	112.82%	93.68%
Ceredex	11.67%	-0.45%	9.81%	3.98%	0.63	7.37%	0.65	1.16	-0.06	78.58%	45.03%
Pyrford	3.94%	1.02%	8.53%	2.19%	0.60	6.76%	0.68	0.42	0.15	61.32%	40.86%
William Blair	6.57%	0.14%	11.21%	0.65%	0.92	2.86%	0.94	0.56	0.05	96.12%	92.48%
Artisan Partners	12.54%	5.11%	12.30%	3.39%	1.23	6.68%	0.73	0.99	0.76	150.89%	89.62%
First Eagle	6.79%	-0.64%	6.49%	1.65%	0.69	3.75%	0.83	1.00	-0.17	82.97%	71.73%
Intech Global Low Vol	8.11%	0.68%	6.32%	5.86%	0.30	8.29%	0.17	1.23	0.08	80.78%	28.41%
AFL-CIO	2.58%	-0.14%	3.15%	0.08%	0.92	0.49%	0.98	0.72	-0.28	93.99%	93.41%
Allianz Global Investors	4.53%	-1.34%	5.54%	-0.62%	0.88	1.37%	0.96	0.76	-0.98	81.58%	95.31%
Wellington Real Total Return	-3.17%	-8.43%	7.68%	-14.58%	2.17	7.15%	0.19	-0.45	-1.18	-26.43%	1,307.20%
Adelante	9.26%	-0.39%	11.48%	0.29%	0.93	2.15%	0.97	0.78	-0.18	96.08%	98.21%

Performance Analysis excludes closed end funds and those funds without 3 years of performance.

Total Fund  
Performance Analysis - 5 Years (Net of Fees)

Period Ending: September 30, 2017

	5 Years										
	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Intech Large Cap Core	15.39%	1.17%	8.23%	2.20%	0.93	4.30%	0.73	1.84	0.27	104.60%	62.05%
PIMCO Stocks+ Absolute Return	14.35%	0.12%	8.94%	-2.00%	1.15	2.29%	0.95	1.58	0.05	108.55%	151.35%
Jackson Square Partners	13.77%	-1.49%	11.22%	-5.66%	1.27	5.07%	0.83	1.21	-0.29	90.62%	118.35%
Robeco Boston Partners	13.75%	0.55%	8.72%	0.84%	0.98	2.88%	0.89	1.55	0.19	103.44%	93.29%
Emerald Advisers	16.15%	1.86%	14.04%	1.49%	1.03	5.41%	0.85	1.13	0.34	109.36%	90.70%
Ceredex	13.41%	0.14%	11.62%	2.36%	0.83	6.10%	0.76	1.14	0.02	91.98%	77.52%
William Blair	8.97%	1.10%	10.31%	1.57%	0.94	2.64%	0.94	0.85	0.42	102.70%	88.14%
First Eagle	8.52%	-1.68%	6.41%	1.10%	0.73	3.31%	0.85	1.30	-0.51	80.46%	87.20%
Intech Global Low Vol	10.27%	0.08%	7.81%	4.80%	0.54	7.49%	0.31	1.29	0.01	85.79%	45.80%
AFL-CIO	1.93%	-0.13%	2.99%	-0.05%	0.96	0.47%	0.98	0.57	-0.28	93.56%	94.88%
Allianz Global Investors	5.46%	-0.93%	4.92%	-0.26%	0.90	1.19%	0.96	1.06	-0.78	85.81%	94.55%
Adelante	9.72%	0.21%	10.32%	1.13%	0.90	2.17%	0.97	0.92	0.10	92.89%	81.67%

Performance Analysis excludes closed end funds and those funds without 5 years of performance.

# Total Fund Investment Fund Fee Analysis

Period Ending: September 30, 2017

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
BlackRock Russell 1000 Index	Global Equity	0.03% of Assets	\$112,583,795	\$33,775	0.03%
Jackson Square Partners	Global Equity	0.50% of First \$100.0 Mil, 0.40% of Next \$150.0 Mil, 0.35% Thereafter	\$388,754,424	\$1,585,640	0.41%
Robeco Boston Partners	Global Equity	0.50% of First \$25.0 Mil, 0.30% Thereafter	\$379,356,305	\$1,188,069	0.31%
Emerald Advisers	Global Equity	0.75% of First \$10.0 Mil, 0.60% Thereafter	\$268,058,074	\$1,623,348	0.61%
Ceredex	Global Equity	0.85% of First \$10.0 Mil, 0.68% of Next \$40.0 Mil, 0.51% Thereafter	\$248,362,054	\$1,368,646	0.55%
Pyrford	Global Equity	0.70% of First \$50.0 Mil, 0.50% of Next \$50.0 Mil, 0.35% Thereafter	\$445,746,577	\$1,810,113	0.41%
William Blair	Global Equity	0.80% of First \$20.0 Mil, 0.60% of Next \$30.0 Mil, 0.50% of Next \$50.0 Mil, 0.45% of Next \$50.0 Mil, 0.40% of Next \$50.0 Mil, 0.30% Thereafter	\$472,379,327	\$1,832,138	0.39%
PIMCO RAE Emerging Markets	Global Equity	0.75% of First \$50.0 Mil, 0.68% of Next \$50.0 Mil, 0.50% of Next \$100.0 Mil, 0.45% Thereafter	\$346,965,219	\$1,873,843	0.54%
TT Emerging Markets	Global Equity	0.70% of First \$100.0 Mil, 0.65% of Next \$100.0 Mil, 0.60% Thereafter	\$326,325,833	\$2,107,955	0.65%
Artisan Partners	Global Equity	0.75% of Assets	\$364,485,435	\$2,733,641	0.75%
First Eagle	Global Equity	0.75% of Assets	\$354,801,009	\$2,661,008	0.75%
Allianz Global Investors	High Yield Fixed Income	0.50% of First \$50.0 Mil, 0.40% of Next \$50.0 Mil, 0.35% Thereafter	\$364,747,075	\$1,376,615	0.38%
AFL-CIO	Global Fixed Income	0.43% of Assets	\$278,535,718	\$1,197,704	0.43%

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.



Total Fund  
Investment Fund Fee Analysis

Period Ending: September 30, 2017

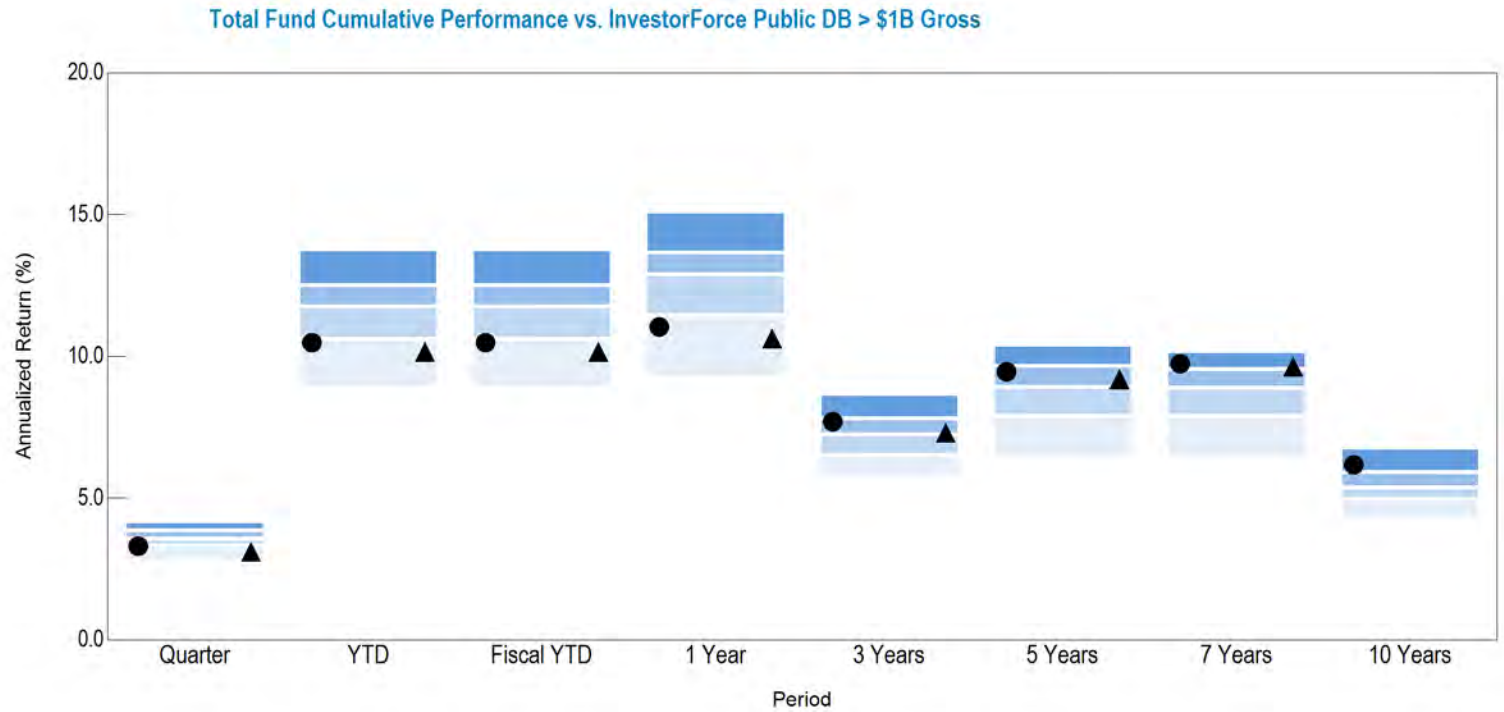
Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Wellington Real Total Return	Inflation Hedge/Real Assets	0.55% of Assets	\$189,012,873	\$1,039,571	0.55%
DFA Short Credit	Global Fixed Income	0.20% of First \$25.0 Mil, 0.10% Thereafter	\$446,571,058	\$471,571	0.11%
Insight Short Duration	Global Fixed Income	0.06% of First \$500.0 Mil, 0.05% of Next \$500.0 Mil, 0.04% Thereafter	\$912,652,577	\$506,326	0.06%
Sit Short Duration	Global Fixed Income	0.15% of Assets	\$492,220,084	\$738,330	0.15%

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

Total Fund

Peer Universe Comparison: Cumulative Performance (Gross of Fees)

Period Ending: September 30, 2017



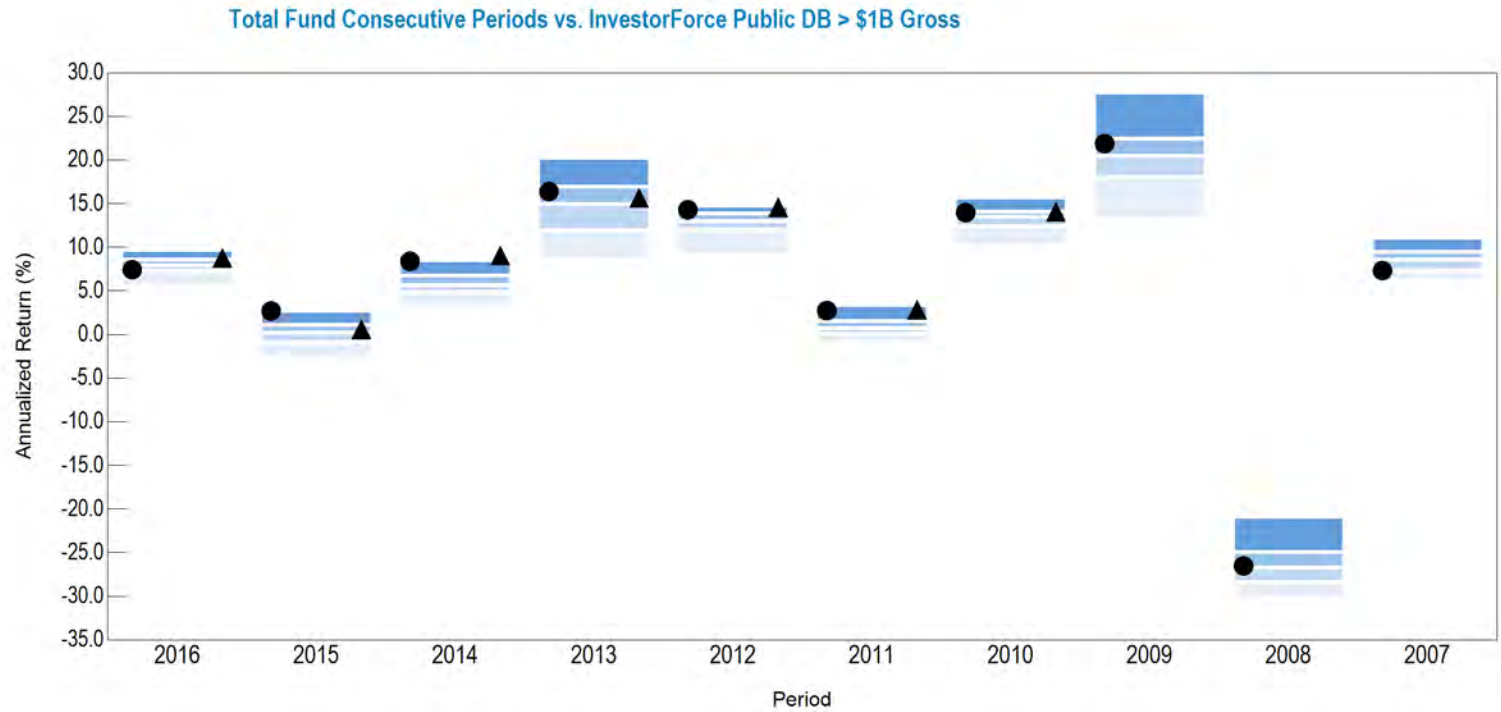
	Return (Rank)													
	Quarter	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years						
5th Percentile	4.2	13.8	13.8	15.1	8.7	10.4	10.2	6.8						
25th Percentile	3.9	12.5	12.5	13.7	7.8	9.7	9.6	5.9						
Median	3.6	11.8	11.8	12.9	7.3	8.9	8.9	5.4						
75th Percentile	3.3	10.6	10.6	11.5	6.5	7.9	7.9	5.0						
95th Percentile	2.8	8.9	8.9	9.2	5.7	6.4	6.4	4.3						
# of Portfolios	79	79	79	79	63	60	49	48						
● Total Fund	3.3 (77)	10.5 (78)	10.5 (78)	11.0 (83)	7.7 (33)	9.5 (32)	9.7 (18)	6.2 (18)						
▲ Policy Index	3.1 (82)	10.2 (82)	10.2 (82)	10.6 (89)	7.3 (48)	9.2 (42)	9.6 (22)	-- (-)						

Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

# Total Fund

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

Period Ending: September 30, 2017



	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>Return (Rank)</b>										
5th Percentile	9.7	2.7	8.5	20.2	14.7	3.3	15.7	27.7	-21.0	11.0
25th Percentile	8.6	1.1	6.8	17.0	13.9	1.6	14.2	22.5	-24.9	9.5
Median	8.0	0.3	5.7	15.0	13.0	0.8	13.5	20.5	-26.7	8.6
75th Percentile	7.4	-0.7	4.9	12.0	12.1	0.1	12.5	18.1	-28.3	7.4
95th Percentile	5.5	-2.8	3.1	8.7	9.2	-0.9	10.2	13.4	-30.2	6.2
# of Portfolios	92	98	79	67	74	68	66	66	65	64
● Total Fund	7.4 (74)	2.7 (5)	8.4 (6)	16.4 (33)	14.3 (13)	2.7 (9)	14.0 (29)	21.9 (34)	-26.5 (48)	7.3 (78)
▲ Policy Index	8.8 (17)	0.6 (40)	9.0 (2)	15.6 (43)	14.6 (8)	2.8 (9)	14.1 (27)	-- (--)	-- (--)	-- (--)

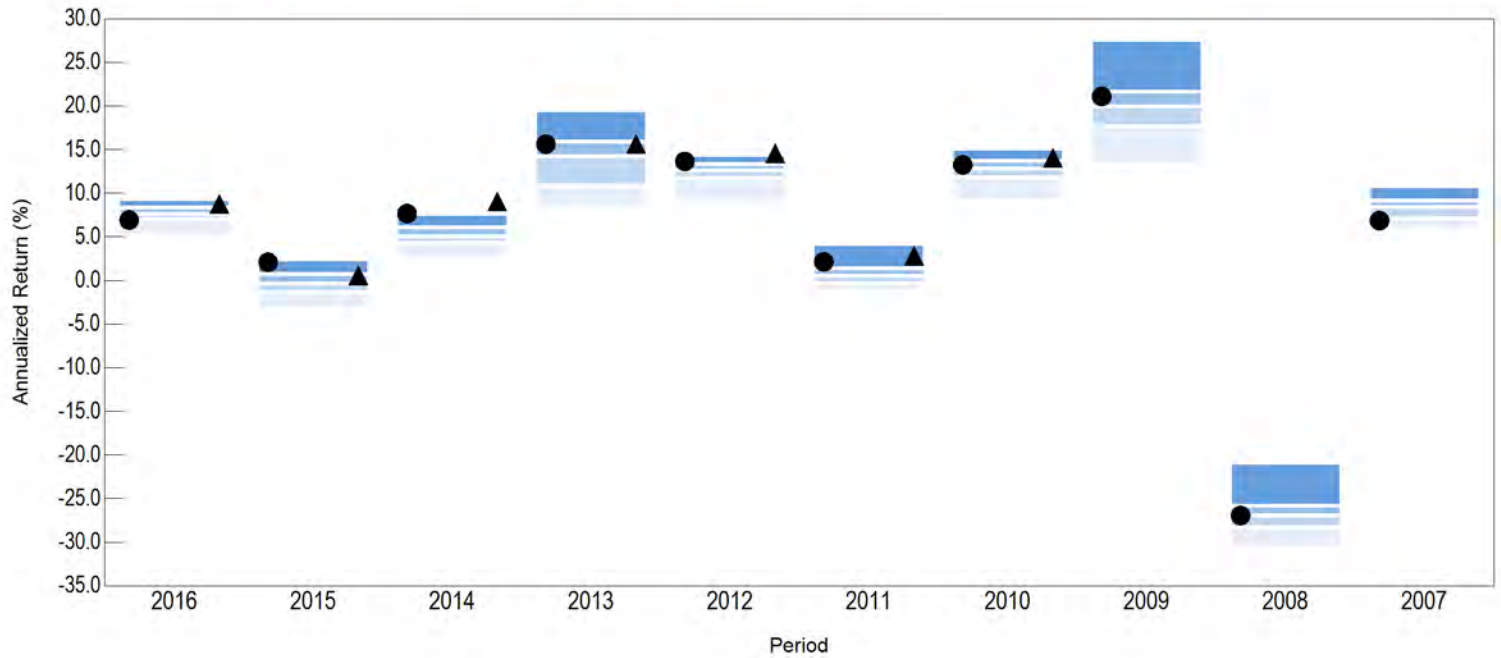
Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund

Peer Universe Comparison: Consecutive Periods (Net of Fees)

Period Ending: September 30, 2017

Total Fund Consecutive Periods vs. InvestorForce Public DB > \$1B Net

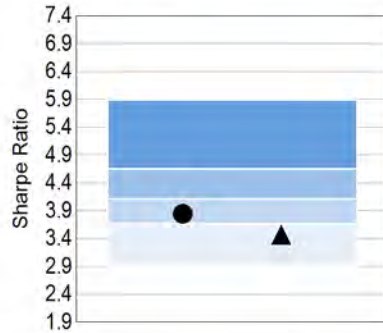


	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>5th Percentile</b>	9.3	2.4	7.6	19.5	14.3	4.2	15.1	27.5	-20.9	10.7
<b>25th Percentile</b>	8.4	0.8	6.1	16.0	13.4	1.5	13.8	21.7	-25.7	9.2
<b>Median</b>	7.7	-0.4	5.1	14.3	12.7	0.6	12.8	20.0	-26.9	8.5
<b>75th Percentile</b>	7.1	-1.3	4.4	11.0	11.8	-0.3	11.8	17.7	-28.3	7.1
<b>95th Percentile</b>	5.3	-3.2	2.6	8.5	9.0	-1.2	9.3	13.4	-30.5	5.9
<b># of Portfolios</b>	62	57	55	48	44	42	41	40	39	39
<b>● Total Fund</b>	6.9 (78)	2.1 (12)	7.7 (5)	15.6 (33)	13.6 (21)	2.1 (12)	13.3 (34)	21.1 (33)	-26.9 (51)	6.9 (79)
<b>▲ Policy Index</b>	8.8 (14)	0.6 (29)	9.0 (2)	15.6 (33)	14.6 (1)	2.8 (11)	14.1 (15)	-- (--)	-- (--)	-- (--)

Total Fund  
Sharpe Ratio Ranking (Gross of Fees)

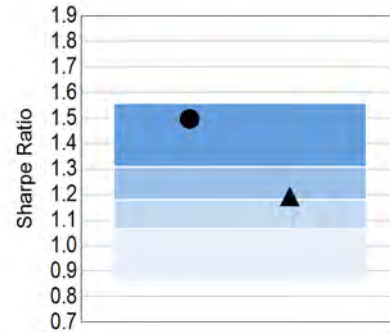
Period Ending: September 30, 2017

Sharpe Ratio  
1 Year



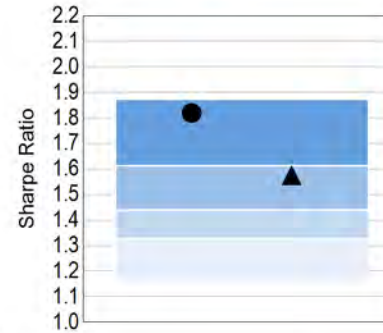
● Total Fund	
Value	3.8
Rank	66
▲ Policy Index	
Value	3.5
Rank	84
Universe	
5th %tile	5.9
25th %tile	4.7
Median	4.1
75th %tile	3.7
95th %tile	2.9

Sharpe Ratio  
3 Year



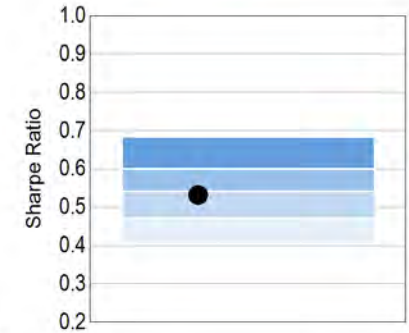
● Total Fund	
Value	1.5
Rank	11
▲ Policy Index	
Value	1.2
Rank	44
Universe	
5th %tile	1.6
25th %tile	1.3
Median	1.2
75th %tile	1.1
95th %tile	0.9

Sharpe Ratio  
5 Year



● Total Fund	
Value	1.8
Rank	7
▲ Policy Index	
Value	1.6
Rank	32
Universe	
5th %tile	1.9
25th %tile	1.6
Median	1.4
75th %tile	1.3
95th %tile	1.2

Sharpe Ratio  
10 Year



● Total Fund	
Value	0.5
Rank	52
▲ Policy Index	
Value	--
Rank	--
Universe	
5th %tile	0.7
25th %tile	0.6
Median	0.5
75th %tile	0.5
95th %tile	0.4

## Domestic Equity Managers

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# Jackson Square Partners Manager Portfolio Overview

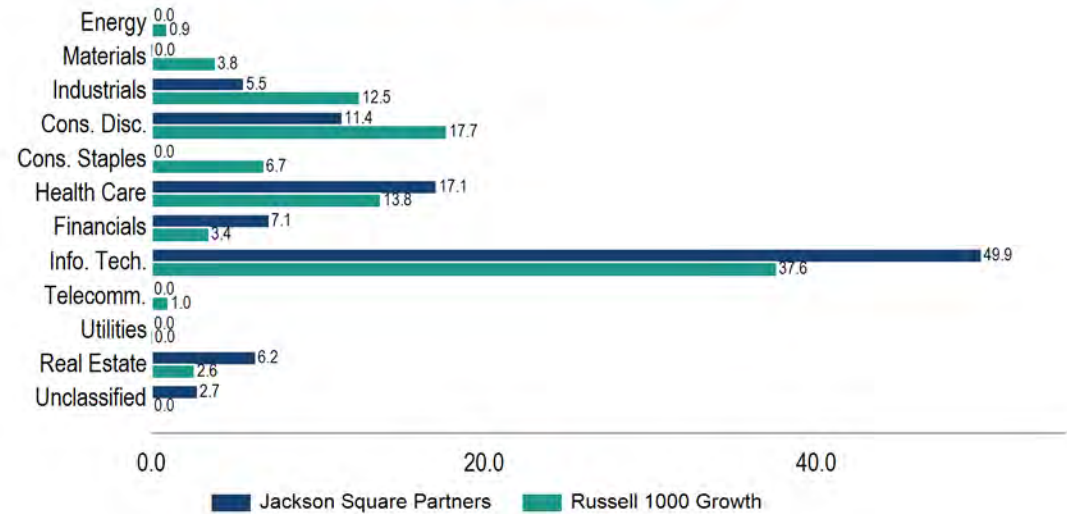
Period Ending: September 30, 2017

Domestic equity large cap growth portfolio concentrated in companies with sustainable long-term growth characteristics. Primary personnel include Jeffrey Van Harte, Christopher Bonavico, Christopher Ericksen, and Daniel Prislín.

## Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	33	550
Weighted Avg. Market Cap. (\$B)	122.41	181.93
Median Market Cap. (\$B)	44.37	10.82
Price To Earnings	35.90	28.62
Price To Book	7.28	7.91
Price To Sales	5.92	4.39
Return on Equity (%)	23.22	27.51
Yield (%)	0.70	1.37
Beta	1.37	1.00

## Sector Allocation (%) vs Russell 1000 Growth



## Largest Holdings

	End Weight	Return
PAYPAL HOLDINGS	6.96	19.30
VISA 'A'	5.86	12.40
MICROSOFT	5.76	8.64
CELGENE	5.23	12.28
MASTERCARD	4.95	16.47
CROWN CASTLE INTL.	4.12	0.70
BIOGEN	3.89	15.39
EBAY	3.84	10.14
LIBERTY INTACT.QVC GROUP 'A'	3.71	-3.95
ALPHABET 'A'	3.71	4.74

## Top Contributors

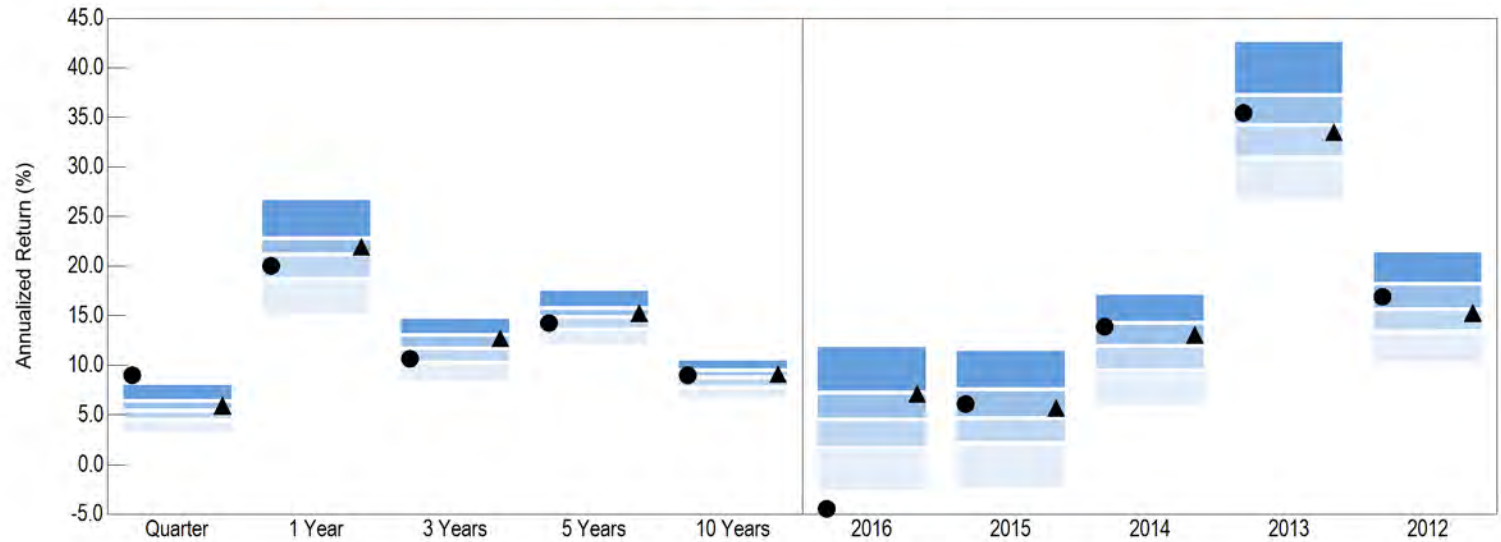
	Avg Wgt	Return	Contribution
PAYPAL HOLDINGS	6.74	19.30	1.30
MASTERCARD	4.71	16.47	0.78
VISA 'A'	5.80	12.40	0.72
TAKE TWO INTACT.SFTW.	1.73	39.32	0.68
CELGENE	5.41	12.28	0.66
ASML HLDG.ADR 1:1	1.89	31.38	0.59
BIOGEN	3.65	15.39	0.56
SYMANTEC	3.19	16.45	0.52
MICROSOFT	5.93	8.64	0.51
FACEBOOK CLASS A	3.69	13.17	0.49

## Bottom Contributors

	Avg Wgt	Return	Contribution
ALLERGAN	2.62	-15.43	-0.40
DENTSPLY SIRONA	2.49	-7.62	-0.19
LIBERTY INTACT.QVC GROUP 'A'	3.92	-3.95	-0.15
SYNGENTA SPN.ADR 5:1	0.00	-0.64	0.00
NOVO NORDISK 'B' ADR 1:1	0.04	13.44	0.01
CROWN CASTLE INTL.	4.39	0.70	0.03
LIBERTY GLOBAL CL.A	0.78	5.57	0.04
CHARLES SCHWAB	2.77	2.01	0.06
EQUINIX	2.32	4.46	0.10
TRIPADVISOR 'A'	2.15	6.10	0.13

Unclassified sector allocation includes cash allocations.

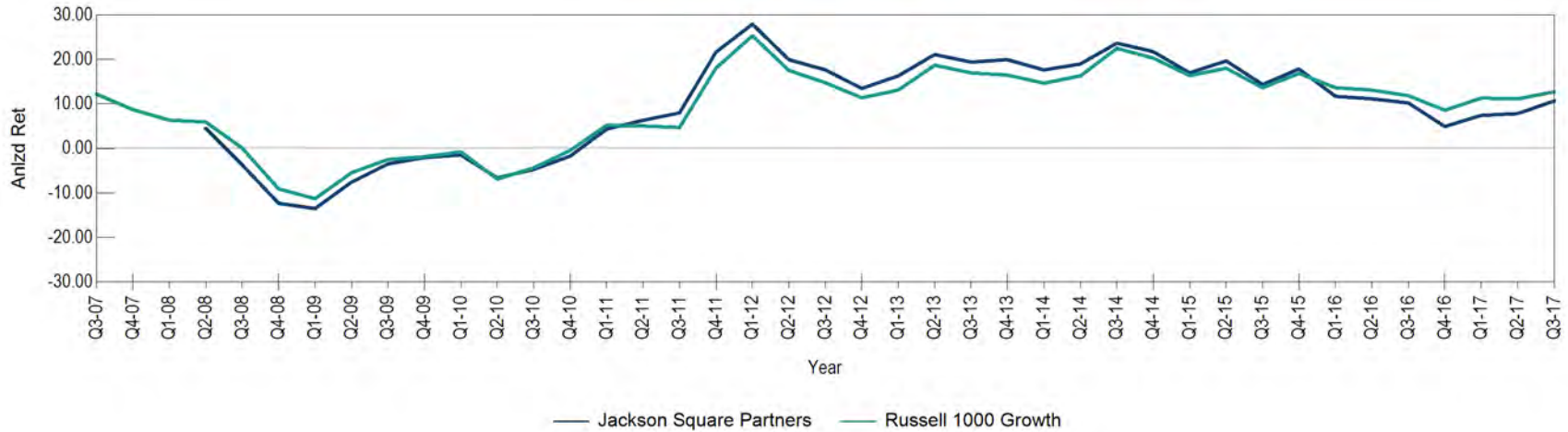
Jackson Square Partners vs. eA US Large Cap Growth Equity Gross Universe



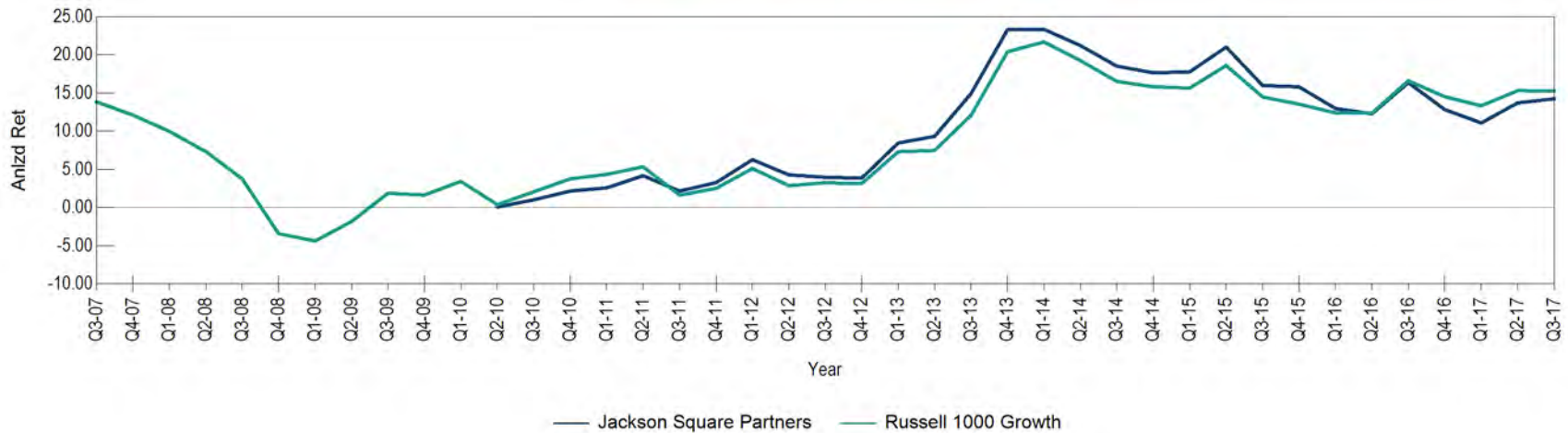
	Quarter	1 Year	3 Years	5 Years	10 Years	2016	2015	2014	2013	2012
<b>Return (Rank)</b>										
5th Percentile	8.2	26.8	14.8	17.7	10.7	12.0	11.6	17.3	42.8	21.6
25th Percentile	6.4	22.9	13.1	15.8	9.5	7.3	7.6	14.3	37.3	18.2
Median	5.4	21.2	11.7	14.9	8.8	4.6	4.7	12.0	34.3	15.7
75th Percentile	4.5	18.7	10.3	13.6	7.8	1.8	2.1	9.5	31.0	13.4
95th Percentile	3.1	15.1	8.3	12.0	6.5	-2.7	-2.4	5.8	26.6	10.2
# of Portfolios	266	266	262	245	219	282	270	291	274	274
● Jackson Square Partners	9.0 (2)	20.0 (63)	10.6 (71)	14.2 (65)	9.0 (46)	-4.4 (98)	6.1 (37)	13.9 (31)	35.4 (40)	16.9 (37)
▲ Russell 1000 Growth	5.9 (38)	21.9 (41)	12.7 (32)	15.3 (41)	9.1 (42)	7.1 (26)	5.7 (42)	13.0 (38)	33.5 (56)	15.3 (55)



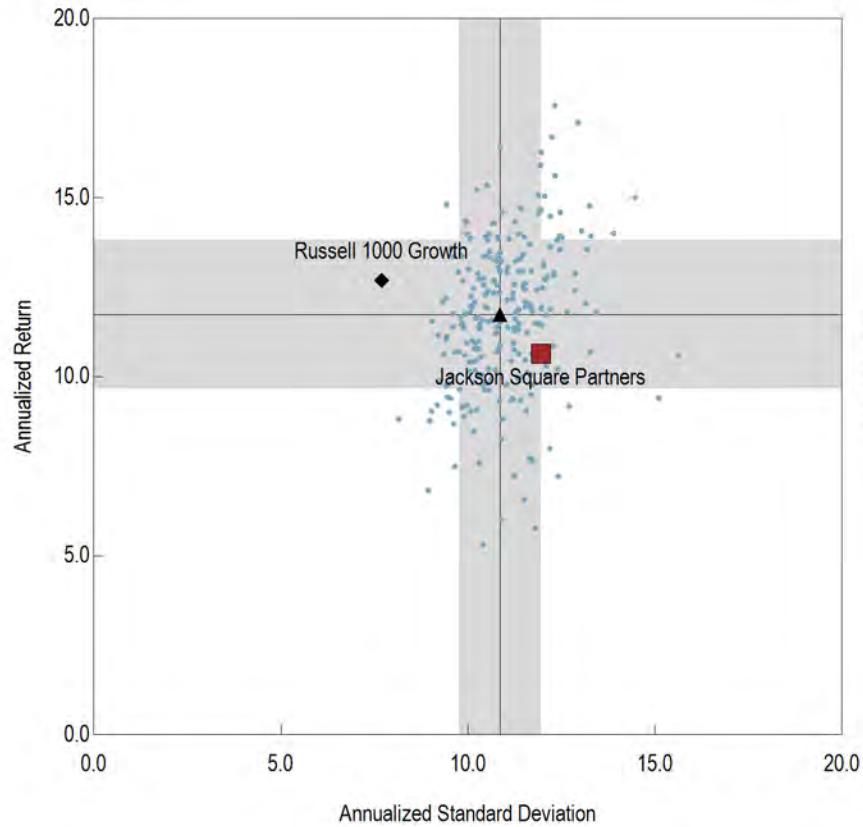
Rolling 3 Year Annualized Return (%)



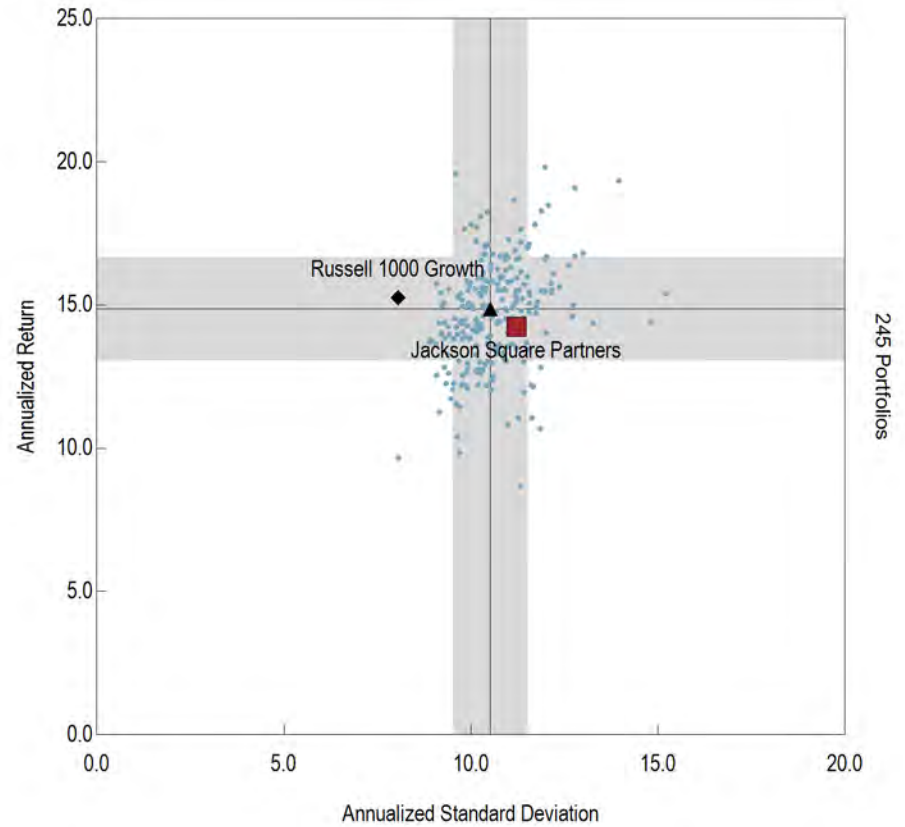
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Jackson Square Partners	10.6%	12.0%	0.9
Russell 1000 Growth	12.7%	7.7%	1.6
eA US Large Cap Growth Equity Gross Median	11.7%	10.9%	1.0

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Jackson Square Partners	14.2%	11.2%	1.3
Russell 1000 Growth	15.3%	8.0%	1.9
eA US Large Cap Growth Equity Gross Median	14.9%	10.5%	1.4

# Robeco Boston Partners Manager Portfolio Overview

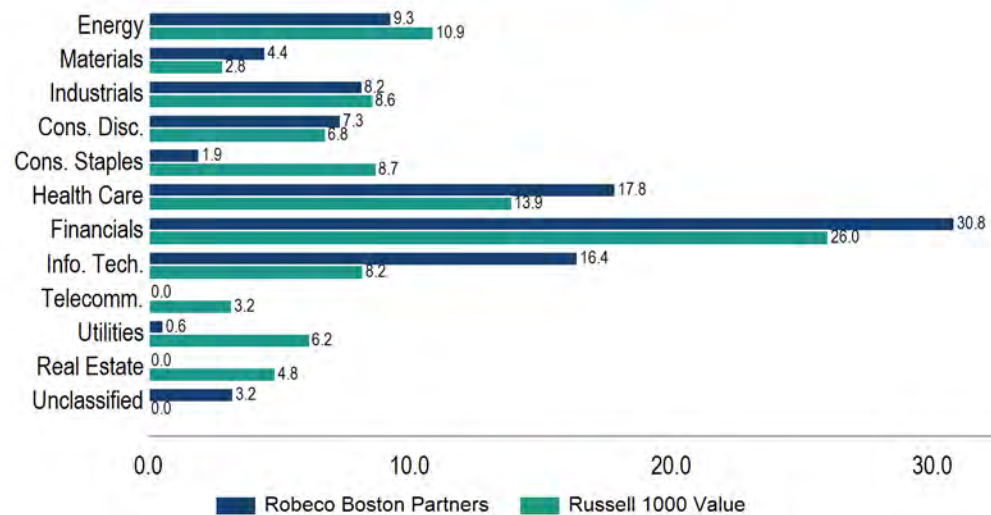
Period Ending: September 30, 2017

Domestic equity large cap value portfolio exhibiting low turnover in companies with low valuations relative to intrinsic value. Primary personnel include Mark Donovan and David Pyle.

## Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	84	716
Weighted Avg. Market Cap. (\$B)	145.31	112.84
Median Market Cap. (\$B)	37.28	8.54
Price To Earnings	21.53	21.28
Price To Book	2.88	2.61
Price To Sales	2.37	2.85
Return on Equity (%)	16.07	12.04
Yield (%)	2.02	2.42
Beta	1.03	1.00

## Sector Allocation (%) vs Russell 1000 Value



## Largest Holdings

	End Weight	Return
JP MORGAN CHASE & CO.	4.72	5.06
BANK OF AMERICA	4.59	4.98
CITIGROUP	3.80	9.27
BERKSHIRE HATHAWAY 'B'	3.79	8.24
CHEVRON	3.40	13.76
JOHNSON & JOHNSON	2.97	-1.10
WELLS FARGO & CO	2.59	0.25
PFIZER	2.46	7.31
MERCK & COMPANY	2.33	0.62
ORACLE	2.27	-3.21

## Top Contributors

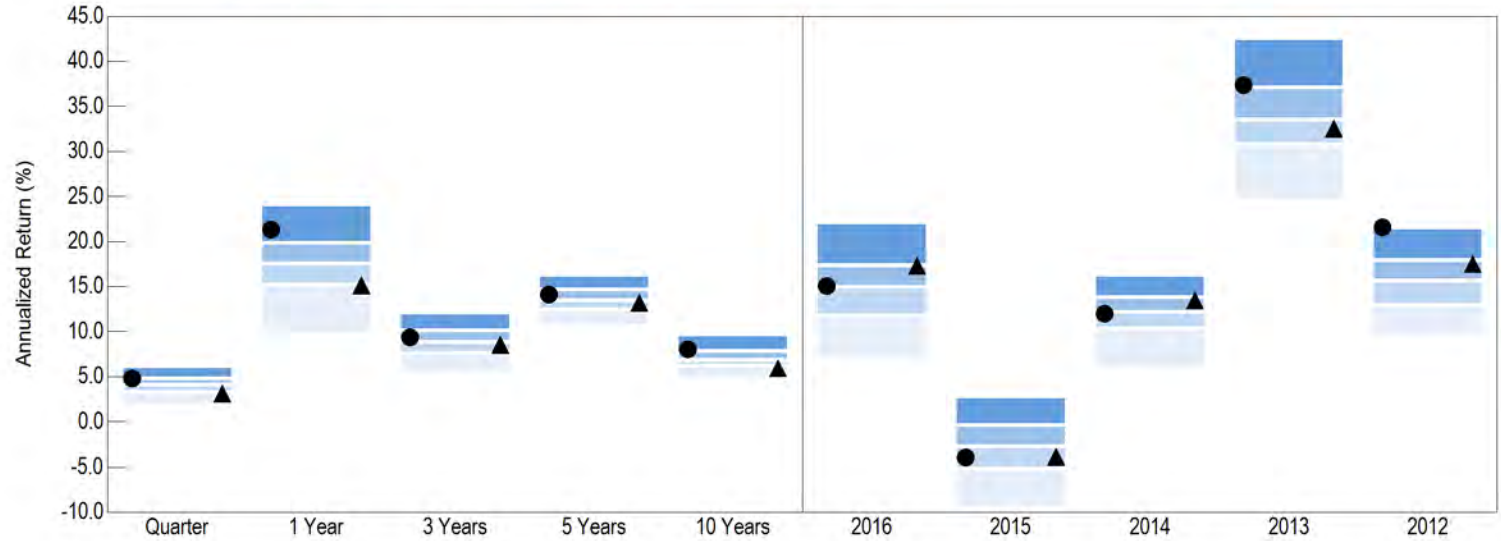
	Avg Wgt	Return	Contribution
CHEVRON	2.78	13.76	0.38
CITIGROUP	3.65	9.27	0.34
BERKSHIRE HATHAWAY 'B'	3.74	8.24	0.31
GILEAD SCIENCES	1.81	15.19	0.28
JP MORGAN CHASE & CO.	4.80	5.06	0.24
KONINKLIJKE PHILIPS ADR 1:1	1.49	15.02	0.22
BANK OF AMERICA	4.50	4.98	0.22
BORGWARNER	1.04	21.32	0.22
CISCO SYSTEMS	2.18	8.45	0.18
DXC TECHNOLOGY	1.33	12.18	0.16

## Bottom Contributors

	Avg Wgt	Return	Contribution
UNITED CONTINENTAL HDG.	0.55	-19.10	-0.10
DELTA AIR LINES	0.95	-9.70	-0.09
INTERPUBLIC GROUP	0.46	-14.72	-0.07
ORACLE	1.97	-3.21	-0.06
UNITED TECHNOLOGIES	1.43	-4.37	-0.06
SOUTHWEST AIRLINES	0.53	-9.70	-0.05
CBS 'B'	0.58	-8.79	-0.05
NAVIENT	0.45	-8.70	-0.04
DAVITA	0.46	-8.29	-0.04
JOHNSON & JOHNSON	3.13	-1.10	-0.03

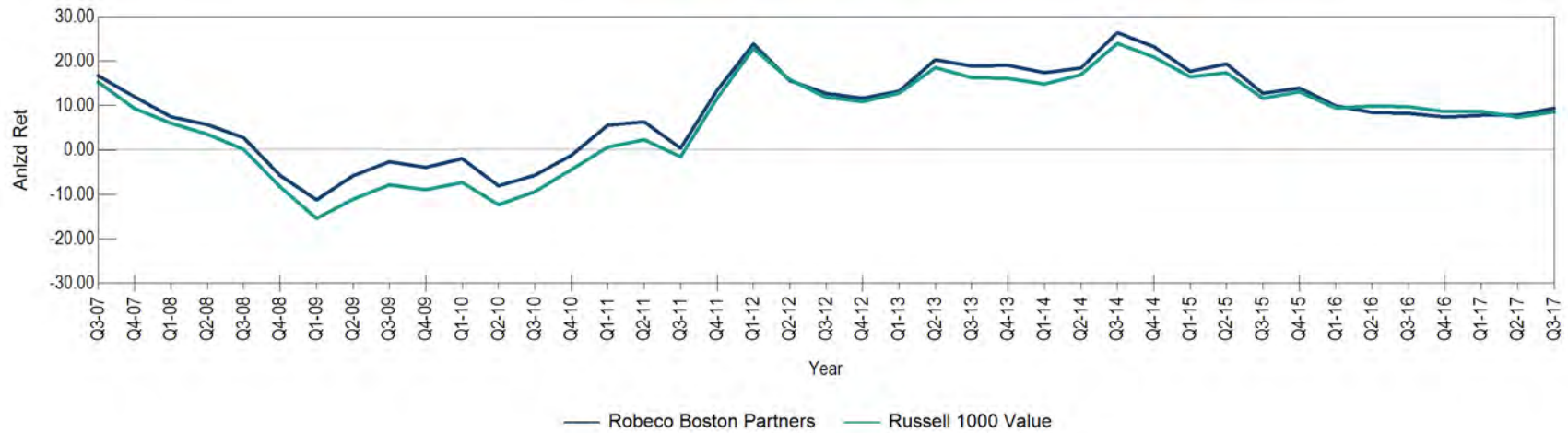
Unclassified sector allocation includes cash allocations.

Robeco Boston Partners vs. eA US Large Cap Value Equity Gross Universe

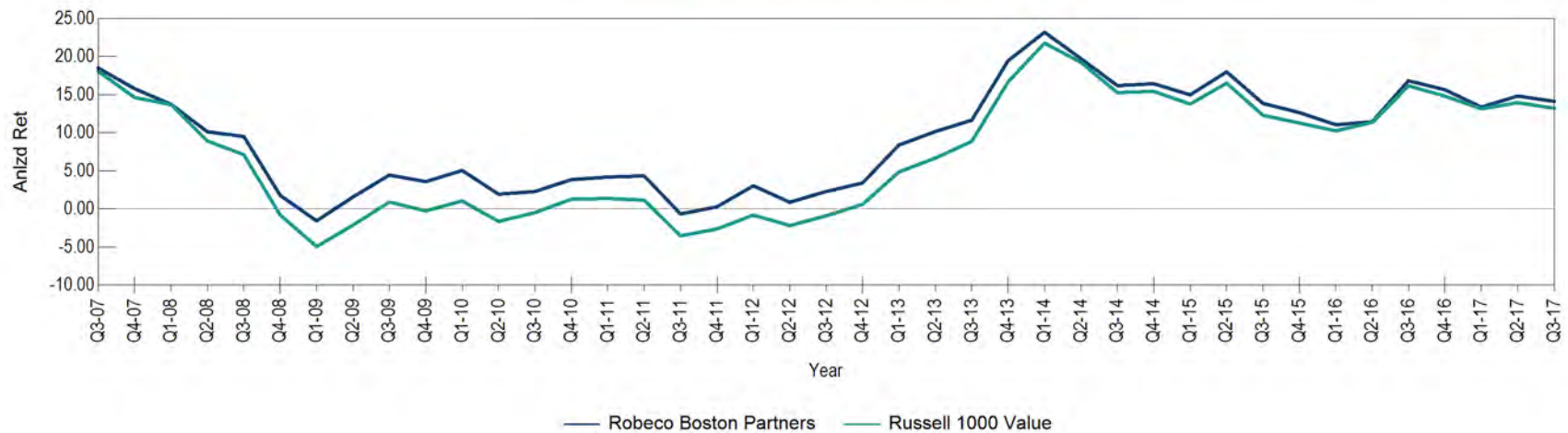


	Return (Rank)										
5th Percentile	6.1	24.1	12.1	16.3	9.7	22.1	2.8	16.3	42.5	21.5	
25th Percentile	4.9	19.9	10.2	14.7	7.9	17.4	-0.4	13.9	37.2	18.0	
Median	4.2	17.6	8.9	13.5	6.9	15.0	-2.6	12.2	33.6	15.7	
75th Percentile	3.4	15.3	7.7	12.5	6.3	11.8	-5.1	10.4	30.8	13.0	
95th Percentile	1.9	9.8	5.4	10.6	4.8	7.0	-9.4	5.9	24.6	9.6	
# of Portfolios	342	342	336	324	263	346	312	307	310	303	
● Robeco Boston Partners	4.8 (28)	21.3 (16)	9.4 (43)	14.1 (37)	8.0 (23)	15.1 (50)	-3.9 (65)	12.0 (55)	37.4 (24)	21.6 (5)	
▲ Russell 1000 Value	3.1 (81)	15.1 (77)	8.5 (61)	13.2 (58)	5.9 (83)	17.3 (26)	-3.8 (64)	13.5 (33)	32.5 (60)	17.5 (30)	

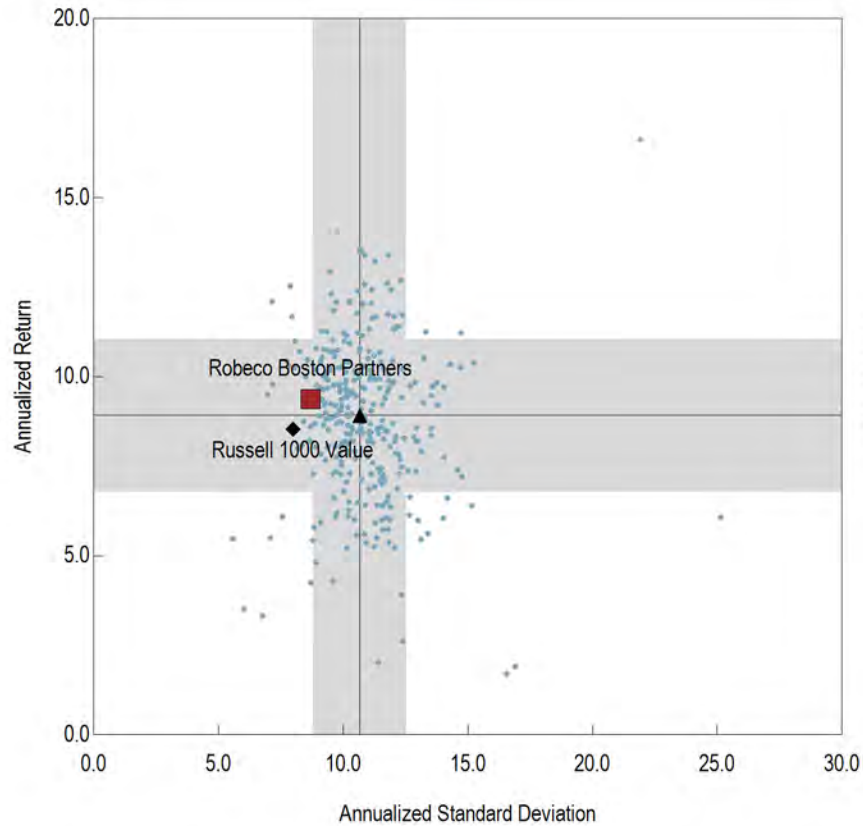
Rolling 3 Year Annualized Return (%)



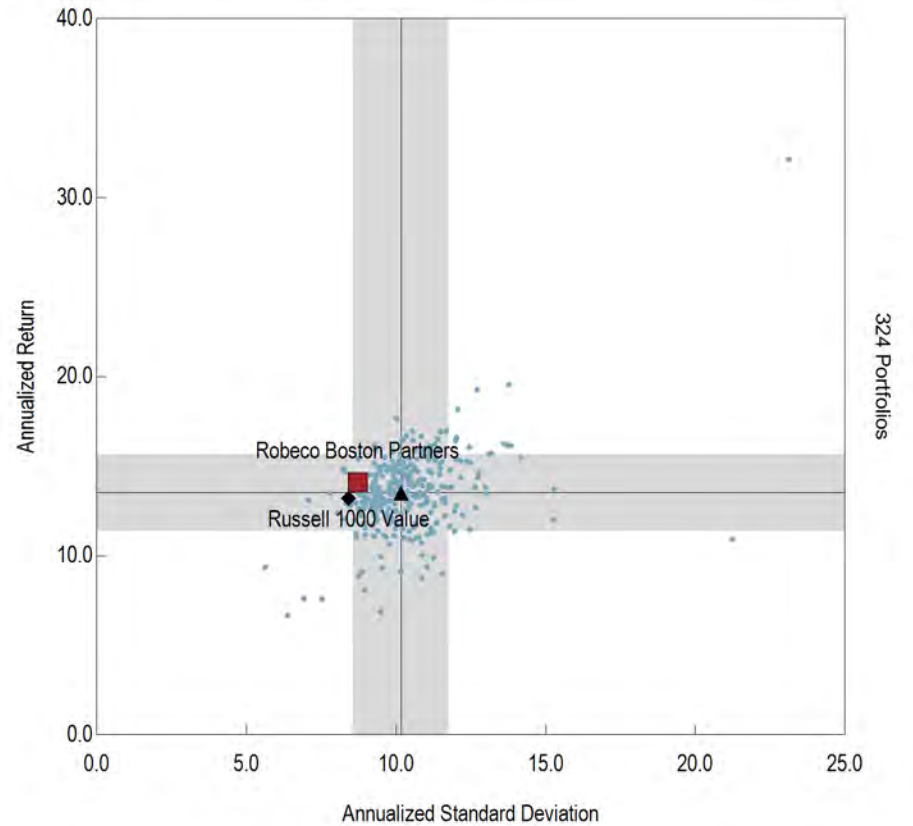
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Robeco Boston Partners	9.4%	8.7%	1.0
Russell 1000 Value	8.5%	8.0%	1.0
eA US Large Cap Value Equity Gross Median	8.9%	10.7%	0.8

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Robeco Boston Partners	14.1%	8.7%	1.6
Russell 1000 Value	13.2%	8.4%	1.5
eA US Large Cap Value Equity Gross Median	13.5%	10.2%	1.3

# Emerald Advisers Manager Portfolio Overview

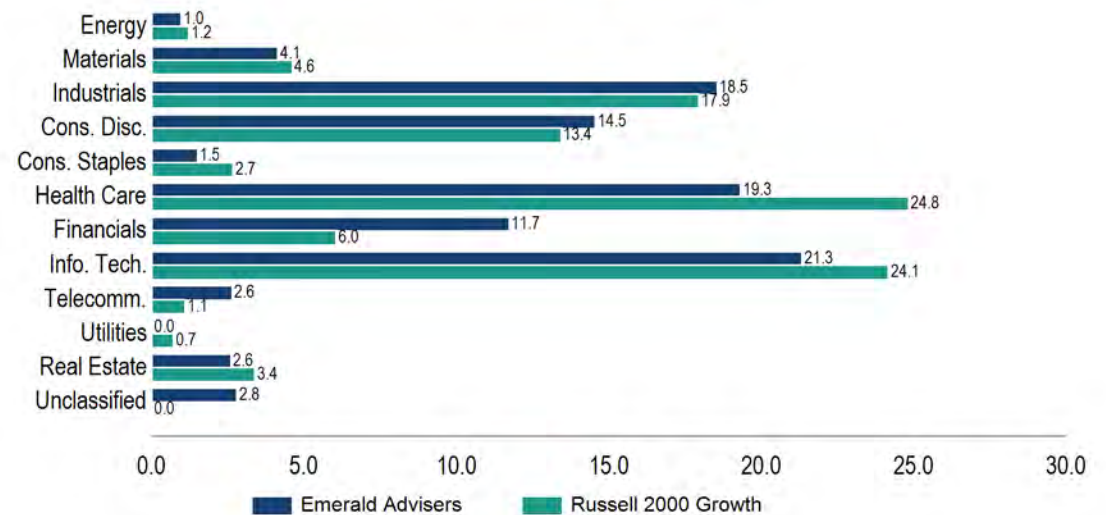
Period Ending: September 30, 2017

Domestic equity small cap growth portfolio of companies with significantly high growth rates. Primary personnel include Kenneth Mertz, Joseph Garner, and Stacey Sears.

## Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	119	1,172
Weighted Avg. Market Cap. (\$B)	2.43	2.42
Median Market Cap. (\$B)	1.75	0.97
Price To Earnings	31.69	29.32
Price To Book	5.85	5.43
Price To Sales	3.29	3.34
Return on Equity (%)	15.90	15.74
Yield (%)	0.38	0.55
Beta	0.98	1.00

## Sector Allocation (%) vs Russell 2000 Growth



## Largest Holdings

	End Weight	Return
LENDINGTREE	3.14	41.96
TREX	2.00	33.12
INSTALLED BUILDING PRDS.	1.91	22.38
CHEGG	1.71	20.75
PUMA BIOTECHNOLOGY	1.71	37.01
SAREPTA THERAPEUTICS	1.69	34.56
EPAM SYSTEMS	1.65	4.57
PAC.PREMIER BANC.	1.64	2.30
VONAGE HOLDINGS	1.58	24.46
PROOFPOINT	1.56	0.45

## Top Contributors

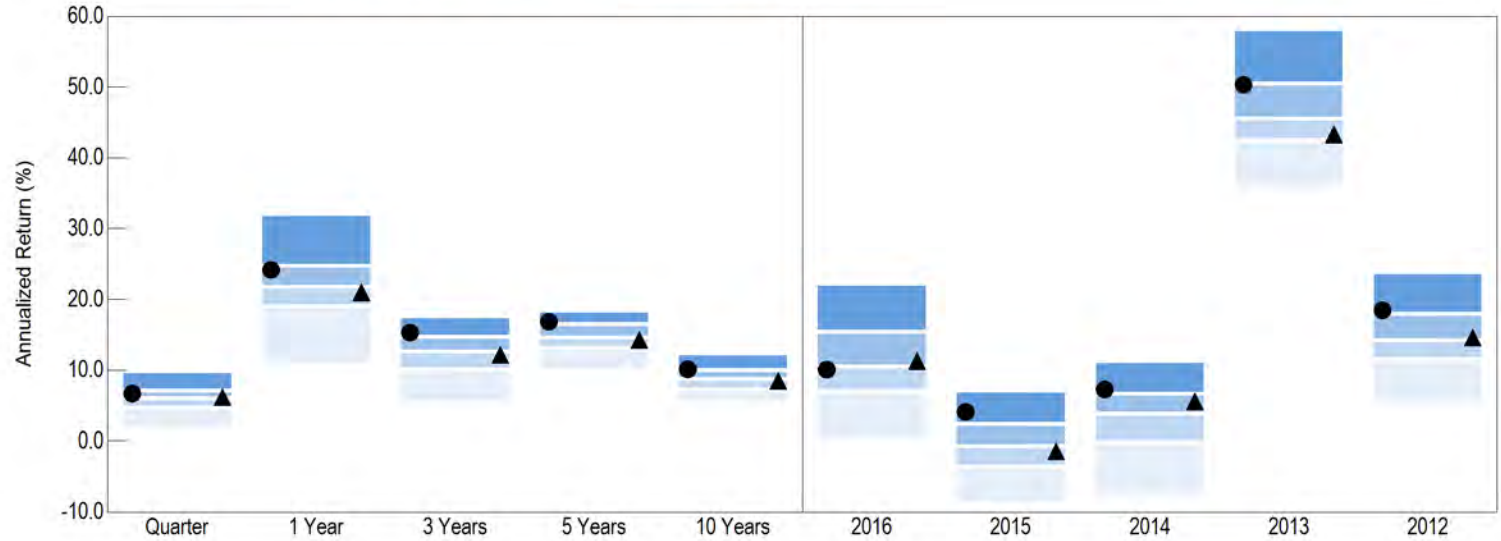
	Avg Wgt	Return	Contribution
LENDINGTREE	2.82	41.96	1.18
INSMED	0.72	81.88	0.59
TREX	1.73	33.12	0.57
PUMA BIOTECHNOLOGY	1.36	37.01	0.50
SAREPTA THERAPEUTICS	1.42	34.56	0.49
INSTALLED BUILDING PRDS.	1.74	22.38	0.39
VONAGE HOLDINGS	1.54	24.46	0.38
TAKE TWO INTACT.SFTW.	0.95	39.32	0.37
CHEGG	1.55	20.75	0.32
IPG PHOTONICS	1.16	27.54	0.32

## Bottom Contributors

	Avg Wgt	Return	Contribution
TILE SHOP HOLDINGS	0.83	-38.29	-0.32
SPIRIT AIRLINES	0.74	-35.31	-0.26
MICROSTRATEGY	0.69	-33.37	-0.23
APOGEE ENTERPRISES	1.48	-14.88	-0.22
HOSTESS BRANDS CL.A	1.06	-15.16	-0.16
K2M GROUP HOLDINGS	1.23	-12.93	-0.16
CIENA	1.22	-12.19	-0.15
CLOVIS ONCOLOGY	1.05	-11.99	-0.13
IMPERVA	1.31	-9.30	-0.12
SAGE THERAPEUTICS	0.49	-21.77	-0.11

Unclassified sector allocation includes cash allocations.

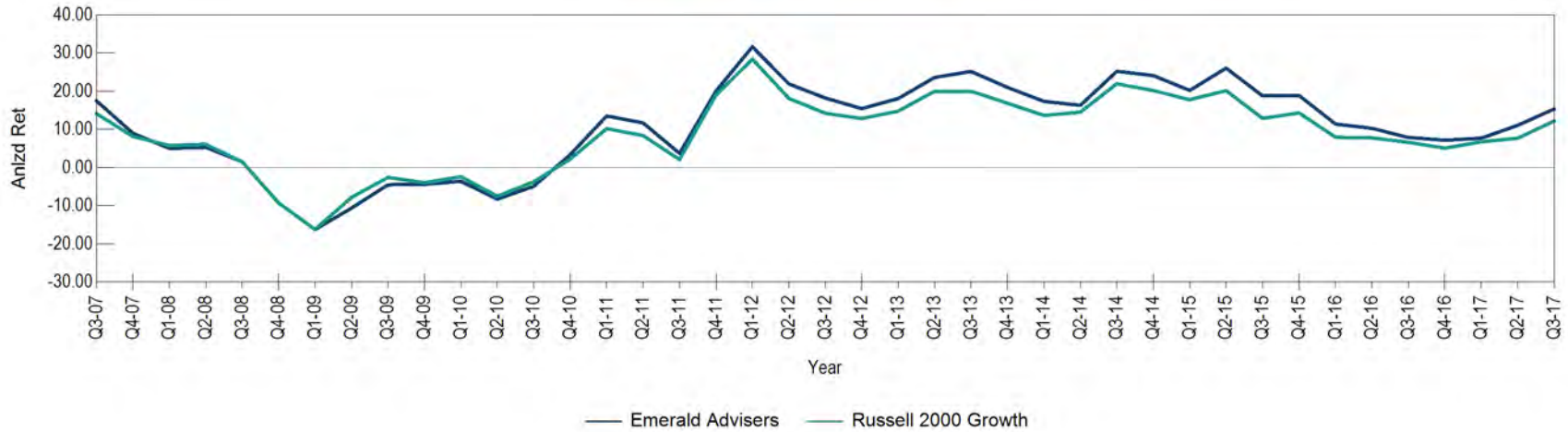
Emerald Advisers vs. eA US Small Cap Growth Equity Gross Universe



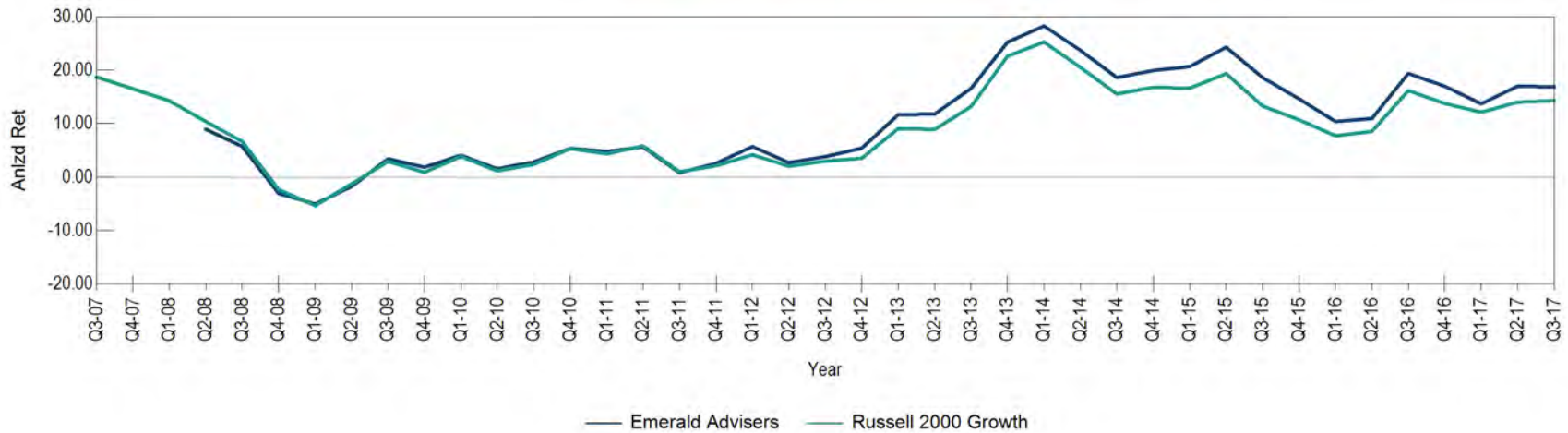
	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2016	2015	2014	2013	2012
5th Percentile	9.8	32.1	17.5	18.3	12.3	22.2	7.1	11.3	58.2	23.8
25th Percentile	7.2	24.8	14.8	16.6	10.1	15.5	2.5	6.7	50.6	18.0
Median	6.1	21.8	12.7	14.7	8.8	10.6	-0.6	3.9	45.6	14.3
75th Percentile	4.8	19.1	10.1	13.2	7.4	7.1	-3.5	-0.1	42.6	11.6
95th Percentile	1.8	10.9	5.4	10.0	5.3	0.2	-8.7	-7.6	35.6	5.4
# of Portfolios	169	169	163	156	135	170	154	161	160	162
● Emerald Advisers	6.7 (37)	24.2 (27)	15.3 (21)	16.9 (22)	10.1 (24)	10.1 (54)	4.1 (19)	7.3 (21)	50.3 (27)	18.5 (22)
▲ Russell 2000 Growth	6.2 (49)	21.0 (60)	12.2 (55)	14.3 (58)	8.5 (59)	11.3 (49)	-1.4 (59)	5.6 (32)	43.3 (70)	14.6 (48)



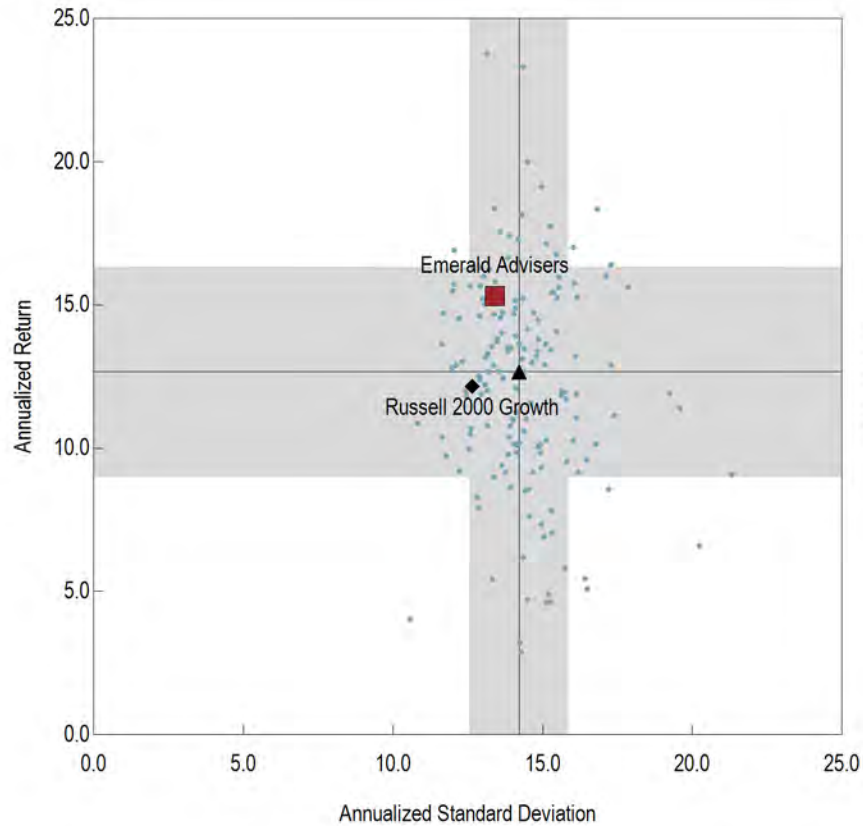
Rolling 3 Year Annualized Return (%)



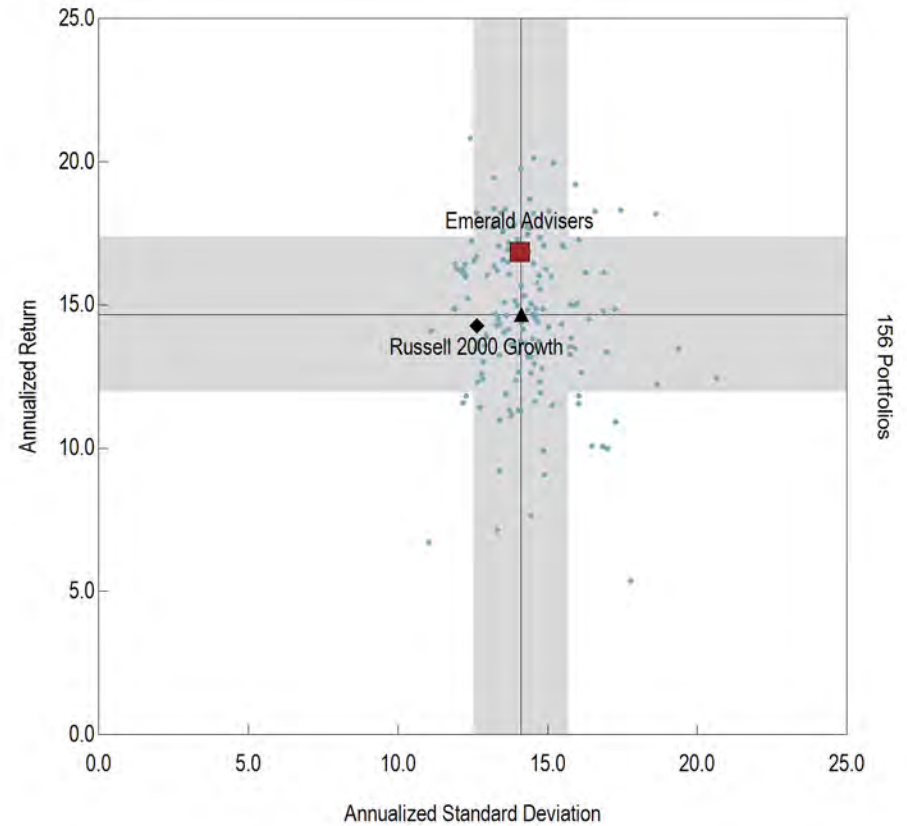
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Emerald Advisers	15.3%	13.4%	1.1
Russell 2000 Growth	12.2%	12.6%	0.9
eA US Small Cap Growth Equity Gross Median	12.7%	14.2%	0.9

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Emerald Advisers	16.9%	14.1%	1.2
Russell 2000 Growth	14.3%	12.6%	1.1
eA US Small Cap Growth Equity Gross Median	14.7%	14.1%	1.0

# Ceredex Manager Portfolio Overview

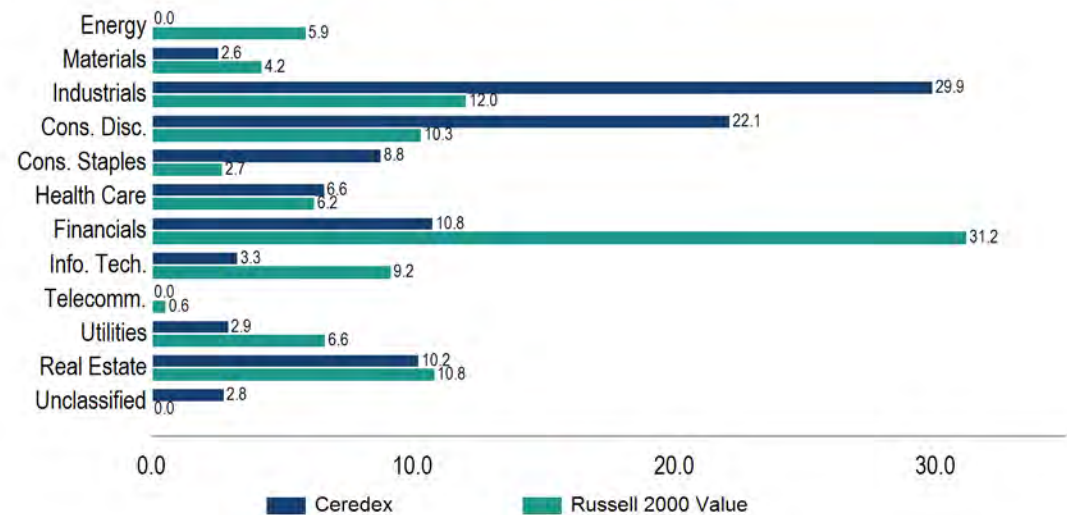
Period Ending: September 30, 2017

Domestic equity small cap value portfolio of companies with dividend yields and low valuations. Primary personnel include Brett Barner and David Maynard.

## Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	83	1,396
Weighted Avg. Market Cap. (\$B)	2.08	1.96
Median Market Cap. (\$B)	1.71	0.70
Price To Earnings	26.20	20.69
Price To Book	3.25	1.79
Price To Sales	2.13	2.72
Return on Equity (%)	15.12	7.49
Yield (%)	2.43	1.60
Beta	0.64	1.00

## Sector Allocation (%) vs Russell 2000 Value



## Largest Holdings

	End Weight	Return
ENERGIZER HOLDINGS	4.11	-3.47
HILL-ROM HOLDINGS	3.37	-6.83
EVERCORE 'A'	2.80	14.35
TANGER FAC.OUTLET CNTRS.	2.78	-4.84
TETRA TECH	2.78	1.99
LITHIA MOTORS 'A'	2.62	28.01
BLOOMIN' BRANDS	2.60	-16.71
COVANTA HOLDING	2.51	14.37
HERMAN MILLER	2.51	18.72
DSW 'A'	2.21	22.56

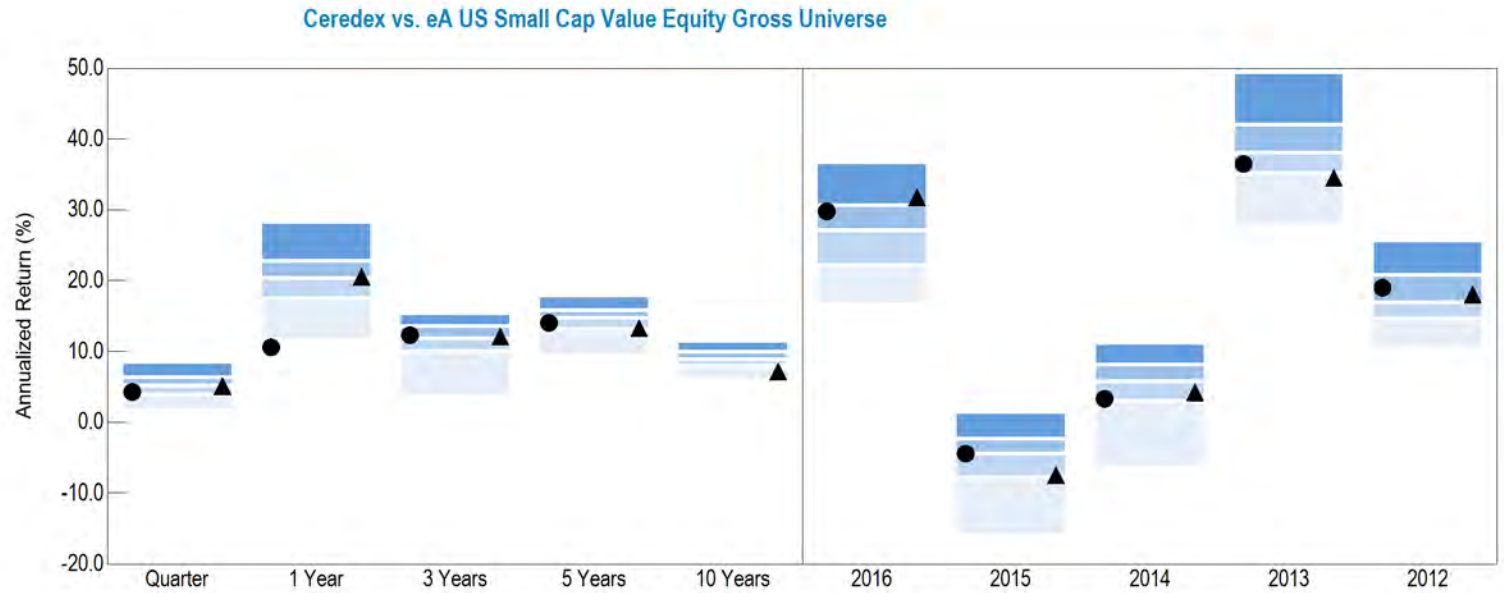
## Top Contributors

	Avg Wgt	Return	Contribution
LITHIA MOTORS 'A'	2.36	28.01	0.66
GUESS	1.72	35.13	0.60
HERMAN MILLER	2.40	18.72	0.45
DSW 'A'	1.96	22.56	0.44
LANDAUER	1.35	29.21	0.40
EVERCORE 'A'	2.73	14.35	0.39
COVANTA HOLDING	2.41	14.37	0.35
AMER.EAG.OUTFITTERS	1.59	19.90	0.32
VIAD	1.03	29.12	0.30
HSN	1.03	23.56	0.24

## Bottom Contributors

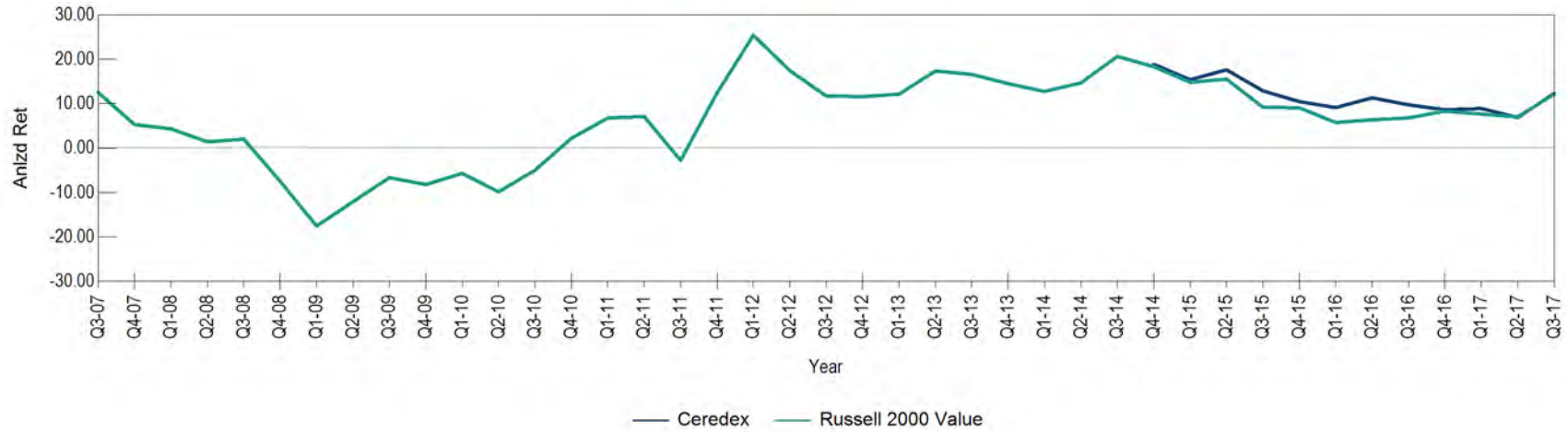
	Avg Wgt	Return	Contribution
AMC ENTERTAINMENT HDG. CL.A	1.88	-34.42	-0.65
BLOOMIN' BRANDS	2.81	-16.71	-0.47
PLANTRONICS	1.81	-15.17	-0.27
REGAL ENTM.GP. 'A'	1.26	-20.63	-0.26
HILL-ROM HOLDINGS	3.68	-6.83	-0.25
APOGEE ENTERPRISES	1.39	-14.88	-0.21
B & G FOODS	2.13	-9.19	-0.20
EDUCATION REAL.TST.	2.36	-6.34	-0.15
TANGER FAC.OUTLET CNTRS.	2.92	-4.84	-0.14
ENERGIZER HOLDINGS	3.51	-3.47	-0.12

Unclassified sector allocation includes cash allocations.

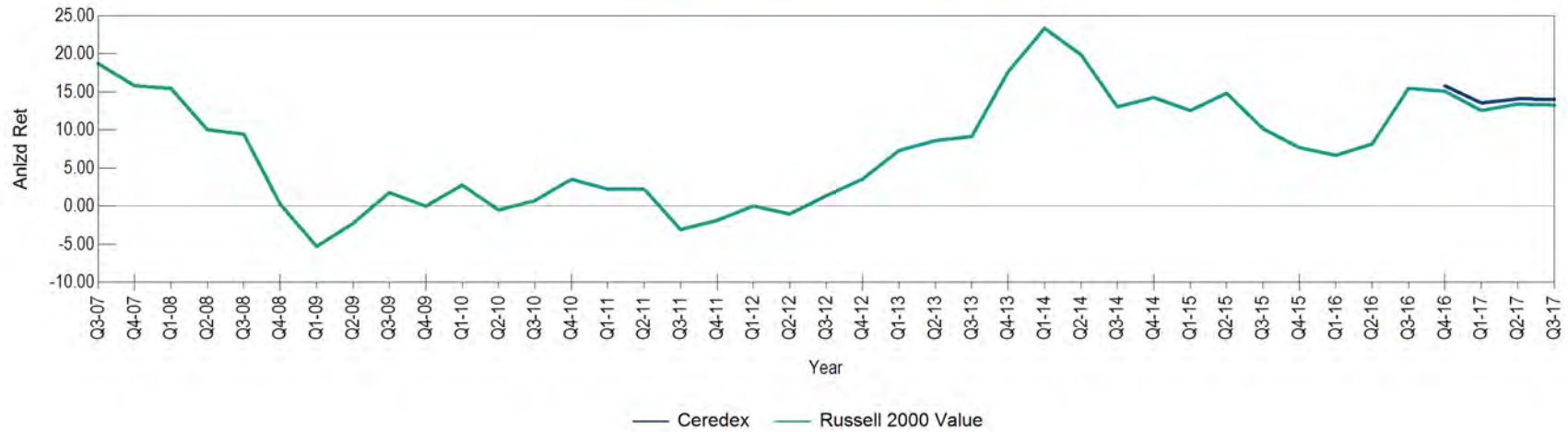


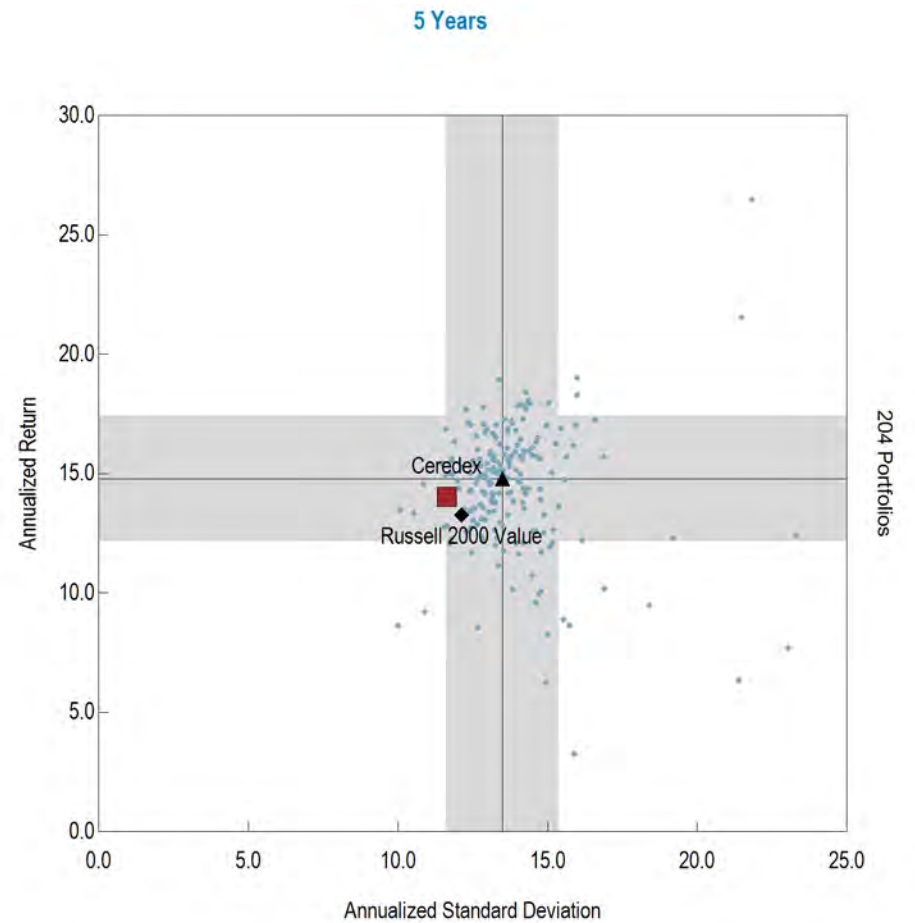
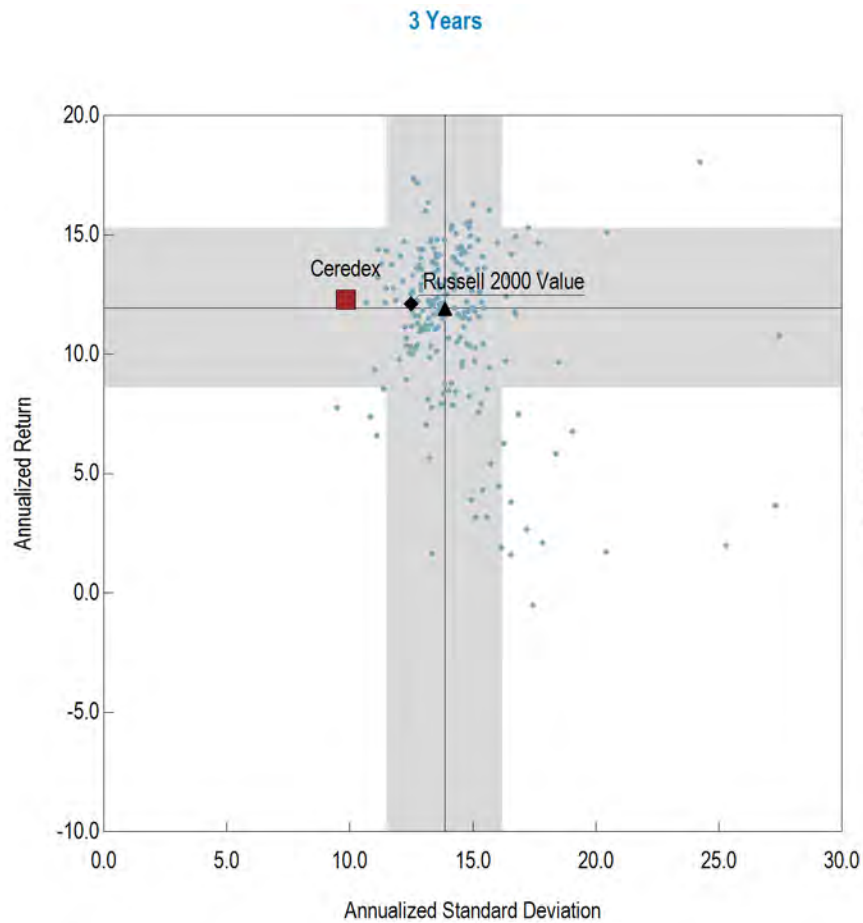
	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2016	2015	2014	2013	2012
5th Percentile	8.5	28.3	15.3	17.8	11.5	36.7	1.5	11.2	49.4	25.7
25th Percentile	6.4	22.9	13.6	15.9	10.0	30.7	-2.2	8.2	42.1	20.8
Median	5.2	20.4	11.9	14.8	9.0	27.2	-4.3	5.8	38.1	16.9
75th Percentile	3.9	17.6	10.1	13.2	8.0	22.2	-7.7	3.1	35.2	14.7
95th Percentile	1.7	11.6	3.7	9.5	6.0	16.8	-15.8	-6.3	27.8	10.3
# of Portfolios	222	222	212	204	170	222	212	206	199	187
● Ceredex	4.3 (69)	10.6 (98)	12.3 (43)	14.0 (64)	-- (--)	29.8 (32)	-4.4 (52)	3.3 (74)	36.5 (66)	19.0 (38)
▲ Russell 2000 Value	5.1 (54)	20.5 (49)	12.1 (48)	13.3 (75)	7.1 (85)	31.7 (17)	-7.5 (74)	4.2 (68)	34.5 (78)	18.1 (43)

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





**3 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Ceredex	12.3%	9.8%	1.2
Russell 2000 Value	12.1%	12.5%	0.9
eA US Small Cap Value Equity Gross Median	11.9%	13.9%	0.8

**5 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Ceredex	14.0%	11.6%	1.2
Russell 2000 Value	13.3%	12.1%	1.1
eA US Small Cap Value Equity Gross Median	14.8%	13.5%	1.1

# International Equity Managers

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# Pyrford Manager Portfolio Overview

Period Ending: September 30, 2017

International equity value portfolio of non-US companies with low valuations at the country and stock level. Primary personnel include Tony Cousins, Daniel McDonagh, and Paul Simons.

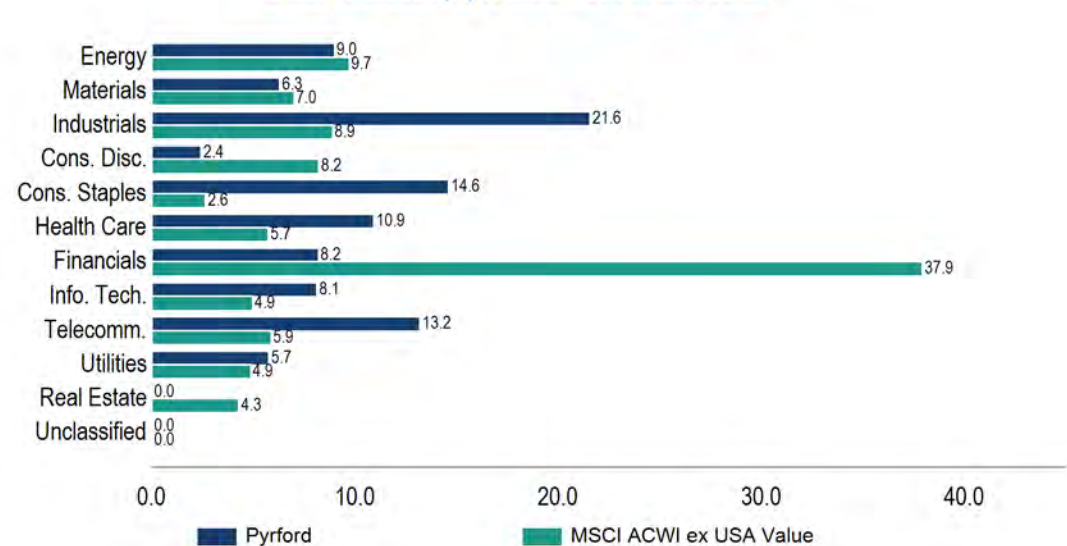
## Characteristics

	MSCI ACWI Portfolio	MSCI ACWI ex USA Value
Number of Holdings	71	1,053
Weighted Avg. Market Cap. (\$B)	62.84	59.13
Median Market Cap. (\$B)	21.65	7.54
Price To Earnings	23.17	15.20
Price To Book	3.74	1.60
Price To Sales	2.37	1.60
Return on Equity (%)	19.75	11.12
Yield (%)	3.60	3.72
Beta	0.60	1.00

## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	93.1%	77.0%
Emerging*	6.9%	23.0%
<b>Top 10 Largest Countries</b>		
United Kingdom	15.2%	13.9%
Switzerland	14.6%	5.3%
Australia	10.6%	4.7%
Japan	8.5%	15.9%
France	7.6%	7.7%
Germany	7.2%	6.4%
Hong Kong	6.9%	2.3%
Netherlands	6.1%	1.3%
Singapore	4.9%	0.9%
Sweden	4.8%	1.9%
<b>Total-Top 10 Largest Countries</b>	<b>86.3%</b>	<b>60.5%</b>

## Sector Allocation (%) vs MSCI ACWI ex USA Value



## Top Contributors

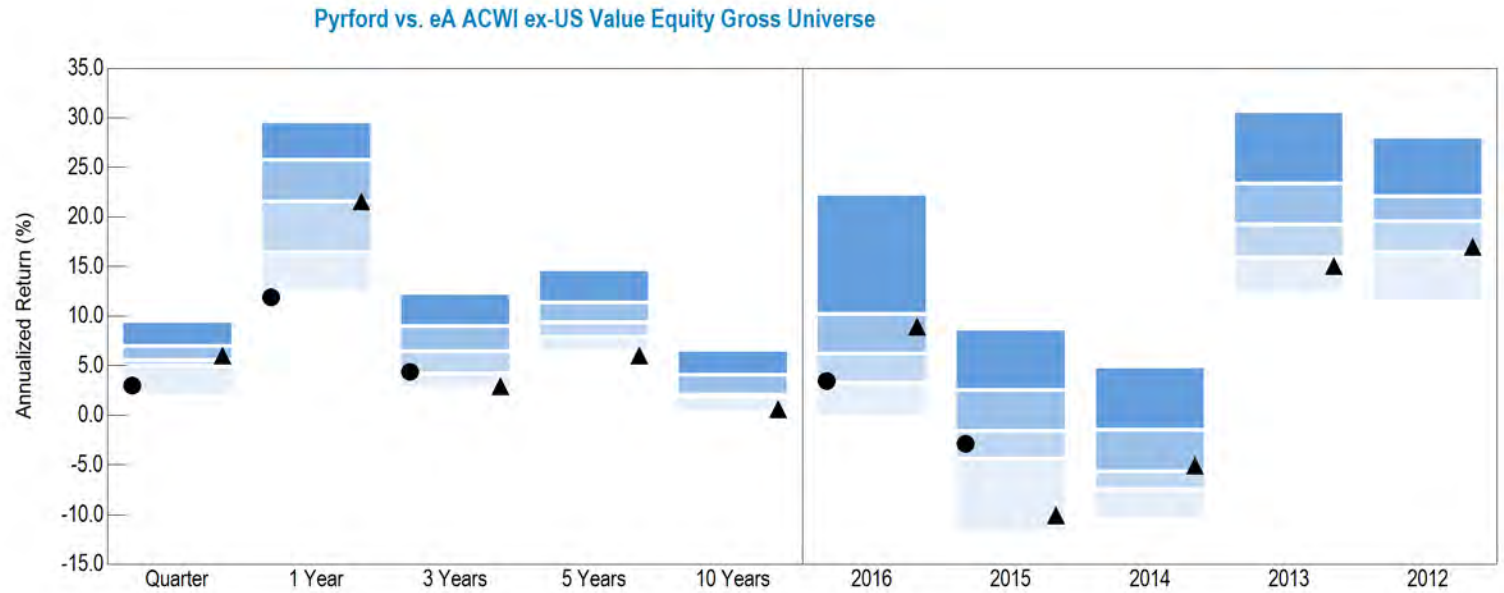
	Avg Wgt	Return	Contribution
TELENOR	1.89	27.95	0.53
DEUTSCHE POST	1.26	19.16	0.24
CNOOC	1.14	20.38	0.23
ROYAL DUTCH SHELL A	1.36	15.97	0.22
ATLAS COPCO 'A'	2.01	10.34	0.21
BUREAU VERITAS INTL.	1.08	16.81	0.18
ROYAL DUTCH SHELL B	1.07	16.79	0.18
UNILEVER DR	1.97	8.91	0.18
FUCHS PETROLUB PREF.	1.96	7.72	0.15
AXIATA GROUP	1.43	10.29	0.15

## Bottom Contributors

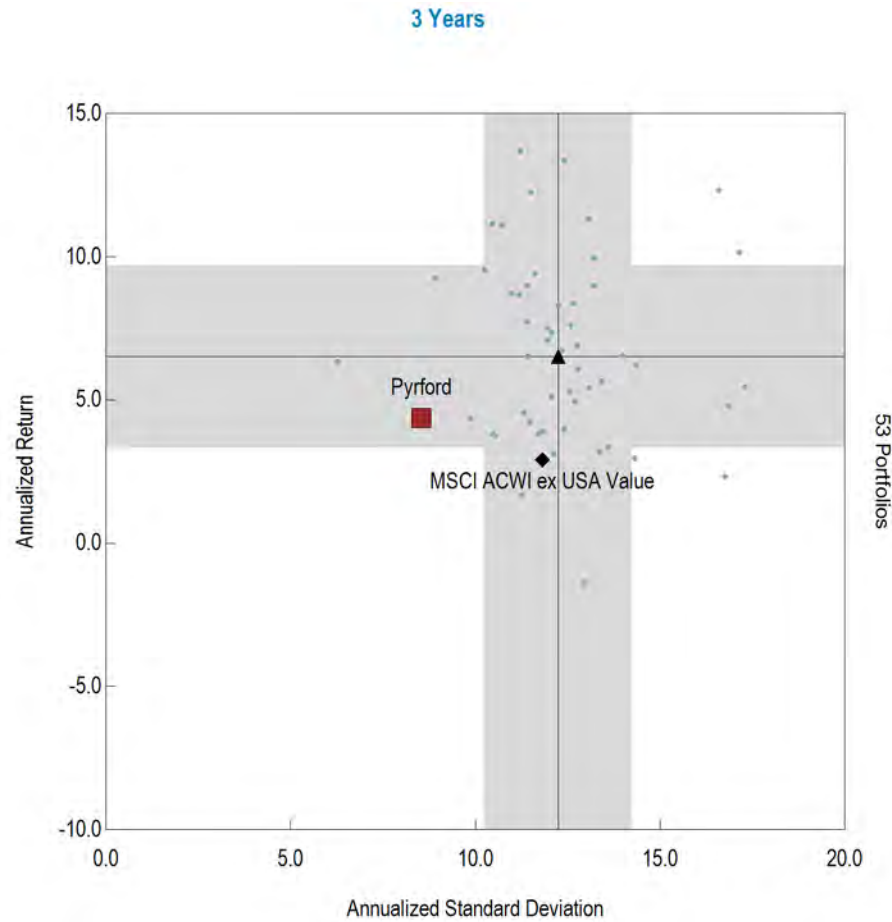
	Avg Wgt	Return	Contribution
BEZEQ THE ISRAELI TELECM CORP.LTD.	1.39	-15.55	-0.22
NESTLE 'R'	3.87	-3.81	-0.15
BRITISH AMERICAN TOBACCO	2.12	-6.73	-0.14
QBE INSURANCE GROUP	1.05	-11.52	-0.12
JAPAN TOBACCO	1.72	-6.73	-0.12
COMFORTDELGRO	1.46	-6.47	-0.09
GLAXOSMITHKLINE	1.66	-4.79	-0.08
MERIDA INDUSTRY	0.47	-16.55	-0.08
VOPAK	1.46	-5.27	-0.08
BRAMBLES	1.99	-3.84	-0.08

Unclassified sector allocation includes cash allocations.





	Return (Rank)															
5th Percentile	9.4	29.6	12.3	14.7	6.6	22.3	8.7	4.9	30.7	28.1						
25th Percentile	7.0	25.8	9.0	11.4	4.1	10.2	2.5	-1.4	23.4	22.1						
Median	5.6	21.6	6.5	9.4	2.1	6.2	-1.6	-5.7	19.3	19.6						
75th Percentile	5.0	16.5	4.2	7.9	1.9	3.3	-4.3	-7.4	15.9	16.5						
95th Percentile	2.1	12.5	2.7	6.4	0.3	-0.1	-11.6	-10.4	12.4	11.7						
# of Portfolios	56	56	53	46	30	55	45	37	34	32						
● Pyrford	3.0 (92)	11.9 (97)	4.4 (73)	-- (--)	-- (--)	3.4 (74)	-2.9 (59)	-- (--)	-- (--)	-- (--)						
▲ MSCI ACWI ex USA Value	6.0 (40)	21.6 (52)	2.9 (95)	6.0 (98)	0.6 (93)	8.9 (35)	-10.1 (93)	-5.1 (49)	15.0 (83)	17.0 (74)						



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Pyrford	4.4%	8.5%	0.5
MSCI ACWI ex USA Value	2.9%	11.8%	0.2
eA ACWI ex-US Value Equity Gross Median	6.5%	12.2%	0.5

# William Blair Manager Portfolio Overview

Period Ending: September 30, 2017

International equity growth portfolio of non-US companies with high growth rates constructed from the security level. Primary personnel include Simon Fennell and Jeffrey Urbina.

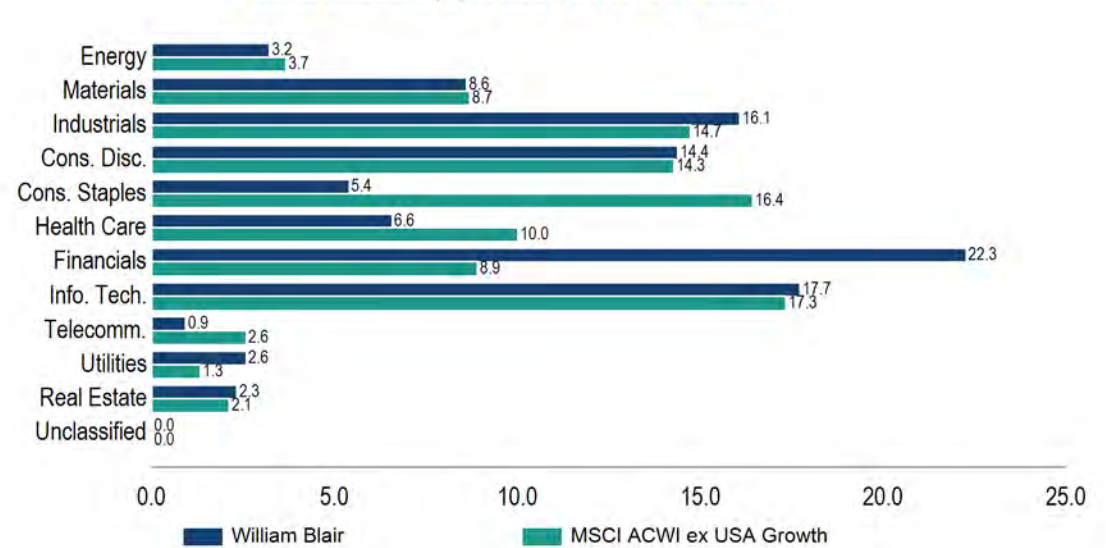
## Characteristics

	MSCI ACWI Portfolio	ex USA Growth
Number of Holdings	214	1,060
Weighted Avg. Market Cap. (\$B)	49.75	66.62
Median Market Cap. (\$B)	9.29	8.37
Price To Earnings	23.43	26.40
Price To Book	4.69	4.05
Price To Sales	3.28	2.96
Return on Equity (%)	21.34	18.20
Yield (%)	1.99	1.89
Beta	0.92	1.00

## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	78.0%	75.0%
Emerging*	21.9%	25.0%
Frontier**	0.1%	0.0%
<b>Top 10 Largest Countries</b>		
Japan	16.1%	16.1%
France	12.1%	7.2%
United Kingdom	12.0%	10.8%
Germany	7.4%	7.0%
China*	5.1%	7.9%
Canada	5.1%	6.6%
Hong Kong	4.8%	2.5%
India*	4.6%	2.0%
Switzerland	3.3%	6.1%
Italy	3.1%	0.9%
<b>Total-Top 10 Largest Countries</b>	<b>73.7%</b>	<b>67.1%</b>

## Sector Allocation (%) vs MSCI ACWI ex USA Growth



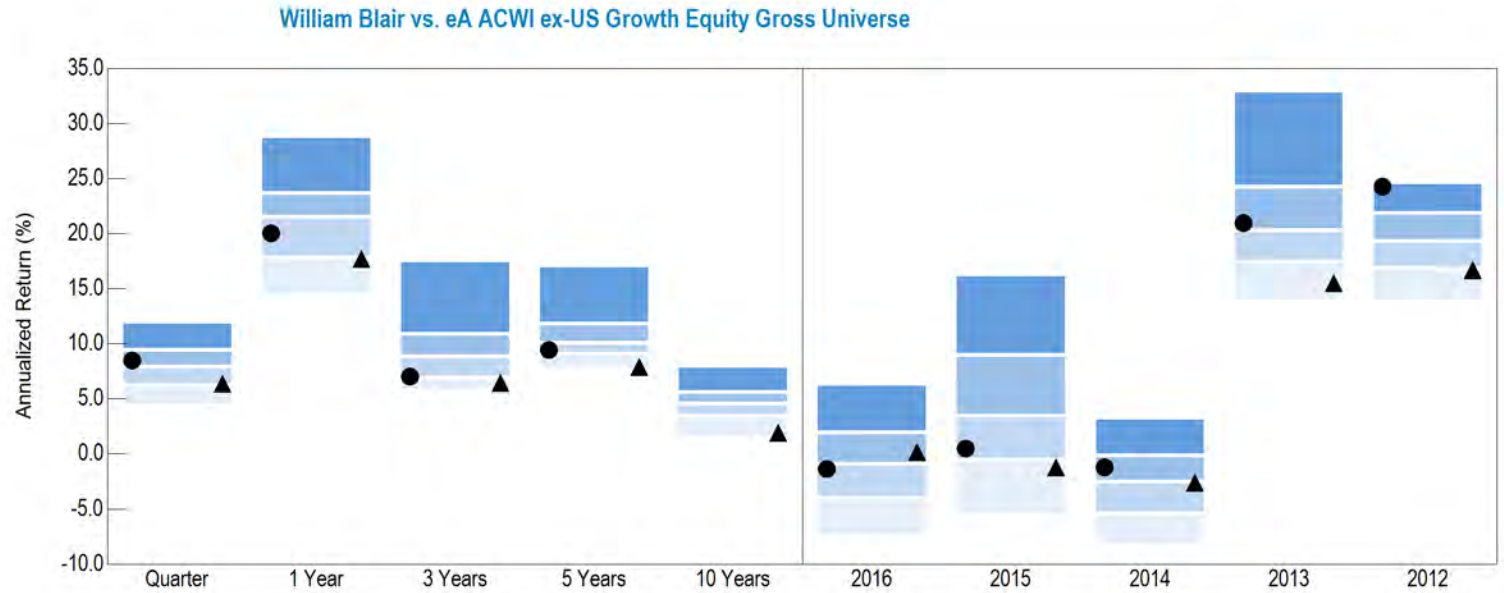
## Top Contributors

	Avg Wgt	Return	Contribution
ALIBABA GROUP HLDG.SPN. ADR 1:1	1.77	22.58	0.40
PING AN INSURANCE 'H'	1.95	18.94	0.37
TENCENT HOLDINGS	1.51	20.35	0.31
ITAU UNIBANCO HOLDING PN	1.17	24.94	0.29
GLENCORE	1.03	23.89	0.25
LONZA GROUP	1.15	21.28	0.24
SUNCOR ENERGY	1.10	20.83	0.23
KEYENCE	0.97	20.98	0.20
INDL.& COML.BK.OF CHINA 'H'	1.25	15.89	0.20
BNP PARIBAS	1.53	12.18	0.19

## Bottom Contributors

	Avg Wgt	Return	Contribution
PROVIDENT FINANCIAL	0.23	-64.74	-0.15
BRITISH AMERICAN TOBACCO	1.57	-6.73	-0.11
GLAXOSMITHKLINE	1.43	-4.79	-0.07
WPP	0.41	-11.37	-0.05
AENA SME	0.63	-7.33	-0.05
GRENCORE GROUP	0.23	-17.62	-0.04
LENZING	0.18	-18.94	-0.03
MITSUBISHI UFJ FINL.GP.	1.54	-2.16	-0.03
TOKIO MARINE HOLDINGS	0.83	-3.80	-0.03
ARCA CONTINENTAL	0.34	-9.03	-0.03

Unclassified sector allocation includes cash allocations.

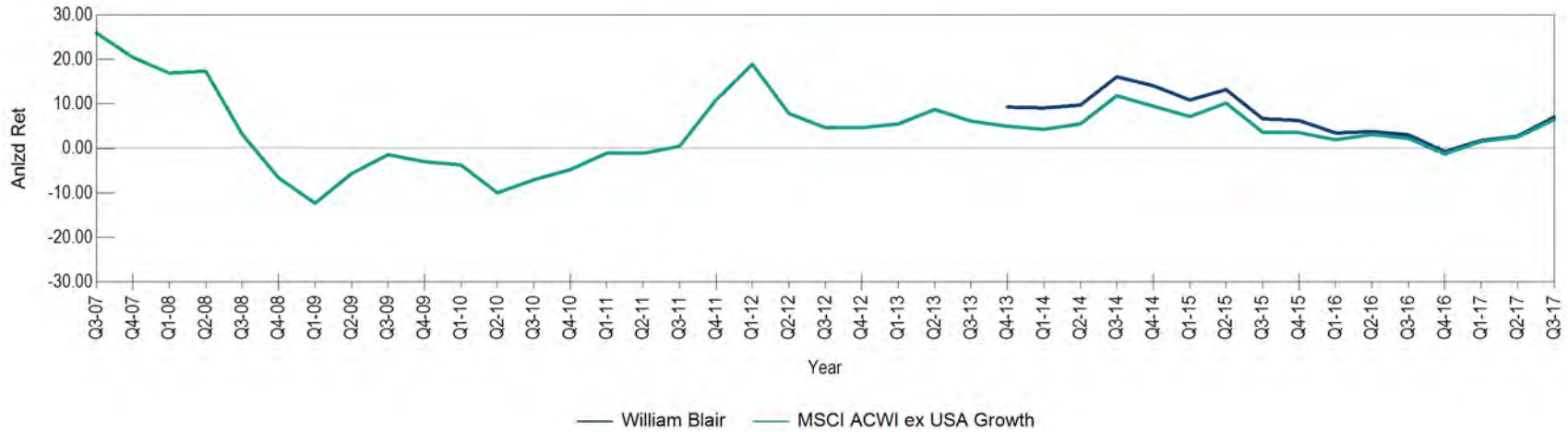


	Quarter	1 Year	3 Years	5 Years	10 Years	2016	2015	2014	2013	2012
<b>5th Percentile</b>	12.0	28.8	17.6	17.1	8.0	6.3	16.3	3.2	33.0	24.6
<b>25th Percentile</b>	9.5	23.7	10.9	11.9	5.6	2.0	9.0	-0.1	24.3	21.9
<b>Median</b>	8.0	21.5	8.9	10.1	4.6	-0.9	3.5	-2.5	20.3	19.3
<b>75th Percentile</b>	6.3	17.9	7.0	9.1	3.5	-3.9	-0.5	-5.3	17.5	16.9
<b>95th Percentile</b>	4.4	14.4	5.8	7.7	1.5	-7.4	-5.4	-8.2	14.0	13.7
<b># of Portfolios</b>	98	98	89	81	58	90	70	50	46	51
● William Blair	8.5 (44)	20.0 (60)	7.0 (74)	9.4 (68)	-- (--)	-1.4 (55)	0.5 (69)	-1.2 (37)	20.9 (44)	24.3 (6)
▲ MSCI ACWI ex USA Growth	6.3 (73)	17.7 (76)	6.4 (86)	7.9 (95)	1.9 (94)	0.1 (45)	-1.3 (83)	-2.6 (53)	15.5 (87)	16.7 (78)

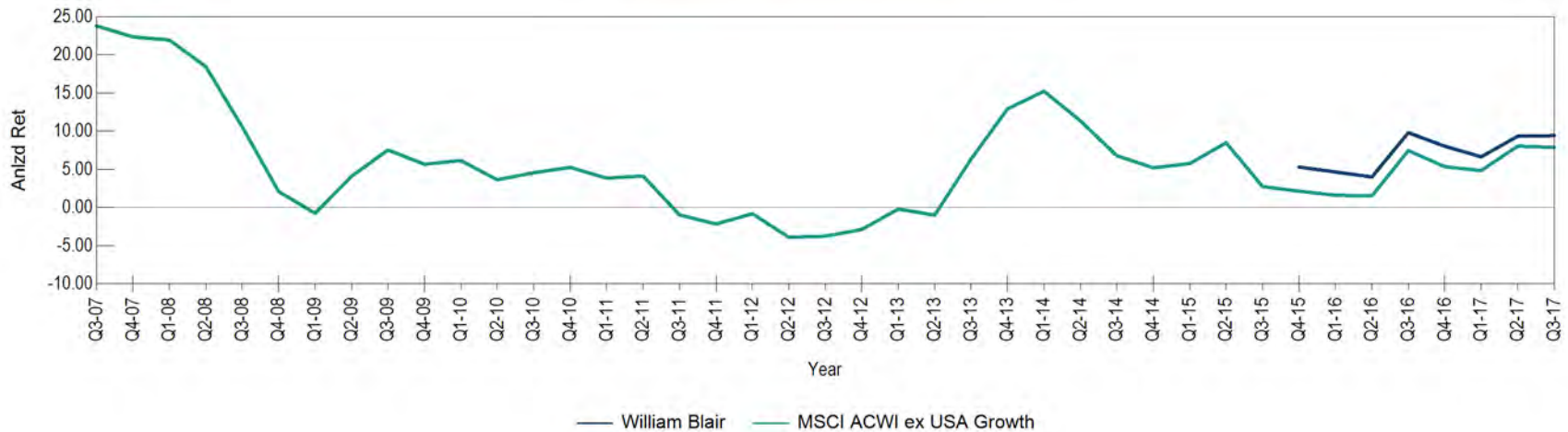
William Blair  
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

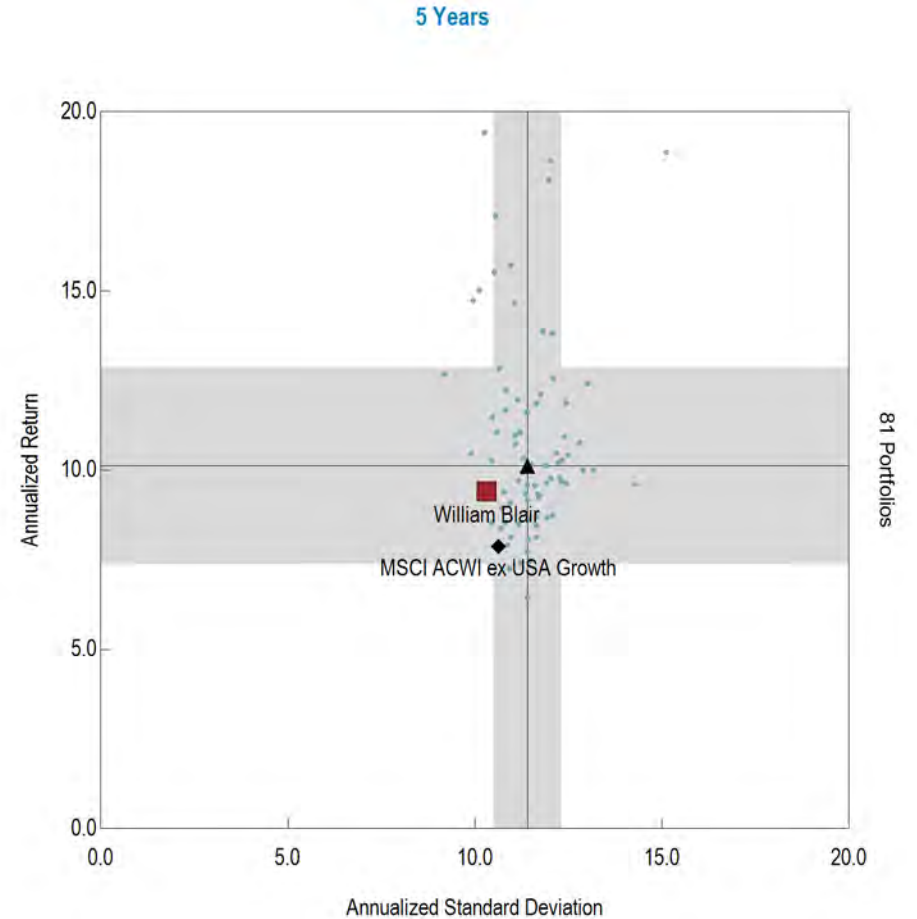
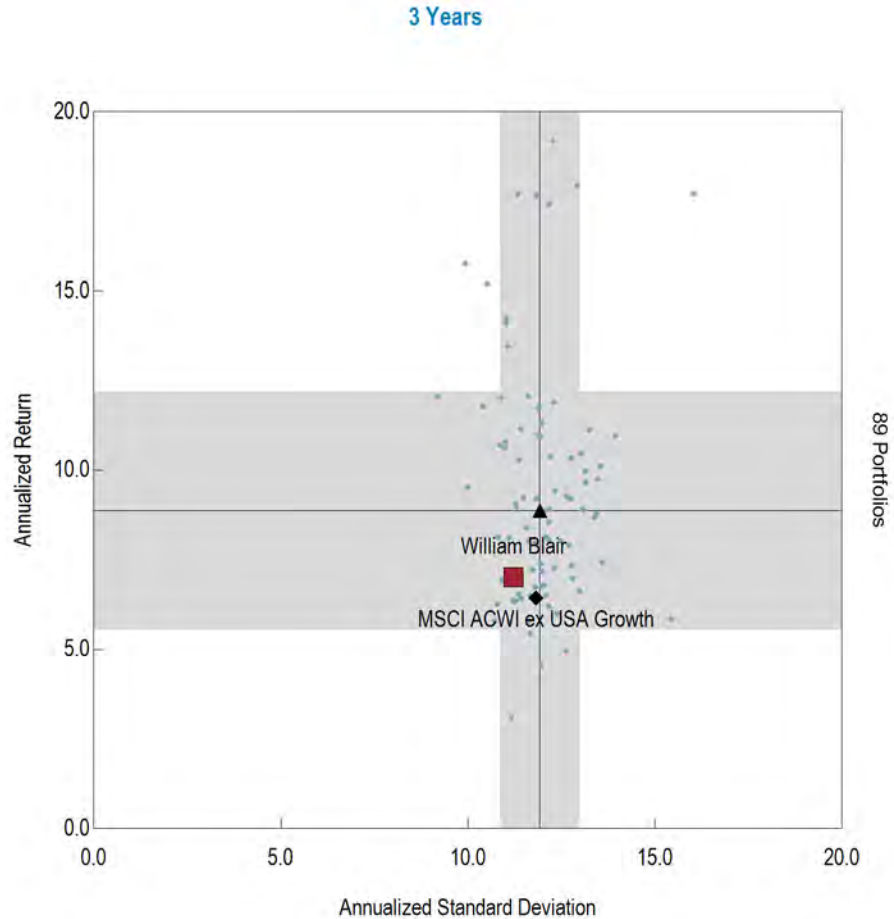
Period Ending: September 30, 2017

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





	3 Years			5 Years			
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio		Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
William Blair	7.0%	11.2%	0.6	William Blair	9.4%	10.3%	0.9
MSCI ACWI ex USA Growth	6.4%	11.8%	0.5	MSCI ACWI ex USA Growth	7.9%	10.6%	0.7
eA ACWI ex-US Growth Equity Gross Median	8.9%	11.9%	0.7	eA ACWI ex-US Growth Equity Gross Median	10.1%	11.4%	0.8

# PIMCO RAE Emerging Markets Manager Portfolio Overview

Period Ending: September 30, 2017

The PIMCO RAE Emerging Markets seeks to invest 80% of its assets in investments that are economically tied to emerging market countries. The portfolio is sub-advised by Research Affiliates, LLC.

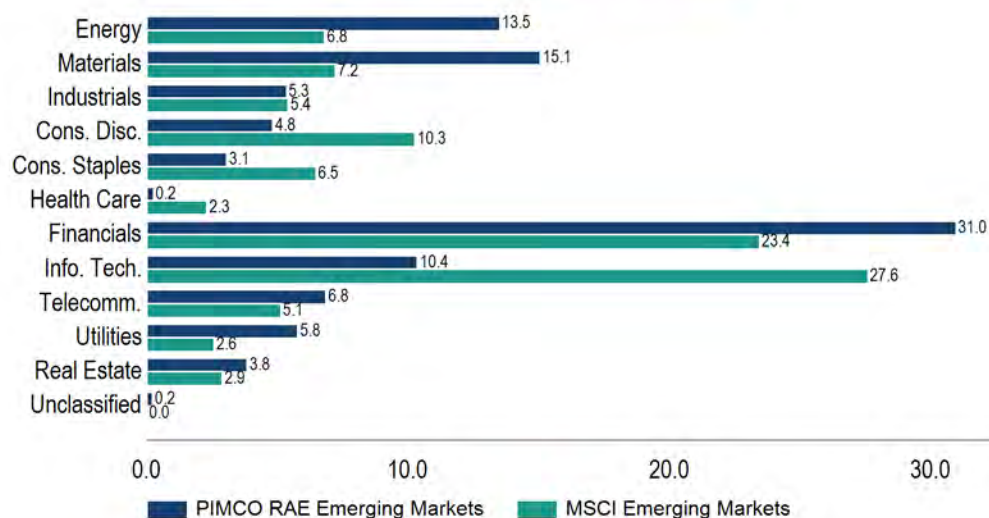
## Characteristics

	Portfolio	MSCI Emerging Markets
Number of Holdings	568	839
Weighted Avg. Market Cap. (\$B)	35.76	80.55
Median Market Cap. (\$B)	3.78	5.53
Price To Earnings	13.12	21.53
Price To Book	1.44	2.75
Price To Sales	1.06	2.21
Return on Equity (%)	11.65	17.35
Yield (%)	3.23	2.29
Beta		1.00

## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	9.5%	0.0%
Emerging*	90.5%	100.0%
<b>Top 10 Largest Countries</b>		
Korea*	17.5%	14.9%
China*	16.1%	29.6%
Brazil*	14.8%	7.5%
Russia*	9.8%	3.4%
Hong Kong	8.7%	0.0%
Taiwan*	7.9%	11.5%
India*	5.7%	8.4%
South Africa*	5.4%	6.3%
Poland*	2.8%	1.3%
Thailand*	2.5%	2.2%
<b>Total-Top 10 Largest Countries</b>	<b>91.2%</b>	<b>85.3%</b>

## Sector Allocation (%) vs MSCI Emerging Markets



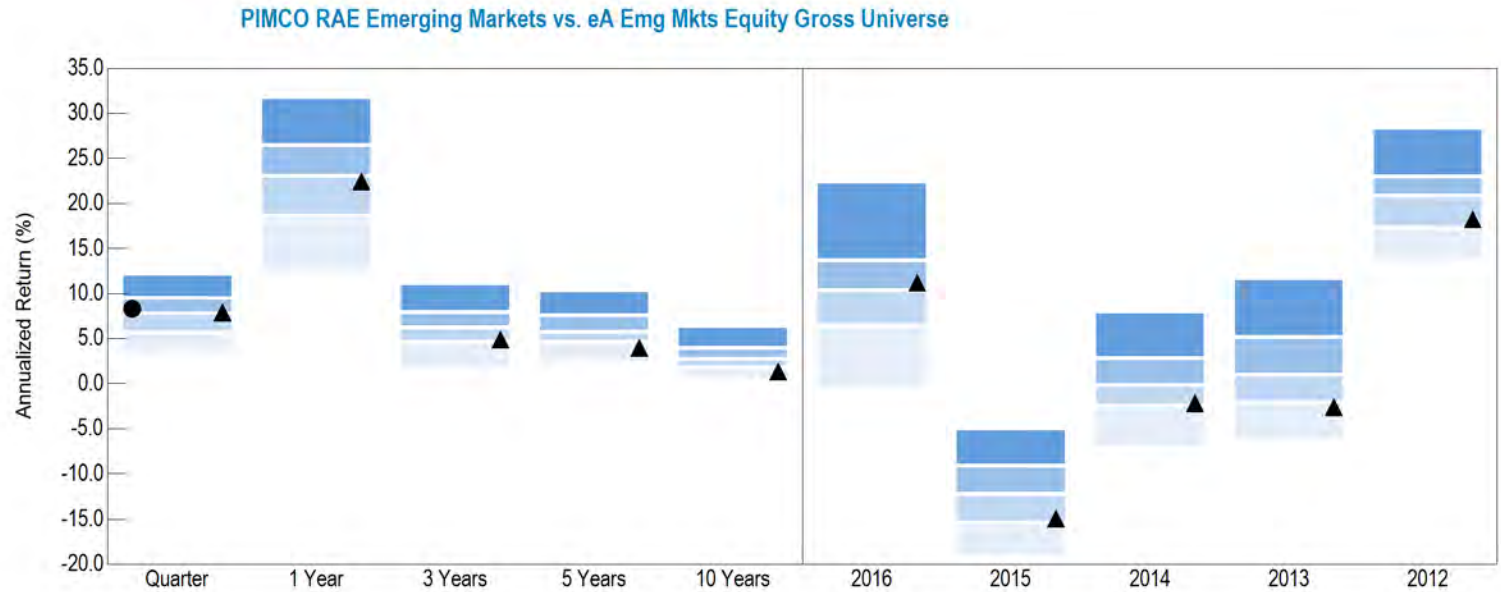
## Top Contributors

	End Weight	Return	Contribution
CHINA EVERGRANDE	0.59	94.26	0.56
BANCO DO BRASIL ON	1.48	37.59	0.56
VIA VAREJO UNITS	0.39	122.49	0.47
PETROLEO BRASILEIRO ADR 1:2	1.55	25.66	0.40
INDL. & COML.BK.OF CHINA 'H'	2.38	15.89	0.38
VALE PN	2.46	14.98	0.37
BNC.BRADESCO PF.SPN.ADR 1:1	1.06	31.38	0.33
ITAU UNIBANCO BANCO HLDG.ADR 1:1	1.30	25.38	0.33
SAMSUNG ELECTRONICS	3.94	7.75	0.31
SURGUTNEFTEGAZ SPN.ADR. 1:10	1.28	20.99	0.27

## Bottom Contributors

	End Weight	Return	Contribution
THAI AIRWAYS INTL.FB	0.26	-62.29	-0.16
KT ADR 2:1	0.67	-16.65	-0.11
ALPHA BANK	0.34	-19.86	-0.07
JAIPRAKASH ASSOCIATES	0.36	-18.52	-0.07
HYUNDAI MOTOR	1.07	-5.74	-0.06
KIA MOTORS	0.31	-17.23	-0.05
LG DISPLAY	0.29	-17.74	-0.05
LOTTE SHOPPING	0.27	-18.87	-0.05
KOREAN AIR LINES	0.24	-20.50	-0.05
LG UPLUS	0.33	-14.51	-0.05

Unclassified sector allocation includes cash allocations.



	Return (Rank)																	
5th Percentile	12.2	31.7	11.1	10.3	6.4	22.4	-5.0	8.0	11.7	28.4								
25th Percentile	9.5	26.5	8.0	7.6	4.0	13.7	-9.0	2.9	5.2	23.0								
Median	7.8	23.1	6.3	5.8	2.8	10.4	-12.2	-0.1	1.0	20.9								
75th Percentile	5.7	18.7	4.7	4.7	1.8	6.6	-15.3	-2.4	-2.0	17.3								
95th Percentile	3.3	12.5	1.6	2.4	0.5	-0.6	-19.2	-7.0	-6.3	13.7								
# of Portfolios	338	338	315	258	127	337	273	251	198	155								
● PIMCO RAE Emerging Markets	8.3 (42)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)								
▲ MSCI Emerging Markets	7.9 (49)	22.5 (58)	4.9 (72)	4.0 (87)	1.3 (87)	11.2 (45)	-14.9 (70)	-2.2 (74)	-2.6 (80)	18.2 (68)								



# TT Emerging Markets Manager Portfolio Overview

Period Ending: September 30, 2017

The Emerging Markets Unconstrained strategy aims to outperform its benchmark, MSCI Emerging Markets Index by 5% per annum over a three-year rolling period. It targets high returns and long term capital growth by investing in a focused portfolio of primarily equity and equity-related securities traded in the Emerging Markets.

## Characteristics

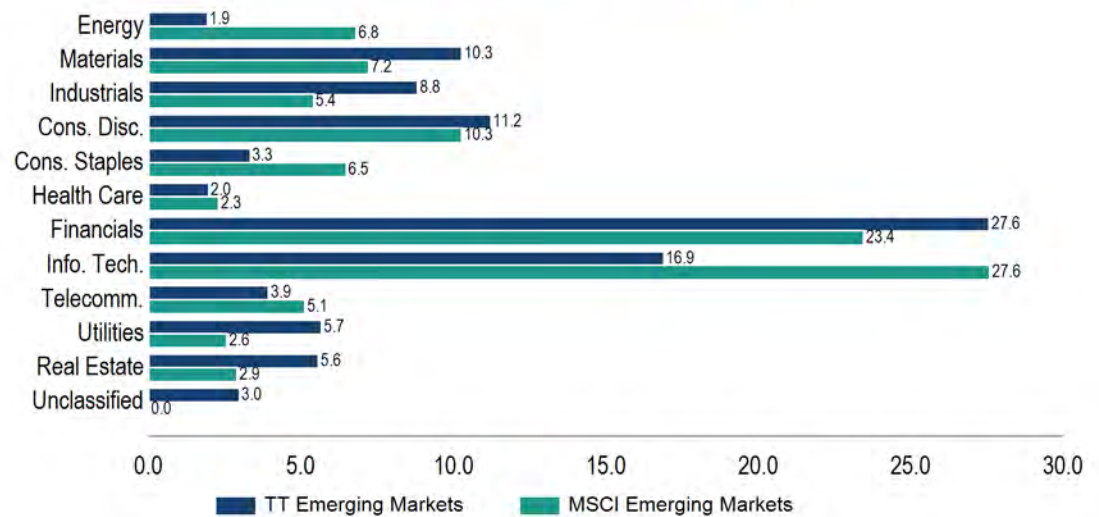
	Portfolio	MSCI Emerging Markets
Number of Holdings	42	839
Weighted Avg. Market Cap. (\$B)	45.36	80.55
Median Market Cap. (\$B)	2.61	5.53
Price To Earnings	24.37	21.53
Price To Book	2.89	2.75
Price To Sales	3.85	2.21
Return on Equity (%)	15.91	17.35
Yield (%)	1.33	2.29
Beta		1.00

## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	16.0%	0.0%
Emerging*	76.6%	100.0%
Frontier**	7.5%	0.0%
<b>Top 10 Largest Countries</b>		
China*	15.8%	29.6%
India*	11.7%	8.4%
Korea*	10.3%	14.9%
Argentina**	7.5%	0.0%
Brazil*	7.4%	7.5%
Russia*	7.0%	3.4%
South Africa*	5.7%	6.3%
United States	4.2%	0.0%
Hong Kong	3.8%	0.0%
Turkey*	3.7%	1.1%
<b>Total-Top 10 Largest Countries</b>	<b>77.0%</b>	<b>71.3%</b>

Unclassified sector allocation includes cash allocations.

## Sector Allocation (%) vs MSCI Emerging Markets



## Top Contributors

	End Weight	Return	Contribution
ALIBABA GROUP HLDG.SPN. ADR 1:1	6.04	22.58	1.36
GRUPO SUPERVIELLE B	2.59	37.06	0.96
SBERBANK OF RUSSIA	2.28	36.03	0.82
SINA	2.21	34.93	0.77
SAMSUNG ELTN.PREF.	7.22	10.63	0.77
CHINA BLUE CHEMICAL 'H'	1.81	37.22	0.68
NASPERS	5.71	11.63	0.66
POLYUS	3.29	18.10	0.60
PETROLEO BRASILEIRO ON	1.91	25.46	0.49
BANCO MACRO BANSUD 'B'	1.75	27.06	0.47

## Bottom Contributors

	End Weight	Return	Contribution
PP (PERSERO)	2.25	-27.21	-0.61
UNITED BANK	1.78	-18.42	-0.33
MAPLE LEAF	1.10	-22.55	-0.25
CMT.FACTORY	2.61	-8.77	-0.23
SREI INFRASTRUCTURE FIN.	1.46	-12.14	-0.18
TONGDA GROUP HOLDINGS	1.42	-9.74	-0.14
DISH TV INDIA	1.60	-7.53	-0.12
CHOLAMANDALAM INV.& FIN.	2.28	-3.69	-0.08
BIO-RAD LABORATORIES 'A'	1.96	-1.81	-0.04
IIFL HOLDINGS	2.01	-1.11	-0.02

## Global Equity Managers

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# Artisan Partners Manager Portfolio Overview

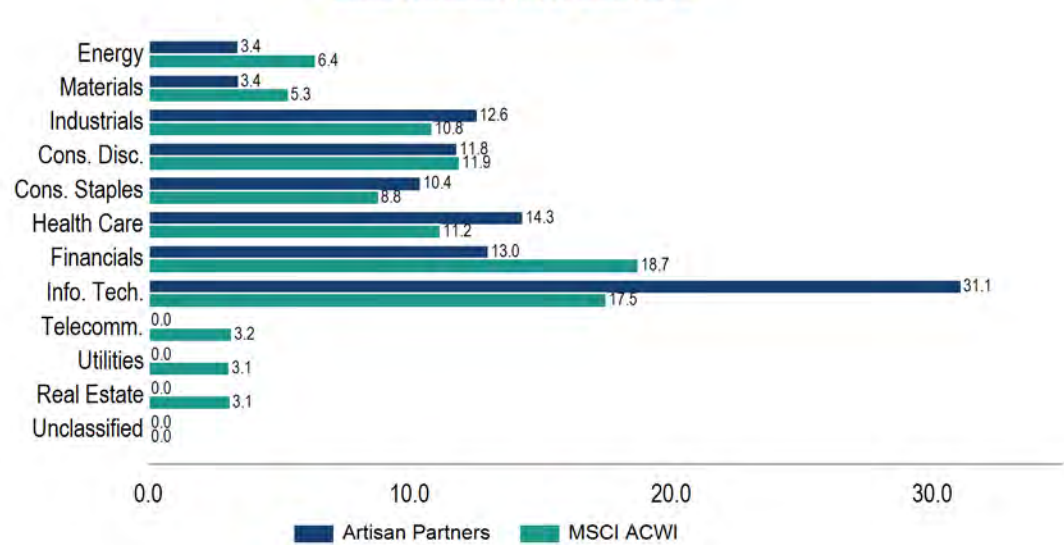
Period Ending: September 30, 2017

Global equity portfolio of companies that is benchmark agnostic with accelerating profit cycles and a focus on capital allocation. Primary personnel include James Hamel, Craigh Cepukenas, and Matthew Kamm.

## Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	46	2,491
Weighted Avg. Market Cap. (\$B)	80.67	111.18
Median Market Cap. (\$B)	27.39	10.03
Price To Earnings	35.04	22.98
Price To Book	6.24	3.66
Price To Sales	6.40	2.87
Return on Equity (%)	18.47	16.34
Yield (%)	0.86	2.35
Beta	1.23	1.00

## Sector Allocation (%) vs MSCI ACWI



## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	94.9%	88.5%
Emerging*	5.1%	11.5%
<b>Top 10 Largest Countries</b>		
United States	52.4%	52.1%
Japan	9.8%	7.7%
United Kingdom	5.1%	5.9%
Hong Kong	5.0%	1.1%
Netherlands	5.0%	1.2%
Germany	5.0%	3.2%
Australia	4.8%	2.3%
Denmark	3.3%	0.6%
Switzerland	2.2%	2.7%
South Africa*	2.1%	0.7%
<b>Total-Top 10 Largest Countries</b>	<b>94.7%</b>	<b>77.6%</b>

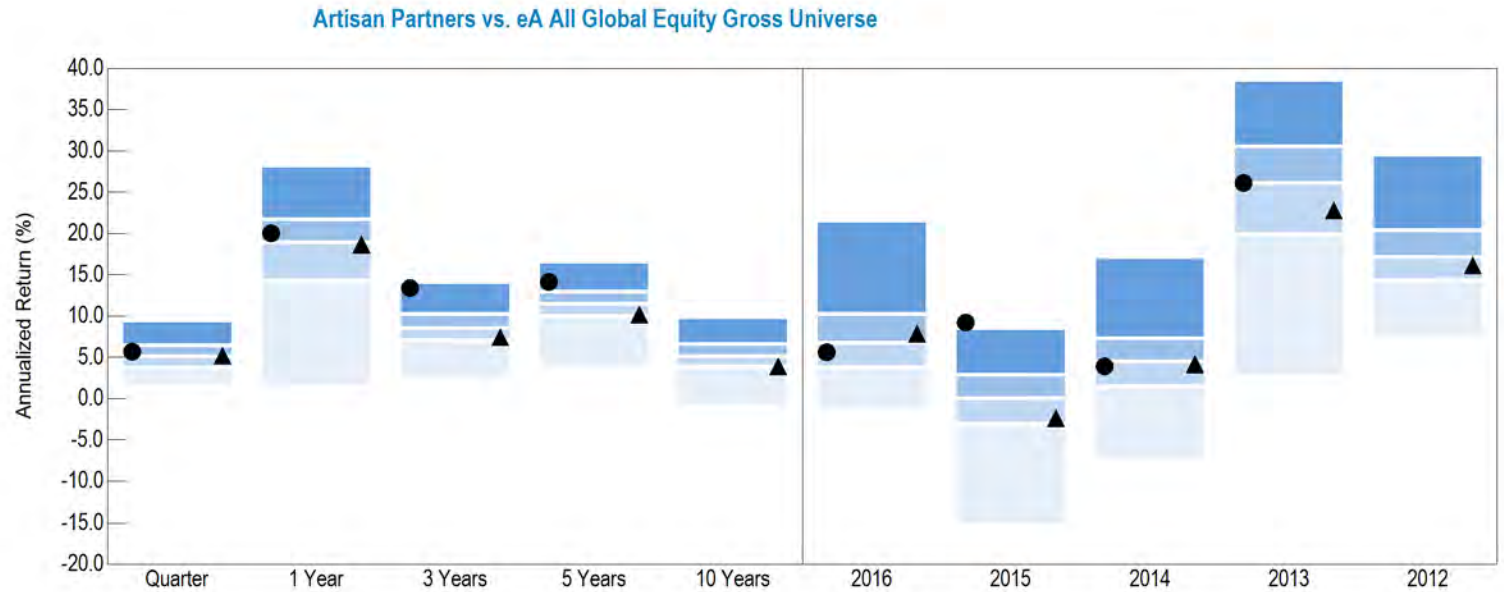
## Top Contributors

	Avg Wgt	Return	Contribution
ASML HLDG.ADR 1:1	2.85	31.38	0.90
VISA 'A'	6.92	12.40	0.86
FACEBOOK CLASS A	4.36	13.17	0.57
ENERPLUS (NYS)	1.89	21.87	0.41
LKQ	3.56	9.23	0.33
BOSTON SCIENTIFIC	5.14	5.23	0.27
ALPHABET 'A'	5.36	4.74	0.25
HDFC BANK ADR 1:3	1.99	10.81	0.21
STATE STREET	2.73	6.94	0.19
BANK OF AMERICA	3.37	4.98	0.17

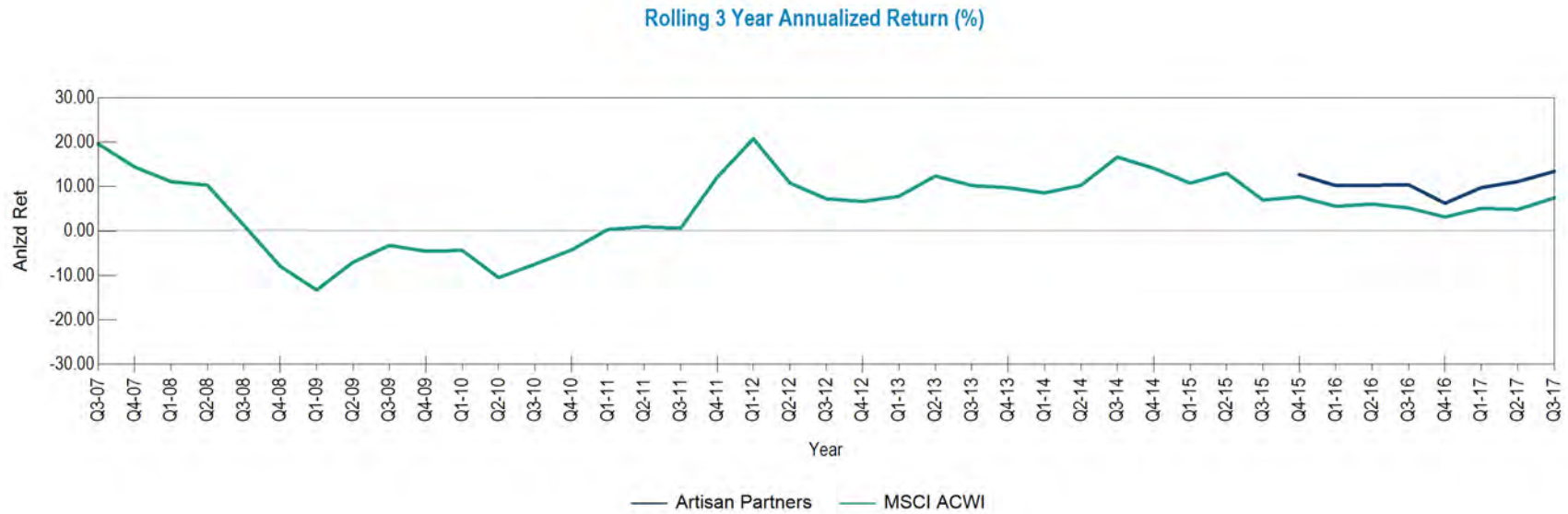
## Bottom Contributors

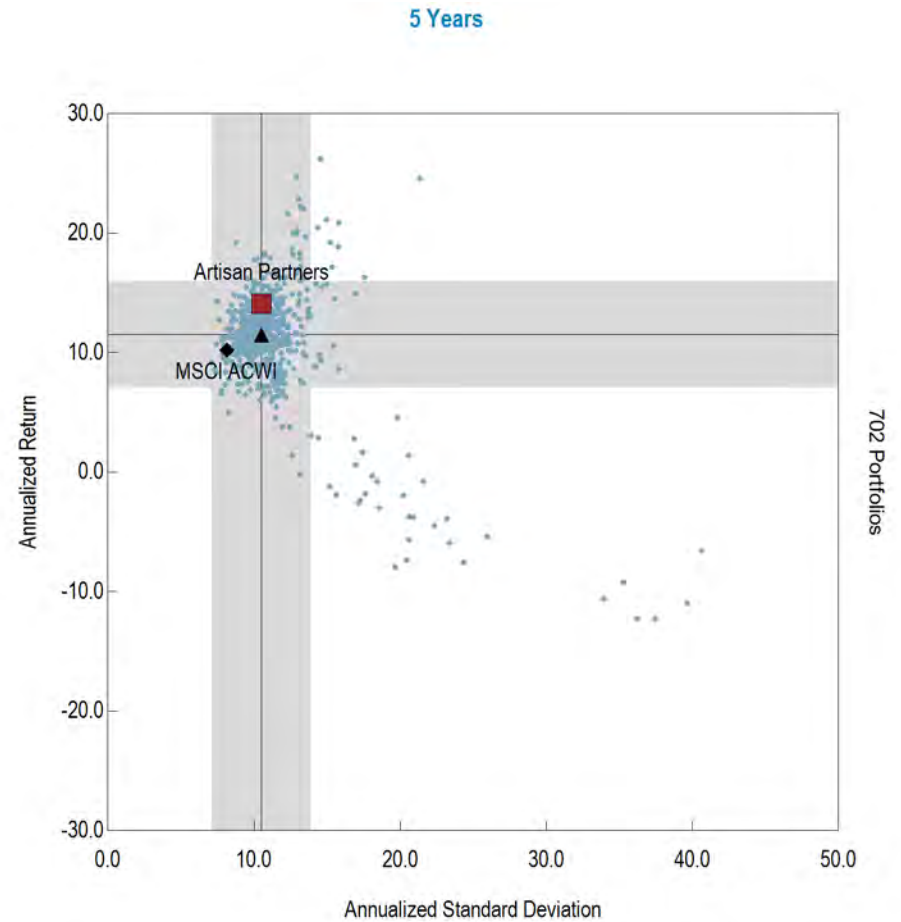
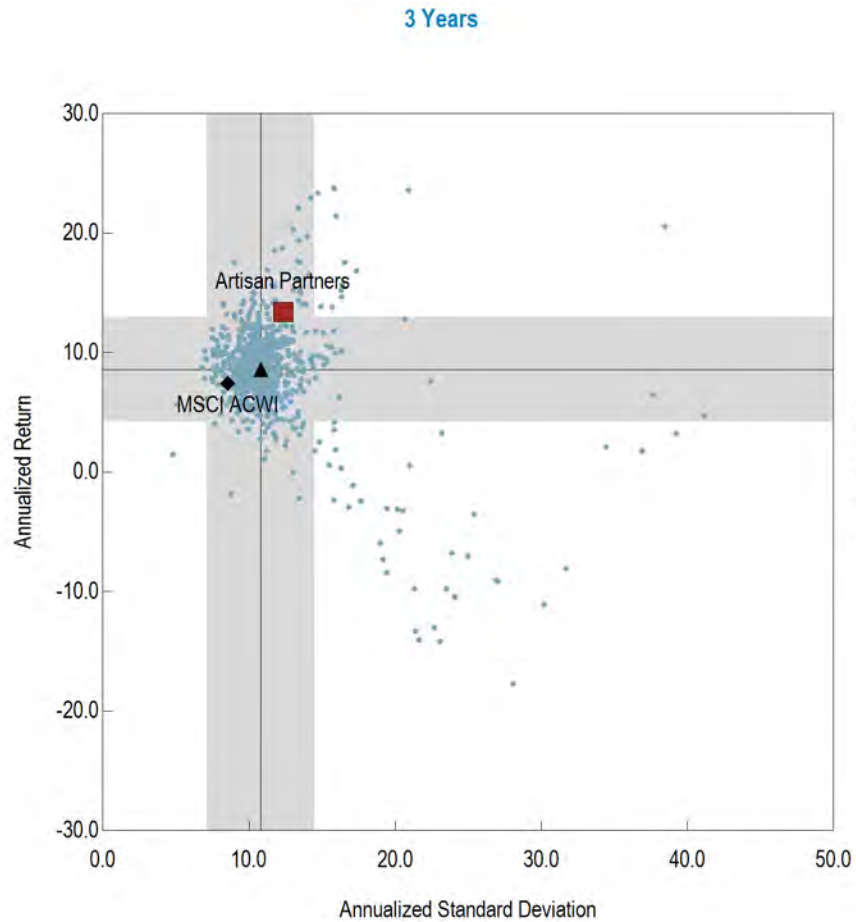
	Avg Wgt	Return	Contribution
GENESIS HEALTHCARE 'A'	4.35	-33.33	-1.45
DEXCOM	1.52	-33.12	-0.50
REGENERON PHARMS.	4.73	-8.96	-0.42
SOTHEBY'S	2.74	-14.09	-0.39
JAMES HARDIE INDS.ADR 1:1	2.53	-10.84	-0.27
PIONEER NTRL.RES.	2.84	-7.52	-0.21
ECOLAB	2.39	-2.84	-0.07
PRICELINE GROUP	2.70	-2.12	-0.06
ALLIANCE DATA SYSTEMS	0.41	-13.49	-0.06
FOM.ECO.MEXNO.SAB DE CV SPN.ADR 1:10	1.43	-2.86	-0.04

Unclassified sector allocation includes cash allocations.



	Return (Rank)									
5th Percentile	9.4	28.2	14.1	16.5	9.8	21.5	8.5	17.1	38.6	29.5
25th Percentile	6.5	21.7	10.3	13.0	6.6	10.3	3.0	7.4	30.6	20.4
Median	5.2	18.9	8.6	11.5	5.2	6.8	0.1	4.6	26.2	17.2
75th Percentile	3.8	14.4	7.1	10.0	4.0	3.9	-2.9	1.5	20.0	14.4
95th Percentile	1.7	1.5	2.4	3.8	-0.8	-1.4	-15.1	-7.4	2.7	7.4
# of Portfolios	863	863	792	702	413	842	692	609	552	475
● Artisan Partners	5.7 (40)	20.0 (39)	13.4 (7)	14.1 (15)	-- (--)	5.6 (61)	9.2 (4)	3.9 (56)	26.1 (51)	-- (--)
▲ MSCI ACWI	5.2 (51)	18.6 (53)	7.4 (70)	10.2 (73)	3.9 (77)	7.9 (42)	-2.4 (73)	4.2 (54)	22.8 (66)	16.1 (61)





	3 Years			5 Years		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio		Anlzd Standard Deviation	Sharpe Ratio
Artisan Partners	13.4%	12.3%	1.1	Artisan Partners	10.5%	1.3
MSCI ACWI	7.4%	8.5%	0.8	MSCI ACWI	8.1%	1.2
eA All Global Equity Gross Median	8.6%	10.8%	0.8	eA All Global Equity Gross Median	10.5%	1.1

# First Eagle Manager Portfolio Overview

Period Ending: September 30, 2017

Global equity portfolio that is benchmark agnostic comprised of companies with low valuations. Primary personnel include Matt McLennan and Kimball Brooker.

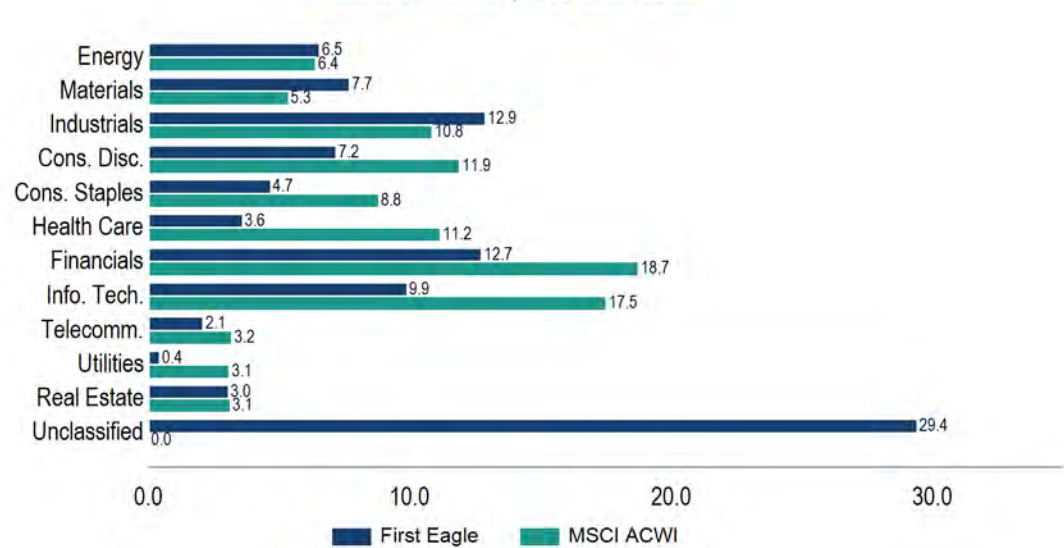
## Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	175	2,491
Weighted Avg. Market Cap. (\$B)	70.87	111.18
Median Market Cap. (\$B)	18.81	10.03
Price To Earnings	23.68	22.98
Price To Book	3.42	3.66
Price To Sales	3.26	2.87
Return on Equity (%)	16.91	16.34
Yield (%)	2.01	2.35
Beta	0.69	1.00

## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	77.8%	88.5%
Emerging*	4.0%	11.5%
Cash	18.2%	
<b>Top 10 Largest Countries</b>		
United States	44.7%	52.1%
Cash	18.2%	0.0%
Japan	12.4%	7.7%
France	5.9%	3.6%
Canada	4.0%	3.2%
United Kingdom	3.1%	5.9%
Germany	1.5%	3.2%
Mexico*	1.4%	0.4%
Switzerland	1.4%	2.7%
Korea*	1.3%	1.7%
<b>Total-Top 10 Largest Countries</b>	<b>93.9%</b>	<b>80.5%</b>

## Sector Allocation (%) vs MSCI ACWI



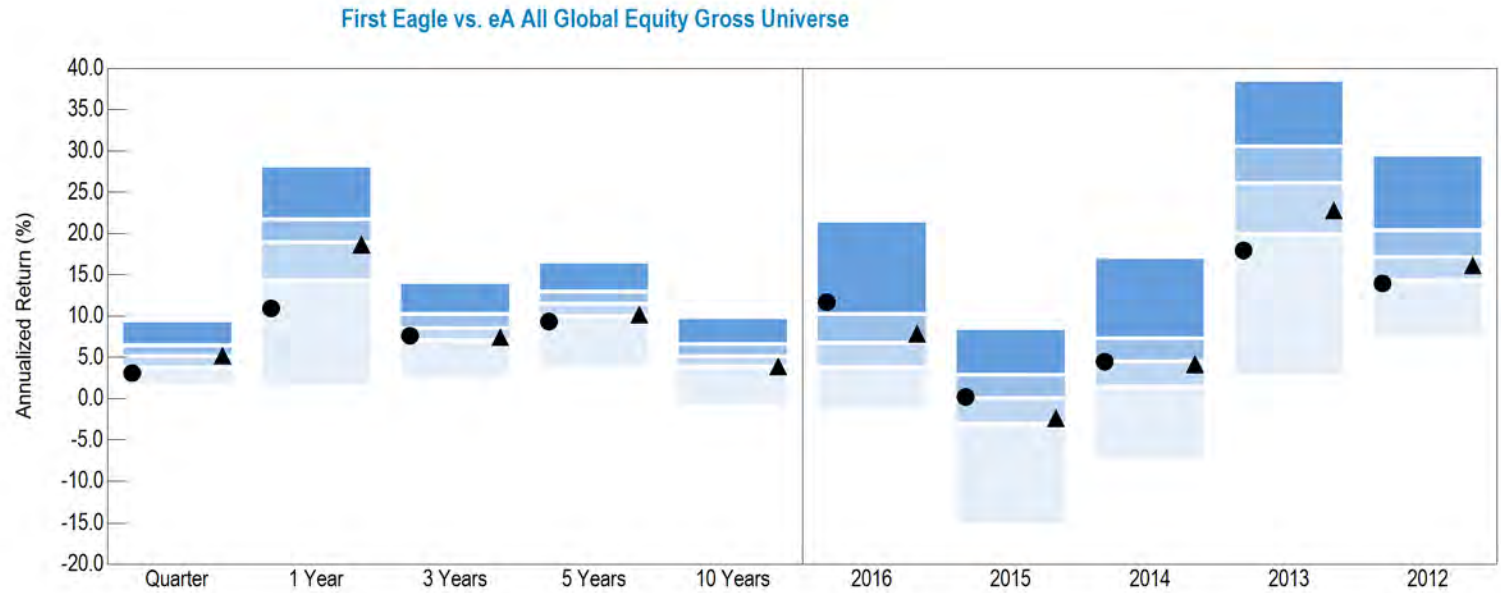
## Top Contributors

	Avg Wgt	Return	Contribution
ORBITAL ATK	0.69	35.77	0.25
KEYENCE	1.00	20.98	0.21
SMC	1.21	16.60	0.20
MICROSOFT	1.99	8.64	0.17
AMERICAN EXPRESS	1.61	7.79	0.13
BERKELEY GROUP HDG.(THE)	0.59	20.64	0.12
POTASH CORPORATION (NYS) OF SASKATCHEWAN	0.62	18.65	0.12
TERADATA	0.69	14.58	0.10
GBL NEW	0.99	9.44	0.09
CINTAS	0.64	14.47	0.09

## Bottom Contributors

	Avg Wgt	Return	Contribution
OMNICOM GROUP	1.31	-9.99	-0.13
CARREFOUR	0.48	-20.00	-0.10
KIA MOTORS	0.49	-17.23	-0.08
ORACLE	2.47	-3.21	-0.08
SHIMANO	0.46	-15.85	-0.07
KT & G	0.67	-9.92	-0.07
MITSUBISHI ESTATE	1.01	-6.24	-0.06
FLOWSERVE	0.62	-7.86	-0.05
SECOM	1.26	-3.09	-0.04
BRITISH AMERICAN TOBACCO	0.54	-6.73	-0.04

Unclassified sector allocation includes cash allocations and Gold allocations (6.8% as of 9/30/2017).



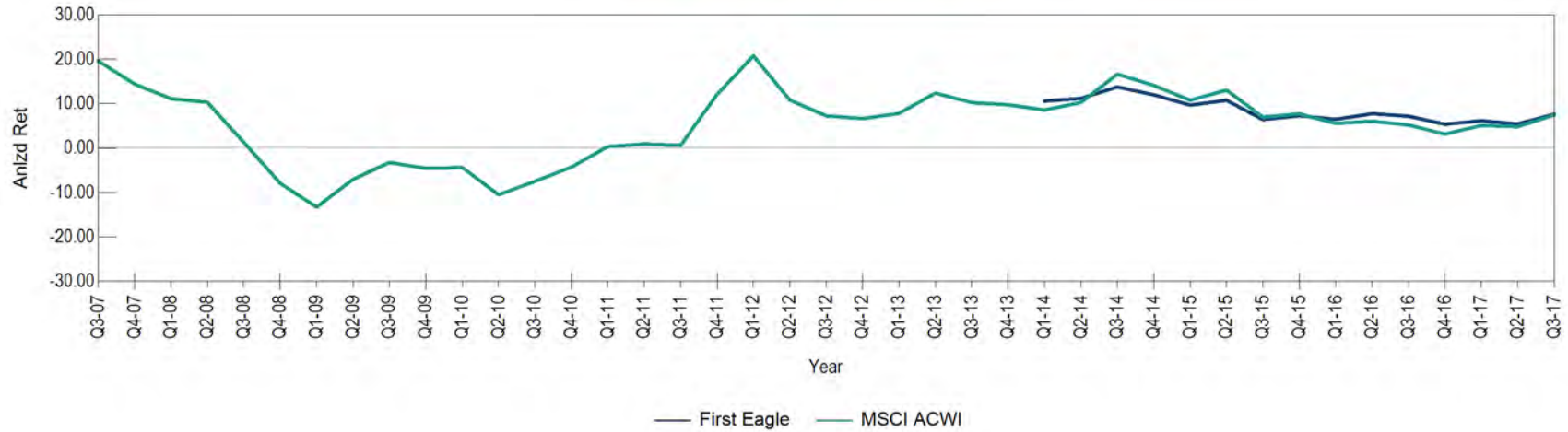
	Quarter	1 Year	3 Years	5 Years	10 Years	2016	2015	2014	2013	2012
<b>Return (Rank)</b>										
5th Percentile	9.4	28.2	14.1	16.5	9.8	21.5	8.5	17.1	38.6	29.5
25th Percentile	6.5	21.7	10.3	13.0	6.6	10.3	3.0	7.4	30.6	20.4
Median	5.2	18.9	8.6	11.5	5.2	6.8	0.1	4.6	26.2	17.2
75th Percentile	3.8	14.4	7.1	10.0	4.0	3.9	-2.9	1.5	20.0	14.4
95th Percentile	1.7	1.5	2.4	3.8	-0.8	-1.4	-15.1	-7.4	2.7	7.4
# of Portfolios	863	863	792	702	413	842	692	609	552	475
● First Eagle	3.1 (84)	10.9 (86)	7.6 (68)	9.3 (81)	-- (--)	11.7 (19)	0.2 (49)	4.5 (51)	17.9 (80)	13.9 (78)
▲ MSCI ACWI	5.2 (51)	18.6 (53)	7.4 (70)	10.2 (73)	3.9 (77)	7.9 (42)	-2.4 (73)	4.2 (54)	22.8 (66)	16.1 (61)



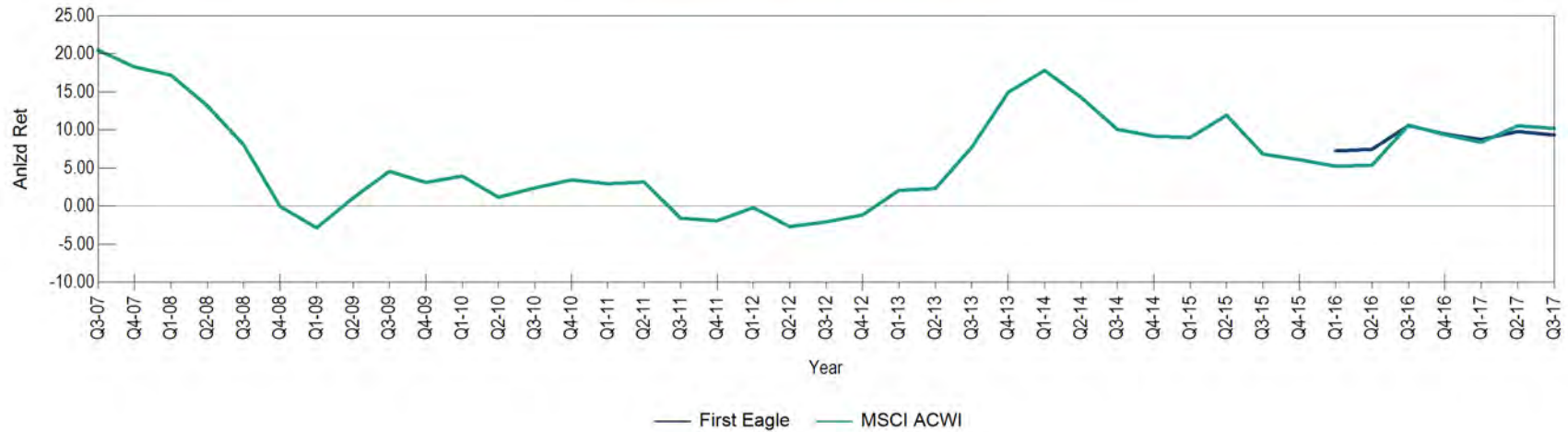
First Eagle  
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: September 30, 2017

Rolling 3 Year Annualized Return (%)



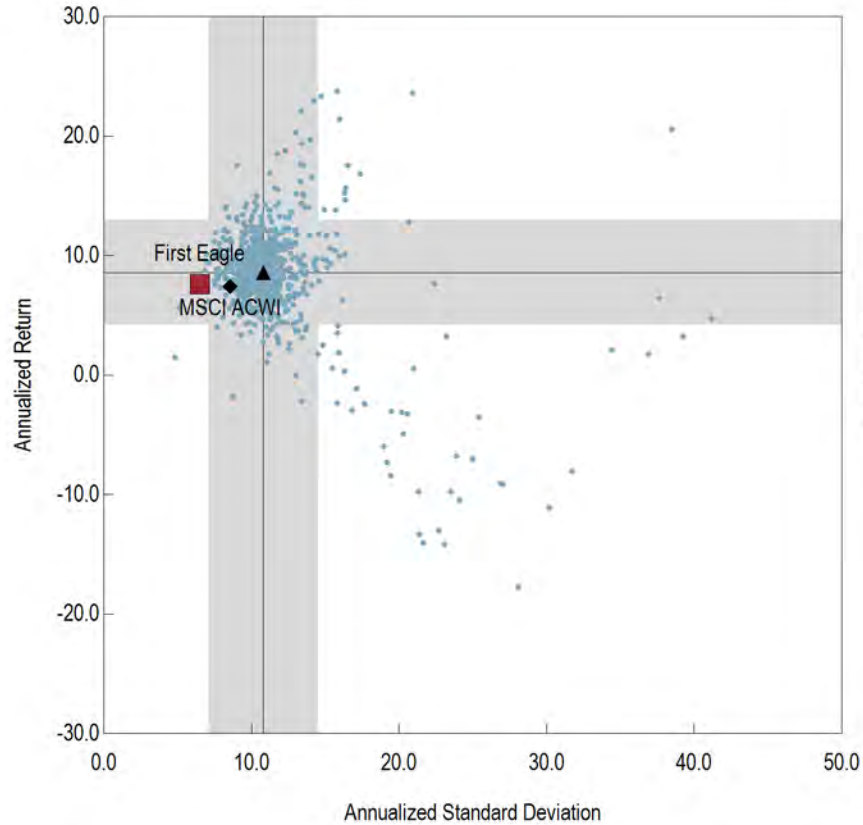
Rolling 5 Year Annualized Return (%)



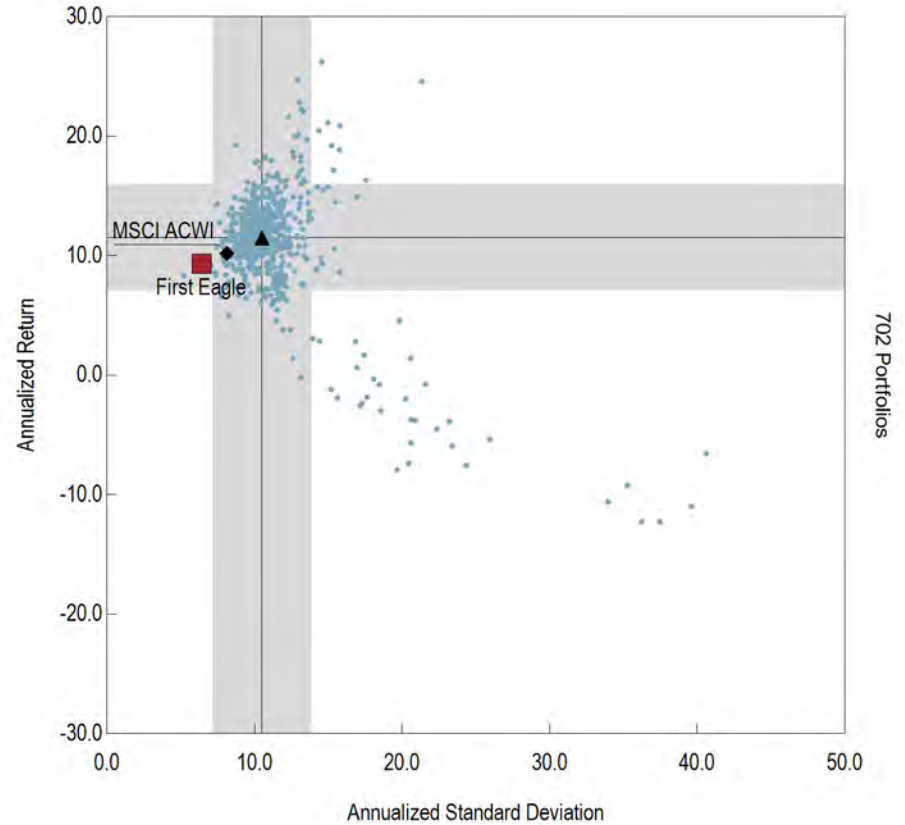
First Eagle  
Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: September 30, 2017

3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
First Eagle	7.6%	6.5%	1.1
MSCI ACWI	7.4%	8.5%	0.8
eA All Global Equity Gross Median	8.6%	10.8%	0.8

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
First Eagle	9.3%	6.4%	1.4
MSCI ACWI	10.2%	8.1%	1.2
eA All Global Equity Gross Median	11.5%	10.5%	1.1

## **Domestic Fixed Income Managers**

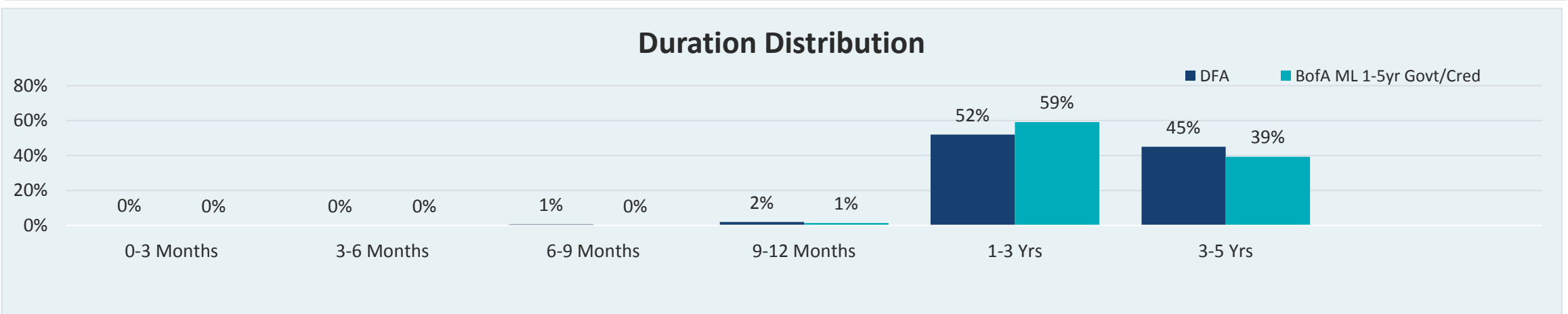
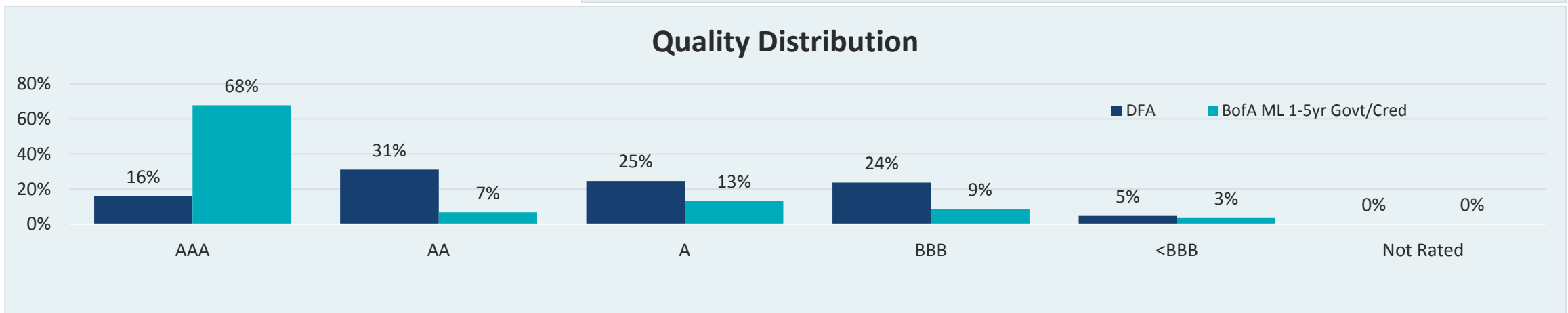
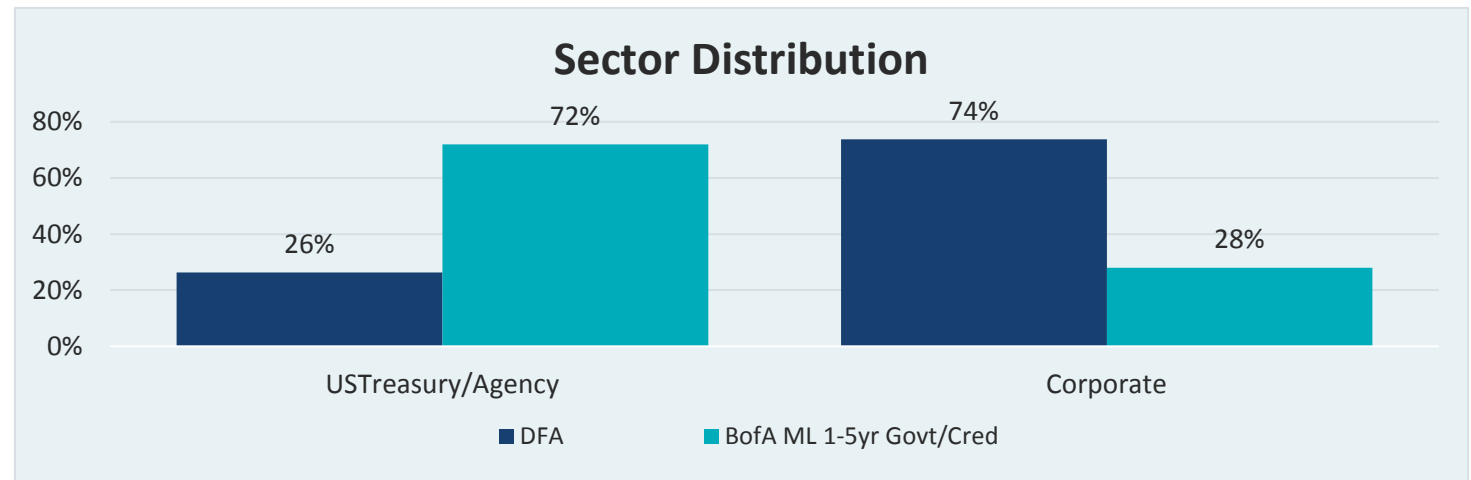
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# DFA Short Credit Manager Portfolio Overview

Period Ending: September 30, 2017

Domestic short term US credit fixed income portfolio that maximizes total return through income and capital appreciation. Primary personnel include Dave Plecha and Joseph Kolerich.

	DFA	BofA ML 1-5yr Gov/Credit
Effective Duration	2.72	2.72
Yield to Maturity	2.19	1.85
Average Quality	A+	Aa1
Average Coupon	2.78%	2.44%

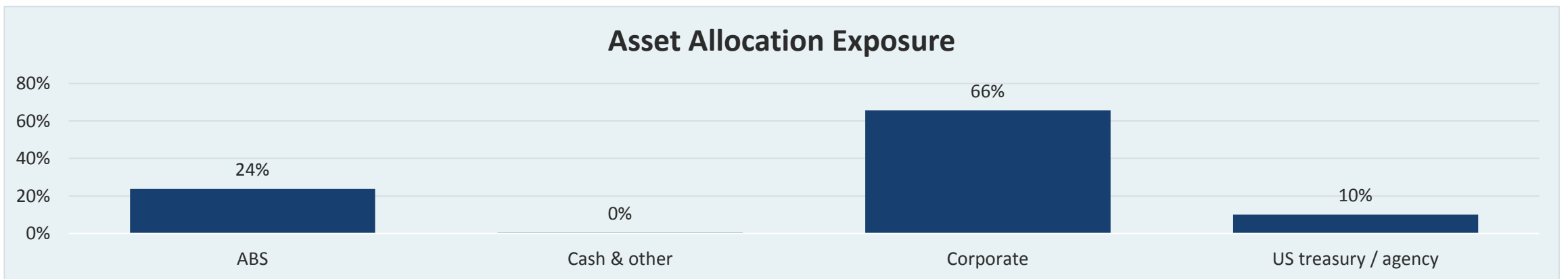
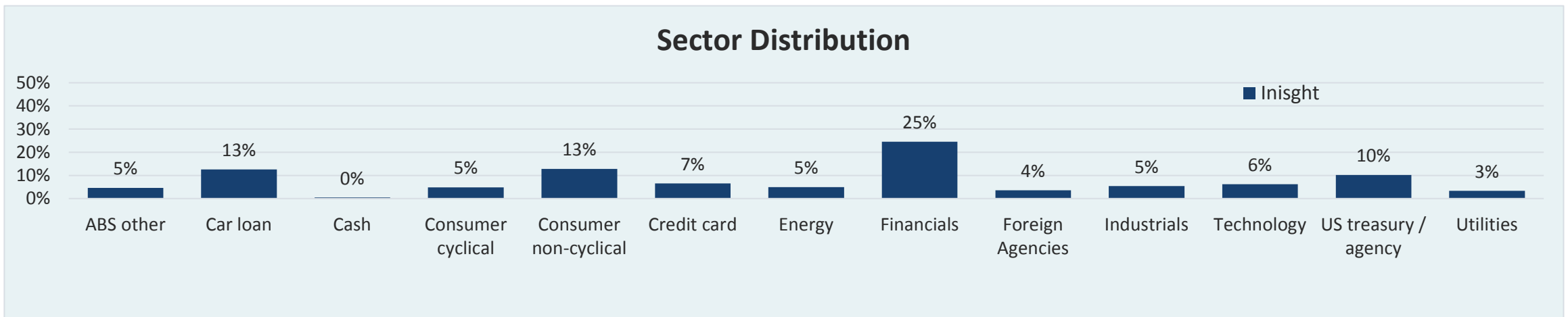
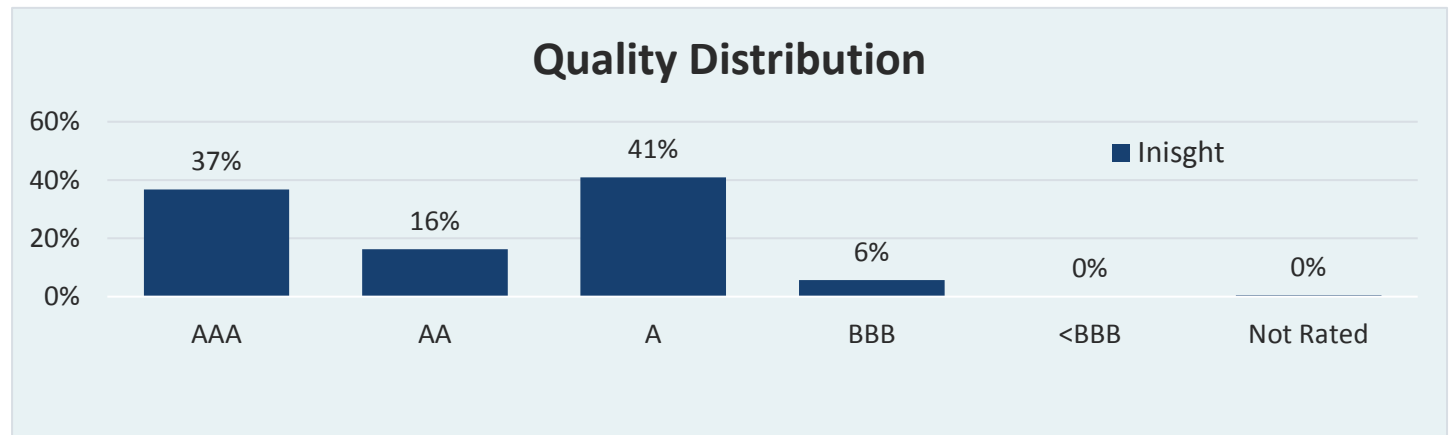


# Insight Short Duration Manager Portfolio Overview

Period Ending: September 30, 2017

High quality, short duration multi-sector fixed income portfolio comprised of Treasuries, Agencies, investment grade corporates, and ABS designed specifically to meet CCCERA's liabilities. Key personnel include Gerard Berrigan and Jesse Fogarty.

	Inisight	BBgBarc 1-3yr Govt
Effective Duration	1.51	1.9
Yield to Maturity	1.78	AAA
Average Quality	AA-	1.6%

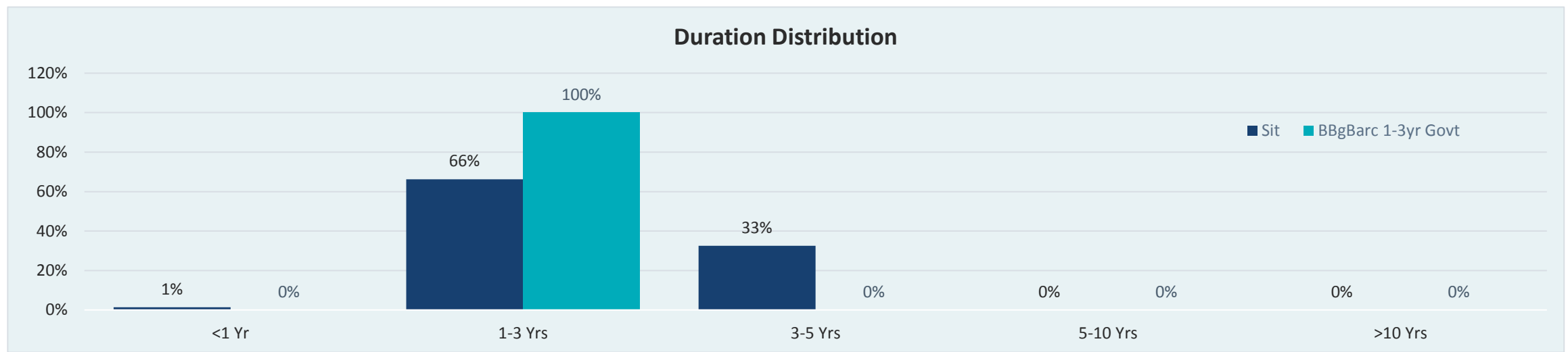
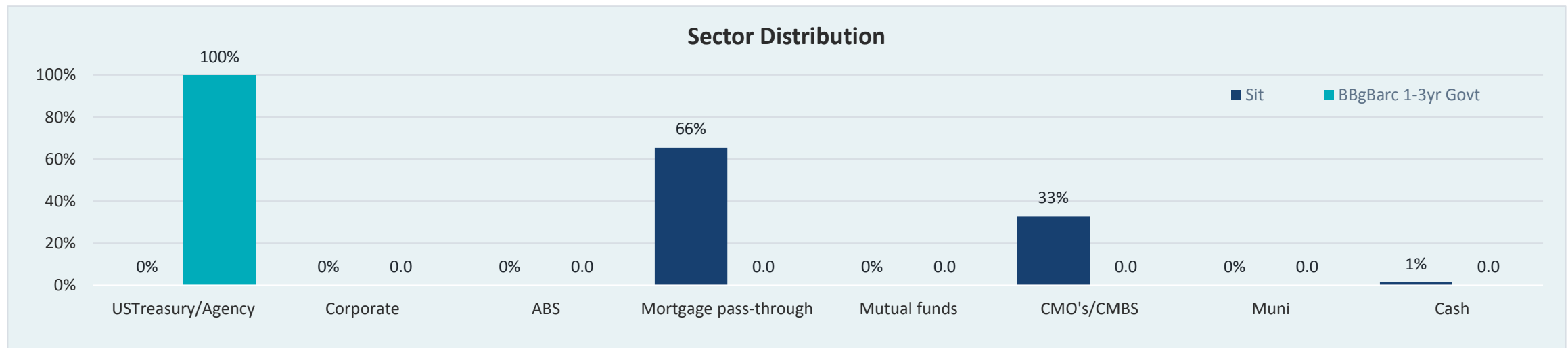


# Sit Short Duration Manager Portfolio Overview

Period Ending: September 30, 2017

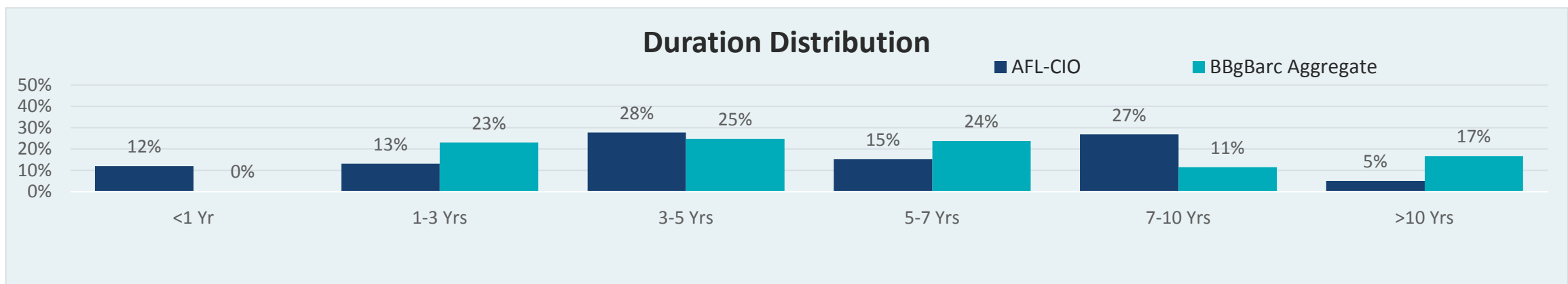
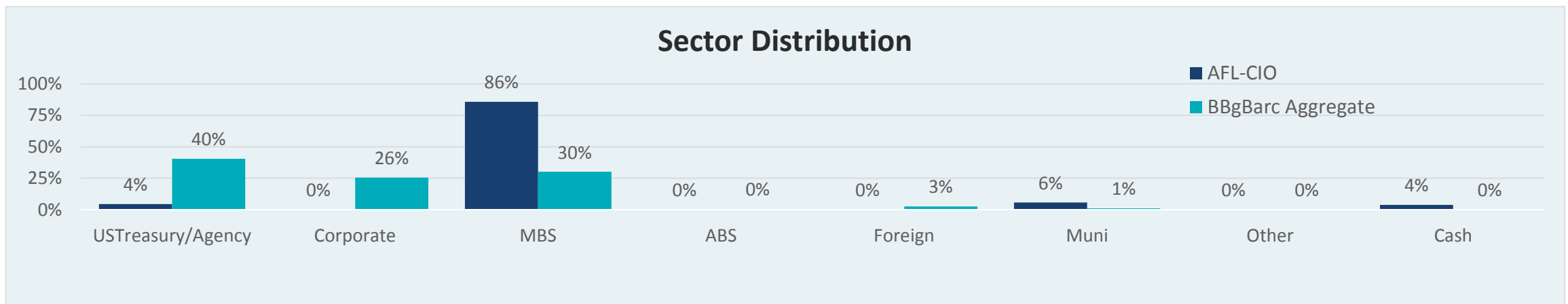
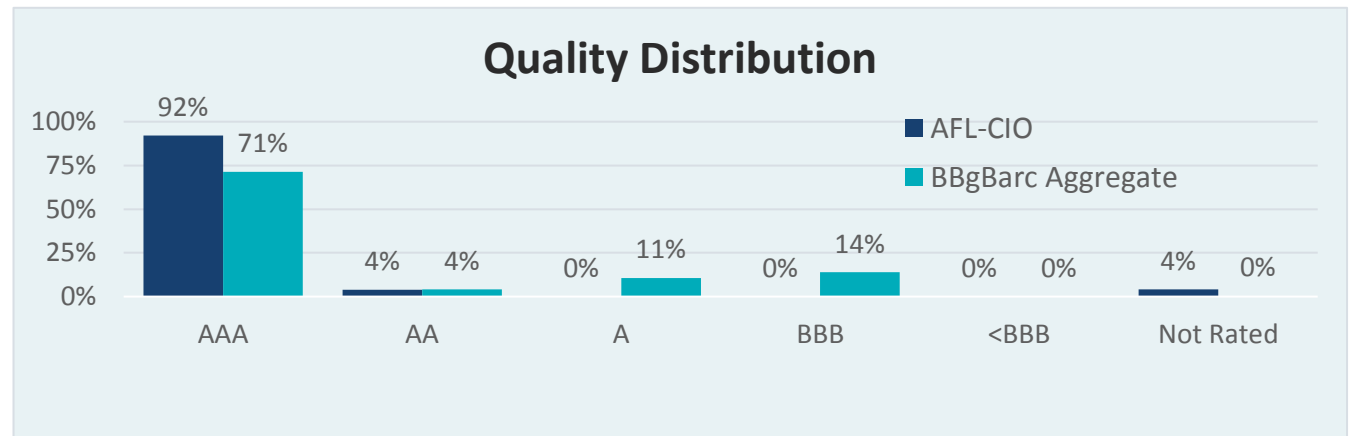
Short duration fixed income portfolio with a focus on earning high levels of interest income. Primary personnel include Bryce Doty, Paul Jungquist and Michael Brilley.

	Sit	BBgBarc 1-3yr Govt
Adjusted Duration	2.5	1.9
Average Quality	AAA	AAA
Average Coupon	6.5%	1.6%

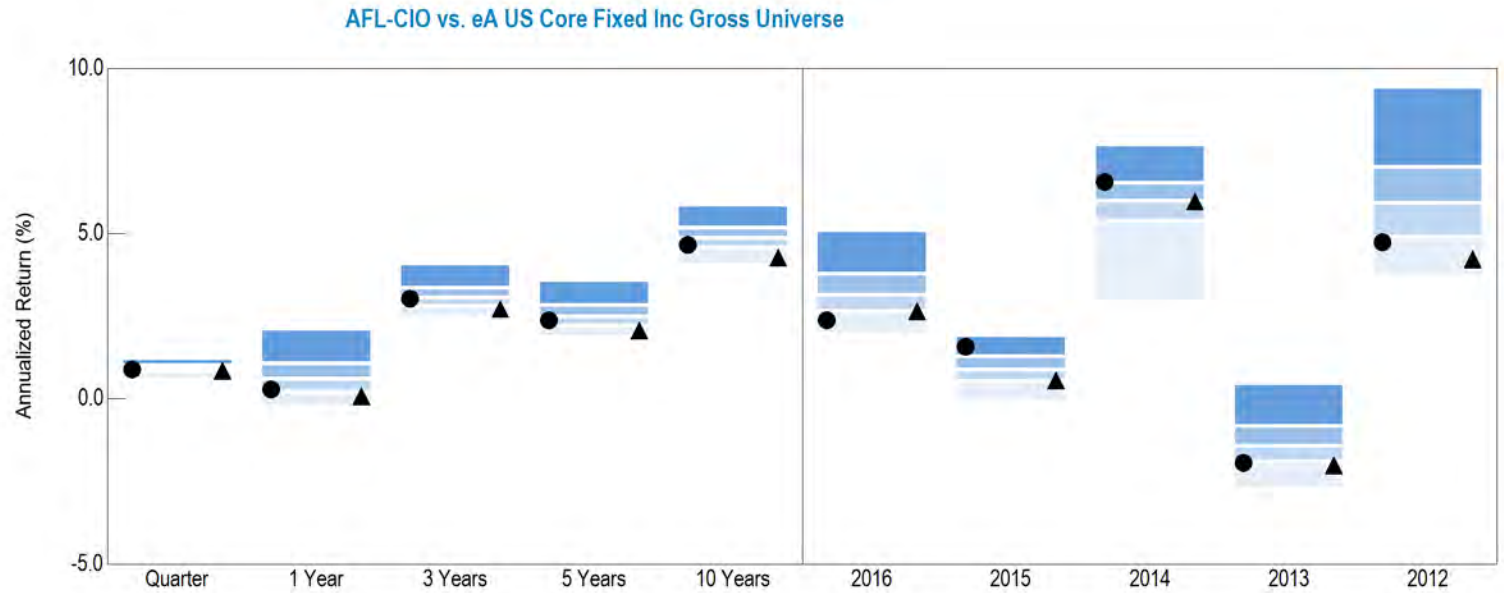


Domestic core fixed income portfolio with an exclusive focus on mortgage-related securities. Primary personnel include Stephen Coyle and Chang Su.

	AFL-CIO	BBgBarc Aggregate
Effective Duration	5.51	6.09
Yield to Maturity	3.23	2.50
Average Quality	AAA	AA
Average Coupon	3.22%	3.14%



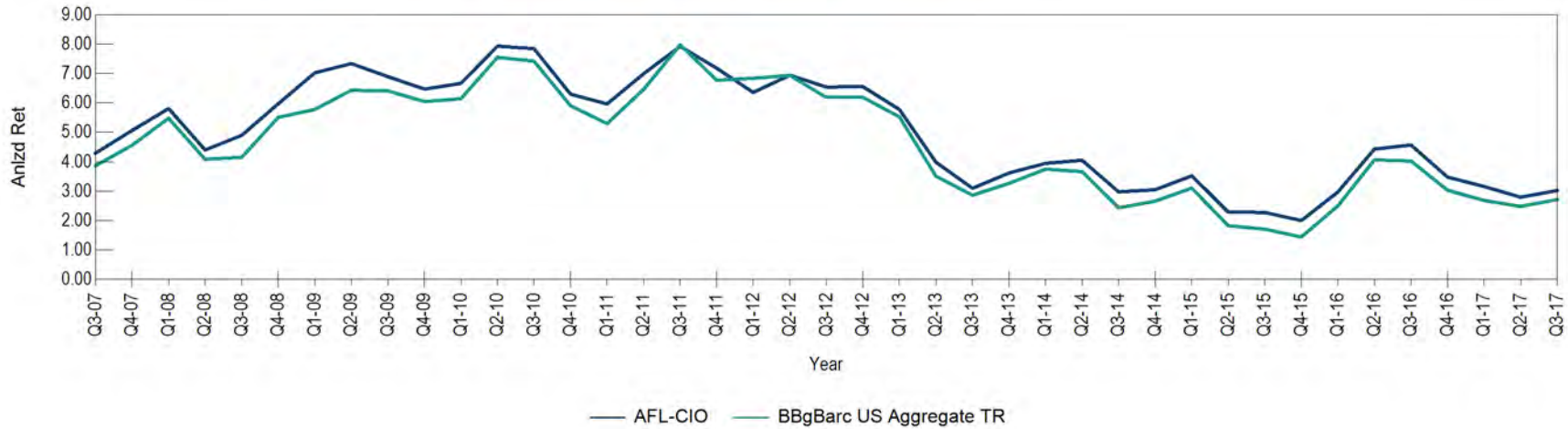
Duration and Quality distributions exclude cash.



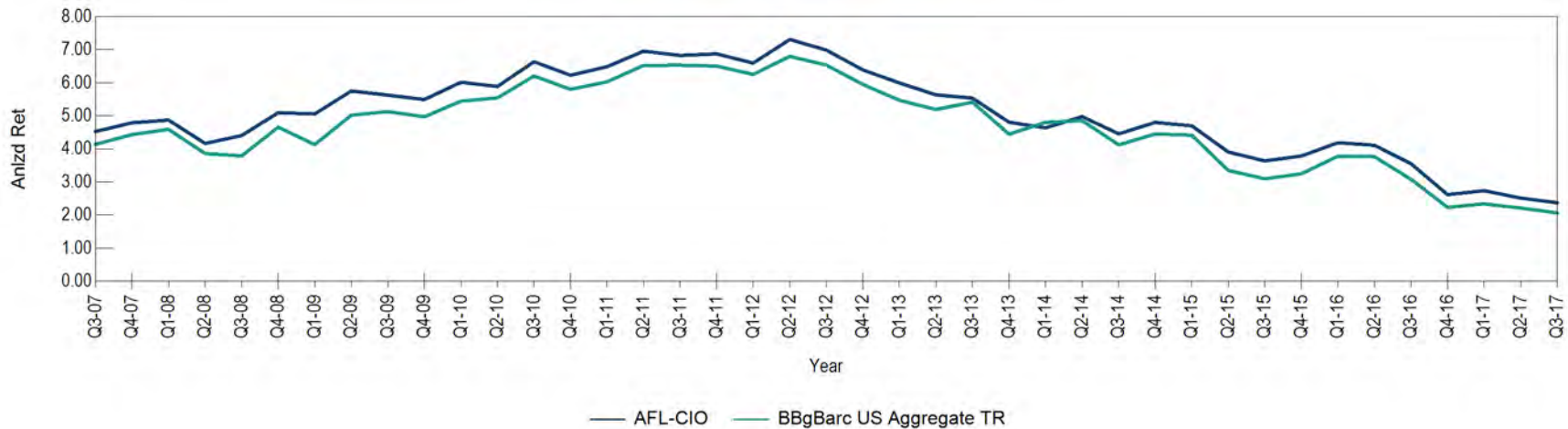
	Quarter	1 Year	3 Years	5 Years	10 Years	2016	2015	2014	2013	2012
<b>5th Percentile</b>	1.2	2.1	4.1	3.6	5.9	5.1	1.9	7.7	0.5	9.4
<b>25th Percentile</b>	1.0	1.1	3.4	2.9	5.2	3.8	1.3	6.5	-0.8	7.0
<b>Median</b>	0.9	0.6	3.1	2.5	4.9	3.2	0.9	6.0	-1.4	5.9
<b>75th Percentile</b>	0.8	0.2	2.8	2.2	4.6	2.7	0.5	5.4	-1.9	4.9
<b>95th Percentile</b>	0.6	-0.2	2.5	1.9	4.1	2.0	-0.1	2.9	-2.7	3.7
<b># of Portfolios</b>	226	226	224	221	202	223	196	213	209	228
● <b>AFL-CIO</b>	0.9 (60)	0.3 (75)	3.0 (54)	2.4 (64)	4.7 (68)	2.4 (87)	1.6 (15)	6.6 (25)	-1.9 (78)	4.7 (80)
▲ <b>BBgBarc US Aggregate TR</b>	0.8 (69)	0.1 (86)	2.7 (82)	2.1 (87)	4.3 (91)	2.6 (77)	0.6 (75)	6.0 (52)	-2.0 (82)	4.2 (90)

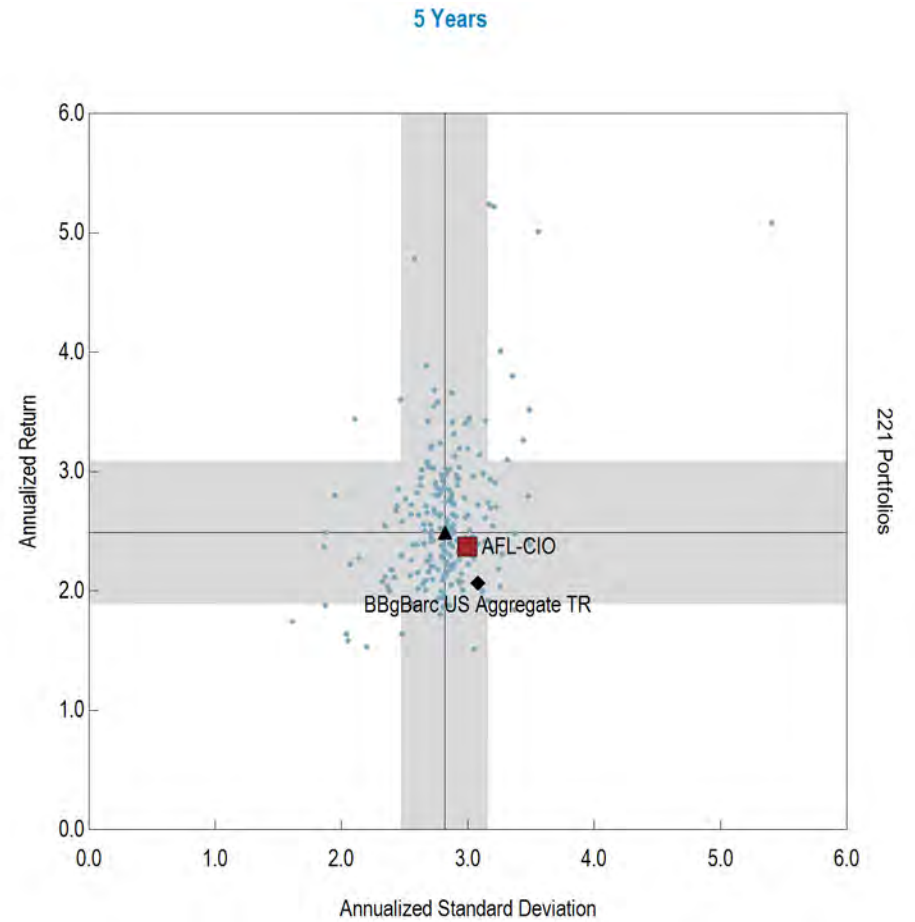
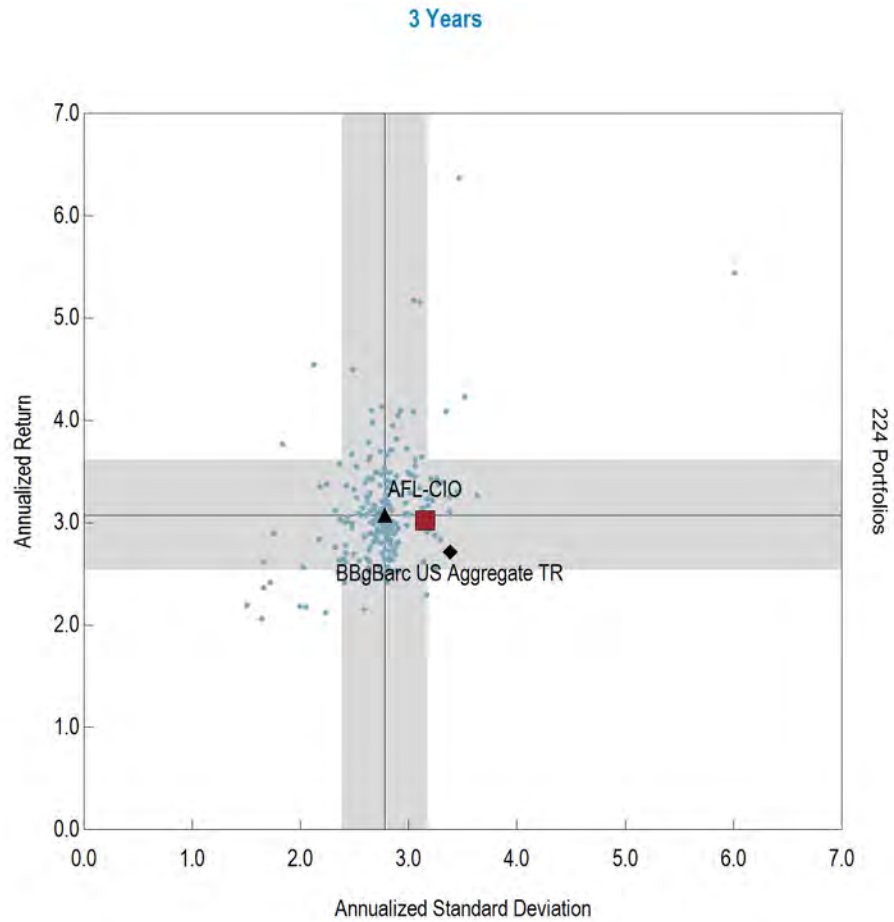


Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





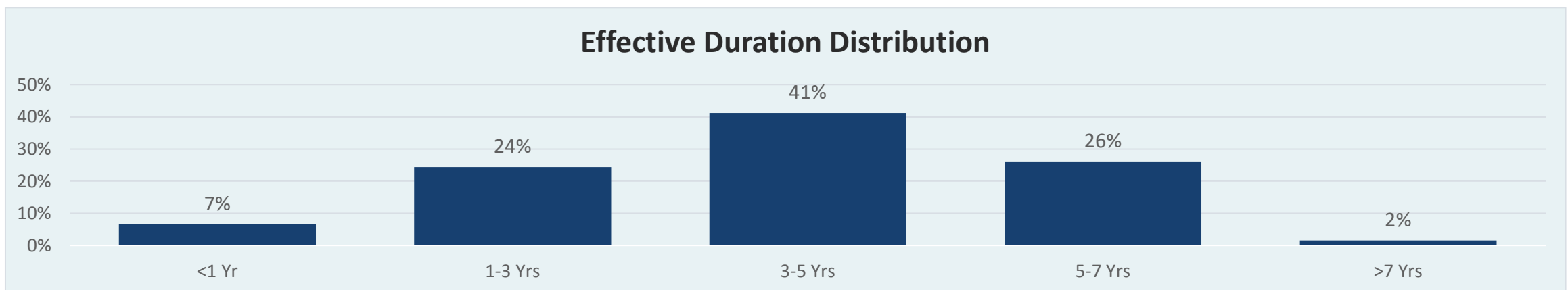
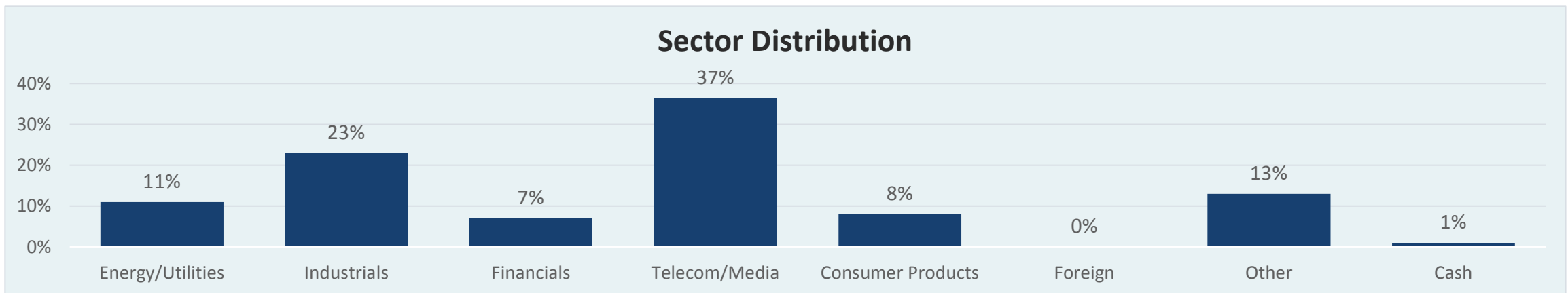
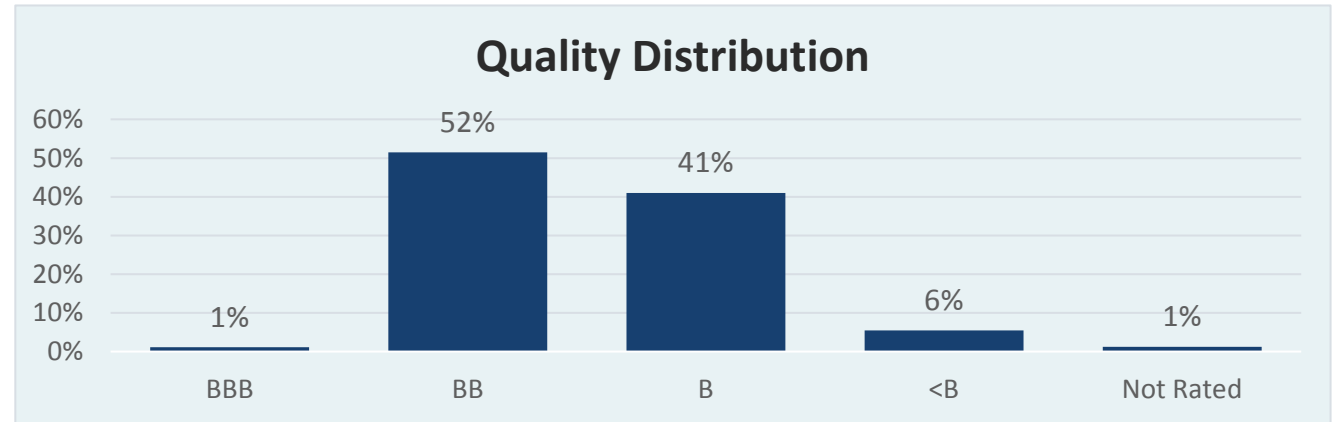
	3 Years			5 Years			
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	
AFL-CIO	3.0%	3.1%	0.9	AFL-CIO	2.4%	3.0%	0.7
BbgBarc US Aggregate TR	2.7%	3.4%	0.7	BbgBarc US Aggregate TR	2.1%	3.1%	0.6
eA US Core Fixed Inc Gross Median	3.1%	2.8%	1.0	eA US Core Fixed Inc Gross Median	2.5%	2.8%	0.8

## High Yield Managers

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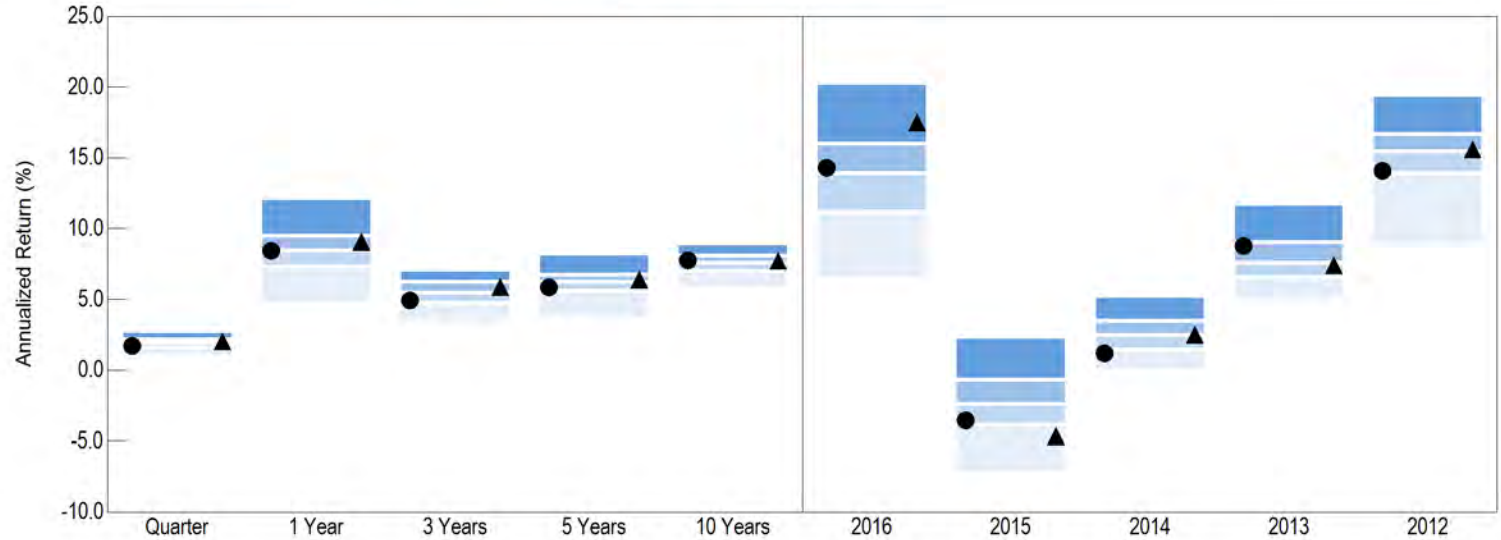
Domestic high yield fixed income portfolio with a focus on security selection. Primary personnel include Douglas Forsyth, Justin Kass, William Stickney, and Michael Yee.

	Allianz	BofA ML HY Master II
Effective Duration	3.8	3.9
Yield to Maturity	5.7	6.0
Average Quality	B1	B1
Average Coupon	6.5%	6.4%



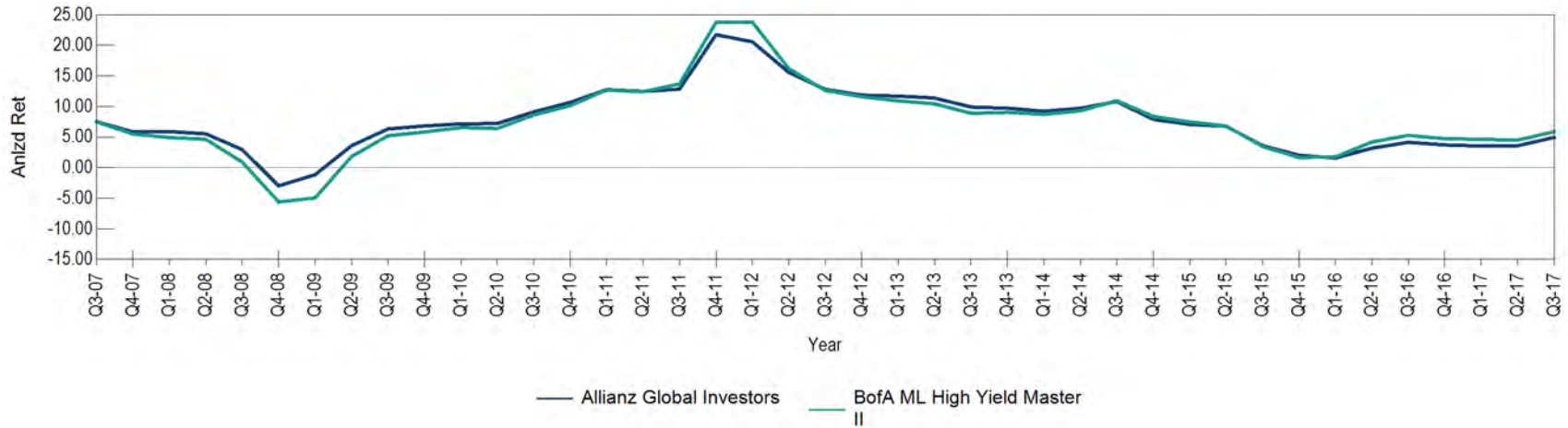
Quality distribution excludes cash.

Allianz Global Investors vs. eA US High Yield Fixed Inc Gross Universe

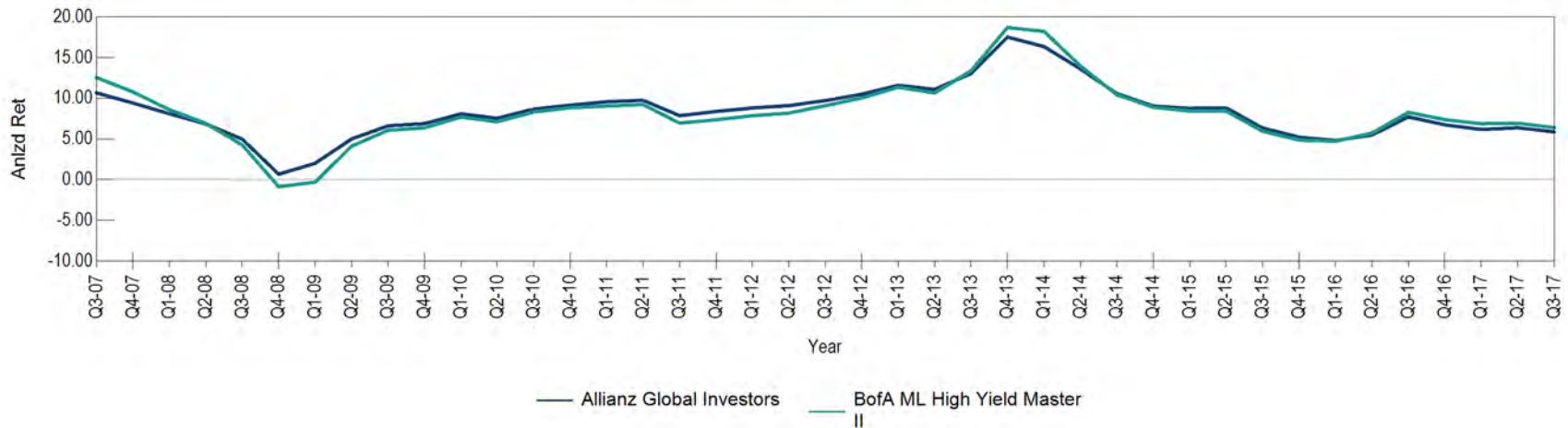


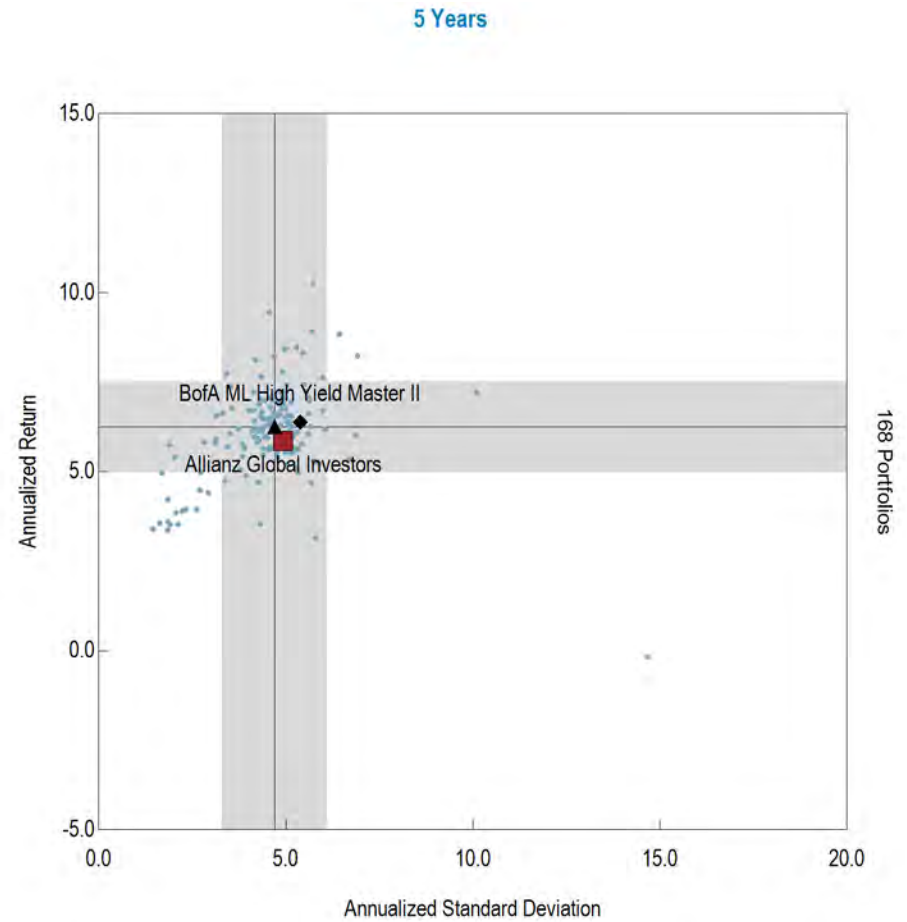
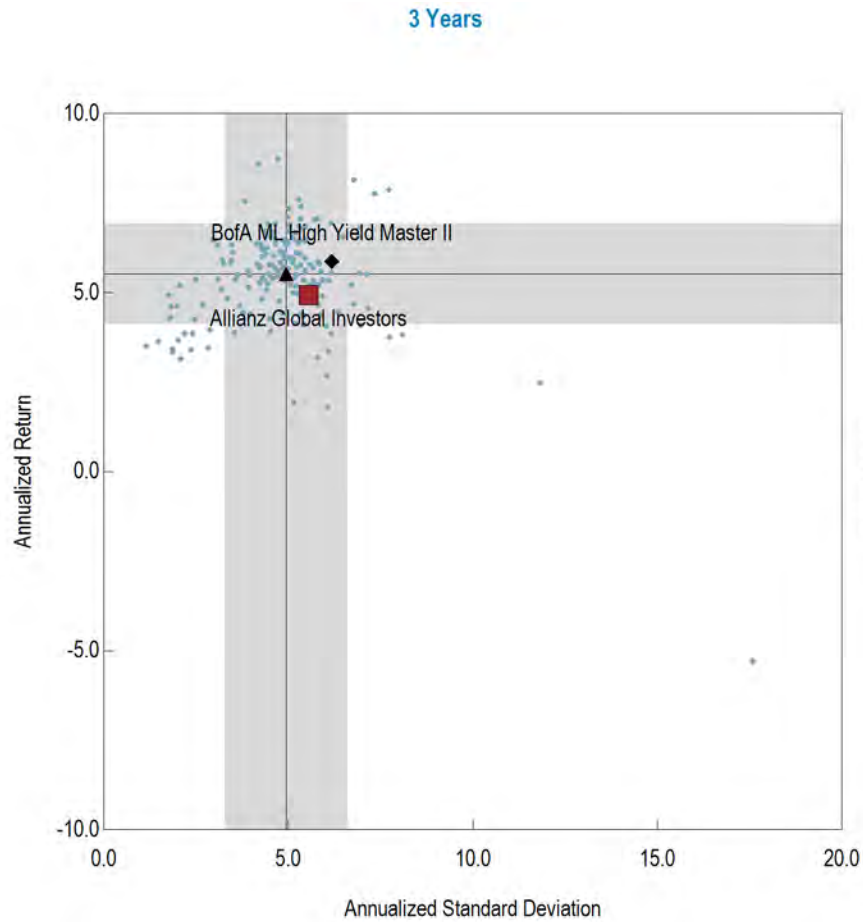
	Return (Rank)									
5th Percentile	2.8	12.1	7.1	8.2	9.0	20.3	2.3	5.2	11.7	19.4
25th Percentile	2.2	9.5	6.3	6.8	8.1	16.0	-0.7	3.5	9.1	16.7
Median	2.0	8.5	5.5	6.3	7.6	14.0	-2.4	2.5	7.6	15.5
75th Percentile	1.7	7.4	4.8	5.6	7.0	11.3	-3.8	1.5	6.6	14.0
95th Percentile	1.0	4.7	3.4	3.7	5.9	6.6	-7.2	0.0	5.0	8.9
# of Portfolios	194	194	187	168	118	183	155	141	130	129
● Allianz Global Investors	1.7 (73)	8.4 (51)	4.9 (72)	5.9 (68)	7.8 (43)	14.3 (47)	-3.5 (68)	1.2 (83)	8.8 (28)	14.1 (73)
▲ BofA ML High Yield Master II	2.0 (42)	9.1 (37)	5.9 (35)	6.4 (45)	7.7 (46)	17.5 (14)	-4.6 (83)	2.5 (50)	7.4 (55)	15.6 (47)

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





	<b>3 Years</b>		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Allianz Global Investors	4.9%	5.5%	0.8
BofA ML High Yield Master II	5.9%	6.2%	0.9
eA US High Yield Fixed Inc Gross Median	5.5%	4.9%	1.1

	<b>5 Years</b>		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Allianz Global Investors	5.9%	4.9%	1.1
BofA ML High Yield Master II	6.4%	5.4%	1.1
eA US High Yield Fixed Inc Gross Median	6.3%	4.7%	1.3

## **Inflation Hedge Managers**

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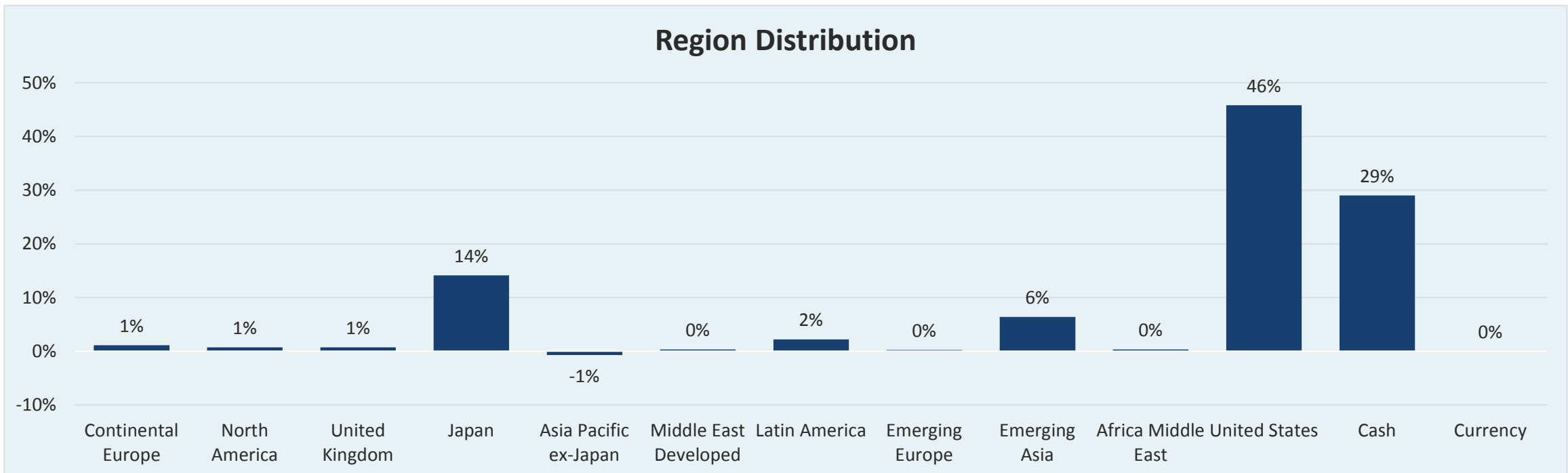
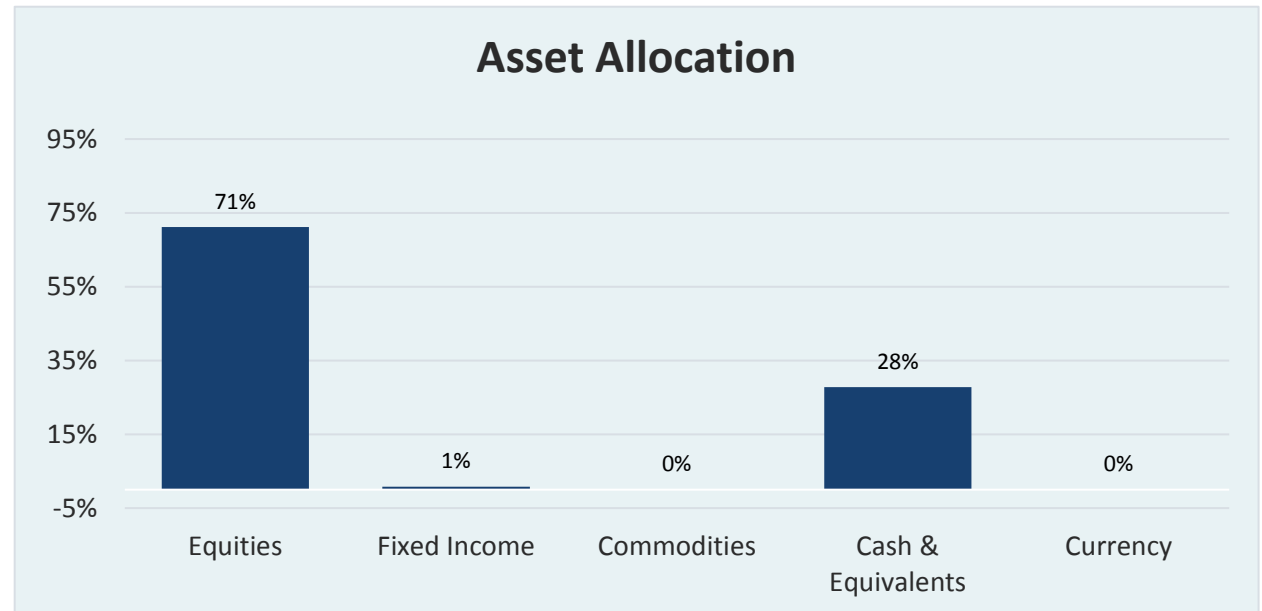


# Wellington Total Return Manager Portfolio Overview

Period Ending: September 30, 2017

Tactical multi-asset class real return strategy with a focus on managing risk of active strategies used to gain exposure to attractive assets of markets.

	Wellington Total Return
Number of Equity Holdings	942
Number of Commodity Holdings	144
Effective Duration (Years)	4.30
Average Quality	D



## Real Estate Managers

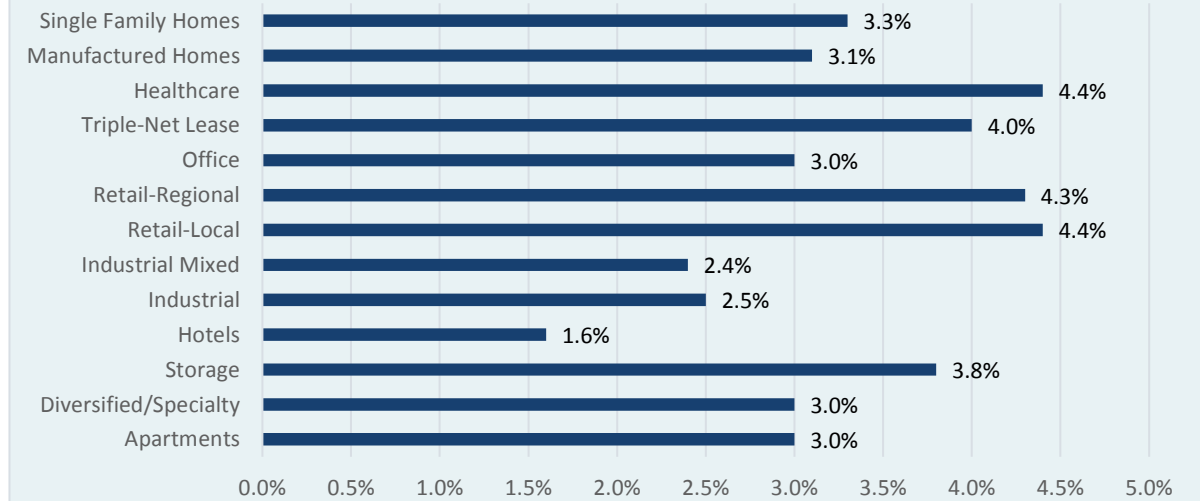
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Diversified portfolio of U.S. REITs with a focus on the underlying real estate assets

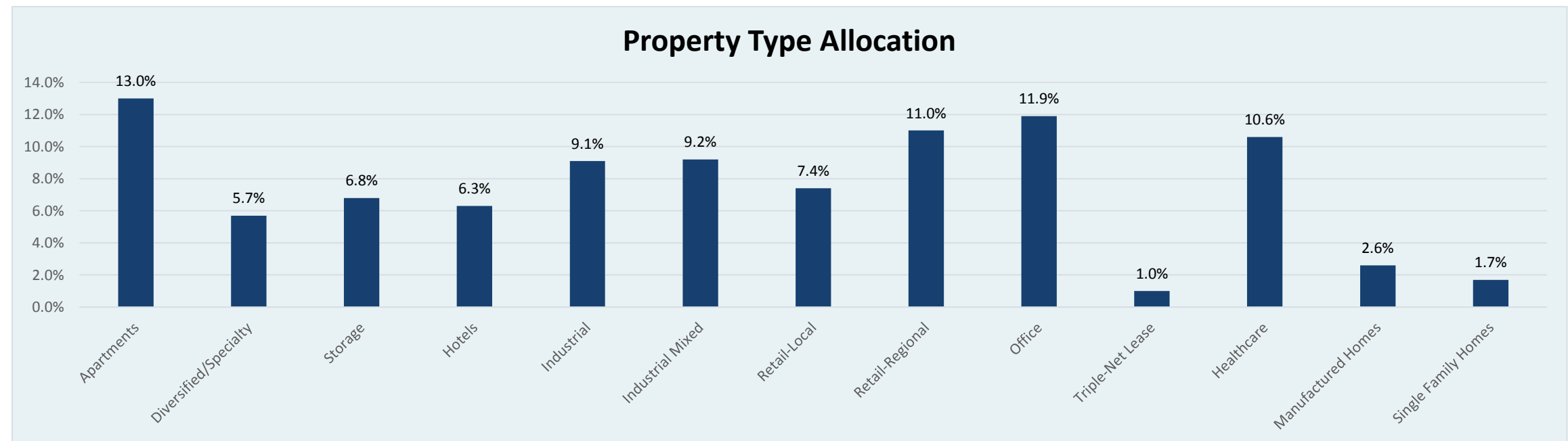
**Top Five Holdings**

Company	Property Type	Allocation
Simon Property Group	Retail-Regional	9.5%
Welltower Inc.	Healthcare	6.9%
Equity Residential	Apartments	5.7%
Vornado Realty Trust	Specialty	5.1%
Regency Centers Corp.	Retail-Local	4.8%

**Dividend Yield by Property Type**



**Property Type Allocation**



3.7% is allocated to Cash and Cash Equivalents.

**Performance Return Calculations**

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

**Data Source**

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

**Illiquid Alternatives**

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

**Manager Line Up**

Manager	Inception Date	Data Source	Manager	Inception Date	Data Source
BlackRock Russell 1000 Index	4/20/2017	BlackRock	Long Wharf Fund III	3/30/2007	Long Wharf
Jackson Square Partners	5/1/2005	State Street	Long Wharf Fund IV	7/3/2013	Long Wharf
Robeco Boston Partners	6/1/1995	State Street	Long Wharf Fund V	9/30/2016	Long Wharf
Emerald Advisors	4/7/2003	State Street	Invesco Real Estate I	2/1/2005	Invesco
Ceredex	11/6/2011	State Street	Invesco Real Estate II	11/26/2007	Invesco
Pyrford	4/25/2014	State Street	Invesco Real Estate III	6/30/2013	Invesco
William Blair	10/29/2010	William Blair	Invesco Real Estate IV	6/30/2014	Invesco
Artisan Partners	10/1/2012	SEI Trust	Oaktree REOF V	12/31/2011	Oaktree
First Eagle	1/18/2011	State Street	Oaktree REOF VI	9/30/2013	Oaktree
PIMCO RAE Emerging Markets	2/28/2017	State Street	Oaktree REOF VII	4/1/2015	Oaktree
TT Emerging Markets	7/27/2017	TT	Siguler Guff DREOF	1/25/2012	Siguler Guff
AFL-CIO	6/30/1991	AFL-CIO	Siguler Guff DREOF II	8/31/2013	Siguler Guff
Sit Short Duration	11/2/2016	State Street	Siguler Guff DREOF II Co-Inv	1/27/2016	Siguler Guff
DFA Short Credit	11/21/2016	State Street	Paulson Real Estate Fund II	11/10/2013	State Street
Insight Short Duration	11/18/2016	State Street	Adams Street Partners	3/18/1996	Adams Street
BlackRock	4/20/2017	BlackRock	Adams Street Partners II	1/16/2009	Adams Street
Torchlight II	9/30/2006	Torchlight	Adams Street Partners Venture	4/28/2017	Adams Street
Torchlight III	12/31/2008	Torchlight	Adams Street Partners - BFP	1/18/1996	Adams Street
Torchlight IV	7/1/2012	Torchlight	Adams Street Partners - Fund 5	9/21/2012	Adams Street
Torchlight V	7/1/2012	Torchlight	Bay Area Equity Fund	6/14/2004	DBL Investors
Allianz Global Investors	4/25/2000	State Street	Bay Area Equity Fund II	12/7/2009	DBL Investors
BlackRock Transition	11/1/2016	State Street	Carpenter Bancfund	1/31/2008	Carpenter Bancfund
Wellington Real Total Return	2/26/2013	State Street	EIF US Power Fund I	11/26/2003	Ares Management
Aether Real Assets III	11/27/2013	Aether	EIF US Power Fund II	8/16/2005	Ares Management
Commonfund	6/28/2013	Commonfund	EIF US Power Fund III	5/30/2007	Ares Management
Adelante	9/30/2001	State Street	EIF US Power Fund IV	11/28/2011	Ares Management
Cash	-	State Street	EIF US Power Fund V	11/28/2016	Ares Management
Angelo Gordon Realty Fund VIII	1/23/2012	Angelo Gordon	Nogales	2/15/2004	Nogales
Angelo Gordon Realty Fund IX	12/8/2014	Angelo Gordon	Paladin III	11/30/2007	Paladin
Angelo Gordon Energy Credit Opp	9/24/2015	Angelo Gordon	Ocean Avenue Fund II	6/11/2014	Ocean Avenue
DLJ RECP II	9/24/1999	DLJ	Ocean Avenue Fund III	4/15/2016	Ocean Avenue
DLJ RECP III	6/23/2005	DLJ	Pathway	11/9/1998	Pathway

DLJ RECP IV	2/11/2008	DLJ	Pathway 2008	12/26/2008	Pathway
DLJ RECP V	7/1/2014	DLJ	Pathway 6	5/24/2011	Pathway
Wastewater Opp. Fund	12/8/2015	Wastewater	Pathway 7	2/7/2013	Pathway
LaSalle Income & Growth VI	7/16/2013	LaSalle	Siguler Guff CCCERA Opps	6/3/2014	Siguler Guff
LaSalle Income & Growth VII	2/28/2017	LaSalle	Siguler Guff Secondary Opps	11/30/2016	Siguler Guff
Hearthstone II	6/17/1998	Hearthstone	Aether Real Assets IV	3/16/2016	Aether
Parametric Overlay	3/29/2017	State Street			

**Policy & Custom Index Composition**

Policy Index (12/1/2016 - present)	22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%, 1.7% BofA High Yield Master II +2%, 5.1% BofA High Yield Master II, 22.4% BBgBarc 1-3 Yr Gov/Credit, 1.6% 90-day T-Bills, 3.2% BBgBarc US Aggregate.
Policy Index (4/1/2012-11/30/2016)	27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% BofA High Yield Master II, 4% BBgBarc Global Aggregate, 13.5% Real Estate Benchmark, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Real Estate Benchmark (current)	11% Wilshire REIT, 18% NCREIF Property Index, 71% NCREIF ODCE Index.
Real Estate Benchmark (4/1/2012-11/30/2016)	40% Wilshire REIT, 50% NCREIF Property Index, 10% FTSE/EPRA NAREIT Developed ex-US.

**Other Disclosures**

All data prior to 12/31/2014 was provided by previous consultant.

# Glossary

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

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

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

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

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

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

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

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

**Information Ratio:** A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as:  $\text{excess return} / \text{tracking error}$ .

**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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