



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



**PERIOD ENDING: JUNE 30, 2018**

Investment Performance Review for

**Contra Costa County Employees' Retirement Association**

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Investment Landscape

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Investment Performance  
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**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**

3<sup>RD</sup> QUARTER 2018  
Investment Landscape

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# 2<sup>nd</sup> quarter summary

## THE ECONOMIC CLIMATE

- U.S. economic data generally surprised to the upside in Q2, leading to a strong quarterly GDP growth estimate of 3.4%. Economic growth in the second and third quarters will likely see the biggest boost from fiscal stimulus. The U.S. is currently outshining other developed economies. [p. 7, 18](#)
- The synchronized global growth story of the past year has shifted somewhat as economies have displayed more disparate performance. The change has not been too dramatic – growth continues to be positive, but at a more moderate pace. [p. 17](#)

## PORTFOLIO IMPACTS

- Emerging market equity and local debt delivered losses of 8.0% and 10.4% in Q2 (MSCI Emerging Markets Index, JPM GBI-EM Global Diversified). Much of the losses were due to currency movement. We believe emerging market assets offer attractive value – recent movements appear to have been driven by a shift in short-term sentiment and currency depreciation. [p. 27, 34](#)
- The U.S. implemented a first round of tariffs on Chinese imports on July 6<sup>th</sup>, which impacted \$34 billion worth of goods. So far, only a small portion of the discussed tariffs have been enacted. [p. 8, 9](#)

## THE INVESTMENT CLIMATE

- Strong corporate earnings growth is expected again in the second quarter. According to FactSet, the bottom-up analyst forecast for the S&P 500 is 20.0% YoY. [p. 31](#)
- Short-term U.S. Treasury yields rose, resulting in a flatter yield curve. The spread between the 10- and 2-year yield was 27 bps, a new cycle low. [p. 23](#)
- Fears were raised over Italy's role in the European Union after a coalition of the anti-establishment Five Star Movement and League Party formed a new government. Italian sovereign bond yields spiked severely during the move, but have since moderated somewhat. [p. 19](#)

## ASSET ALLOCATION ISSUES

- Following the February selloff equity markets have been range bound. As corporate earnings rise further equity valuations have been pushed down to more attractive levels closer to the long-term historical average. [p. 31, 37](#)
- While we believe trade negotiations and geopolitical uncertainty are potential causes for concern, the backdrop of positive global growth and strong corporate earnings may allow for healthy risk-asset performance. [p. 18, 31](#)

A neutral to mild risk overweight may be warranted in today's environment

# What drove the market in Q2?

## “Trade tariff worries keep stocks under pressure”

### TOTAL PROPOSED GOODS SUBJECT TO U.S. TARIFFS (\$BILLIONS)

Jan	Feb	Mar	Apr	May	Jun
10	10	106	206	481	881

Article Source: Financial Times, June 21<sup>st</sup>, 2018

## “Economic growth in U.S. leaves world behind”

### U.S. Q2 GDP CONSENSUS EXPECTATION (%)

Jan	Feb	Mar	Apr	May	Jun
2.6	2.7	3.0	3.1	3.1	3.4

Article Source: WSJ, June 14<sup>th</sup>, 2018

## “Rising dollar sparks tumult in emerging markets”

### MSCI EMERGING MARKETS MONTHLY CURRENCY IMPACT

Jan	Feb	Mar	Apr	May	Jun
1.6%	-0.7%	0.0%	-1.6%	-1.3%	-1.7%

Article Source: WSJ, May 21<sup>st</sup>, 2018

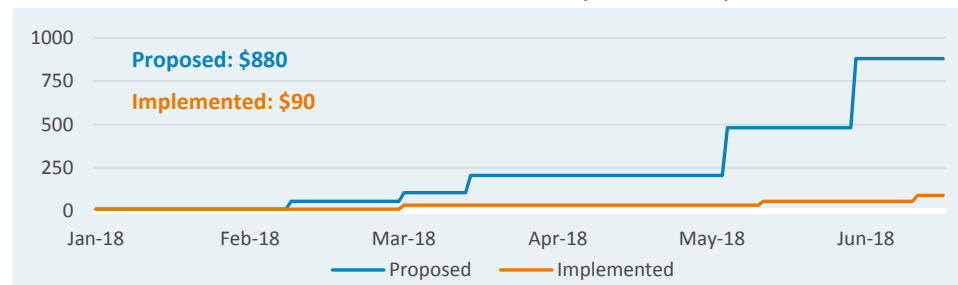
## “Investors are getting worried about an inverted yield curve”

### U.S. 10- MINUS 2-YEAR YIELD SPREAD (BPS)

Jan	Feb	Mar	Apr	May	Jun
56	61	47	46	42	33

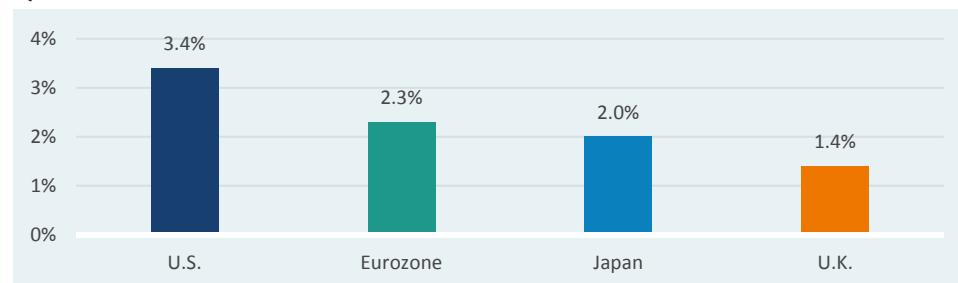
Article Source: Bloomberg, April 18<sup>th</sup>, 2018

## PROPOSED VS. IMPLEMENTED U.S. TARIFFS (\$BILLIONS)



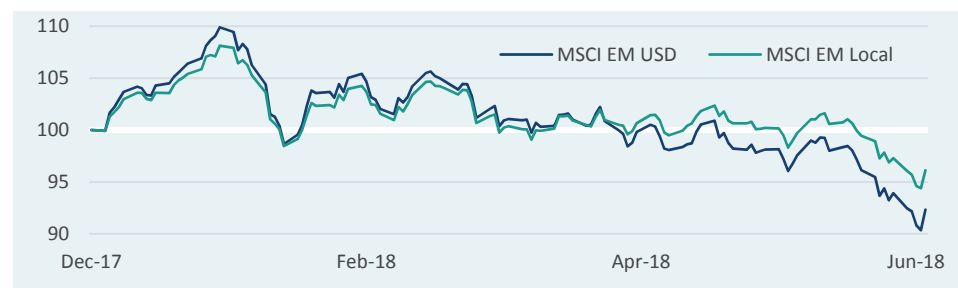
Source: Verus, as of 7/6/18

## Q2 GDP EXPECTATIONS



Source: Bloomberg, as of 7/11/18

## MSCI EMERGING MARKETS USD VS. LOCAL



Source: Bloomberg, as of 6/30/18

# Economic environment

# U.S. economics summary

- GDP growth was 2.8% year-over-year in the first quarter (2.0% quarterly annualized rate). The slightly slower pace of expansion was influenced by more conservative consumer spending than in previous quarters.
- The rate of inflation picked up moderately throughout the quarter. Core CPI rose 2.3% over the past year, reaching the upper end of its range during the current cycle. The year-over-year rate was impacted by a low base effect – the 3-month annualized core inflation rate was only 1.7%.
- Job gains during the quarter were strong, despite traditional employment measures indicating a tight labor market. Additions to nonfarm payrolls averaged 211,000 per month and the U-3 unemployment rate fell slightly from 4.1% to 4.0%.
- The broadest measure of labor market health, the ratio of employed individuals to the total population, indicates there may still be room for further improvement. More narrow indicators, such as the U-3 unemployment rate, may be overstating labor market tightness.
- The back and forth on trade between the U.S. and much of the rest of the world intensified. The White House has threatened to enact tariffs on up to \$550 billion of Chinese goods over unfair trade practices and intellectual property theft. To this point, tariffs have only been implemented on around \$40 billion of Chinese goods.
- The Fed raised interest rates for a second time this year in June to a target rate of 1.8% to 2.0%. Two more rate hikes are expected by the end of the year based on the Fed dot plot.

	Most Recent	12 Months Prior
GDP (YoY)	2.8% 3/31/18	2.0% 3/31/17
Inflation (CPI YoY, Core)	2.3% 6/30/18	1.7% 6/30/17
Expected Inflation (5yr-5yr forward)	2.2% 6/30/18	1.8% 6/30/17
Fed Funds Target Range	1.75 – 2.00% 6/30/18	1.00 – 1.25% 6/30/17
10 Year Rate	2.9% 6/30/18	2.3% 6/30/17
U-3 Unemployment	4.0% 6/30/18	4.3% 6/30/17
U-6 Unemployment	7.8% 6/30/18	8.5% 6/30/17



# GDP growth

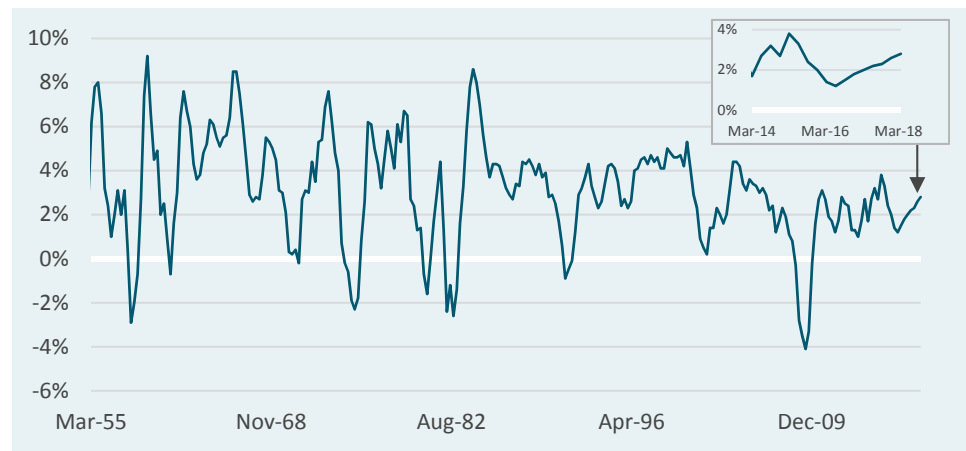
Real GDP growth rose 2.8% from the previous year in the first quarter (2.0% quarterly annualized rate). After a strong fourth quarter, consumers were more conservative with their purchases. Consumer spending contributed only 0.6% to the first quarter growth rate, compared to a 2.8% contribution in the previous quarter. Corporate capital investment was the biggest contributor to growth at 1.2%.

Strong growth is expected throughout the rest of the year as the benefits of fiscal stimulus begin to flow through to the economy. According to the Bloomberg consensus estimate,

real GDP growth is expected to be 3.4% in the second quarter. The big question is whether the economic benefits from fiscal stimulus are a one-off or whether they will have a more lasting impact on the economy that will help counter the headwind from monetary tightening.

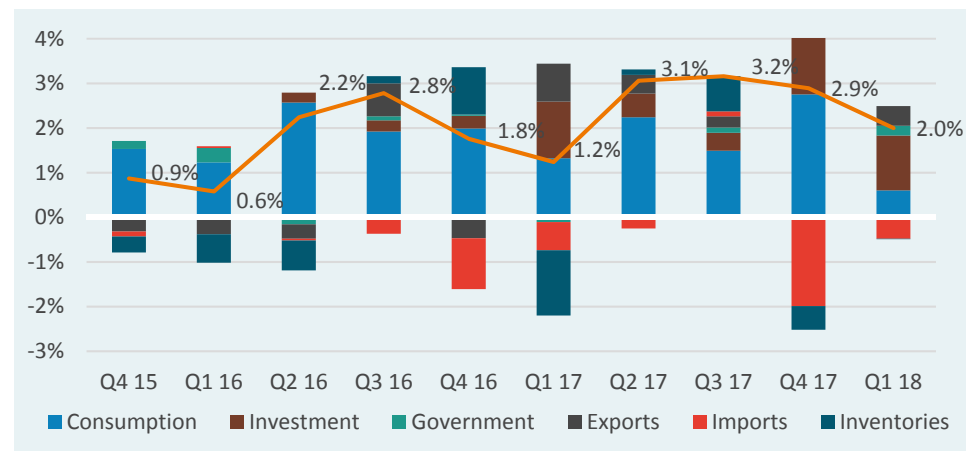
While much of the tax cut windfall has been returned to shareholders via share buybacks there has been a meaningful pick up in corporate fixed investment to more normal levels, which may help sustain growth in the coming quarters.

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



Source: Bloomberg, as of 3/31/18

**U.S. GDP COMPONENTS**



Source: Bloomberg, annualized quarterly rate, as of 3/31/18

# Global trade

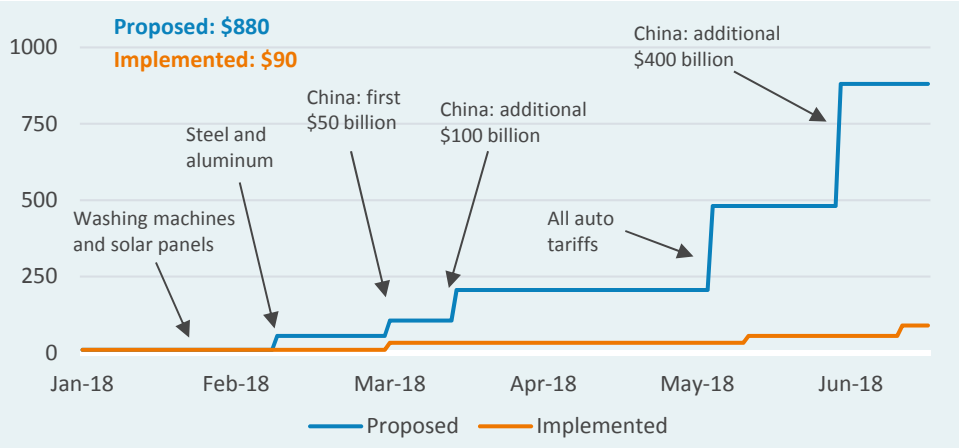
The war of words over trade between the U.S. and much of the rest of the world intensified in recent months, particularly with China. A first round of 10% tariffs on \$34 billion of Chinese goods was implemented on July 6<sup>th</sup>.

Thus far, there has been a large discrepancy between tariffs that have been proposed and tariffs that have been implemented. The U.S. has only enacted tariffs on \$90 billion of global imports. In comparison, the White House has proposed placing tariffs on a total of \$880 billion of imported goods. It is important to remember that tariffs are an avoidable tax on corporations conducting business in the U.S. Assuming a 10%

tariff rate on all proposed goods would result in a maximum tax of \$88 billion, a relatively small amount when thinking about the U.S. economy as a whole.

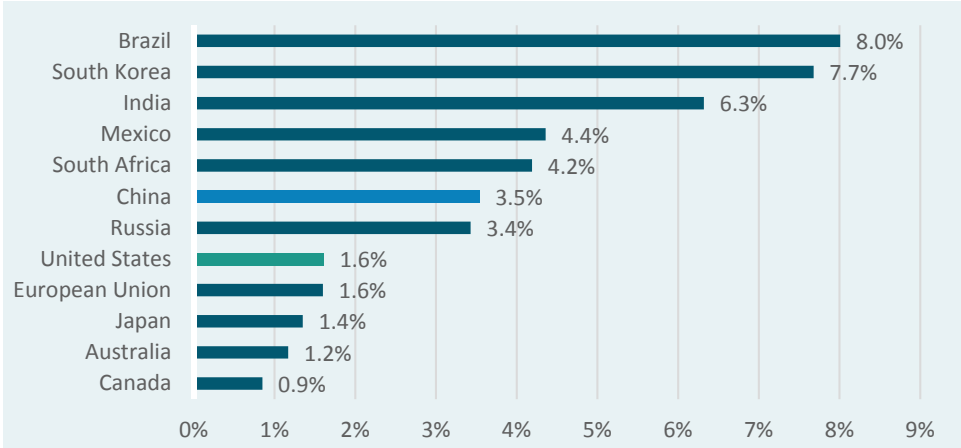
Tariffs in place so far are likely to have a minimal impact on the global economy. We believe that financial markets may be more sensitive to an escalation in the trade conflict than the actual economic impact. Much of the discussion on trade has ignored the fact that the U.S. has upheld less protectionist trade policies than many of its trading partners. While the trade conflict creates potential market downside risks, it also creates potential benefits if the end result is freer trade.

### PROPOSED VS. IMPLEMENTED U.S. TARIFFS (\$BILLIONS)



Source: Verus, as of 7/6/18

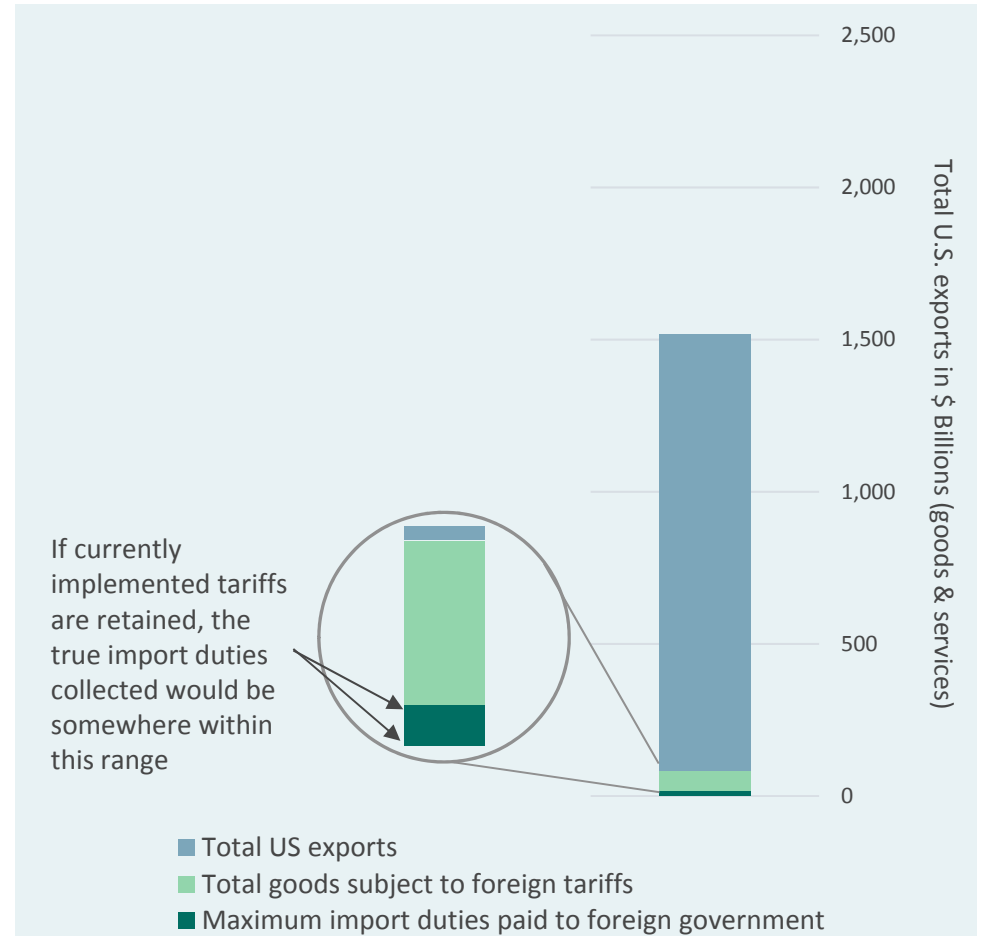
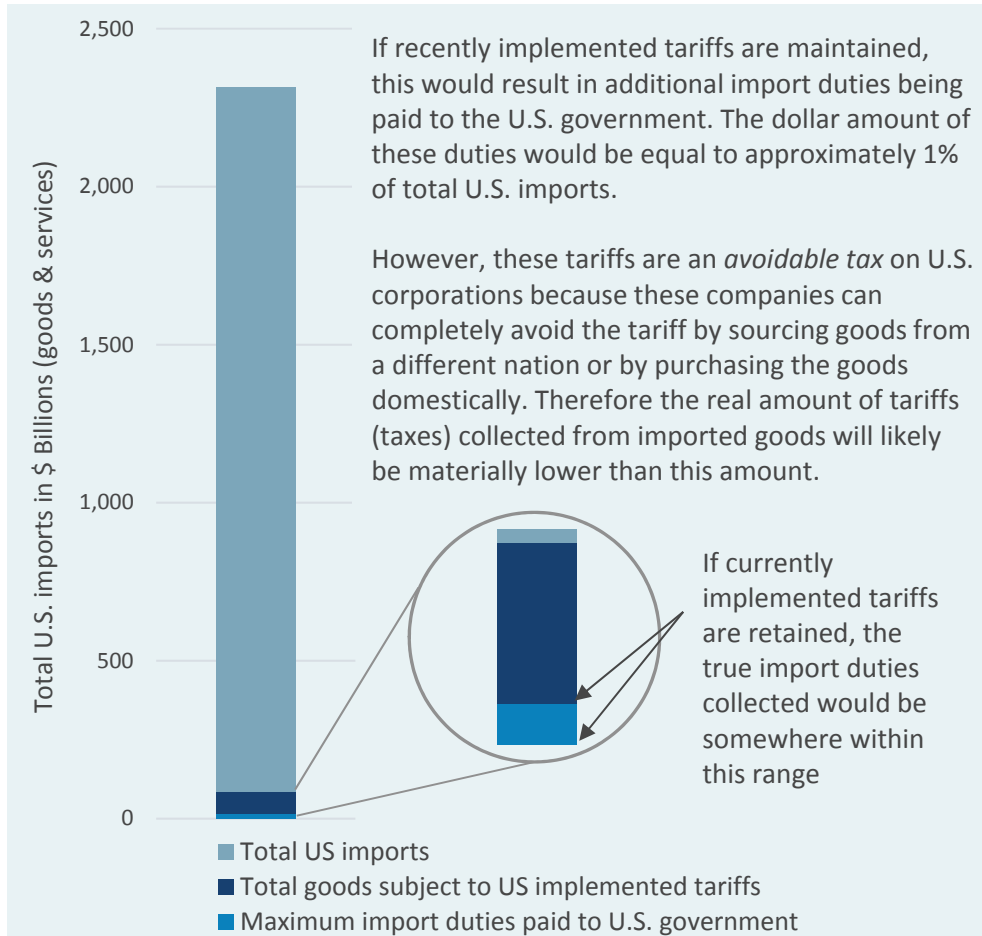
### AVERAGE TARIFF RATE



Source: WTO, 2016

# Putting tariffs into perspective

Tariff duties are better thought of as an avoidable tax. The impact of recently enacted tariffs is small, especially once substitution effects are accounted for.



Source: U.S. Census Bureau, Verus

Analysis conservatively assumes a 25% tariff rate for an estimated \$90 billion of tariffs on both imports and exports, both goods and services are included

# Inflation

The year-over-year core CPI inflation rate was 2.3% in June, up from 2.1% three months prior. The increase in the yearly rate slightly overstates the size of the move because it was impacted by a low base effect – the annualized 3-month core inflation rate was only 1.7%.

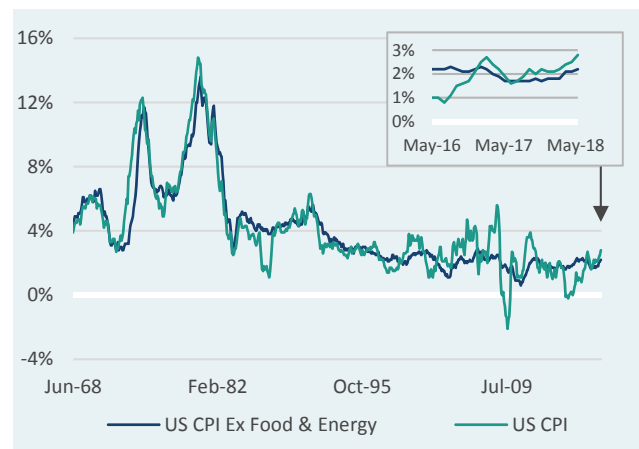
While investors' concerns over inflation have bubbled up occasionally throughout the year, we have yet to see a material increase in price levels. Consumer price inflation

has been held back by a lack of wage growth as well as structural factors such as globalization and automation which have weighed down the prices of goods.

The Fed's response to inflation data is potentially more important to investors than actual changes in inflation, barring an unforeseen shock to the upside. To this point, the central bank appears to be tolerant of inflation slightly higher than the stated 2% target.

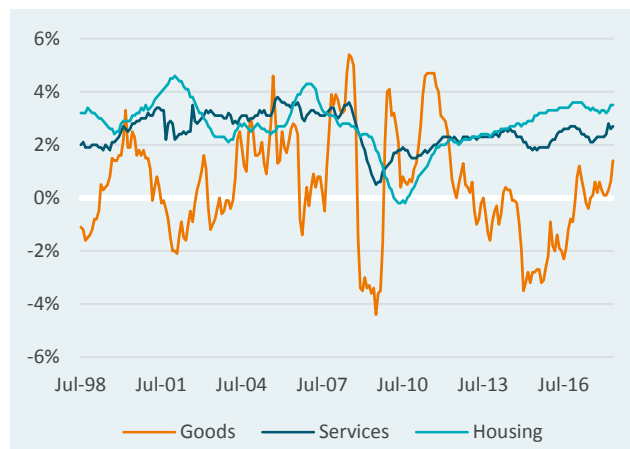
Core inflation remained modest

U.S. CPI (YOY)



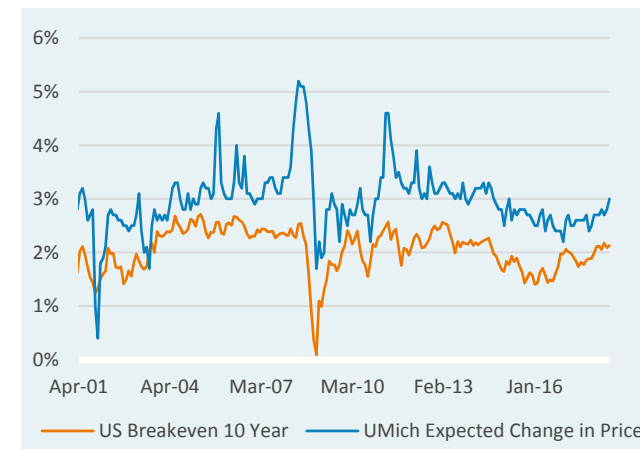
Source: FRED, as of 5/31/18

INFLATION BY PRODUCT TYPE (YOY)



Source: Bloomberg, as of 5/31/18

INFLATION EXPECTATIONS



Source: Bloomberg, as of 6/30/18

# Labor market

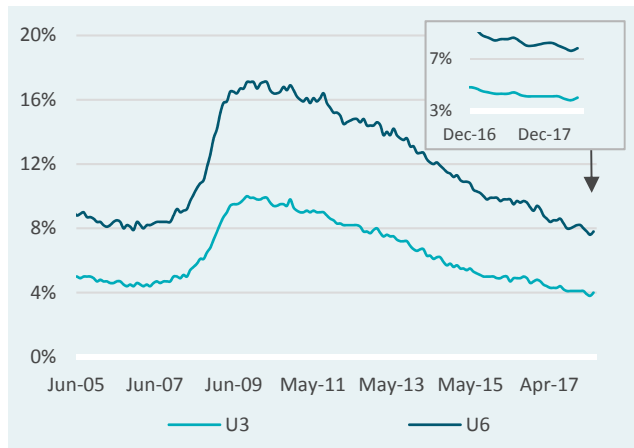
Conditions in the U.S. labor market tightened further in Q2 as unemployment moved from 4.1% to 4.0%. The unemployment rate that includes discouraged and part time workers fell from 8.0% to 7.8%. Despite these headline readings, we believe there may be considerable slack in the U.S. labor force which is not captured in traditional unemployment measures. This suggests further labor market gains in the U.S. expansion may be reflected in higher participation rates rather than solely through a decline in the unemployment rate.

Perhaps the greatest question mark in today's labor market is the degree to which long-term unemployed workers decide to resume their job search. This decision to return to work may be influenced by greater job prospects that come hand-in-hand with a strong economy, or may be influenced purely by necessity (many Americans are not adequately prepared for retirement).

**Traditional unemployment metrics may understate labor market slack**

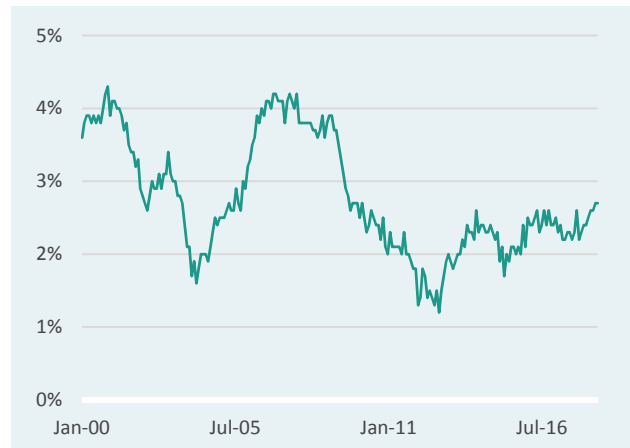
Average hourly earnings growth ticked up to 2.7%, continuing a mild positive trend since the bottom of the U.S. recession.

**UNEMPLOYMENT RATE**



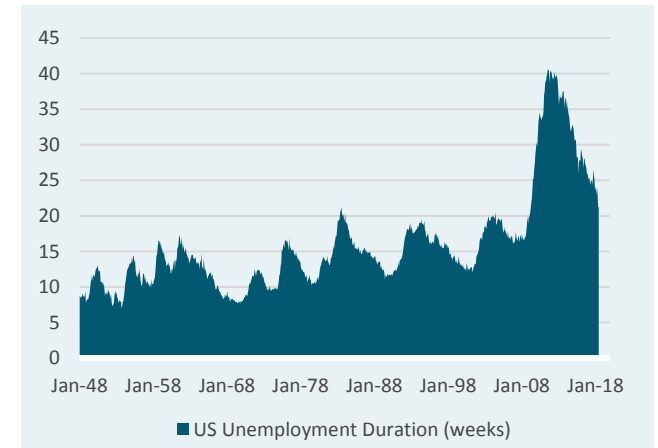
Source: FRED, as of 6/30/18

**AVERAGE HOURLY EARNINGS (YOY)**



Source: Bloomberg, as 5/31/18

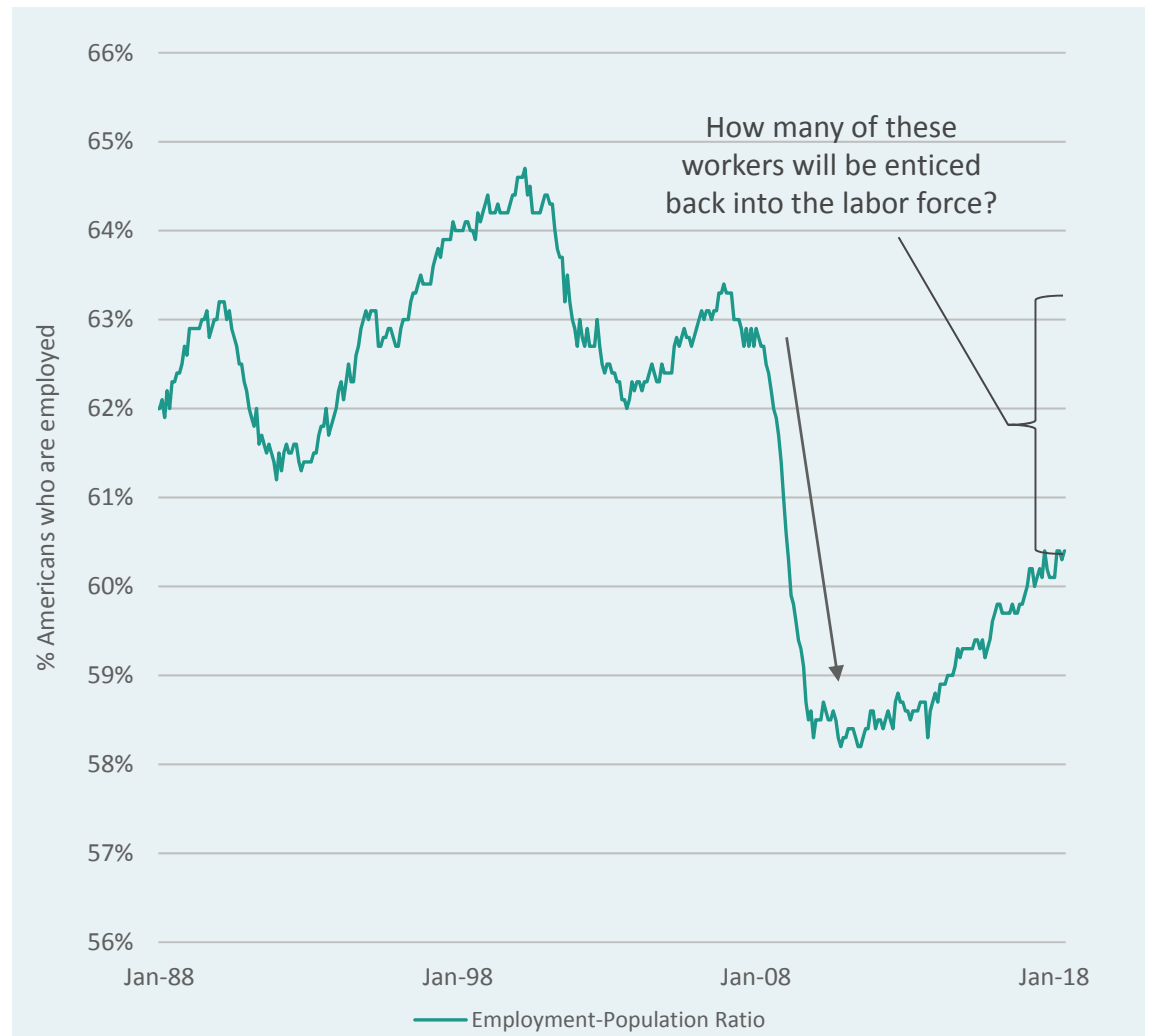
**UNEMPLOYMENT DURATION**



Source: FRED, as of 6/30/18

# How tight is the job market?

- According to the most frequently touted measures of unemployment, the U.S. job market is at the strongest level seen in nearly 50 years. But looking at unemployment through a different lens – the number of Americans employed – paints a very different picture. A significant portion of America remains unemployed relative to 10 years ago.
- During past U.S. economic downturns, between 2% and 3% of Americans lost their jobs, though most or all of those jobs were recovered throughout the subsequent economic recovery. In comparison, 5% of Americans exited the workforce during the latest recession, and less than half of these lost jobs have been regained.
- Some of this shortfall has been fueled by demographic shifts, and some by workers giving up and permanently leaving the workforce. But the remainder of the shortfall is comprised of very discouraged workers who will eventually seek employment. If it turns out that this third category is large, the current U.S. job market may not be as tight as commonly believed, which implies more potential upside to the U.S. economic expansion.



Source: FRED, Verus, as of 6/30/18

# The consumer

Economic conditions such as low unemployment, moderate wage gains, and restrained inflation remain broadly supportive of the U.S. consumer. Personal spending growth was 4.6% year-over-year in May, in line with the conservative spending habits seen throughout this expansion.

Consumers have also been timid with credit use during the current cycle. Households deleveraged following the financial crisis primarily through less mortgage debt, although this trend has flattened out more recently. Despite this

deleveraging, household debt levels are still high relative to history at 91.5% of disposable income.

Given the more conservative use of credit, dissaving has been an important driver of consumer spending. The personal savings rate was only 3.2% in May, near historical lows. Low interest rates and high asset prices likely helped push down the savings rate. If these conditions were to moderate, it would lead to a more normal balance between spending and savings.

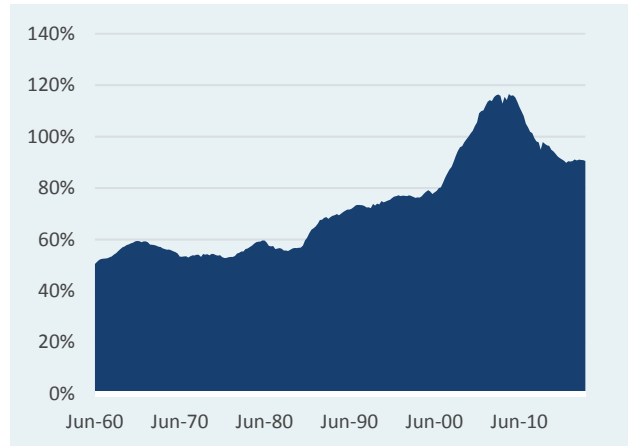
Economic conditions are still supportive of consumer spending

**CONSUMER SPENDING GROWTH (YOY)**



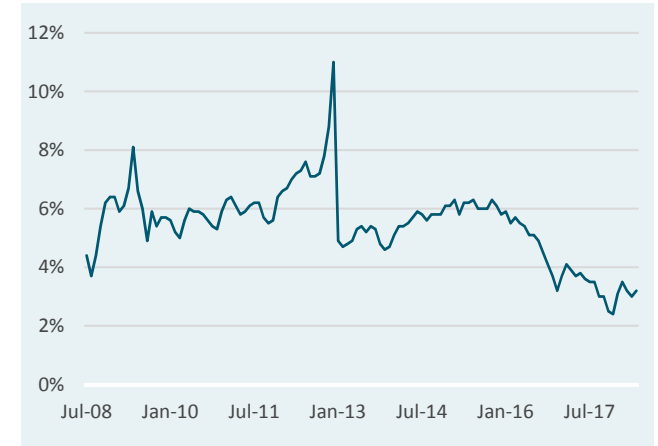
Source: Bloomberg, as of 5/31/18

**HOUSEHOLD DEBT (% OF DISPOSABLE INCOME)**



Source: Bloomberg, as of 3/31/18

**PERSONAL SAVINGS RATE**



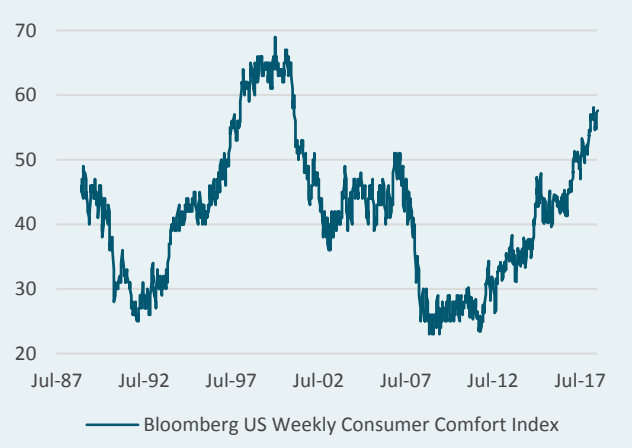
Source: FRED, as of 5/31/18

# Sentiment

Consumer and business sentiment readings are impressively high. The Bloomberg U.S. Weekly Consumer Confidence Index is in the 90<sup>th</sup> percentile, since 1985. The University of Michigan Consumer Sentiment Survey is in the 87<sup>th</sup> percentile, since 1978. Survey respondents provided favorable views on jobs and wages, and broadly expect modest gains in U.S. employment. Cited concerns included rising inflation, higher energy prices, and the economic risks posed by tariffs.

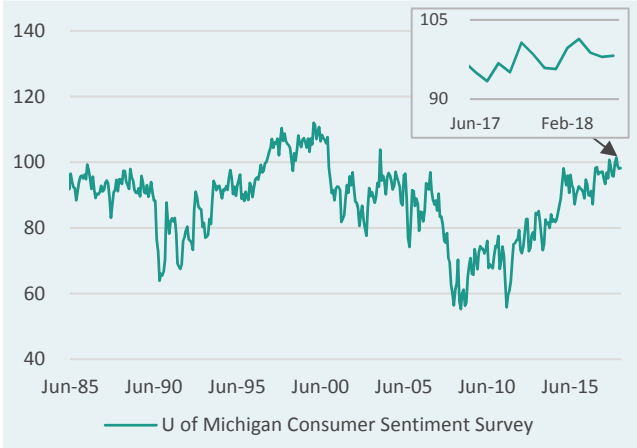
The NFIB Small Business Optimism Index was 107.2 at the end of the quarter – its 6<sup>th</sup> highest reading in survey history. NFIB noted that “small business owners continue to report astounding optimism as they celebrate strong sales, the creation of jobs, and more profits.” Business owners are concerned about the inability to find qualified employees for open positions, consistent with the historically high number of unfilled job openings reported by the Bureau of Labor Services.

**CONSUMER COMFORT INDEX**



Source: Bloomberg, as of 6/30/18 (see Appendix)

**CONSUMER SENTIMENT**



Source: University of Michigan, as of 6/30/18 (see Appendix)

**NFIB SMALL BUSINESS OPTIMISM INDEX**



Source: NFIB, as of 6/30/18 (see Appendix)



# Housing

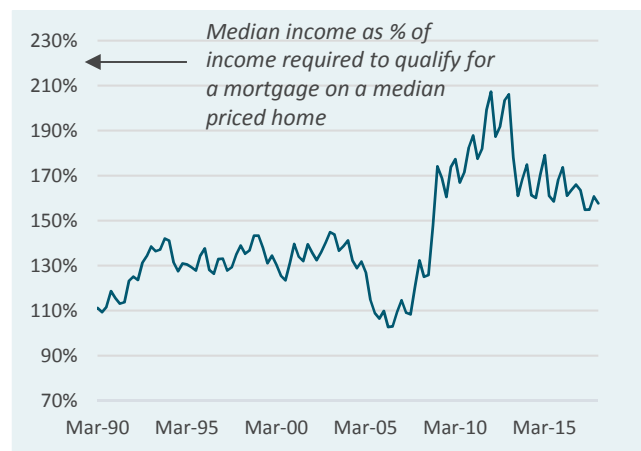
Single-family home prices have risen steadily thus far this year. As of April, the Case-Shiller National Home Price Index was up 6.4% from the previous year, and was 8.8% above the pre-crisis peak. Since the housing market bottomed in February of 2012, home prices have jumped by nearly 50% while personal incomes were up only 24% during the same period. Despite the outsized gain in home prices, demand for single-family housing has been strong, aided by low mortgage interest rates. Rising mortgage rates may make it difficult for many potential home buyers to enter the market at current prices. However, mortgage rates are still low and home affordability is high

relative to history – the median income is over 1.5 times the amount required to qualify for a mortgage on a median priced home.

The homeownership rate rose in 2017 for the first time in 13 years. This rate bottomed at 62.9% in the middle of 2016 and sits at 64.2% as of the end of the March. The rise in homeownership has been driven by younger, first time owners (i.e. Millennials). Mortgage lending standards have moderated after years of very tight standards following the financial crisis, which has helped younger buyers enter the market.

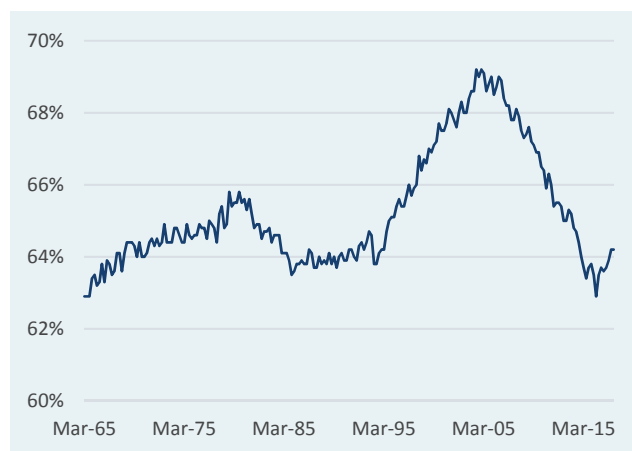
Home ownership rose for the first time in 13 years

**HOUSING AFFORDABILITY INDEX**



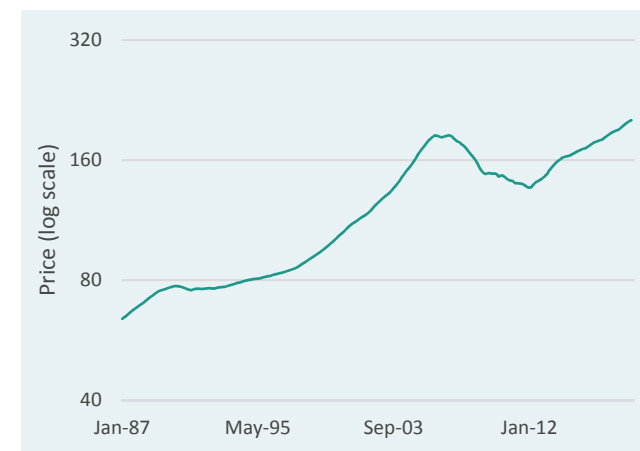
Source: Bloomberg, as of 3/31/18

**HOME OWNERSHIP RATE**



Source: FRED, as of 3/31/18

**U.S. HOME PRICE INDEX**



Source: Case-Shiller National Home Price Index, as of 4/30/18

# International economics summary

- The synchronized global growth story of the past year has shifted somewhat as greater performance disparity is visible across global economies. Growth continues to be positive but is more moderate in places.
- Developed market economies are expected to grow less quickly in the coming years while emerging economy growth rates are expected to rise.
- The U.S. implemented a first round of tariffs on Chinese imports on July 6th, which impacted \$34 billion of goods. So far, only a small portion of the discussed tariffs have been enacted.
- In June, Mario Draghi officially announced the end of Europe's bond buying program. Asset purchases are scheduled to end in December, and it was promised that interest rates will remain unchanged through the summer of 2019. This message was seen by markets as more dovish than expected.
- Fears were raised over Italy's uncertain role in the EU, following a new coalition of the anti-establishment Five Star Movement and League Party taking over the government. Italian bond yields spiked severely during the move, but have since moderated.
- The Eurozone Composite PMI rose for the first time in five months to 54.8 in June. PMIs in most developed and emerging markets remain above 50, indicating expansion.
- The U.S. dollar appreciated 5% during the quarter. Certain emerging market currencies have devalued sharply, such as the Argentine peso, which is down more than 35% against the USD on the year.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.8% <i>3/31/18</i>	2.8% <i>5/31/18</i>	4.0% <i>6/30/18</i>
Eurozone	2.5% <i>3/31/18</i>	2.0% <i>6/30/18</i>	8.6% <i>3/31/18</i>
Japan	1.1% <i>3/31/18</i>	0.7% <i>5/31/18</i>	2.2% <i>5/31/18</i>
BRICS Nations	5.8% <i>3/31/18</i>	2.5% <i>6/30/18</i>	5.6% <i>3/31/18</i>
Brazil	1.2% <i>3/31/18</i>	4.4% <i>6/30/18</i>	12.8% <i>6/30/18</i>
Russia	1.3% <i>3/31/18</i>	2.3% <i>6/30/18</i>	4.7% <i>5/31/18</i>
India	7.7% <i>3/31/18</i>	5.0% <i>6/30/18</i>	8.8% <i>12/31/17</i>
China	6.8% <i>3/31/18</i>	1.9% <i>6/30/18</i>	3.9% <i>3/31/18</i>

# International economics

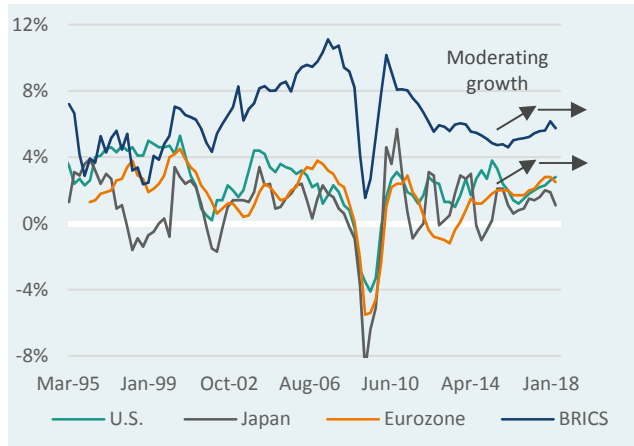
The synchronized global growth story of the past year has shifted as economies display more disparate economic performance. The change has not been too dramatic - growth continues to be positive but more moderate in places. Since 2016 we have been discussing political and economic risks which exist in Europe. These fears were confirmed in recent quarters as Eurozone economies missed expectations in a variety of areas including GDP growth, retail sales, and industrial production – casting some doubt over the European recovery story.

The Eurozone and Japan exhibited inflation well below central bank targets in the second quarter, while the U.S. delivered a moderate rise. Overall, inflation conditions remain benign which has allowed (or necessitated) easier central bank policy.

Labor markets tightened broadly, in line with an environment of positive economic expansion. However, joblessness remains stubbornly high in some Eurozone countries such as Italy, Spain, and Greece.

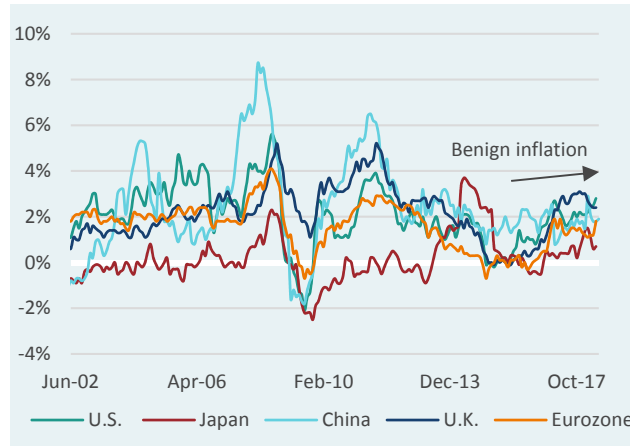
Synchronized global growth has moderated

**REAL GDP GROWTH (YOY)**



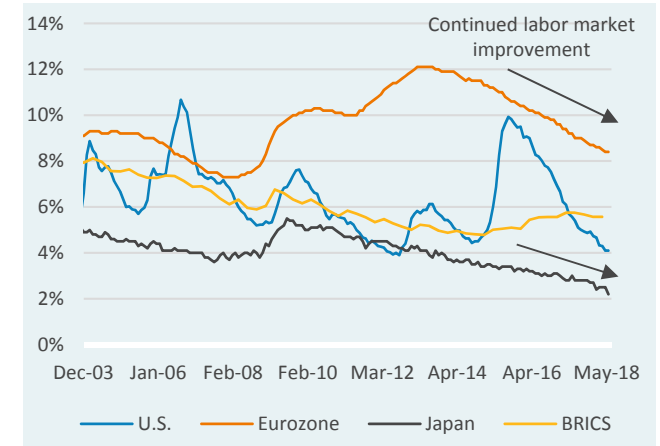
Source: Bloomberg, as of 3/31/18

**INFLATION (CPI YOY)**



Source: Bloomberg, as of 5/31/18

**UNEMPLOYMENT RATE**



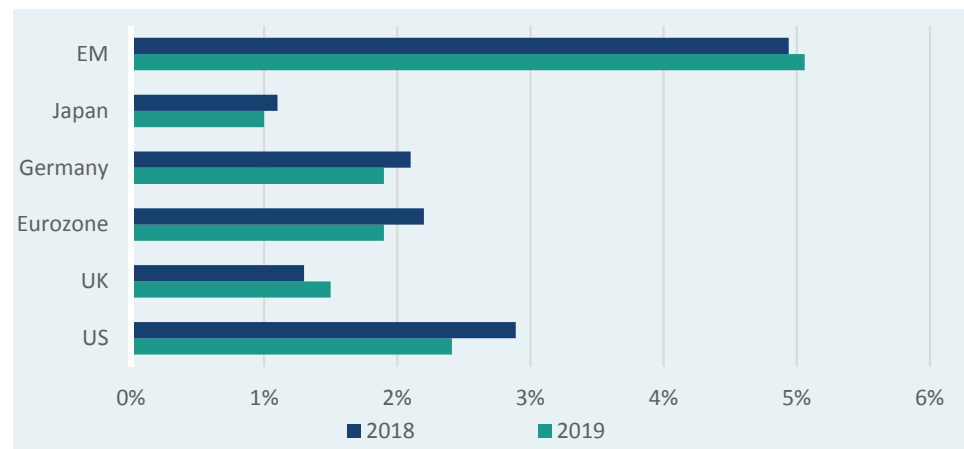
Source: Bloomberg, as of 5/31/18 or most recent release

# GDP growth expectations

Economic growth expectations for the rest of 2018 and 2019 have begun to show widening differentials between the U.S. and the rest of the developed world. GDP expectations for the U.S. have been revised upward over the past six months partly due to an expected boost from fiscal stimulus, while growth expectations for other developed countries have been revised slightly lower. This disparity has led to skepticism regarding the story of accelerating synchronized global growth which economies experienced towards the second half of 2017.

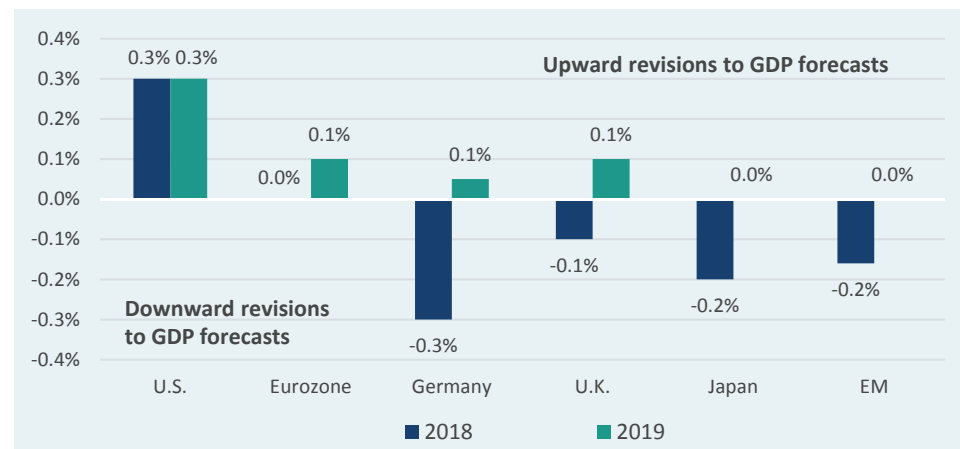
In 2019, growth is expected to moderate in every major developed country as risks develop further, such as tighter monetary conditions. Achieving the right balance of monetary tightening at this stage of the economic cycle becomes increasingly difficult, and the risk of a policy mistake is greater. However, cyclical conditions in most economies (i.e. moderate inflation, wage gains) may allow central banks to be patient, extending the cycle even further. Emerging market economy growth premiums are expected to increase – these markets are earlier in their economic and monetary policy cycles than developed markets.

**GDP GROWTH EXPECTATIONS (%)**



Source: Bloomberg, as of 7/5/18

**YTD NET CHANGES IN GDP EXPECTATIONS**



Source: Bloomberg, as of 7/5/18

# Political shakeup in Italy

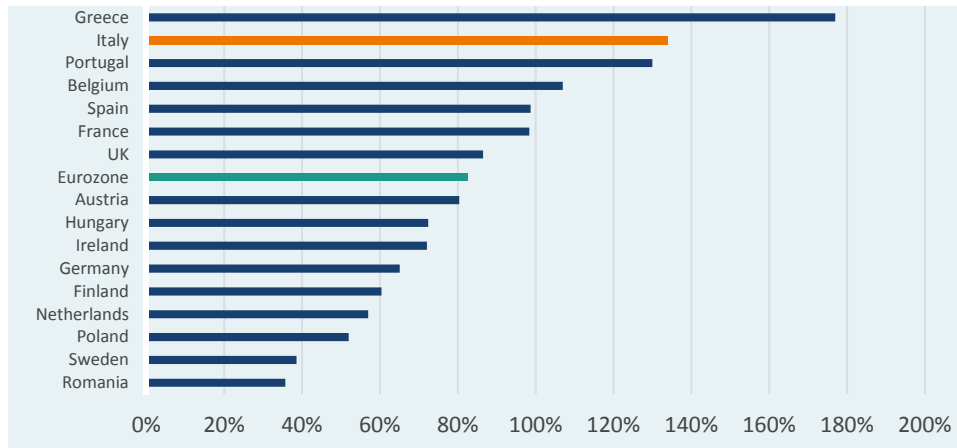
Fears were raised over Italy's possible exit from the Eurozone following a coalition of the anti-establishment Five Star Movement and League Party. Italian bond yields spiked severely during the move, but have since moderated.

The greatest immediate risk seems to be coalition talks of significant spending increases. Per the Maastricht Treaty – the founding document of the European Union (EU) – member nation fiscal budgets are limited to a debt-to-GDP level of 60% and a budget deficit of 3% of GDP. Italy's debt-to-GDP is over 130%, while for now the country is running a more reasonable budget deficit of 1.6%. If Italy forges ahead

with fiscal stimulus, this may result in further conflict with Maastricht Treaty guidelines and may place the new emboldened leaders head-to-head with the EU.

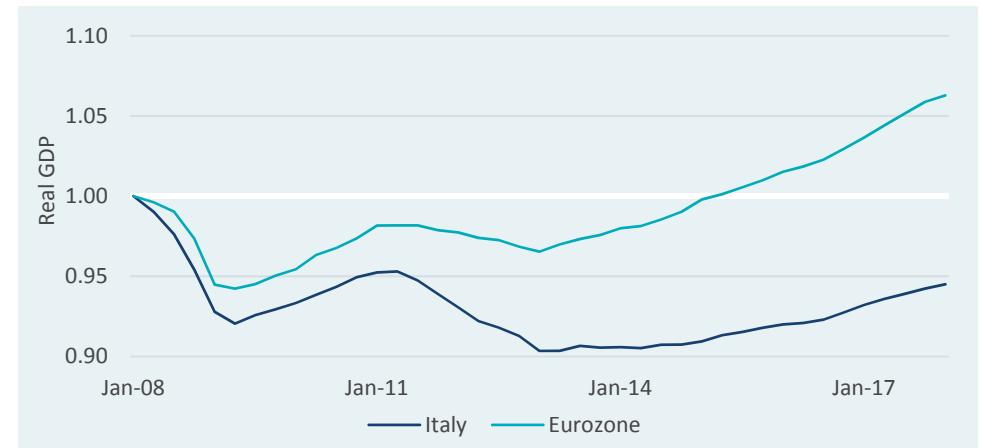
The political events in Italy tie into a broader European trend – the growing power and influence of populism. Populist movements have been fueled by severe economic disparity between some Eurozone economies as well as controversial EU policies relating open borders and immigration. This populist trend will likely pose an ongoing threat to the stability of European economies and the EU as a whole.

## DEBT-TO-GDP



Source: ec.europa.eu, as of 2017 Q3

## EUROZONE VS. ITALY REAL GDP



Source: Bloomberg, as of 3/31/18

# Fixed income rates & credit

# Interest rate environment

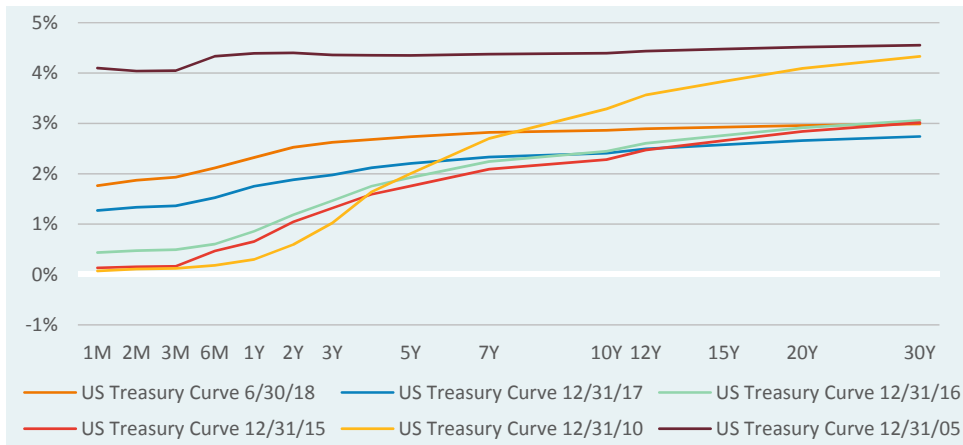
- The Fed raised interest rates in June for the second time this year to a target range of 1.8-2.0%. The balance sheet unwind continued as planned with approximately \$18 billion in Treasuries and \$12 billion in MBS coming off each month during the quarter.
- According to the Fed dot plot, officials are expecting two additional rate hikes this year, while market pricing suggests only one more hike. Quicker than expected Fed tightening would represent a key risk to the economy and asset prices.
- The 10-year U.S. Treasury yield ticked up modestly during the quarter to 2.9% while the short-end of the curve rose further. The spread between the 2- and 10-year yields fell to a cycle low of 33 bps at quarter end. By another measure of curve shape, the 10-year yield minus 3-month yield, the curve remains at a level of steepness closer to the longer-term average (92 bps vs. 184 bps average).
- Historically, an inverted yield curve has preceded recessions, but the timing between inversion and recession has been anywhere from one to three years.
- In June, Mario Draghi officially announced the end of the Eurozone's bond buying program. The ECB stated that purchases will end in December, and interest rates will remain unchanged through summer of 2019. The markets interpreted this as dovish and yields fell on the news.
- Italian sovereign yields spiked after it appeared the country was headed for new elections later in the year. The 2-year yield jumped 186 bps in one day to 2.8% as risk premiums rose. In the end, a coalition government was formed between the Five Star and League parties and the country avoided going back to the polls.
- Emerging market local and hard yields moved higher, influenced by a general risk-off sentiment towards EM as well as idiosyncratic risks in several vulnerable countries, such as Turkey and Argentina.

Area	Short Term (3M)	10 Year
United States	1.91%	2.86%
Germany	(0.59%)	0.30%
France	(0.63%)	0.67%
Spain	(0.42%)	1.32%
Italy	(0.12%)	2.68%
Greece	1.04%	3.96%
U.K.	0.61%	1.28%
Japan	(0.14%)	0.04%
Australia	1.92%	2.63%
China	3.01%	3.48%
Brazil	6.45%	11.68%
Russia	6.62%	7.81%

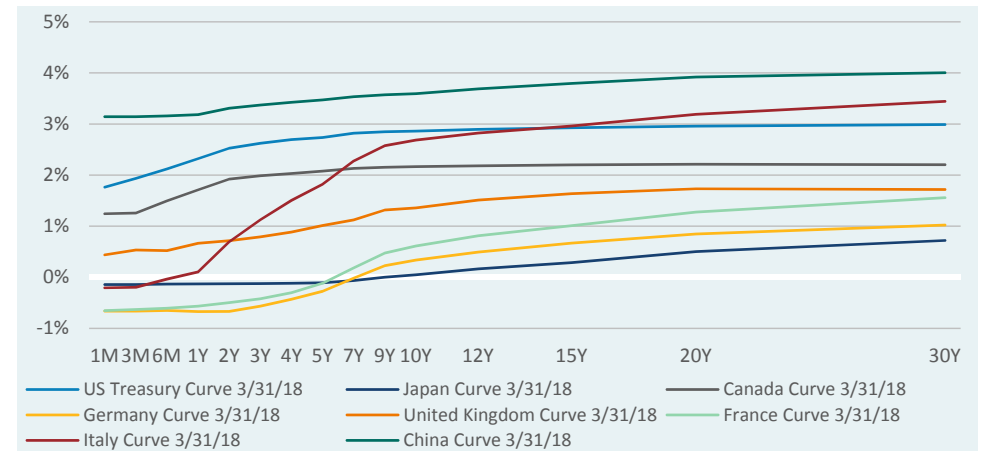
Source: Bloomberg, as of 6/30/18

# Yield environment

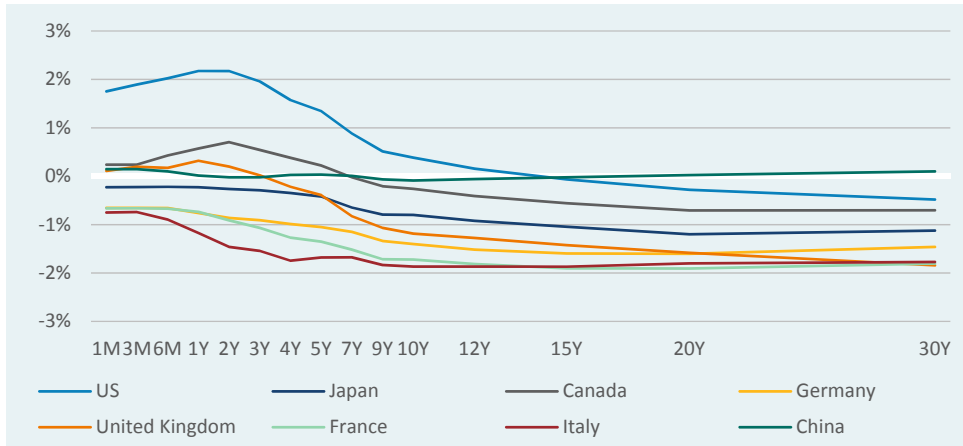
## U.S. YIELD CURVE



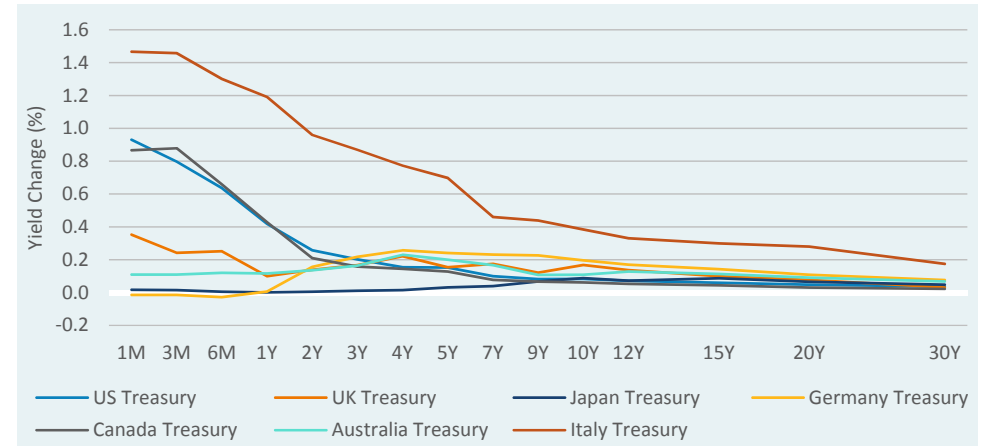
## GLOBAL GOVERNMENT YIELD CURVES



## YIELD CURVE CHANGES OVER LAST FIVE YEARS



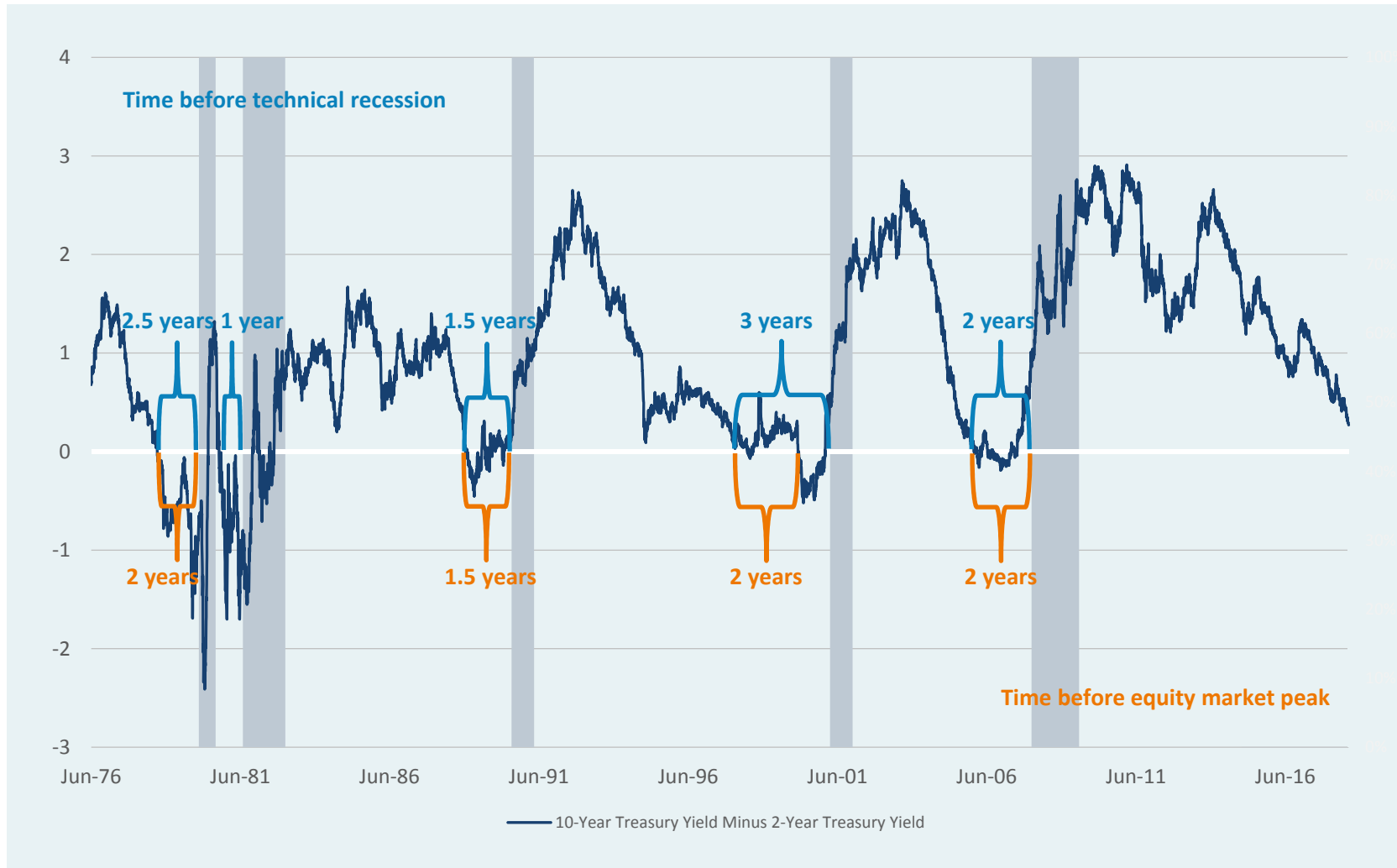
## IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 6/30/18



# What does an inverted curve indicate?



Yield curve inversions often occur during the late-cycle

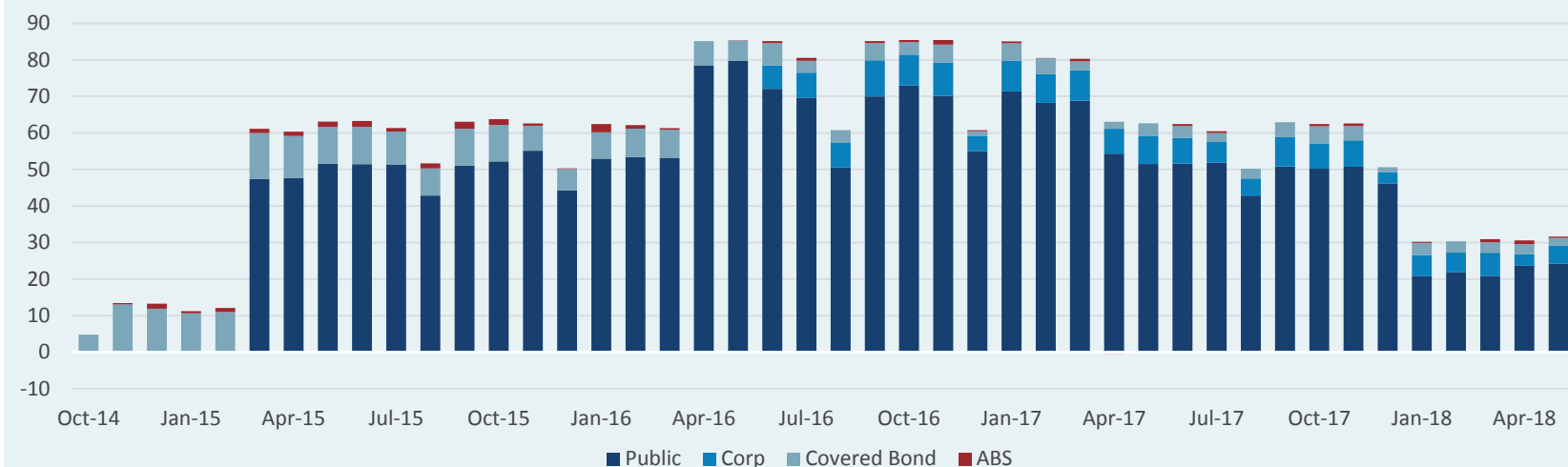
Recession and equity market peaks typically do not occur immediately after an inversion

Source: FRED, Verus – time that passed between initial yield curve inversion and the next technical recession, and time that passed between initial yield curve inversion and next equity market peak

Note: There was not a clear equity market peak during the early 1980's expansion. A "time before equity market peak" was therefore not calculated.

# ECB bond buying program

MONTHLY ASSET PURCHASES (EUROS BILLIONS)



European Central Bank bond purchases are expected to end in December

These purchases have acted as a major support to bond prices in recent years

Country	Debt Purchased by ECB	% of Total Sovereign Purchases	% of Total Country Debt
Germany	€ 485.6	26.6%	23.2%
France	€ 396.7	21.8%	17.9%
Italy	€ 344.8	18.9%	15.0%
Spain	€ 244.4	13.4%	21.4%
Netherlands	€ 108.5	5.9%	26.1%
Belgium	€ 69.2	3.8%	15.3%
Austria	€ 54.9	3.0%	18.9%
Portugal	€ 33.7	1.8%	13.9%

# Credit environment

Credit spreads in both leveraged loans and high yield have widened slightly since the beginning of the year, but are still sitting well below their historical averages. Loans outperformed high yield bonds during eight of the past nine months. LIBOR has steadily risen since 2016, surpassing the LIBOR floors which exist in senior loans, causing them to be fully floating-rate instruments.

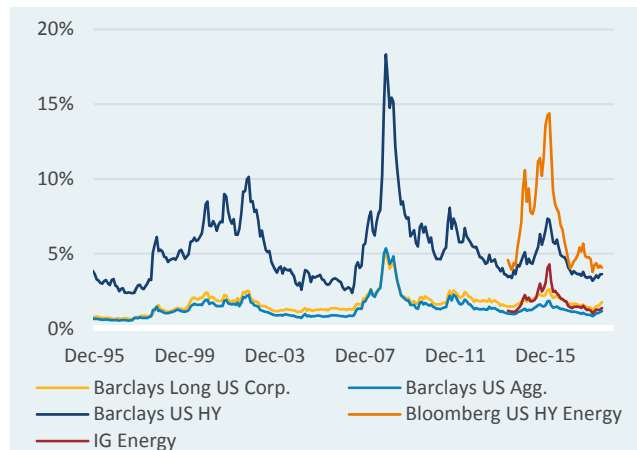
U.S. high yield option-adjusted spreads widened slightly in the second quarter to 3.6% – the asset class generated a

1.0% total return. Tight credit spreads in both high yield bonds and loans have been driven by strong corporate fundamentals, manageable debt maturities and general macroeconomic improvement. Credit spreads have historically been a good indicator of future performance relative to Treasuries.

Based on low interest rates and tight spreads, we recommend an underweight to U.S. investment and high yield credit.

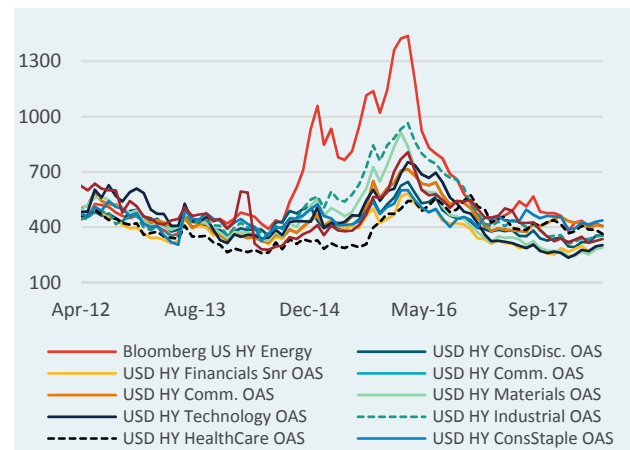
Credit spreads are tight across the capital structure

## SPREADS



Source: Barclays, Bloomberg, as of 6/30/18

## HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 6/30/18

Market	Credit Spread (6/30/18)	Credit Spread (1 Year Ago)
Long US Corporate	1.8%	1.6%
US Aggregate	1.2%	1.0%
US High Yield	3.6%	3.6%
US Bank Loans	3.5%	3.7%

Source: Barclays, Credit Suisse, Bloomberg, as of 6/30/18

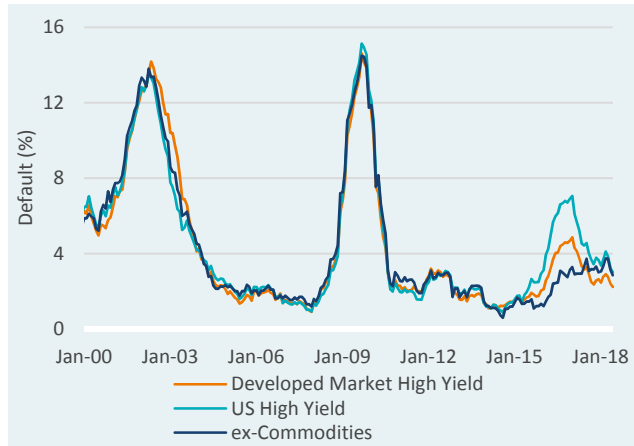
# Issuance and default

Default activity has been low and stable in the U.S. and international credit markets. The par-weighted U.S. default rate remains below its long-term average of 3.0-3.5% and is currently at 2.0%. In the second quarter, \$1.5 billion of defaults occurred - the lowest quarterly total since Q4 2013.

Senior loan and high yield markets are recovering from a wave of defaults seen in 2015-2016, generated from energy and metals/mining sectors. Recovery rates for high yield bonds have vastly improved since that time.

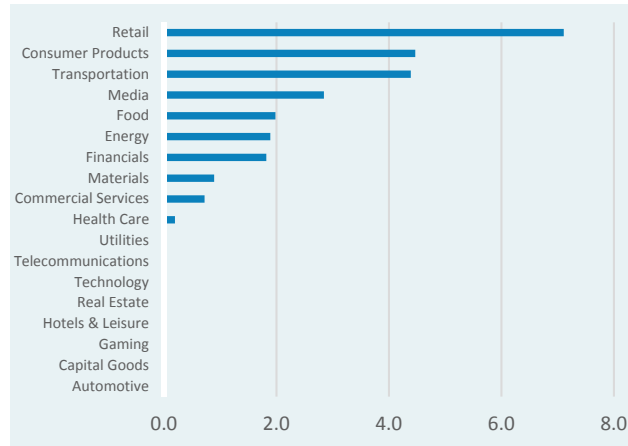
Issuance in high yield bonds totaled \$126 billion compared with \$176 billion across the first half of 2017. Similarly, issuance in leveraged loans totaled \$501 billion, compared with over \$577 billion in the first half of 2017. New issue spreads continue to compress with strong demand supported by significant retail and institutional inflows into both high yield and senior loan asset classes, as well as CLO formation.

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



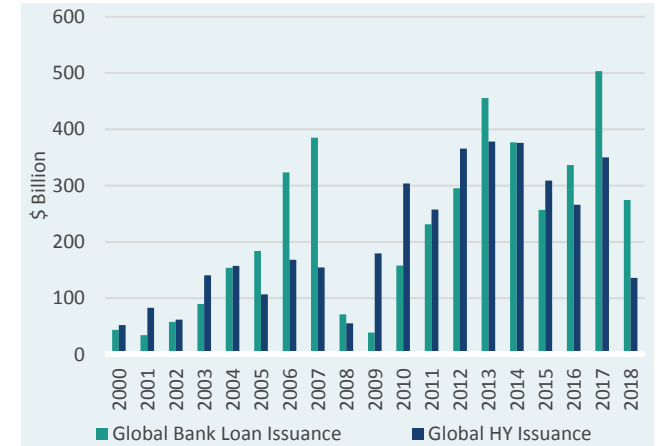
Source: BofA Merrill Lynch, as of 6/30/18

**HY SECTOR DEFAULTS (LAST 12 MONTHS)**



Source: BofA Merrill Lynch, as of 6/30/18 – par weighted

**GLOBAL ISSUANCE (BILLIONS)**



Source: Bloomberg, BofA Merrill Lynch, as of 6/30/18

# Emerging market debt

Emerging market debt experienced a difficult quarter, particularly in local currency bonds. The JPM EMBI Index (hard) and JPM GBI-EM Index (local) returned -3.5% and -10.4%, respectively. Much of the negative performance in local debt was driven by currency depreciation and rising risk premiums in several vulnerable countries. Excluding Venezuela, there has not yet been any defaults, delayed payments or credit downgrades in this space – Argentina narrowly avoided defaulting after securing a \$50 billion bailout from the IMF.

Currency movement in local debt accounted for approximately 80% of the losses in the second quarter. While many currencies

moved due to broad strengthening of the U.S. dollar, several countries with high external debt loads and current account deficits, including Brazil, Argentina, and Turkey, saw their currencies depreciate sharply.

Outside of a few countries, we believe the economic backdrop remains positive for emerging market debt. Most markets have come a considerable way in trimming external debt over the past few years which has made them less reliant on dollar funding. The recent sell-off has created value opportunities that might be taken advantage of – active management is preferred in this asset class.

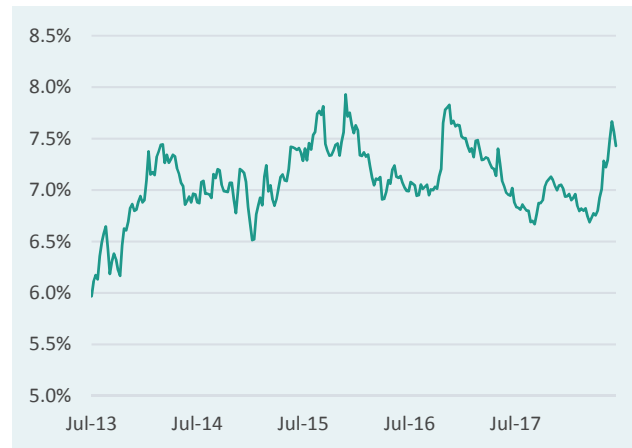
We maintain a positive outlook on emerging market debt

EMD HARD YIELDS



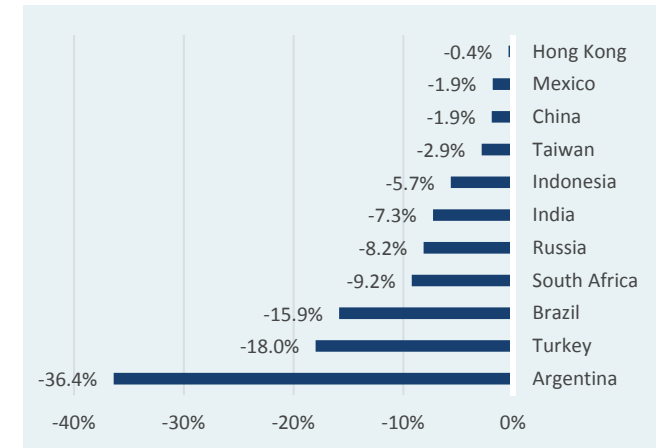
Source: Bloomberg, as of 6/30/18

EMD LOCAL YIELDS



Source: Bloomberg, as of 6/30/18

YTD CURRENCY LOSSES VS USD



Source: Bloomberg, as of 6/30/18

# Equity

# Equity environment

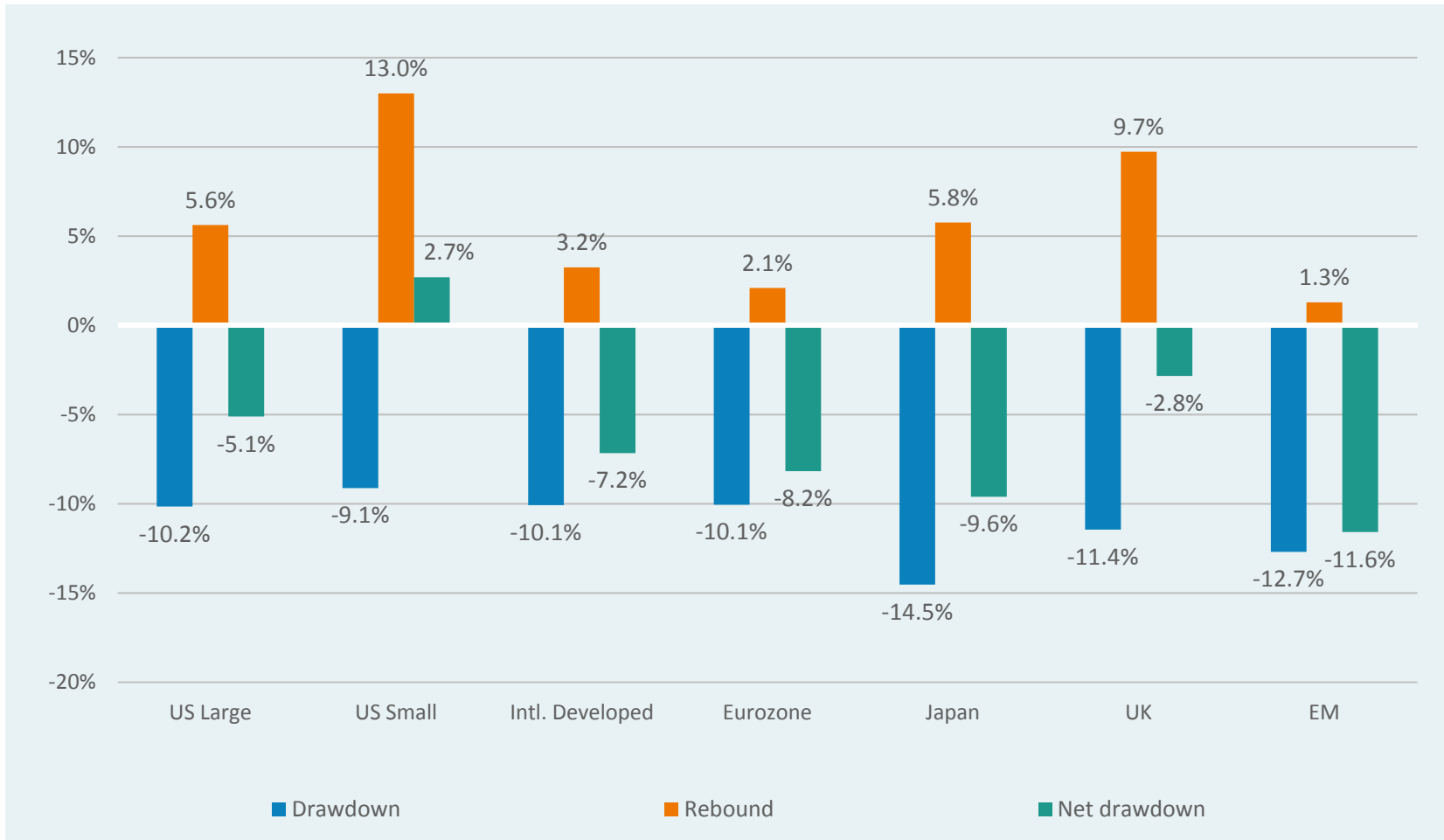
- We maintain an overweight position to equities through a positive tilt to emerging markets. We do not believe recent price swings reflect any major fundamental change to the trajectory of emerging markets. Equity bull runs in these markets have typically incurred a 10% or larger drawdown sometime during the rally.
- Outside of emerging markets, equities have remained fairly range bound following the February selloff. As corporate earnings rise and prices stay flat, equity valuations have been pushed down to more attractive levels closer in line with the historical average.
- Concerns over global trade contributed to a choppy month for equities, although no major breakthroughs or setbacks occurred. Global equities were up +2.9% on a hedged basis but currency depreciation acted as a drag (+0.5% unhedged).
- The value premium has delivered anomalously poor performance – the worst 10-year return on record (since 1926). However, because performance differences were due to earnings growth disparity rather than moves in valuation, the price difference between value and growth stocks has remained fairly normal. A tactical opportunity to overweight value is not yet apparent - we believe investors should stay the course.
- Equity volatility moved to below-average levels once again, following February's spike. The VIX averaged 15.3 during Q2.
- Currency volatility has frequently been greater than equity market volatility in recent years, causing return disparity for investors with unhedged international assets. A hedging program could allow investors to significantly reduce or eliminate this uncompensated risk.

	QTD TOTAL RETURN		YTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	3.6%		2.9%		14.5%	
US Small Cap (Russell 2000)	7.8%		7.7%		17.6%	
US Large Value (Russell 1000 Value)	1.0%		-2.0%		6.0%	
US Large Growth (Russell 1000 Growth)	5.8%		7.3%		22.5%	
International Large (MSCI EAFE)	(1.2%)	3.9%	(2.7%)	0.0%	6.8%	7.9%
Eurozone (Euro Stoxx 50)	(2.3%)	3.6%	(3.7%)	0.5%	3.7%	3.7%
U.K. (FTSE 100)	(3.1%)	9.8%	(0.9%)	2.2%	10.2%	9.9%
Japan (NIKKEI 225)	0.2%	4.4%	0.5%	(1.1%)	15.1%	13.2%
Emerging Markets (MSCI Emerging Markets)	(8.0%)	(3.6%)	(6.7%)	(3.0%)	8.2%	9.5%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 6/30/18

# 2018 peak to trough

## PEAK TO TROUGH



Most equity markets remain range bound since the February selloff

U.S. small caps have fully recovered while E.M. has stayed depressed

2018 peak to trough, local returns, as of 7/2/18 – the trough (market bottom) date for each market is as follows: US Large (2/8), US Small (2/8), Intl. Dev. (3/26), Eurozone (3/23), Japan (3/23), UK (3/26), EM (6/28)



# Domestic equity

U.S. equities were range bound over the quarter – the S&P 500 Index posted a positive return of 3.4% and traded within a tight range between 2600 and 2800. The ups and downs of trade negotiations, particularly those between the U.S. and China, impacted equity markets during the quarter. However, considerable uncertainty surrounding the outcome of these negotiations likely helped keep equities from breaking out of their range in either direction.

Strong year-over-year earnings growth is expected to continue for the second quarter. According to FactSet, the bottom-up analyst earnings growth forecast for the S&P 500 is 19.9%. Forward 12-month earnings growth expectations were revised higher throughout the quarter while equity prices leveled out. Given that prices tend to follow earnings, there may be potential upside to prices if the expected high growth is realized. Alternatively, higher discount rates from Fed tightening may offset the impact of strong earnings growth.

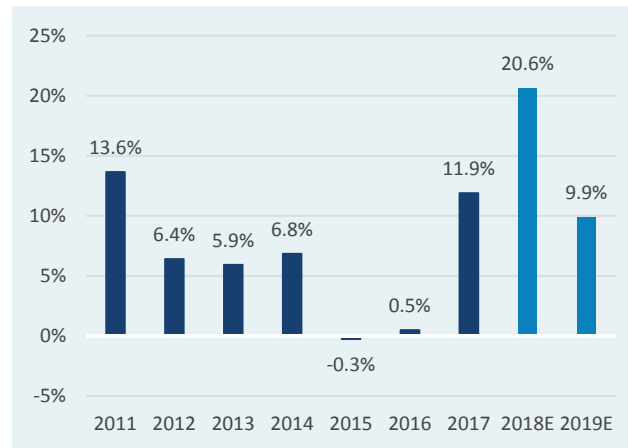
**Fundamentals appear unchanged despite falling prices**

## U.S. EQUITIES



Source: Russell Investments, as of 6/30/18

## CALENDAR YEAR EARNINGS GROWTH



Source: FactSet, as of 7/6/18

## S&P 500 PRICE & EARNINGS



Source: Bloomberg, as of 6/30/18

# Domestic equity size & style

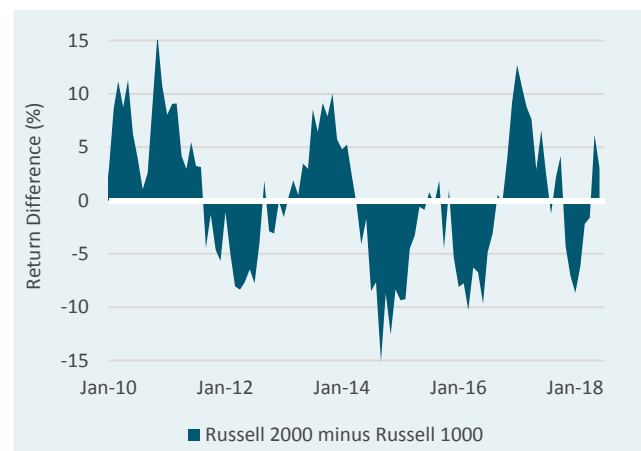
Large cap equities (Russell 1000 3.6%) underperformed small cap (Russell 2000 7.8%) during the quarter. Value stocks continued to lag growth (Russell 1000 Value 1.2% vs. Russell 1000 Growth 5.8%).

Value has delivered anomalously negative returns – the worst 10-year run on record (since 1926). Because performance differences were due to earnings growth disparity rather than moves in valuation, the price difference between value and growth stocks has remained normal. Earnings trends can be somewhat attributed to the global financial crisis where financials lagged considerably, followed by a bull market for

technology stocks (value is concentrated in financials while growth is concentrated in tech). In other words, much of value's underperformance was macroeconomic in nature.

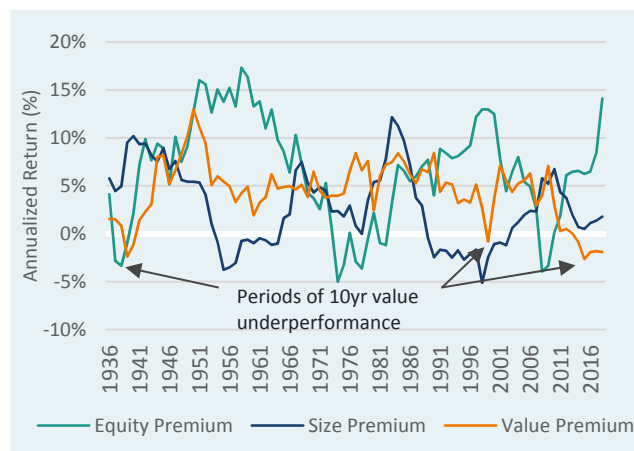
We do not yet see a catalyst for a value comeback, and it is possible that when value bounces back there will not be obvious signals beforehand. Poor recent performance is not always a solid standalone indicator of future reversal. Relative valuations are fairly in line with history, and the economic environment is positive (growth often performs well during later stages of economic cycles). We recommend that value investors stay the course.

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



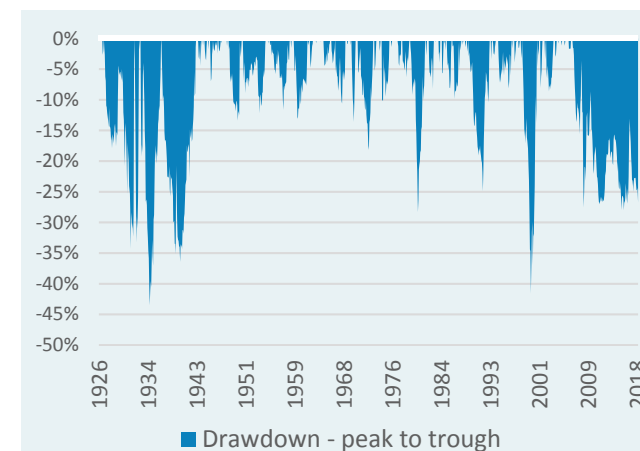
Source: FTSE, as of 6/30/18

**FACTOR PERFORMANCE (10YR ROLLING)**



Source: Kenneth French Library, as of 5/30/18

**VALUE - PEAK TO TROUGH**



Source: Kenneth French Library, as of 5/30/18

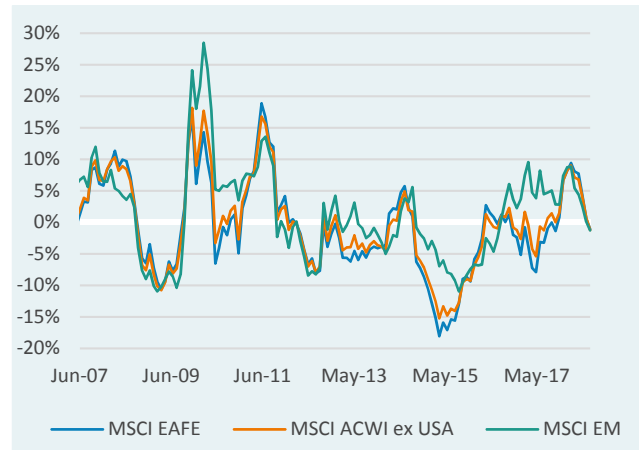
# International developed equity

Unhedged international equities underperformed U.S. equities during Q1 (MSCI EAFE -1.2% vs. S&P 500 +3.4%). On a hedged basis, international equities delivered returns of 3.9%, outpacing the U.S. market. Currency volatility has frequently been greater than equity market volatility in recent years, causing considerable return disparity for investors with unhedged investments in international assets. Equity returns in most markets have been positive year-to-date on an ex-currency basis.

Earnings growth remains strong and will likely be supportive of equity prices going forward. The U.S. has taken back the lead in year-over-year earnings growth, alongside a large boost from U.S. tax reform and a relatively strong economy.

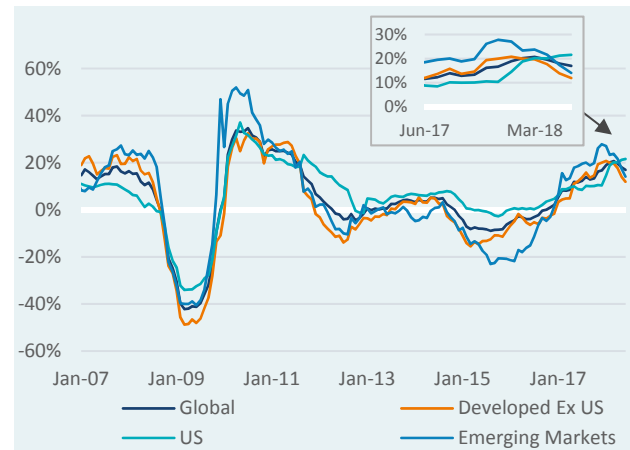
P/E multiples have moved lower as equity prices remain range bound and earnings grow at a brisk pace. Equity valuations are now closer to the longer-term average – a notable change from recent years.

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



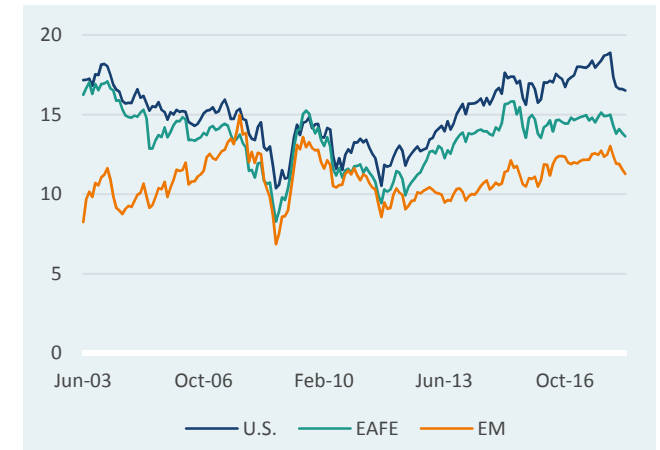
Source: MSCI, as of 6/30/18

**EARNINGS GROWTH (YOY)**



Source: MSCI, as of 6/30/18 – YoY growth in forward earnings

**FORWARD P/E**



Source: MSCI, as of 6/30/18

# Emerging market equity

Emerging market equities delivered losses of -8.0% in Q2, but remain up +8.2% on a year-over-year basis. Currency movement caused -4.4% of losses during the quarter.

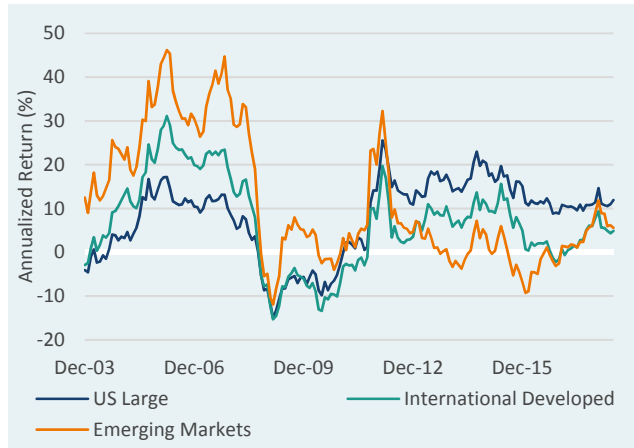
We maintain an overweight position to equities through a positive tilt to emerging markets. Equity bull runs in these markets through history typically incur at least a 10% drawdown sometime during the rally (see next page). Recent price swings were driven by valuation changes rather than by a fundamental change in earnings.

Developed markets are expected to grow less quickly in the coming years while emerging economic growth is expected to rise. A positive growth premium of emerging economies relative to developed economies has historically acted as a tailwind for EM outperformance.

We believe positive emerging economy growth trends, attractive valuations, a strong earnings environment, and depressed currencies should provide an environment of strong equity performance across these markets.

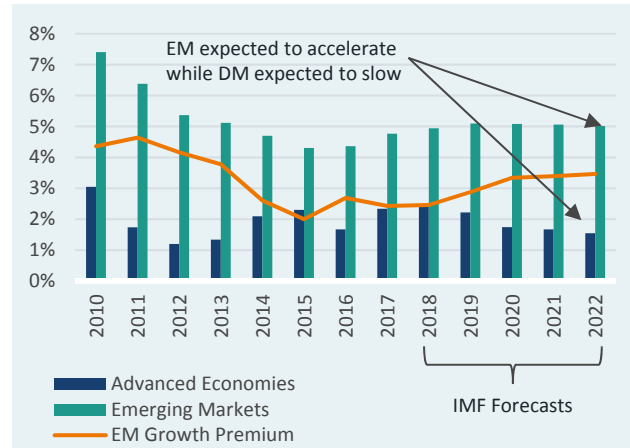
Conditions remain positive for EM equity

**EQUITY PERFORMANCE (3YR ROLLING)**



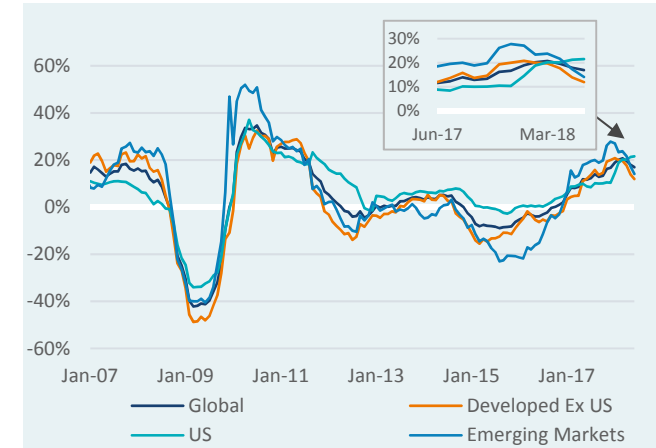
Source: Standard & Poor's, MSCI, as of 6/30/18

**EM GROWTH PREMIUM**



Source: IMF

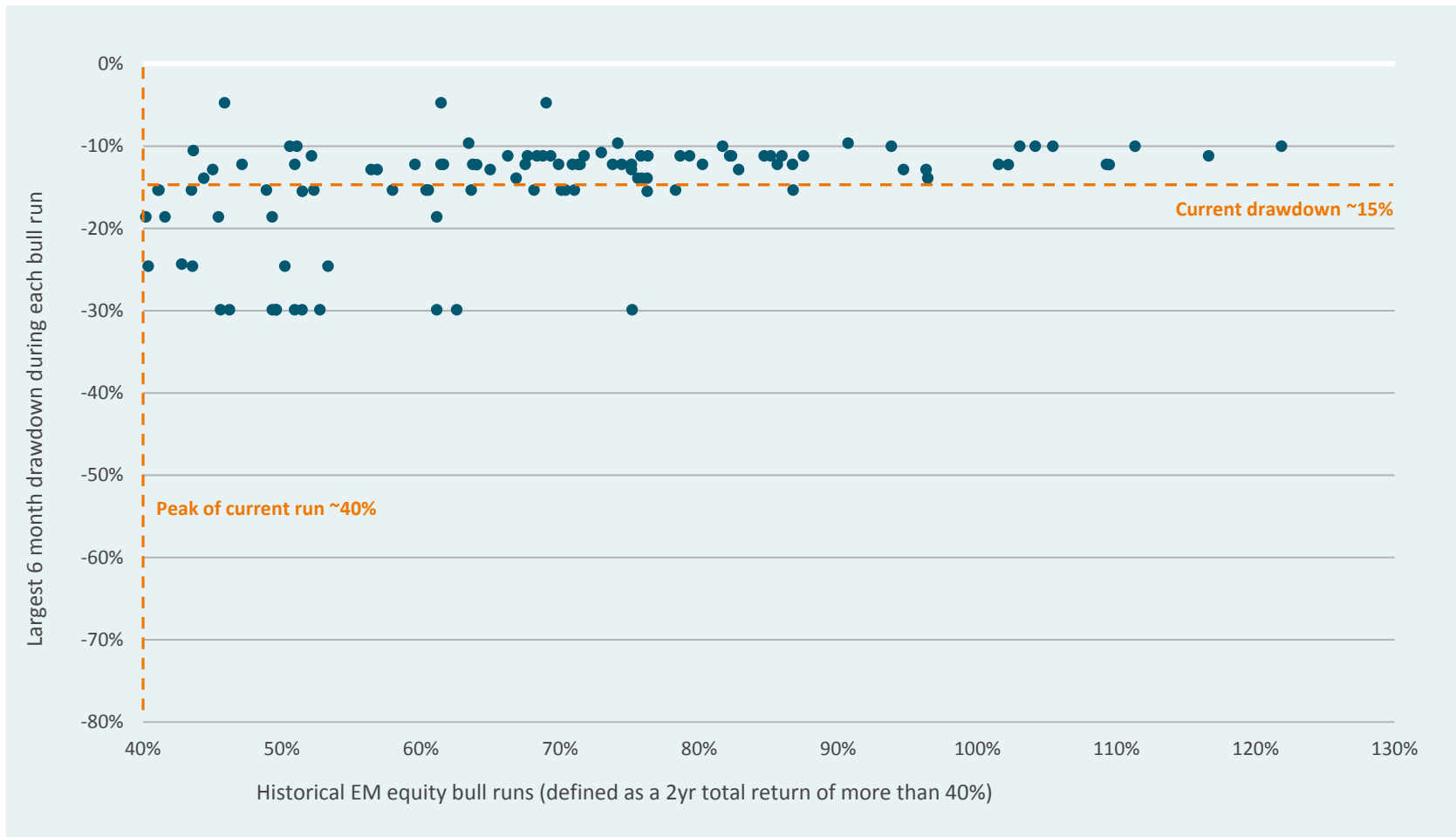
**EARNINGS GROWTH (YOY)**



Source: MSCI, as of 6/30/18

# Emerging market volatility

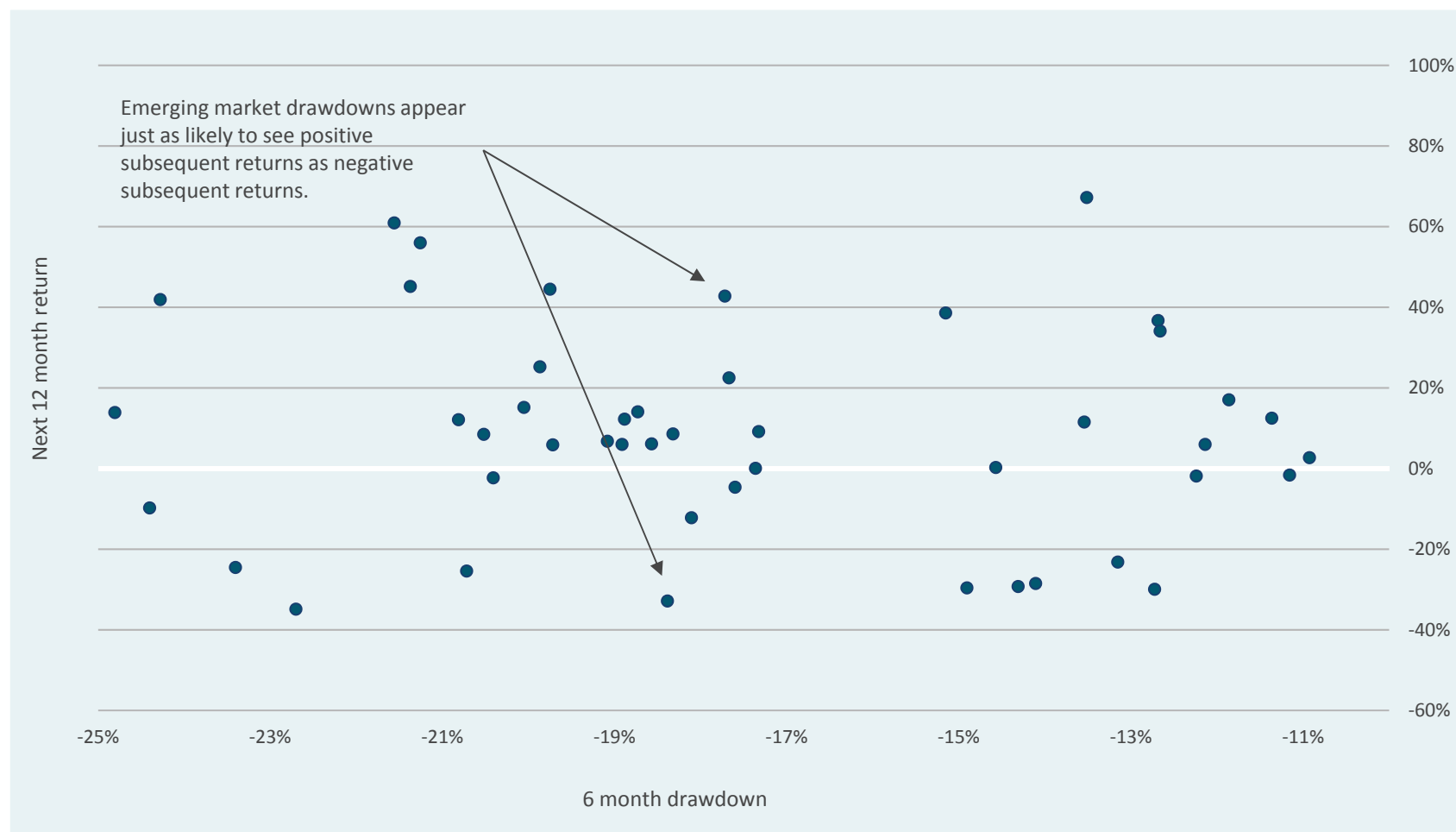
Drawdowns of 10% or more are typical during EM bull runs



The average drawdown experienced during all 2 year periods of 40%+ returns was -14.8%

# Emerging market volatility

The recent drawdown does not imply heightened risk of further losses



Source: MSCI, Verus

# Equity valuations

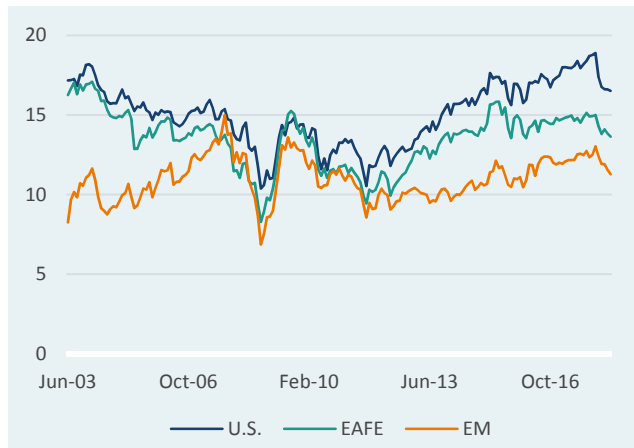
Equity valuations have moved lower year-to-date as prices fell and earnings increased at a strong pace. U.S. equity valuations have fallen the most as domestic earnings growth recently took the lead year-over-year against other markets.

The trailing P/E ratio of the S&P 500 is notably high, but as we have seen throughout the expansion more expensive markets may deliver consistent outperformance if fundamentally driven by robust earnings. On a forward P/E basis, the U.S. is now only slightly rich relative to valuations of the past 15 years (16.5 today vs. an average of 15.1). Price is an important component of equity investing, but higher prices may be indicative of

greater future earnings, which suggests investors cannot rely on price alone when forming expectations.

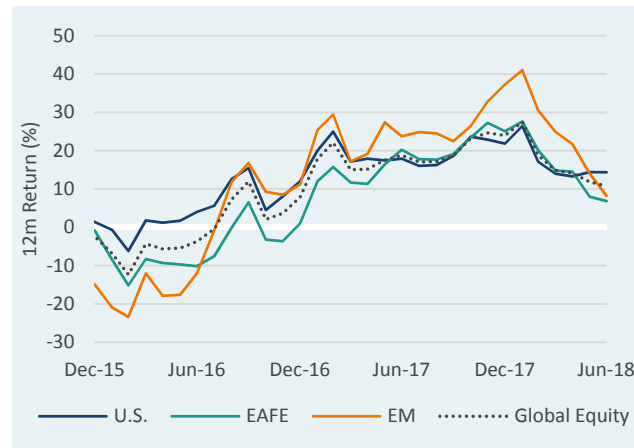
When examining equity markets through our *carry, value, trend,* and *macro* lens, *carry* has improved through lower prices (higher dividend and earnings yields), *value* has improved through lower equity multiples (range bound prices with rising earnings has pushed multiples downward), *trend* has flattened on a short-term basis but remains positive on a 12-month basis, and the *macro* environment has moderated a bit (notable weakness in Europe but strength in the U.S.)

## FORWARD P/E RATIOS



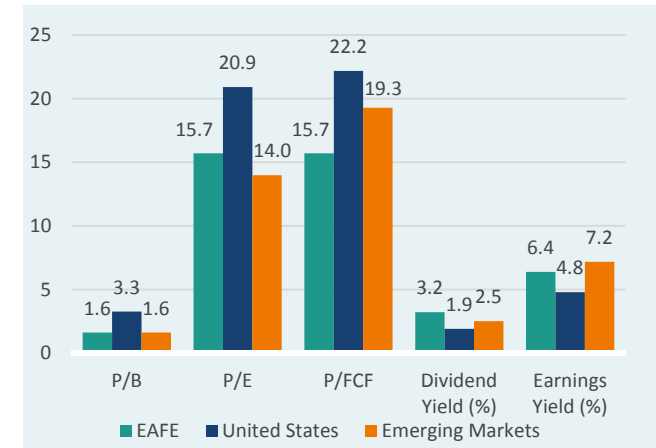
Source: MSCI, as of 6/30/18

## MOMENTUM (1YR)



Source: Standard & Poor's, MSCI, as of 6/30/18

## VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, as of 6/30/18 - trailing P/E

# Equity volatility

U.S. equity volatility retreated in the second quarter after a period of elevated risk following the February volatility spike. The VIX Index of implied volatility declined steadily throughout the quarter and averaged 15.3, compared to an average of 17.4 in the first quarter.

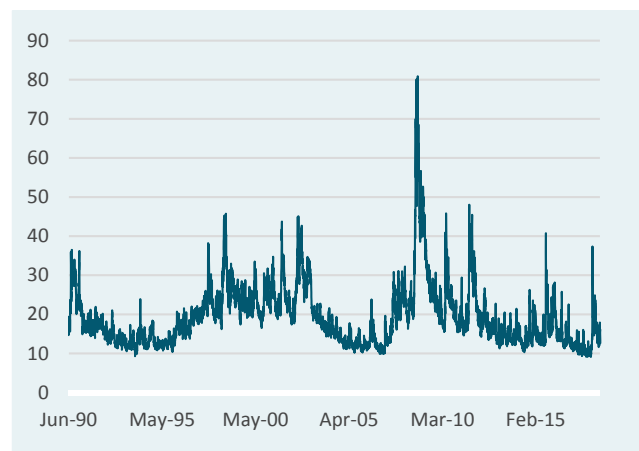
Realized volatility was below average in domestic and international equity markets in the second quarter, despite the concerns over a global trade war. Emerging markets experienced the greatest volatility, although the annualized standard deviation of daily returns in Q2 were

only 13.4% (MSCI Emerging Markets). International developed markets (MSCI EAFE) had a standard deviation of only 9.0%.

The implied volatility curve (i.e. skew), which looks at the differences in implied volatility at various option strike prices, has recently steepened. A steeper volatility curve means that investors are paying a higher premium for equity downside protection.

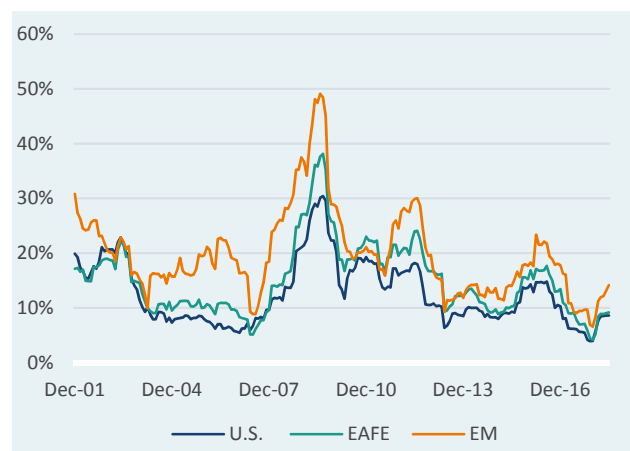
Equity volatility subsided back to below average levels

U.S. IMPLIED VOLATILITY (VIX)



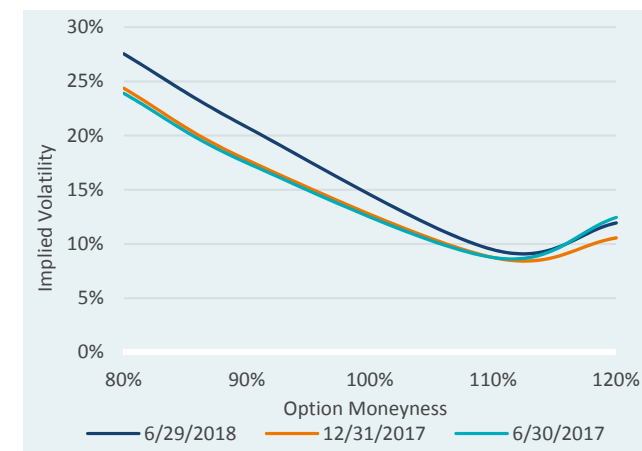
Source: CBOE, as of 6/30/18

REALIZED 1-YEAR ROLLING VOLATILITY



Source: Bloomberg, as of 6/30/18

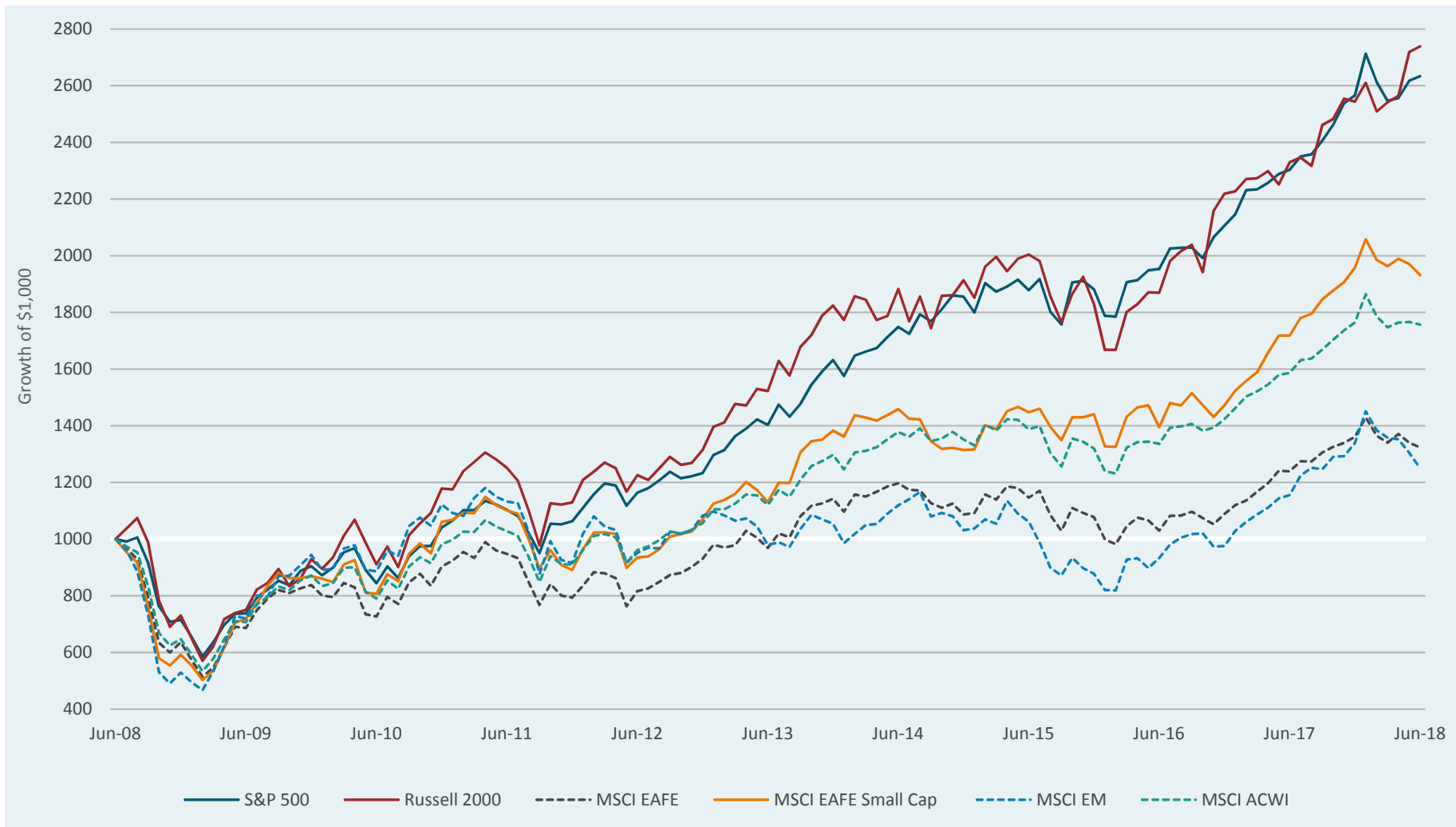
U.S. IMPLIED VOLATILITY CURVE



Source: Bloomberg, as of 6/30/18



# Long-term equity performance



Source: Morningstar, as of 6/30/18

# Other assets

# Currency

The U.S. dollar appreciated 5% during the quarter, which erased the positive equity returns of many international markets. Relative strength of the U.S. economy, paired with Federal Reserve tightening, likely helped lead the U.S. dollar higher.

Interest rate differentials between the U.S. and the rest of the developed world have been steadily widening over the past 10 months. The spread between the U.S. 10-year Treasury yield and the yield on a basket of developed sovereign debt rose approximately 80 bps to 2.3% during this

time. Higher relative interest rates has historically been a short-term driver of currencies.

Emerging market currencies fell 9.1% in Q2, based on the JPM EM Currency Index. The performance of most currencies were in line with expectations based on U.S. dollar appreciation against developed market currencies. Several countries with large current account deficits that are heavily reliant on dollar funding, such as Argentina and Turkey, saw their currencies fall sharply. As a whole, emerging market currencies are significantly undervalued based on purchasing power parity.

**The U.S. dollar materially appreciated, reversing a multi-year downtrend**

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



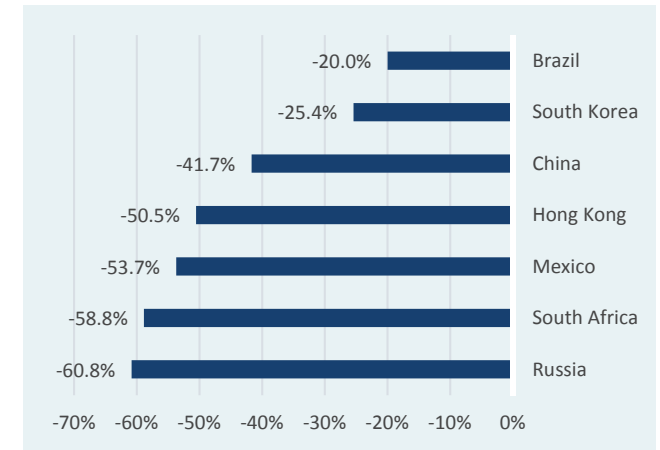
Source: Federal Reserve, as of 6/30/18

**U.S. VS. DEVELOPED INTEREST RATE SPREAD**



Source: Verus, Bloomberg, as of 6/30/18

**PURCHASING POWER PARITY VALUATIONS VS. U.S. DOLLAR (BIG MAC INDEX)**



Source: Bloomberg, as of 6/30/18

# Alternative beta

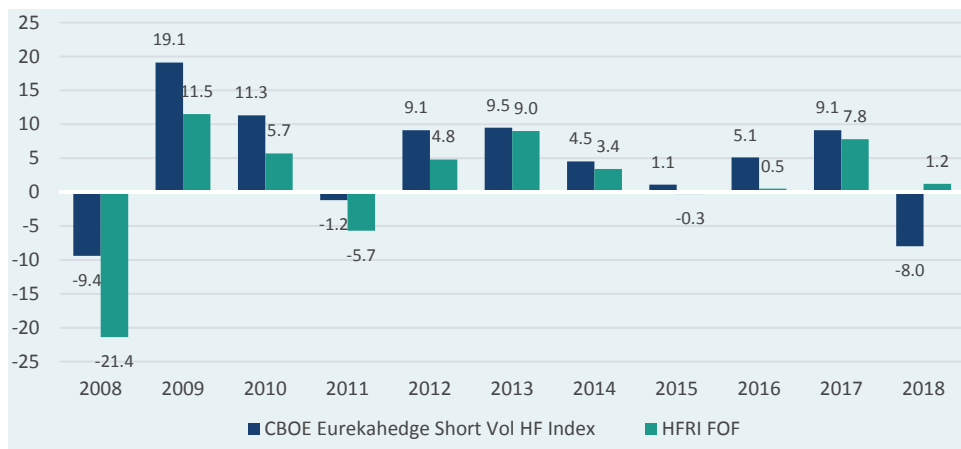
Alternative beta strategies have posted losses in Q2 and year-to-date. Equity value exposures accounted for the largest component of strategy losses in Q2 and year-to-date. Short volatility, a strong performing strategy over the past 10 years, also suffered a severe drawdown in Q1 and affected returns.

Correlation characteristics often benefit strategies with diversified factor exposure (some factors provide losses while others provide gains), but several factors including momentum and carry have not counterbalanced losses in value as they have often done historically.

We do not believe that alternative beta strategies are “broken” per se, but instead have reflected coinciding factor drawdowns as well as muted equity market returns more broadly.

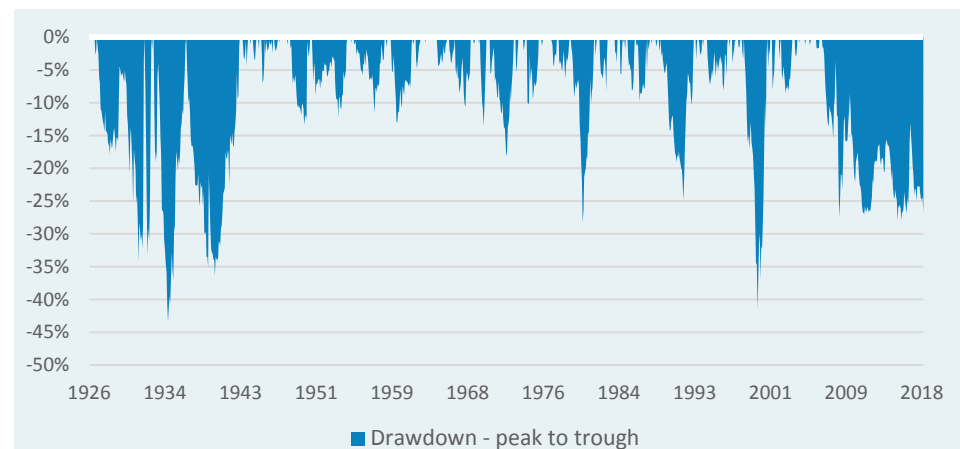
Attribution analyses on the Alt Beta strategies we follow confirm that recent performance is in line with 8-12% target volatility levels of each strategy. We are closely monitoring these funds through an environment of heightened volatility and are continuing discussions with managers. These losses are significant but are within the range we would expect, given the underlying factor exposure.

## SHORT VOLATILITY PERFORMANCE



Source: CBOE, HFRI, as of 6/30/18

## VALUE – PEAK TO TROUGH



Source: Kenneth French Library, Verus, as of May 2018 – shows value factor peak to trough drawdowns through time

# Appendix

# Periodic table of returns

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	YTD	5-Year	10-Year
Small Cap Growth	38.7	66.4	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	9.7	16.4	11.8
Small Cap Equity	27.0	43.1	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	7.7	13.6	11.2
Large Cap Growth	20.3	33.2	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	7.3	13.4	10.6
Small Cap Value	19.3	27.3	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	5.4	12.5	10.2
Large Cap Equity	16.2	26.5	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	2.9	11.2	9.9
Real Estate	15.6	24.3	6.0	2.5	-5.9	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	1.7	10.3	8.5
Hedge Funds of Funds	8.7	21.3	4.1	-2.4	-6.0	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	1.2	10.0	6.1
Cash	4.9	20.9	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	0.8	6.4	4.8
Commodities	1.2	13.2	-7.3	-9.1	-15.5	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	0.0	6.3	3.7
60/40 Global Portfolio	-2.5	11.4	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-0.8	5.0	2.8
US Bonds	-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	5.1	-1.6	3.6	2.3
Large Cap Value	-6.5	4.8	-22.4	-19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-1.7	2.3	1.5
International Equity	-25.3	-0.8	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-2.7	0.4	0.4
Emerging Markets Equity	-27.0	-1.5	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-6.7	-6.4	-9.0

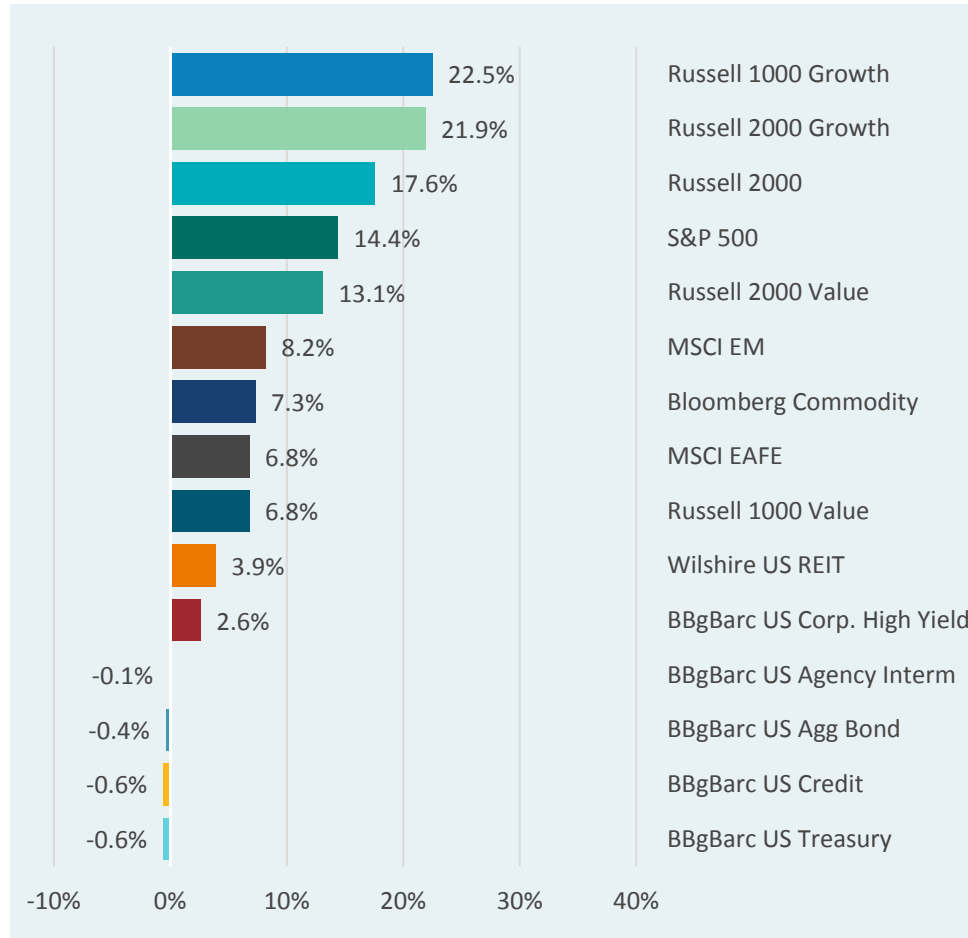
BEST  
↑  
↓  
WORST

 Large Cap Equity	 Small Cap Growth	 Commodities
 Large Cap Value	 International Equity	 Real Estate
 Large Cap Growth	 Emerging Markets Equity	 Hedge Funds of Funds
 Small Cap Equity	 US Bonds	 60% MSCI ACWI/40% BBgBarc Global Bond
 Small Cap Value	 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 3/31/18.

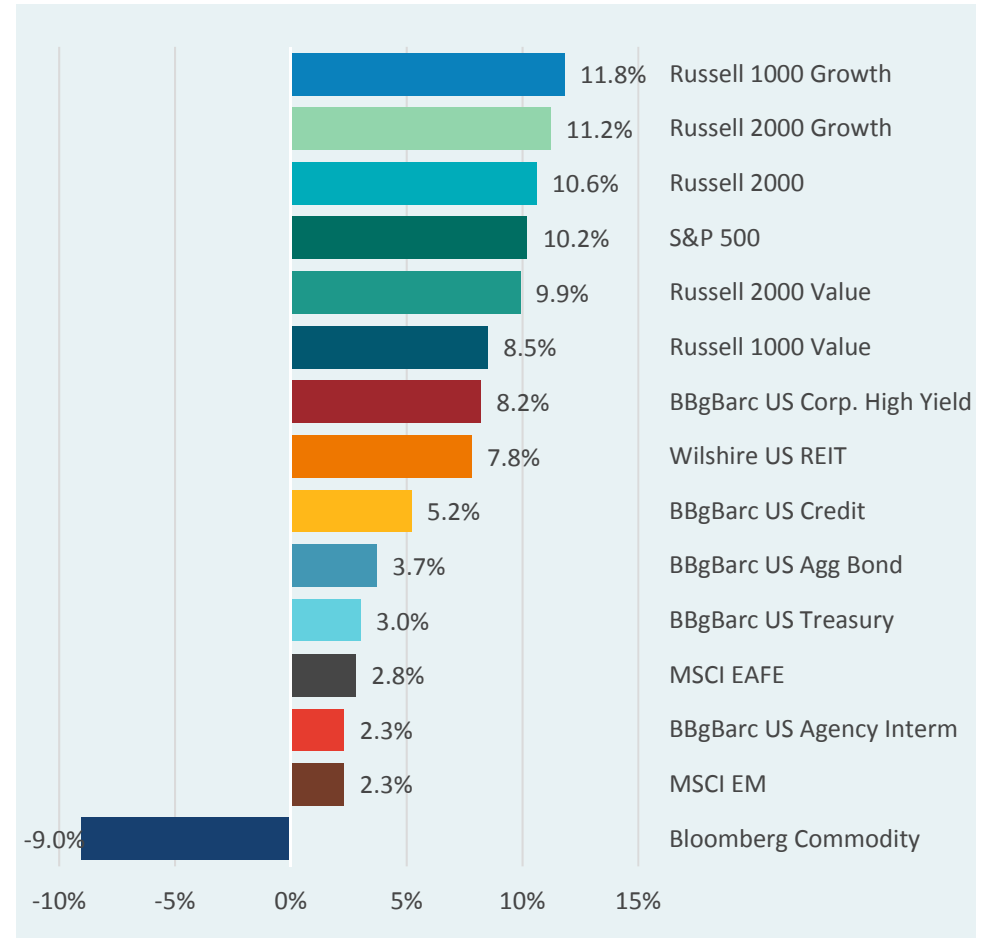
# Major asset class returns

ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/18

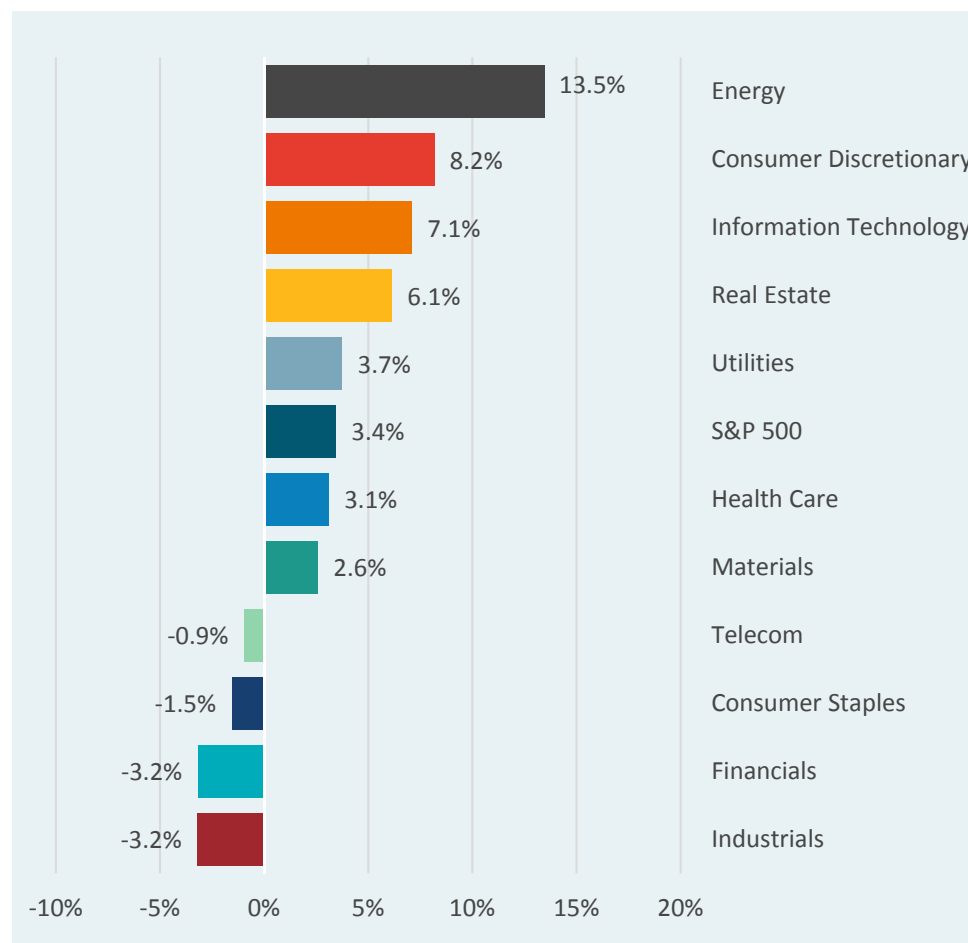
TEN YEARS ENDING JUNE



Source: Morningstar, as of 6/30/18

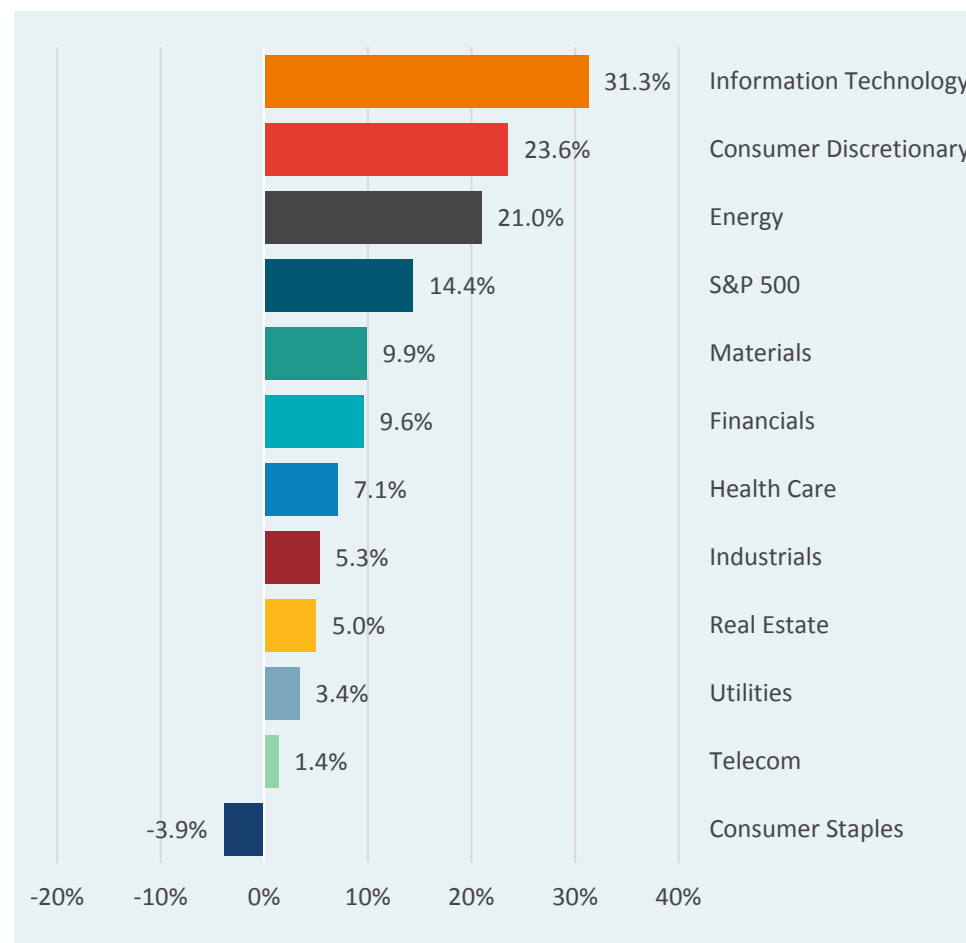
# S&P 500 sector returns

## 2<sup>ND</sup> QUARTER



Source: Morningstar, as of 6/30/18

## ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/18



# Detailed index returns

## DOMESTIC EQUITY

	June	Q2	YTD	1 Year	3 Year	5 Year	10 Year
<b>Core Index</b>							
S&P 500	0.6	3.4	2.6	14.4	11.9	13.4	10.2
S&P 500 Equal Weighted	0.9	2.8	1.8	12.0	10.5	12.8	11.6
DJ Industrial Average	(0.5)	1.3	(0.7)	16.3	14.1	13.0	10.8
Russell Top 200	0.6	3.9	3.1	15.4	12.5	13.8	10.2
Russell 1000	0.6	3.6	2.9	14.5	11.6	13.4	10.2
Russell 2000	0.7	7.8	7.7	17.6	11.0	12.5	10.6
Russell 3000	0.7	3.9	3.2	14.8	11.6	13.3	10.2
Russell Mid Cap	0.7	2.8	2.3	12.3	9.6	12.2	10.2
<b>Style Index</b>							
Russell 1000 Growth	1.0	5.8	7.3	22.5	15.0	16.4	11.8
Russell 1000 Value	0.2	1.2	(1.7)	6.8	8.3	10.3	8.5
Russell 2000 Growth	0.8	7.2	9.7	21.9	10.6	13.6	11.2
Russell 2000 Value	0.6	8.3	5.4	13.1	11.2	11.2	9.9

## INTERNATIONAL EQUITY

<b>Broad Index</b>							
MSCI ACWI	(0.5)	0.5	(0.4)	10.7	8.2	9.4	5.8
MSCI ACWI ex US	(1.9)	(2.6)	(3.8)	7.3	5.1	6.0	2.5
MSCI EAFE	(1.2)	(1.2)	(2.7)	6.8	4.9	6.4	2.8
MSCI EM	(4.2)	(8.0)	(6.7)	8.2	5.6	5.0	2.3
MSCI EAFE Small Cap	(1.9)	(1.6)	(1.3)	12.4	10.1	11.3	6.8
<b>Style Index</b>							
MSCI EAFE Growth	(1.2)	0.1	(0.9)	9.4	6.4	7.4	3.5
MSCI EAFE Value	(1.3)	(2.6)	(4.6)	4.3	3.3	5.4	2.2
<b>Regional Index</b>							
MSCI UK	(1.0)	2.9	(1.0)	10.0	3.1	4.9	2.7
MSCI Japan	(2.5)	(2.8)	(2.0)	10.5	6.2	7.4	3.5
MSCI Euro	(0.7)	(2.8)	(3.2)	5.0	5.3	7.1	1.1
MSCI EM Asia	(4.7)	(5.8)	(5.1)	10.1	7.3	8.3	5.6
MSCI EM Latin American	(3.1)	(17.8)	(11.2)	(0.2)	2.0	(2.4)	(3.7)

## FIXED INCOME

	June	Q2	YTD	1 Year	3 Year	5 Year	10 Year
<b>Broad Index</b>							
BBgBarc US TIPS	0.4	0.8	(0.0)	2.1	1.9	1.7	3.0
BBgBarc US Treasury Bills	0.2	0.5	0.8	1.3	0.7	0.4	0.4
BBgBarc US Agg Bond	(0.1)	(0.2)	(1.6)	(0.4)	1.7	2.3	3.7
<b>Duration</b>							
BBgBarc US Treasury 1-3 Yr	0.0	0.2	0.1	0.0	0.4	0.6	1.3
BBgBarc US Treasury Long	0.2	0.3	(3.0)	(0.1)	3.4	4.5	6.1
BBgBarc US Treasury	0.0	0.1	(1.1)	(0.6)	1.0	1.5	3.0
<b>Issuer</b>							
BBgBarc US MBS	0.0	0.2	(1.0)	0.1	1.5	2.3	3.5
BBgBarc US Corp. High Yield	0.4	1.0	0.2	2.6	5.5	5.5	8.2
BBgBarc US Agency Interm	0.0	0.2	(0.2)	(0.1)	0.8	1.1	2.3
BBgBarc US Credit	(0.5)	(0.9)	(3.0)	(0.6)	2.9	3.4	5.2

## OTHER

<b>Index</b>							
Bloomberg Commodity	(3.5)	0.4	(0.0)	7.3	(4.5)	(6.4)	(9.0)
Wilshire US REIT	4.5	9.7	1.5	3.9	7.8	8.4	7.8
CS Leveraged Loans	0.2	1.0	2.3	4.5	4.2	4.1	5.0
Alerian MLP	(1.5)	11.8	(0.6)	(4.6)	(5.9)	(4.1)	6.5
<b>Regional Index</b>							
JPM EMBI Global Div	(1.2)	(3.5)	(5.2)	(1.6)	4.6	5.1	6.7
JPM GBI-EM Global Div	(2.9)	(10.4)	(6.4)	(2.3)	2.0	(1.4)	2.6
<b>Hedge Funds</b>							
HFRI Composite	(0.1)	0.8	1.2	5.2	2.6	4.2	3.5
HFRI FOF Composite	(0.2)	0.9	1.2	5.6	2.1	3.6	1.5
<b>Currency (Spot)</b>							
Euro	0.0	(5.1)	(2.8)	2.4	1.6	(2.1)	(3.0)
Pound	(0.8)	(5.9)	(2.4)	1.6	(5.7)	(2.7)	(4.0)
Yen	(1.9)	(4.0)	1.7	1.4	(3.4)	(2.2)	(0.3)

Source: Morningstar, as of 6/30/18

# Definitions

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

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

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

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# Contra Costa County Employees' Retirement Association

Investment Performance Review

Period Ending: June 30, 2018



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SEATTLE 206-622-3700

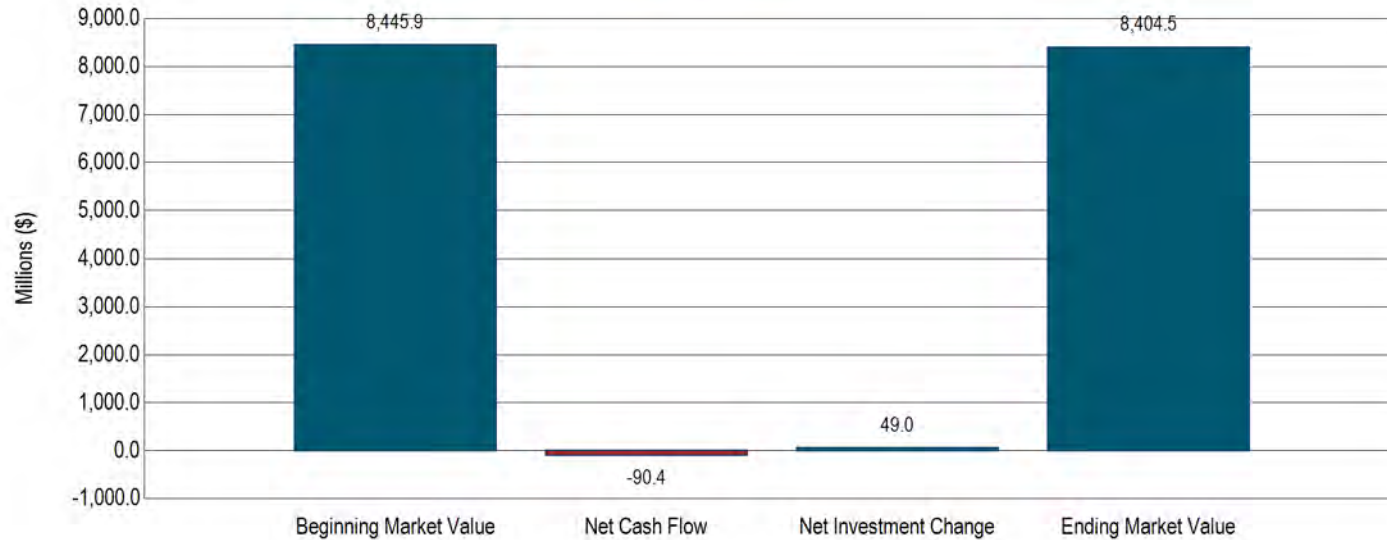
LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

Portfolio Reconciliation

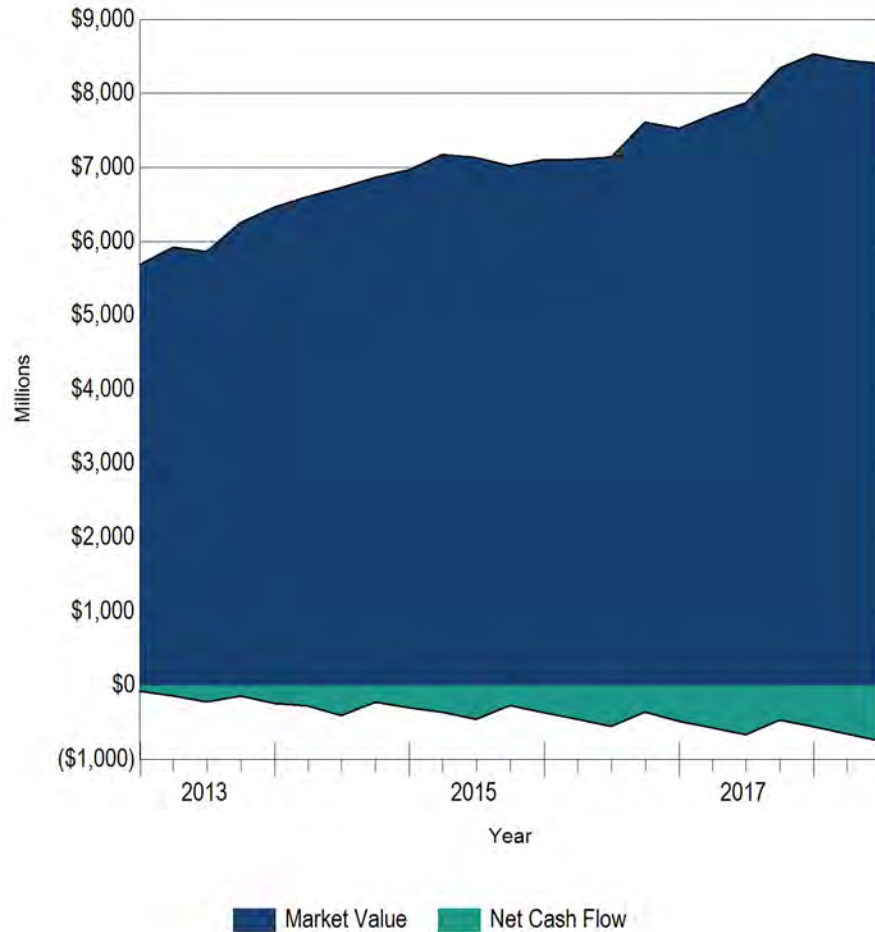
	Last Three Months	Year-To-Date
Beginning Market Value	\$8,445,903,088	\$8,532,697,023
Net Cash Flow	-\$90,372,175	-\$181,749,349
Net Investment Change	\$48,995,438	\$53,578,678
Ending Market Value	\$8,404,526,351	\$8,404,526,351

Change in Market Value  
Last Three Months

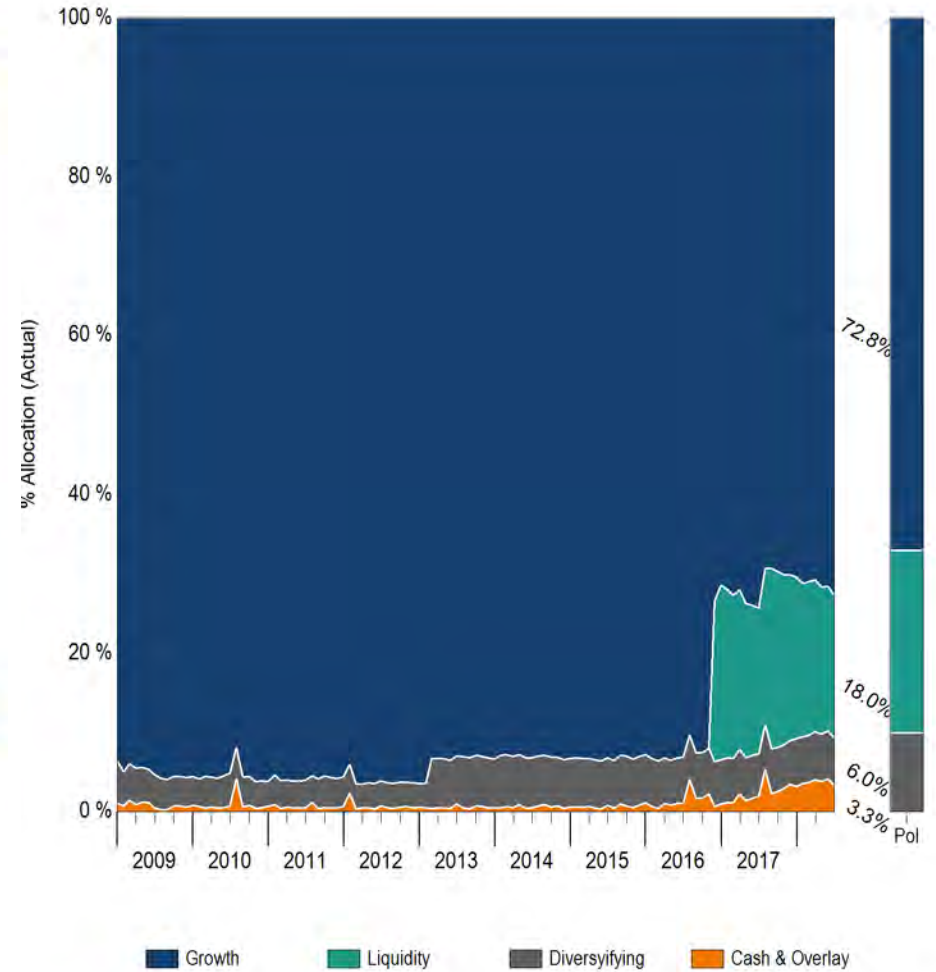


Contributions and withdrawals may include intra-account transfers between managers/funds.

Market Value History  
Cumulative Cash Flows



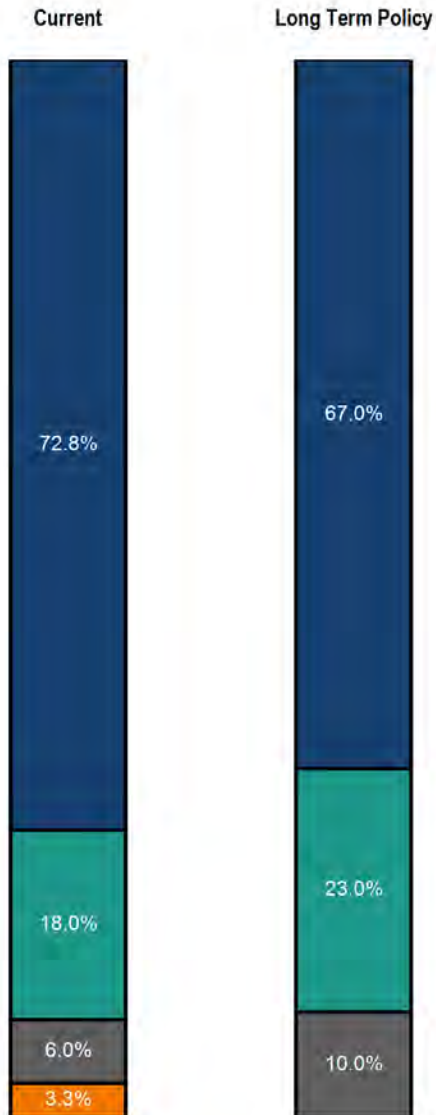
Asset Allocation History



Policy reflects FFP 4-Yr allocations approved in March 2018.

Total Fund  
Asset Allocation vs. Long Term Target Policy

Period Ending: June 30, 2018



Allocation vs. Long Term Target

	Current Balance	Current Allocation	Long Term Target	Difference
Growth	\$6,115,900,948	72.8%	67.0%	\$484,868,293
Liquidity	\$1,509,653,066	18.0%	23.0%	-\$423,387,995
Diversifying	\$504,588,296	6.0%	10.0%	-\$335,864,339
Cash & Overlay	\$274,384,042	3.3%	--	\$274,384,042
<b>Total</b>	<b>\$8,404,526,351</b>	<b>100.0%</b>	<b>100.0%</b>	

Allocation vs. Current Targets

	Current Balance	Current Allocation	Current Target	Difference
Growth	\$6,115,900,948	72.8%	71.1%	\$140,282,712
Liquidity	\$1,509,653,066	18.0%	23.4%	-\$457,006,100
Diversifying	\$504,588,296	6.0%	5.5%	\$42,339,347
Cash & Overlay	\$274,384,042	3.3%	--	\$274,384,042
<b>Total</b>	<b>\$8,404,526,351</b>	<b>100.0%</b>	<b>100.0%</b>	

Long Term Targets reflect FFP 4-Yr allocations approved in March 2018.  
Current Targets reflect Phase 2a Targets approved in March 2017.

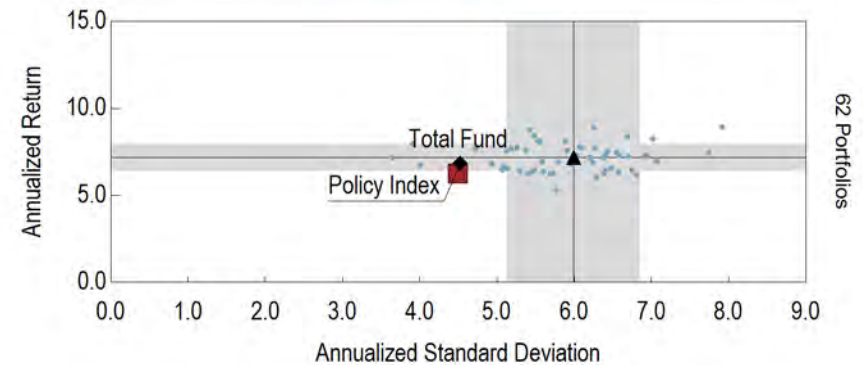
# Total Fund Executive Summary (Net of Fees)

Period Ending: June 30, 2018

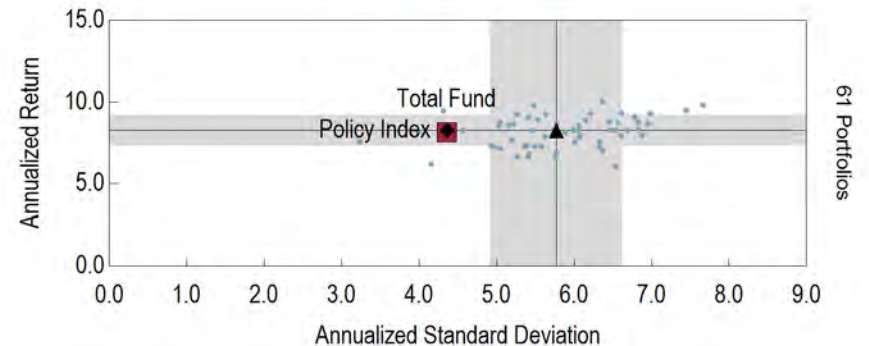
	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Total Fund</b>	<b>100.0</b>	<b>0.5</b>	<b>0.5</b>	<b>7.2</b>	<b>6.3</b>	<b>8.1</b>	<b>6.8</b>
Policy Index		-0.3	0.0	6.5	6.8	8.3	--
<b>Growth</b>	<b>72.8</b>	<b>0.8</b>	<b>1.0</b>	<b>10.0</b>	<b>8.2</b>	<b>9.6</b>	<b>--</b>
Custom Growth Benchmark		-0.6	-0.2	8.9	9.1	9.8	--
<b>Diversifying</b>	<b>6.0</b>	<b>-0.5</b>	<b>-1.3</b>	<b>0.1</b>	<b>-0.4</b>	<b>0.6</b>	<b>2.8</b>
Custom Diversifying Benchmark		0.2	0.1	1.9	3.2	3.5	4.4
<b>Liquidity</b>	<b>18.0</b>	<b>0.3</b>	<b>0.0</b>	<b>0.4</b>	<b>--</b>	<b>--</b>	<b>--</b>
BBgBarc US Govt/Credit 1-3 Yr. TR		0.3	0.1	0.2	--	--	--

\*Correlation between the Growth and Diversifying composites is -.08, .20 and .34 over the previous 1, 3 and 5 year periods respectively.

Risk vs. Return  
3 Years Ending June 30, 2018



Risk vs. Return  
5 Years Ending June 30, 2018



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

Policy Index (4/1/2018 - Present): 5% S&P 500, 13% MSCI EAFE, 11% MSCI Emerging Markets, 11% Cambridge US Private Equity, 12% S&P Leverage Loan Index +2%, 5% NCREIF Property Index +2%, 4% NCREIF Property Index +4%, 1% Wilshire REIT, 3% MSCI ACWI, 2% BBgBarc US Aggregate, 23% BBgBarc 1-3 Yr Gov/Credit, 3% BBgBarc Treasury 7-10 Yr, 7% HFRI Fund of Funds.  
 Policy Index (12/1/2016 -3/31/2018): 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% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML 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% ICE BofAML 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.

# Total Fund Performance Summary (Gross of Fees)

Period Ending: June 30, 2018

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
<b>Total Fund</b>	<b>8,404,526,351</b>	<b>100.0</b>	<b>0.6</b>	<b>0.7</b>	<b>7.5</b>	<b>6.7</b>	<b>8.7</b>	<b>7.4</b>	<b>14.2</b>	<b>7.4</b>	<b>2.7</b>	<b>8.4</b>	<b>16.4</b>
Policy Index			-0.3	0.0	6.5	6.8	8.3	--	13.8	8.8	0.6	9.0	15.6
InvestorForce Public DB > \$1B Gross Rank			65	59	89	69	30	13	83	74	5	6	33
<b>Total Fund ex Overlay &amp; Cash</b>	<b>8,130,142,310</b>	<b>96.7</b>	<b>0.7</b>	<b>0.8</b>	<b>7.5</b>	<b>6.7</b>	<b>8.7</b>	<b>7.4</b>	<b>14.1</b>	<b>7.4</b>	<b>2.7</b>	<b>8.4</b>	<b>16.4</b>
Policy Index			-0.3	0.0	6.5	6.8	8.3	--	13.8	8.8	0.6	9.0	15.6
InvestorForce Public DB > \$1B Gross Rank			60	56	88	68	29	13	84	74	5	6	33
<b>Growth</b>	<b>6,115,900,948</b>	<b>72.8</b>	<b>0.9</b>	<b>1.2</b>	<b>10.3</b>	<b>8.6</b>	<b>10.1</b>	<b>--</b>	<b>19.1</b>	<b>8.1</b>	<b>3.0</b>	<b>8.8</b>	<b>17.5</b>
Custom Growth Benchmark			-0.6	-0.2	8.9	9.1	9.8	--	19.5	12.2	-0.2	8.1	17.7
<b>Total Domestic Equity</b>	<b>1,526,372,748</b>	<b>18.2</b>	<b>4.8</b>	<b>3.7</b>	<b>17.3</b>	<b>11.4</b>	<b>14.0</b>	<b>11.1</b>	<b>23.9</b>	<b>11.5</b>	<b>1.1</b>	<b>11.4</b>	<b>36.2</b>
Russell 3000			3.9	3.2	14.8	11.6	13.3	10.2	21.1	12.7	0.5	12.6	33.6
InvestorForce Public DB US Eq Gross Rank			11	39	15	46	7	5	6	77	21	50	19
BlackRock Russell 1000 Index	123,396,474	1.5	3.6	2.8	14.5	--	--	--	--	--	--	--	--
Russell 1000			3.6	2.9	14.5	--	--	--	--	--	--	--	--
eV US Large Cap Equity Gross Rank			36	39	43	--	--	--	--	--	--	--	--
Jackson Square Partners	423,687,946	5.0	4.2	5.9	19.2	9.8	14.1	11.7	29.3	-4.4	6.1	13.9	35.4
Russell 1000 Growth			5.8	7.3	22.5	15.0	16.4	11.8	30.2	7.1	5.7	13.0	33.5
eV US Large Cap Growth Equity Gross Rank			69	67	67	91	77	44	47	98	37	31	40
Robeco Boston Partners	395,079,843	4.7	-0.1	-1.6	10.5	9.1	11.3	10.7	20.1	15.1	-3.9	12.0	37.4
Russell 1000 Value			1.2	-1.7	6.8	8.3	10.3	8.5	13.7	17.3	-3.8	13.5	32.5
eV US Large Cap Value Equity Gross Rank			91	70	46	56	51	18	23	50	65	55	24
Emerald Advisers	310,233,552	3.7	9.4	7.7	24.0	10.7	16.3	14.0	28.8	10.1	4.1	7.3	50.3
Russell 2000 Growth			7.2	9.7	21.9	10.6	13.6	11.2	22.2	11.3	-1.4	5.6	43.3
eV US Small Cap Growth Equity Gross Rank			42	87	56	71	22	26	26	54	19	21	27
Ceredex	273,911,563	3.3	8.6	4.7	17.1	11.6	12.6	--	11.4	29.8	-4.4	3.3	36.5
Russell 2000 Value			8.3	5.4	13.1	11.2	11.2	--	7.8	31.7	-7.5	4.2	34.5
eV US Small Cap Value Equity Gross Rank			16	37	19	36	35	--	48	32	52	74	66

Individual closed end funds are not shown in performance summary table. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has \$17,111 of residual cash. JPM Global has \$161,227 of residual cash. Lazard has \$30,537 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 \$4,588 of residual cash. Intech Global Low Vol has \$24,623 of residual cash. PIMCO Stock Plus has \$58,782 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: June 30, 2018

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
<b>Total International Equity</b>	<b>1,602,187,825</b>	<b>19.1</b>	<b>-5.5</b>	<b>-5.0</b>	<b>7.1</b>	<b>4.6</b>	<b>7.1</b>	<b>1.9</b>	<b>25.5</b>	<b>1.2</b>	<b>-1.2</b>	<b>0.3</b>	<b>17.8</b>
MSCI ACWI ex USA Gross			-2.4	-3.4	7.8	5.6	6.5	3.0	27.8	5.0	-5.3	-3.4	15.8
MSCI EAFE Gross			-1.0	-2.4	7.4	5.4	6.9	3.3	25.6	1.5	-0.4	-4.5	23.3
InvestorForce Public DB ex-US Eq Gross Rank			97	89	63	86	49	85	90	89	28	5	50
<b>International Equity</b>	<b>933,867,808</b>	<b>11.1</b>	<b>-1.8</b>	<b>-2.5</b>	<b>7.6</b>	<b>5.4</b>	<b>7.6</b>	<b>2.2</b>	<b>25.3</b>	<b>1.2</b>	<b>-1.2</b>	<b>0.3</b>	<b>17.8</b>
MSCI ACWI ex USA Gross			-2.4	-3.4	7.8	5.6	6.5	3.0	27.8	5.0	-5.3	-3.4	15.8
InvestorForce Public DB ex-US Eq Gross Rank			17	31	49	63	31	83	93	89	28	5	50
Pyrford	443,155,210	5.3	-2.2	-4.2	2.4	3.9	--	--	19.8	3.4	-2.9	--	--
MSCI ACWI ex USA Value			-3.8	-5.3	4.6	3.5	--	--	22.7	8.9	-10.1	--	--
eV ACWI ex-US Value Equity Gross Rank			29	44	82	75	--	--	84	74	59	--	--
William Blair	490,712,598	5.8	-1.3	-0.9	12.7	6.7	8.2	--	30.9	-1.4	0.5	-1.2	20.9
MSCI ACWI ex USA Growth			-1.4	-2.3	9.9	6.6	7.2	--	32.0	0.1	-1.3	-2.6	15.5
eV ACWI ex-US Growth Equity Gross Rank			66	71	64	80	82	--	81	55	69	37	44
<b>Emerging Markets Equity</b>	<b>668,320,017</b>	<b>8.0</b>	<b>-10.1</b>	<b>-8.2</b>	<b>7.8</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
MSCI Emerging Markets			-8.0	-6.7	8.2	--	--	--	--	--	--	--	--
InvestorForce Public DB Emg Mkt Eq Gross Rank			90	74	23	--	--	--	--	--	--	--	--
PIMCO RAE Emerging Markets	344,791,961	4.1	-9.8	-6.9	7.9	--	--	--	--	--	--	--	--
MSCI Emerging Markets			-8.0	-6.7	8.2	--	--	--	--	--	--	--	--
eV Emg Mkts Equity Gross Rank			84	55	51	--	--	--	--	--	--	--	--
TT Emerging Markets	323,528,055	3.8	-10.5	-9.6	--	--	--	--	--	--	--	--	--
MSCI Emerging Markets			-8.0	-6.7	--	--	--	--	--	--	--	--	--
eV Emg Mkts Equity Gross Rank			92	91	--	--	--	--	--	--	--	--	--
<b>Total Global Equity</b>	<b>757,663,928</b>	<b>9.0</b>	<b>0.9</b>	<b>1.9</b>	<b>11.0</b>	<b>9.7</b>	<b>11.0</b>	<b>5.4</b>	<b>23.7</b>	<b>7.6</b>	<b>2.2</b>	<b>5.2</b>	<b>23.7</b>
MSCI ACWI			0.5	-0.4	10.7	8.2	9.4	5.8	24.0	7.9	-2.4	4.2	22.8
InvestorForce Public DB Glbl Eq Gross Rank			36	3	32	3	40	10	79	40	16	41	64
Artisan Partners	397,147,350	4.7	1.4	4.7	15.8	13.3	14.4	--	32.9	5.6	9.2	3.9	26.1
MSCI ACWI			0.5	-0.4	10.7	8.2	9.4	--	24.0	7.9	-2.4	4.2	22.8
eV All Global Equity Gross Rank			47	13	20	8	7	--	11	61	4	56	51
First Eagle	360,330,728	4.3	0.3	-1.0	6.1	7.6	8.3	--	15.1	11.7	0.2	4.5	17.9
MSCI ACWI			0.5	-0.4	10.7	8.2	9.4	--	24.0	7.9	-2.4	4.2	22.8
eV All Global Equity Gross Rank			69	71	87	66	77	--	89	19	49	51	80

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Total Fund  
Performance Summary (Gross of Fees)

Period Ending: June 30, 2018

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
<b>Private Credit</b>	<b>236,145,437</b>	<b>2.8</b>	<b>-0.7</b>	<b>2.4</b>	<b>4.8</b>	<b>4.8</b>	<b>5.1</b>	<b>6.7</b>	<b>9.0</b>	<b>2.8</b>	<b>1.7</b>	<b>7.4</b>	<b>2.0</b>
ICE BofAML High Yield Master II +2%			1.5	1.1	4.6	7.6	7.6	10.2	9.6	19.8	-2.7	4.5	9.6
<b>Total High Yield</b>	<b>346,773,913</b>	<b>4.1</b>	<b>0.7</b>	<b>-0.5</b>	<b>1.4</b>	<b>4.3</b>	<b>4.6</b>	<b>7.8</b>	<b>6.5</b>	<b>14.3</b>	<b>-3.5</b>	<b>1.2</b>	<b>8.8</b>
ICE BofAML High Yield Master II			1.0	0.1	2.5	5.5	5.5	8.0	7.5	17.5	-4.6	2.5	7.4
eV US High Yield Fixed Inc Gross Rank			58	78	90	83	84	52	74	47	68	83	28
Allianz Global Investors	346,773,913	4.1	0.7	-0.5	1.4	4.3	4.6	7.8	6.5	14.3	-3.5	1.2	8.8
ICE BofAML High Yield Master II			1.0	0.1	2.5	5.5	5.5	8.0	7.5	17.5	-4.6	2.5	7.4
eV US High Yield Fixed Inc Gross Rank			58	78	90	83	84	52	74	47	68	83	28
<b>Total Real Estate</b>	<b>725,544,787</b>	<b>8.6</b>	<b>3.1</b>	<b>5.2</b>	<b>11.4</b>	<b>8.9</b>	<b>11.8</b>	<b>6.8</b>	<b>11.1</b>	<b>5.5</b>	<b>13.5</b>	<b>20.6</b>	<b>10.5</b>
Real Estate Benchmark			2.8	3.9	7.8	8.3	9.2	7.3	7.1	6.7	8.3	18.8	7.1
NCREIF-ODCE			2.1	4.3	8.4	9.4	11.0	5.3	7.6	8.8	15.0	12.5	13.9
NCREIF Property Index			1.8	3.5	7.2	8.3	9.8	6.2	7.0	8.0	13.3	11.8	11.0
Adelante	67,542,607	0.8	7.6	0.6	4.5	7.2	9.2	7.4	7.8	4.1	5.1	33.4	3.6
Wilshire REIT			9.7	1.5	3.9	7.8	8.4	7.8	4.2	7.2	4.2	31.8	1.9
<b>Private Equity</b>	<b>921,181,773</b>	<b>11.0</b>	<b>5.5</b>	<b>5.7</b>	<b>9.9</b>	<b>9.0</b>	<b>12.9</b>	<b>10.1</b>	<b>11.9</b>	<b>9.4</b>	<b>11.6</b>	<b>17.3</b>	<b>15.0</b>
S&P 500 Index +4% (Lagged)			0.2	7.9	18.5	15.2	17.8	13.8	23.3	20.0	3.4	24.5	24.0
<b>Diversifying</b>	<b>504,588,296</b>	<b>6.0</b>	<b>-0.4</b>	<b>-1.2</b>	<b>0.4</b>	<b>0.0</b>	<b>1.0</b>	<b>3.2</b>	<b>2.8</b>	<b>1.3</b>	<b>-1.4</b>	<b>2.2</b>	<b>-1.5</b>
Custom Diversifying Benchmark			0.2	0.1	1.9	3.2	3.5	4.4	4.7	4.1	2.5	5.4	-1.6
<b>Diversifying Fixed Income</b>	<b>504,588,296</b>	<b>6.0</b>	<b>-0.4</b>	<b>-1.2</b>	<b>0.4</b>	<b>1.8</b>	<b>2.6</b>	<b>4.0</b>	<b>2.8</b>	<b>2.8</b>	<b>1.6</b>	<b>6.6</b>	<b>-1.9</b>
eV US Core Fixed Inc Gross Rank			94	25	21	83	61	78	96	72	15	25	78
AFL-CIO	317,519,384	3.8	-0.2	-1.4	-0.2	1.8	2.6	4.1	3.6	2.4	1.6	6.6	-1.9
BBgBarc US Aggregate TR			-0.2	-1.6	-0.4	1.7	2.3	3.7	3.5	2.6	0.6	6.0	-2.0
eV US Core Fixed Inc Gross Rank			73	38	57	79	56	72	76	87	15	25	78
Wellington Real Total Return	187,068,912	2.2	-0.9	-0.9	1.2	-2.2	-0.9	--	1.9	-0.1	-4.9	-2.5	--
CPI + 4%			2.0	4.2	7.0	5.9	5.6	--	6.2	6.2	4.8	4.8	--

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Total Fund  
Performance Summary (Gross of Fees)

Period Ending: June 30, 2018

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
<b>Liquidity</b>	<b>1,509,653,066</b>	<b>18.0</b>	<b>0.3</b>	<b>0.1</b>	<b>0.5</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>1.5</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
BBgBarc US Govt/Credit 1-3 Yr. TR			0.3	0.1	0.2	--	--	--	0.8	--	--	--	--
eV US Short Duration Fixed Inc Gross Rank			75	68	57	--	--	--	50	--	--	--	--
DFA Short Credit	329,410,558	3.9	0.3	-0.5	-0.1	--	--	--	1.9	--	--	--	--
ICE BofAML 1-5 Yrs US Corp & Govt TR			0.2	-0.3	-0.2	--	--	--	1.3	--	--	--	--
eV US Short Duration Fixed Inc Gross Rank			83	99	99	--	--	--	26	--	--	--	--
Insight Short Duration	697,455,828	8.3	0.5	0.4	0.9	--	--	--	1.5	--	--	--	--
BBgBarc US Govt/Credit 1-3 Yr. TR			0.3	0.1	0.2	--	--	--	0.8	--	--	--	--
eV US Short Duration Fixed Inc Gross Rank			8	18	28	--	--	--	50	--	--	--	--
Sit Short Duration	482,786,680	5.7	0.0	0.0	0.5	--	--	--	1.3	--	--	--	--
BBgBarc US Govt 1-3 Yr TR			0.2	0.1	0.0	--	--	--	0.4	--	--	--	--
eV US Short Duration Fixed Inc Gross Rank			99	77	60	--	--	--	68	--	--	--	--
<b>Total Cash</b>	<b>229,416,930</b>	<b>2.7</b>	<b>0.5</b>	<b>0.7</b>	<b>1.2</b>	<b>0.9</b>	<b>0.4</b>	<b>--</b>	<b>0.9</b>	<b>0.9</b>	<b>0.1</b>	<b>-3.0</b>	<b>8.8</b>
91 Day T-Bills			0.5	0.8	1.4	0.7	0.4	--	0.9	0.3	0.0	0.0	0.0
Cash	229,416,930	2.7	0.5	0.7	1.2	0.9	1.2	3.2	0.9	0.9	0.1	1.4	4.5

Individual closed end funds are not shown in performance summary table. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has \$17,111 of residual cash. JPM Global has \$161,227 of residual cash. Lazard has \$30,537 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 \$4,588 of residual cash. Intech Global Low Vol has \$24,623 of residual cash. PIMCO Stock Plus has \$58,782 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: June 30, 2018

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
<b>Total Fund</b>	<b>8,404,526,351</b>	<b>100.0</b>	<b>0.5</b>	<b>0.5</b>	<b>7.2</b>	<b>6.3</b>	<b>8.1</b>	<b>6.8</b>	<b>13.9</b>	<b>6.9</b>	<b>2.1</b>	<b>7.7</b>	<b>15.6</b>
<i>Policy Index</i>			-0.3	0.0	6.5	6.8	8.3	--	13.8	8.8	0.6	9.0	15.6
<b>Total Fund ex Overlay &amp; Cash</b>	<b>8,130,142,310</b>	<b>96.7</b>	<b>0.6</b>	<b>0.7</b>	<b>7.2</b>	<b>6.3</b>	<b>8.2</b>	<b>6.8</b>	<b>13.8</b>	<b>6.9</b>	<b>2.1</b>	<b>7.7</b>	<b>15.6</b>
<i>Policy Index</i>			-0.3	0.0	6.5	6.8	8.3	--	13.8	8.8	0.6	9.0	15.6
<b>Growth</b>	<b>6,115,900,948</b>	<b>72.8</b>	<b>0.8</b>	<b>1.0</b>	<b>10.0</b>	<b>8.2</b>	<b>9.6</b>	<b>--</b>	<b>18.7</b>	<b>7.6</b>	<b>2.3</b>	<b>8.1</b>	<b>16.7</b>
<i>Custom Growth Benchmark</i>			-0.6	-0.2	8.9	9.1	9.8	--	19.5	12.2	-0.2	8.1	17.7
<b>Total Domestic Equity</b>	<b>1,526,372,748</b>	<b>18.2</b>	<b>4.7</b>	<b>3.5</b>	<b>16.8</b>	<b>11.0</b>	<b>13.6</b>	<b>10.7</b>	<b>23.5</b>	<b>11.1</b>	<b>0.6</b>	<b>11.0</b>	<b>35.7</b>
<i>Russell 3000</i>			3.9	3.2	14.8	11.6	13.3	10.2	21.1	12.7	0.5	12.6	33.6
BlackRock Russell 1000 Index	123,396,474	1.5	3.6	2.8	14.5	--	--	--	--	--	--	--	--
<i>Russell 1000</i>			3.6	2.9	14.5	--	--	--	--	--	--	--	--
Jackson Square Partners	423,687,946	5.0	4.1	5.6	18.8	9.3	13.6	11.2	28.7	-4.8	5.6	13.4	35.0
<i>Russell 1000 Growth</i>			5.8	7.3	22.5	15.0	16.4	11.8	30.2	7.1	5.7	13.0	33.5
Robeco Boston Partners	395,079,843	4.7	-0.1	-1.7	10.2	8.7	10.9	10.4	19.7	14.7	-4.2	11.6	37.0
<i>Russell 1000 Value</i>			1.2	-1.7	6.8	8.3	10.3	8.5	13.7	17.3	-3.8	13.5	32.5
Emerald Advisers	310,233,552	3.7	9.3	7.4	23.2	10.0	15.6	13.3	28.0	9.4	3.5	6.6	49.4
<i>Russell 2000 Growth</i>			7.2	9.7	21.9	10.6	13.6	11.2	22.2	11.3	-1.4	5.6	43.3
Ceredex	273,911,563	3.3	8.5	4.4	16.5	11.0	12.0	--	10.7	29.1	-5.0	2.7	35.8
<i>Russell 2000 Value</i>			8.3	5.4	13.1	11.2	11.2	--	7.8	31.7	-7.5	4.2	34.5
<b>Total International Equity</b>	<b>1,602,187,825</b>	<b>19.1</b>	<b>-5.6</b>	<b>-5.1</b>	<b>6.7</b>	<b>4.1</b>	<b>6.7</b>	<b>1.5</b>	<b>25.0</b>	<b>0.8</b>	<b>-1.6</b>	<b>0.0</b>	<b>17.4</b>
<i>MSCI ACWI ex USA Gross</i>			-2.4	-3.4	7.8	5.6	6.5	3.0	27.8	5.0	-5.3	-3.4	15.8
<i>MSCI EAFE Gross</i>			-1.0	-2.4	7.4	5.4	6.9	3.3	25.6	1.5	-0.4	-4.5	23.3
<b>International Equity</b>	<b>933,867,808</b>	<b>11.1</b>	<b>-1.9</b>	<b>-2.7</b>	<b>7.1</b>	<b>5.0</b>	<b>7.2</b>	<b>1.8</b>	<b>24.8</b>	<b>0.8</b>	<b>-1.6</b>	<b>0.0</b>	<b>17.4</b>
<i>MSCI ACWI ex USA Gross</i>			-2.4	-3.4	7.8	5.6	6.5	3.0	27.8	5.0	-5.3	-3.4	15.8
Pyrford	443,155,210	5.3	-2.3	-4.4	2.0	3.5	--	--	19.3	3.0	-3.3	--	--
<i>MSCI ACWI ex USA Value</i>			-3.8	-5.3	4.6	3.5	--	--	22.7	8.9	-10.1	--	--
William Blair	490,712,598	5.8	-1.4	-1.1	12.2	6.3	7.8	--	30.4	-1.8	0.0	-1.7	20.4
<i>MSCI ACWI ex USA Growth</i>			-1.4	-2.3	9.9	6.6	7.2	--	32.0	0.1	-1.3	-2.6	15.5
<b>Emerging Markets Equity</b>	<b>668,320,017</b>	<b>8.0</b>	<b>-10.3</b>	<b>-8.4</b>	<b>7.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>MSCI Emerging Markets</i>			-8.0	-6.7	8.2	--	--	--	--	--	--	--	--
PIMCO RAE Emerging Markets	344,791,961	4.1	-9.9	-6.9	7.5	--	--	--	--	--	--	--	--
<i>MSCI Emerging Markets</i>			-8.0	-6.7	8.2	--	--	--	--	--	--	--	--
TT Emerging Markets	323,528,055	3.8	-10.7	-9.9	--	--	--	--	--	--	--	--	--
<i>MSCI Emerging Markets</i>			-8.0	-6.7	--	--	--	--	--	--	--	--	--

Individual closed end funds are not shown in performance summary table. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has \$17,111 of residual cash. JPM Global has \$161,227 of residual cash. Lazard has \$30,537 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 \$4,588 of residual cash. Intech Global Low Vol has \$24,623 of residual cash. PIMCO Stock Plus has \$58,782 of residual cash.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: June 30, 2018

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
<b>Total Global Equity</b>	<b>757,663,928</b>	<b>9.0</b>	<b>0.7</b>	<b>1.5</b>	<b>10.1</b>	<b>8.9</b>	<b>10.3</b>	<b>4.9</b>	<b>22.8</b>	<b>6.9</b>	<b>1.6</b>	<b>4.5</b>	<b>22.9</b>
MSCI ACWI			0.5	-0.4	10.7	8.2	9.4	5.8	24.0	7.9	-2.4	4.2	22.8
Artisan Partners	397,147,350	4.7	1.2	4.3	14.9	12.4	13.5	--	31.9	4.8	8.4	3.1	25.2
MSCI ACWI			0.5	-0.4	10.7	8.2	9.4	--	24.0	7.9	-2.4	4.2	22.8
First Eagle	360,330,728	4.3	0.1	-1.4	5.3	6.8	7.5	--	14.3	10.9	-0.6	3.7	17.1
MSCI ACWI			0.5	-0.4	10.7	8.2	9.4	--	24.0	7.9	-2.4	4.2	22.8
<b>Private Credit</b>	<b>236,145,437</b>	<b>2.8</b>	<b>-0.7</b>	<b>2.4</b>	<b>4.8</b>	<b>4.6</b>	<b>4.8</b>	<b>6.4</b>	<b>9.0</b>	<b>2.4</b>	<b>1.4</b>	<b>6.9</b>	<b>1.6</b>
ICE BofAML High Yield Master II +2%			1.5	1.1	4.6	7.6	7.6	10.2	9.6	19.8	-2.7	4.5	9.6
<b>Total High Yield</b>	<b>346,773,913</b>	<b>4.1</b>	<b>0.6</b>	<b>-0.7</b>	<b>1.0</b>	<b>3.9</b>	<b>4.2</b>	<b>7.5</b>	<b>6.1</b>	<b>13.9</b>	<b>-3.9</b>	<b>0.8</b>	<b>8.4</b>
ICE BofAML High Yield Master II			1.0	0.1	2.5	5.5	5.5	8.0	7.5	17.5	-4.6	2.5	7.4
Allianz Global Investors	346,773,913	4.1	0.6	-0.7	1.0	3.9	4.2	7.4	6.1	13.9	-3.9	0.8	8.4
ICE BofAML High Yield Master II			1.0	0.1	2.5	5.5	5.5	8.0	7.5	17.5	-4.6	2.5	7.4
<b>Total Real Estate</b>	<b>725,544,787</b>	<b>8.6</b>	<b>3.1</b>	<b>5.2</b>	<b>11.3</b>	<b>8.5</b>	<b>10.9</b>	<b>5.8</b>	<b>11.0</b>	<b>4.8</b>	<b>12.4</b>	<b>19.1</b>	<b>8.9</b>
Real Estate Benchmark			2.8	3.9	7.8	8.3	9.2	7.3	7.1	6.7	8.3	18.8	7.1
NCREIF-ODCE			2.1	4.3	8.4	9.4	11.0	5.3	7.6	8.8	15.0	12.5	13.9
NCREIF Property Index			1.8	3.5	7.2	8.3	9.8	6.2	7.0	8.0	13.3	11.8	11.0
Adelante	67,542,607	0.8	7.4	0.3	4.0	6.7	8.7	6.9	7.2	3.6	4.6	32.7	3.0
Wilshire REIT			9.7	1.5	3.9	7.8	8.4	7.8	4.2	7.2	4.2	31.8	1.9
<b>Private Equity</b>	<b>921,181,773</b>	<b>11.0</b>	<b>5.5</b>	<b>5.7</b>	<b>9.9</b>	<b>8.6</b>	<b>11.9</b>	<b>8.2</b>	<b>11.9</b>	<b>8.9</b>	<b>9.9</b>	<b>15.2</b>	<b>12.7</b>
S&P 500 Index +4% (Lagged)			0.2	7.9	18.5	15.2	17.8	13.8	23.3	20.0	3.4	24.5	24.0
<b>Diversifying</b>	<b>504,588,296</b>	<b>6.0</b>	<b>-0.5</b>	<b>-1.3</b>	<b>0.1</b>	<b>-0.4</b>	<b>0.6</b>	<b>2.8</b>	<b>2.6</b>	<b>0.8</b>	<b>-1.8</b>	<b>1.7</b>	<b>-1.9</b>
Custom Diversifying Benchmark			0.2	0.1	1.9	3.2	3.5	4.4	4.7	4.1	2.5	5.4	-1.6
<b>Diversifying Fixed Income</b>	<b>504,588,296</b>	<b>6.0</b>	<b>-0.5</b>	<b>-1.3</b>	<b>0.1</b>	<b>1.4</b>	<b>2.2</b>	<b>3.7</b>	<b>2.6</b>	<b>2.3</b>	<b>1.1</b>	<b>6.1</b>	<b>-2.4</b>
AFL-CIO	317,519,384	3.8	-0.3	-1.6	-0.6	1.4	2.2	3.7	3.2	1.9	1.1	6.1	-2.4
BBgBarc US Aggregate TR			-0.2	-1.6	-0.4	1.7	2.3	3.7	3.5	2.6	0.6	6.0	-2.0
Wellington Real Total Return	187,068,912	2.2	-0.9	-0.9	1.2	-2.5	-1.3	--	1.9	-0.6	-5.4	-3.1	--
CPI + 4%			2.0	4.2	7.0	5.9	5.6	--	6.2	6.2	4.8	4.8	--

Individual closed end funds are not shown in performance summary table. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has \$17,111 of residual cash. JPM Global has \$161,227 of residual cash. Lazard has \$30,537 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 \$4,588 of residual cash. Intech Global Low Vol has \$24,623 of residual cash. PIMCO Stock Plus has \$58,782 of residual cash.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: June 30, 2018

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
<b>Liquidity</b>	<b>1,509,653,066</b>	<b>18.0</b>	<b>0.3</b>	<b>0.0</b>	<b>0.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>1.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>BBgBarc US Govt/Credit 1-3 Yr. TR</i>			0.3	0.1	0.2	--	--	--	0.8	--	--	--	--
DFA Short Credit	329,410,558	3.9	0.2	-0.5	-0.2	--	--	--	1.8	--	--	--	--
<i>ICE BofAML 1-5 Yrs US Corp &amp; Govt TR</i>			0.2	-0.3	-0.2	--	--	--	1.3	--	--	--	--
Insight Short Duration	697,455,828	8.3	0.5	0.4	0.8	--	--	--	1.5	--	--	--	--
<i>BBgBarc US Govt/Credit 1-3 Yr. TR</i>			0.3	0.1	0.2	--	--	--	0.8	--	--	--	--
Sit Short Duration	482,786,680	5.7	-0.1	-0.1	0.3	--	--	--	1.1	--	--	--	--
<i>BBgBarc US Govt 1-3 Yr TR</i>			0.2	0.1	0.0	--	--	--	0.4	--	--	--	--
<b>Total Cash</b>	<b>229,416,930</b>	<b>2.7</b>	<b>0.5</b>	<b>0.7</b>	<b>1.2</b>	<b>0.9</b>	<b>0.4</b>	<b>--</b>	<b>0.9</b>	<b>0.9</b>	<b>0.1</b>	<b>-3.0</b>	<b>8.8</b>
<i>91 Day T-Bills</i>			0.5	0.8	1.4	0.7	0.4	--	0.9	0.3	0.0	0.0	0.0
Cash	229,416,930	2.7	0.5	0.7	1.2	0.9	1.2	2.8	0.9	0.9	0.1	1.4	4.5

Individual closed end funds are not shown in performance summary table. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has \$17,111 of residual cash. JPM Global has \$161,227 of residual cash. Lazard has \$30,537 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 \$4,588 of residual cash. Intech Global Low Vol has \$24,623 of residual cash. PIMCO Stock Plus has \$58,782 of residual cash.

Total Fund  
Closed End Funds - Investment Summary

Period Ending: June 30, 2018

Verus Internal Analysis												
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 6/30/18 <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>Private Credit</b>												
9/24/2015	Angelo Gordon Energy Credit Opp.	\$10,345,109	\$28,125,000	67%	\$18,750,000	\$0	\$0	\$14,250,816	\$9,375,000	0.76	1.31	3/31/2018
2/2/2018	Stepstone CC Opportunities Fund	\$122,126,052	\$450,000,000	28%	\$124,468,391	\$108,811,250	\$924,640	\$924,640	\$325,531,609	0.01	0.99	3/31/2018
7/1/2006	Torchlight II	\$14,307,459	\$128,000,000	100%	\$128,000,000	\$0	\$24,588,889	\$186,605,841	\$0	1.46	1.57	6/30/2018
12/12/2008	Torchlight III	\$500,175	\$75,000,000	100%	\$75,000,000	\$0	\$1,786,661	\$110,946,880	\$0	1.48	1.49	6/30/2018
8/1/2012	Torchlight IV	\$38,039,670	\$60,000,000	100%	\$60,000,000	\$0	\$6,319,546	\$73,121,353	\$0	1.22	1.85	6/30/2018
3/12/2015	Torchlight V	\$50,802,107	\$75,000,000	60%	\$44,999,912	\$0	\$737,462	\$2,547,310	\$30,000,088	0.06	1.19	3/31/2018
<b>Total Fixed Income</b>		<b>\$236,120,572</b>										
<b>% of Portfolio (Market Value)</b>		<b>2.8%</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>Total distributions may contain recallable capital

Total Fund  
Closed End Funds - Investment Summary

Period Ending: June 30, 2018

Verus Internal Analysis												
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 6/30/18 <sup>3</sup>	Total Commitment	Total % Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions <sup>5</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	\$31,212,326	\$80,000,000	94%	\$75,401,855	\$0	\$9,626,104	\$87,778,501	\$12,334,302	1.16	1.58	3/31/2018
12/8/2014	Angelo Gordon Realty Fund IX	\$48,968,437	\$65,000,000	66%	\$43,062,500	\$3,737,500	\$0	\$5,200,000	\$20,897,500	0.12	1.26	3/31/2018
6/23/2005	DLJ RECP III	\$23,207,326	\$75,000,000	95%	\$70,968,662	\$0	\$0	\$72,565,242	\$4,031,338	1.02	1.35	3/31/2018
2/11/2008	DLJ RECP IV	\$95,707,781	\$100,000,000	94%	\$94,092,198	\$0	\$328,490	\$63,309,188	\$5,907,802	0.67	1.69	3/31/2018
7/1/2014	DLJ RECP V	\$42,483,499	\$75,000,000	96%	\$72,221,782	\$18,683,244	\$10,788,053	\$50,780,984	\$22,108,631	0.70	1.29	3/31/2018
6/17/1998	Hearthstone II <sup>4</sup>	-\$2,482	\$25,000,000	80%	\$19,932,386	\$0	\$0	\$19,952,734	\$2,520,348	1.00	1.00	3/31/2018
11/26/2007	Invesco Real Estate II	\$436,952	\$85,000,000	92%	\$78,202,813	\$0	\$0	\$100,620,489	\$6,797,187	1.29	1.29	6/30/2018
6/30/2013	Invesco Real Estate III	\$13,351,533	\$35,000,000	93%	\$32,386,423	\$0	\$0	\$32,987,218	\$2,613,577	1.02	1.43	6/30/2018
6/30/2014	Invesco Real Estate IV	\$22,538,950	\$35,000,000	72%	\$25,373,544	\$852,922	\$0	\$7,578,475	\$9,626,456	0.30	1.19	6/30/2018
7/16/2013	LaSalle Income & Growth VI	\$35,047,502	\$75,000,000	95%	\$71,428,571	\$0	\$0	\$70,239,356	\$3,571,429	0.98	1.47	3/31/2018
2/28/2017	LaSalle Income & Growth VII	\$54,415,778	\$75,000,000	62%	\$46,589,379	\$0	\$0	\$0	\$28,410,621	0.00	1.17	3/31/2018
7/3/2013	Long Wharf Fund IV	\$14,313,214	\$25,000,000	100%	\$25,000,000	\$0	\$887,749	\$20,921,286	\$0	0.84	1.41	6/30/2018
9/30/2016	Long Wharf Fund V	\$39,455,358	\$50,000,000	78%	\$38,758,140	\$6,397,806	\$1,713,698	\$2,741,917	\$11,241,860	0.07	1.09	6/30/2018
12/31/2011	Oaktree REOF V	\$6,866,599	\$50,000,000	100%	\$50,000,000	\$0	\$920,000	\$78,676,587	\$25,750,000	1.57	1.71	6/30/2018
9/30/2013	Oaktree REOF VI	\$48,561,690	\$80,000,000	100%	\$80,000,000	\$0	\$3,646,725	\$63,193,907	\$18,400,000	0.79	1.40	6/30/2018
4/1/2015	Oaktree REOF VII	\$24,397,440	\$65,000,000	37%	\$24,245,000	\$11,245,000	\$0	\$4,615,000	\$45,370,000	0.19	1.20	6/30/2018
11/10/2013	Paulson Real Estate Fund II	\$24,833,212	\$20,000,000	97%	\$19,345,623	\$0	\$0	\$4,594,996	\$654,377	0.24	1.52	3/31/2018
1/25/2012	Siguler Guff DREOF	\$51,623,911	\$75,000,000	93%	\$69,375,000	\$0	\$2,054,600	\$67,719,903	\$5,625,000	0.98	1.72	3/31/2018
8/31/2013	Siguler Guff DREOF II	\$57,362,695	\$70,000,000	80%	\$55,720,000	\$0	\$5,607,821	\$18,948,632	\$14,280,000	0.34	1.37	3/31/2018
1/27/2016	Siguler Guff DREOF II Co-Inv	\$23,220,459	\$25,000,000	79%	\$19,850,362	\$0	\$0	\$0	\$5,149,638	0.00	1.17	3/31/2018
<b>Total Closed End Real Estate</b>		<b>\$658,002,180</b>	<b>\$1,185,000,000</b>	<b>85%</b>	<b>\$1,011,954,239</b>	<b>\$40,916,472</b>	<b>\$35,573,240</b>	<b>\$772,424,416</b>	<b>\$245,290,065</b>	<b>0.24</b>	<b>0.89</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>Total distributions may include recallable distributions



Total Fund  
Closed End Funds - Investment Summary

Period Ending: June 30, 2018

Verus Internal Analysis												
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 6/30/18 <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	\$142,827,449	\$210,000,000	84%	\$176,202,618	\$2,435,000	\$3,716,158	\$117,739,587	\$33,797,382	0.67	1.48	3/31/2018
1/16/2009	Adams Street Partners II	\$11,254,921	\$30,000,000	95%	\$28,365,000	\$0	\$874,023	\$36,592,267	\$1,635,000	1.29	1.69	3/31/2018
9/21/2012	Adams Street Partners - Fund 5	\$25,384,419	\$40,000,000	77%	\$30,611,900	\$0	\$0	\$10,613,177	\$9,388,100	0.35	1.18	3/31/2018
1/18/1996	Adams Street Partners - BPF	\$2,577,373	\$59,565,614	97%	\$57,517,409	\$0	\$214,487	\$101,862,594	\$2,048,205	1.77	1.82	3/31/2018
4/28/2017	Adams Street Venture Innovation	\$10,014,702	\$75,000,000	15%	\$10,912,500	\$3,750,000	\$0	\$0	\$64,087,500	0.00	0.92	3/31/2018
11/27/2013	Aether Real Assets III	\$23,989,122	\$25,000,000	0%	\$19,135,133	\$0	\$0	\$940,554	\$6,671,958	0.05	1.30	3/31/2018
11/27/2013	Aether Real Assets III Surplus	\$60,271,462	\$50,000,000	0%	\$45,266,353	\$827,695	\$2,070,821	\$2,860,635	\$6,671,958	0.06	1.39	3/31/2018
3/16/2016	Aether Real Assets IV	\$24,515,245	\$50,000,000	0%	\$26,264,063	\$6,810,112	\$121,783	\$4,114,797	\$6,671,958	0.16	1.09	3/31/2018
6/14/2004	Bay Area Equity Fund	\$2,895,558	\$10,000,000	100%	\$10,000,000	\$0	\$0	\$36,331,243	\$0	3.63	3.92	3/31/2018
12/7/2009	Bay Area Equity Fund II	\$11,210,350	\$10,000,000	100%	\$10,000,000	\$0	\$0	\$2,026,313	\$0	0.20	1.32	3/31/2018
1/31/2008	Carpenter Bancfund	\$6,398,969	\$30,000,000	97%	\$29,239,890	\$0	\$0	\$43,976,891	\$904,309	1.50	1.72	3/31/2018
6/28/2013	Commonfund	\$45,533,533	\$50,000,000	81%	\$40,524,998	\$1,524,998	\$400,000	\$4,277,497	\$6,671,958	0.11	1.23	3/31/2018
11/26/2003	EIF US Power Fund I	\$55,837	\$30,000,000	100%	\$30,000,000	\$0	\$0	\$64,404,030	\$0	2.15	2.15	3/31/2018
8/16/2005	EIF US Power Fund II <sup>5</sup>	\$20,593,951	\$50,000,000	100%	\$50,000,000	\$0	\$7,832,472	\$58,996,571	\$0	1.18	1.59	3/31/2018
5/30/2007	EIF US Power Fund III <sup>6</sup>	\$22,520,325	\$65,000,000	100%	\$65,000,000	\$0	\$12,149,340	\$71,231,764	\$0	1.10	1.44	3/31/2018
11/28/2011	EIF US Power Fund IV <sup>4</sup>	\$44,164,295	\$50,000,000	113%	\$56,555,731	\$0	\$2,667,868	\$21,818,650	\$6,308,439	0.39	1.17	3/31/2018
11/28/2016	EIF US Power Fund V	\$23,596,330	\$50,000,000	63%	\$31,374,335	\$20,295,655	\$2,841,391	\$7,095,683	\$18,625,665	0.23	0.98	3/31/2018
2/15/2004	Nogales	\$34,188	\$15,000,000	99%	\$14,805,103	\$0	\$0	\$12,326,577	\$111,251	0.83	0.83	3/31/2017
2/18/2010	Oaktree PIF 2009	\$10,193,407	\$40,000,000	0%	\$34,800,000	\$10,193,407	\$0	\$34,800,000	\$6,671,958	1.00	1.29	6/30/2018
6/11/2014	Ocean Avenue Fund II	\$28,424,473	\$30,000,000	76%	\$22,800,000	\$900,000	\$1,200,806	\$4,790,744	\$7,200,000	0.21	1.46	3/31/2018
4/15/2016	Ocean Avenue Fund III	\$28,039,717	\$50,000,000	47%	\$23,500,000	\$5,000,000	\$0	\$1,000,000	\$26,500,000	0.04	1.24	3/31/2018
11/30/2007	Paladin III	\$22,352,994	\$25,000,000	102%	\$25,514,556	\$188,101	\$0	\$23,414,348	\$983,203	0.92	1.79	3/31/2018
5/24/2011	Pathway 6	\$37,285,106	\$40,000,000	88%	\$35,327,998	\$1,034,712	\$2,662,106	\$13,615,199	\$4,672,002	0.39	1.44	3/31/2018
2/7/2013	Pathway 7	\$60,870,934	\$70,000,000	80%	\$56,221,175	\$2,714,293	\$2,088,347	\$8,834,822	\$13,778,825	0.16	1.24	3/31/2018
11/23/2015	Pathway 8	\$29,913,368	\$50,000,000	53%	\$26,727,963	\$3,566,753	\$586,487	\$2,838,606	\$23,272,037	0.11	1.23	3/31/2018
11/9/1998	Pathway	\$23,759,221	\$125,000,000	98%	\$122,474,914	\$81,000	\$1,614,125	\$162,777,651	\$2,525,086	1.33	1.52	3/31/2018
12/26/2008	Pathway 2008	\$23,285,944	\$30,000,000	94%	\$28,227,224	\$108,696	\$1,528,789	\$20,418,540	\$1,772,776	0.72	1.55	3/31/2018
6/3/2014	Siguler Guff CCCERA Opportunities	\$145,541,870	\$200,000,000	67%	\$134,302,500	\$5,750,000	\$0	\$22,222,898	\$65,697,500	0.17	1.25	3/31/2018
11/30/2016	Siguler Guff Secondary Opportunities	\$25,626,390	\$50,000,000	68%	\$33,786,556	\$9,170,000	\$6,195,287	\$22,518,891	\$16,213,444	0.67	1.42	3/31/2018
12/8/2015	Wastewater Opportunity Fund	\$8,050,321	\$25,000,000	39%	\$9,695,592	\$1,415,420	\$0	\$0	\$15,304,408	0.00	0.83	3/31/2018
<b>Total Private Equity and Venture Capital</b>		<b>\$921,181,773</b>	<b>\$1,634,565,614</b>	<b>79%</b>	<b>\$1,285,153,512</b>	<b>\$75,765,842</b>	<b>\$48,764,290</b>	<b>\$914,440,528</b>	<b>\$348,184,921</b>	<b>0.71</b>	<b>1.43</b>	
<b>% of Portfolio (Market Value)</b>		<b>11.0%</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: June 30, 2018

Private Credit	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Angelo Gordon Energy Cred Opp.	09/24/2015	-	-	17.5%	15.4%	03/31/2018
Stepstone CC Opportunities Fund <sup>1</sup>	02/02/2018	-	-	-	-	-
Torchlight II	07/01/2006	-0.4%	-0.2%	-1.6%	-1.4%	06/30/2018
Torchlight III	12/12/2008	18.3%	16.3%	13.7%	13.8%	06/30/2018
Torchlight IV	08/01/2012	14.0%	14.3%	10.7%	11.4%	06/30/2018
Torchlight V	03/12/2015	23.3%	23.1%	14.2%	14.1%	03/31/2018

Real Estate	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Angelo Gordon VIII	01/23/2012	-	-	-	16.0%	03/31/2018
Angelo Gordon IX	12/08/2014	-	-	-	11.0%	03/31/2018
DLJ RECP III	06/23/2005	1.0%	1.0%	-2.0%	-2.0%	03/31/2018
DLJ RECP IV	02/11/2008	7.0%	7.0%	4.0%	5.0%	03/31/2018
DLJ RECP V	07/01/2014	29.0%	29.0%	16.0%	16.0%	03/31/2018
Hearthstone II	06/17/1998	-	30.1%	-	30.1%	03/31/2018
Invesco Fund III	06/30/2013	20.5%	-	14.8%	-	03/31/2018
Invesco Fund IV	06/30/2014	19.4%	-	13.5%	-	03/31/2018
LaSalle Income & Growth VI	07/16/2013	16.4%	-	13.6%	-	03/31/2018
LaSalle Income & Growth VII	02/28/2017	16.4%	-	12.8%	-	03/31/2018
Long Wharf IV	07/03/2013	17.9%	17.8%	12.9%	12.9%	06/30/2018
Long Wharf V	09/30/2016	14.4%	17.4%	8.4%	9.9%	06/30/2018
Oaktree REOF V	12/31/2011	17.2%	-	12.8%	-	06/30/2018
Oaktree REOF VI	09/30/2013	15.3%	-	10.2%	-	06/30/2018
Oaktree REOF VII	04/01/2015	109.2%	-	52.5%	-	06/30/2018
Paulson	11/10/2013	-	-	14.9%	-	12/31/2017
Siguler Guff I	01/25/2012	15.0%	17.6%	13.4%	14.4%	03/31/2018
Siguler Guff II	08/31/2013	14.9%	14.0%	13.4%	12.0%	03/31/2018
Siguler Guff DREOF II Co-Inv	01/27/2016	14.8%	14.7%	13.6%	11.3%	03/31/2018

<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.

Total Fund  
Closed End Funds - IRR Summary

Period Ending: June 30, 2018

Private Equity & Venture Capital	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Adams Street Partners	3/18/1996	11.5%	12.4%	-	9.9%	3/31/2018
Adams Street Partners II	1/16/2009	17.4%	17.6%	-	15.1%	3/31/2018
Adams Street Partners - Fund 5	9/21/2012	9.6%	9.6%	-	7.0%	3/31/2018
Adams Street Partners Venture	4/28/2017	-4.9%	-4.9%	-	-12.5%	3/31/2018
Adams Street Partners - BPF	1/18/1996	14.3%	14.3%	-	11.6%	3/31/2018
Aether Real Assets III	11/27/2013	-	-	13.1%	-	3/31/2018
Aether Real Assets III Surplus	11/27/2013	-	-	15.4%	-	3/31/2018
Aether Real Assets IV	1/1/2016	-	-	13.1%	-	3/31/2018
Bay Area Equity Fund I	6/14/2004	25.9%	-	23.3%	-	3/31/2018
Bay Area Equity Fund II	12/7/2009	6.6%	-	5.4%	-	3/31/2018
Carpenter Bancfund	1/31/2008	-	-	-	10.6%	3/31/2018
CommonFund <sup>4</sup>	6/28/2013	-	11.4%	-	8.7%	3/31/2018
Energy Investor Fund	11/26/2003	33.5%	34.7%	28.5%	28.3%	3/31/2018
Energy Investor Fund II	8/16/2005	6.6%	6.1%	3.9%	3.4%	3/31/2018
Energy Investor Fund III	5/30/2007	8.2%	8.2%	5.7%	5.7%	3/31/2018
Energy Investor Fund IV	11/28/2011	10.6%	10.8%	6.1%	5.8%	3/31/2018
Energy Investor Fund V <sup>1</sup>	11/26/2016	-	-	-	-	-
Nogales	2/15/2004	-	-4.5%	-8.6%	-8.8%	3/31/2017
Oaktree PIF 2009	2/18/2010	7.5%	-	7.4%	-	6/30/2018
Ocean Avenue II	6/11/2014	-	-	15.5%	-	3/31/2018
Ocean Avenue III	4/15/2016	-	-	33.6%	-	3/31/2018
Paladin III	11/30/2007	-	-	7.9%	-	3/31/2018
Pathway 6	5/24/2011	16.0%	16.0%	13.1%	13.1%	3/31/2018
<i>Benchmark<sup>4</sup></i>		14.8%	-	-	-	3/31/2018
Pathway 7	2/7/2013	14.6%	14.6%	11.2%	11.2%	3/31/2018
<i>Benchmark<sup>5</sup></i>		14.2%	-	-	-	3/31/2018
Pathway 8 <sup>1</sup>	11/6/2015	-	-	-	-	-
Pathway Private Equity Fund	11/9/1998	10.3%	10.3%	8.5%	8.5%	3/31/2018
<i>Benchmark<sup>6</sup></i>		10.5%	-	-	-	3/31/2018
Pathway Private Equity Fund 2008	12/26/2008	15.0%	15.0%	12.3%	12.3%	3/31/2018
<i>Benchmark<sup>7</sup></i>		13.4%	-	-	-	3/31/2018
Siguler Guff CCCERA Opportunities	6/3/2014	16.0%	16.5%	15.3%	13.4%	12/31/2017
Siguler Guff Secondary Opportunities <sup>8</sup>	11/30/2016	86.2%	492.2%	79.8%	271.1%	3/31/2018
Wastewater Opportunity Fund	12/8/2015	-1.7%	-	-19.3%	-	3/31/2018

<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, 2018.

<sup>5</sup>Private iQ global all private equity median pooled return for vintage years 2012-2016, as of March 31, 2018.

<sup>6</sup>Private iQ global all private equity median pooled return for vintage years 1999-2011, as of March 31, 2018.

<sup>7</sup>Private iQ global all private equity median pooled return for vintage years 2008-2014, as of March 31, 2018.

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

Period Ending: June 30, 2018

	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
Jackson Square Partners	9.33%	-5.64%	11.71%	-9.17%	1.24	6.40%	0.73	0.74	-0.88	67.52%	136.22%
Robeco Boston Partners	8.74%	0.48%	9.19%	0.18%	1.04	3.19%	0.88	0.87	0.15	102.28%	94.76%
Emerald Advisers	10.03%	-0.58%	12.70%	-0.21%	0.97	5.25%	0.83	0.73	-0.11	92.72%	93.68%
Ceredex	11.00%	-0.22%	10.56%	3.61%	0.66	7.88%	0.61	0.98	-0.03	88.79%	75.67%
Pyrford	3.52%	0.01%	8.75%	1.32%	0.63	6.46%	0.71	0.32	0.00	61.66%	51.99%
William Blair	6.25%	-0.31%	11.24%	0.25%	0.92	2.91%	0.94	0.49	-0.11	92.59%	92.92%
Artisan Partners	12.42%	4.23%	12.08%	3.08%	1.14	6.58%	0.71	0.97	0.64	122.99%	55.31%
First Eagle	6.81%	-1.37%	6.78%	1.14%	0.69	3.88%	0.84	0.90	-0.35	79.30%	78.88%
Allianz Global Investors	3.88%	-1.66%	5.47%	-1.01%	0.88	1.26%	0.96	0.58	-1.32	78.48%	100.15%
Adelante	6.69%	-1.15%	7.59%	0.42%	0.80	2.40%	0.96	0.79	-0.48	86.78%	94.33%
AFL-CIO	1.40%	-0.32%	3.05%	-0.22%	0.94	0.39%	0.99	0.23	-0.84	91.48%	102.11%
Wellington Real Total Return	-2.46%	-8.36%	6.41%	-11.62%	1.55	6.15%	0.09	-0.49	-1.36	-38.40%	--

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: June 30, 2018

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
Jackson Square Partners	13.64%	-2.71%	10.56%	-6.38%	1.22	5.37%	0.77	1.25	-0.51	83.27%	136.22%
Robeco Boston Partners	10.92%	0.58%	8.37%	0.45%	1.01	2.82%	0.89	1.25	0.21	101.45%	85.22%
Emerald Advisers	15.62%	1.98%	13.62%	1.48%	1.04	5.84%	0.82	1.12	0.34	110.48%	90.70%
Ceredex	12.02%	0.84%	11.60%	2.76%	0.83	6.32%	0.74	1.00	0.13	99.29%	84.69%
William Blair	7.75%	0.58%	10.14%	1.08%	0.93	2.67%	0.94	0.72	0.22	97.85%	88.05%
Artisan Partners	13.52%	4.11%	10.34%	3.49%	1.07	5.66%	0.70	1.27	0.73	128.61%	52.10%
First Eagle	7.50%	-1.91%	6.36%	0.74%	0.72	3.38%	0.85	1.11	-0.57	77.87%	89.53%
Allianz Global Investors	4.19%	-1.31%	4.85%	-0.78%	0.90	1.07%	0.96	0.78	-1.22	81.87%	102.99%
Adelante	8.66%	0.24%	11.22%	1.04%	0.91	2.14%	0.97	0.73	0.11	94.29%	87.75%
AFL-CIO	2.17%	-0.10%	2.79%	0.03%	0.94	0.48%	0.97	0.62	-0.21	93.28%	91.39%
Wellington Real Total Return	-1.33%	-6.92%	6.19%	-10.78%	1.69	5.76%	0.16	-0.28	-1.20	-5.16%	1,307.20%

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

# Total Fund Investment Fund Fee Analysis

Period Ending: June 30, 2018

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
BlackRock Russell 1000 Index	Global Equity	0.03% of Assets	\$123,396,474	\$37,019	0.03%
Jackson Square Partners	Global Equity	0.50% of First 100.0 Mil, 0.40% of Next 150.0 Mil, 0.35% Thereafter	\$423,687,946	\$1,707,908	0.40%
Robeco Boston Partners	Global Equity	0.50% of First 25.0 Mil, 0.30% Thereafter	\$395,079,843	\$1,235,240	0.31%
Emerald Advisers	Global Equity	0.75% of First 10.0 Mil, 0.60% Thereafter	\$310,233,552	\$1,876,401	0.60%
Ceredex	Global Equity	0.85% of First 10.0 Mil, 0.68% of Next 40.0 Mil, 0.51% Thereafter	\$273,911,563	\$1,498,949	0.55%
Pyrford	Global Equity	0.70% of First 50.0 Mil, 0.50% of Next 50.0 Mil, 0.35% Thereafter	\$443,155,210	\$1,801,043	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	\$490,712,598	\$1,887,138	0.38%
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	\$344,791,961	\$1,864,064	0.54%
TT Emerging Markets	Global Equity	0.70% of First 100.0 Mil, 0.65% of Next 100.0 Mil, 0.60% Thereafter	\$323,528,055	\$2,091,168	0.65%
Artisan Partners	Global Equity	0.75% of Assets	\$397,147,350	\$2,978,605	0.75%
First Eagle	Global Equity	0.75% of Assets	\$360,330,728	\$2,702,480	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	\$346,773,913	\$1,313,709	0.38%
AFL-CIO	Global Fixed Income	0.43% of Assets	\$317,519,384	\$1,365,333	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: June 30, 2018

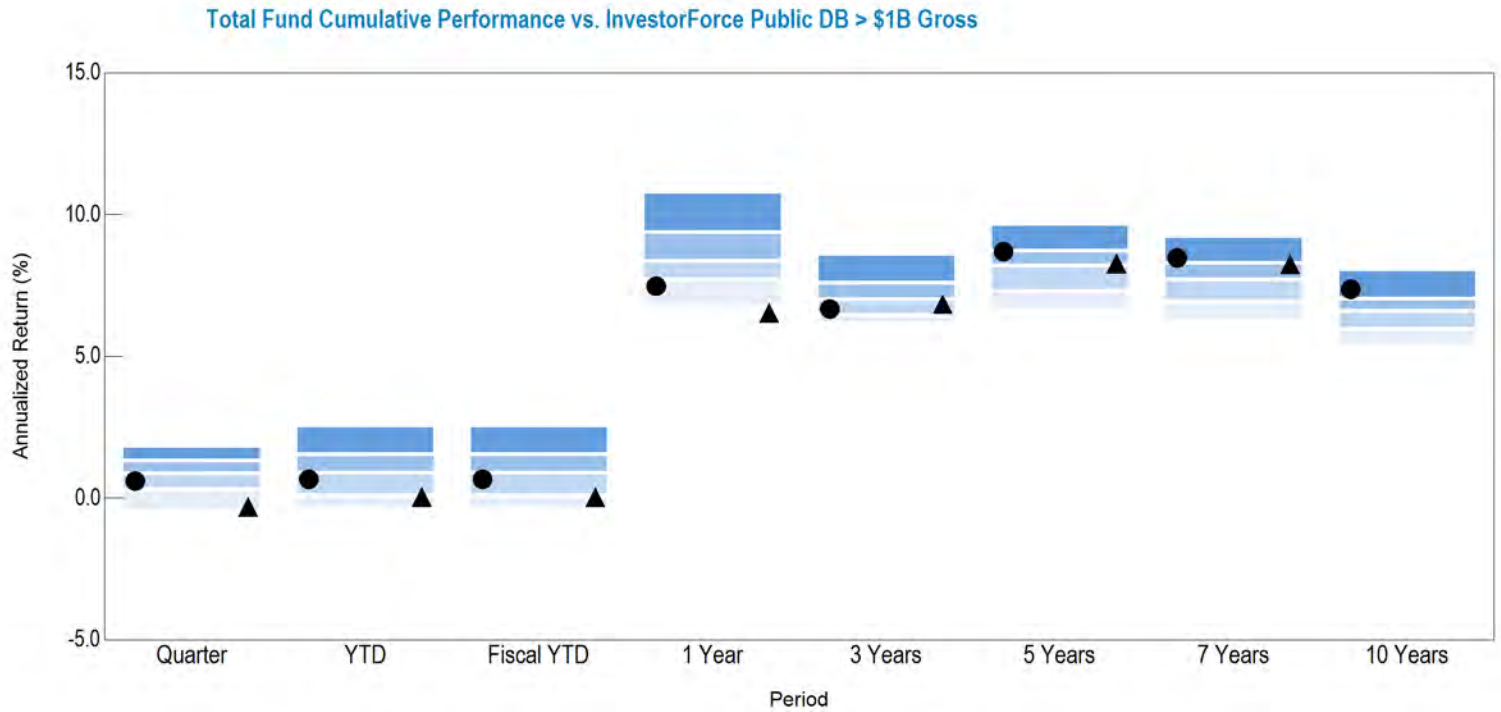
Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Wellington Real Total Return	Global Fixed Income	0.55% of Assets	\$187,068,912	\$1,028,879	0.55%
DFA Short Credit	Global Fixed Income	0.20% of First 25.0 Mil, 0.10% Thereafter	\$329,410,558	\$354,411	0.11%
Insight Short Duration	Global Fixed Income	0.06% of First 500.0 Mil, 0.05% of Next 500.0 Mil, 0.04% Thereafter	\$697,455,828	\$398,728	0.06%
Sit Short Duration	Global Fixed Income	0.15% of Assets	\$482,786,680	\$724,180	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: June 30, 2018



	Quarter		YTD		Fiscal YTD		1 Year		3 Years		5 Years		7 Years		10 Years									
<b>5th Percentile</b>	1.8	2.6	2.6	10.8	8.6	9.7	9.2	8.1	0.6	(58)	0.7	(58)	0.7	(58)	7.5	(89)	6.7	(68)	8.7	(28)	8.5	(18)	7.4	(16)
<b>25th Percentile</b>	1.3	1.6	1.6	9.4	7.6	8.7	8.3	7.1	-0.3	(93)	0.0	(83)	0.0	(83)	6.5	(99)	6.8	(63)	8.3	(46)	8.3	(28)	--	(--)
<b>Median</b>	0.9	0.9	0.9	8.4	7.0	8.2	7.7	6.6																
<b>75th Percentile</b>	0.3	0.1	0.1	7.7	6.5	7.3	7.0	6.0																
<b>95th Percentile</b>	-0.4	-0.3	-0.3	6.8	6.2	6.6	6.3	5.4																
<b># of Portfolios</b>	51	51	51	51	51	50	50	47																
<b>● Total Fund</b>																								
<b>▲ Policy Index</b>																								

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.

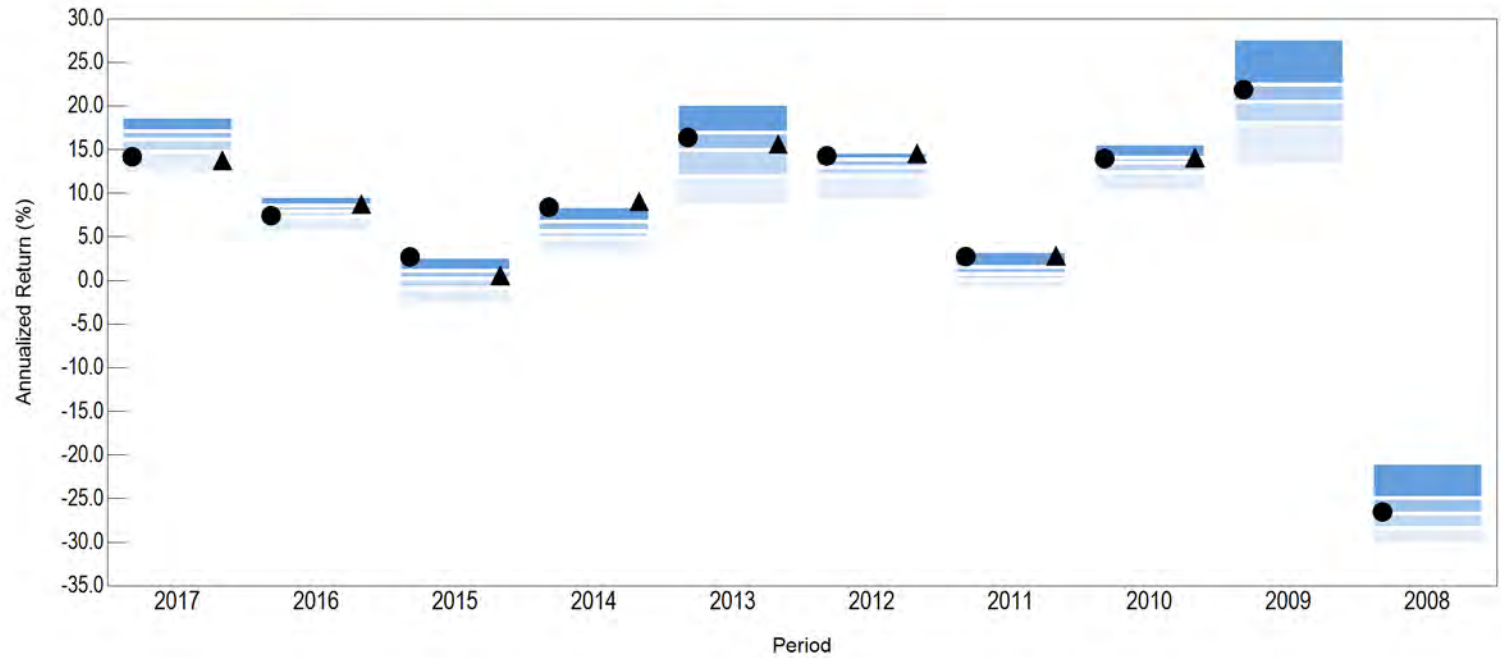


Total Fund

Peer Universe Comparison: Consecutive Periods (Gross of Fees)

Period Ending: June 30, 2018

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



	Return (Rank)									
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
5th Percentile	18.8	9.7	2.7	8.5	20.2	14.7	3.3	15.7	27.7	-21.0
25th Percentile	17.2	8.6	1.1	6.8	17.0	13.9	1.6	14.2	22.5	-24.9
Median	16.2	8.0	0.3	5.7	15.0	13.0	0.8	13.5	20.5	-26.7
75th Percentile	14.8	7.4	-0.7	4.9	12.0	12.1	0.1	12.5	18.1	-28.3
95th Percentile	12.4	5.5	-2.8	3.1	8.7	9.2	-0.9	10.2	13.4	-30.2
# of Portfolios	98	92	98	79	67	74	68	66	66	65
● Total Fund	14.2 (83)	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)
▲ Policy Index	13.8 (89)	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: June 30, 2018

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

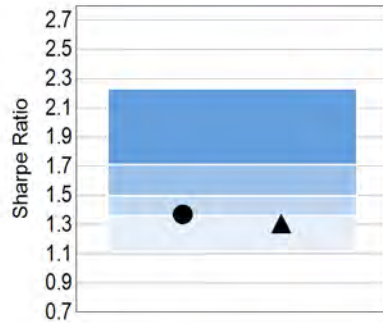


	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
<b>5th Percentile</b>	18.6	9.3	2.4	7.6	19.5	14.3	4.2	15.1	27.5	-20.9
<b>25th Percentile</b>	16.6	8.4	0.8	6.1	16.0	13.4	1.5	13.8	21.7	-25.7
<b>Median</b>	15.6	7.7	-0.4	5.1	14.3	12.7	0.6	12.8	20.0	-26.9
<b>75th Percentile</b>	14.1	7.1	-1.3	4.4	11.0	11.8	-0.3	11.8	17.7	-28.3
<b>95th Percentile</b>	10.7	5.3	-3.2	2.6	8.5	9.0	-1.2	9.3	13.4	-30.5
<b># of Portfolios</b>	61	62	57	55	48	44	42	41	40	39
<b>● Total Fund</b>	13.9 (81)	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)
<b>▲ Policy Index</b>	13.8 (84)	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)

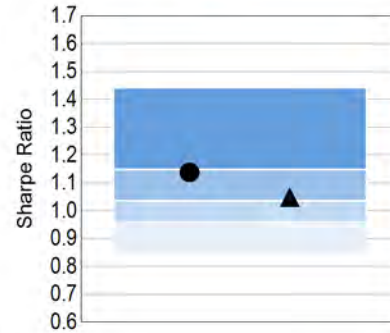
Period Ending: June 30, 2018

Sharpe Ratio  
1 Year



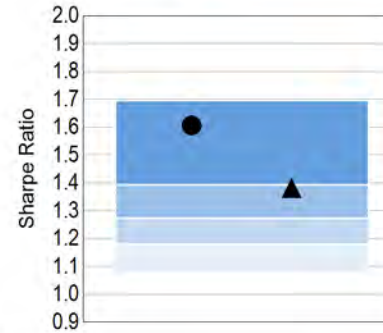
● Total Fund	
Value	1.4
Rank	75
▲ Policy Index	
Value	1.3
Rank	85
Universe	
5th %tile	2.2
25th %tile	1.7
Median	1.5
75th %tile	1.4
95th %tile	1.1

Sharpe Ratio  
3 Year



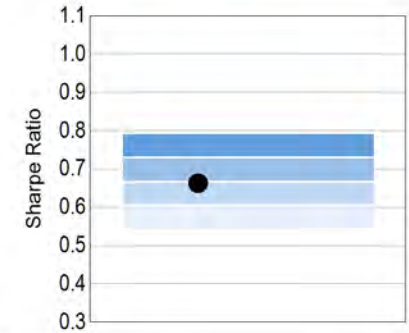
● Total Fund	
Value	1.1
Rank	28
▲ Policy Index	
Value	1.0
Rank	47
Universe	
5th %tile	1.4
25th %tile	1.1
Median	1.0
75th %tile	1.0
95th %tile	0.8

Sharpe Ratio  
5 Year



● Total Fund	
Value	1.6
Rank	11
▲ Policy Index	
Value	1.4
Rank	26
Universe	
5th %tile	1.7
25th %tile	1.4
Median	1.3
75th %tile	1.2
95th %tile	1.1

Sharpe Ratio  
10 Year



● Total Fund	
Value	0.7
Rank	53
▲ Policy Index	
Value	--
Rank	--
Universe	
5th %tile	0.8
25th %tile	0.7
Median	0.7
75th %tile	0.6
95th %tile	0.5

## Domestic Equity Managers

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# Jackson Square Partners Manager Portfolio Overview

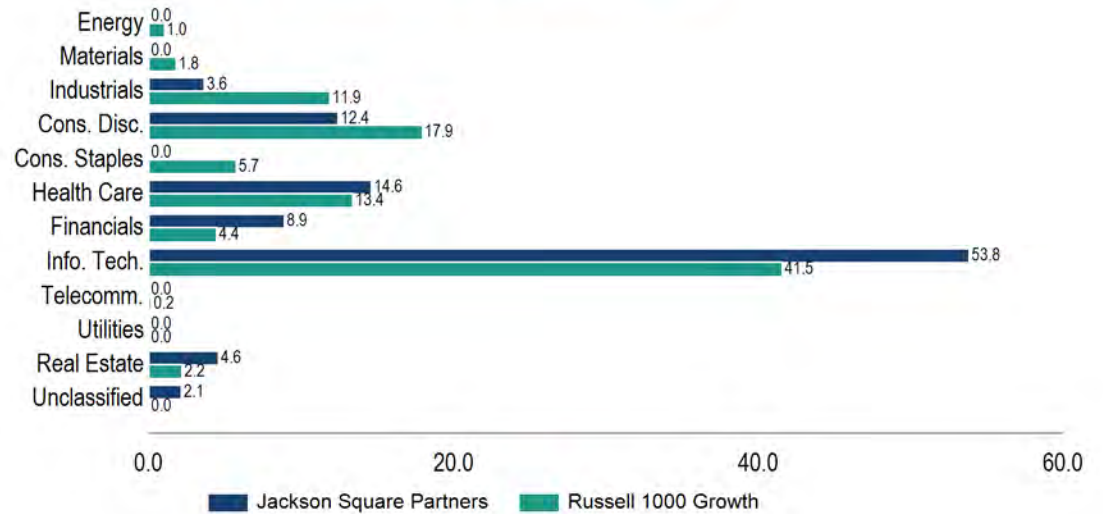
Period Ending: June 30, 2018

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 Prislin.

## Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	32	542
Weighted Avg. Market Cap. (\$B)	157.93	247.27
Median Market Cap. (\$B)	43.17	11.99
Price To Earnings	37.53	27.41
Price To Book	8.16	8.07
Price To Sales	7.26	5.49
Return on Equity (%)	19.13	30.43
Yield (%)	0.72	1.25
Beta	1.24	1.00

## Sector Allocation (%) vs Russell 1000 Growth



## Largest Holdings

	End Weight	Return
MICROSOFT	8.43	8.51
PAYPAL HOLDINGS	6.55	9.75
VISA 'A'	6.25	10.90
MASTERCARD	5.82	12.36
BIOGEN	3.78	6.00
IQVIA HOLDINGS	3.78	1.74
ALPHABET A	3.66	8.88
FEDEX	3.63	-5.18
TAKE TWO INTACT.SFTW.	3.60	21.05
INTERCONTINENTAL EX.	3.51	1.75

## Top Contributors

	Avg Wgt	Return	Contribution
TRIPADVISOR 'A'	2.44	36.24	0.88
MICROSOFT	8.39	8.51	0.71
MASTERCARD	5.64	12.36	0.70
TAKE TWO INTACT.SFTW.	3.30	21.05	0.69
VISA 'A'	6.24	10.90	0.68
PAYPAL HOLDINGS	6.58	9.75	0.64
ELECTRONIC ARTS	2.91	16.31	0.47
DOMINO'S PIZZA	2.24	21.06	0.47
UNITEDHEALTH GROUP	2.62	15.05	0.39
ILLUMINA	2.08	18.13	0.38

## Bottom Contributors

	Avg Wgt	Return	Contribution
APPLIED MATS.	2.98	-16.61	-0.50
LIBERTY GLOBAL SR.C	2.94	-12.55	-0.37
EBAY	3.47	-9.89	-0.34
QURATE RETAIL SERIES A	2.00	-15.69	-0.31
DENTSPLY SIRONA	2.19	-12.83	-0.28
FEDEX	4.07	-5.18	-0.21
SYMANTEC	1.01	-19.83	-0.20
LIBERTY GLOBAL CL.A	0.68	-12.04	-0.08
CHARLES SCHWAB	3.51	-1.98	-0.07
CROWN CASTLE INTL.	3.00	-0.61	-0.02

Unclassified sector allocation includes cash allocations.

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

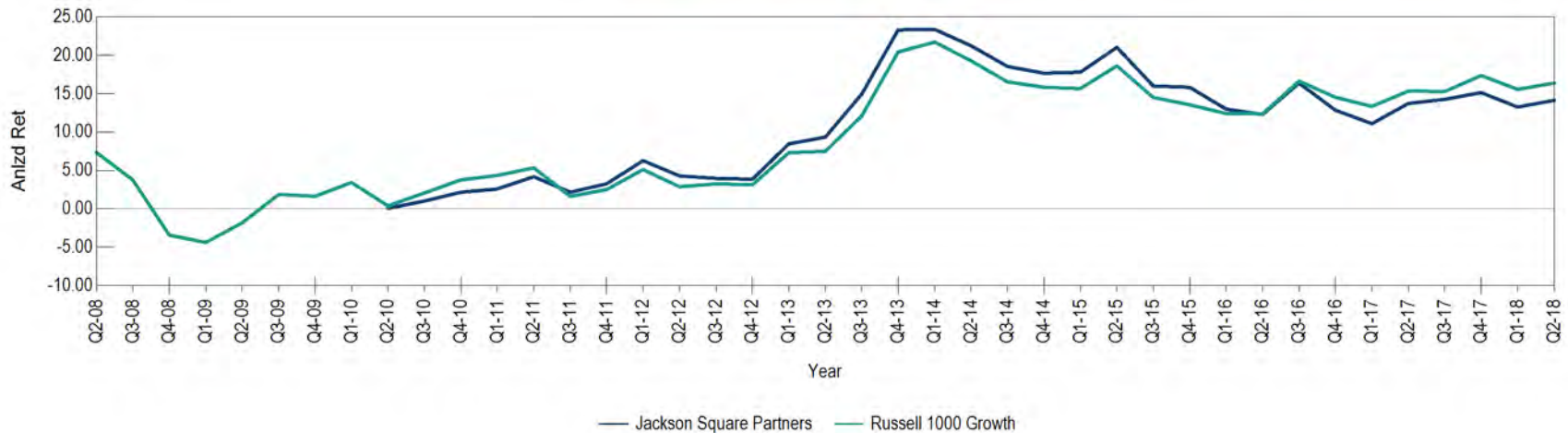


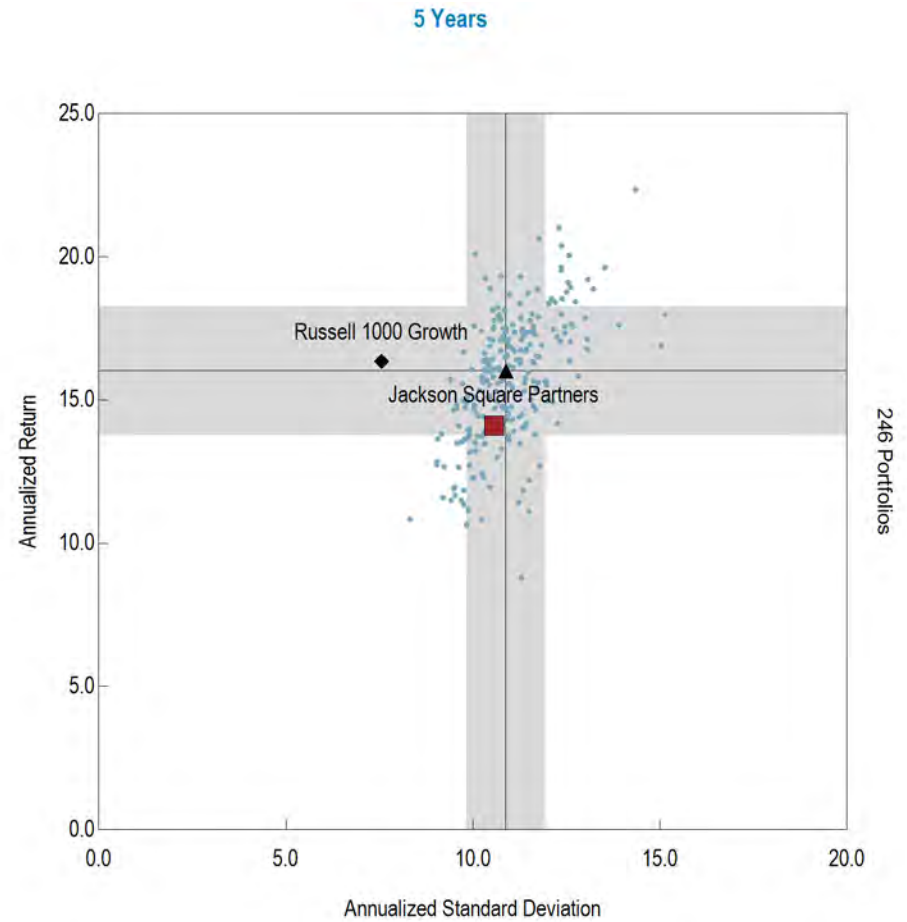
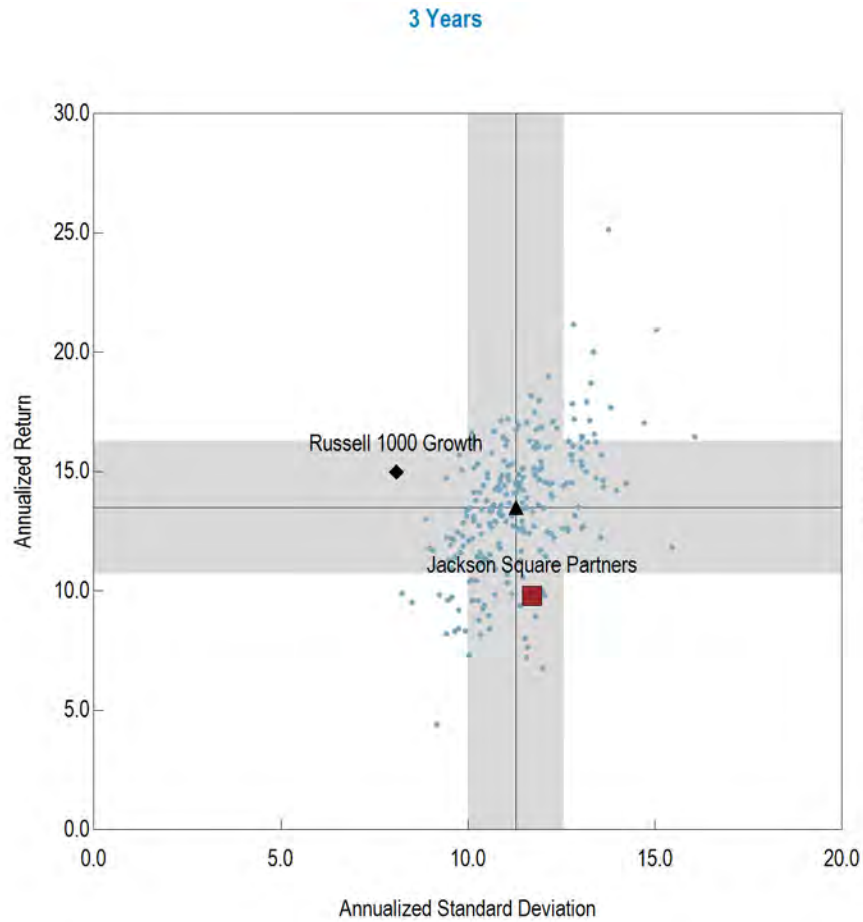
	Quarter	1 Year	3 Years	5 Years	10 Years	2017	2016	2015	2014	2013
<b>5th Percentile</b>	8.4	30.0	17.2	19.2	13.6	36.7	12.0	11.6	17.3	42.8
<b>25th Percentile</b>	6.6	25.6	15.2	17.4	12.3	32.7	7.3	7.6	14.3	37.3
<b>Median</b>	5.4	22.0	13.5	16.0	11.4	28.8	4.6	4.7	12.0	34.3
<b>75th Percentile</b>	3.7	17.7	11.7	14.3	10.5	26.2	1.8	2.1	9.5	31.0
<b>95th Percentile</b>	1.6	12.1	8.9	11.7	9.0	20.5	-2.7	-2.4	5.8	26.6
<b># of Portfolios</b>	256	256	250	246	219	265	282	270	291	274
<b>● Jackson Square Partners</b>	4.2 (69)	19.2 (67)	9.8 (91)	14.1 (77)	11.7 (44)	29.3 (47)	-4.4 (98)	6.1 (37)	13.9 (31)	35.4 (40)
<b>▲ Russell 1000 Growth</b>	5.8 (43)	22.5 (46)	15.0 (29)	16.4 (44)	11.8 (40)	30.2 (42)	7.1 (26)	5.7 (42)	13.0 (38)	33.5 (56)

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





	<b>3 Years</b>			<b>5 Years</b>			
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio		Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Jackson Square Partners	9.8%	11.7%	0.8	Jackson Square Partners	14.1%	10.6%	1.3
Russell 1000 Growth	15.0%	8.1%	1.8	Russell 1000 Growth	16.4%	7.6%	2.1
eV US Large Cap Growth Equity Gross Median	13.5%	11.3%	1.1	eV US Large Cap Growth Equity Gross Median	16.0%	10.9%	1.4



# Robeco Boston Partners Manager Portfolio Overview

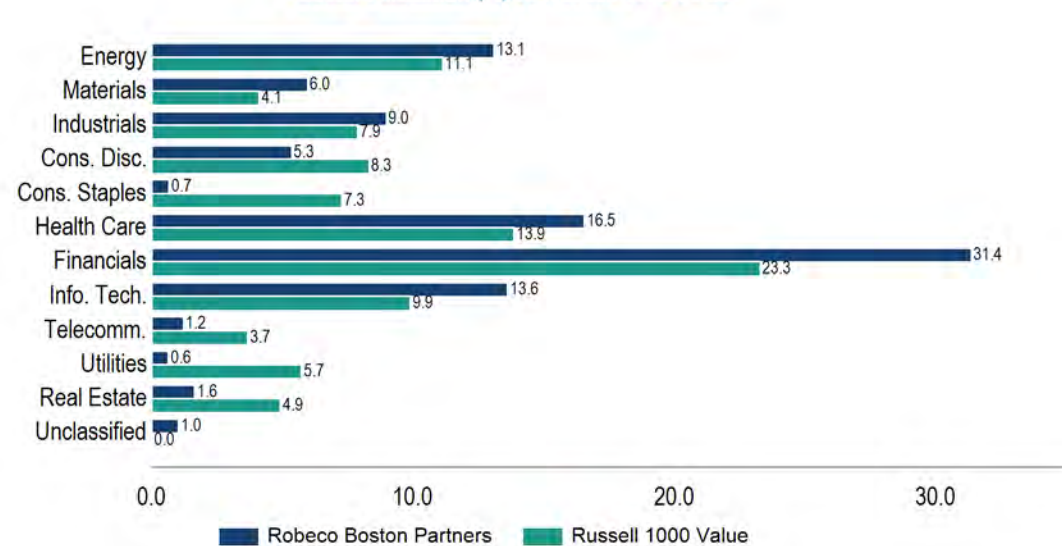
Period Ending: June 30, 2018

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	83	729
Weighted Avg. Market Cap. (\$B)	133.37	110.69
Median Market Cap. (\$B)	34.50	9.57
Price To Earnings	18.98	20.09
Price To Book	2.78	2.59
Price To Sales	2.59	2.99
Return on Equity (%)	15.27	12.33
Yield (%)	2.21	2.48
Beta	1.04	1.00

## Sector Allocation (%) vs Russell 1000 Value



## Largest Holdings

	End Weight	Return
BANK OF AMERICA	4.40	-5.61
BERKSHIRE HATHAWAY 'B'	3.97	-6.43
JP MORGAN CHASE & CO.	3.91	-4.77
JOHNSON & JOHNSON	3.76	-4.61
CITIGROUP	3.59	-0.39
CISCO SYSTEMS	3.26	1.13
WELLS FARGO & CO	3.08	6.58
CHEVRON	2.90	11.82
PFIZER	2.56	3.22
ROYAL DUTCH SHELL A ADR 1:2	2.24	9.93

## Top Contributors

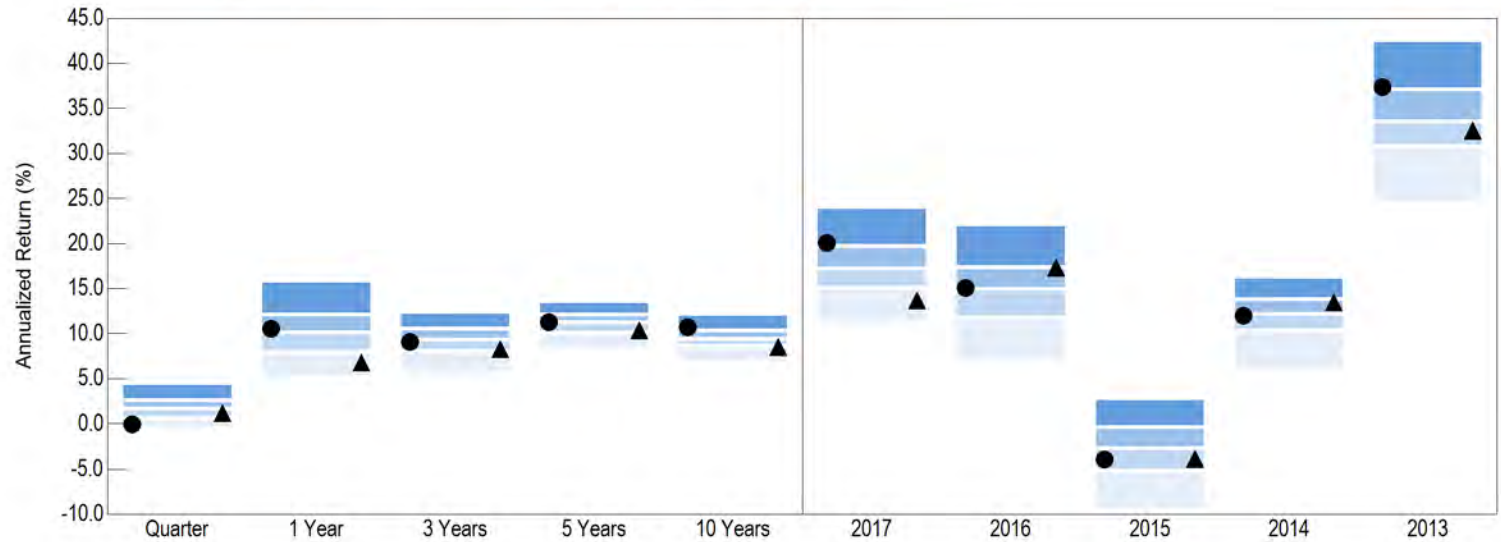
	Avg Wgt	Return	Contribution
ANDEAVOR	1.71	30.98	0.53
NETAPP	1.25	27.70	0.35
CHEVRON	2.79	11.82	0.33
CONOCOPHILLIPS	1.75	17.90	0.31
MERCK & COMPANY	1.83	12.31	0.23
ROYAL DUTCH SHELL A ADR 1:2	2.16	9.93	0.21
WELLS FARGO & CO	2.67	6.58	0.18
MARATHON OIL	0.50	29.63	0.15
METHANEX (NAS)	0.76	17.13	0.13
LABORATORY CORP. OF AM. HDG.	1.01	10.99	0.11

## Bottom Contributors

	Avg Wgt	Return	Contribution
BERKSHIRE HATHAWAY 'B'	4.12	-6.43	-0.27
BANK OF AMERICA	4.52	-5.61	-0.25
CUMMINS	1.28	-17.34	-0.22
JP MORGAN CHASE & CO.	4.00	-4.77	-0.19
TE CONNECTIVITY	1.89	-9.43	-0.18
JOHNSON & JOHNSON	3.82	-4.61	-0.18
GOLDMAN SACHS GP.	1.43	-12.12	-0.17
BORGWARNER	0.97	-13.78	-0.13
DELTA AIR LINES	1.35	-9.09	-0.12
GENERAL DYNAMICS	0.75	-15.25	-0.11

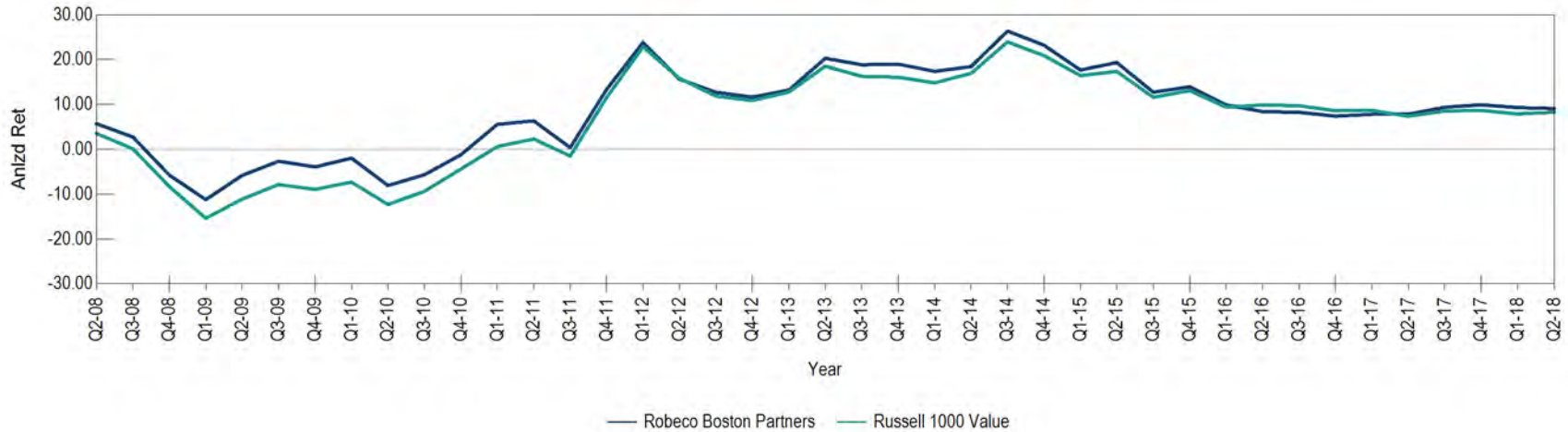
Unclassified sector allocation includes cash allocations.

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

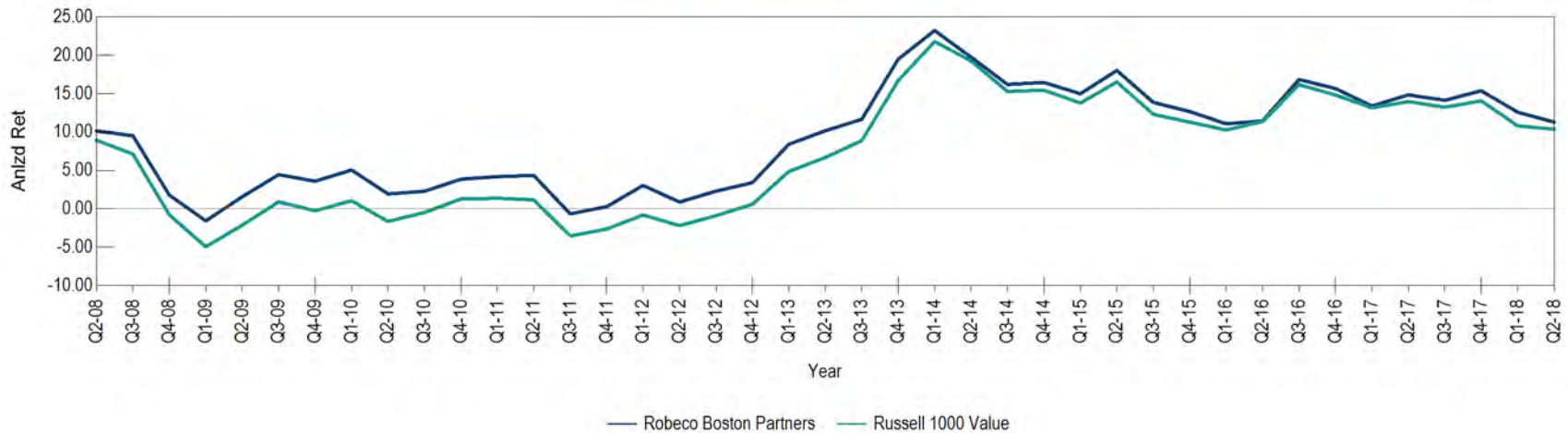


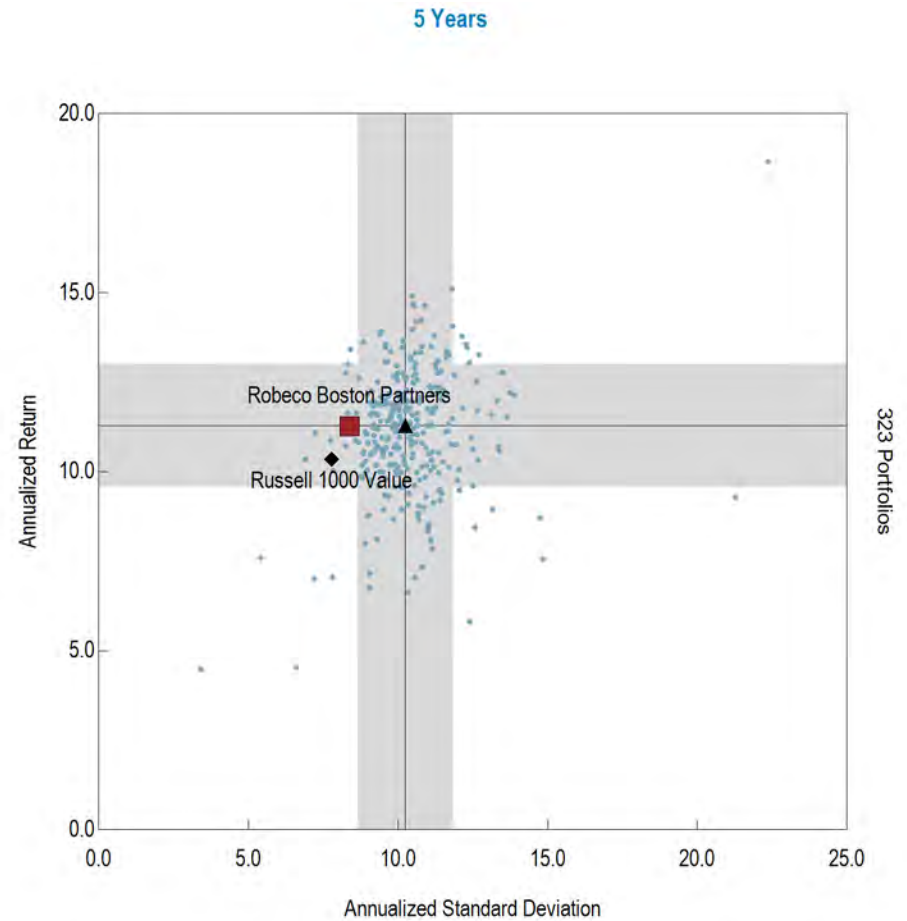
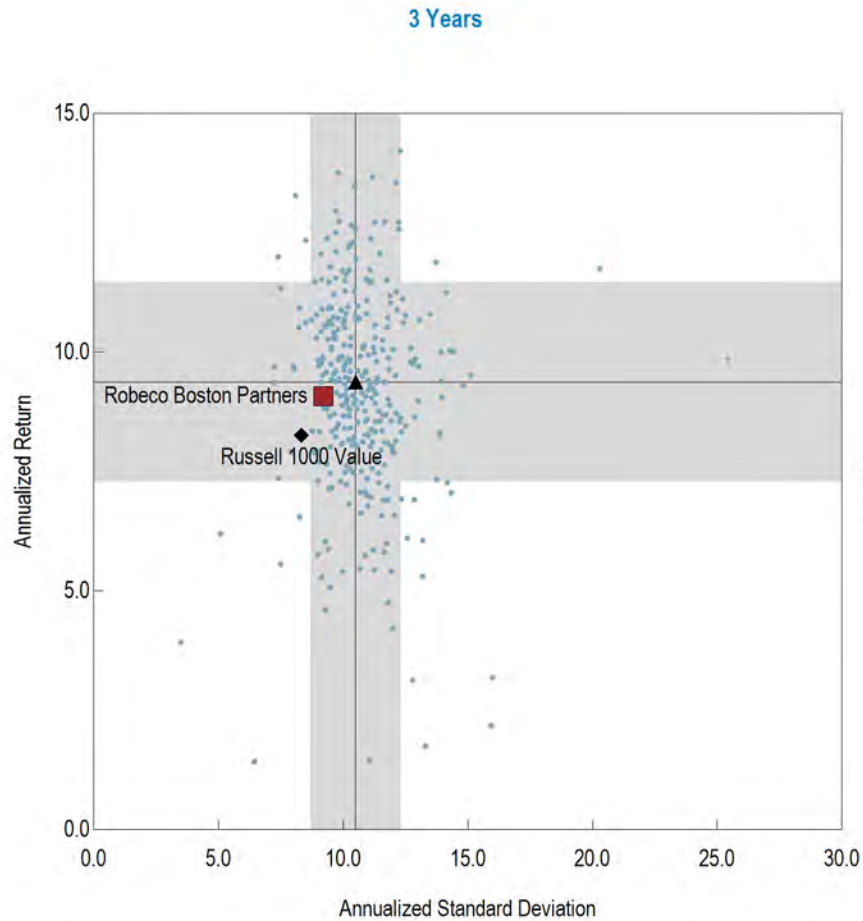
	Quarter	1 Year	3 Years	5 Years	10 Years	2017	2016	2015	2014	2013
<b>5th Percentile</b>	4.5	15.9	12.4	13.6	12.1	24.0	22.1	2.8	16.3	42.5
<b>25th Percentile</b>	2.6	12.1	10.6	12.2	10.4	19.8	17.4	-0.4	13.9	37.2
<b>Median</b>	1.7	10.2	9.4	11.3	9.5	17.2	15.0	-2.6	12.2	33.6
<b>75th Percentile</b>	0.7	8.1	8.1	10.2	8.7	15.1	11.8	-5.1	10.4	30.8
<b>95th Percentile</b>	-0.5	5.2	5.5	8.3	6.8	11.2	7.0	-9.4	5.9	24.6
<b># of Portfolios</b>	336	336	333	323	268	342	346	312	307	310
<b>● Robeco Boston Partners</b>	-0.1 (91)	10.5 (46)	9.1 (56)	11.3 (51)	10.7 (18)	20.1 (23)	15.1 (50)	-3.9 (65)	12.0 (55)	37.4 (24)
<b>▲ Russell 1000 Value</b>	1.2 (66)	6.8 (86)	8.3 (73)	10.3 (72)	8.5 (79)	13.7 (87)	17.3 (26)	-3.8 (64)	13.5 (33)	32.5 (60)

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





	<b>3 Years</b>			<b>5 Years</b>			
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	
Robeco Boston Partners	9.1%	9.2%	0.9	Robeco Boston Partners	11.3%	8.4%	1.3
Russell 1000 Value	8.3%	8.3%	0.9	Russell 1000 Value	10.3%	7.8%	1.3
eV US Large Cap Value Equity Gross Median	9.4%	10.5%	0.8	eV US Large Cap Value Equity Gross Median	11.3%	10.2%	1.1

# Emerald Advisers Manager Portfolio Overview

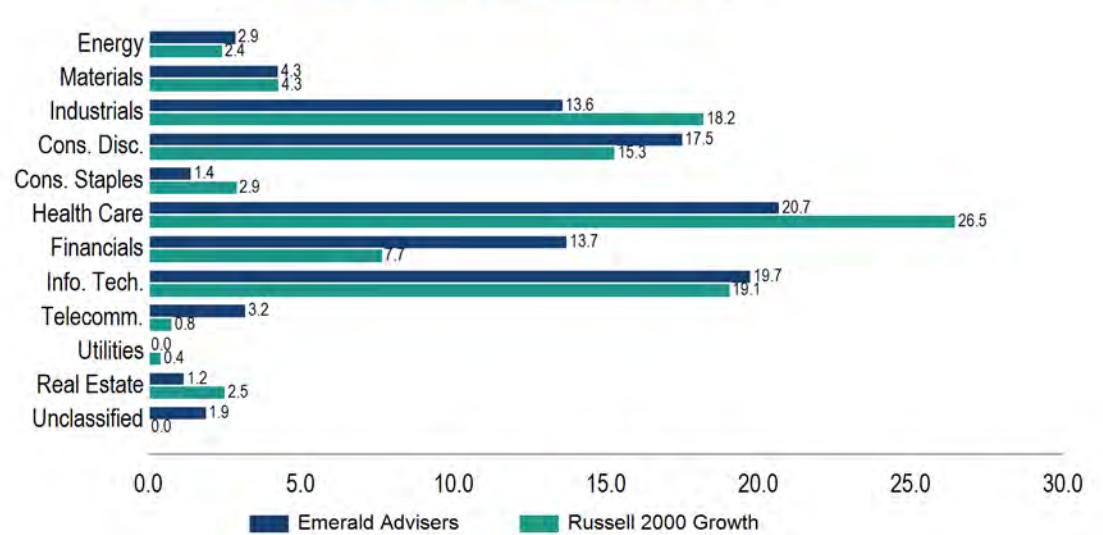
Period Ending: June 30, 2018

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	1,225
Weighted Avg. Market Cap. (\$B)	2.53	2.41
Median Market Cap. (\$B)	1.83	1.00
Price To Earnings	-5.46	19.23
Price To Book	6.06	5.25
Price To Sales	4.10	3.56
Return on Equity (%)	-5.07	5.61
Yield (%)	0.42	0.49
Beta	0.97	1.00

## Sector Allocation (%) vs Russell 2000 Growth



## Largest Holdings

	End Weight	Return
CHEGG	2.74	34.51
FCB FINANCIAL HDG.CL.A	2.40	15.07
VONAGE HOLDINGS	2.12	21.03
VARONIS SYSTEMS	2.06	23.14
CADENCE BANCORP.'A'	1.99	6.48
TREX	1.82	15.09
EPAM SYSTEMS	1.79	8.57
PROOFPOINT	1.77	1.46
FIVE BELOW	1.67	33.23
SAREPTA THERAPEUTICS	1.48	78.40

## Top Contributors

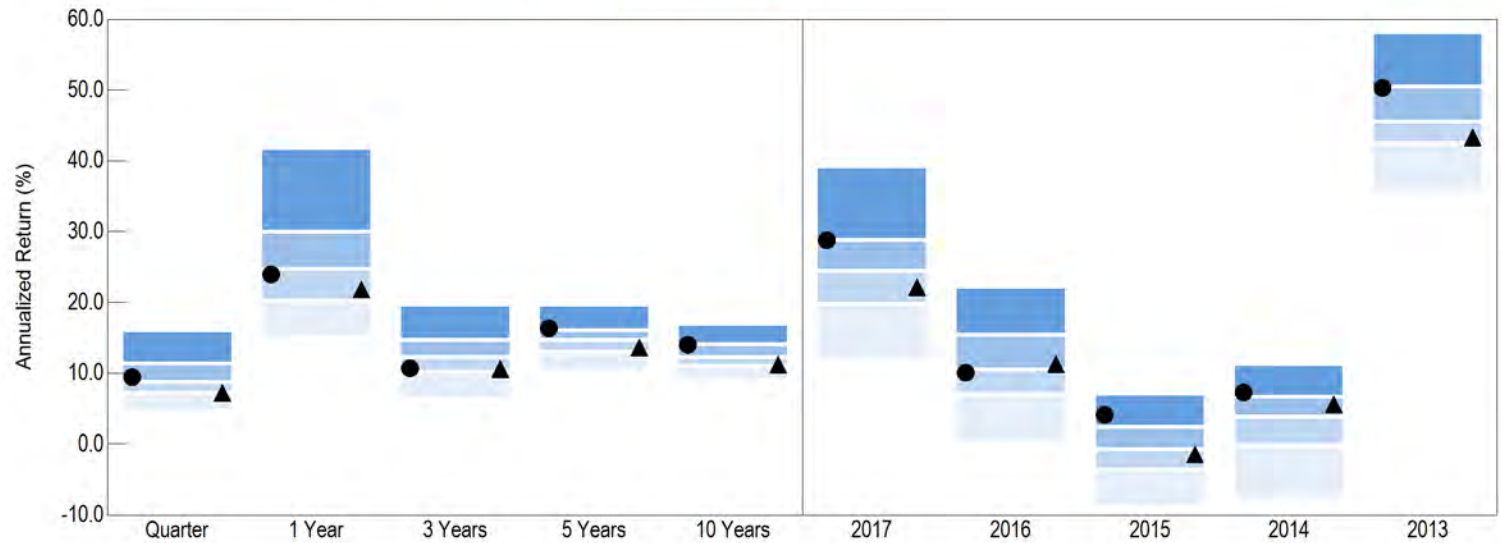
	Avg Wgt	Return	Contribution
CHEGG	2.47	34.51	0.85
SAREPTA THERAPEUTICS	1.02	78.40	0.80
TABULA RASA HEALTHCARE	0.71	64.51	0.46
TELADOC	1.03	44.04	0.46
FRESHPET	0.67	66.87	0.45
VARONIS SYSTEMS	1.90	23.14	0.44
FIVE BELOW	1.29	33.23	0.43
DECIPHERA PHARMS.	0.44	96.36	0.42
NUTRISYSTEM	0.93	43.99	0.41
VONAGE HOLDINGS	1.94	21.03	0.41

## Bottom Contributors

	Avg Wgt	Return	Contribution
LENDINGTREE	2.14	-34.85	-0.75
GTT COMMUNICATIONS	1.59	-20.63	-0.33
CLOUDERA	0.75	-36.79	-0.28
MERCURY SYSTEMS	0.98	-21.23	-0.21
CALLON PTL.DEL.	0.80	-18.88	-0.15
KENNAMETAL	1.39	-10.15	-0.14
TUTOR PERINI	0.85	-16.33	-0.14
DYCOM INDS.	1.04	-12.19	-0.13
PUMA BIOTECHNOLOGY	0.91	-13.08	-0.12
US CONCRETE	0.80	-13.08	-0.10

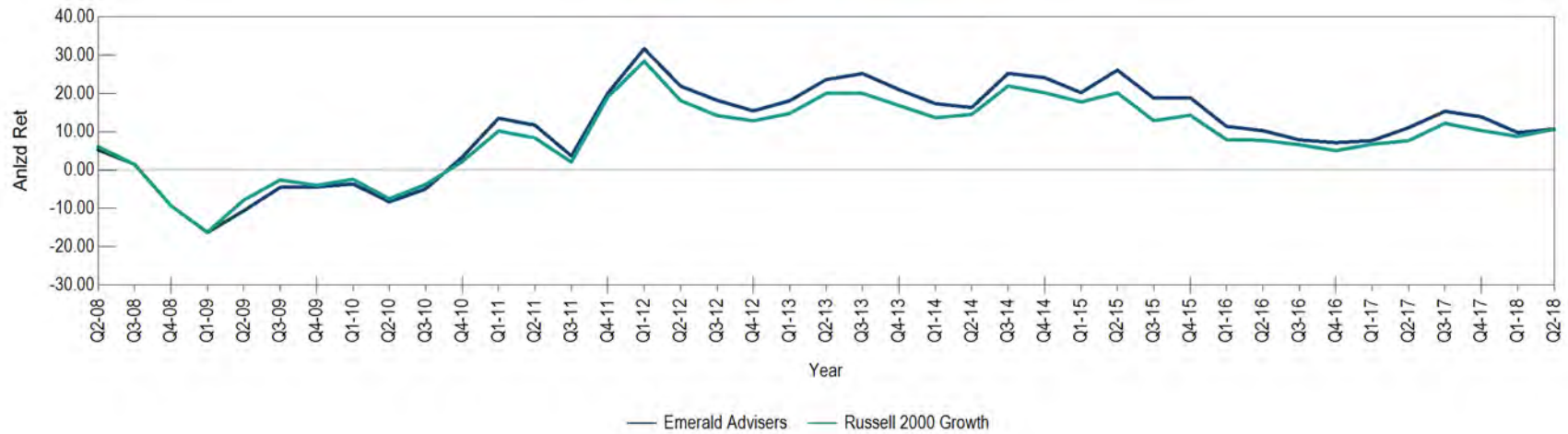
Unclassified sector allocation includes cash allocations.

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

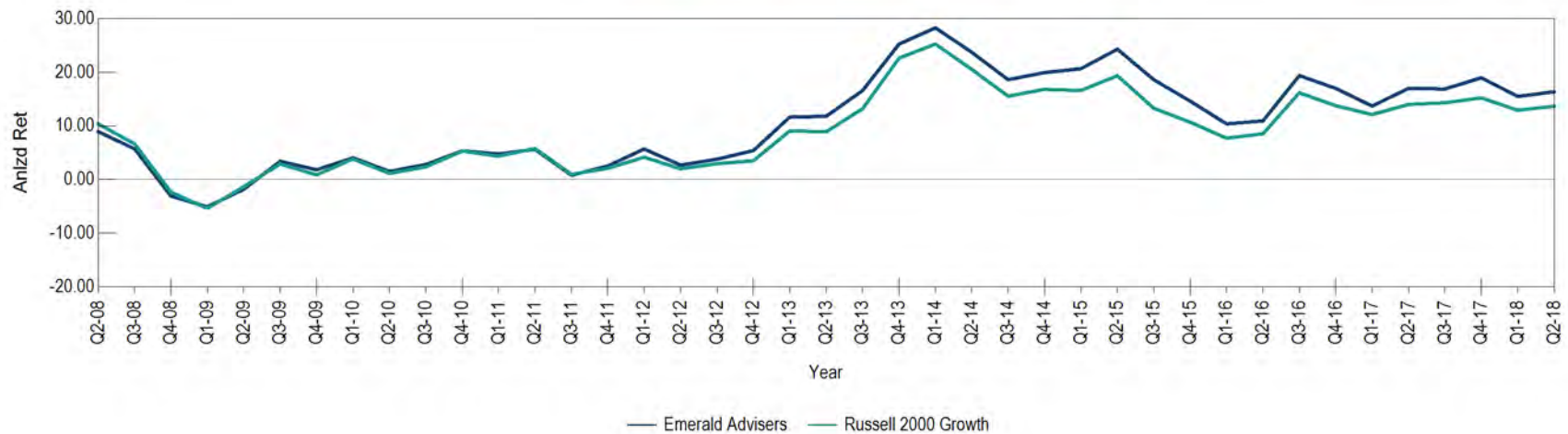


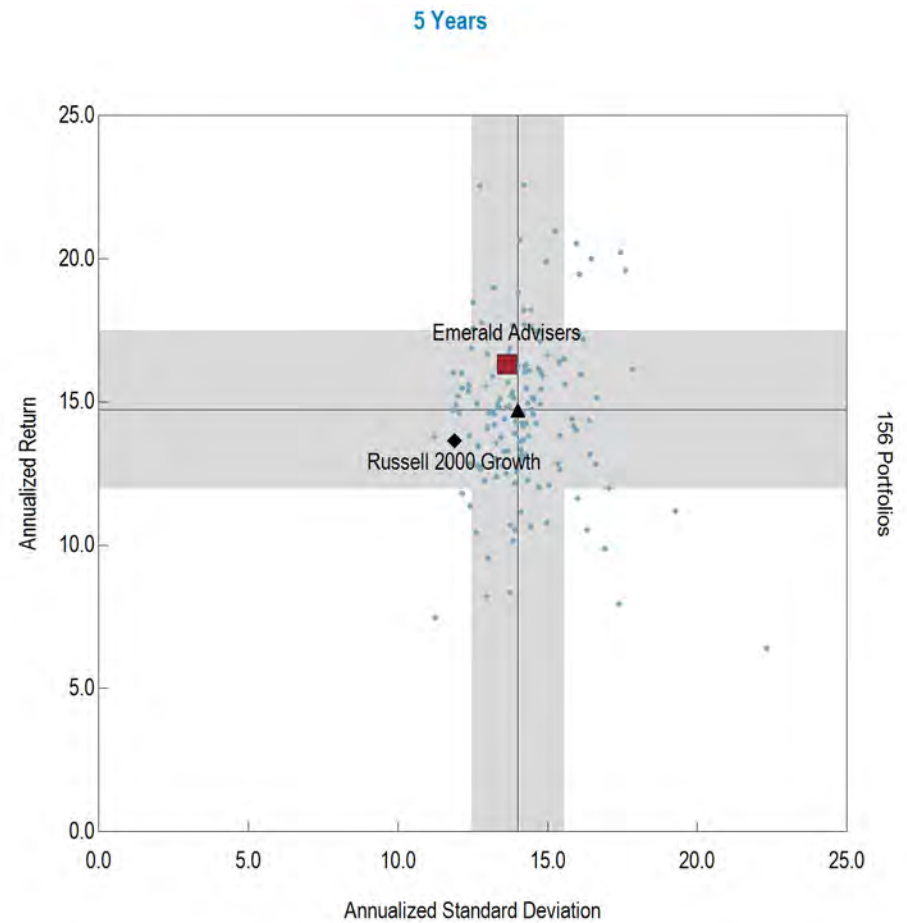
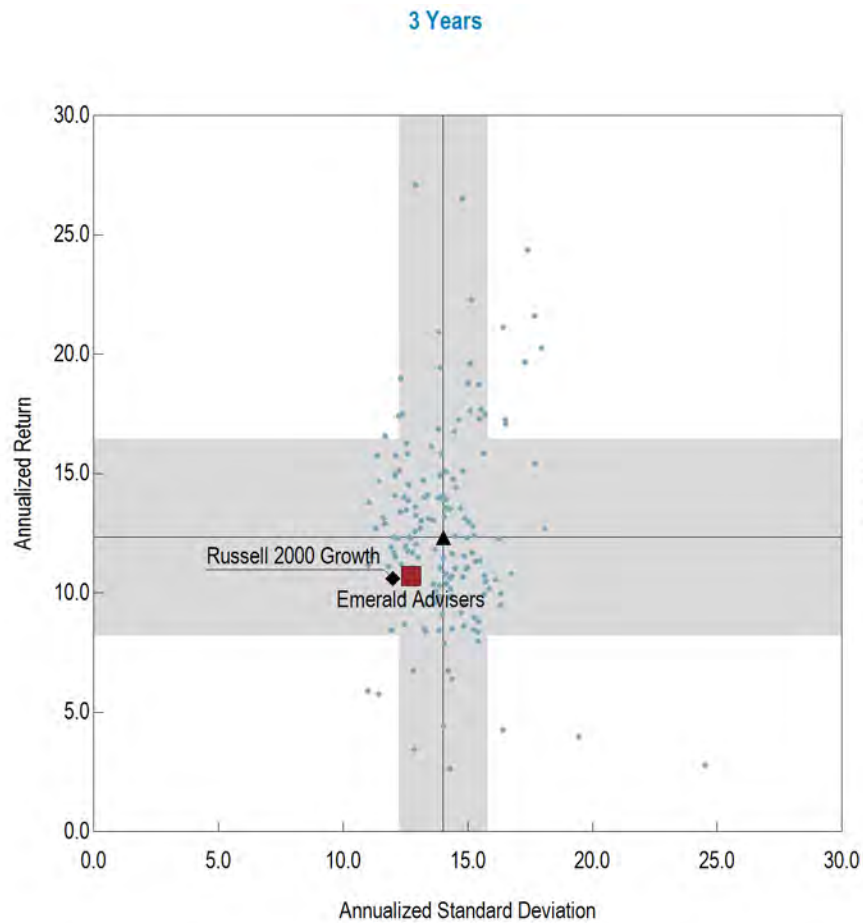
	Quarter	1 Year	3 Years	5 Years	10 Years	2017	2016	2015	2014	2013
<b>5th Percentile</b>	16.0	41.8	19.7	19.7	16.9	39.2	22.2	7.1	11.3	58.2
<b>25th Percentile</b>	11.4	30.0	14.7	16.1	14.1	28.9	15.5	2.5	6.7	50.6
<b>Median</b>	8.8	24.8	12.3	14.7	12.3	24.6	10.6	-0.6	3.9	45.6
<b>75th Percentile</b>	7.2	20.3	10.3	13.0	11.1	19.8	7.1	-3.5	-0.1	42.6
<b>95th Percentile</b>	4.7	15.2	6.5	10.4	9.1	12.1	0.2	-8.7	-7.6	35.6
<b># of Portfolios</b>	168	168	163	156	138	174	170	154	161	160
<b>● Emerald Advisers</b>	9.4 (42)	24.0 (56)	10.7 (71)	16.3 (22)	14.0 (26)	28.8 (26)	10.1 (54)	4.1 (19)	7.3 (21)	50.3 (27)
<b>▲ Russell 2000 Growth</b>	7.2 (75)	21.9 (70)	10.6 (72)	13.6 (69)	11.2 (72)	22.2 (62)	11.3 (49)	-1.4 (59)	5.6 (32)	43.3 (70)

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





	<b>3 Years</b>			<b>5 Years</b>			
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	
Emerald Advisers	10.7%	12.7%	0.8	Emerald Advisers	16.3%	13.6%	1.2
Russell 2000 Growth	10.6%	12.0%	0.8	Russell 2000 Growth	13.6%	11.9%	1.1
eV US Small Cap Growth Equity Gross Median	12.3%	14.0%	0.9	eV US Small Cap Growth Equity Gross Median	14.7%	14.0%	1.0



# Ceredex Manager Portfolio Overview

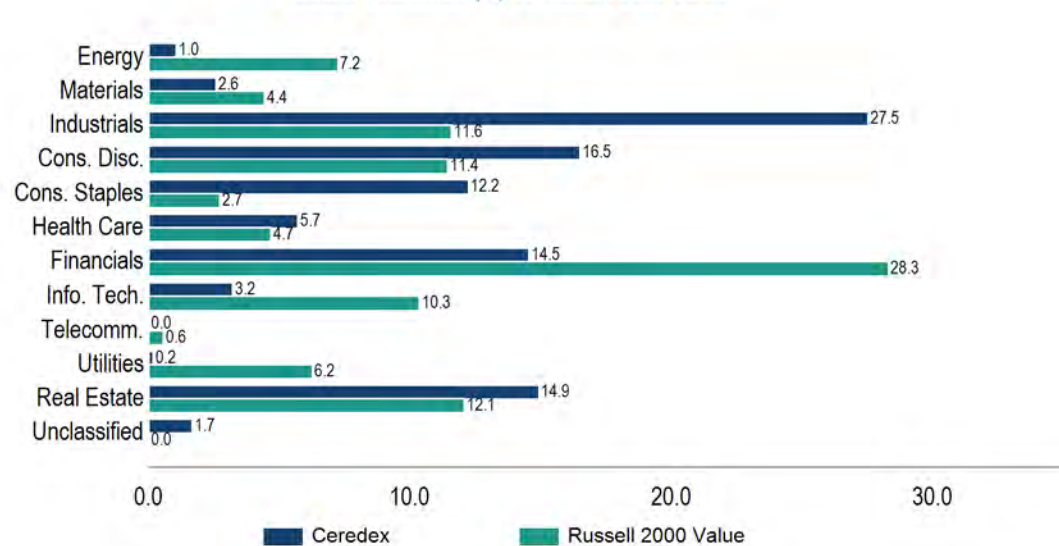
Period Ending: June 30, 2018

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	1,364
Weighted Avg. Market Cap. (\$B)	2.53	2.05
Median Market Cap. (\$B)	1.86	0.81
Price To Earnings	25.80	15.57
Price To Book	3.25	1.73
Price To Sales	2.31	2.59
Return on Equity (%)	16.28	7.16
Yield (%)	2.59	1.78
Beta	0.66	1.00

## Sector Allocation (%) vs Russell 2000 Value



## Largest Holdings

	End Weight	Return
ENERGIZER HOLDINGS	4.83	6.22
B & G FOODS	4.35	28.05
MEREDITH	4.09	-4.18
KEMPER	3.80	33.15
HILL-ROM HOLDINGS	3.66	0.61
TETRA TECH	3.20	19.78
EVERCORE A	3.18	21.48
EDUCATION REAL.TST.	3.05	28.24
AMER.EAG.OUTFITTERS	2.81	17.41
PHYSICIANS REALTY TST.	2.78	3.95

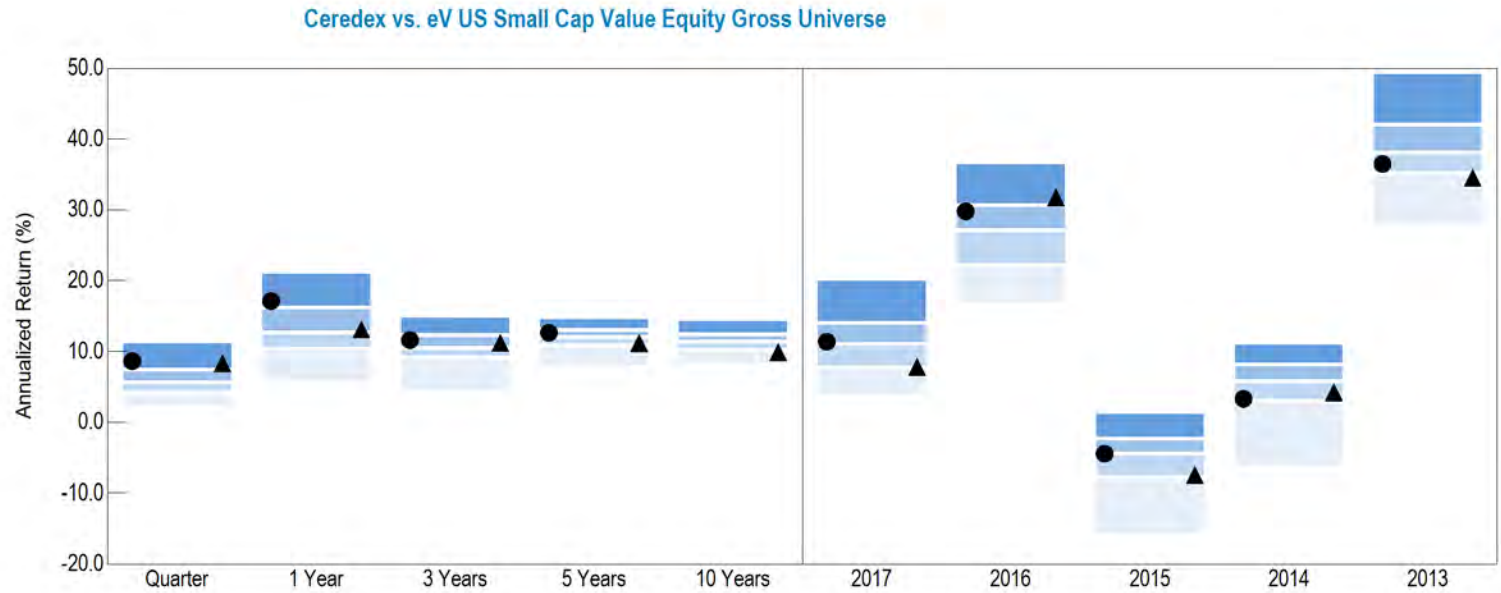
## Top Contributors

	Avg Wgt	Return	Contribution
KEMPER	3.33	33.15	1.10
B & G FOODS	3.49	28.05	0.98
EDUCATION REAL.TST.	2.63	28.24	0.74
EVERCORE A	3.09	21.48	0.66
PLANTRONICS	2.39	26.58	0.64
TETRA TECH	3.03	19.78	0.60
AMER.EAG.OUTFITTERS	2.63	17.41	0.46
SM ENERGY	0.95	42.79	0.41
COVANTA HOLDING	2.53	15.52	0.39
KFORCE	1.23	27.25	0.34

## Bottom Contributors

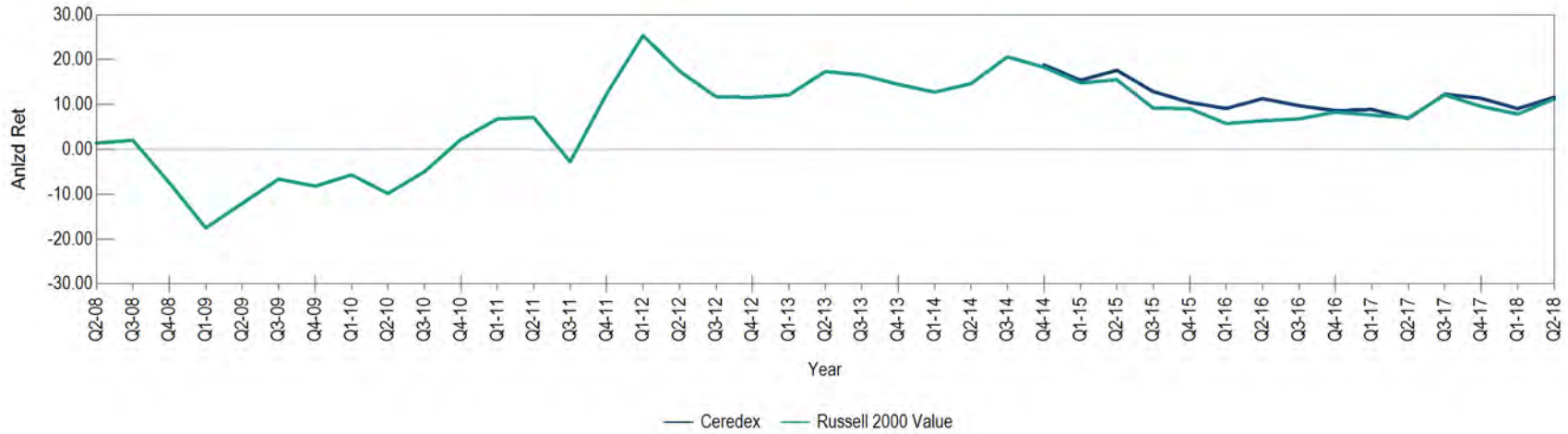
	Avg Wgt	Return	Contribution
KELLY SERVICES 'A'	1.63	-22.45	-0.37
BLOOMIN' BRANDS	1.45	-16.91	-0.24
MEREDITH	4.33	-4.18	-0.18
LITHIA MOTORS 'A'	2.20	-5.64	-0.12
SUN HYDRAULICS	0.81	-9.87	-0.08
CHICO'S FAS	0.82	-9.05	-0.07
ENPRO INDS.	0.79	-9.31	-0.07
HECLA MINING	1.25	-5.12	-0.06
KENNAMETAL	0.28	-10.15	-0.03
NN	0.14	-20.99	-0.03

Unclassified sector allocation includes cash allocations.

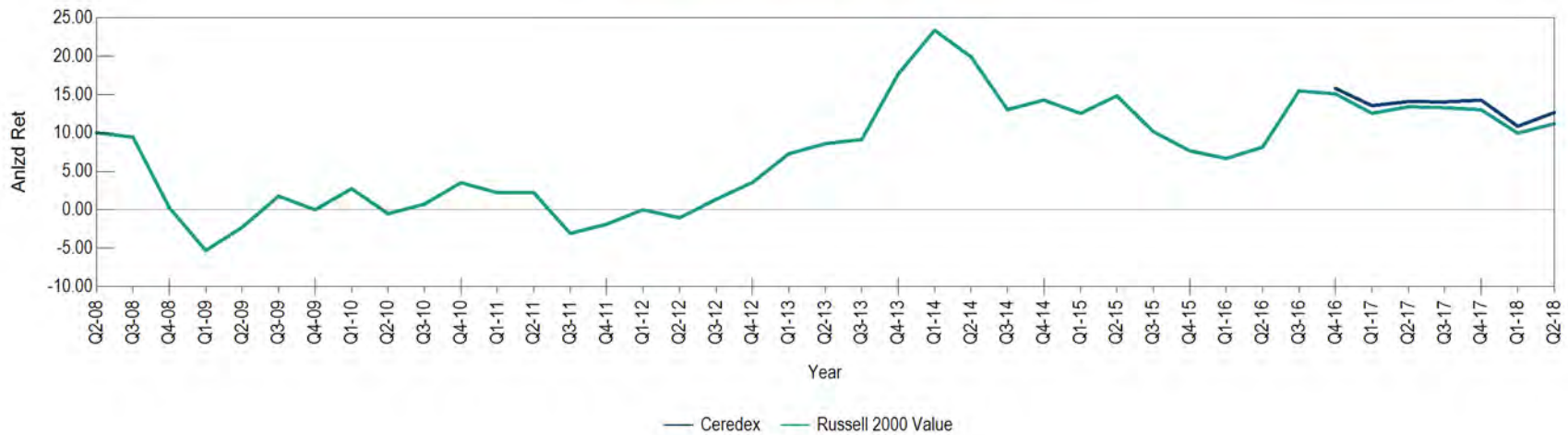


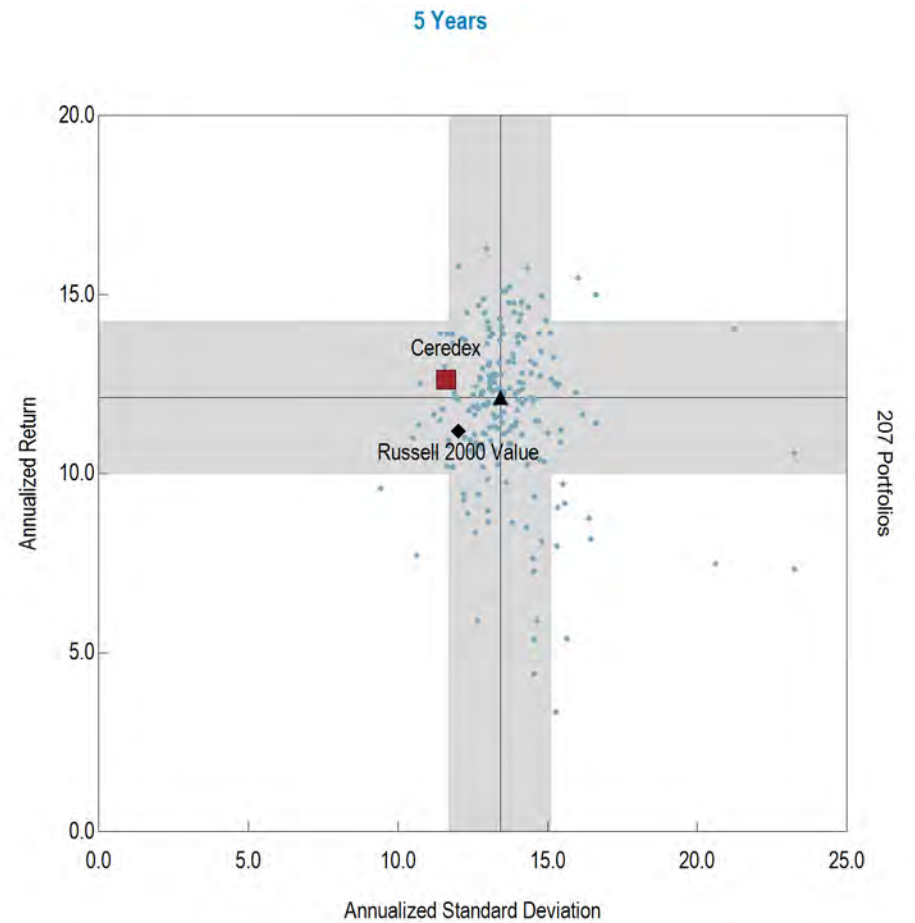
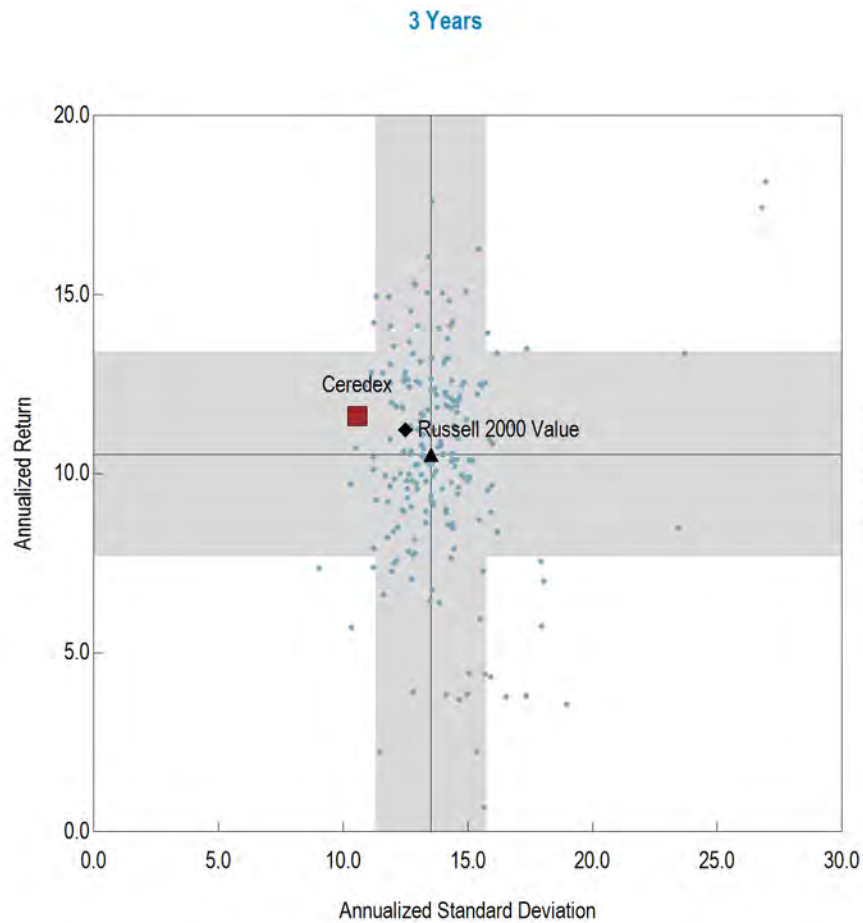
	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2017	2016	2015	2014	2013
5th Percentile	11.4	21.2	14.9	14.8	14.5	20.2	36.7	1.5	11.2	49.4
25th Percentile	7.5	16.3	12.4	13.1	12.5	14.1	30.7	-2.2	8.2	42.1
Median	5.7	12.8	10.5	12.1	11.5	11.1	27.2	-4.3	5.8	38.1
75th Percentile	4.3	10.4	9.2	10.9	10.2	7.8	22.2	-7.7	3.1	35.2
95th Percentile	2.3	5.6	4.4	7.8	8.2	3.7	16.8	-15.8	-6.3	27.8
# of Portfolios	223	223	215	207	178	224	222	212	206	199
● Ceredex	8.6 (16)	17.1 (19)	11.6 (36)	12.6 (35)	-- (--)	11.4 (48)	29.8 (32)	-4.4 (52)	3.3 (74)	36.5 (66)
▲ Russell 2000 Value	8.3 (19)	13.1 (47)	11.2 (42)	11.2 (69)	9.9 (84)	7.8 (75)	31.7 (17)	-7.5 (74)	4.2 (68)	34.5 (78)

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





**3 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Ceredex	11.6%	10.6%	1.0
Russell 2000 Value	11.2%	12.5%	0.8
eV US Small Cap Value Equity Gross Median	10.5%	13.5%	0.7

**5 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Ceredex	12.6%	11.6%	1.1
Russell 2000 Value	11.2%	12.0%	0.9
eV US Small Cap Value Equity Gross Median	12.1%	13.4%	0.9

# International Equity Managers

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# Pyrford Manager Portfolio Overview

Period Ending: June 30, 2018

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.

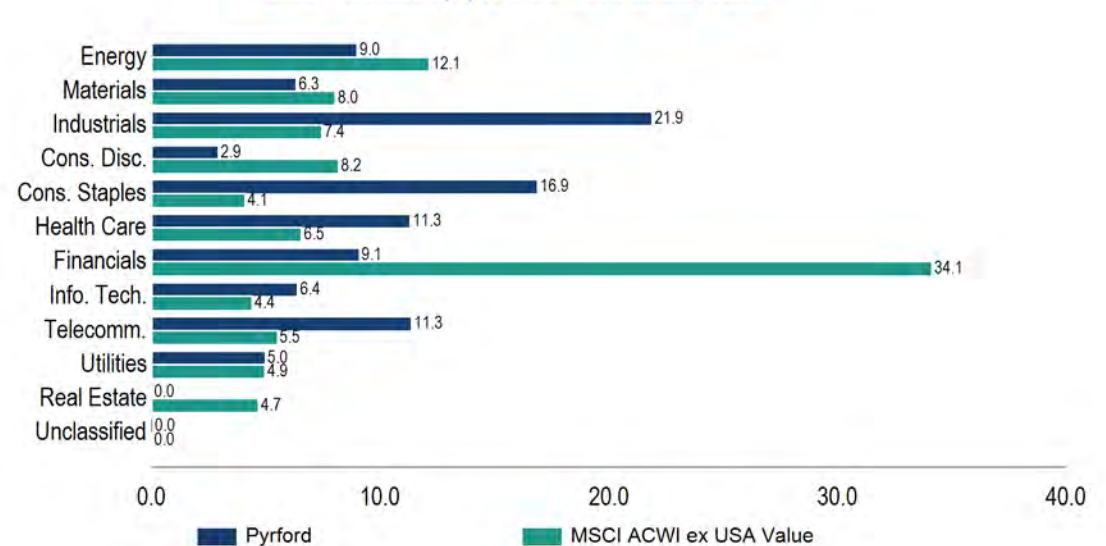
## Characteristics

	MSCI ACWI Portfolio	MSCI ACWI ex USA Value
Number of Holdings	74	1,267
Weighted Avg. Market Cap. (\$B)	60.21	57.58
Median Market Cap. (\$B)	24.39	6.98
Price To Earnings	21.21	13.94
Price To Book	3.40	1.49
Price To Sales	2.36	1.70
Return on Equity (%)	18.13	11.66
Yield (%)	3.67	4.06
Beta	0.63	1.00

## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	93.4%	75.3%
Emerging*	6.5%	24.7%
Cash	0.0%	
<b>Top 10 Largest Countries</b>		
Switzerland	14.5%	4.5%
United Kingdom	13.9%	16.4%
Australia	11.7%	4.8%
Japan	10.9%	16.7%
France	9.1%	7.0%
Netherlands	6.8%	1.2%
Germany	6.8%	5.2%
Sweden	5.5%	1.2%
Singapore	4.8%	0.9%
Taiwan*	4.0%	3.0%
<b>Total-Top 10 Largest Countries</b>	<b>87.9%</b>	<b>60.9%</b>

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



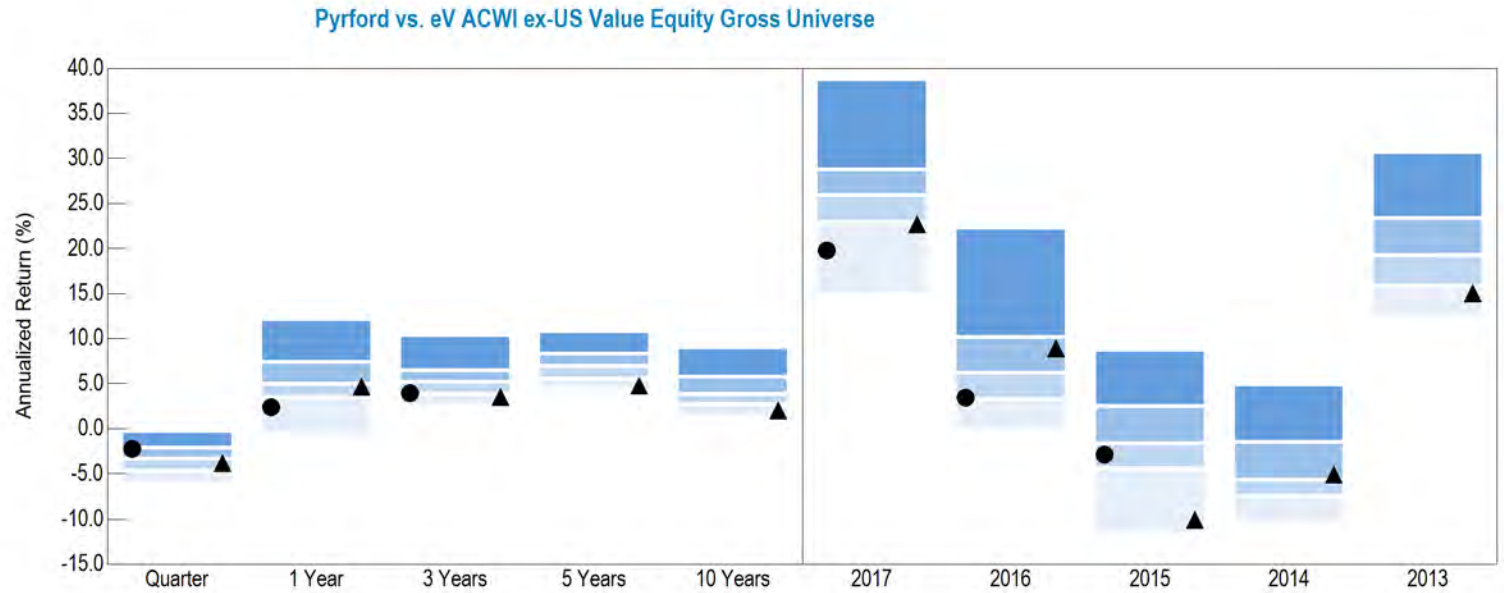
## Top Contributors

	Avg Wgt	Return	Contribution
WOODSIDE PETROLEUM	1.69	16.81	0.28
WOOLWORTHS GROUP	2.29	11.82	0.27
COMFORTDELGRO CORPORATION	1.63	13.28	0.22
SAP	1.50	12.04	0.18
ROYAL DUTCH SHELL A	1.46	11.06	0.16
KDDI	2.16	7.13	0.15
TOTAL	1.61	8.71	0.14
ROYAL DUTCH SHELL B	0.94	13.61	0.13
RIO TINTO	0.95	10.55	0.10
AIR LIQUIDE	1.82	5.32	0.10

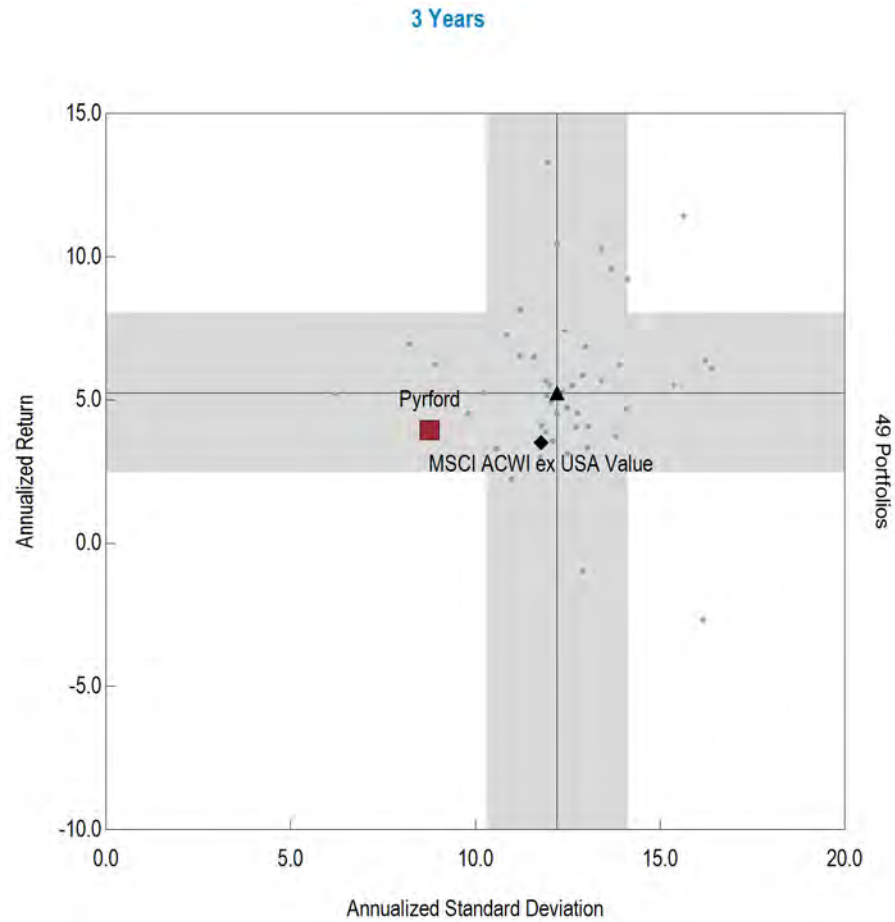
## Bottom Contributors

	Avg Wgt	Return	Contribution
AXIATA GROUP	1.67	-32.70	-0.55
BRAMBLES	2.35	-14.29	-0.34
DEUTSCHE POST	1.36	-23.06	-0.31
PROXIMUS	1.15	-25.31	-0.29
MALAYAN BANKING	1.62	-16.00	-0.26
mitsubishi electric	1.38	-16.80	-0.23
TAIWAN SEMICON.MNFG.	1.69	-12.75	-0.22
ABC-MART	1.21	-17.00	-0.21
SUMITOMO RUBBER INDS.	1.64	-11.94	-0.20
GEA GROUP	1.01	-17.95	-0.18

Unclassified sector allocation includes cash allocations.



	Return (Rank)													
5th Percentile	-0.3	12.1	10.4	10.8	9.0	38.8	22.3	8.7	4.9	30.7				
25th Percentile	-2.0	7.5	6.5	8.4	5.8	28.8	10.2	2.5	-1.4	23.4				
Median	-3.3	5.0	5.3	7.0	3.9	26.0	6.2	-1.6	-5.7	19.3				
75th Percentile	-4.6	3.6	3.9	5.6	2.8	23.0	3.3	-4.3	-7.4	15.9				
95th Percentile	-6.1	-0.7	2.5	4.4	1.3	15.0	-0.1	-11.6	-10.4	12.4				
# of Portfolios	52	52	49	40	27	56	55	45	37	34				
● Pyrford	-2.2 (29)	2.4 (82)	3.9 (75)	-- (--)	-- (--)	19.8 (84)	3.4 (74)	-2.9 (59)	-- (--)	-- (--)				
▲ MSCI ACWI ex USA Value	-3.8 (65)	4.6 (57)	3.5 (82)	4.8 (91)	2.0 (87)	22.7 (77)	8.9 (35)	-10.1 (93)	-5.1 (49)	15.0 (83)				



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Pyrford	3.9%	8.8%	0.4
MSCI ACWI ex USA Value	3.5%	11.8%	0.2
eV ACWI ex-US Value Equity Gross Median	5.3%	12.2%	0.4



# William Blair Manager Portfolio Overview

Period Ending: June 30, 2018

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.

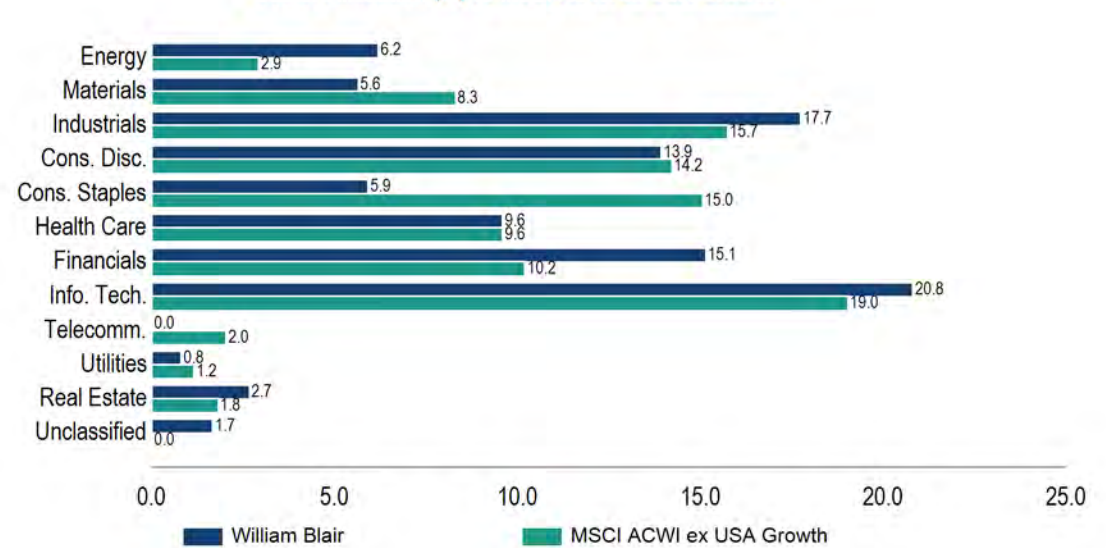
## Characteristics

	Portfolio	MSCI ACWI ex USA Growth
Number of Holdings	196	1,142
Weighted Avg. Market Cap. (\$B)	54.08	68.64
Median Market Cap. (\$B)	8.98	8.75
Price To Earnings	29.71	24.37
Price To Book	5.73	4.38
Price To Sales	4.46	3.03
Return on Equity (%)	24.90	20.00
Yield (%)	1.71	1.93
Beta	0.92	1.00

## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	83.9%	75.1%
Emerging*	14.4%	24.9%
Frontier**	0.1%	0.0%
<b>Top 10 Largest Countries</b>		
Japan	14.8%	16.7%
France	14.1%	8.0%
United Kingdom	12.9%	8.4%
Hong Kong	7.2%	2.5%
China*	5.7%	8.3%
Canada	4.9%	6.6%
Germany	4.7%	7.7%
Sweden	3.8%	2.3%
Netherlands	3.3%	3.7%
Denmark	3.3%	1.9%
<b>Total-Top 10 Largest Countries</b>	<b>74.8%</b>	<b>65.8%</b>

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



## Top Contributors

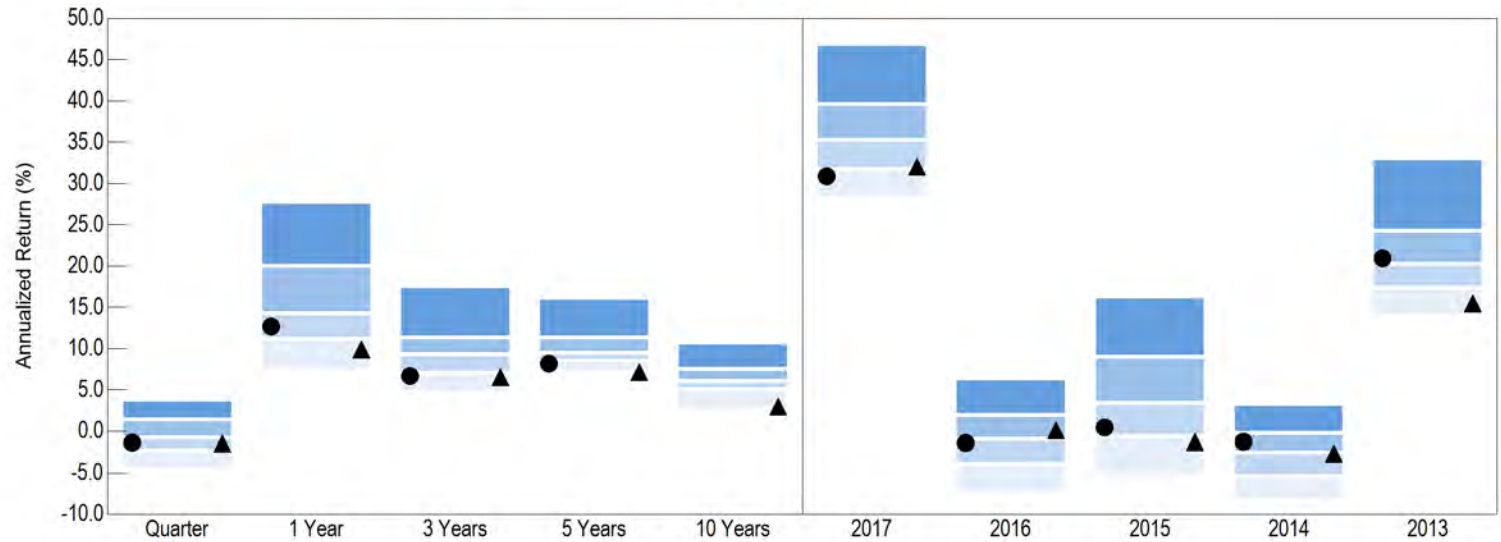
	Avg Wgt	Return	Contribution
KERING	1.23	28.09	0.35
SUNCOR ENERGY	1.30	18.67	0.24
SHISEIDO	0.80	24.20	0.19
TOTAL	1.98	8.71	0.17
LONZA GROUP	1.07	14.02	0.15
WIRECARD	0.37	36.94	0.14
MTU AERO ENGINES HLDG.	0.80	15.86	0.13
DAIKIN INDUSTRIES	1.18	8.57	0.10
INFOSYS	0.69	12.65	0.09
ARISTOCRAT LEISURE	0.35	24.48	0.09

## Bottom Contributors

	Avg Wgt	Return	Contribution
ITAU UNIBANCO HOLDING PN	1.69	-32.02	-0.54
NINTENDO	1.31	-25.83	-0.34
FANUC	1.20	-21.63	-0.26
TAIWAN SEMICON.SPN.ADR 1:5	1.54	-13.37	-0.21
GALAXY ENTERTAINMENT GP.	1.26	-14.71	-0.18
INDL&COML.BOC.'H'	1.36	-12.75	-0.17
KOMATSU	1.09	-14.25	-0.15
MITSUBISHI UFJ FINL.GP.	1.09	-13.06	-0.14
SAMSUNG ELECTRONICS	1.51	-9.35	-0.14
PING AN INSURANCE (GROUP) OF CHINA 'H'	1.75	-7.82	-0.14

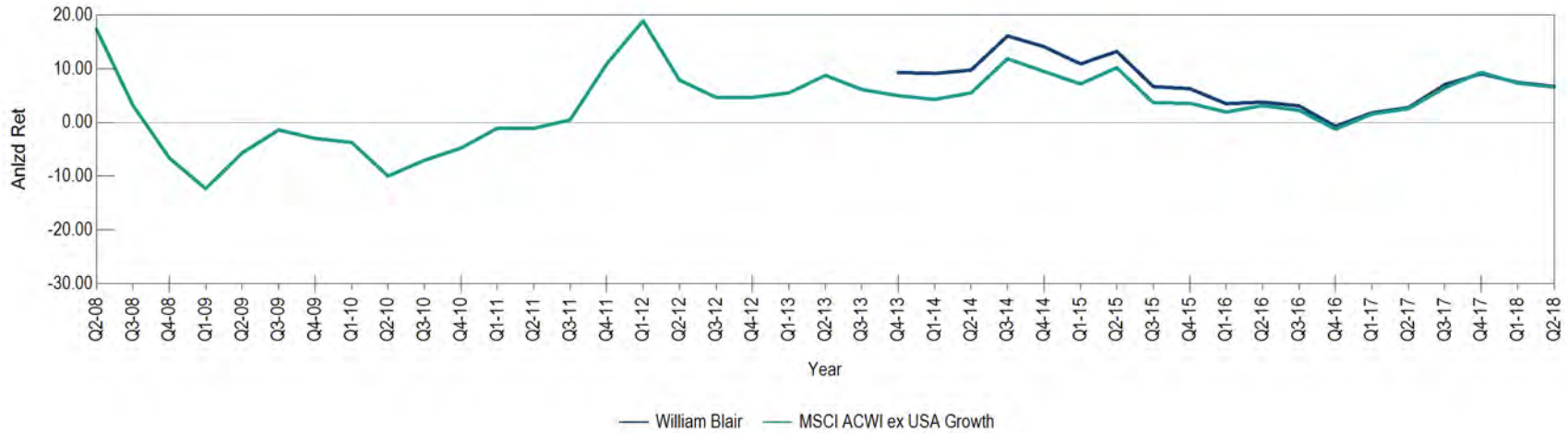
Unclassified sector allocation includes cash allocations.

William Blair vs. eV ACWI ex-US Growth Equity Gross Universe

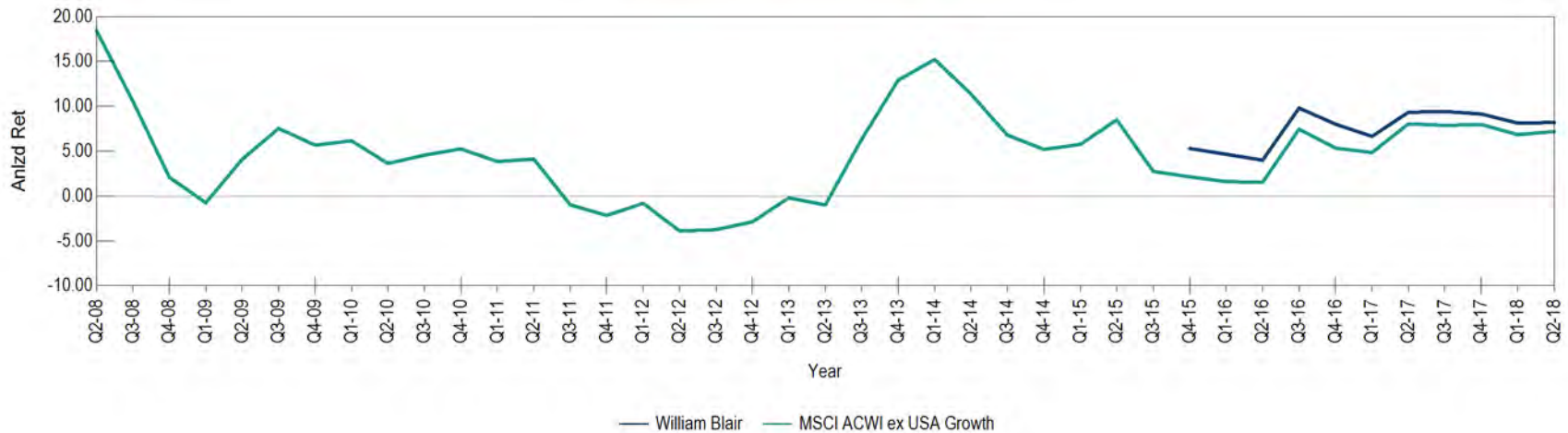


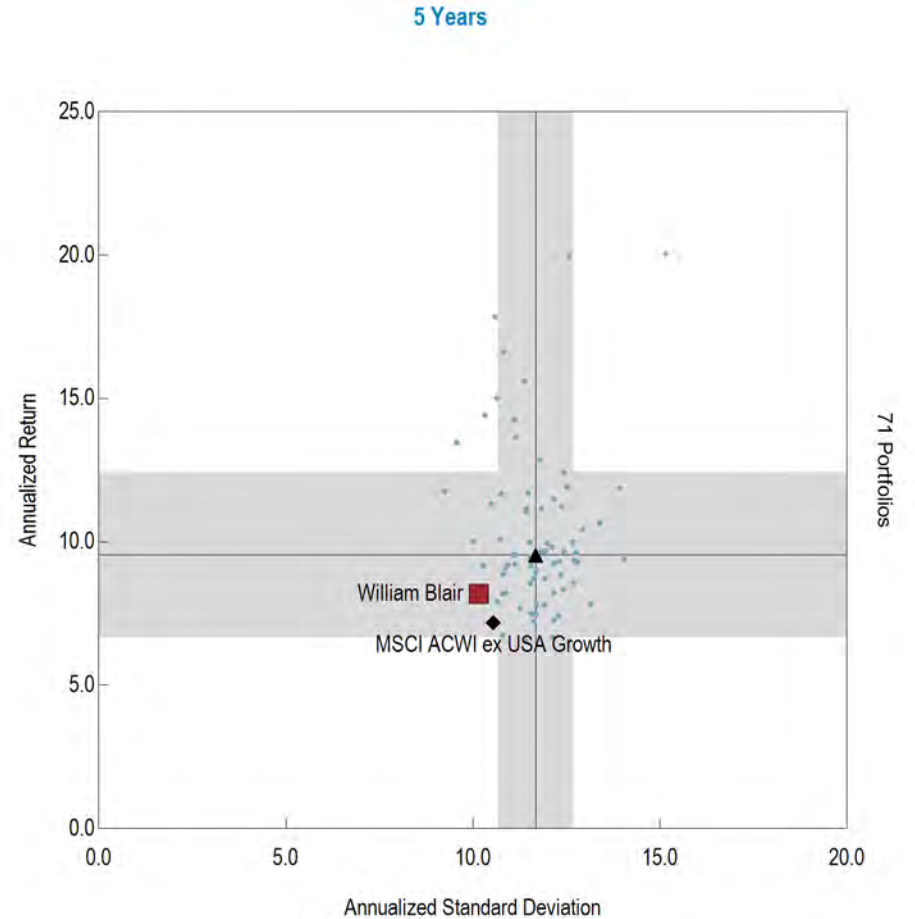
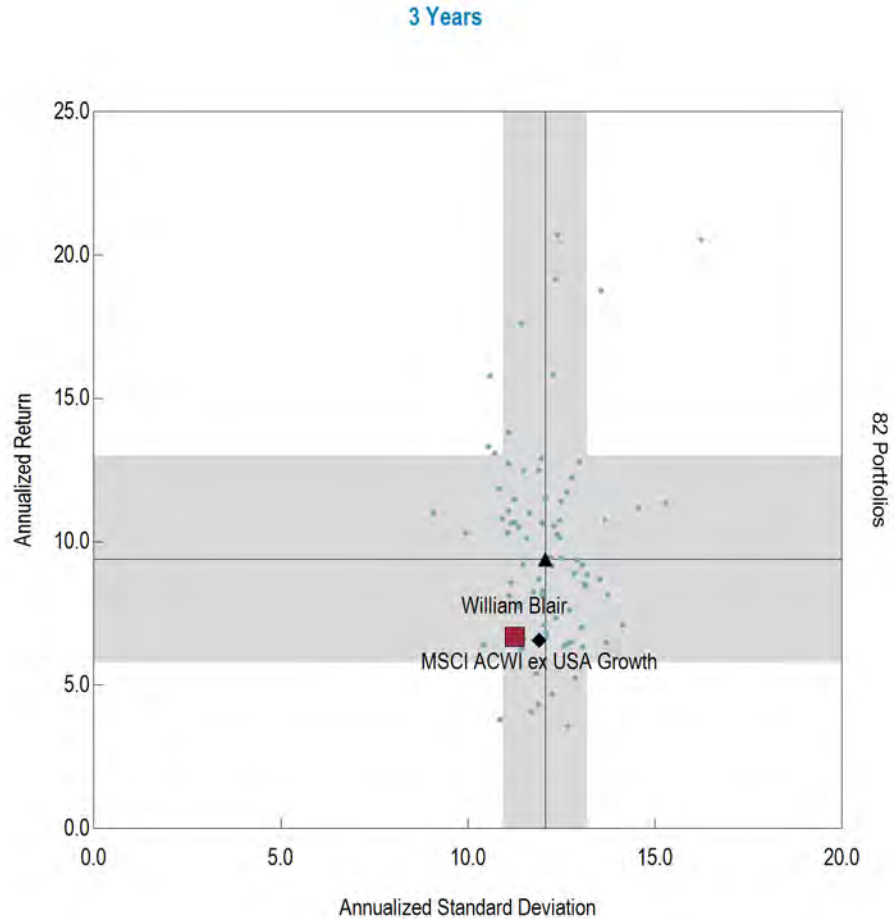
	Return (Rank)									
5th Percentile	3.8	27.7	17.5	16.1	10.7	46.8	6.3	16.3	3.2	33.0
25th Percentile	1.4	20.1	11.4	11.4	7.6	39.6	2.0	9.0	-0.1	24.3
Median	-0.7	14.3	9.4	9.5	6.1	35.3	-0.9	3.5	-2.5	20.3
75th Percentile	-2.2	11.2	7.1	8.6	5.1	31.8	-3.9	-0.5	-5.3	17.5
95th Percentile	-4.5	7.4	4.7	7.2	2.7	28.3	-7.4	-5.4	-8.2	14.0
# of Portfolios	86	86	82	71	56	94	90	70	50	46
● William Blair	-1.3 (66)	12.7 (64)	6.7 (80)	8.2 (82)	-- (--)	30.9 (81)	-1.4 (55)	0.5 (69)	-1.2 (37)	20.9 (44)
▲ MSCI ACWI ex USA Growth	-1.4 (67)	9.9 (84)	6.6 (81)	7.2 (96)	3.0 (94)	32.0 (75)	0.1 (45)	-1.3 (83)	-2.6 (53)	15.5 (87)

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	6.7%	11.2%	0.5	William Blair	8.2%	10.2%	0.8
MSCI ACWI ex USA Growth	6.6%	11.9%	0.5	MSCI ACWI ex USA Growth	7.2%	10.6%	0.6
eV ACWI ex-US Growth Equity Gross Median	9.4%	12.1%	0.7	eV ACWI ex-US Growth Equity Gross Median	9.5%	11.7%	0.8

# PIMCO RAE Emerging Markets Manager Portfolio Overview

Period Ending: June 30, 2018

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.

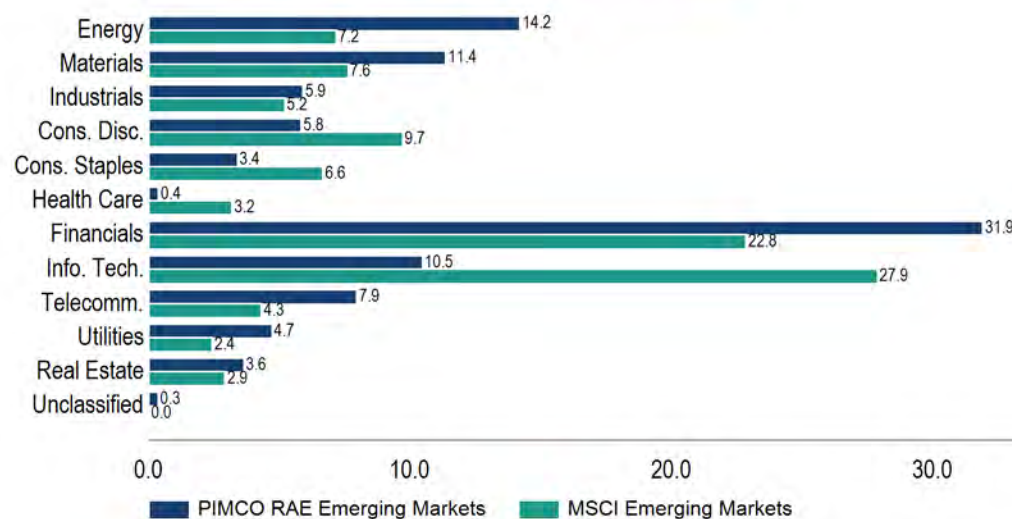
## Characteristics

	Portfolio	MSCI Emerging Markets
Number of Holdings	600	1,138
Weighted Avg. Market Cap. (\$B)	37.55	87.78
Median Market Cap. (\$B)	3.65	5.47
Price To Earnings	13.52	19.43
Price To Book	1.31	2.63
Price To Sales	1.21	2.53
Return on Equity (%)	11.57	18.65
Yield (%)	3.73	2.52
Beta		1.00

## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	11.3%	0.0%
Emerging*	88.4%	100.0%
<b>Top 10 Largest Countries</b>		
Korea*	20.1%	14.7%
China*	18.9%	32.7%
Hong Kong	10.7%	0.0%
Russia*	10.0%	3.4%
Taiwan*	9.9%	11.6%
Brazil*	5.6%	5.9%
South Africa*	4.9%	6.4%
India*	4.5%	8.6%
Thailand*	2.8%	2.2%
Turkey*	2.5%	0.8%
<b>Total-Top 10 Largest Countries</b>	<b>90.0%</b>	<b>86.4%</b>

## Sector Allocation (%) vs MSCI Emerging Markets



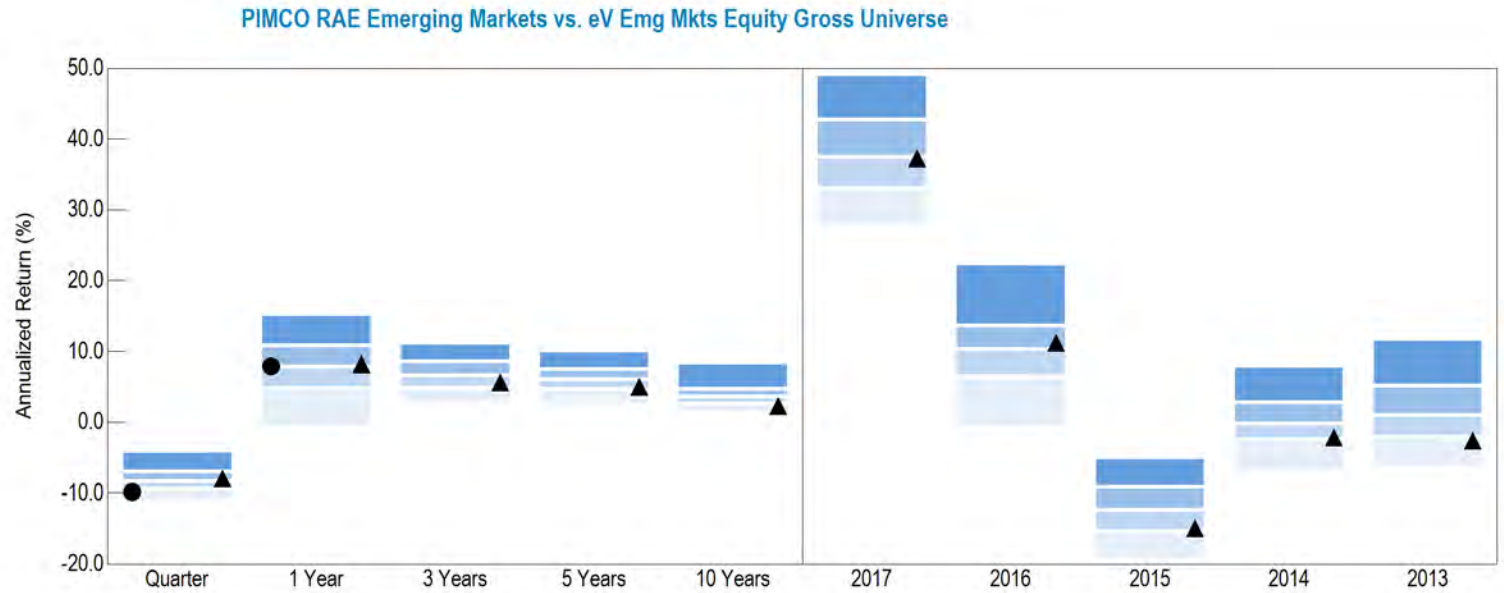
## Top Contributors

	End Weight	Return	Contribution
YAGEO	0.40	106.11	0.42
CNOOC	1.55	19.78	0.31
INDAH KIAT PULP & PAPER	0.25	62.45	0.16
CHINA PTL.& CHM. 'H'	0.99	8.61	0.09
SASOL	1.00	7.81	0.08
CHINA RESOURCES BEER HOLDINGS	0.61	12.37	0.08
KOREA GAS	0.28	26.73	0.07
PETROCHINA 'H'	0.52	12.12	0.06
KUMHO TIRES	0.19	30.77	0.06
SINOTRUK (HONG KONG)	0.14	39.12	0.05

## Bottom Contributors

	End Weight	Return	Contribution
CHINA CON.BANK 'H'	4.08	-10.02	-0.41
PJSC GAZPROM ADR (LON)	3.33	-9.56	-0.32
SAMSUNG ELECTRONICS	3.25	-9.35	-0.30
INDL&COML.BOC.'H'	2.28	-12.75	-0.29
LG ELECTRONICS	0.76	-27.51	-0.21
BANCO DO BRASIL ON	0.46	-39.11	-0.18
HYUNDAI MOTOR	1.10	-16.36	-0.18
BANK OF CHINA 'H'	2.21	-7.79	-0.17
ITAU UNIBANCO BANCO HLDG.ADR 1:1	0.45	-33.40	-0.15
PETROLEO BRASILEIRO ADR 1:2	0.52	-28.95	-0.15

Unclassified sector allocation includes cash allocations.



	Return (Rank)																
5th Percentile	-4.1	15.3	11.2	10.1	8.3	49.2	22.4	-5.0	8.0	11.7							
25th Percentile	-6.9	10.9	8.6	7.6	4.8	42.8	13.7	-9.0	2.9	5.2							
Median	-8.2	7.9	6.7	6.1	3.7	37.6	10.4	-12.2	-0.1	1.0							
75th Percentile	-9.4	4.8	5.0	4.8	2.7	33.2	6.6	-15.3	-2.4	-2.0							
95th Percentile	-11.1	-0.6	2.6	2.5	1.3	27.8	-0.6	-19.2	-7.0	-6.3							
# of Portfolios	344	343	325	280	140	343	337	273	251	198							
● PIMCO RAE Emerging Markets	-9.8 (84)	7.9 (51)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)							
▲ MSCI Emerging Markets	-8.0 (45)	8.2 (48)	5.6 (67)	5.0 (69)	2.3 (85)	37.3 (53)	11.2 (45)	-14.9 (70)	-2.2 (74)	-2.6 (80)							

# TT Emerging Markets Manager Portfolio Overview

Period Ending: June 30, 2018

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.

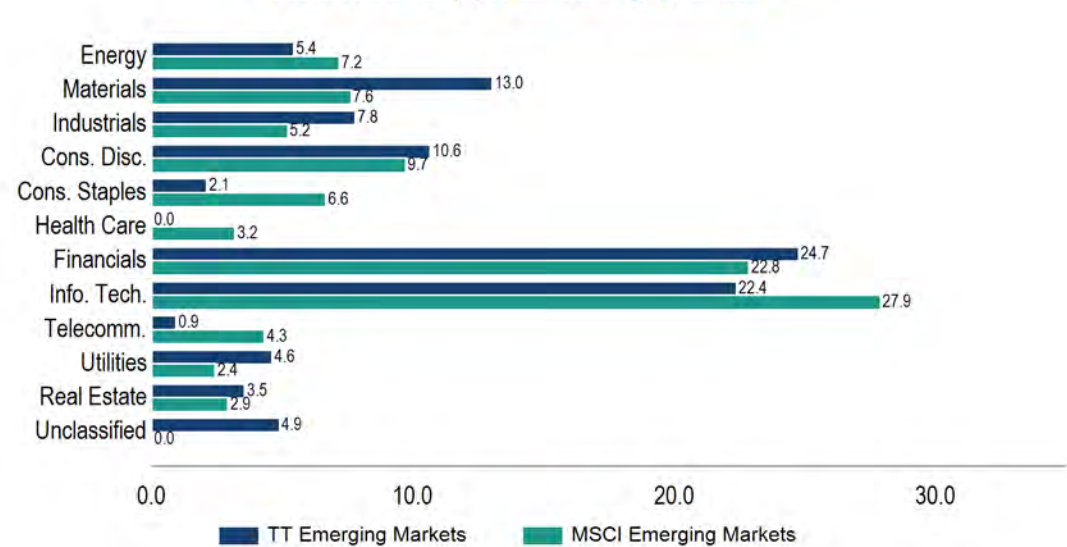
## Characteristics

	Portfolio	MSCI Emerging Markets
Number of Holdings	60	1,138
Weighted Avg. Market Cap. (\$B)	76.97	87.78
Median Market Cap. (\$B)	5.35	5.47
Price To Earnings	18.11	19.43
Price To Book	3.43	2.63
Price To Sales	3.99	2.53
Return on Equity (%)	22.62	18.65
Yield (%)	2.52	2.52
Beta		1.00

## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	14.4%	0.0%
Emerging*	81.2%	100.0%
Frontier**	2.5%	0.0%
<b>Top 10 Largest Countries</b>		
China*	18.0%	32.7%
Korea*	17.5%	14.7%
India*	12.6%	8.6%
Hong Kong	8.0%	0.0%
Russia*	7.5%	3.4%
Taiwan*	6.8%	11.6%
Brazil*	6.1%	5.9%
South Africa*	5.9%	6.4%
Mexico*	3.6%	2.9%
United Kingdom	3.1%	0.0%
<b>Total-Top 10 Largest Countries</b>	<b>89.1%</b>	<b>86.3%</b>

## Sector Allocation (%) vs MSCI Emerging Markets



## Top Contributors

	End Weight	Return	Contribution
CNOOC	2.40	19.78	0.47
SUZANO PAPEL E CELULOSE ON	1.13	17.01	0.19
EDELWEISS FNSR.	1.08	17.69	0.19
GRUMA	2.09	8.67	0.18
NASPERS	4.13	4.18	0.17
PAO NOVATEK GDR	1.47	9.38	0.14
TERNIUM SPN.ADR 1:10	1.33	10.13	0.13
MONDI	1.67	7.49	0.13
GODREJ INDUSTRIES	1.56	7.97	0.12
PVR	1.03	7.65	0.08

## Bottom Contributors

	End Weight	Return	Contribution
BANCO DO BRASIL ON	1.58	-39.11	-0.62
BANCO MACRO 'B' SPN.ADR 1:10	1.28	-44.08	-0.56
CHINA PACIFIC INSURANCE (GROUP) 'H'	4.57	-11.05	-0.51
PAMPA ENERGIA ADR 1:25	1.25	-39.98	-0.50
CIA SANEAMENTO DO PARANA UNITS	1.56	-31.61	-0.49
HANA FINANCIAL GROUP	3.96	-10.42	-0.41
CIA ENERGETICA DE MINAS GERAIS PN	1.79	-21.56	-0.39
CHINA CON.BANK 'H'	3.82	-10.02	-0.38
SAMSUNG ELTN.PREF.	3.25	-11.74	-0.38
DALMIA BHARAT	1.43	-24.48	-0.35

Unclassified sector allocation includes cash allocations.

## Global Equity Managers

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# Artisan Partners Manager Portfolio Overview

Period Ending: June 30, 2018

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

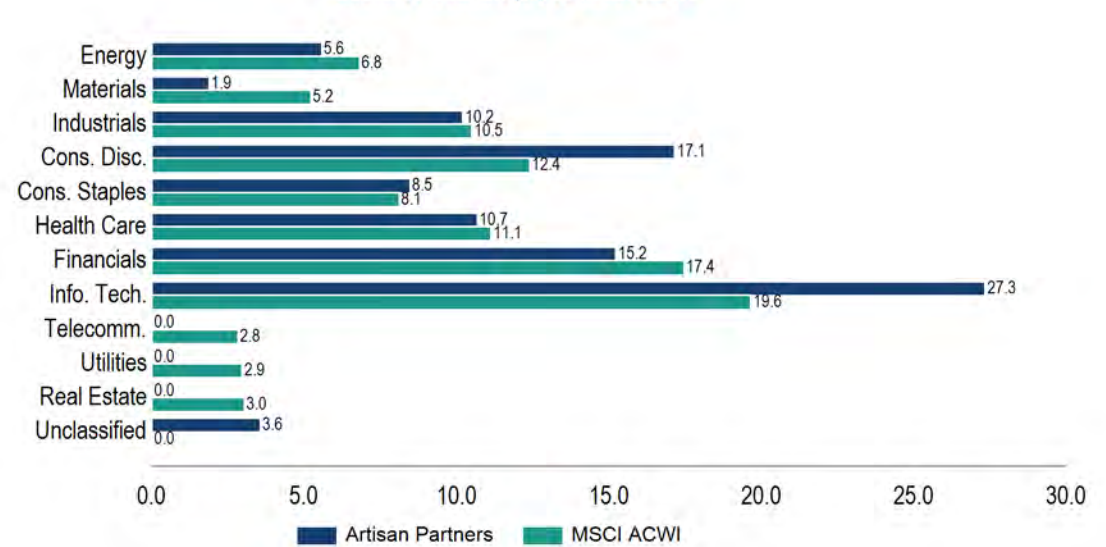
## Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	47	2,781
Weighted Avg. Market Cap. (\$B)	77.21	131.78
Median Market Cap. (\$B)	33.13	9.84
Price To Earnings	40.13	21.28
Price To Book	6.50	3.74
Price To Sales	6.12	3.15
Return on Equity (%)	20.31	17.96
Yield (%)	1.14	2.39
Beta	1.14	1.00

## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	91.9%	88.6%
Emerging*	4.6%	11.4%
<b>Top 10 Largest Countries</b>		
United States	49.4%	54.0%
Japan	7.8%	7.7%
United Kingdom	6.9%	5.7%
Hong Kong	6.7%	1.1%
Netherlands	4.3%	1.1%
Switzerland	4.3%	2.4%
Cash	3.6%	0.0%
Australia	3.3%	2.2%
Spain	2.3%	1.0%
India*	2.3%	1.0%
<b>Total-Top 10 Largest Countries</b>	<b>90.9%</b>	<b>76.2%</b>

## Sector Allocation (%) vs MSCI ACWI



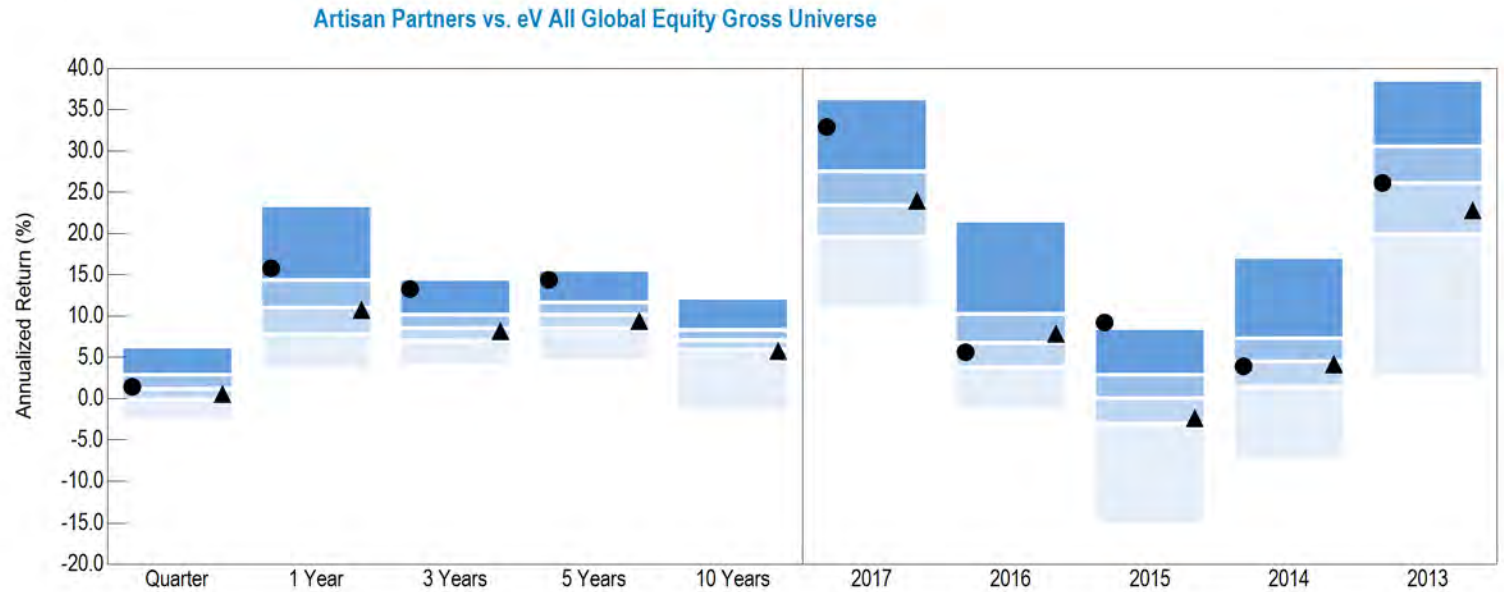
## Top Contributors

	Avg Wgt	Return	Contribution
SHISEIDO	3.05	24.20	0.74
VISA 'A'	5.72	10.90	0.62
TEMENOS N	1.92	27.01	0.52
BOSTON SCIENTIFIC	2.37	19.69	0.47
FEVERTREE DRINKS	2.07	21.56	0.45
IHS MARKIT	6.26	6.94	0.43
NOBLE ENERGY	2.38	16.83	0.40
FACEBOOK CLASS A	1.44	21.61	0.31
INTERTEK GROUP	1.73	16.52	0.29
SALESFORCE.COM	1.51	17.28	0.26

## Bottom Contributors

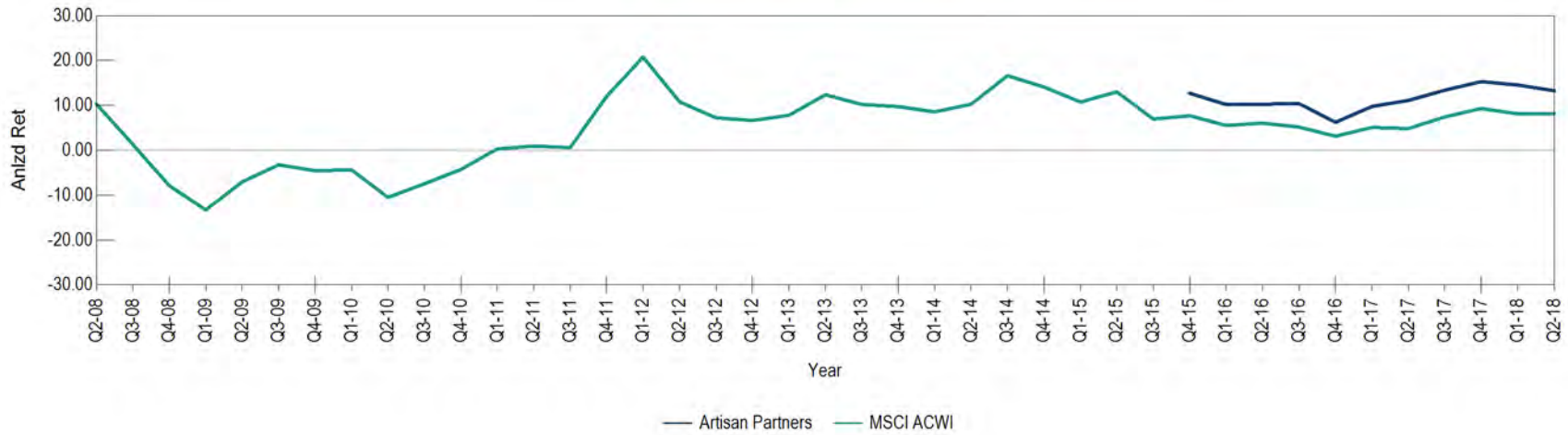
	Avg Wgt	Return	Contribution
GENMAB	3.49	-27.94	-0.98
NINTENDO	2.55	-25.83	-0.66
LKQ	2.60	-15.94	-0.42
DAIFUKU	1.51	-26.82	-0.40
CIELO ON	0.87	-31.03	-0.27
ING GROEP	2.22	-11.94	-0.26
SAMSONITE INTERNATIONAL	1.01	-20.64	-0.21
STATE STREET	3.28	-6.24	-0.20
BANK OF AMERICA	3.36	-5.61	-0.19
KEYENCE	1.58	-9.05	-0.14

Unclassified sector allocation includes cash allocations.

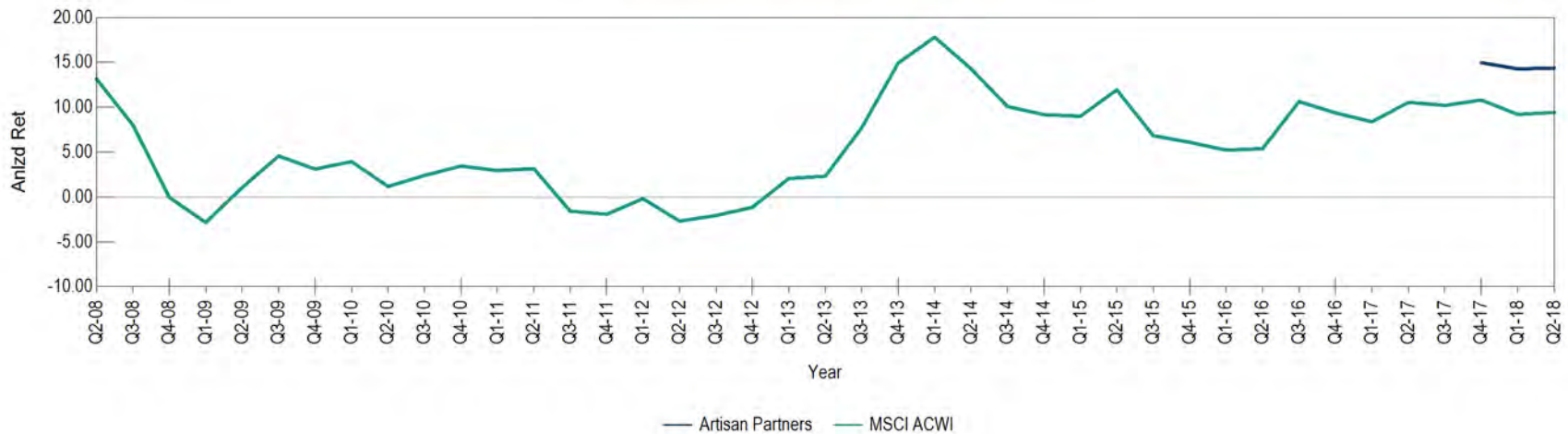


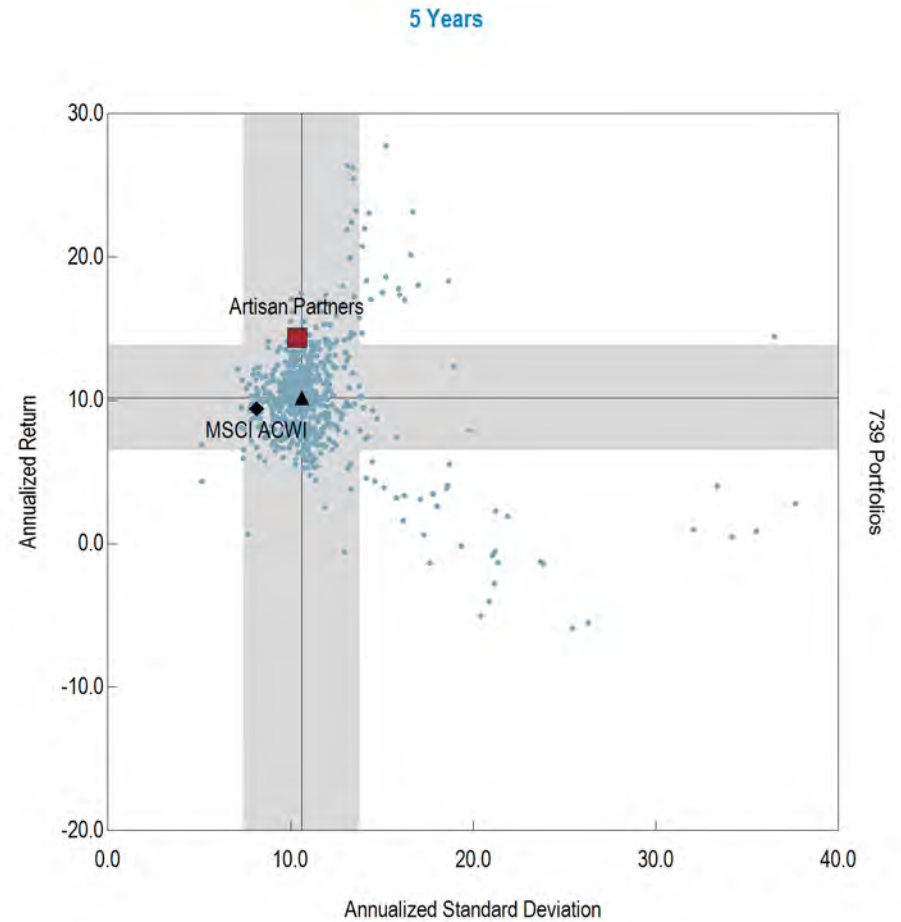
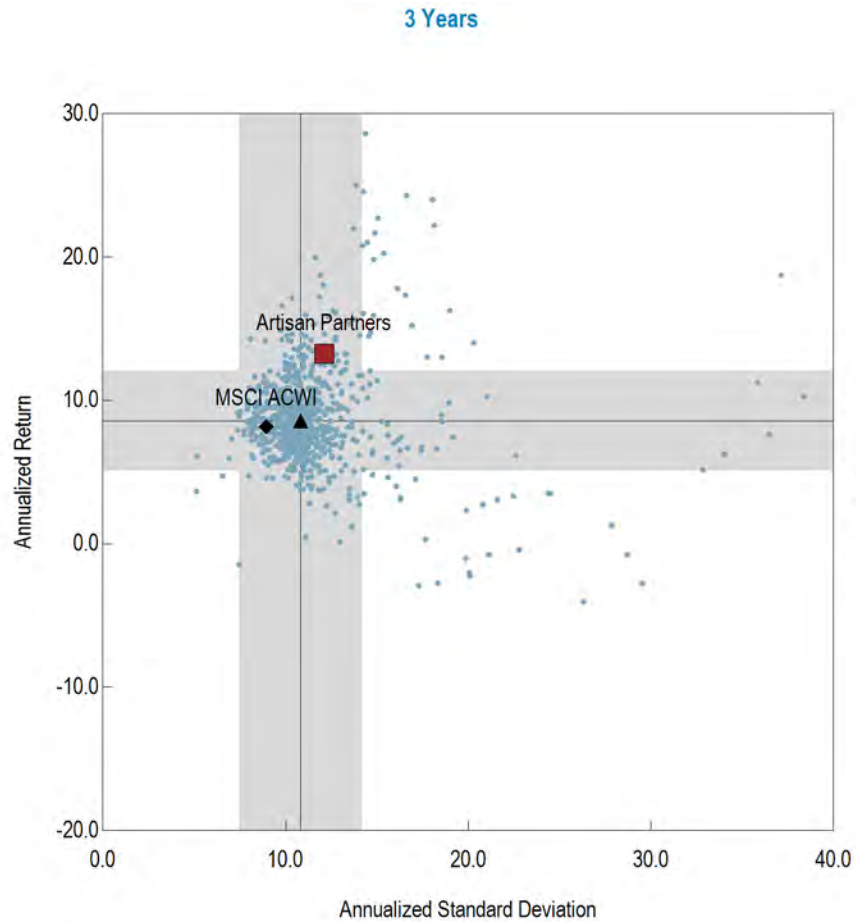
	Quarter	1 Year	3 Years	5 Years	10 Years	2017	2016	2015	2014	2013
<b>5th Percentile</b>	6.3	23.4	14.5	15.5	12.2	36.3	21.5	8.5	17.1	38.6
<b>25th Percentile</b>	3.0	14.4	10.2	11.7	8.4	27.6	10.3	3.0	7.4	30.6
<b>Median</b>	1.2	11.1	8.6	10.2	7.1	23.5	6.8	0.1	4.6	26.2
<b>75th Percentile</b>	-0.1	7.8	7.1	8.6	5.9	19.6	3.9	-2.9	1.5	20.0
<b>95th Percentile</b>	-2.6	3.6	4.1	4.6	-1.5	11.0	-1.4	-15.1	-7.4	2.7
<b># of Portfolios</b>	899	897	836	739	453	880	842	692	609	552
<b>● Artisan Partners</b>	1.4 (47)	15.8 (20)	13.3 (8)	14.4 (7)	-- (--)	32.9 (11)	5.6 (61)	9.2 (4)	3.9 (56)	26.1 (51)
<b>▲ MSCI ACWI</b>	0.5 (64)	10.7 (53)	8.2 (57)	9.4 (67)	5.8 (78)	24.0 (47)	7.9 (42)	-2.4 (73)	4.2 (54)	22.8 (66)

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
Artisan Partners	13.3%	12.1%	1.0	Artisan Partners	14.4%	10.4%	1.3
MSCI ACWI	8.2%	8.9%	0.8	MSCI ACWI	9.4%	8.1%	1.1
eV All Global Equity Gross Median	8.6%	10.8%	0.7	eV All Global Equity Gross Median	10.2%	10.6%	1.0

# First Eagle Manager Portfolio Overview

Period Ending: June 30, 2018

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

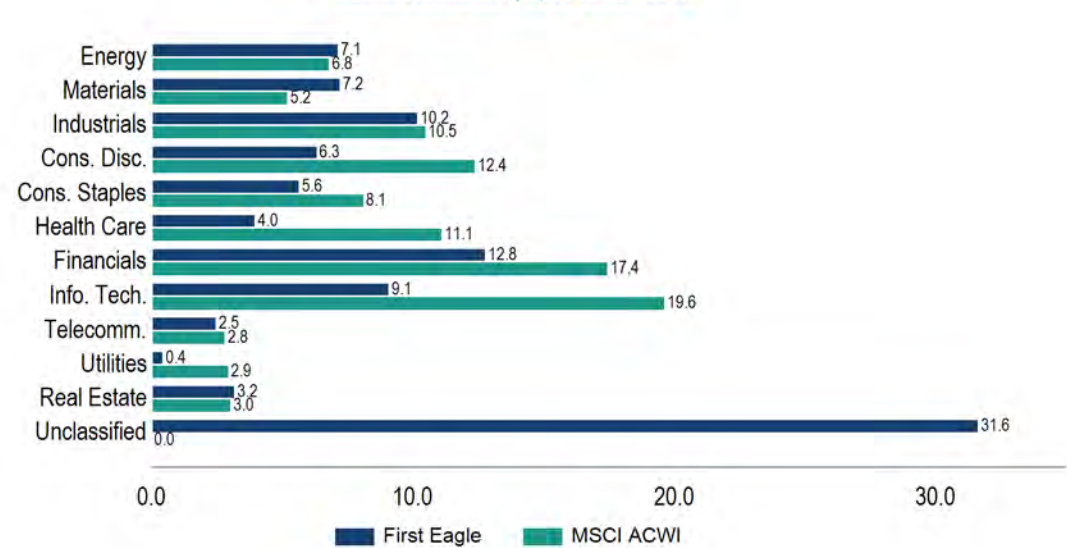
## Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	175	2,781
Weighted Avg. Market Cap. (\$B)	74.89	131.78
Median Market Cap. (\$B)	18.52	9.84
Price To Earnings	22.87	21.28
Price To Book	3.19	3.74
Price To Sales	3.33	3.15
Return on Equity (%)	15.06	17.96
Yield (%)	2.27	2.39
Beta	0.69	1.00

## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	77.8%	88.6%
Emerging*	3.4%	11.4%
Cash	18.8%	
<b>Top 10 Largest Countries</b>		
United States	47.4%	54.0%
Cash	18.8%	0.0%
Japan	10.9%	7.7%
France	5.0%	3.4%
United Kingdom	3.9%	5.7%
Canada	3.1%	3.0%
Korea*	1.5%	1.7%
Switzerland	1.3%	2.4%
Germany	1.2%	3.0%
Singapore	1.1%	0.4%
<b>Total-Top 10 Largest Countries</b>	<b>94.4%</b>	<b>81.3%</b>

## Sector Allocation (%) vs MSCI ACWI



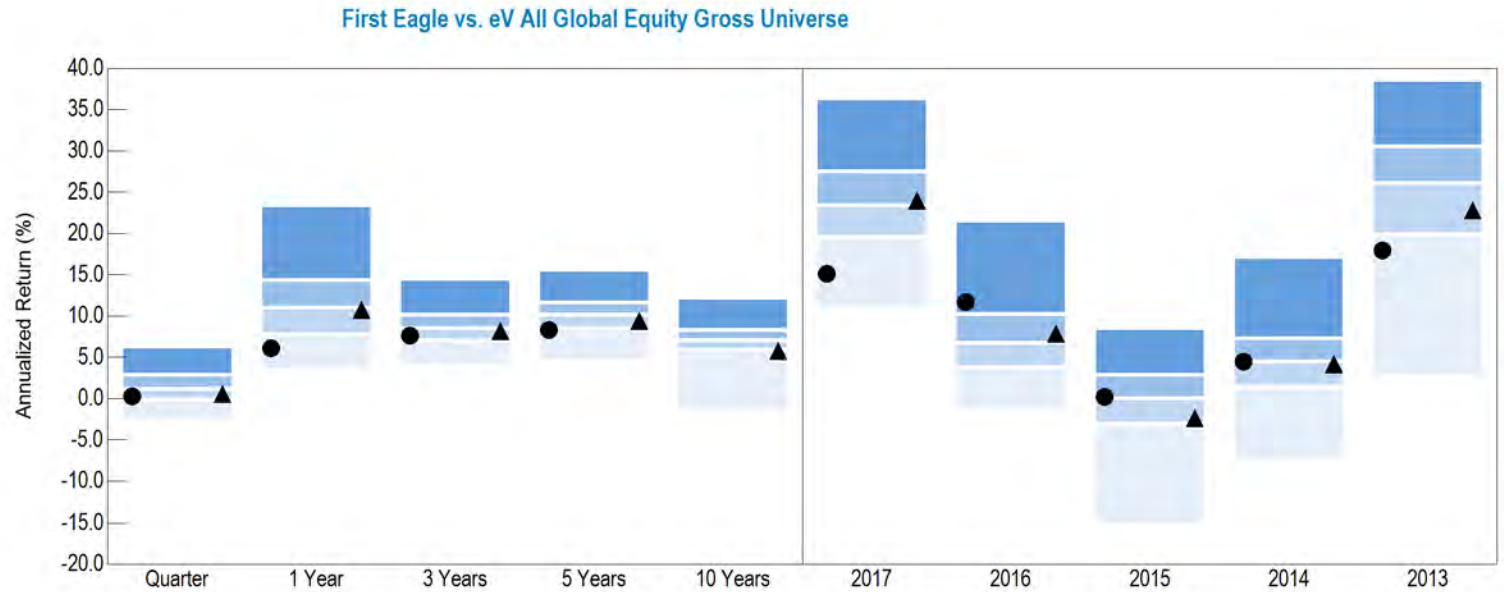
## Top Contributors

	Avg Wgt	Return	Contribution
NATIONAL OILWELL VARCO	1.20	18.04	0.22
EXXON MOBIL	1.53	12.00	0.18
NUTRIEN (NYS)	1.00	15.93	0.16
TIFFANY & CO	0.45	35.30	0.16
IMPERIAL OIL	0.49	26.09	0.13
CONOCOPHILLIPS	0.70	17.90	0.12
MICROSOFT	1.41	8.51	0.12
HOYA	0.74	14.00	0.10
KDDI	1.45	7.13	0.10
DEVON ENERGY	0.21	38.55	0.08

## Bottom Contributors

	Avg Wgt	Return	Contribution
FANUC	1.61	-21.63	-0.35
CIELO ON	0.43	-31.03	-0.13
HEIDELBERGCEMENT	0.93	-11.86	-0.11
3M	0.96	-9.78	-0.09
KEYENCE	1.00	-9.05	-0.09
SAINT GOBAIN	0.60	-12.58	-0.08
DEERE	0.78	-9.55	-0.07
FRESNILLO	0.51	-13.71	-0.07
ORACLE	2.13	-3.30	-0.07
BRITISH AMERICAN TOBACCO	0.57	-11.64	-0.07

Unclassified sector allocation includes cash allocations and Gold allocations (6.8% as of 6/30/2018).

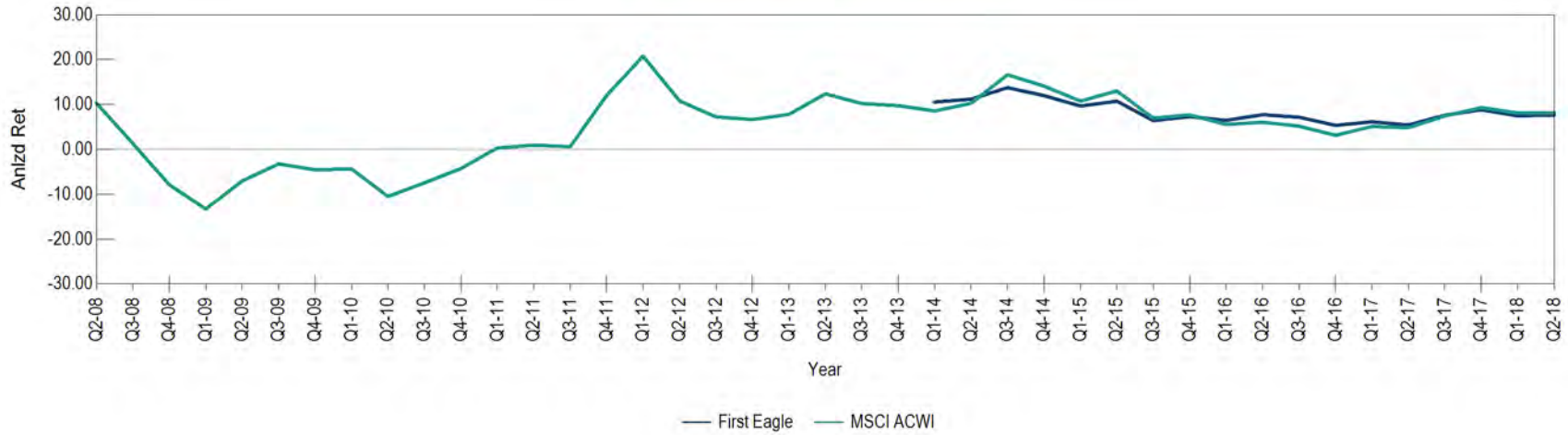


	Quarter	1 Year	3 Years	5 Years	10 Years	2017	2016	2015	2014	2013
<b>5th Percentile</b>	6.3	23.4	14.5	15.5	12.2	36.3	21.5	8.5	17.1	38.6
<b>25th Percentile</b>	3.0	14.4	10.2	11.7	8.4	27.6	10.3	3.0	7.4	30.6
<b>Median</b>	1.2	11.1	8.6	10.2	7.1	23.5	6.8	0.1	4.6	26.2
<b>75th Percentile</b>	-0.1	7.8	7.1	8.6	5.9	19.6	3.9	-2.9	1.5	20.0
<b>95th Percentile</b>	-2.6	3.6	4.1	4.6	-1.5	11.0	-1.4	-15.1	-7.4	2.7
<b># of Portfolios</b>	899	897	836	739	453	880	842	692	609	552
<b>● First Eagle</b>	0.3 (69)	6.1 (87)	7.6 (66)	8.3 (77)	-- (--)	15.1 (89)	11.7 (19)	0.2 (49)	4.5 (51)	17.9 (80)
<b>▲ MSCI ACWI</b>	0.5 (64)	10.7 (53)	8.2 (57)	9.4 (67)	5.8 (78)	24.0 (47)	7.9 (42)	-2.4 (73)	4.2 (54)	22.8 (66)

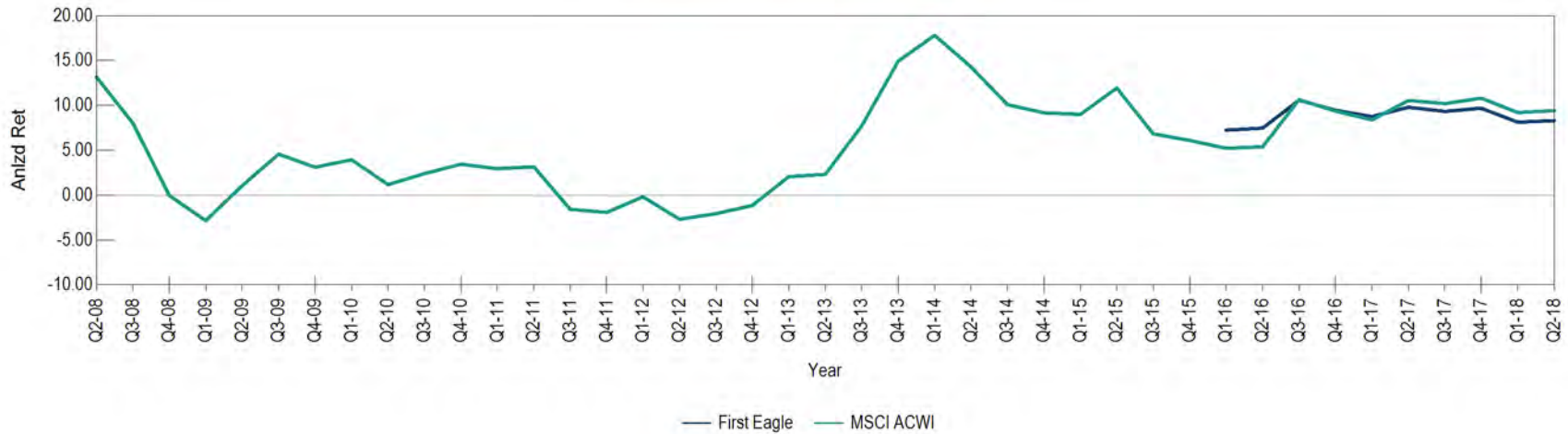
First Eagle  
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

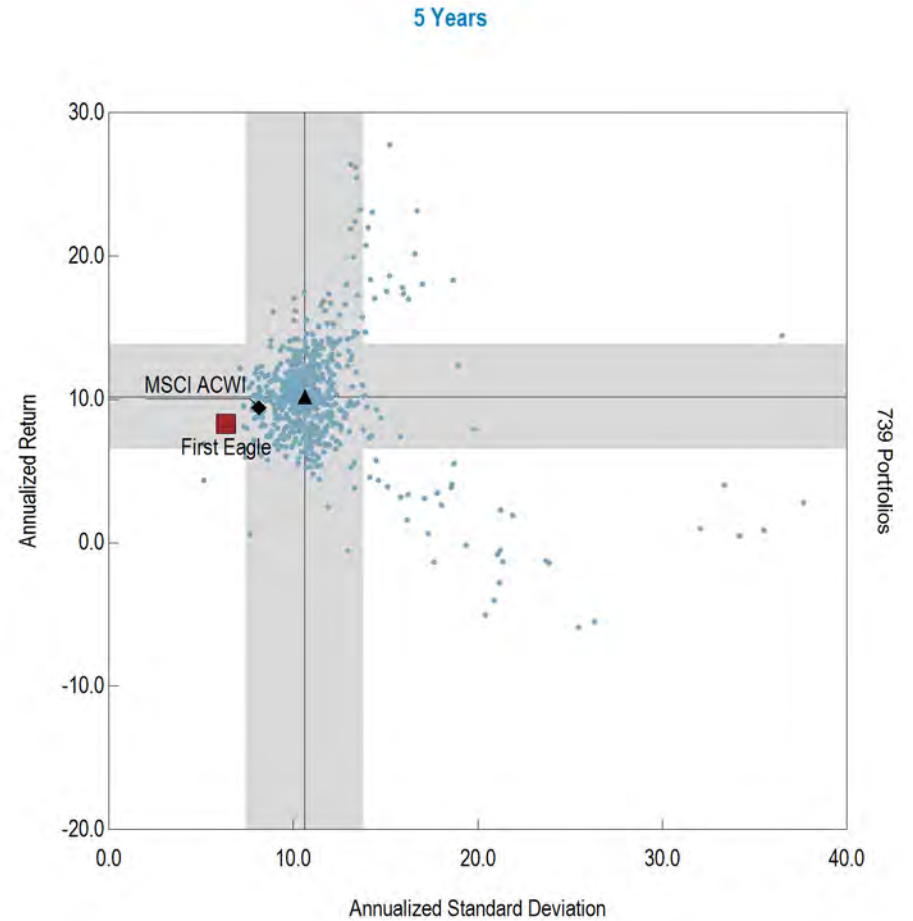
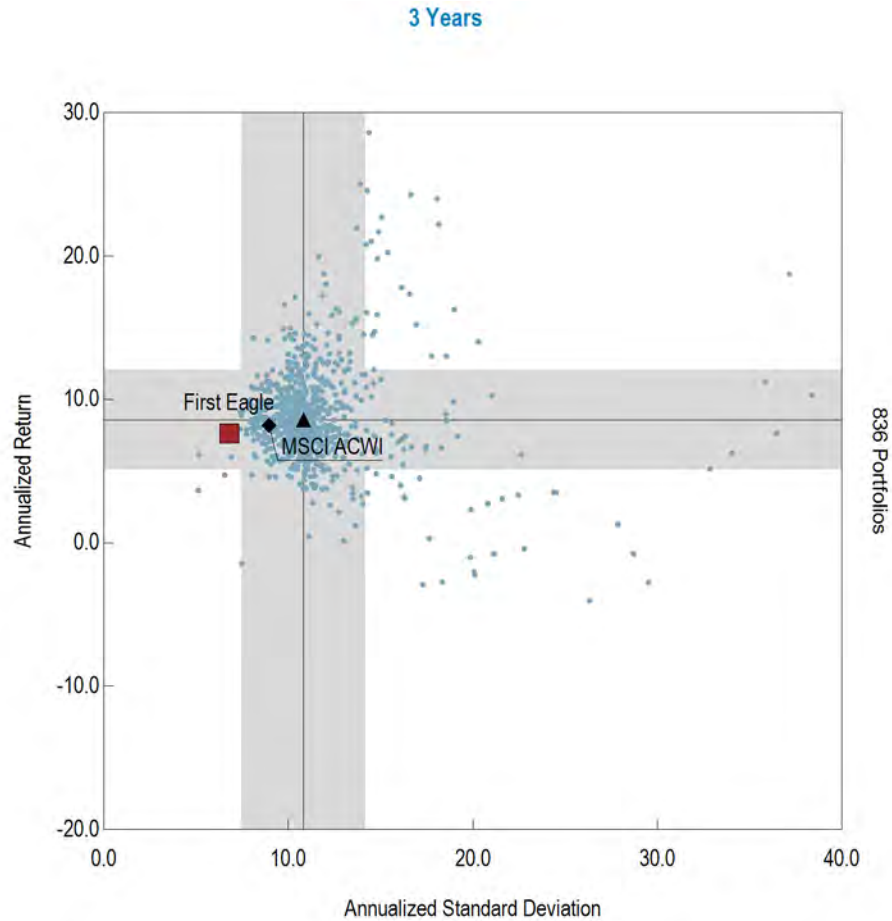
Period Ending: June 30, 2018

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





**3 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
First Eagle	7.6%	6.8%	1.0
MSCI ACWI	8.2%	8.9%	0.8
eV All Global Equity Gross Median	8.6%	10.8%	0.7

**5 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
First Eagle	8.3%	6.4%	1.2
MSCI ACWI	9.4%	8.1%	1.1
eV All Global Equity Gross Median	10.2%	10.6%	1.0

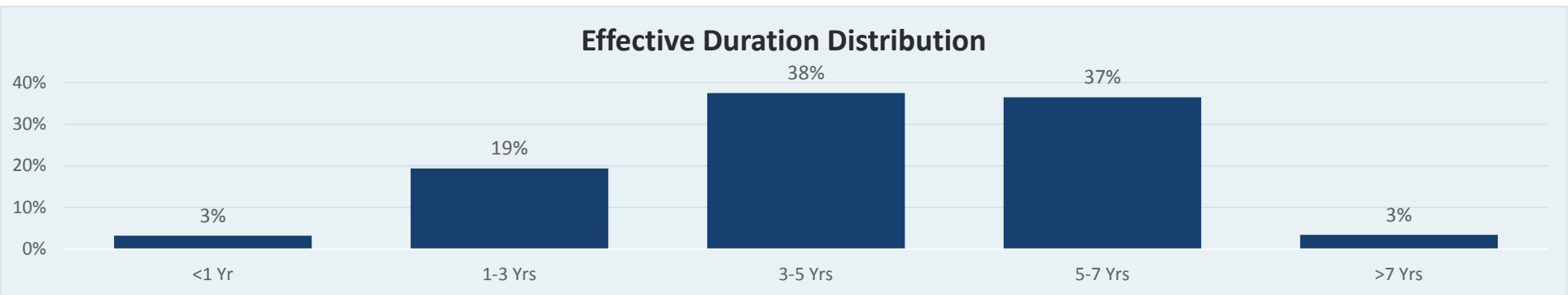
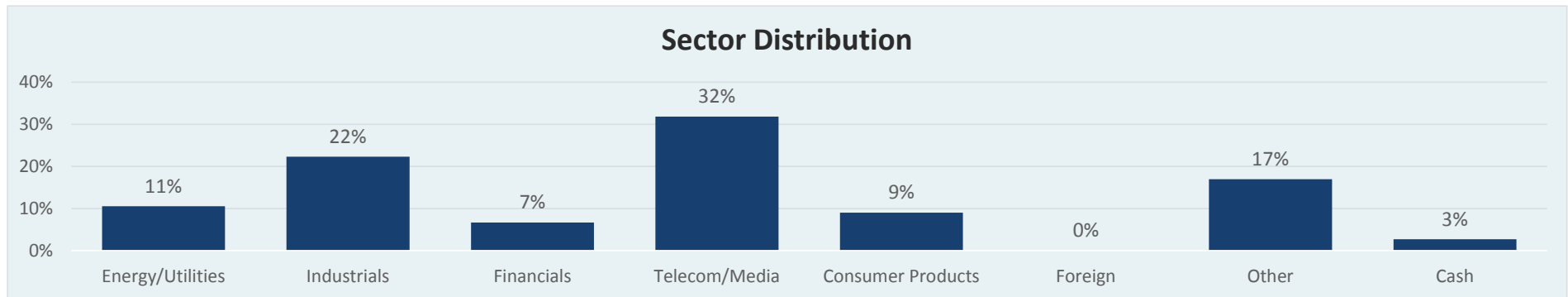
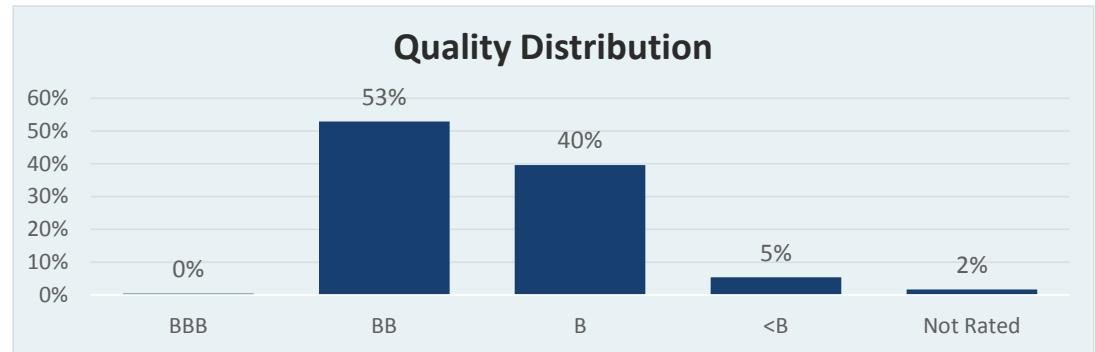


## High Yield Managers

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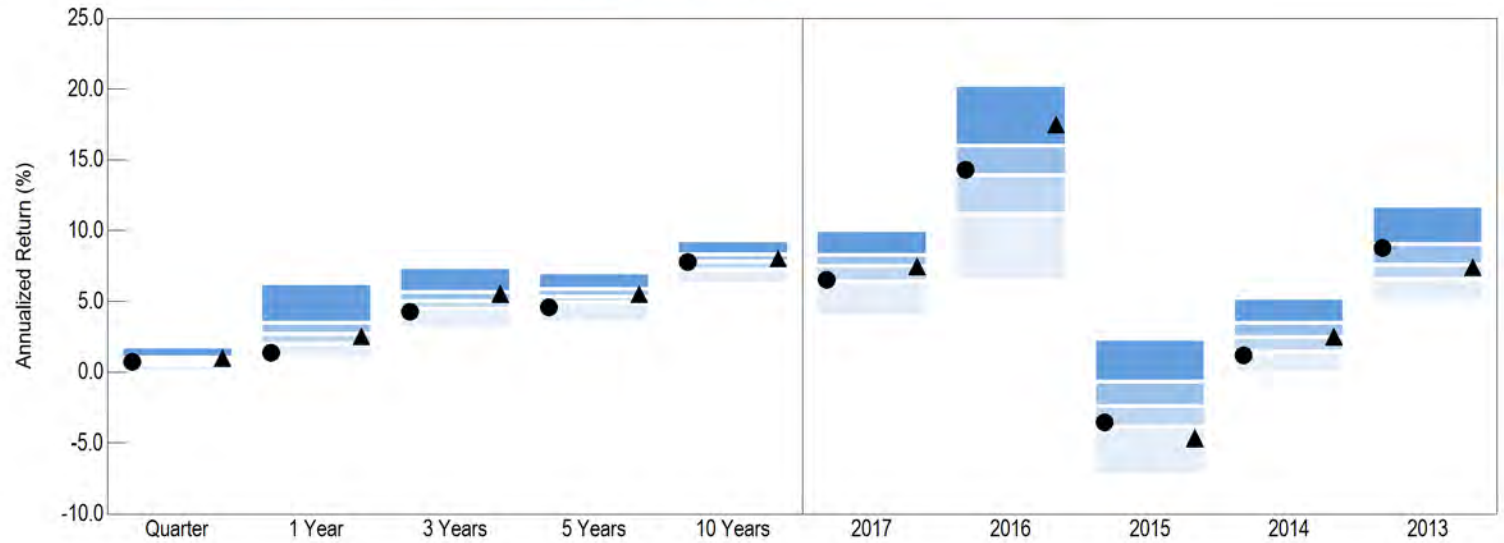
Domestic high yield fixed income portfolio with a focus on security selection. Primary personnel include Douglas Forsyth, Justin Kass, William Stickney, and Michael Yee.

	Allianz	ICE BofAML HY Master II
Effective Duration	4.30	4.20
Yield to Maturity	6.60	6.70
Average Quality	B1	B1
Average Coupon	6.3%	6.3%



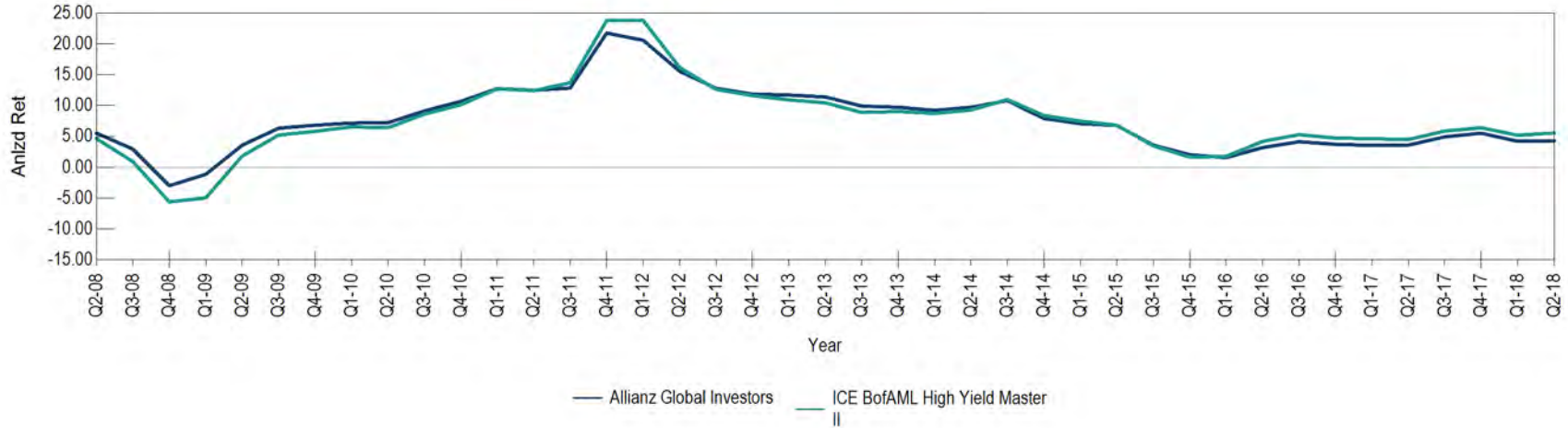
Quality distribution excludes cash.

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

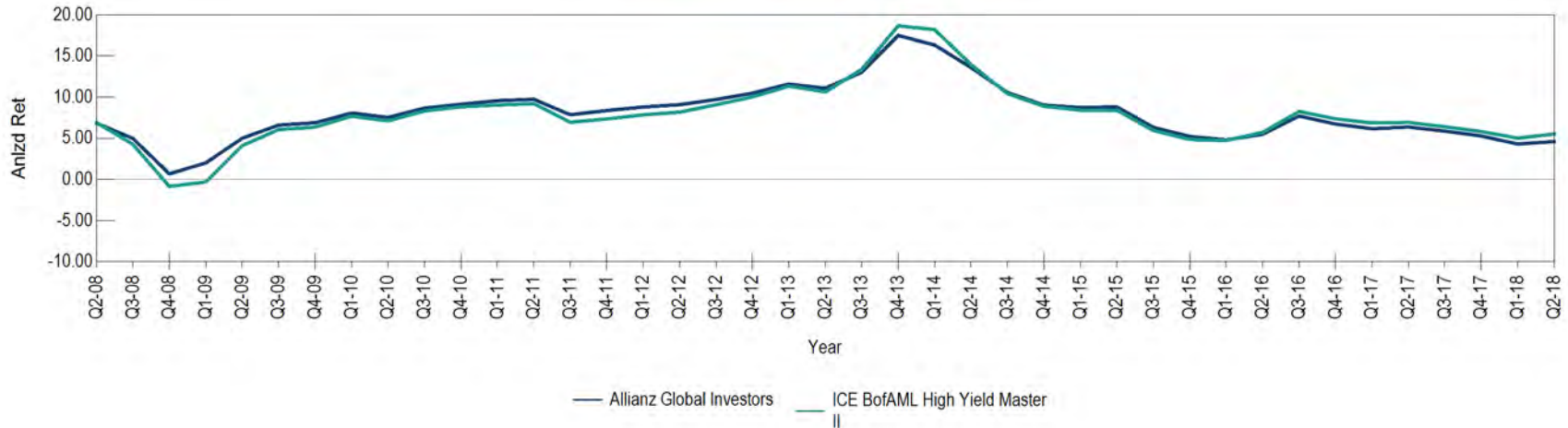


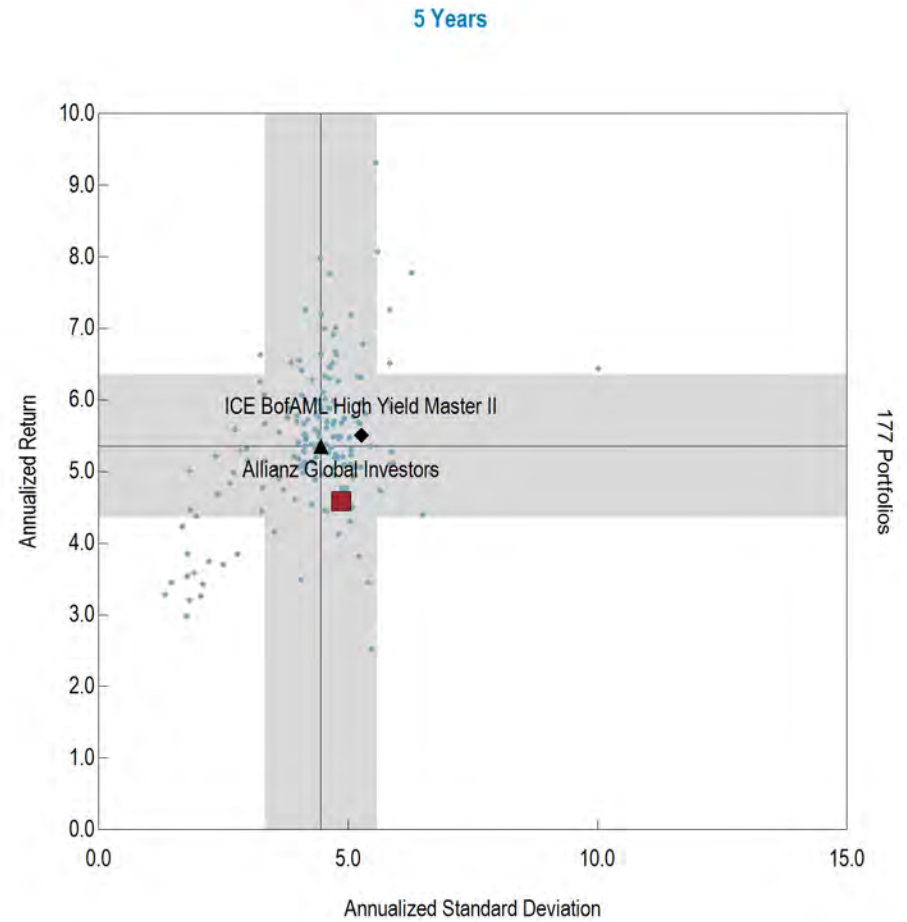
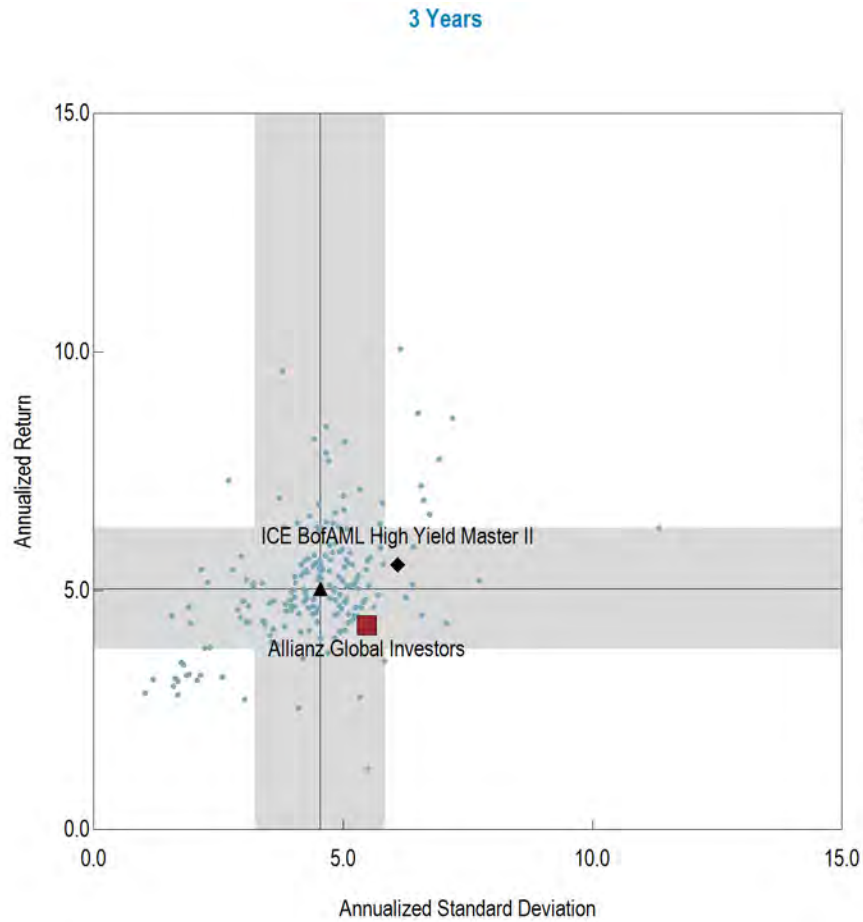
	Return (Rank)										
	Quarter	1 Year	3 Years	5 Years	10 Years	2017	2016	2015	2014	2013	
5th Percentile	1.8	6.3	7.4	7.0	9.3	10.0	20.3	2.3	5.2	11.7	
25th Percentile	1.1	3.5	5.7	5.9	8.3	8.3	16.0	-0.7	3.5	9.1	
Median	0.8	2.7	5.1	5.4	7.9	7.5	14.0	-2.4	2.5	7.6	
75th Percentile	0.5	2.0	4.5	4.9	7.3	6.5	11.3	-3.8	1.5	6.6	
95th Percentile	0.1	1.0	3.2	3.5	6.3	4.0	6.6	-7.2	0.0	5.0	
# of Portfolios	206	205	197	177	127	198	183	155	141	130	
● Allianz Global Investors	0.7 (58)	1.4 (90)	4.3 (83)	4.6 (84)	7.8 (52)	6.5 (74)	14.3 (47)	-3.5 (68)	1.2 (83)	8.8 (28)	
▲ ICE BofAML High Yield Master II	1.0 (29)	2.5 (61)	5.5 (31)	5.5 (42)	8.0 (40)	7.5 (53)	17.5 (14)	-4.6 (83)	2.5 (50)	7.4 (55)	

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





	<b>3 Years</b>			<b>5 Years</b>			
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	
Allianz Global Investors	4.3%	5.5%	0.7	Allianz Global Investors	4.6%	4.9%	0.9
ICE BofAML High Yield Master II	5.5%	6.1%	0.8	ICE BofAML High Yield Master II	5.5%	5.3%	1.0
eV US High Yield Fixed Inc Gross Median	5.1%	4.5%	1.0	eV US High Yield Fixed Inc Gross Median	5.4%	4.5%	1.2

## Real Estate Managers

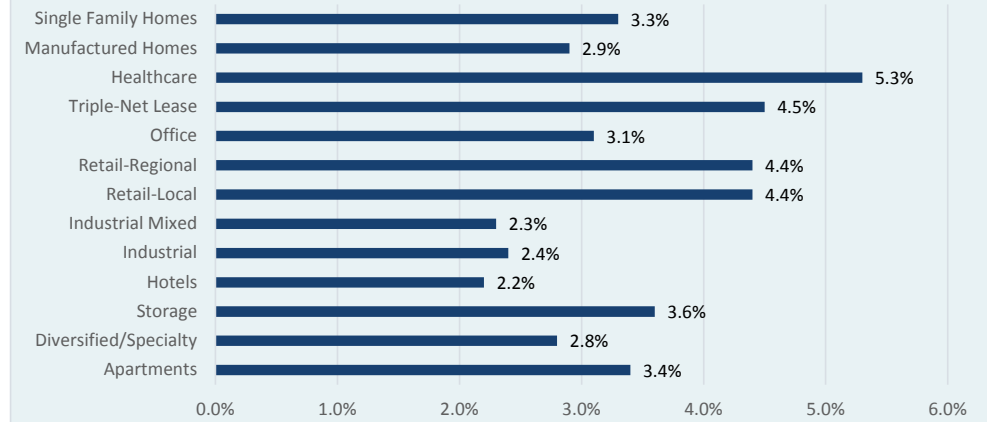
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Diversified portfolio of U.S. REITs with a focus on the underlying real estate assets

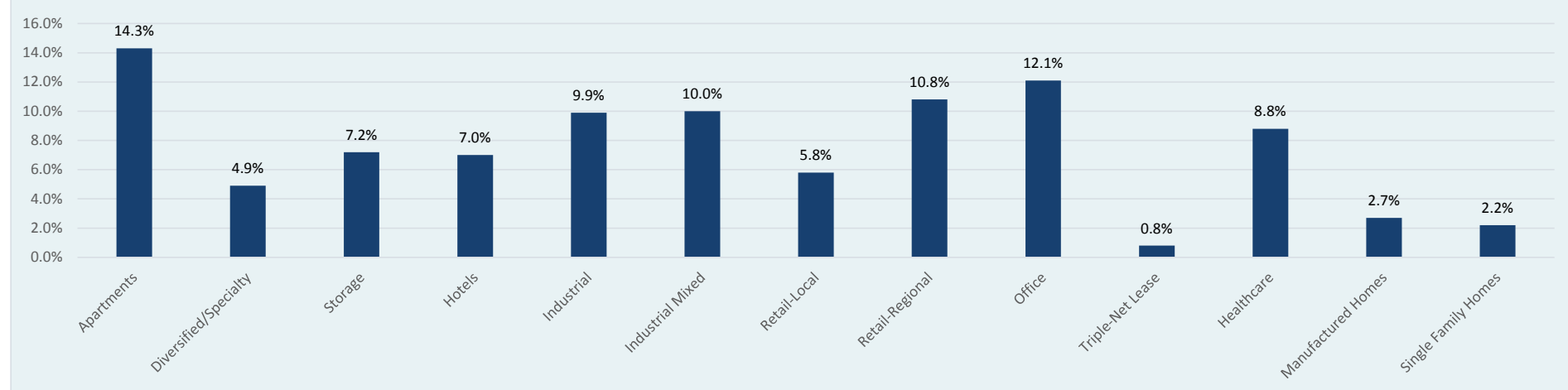
**Top Five Holdings**

Company	Property Type	Allocation
Simon Property Group	Retail-Regional	8.2%
Equinix Inc	Industrial Mixed	6.2%
Essex Property Trust	Apartments	4.7%
Alexandria RE Equities	Office	4.4%
Equity Residential	Apartments	4.4%

**Dividend Yield by Property Type**



**Property Type Allocation**



3.6% is allocated to Cash and Cash Equivalents.

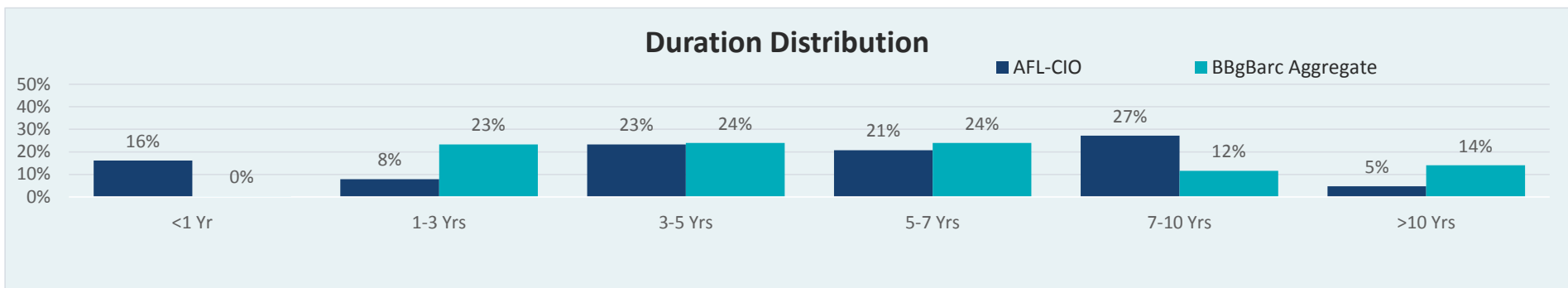
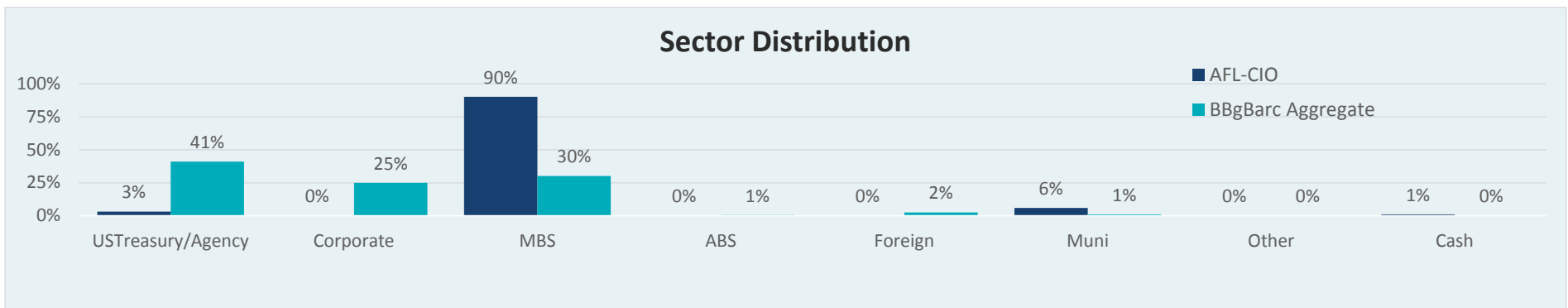
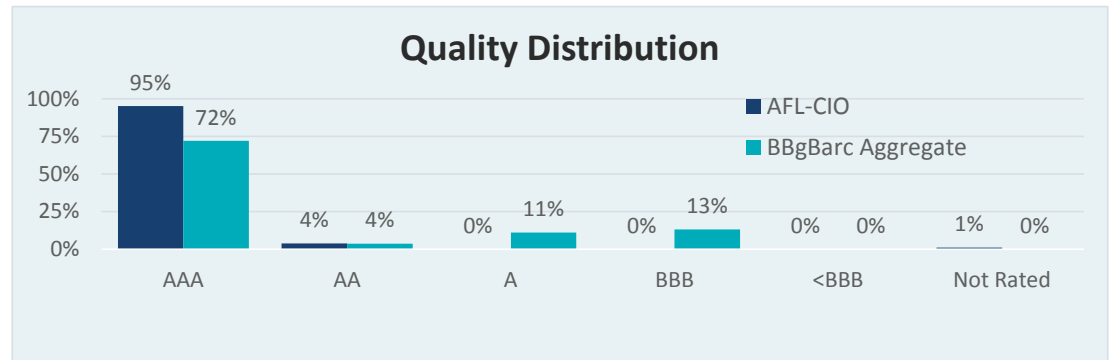
## Diversifying Fixed Income Managers

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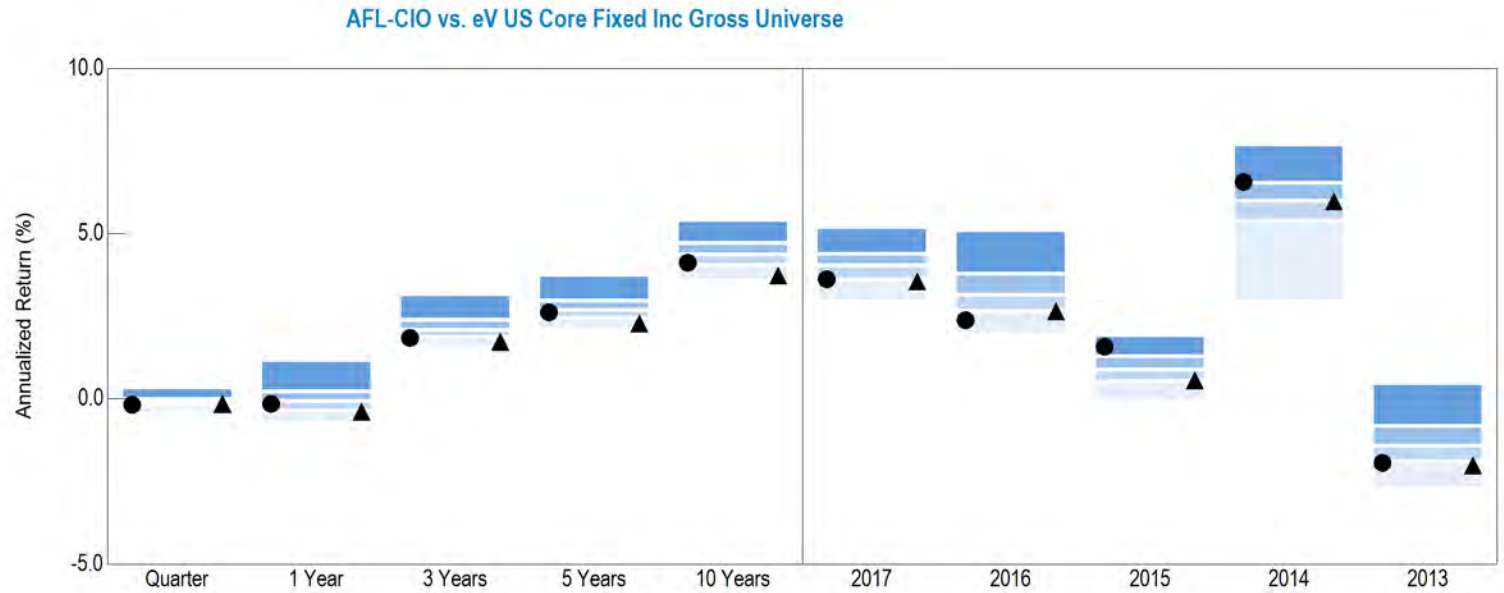


Domestic core fixed income portfolio with an exclusive focus on mortgage-related securities. Primary personnel include Stephen Coyle and Chang Su.

	AFL-CIO	BBgBarc Aggregate
Effective Duration	5.54	5.99
Yield to Maturity	3.37	3.11
Average Quality	AAA	AA
Average Coupon	3.3%	3.2%

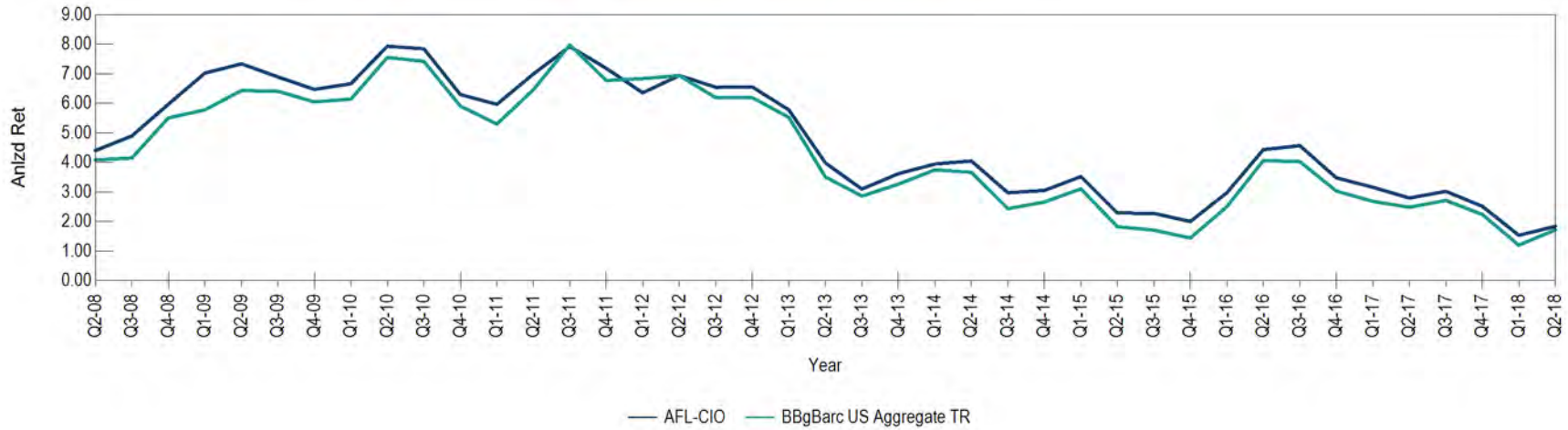


Duration and Quality distributions exclude cash.

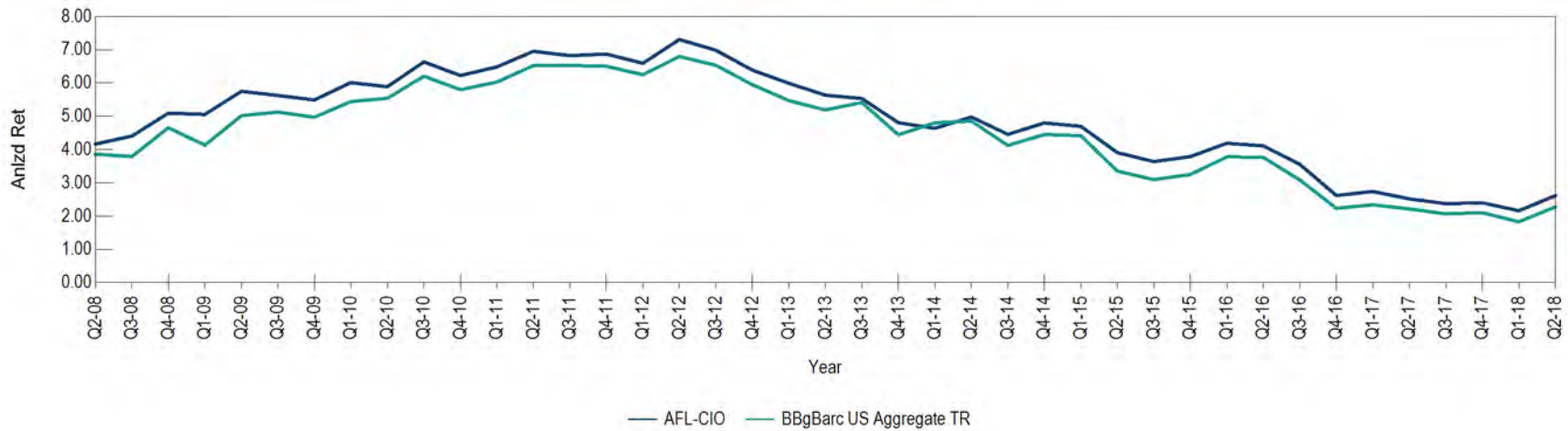


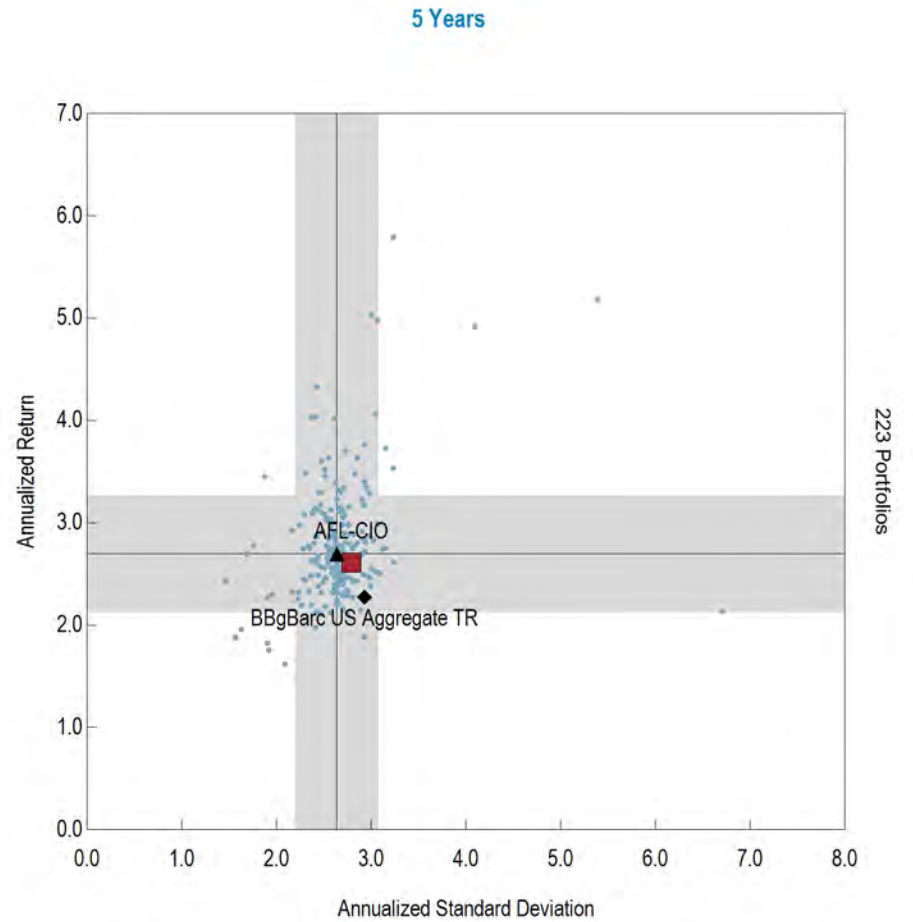
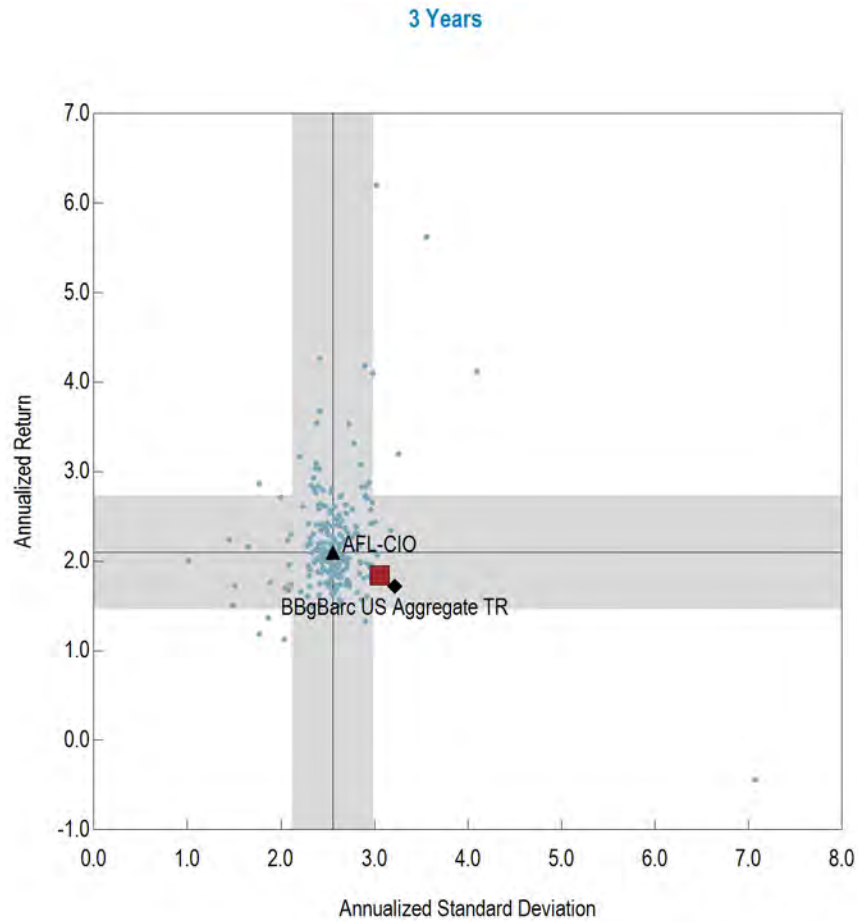
	Return (Rank)									
5th Percentile	0.3	1.2	3.1	3.7	5.4	5.2	5.1	1.9	7.7	0.5
25th Percentile	0.0	0.2	2.4	3.0	4.7	4.4	3.8	1.3	6.5	-0.8
Median	-0.1	-0.1	2.1	2.7	4.4	4.0	3.2	0.9	6.0	-1.4
75th Percentile	-0.2	-0.3	1.9	2.4	4.1	3.6	2.7	0.5	5.4	-1.9
95th Percentile	-0.5	-0.7	1.6	2.1	3.6	2.9	2.0	-0.1	2.9	-2.7
# of Portfolios	230	230	226	223	202	233	223	196	213	209
● AFL-CIO	-0.2 (73)	-0.2 (57)	1.8 (79)	2.6 (56)	4.1 (72)	3.6 (76)	2.4 (87)	1.6 (15)	6.6 (25)	-1.9 (78)
▲ BBgBarc US Aggregate TR	-0.2 (63)	-0.4 (82)	1.7 (88)	2.3 (89)	3.7 (92)	3.5 (79)	2.6 (77)	0.6 (75)	6.0 (52)	-2.0 (82)

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





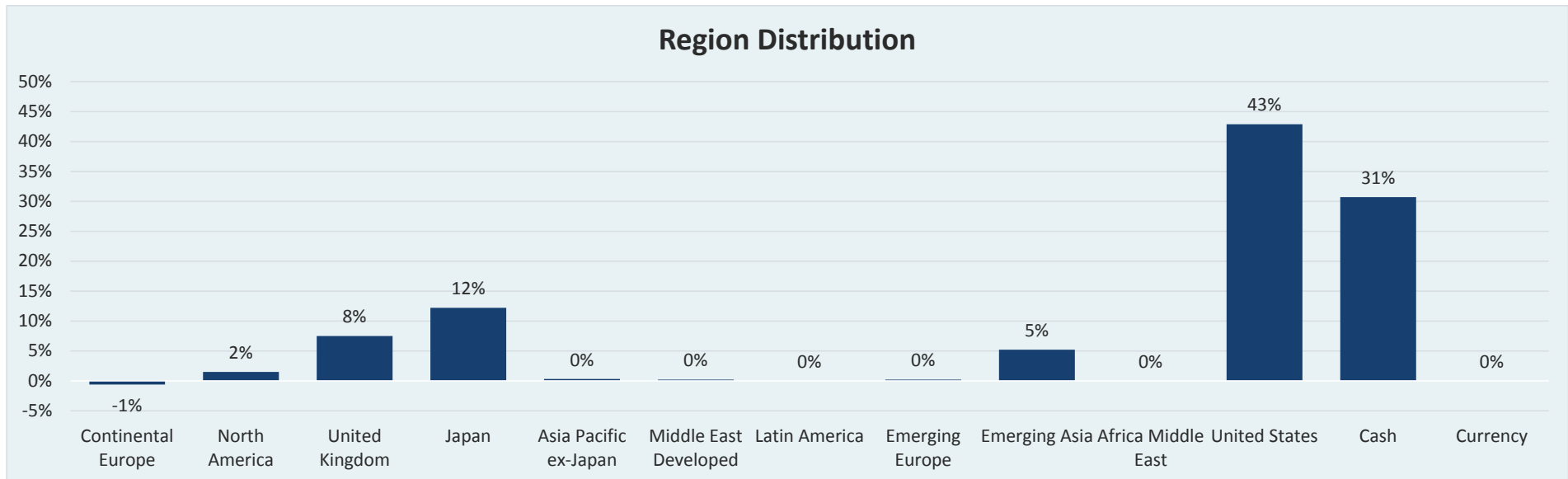
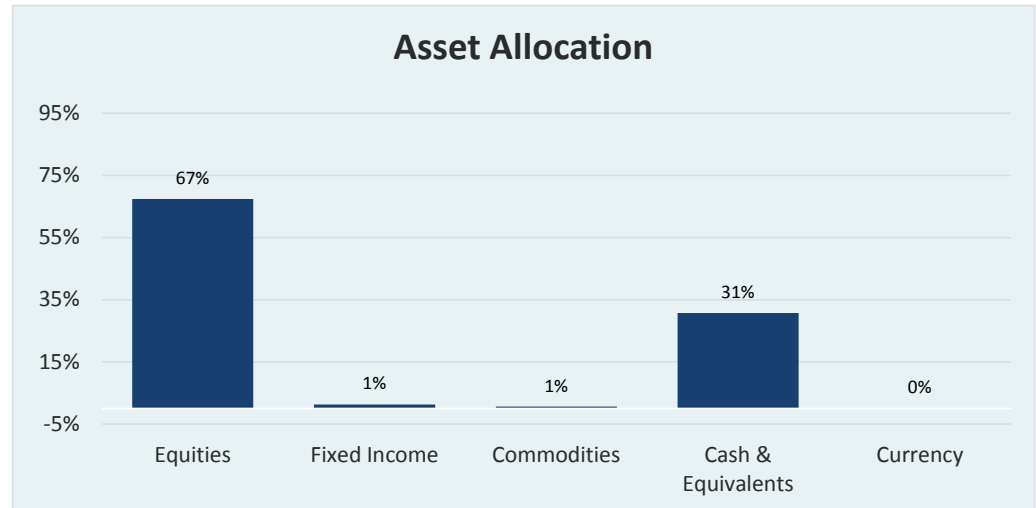
	3 Years			5 Years			
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	
AFL-CIO	1.8%	3.1%	0.4	AFL-CIO	2.6%	2.8%	0.8
BBgBarc US Aggregate TR	1.7%	3.2%	0.3	BBgBarc US Aggregate TR	2.3%	2.9%	0.6
eV US Core Fixed Inc Gross Median	2.1%	2.6%	0.6	eV US Core Fixed Inc Gross Median	2.7%	2.6%	0.9

# Wellington Total Return Manager Portfolio Overview

Period Ending: June 30, 2018

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	959
Number of Commodity Holdings	141
Effective Duration (Years)	3.90
Average Quality	D



## Liquidity Managers

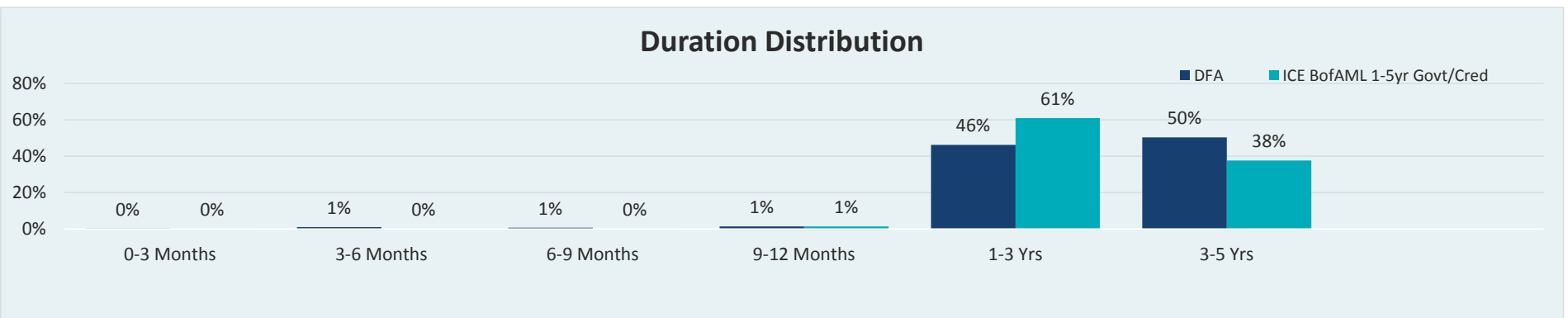
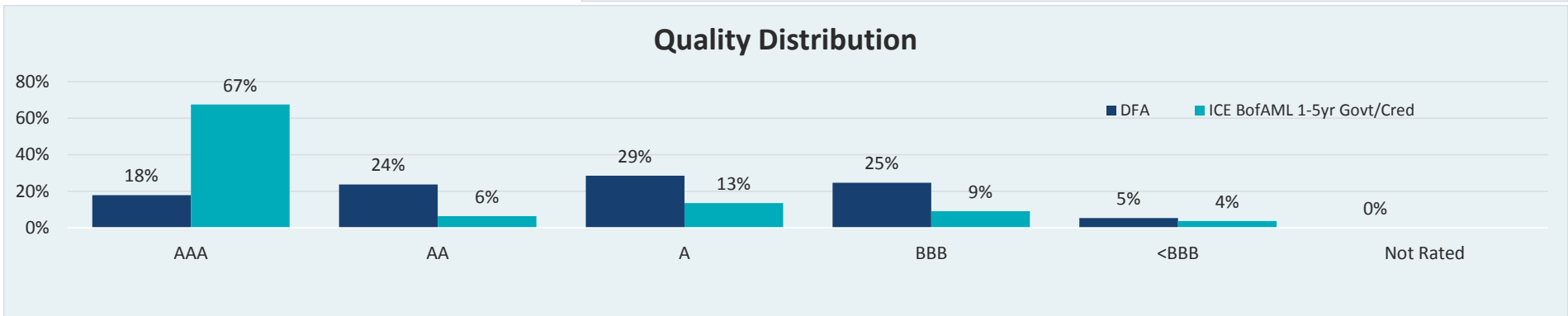
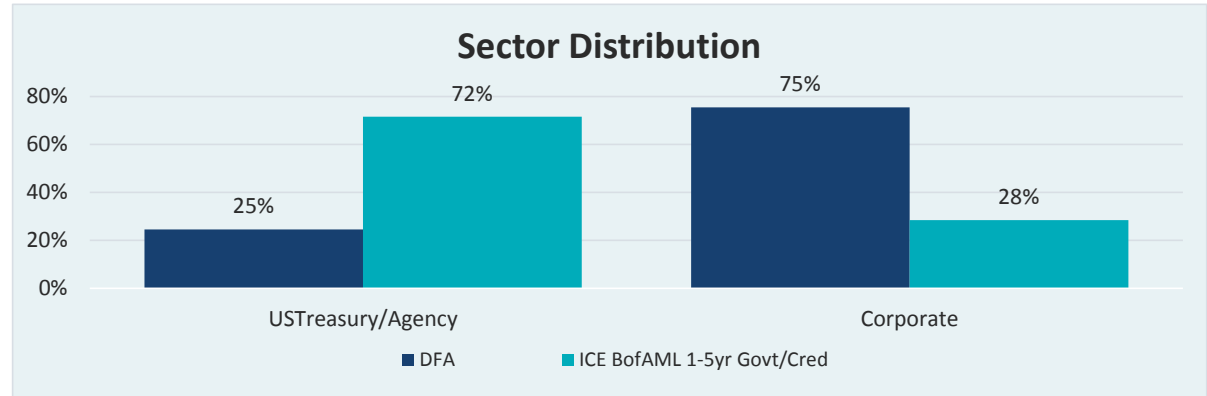
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DFA Short Credit  
 Manager Portfolio Overview

Period Ending: June 30, 2018

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	ICE BofAML 1-5yr Govt/Cred
Effective Duration	2.83	2.66
Yield to Maturity	3.25	2.88
Average Quality	A+	Aa1
Average Coupon	2.75%	2.50%

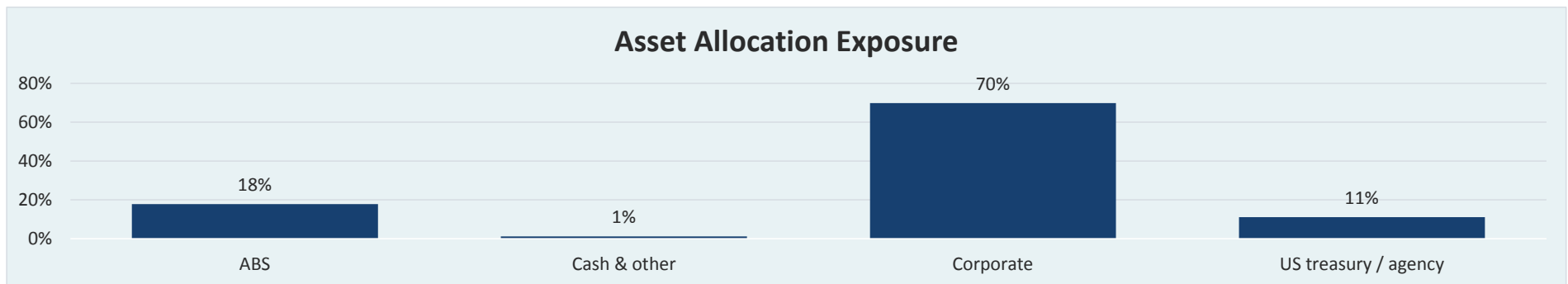
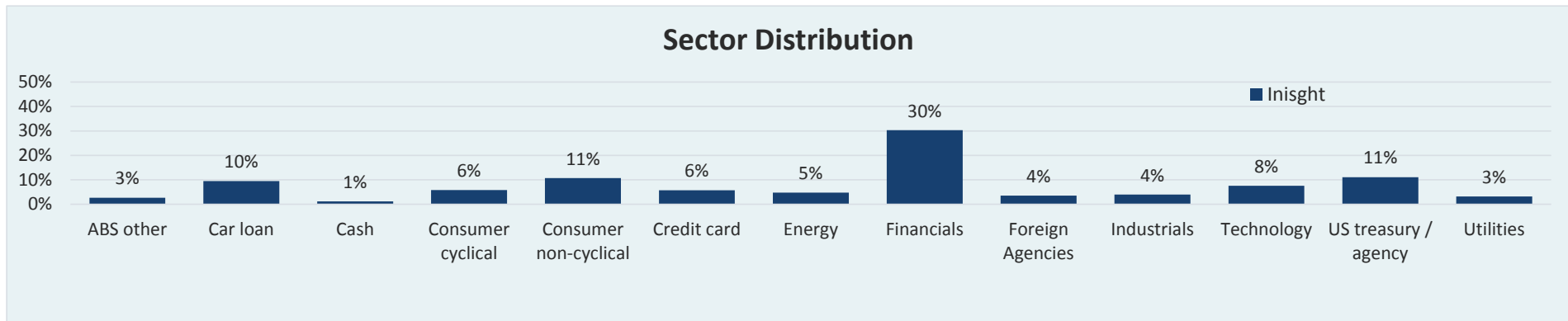
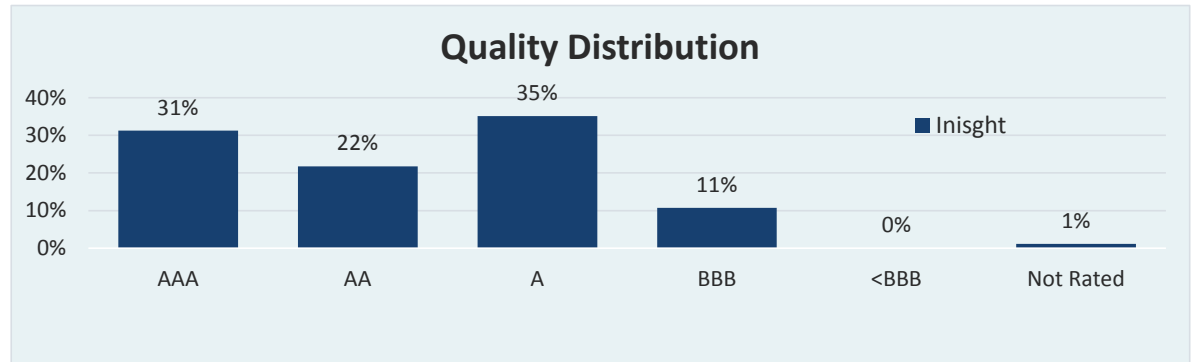


# Insight Short Duration Manager Portfolio Overview

Period Ending: June 30, 2018

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.

	Insight	BBgBarc 1-3yr Govt
Effective Duration	1.16	1.90
Yield to Maturity	2.87	2.54
Average Quality	AA-	AAA
Average Coupon	2.5%	1.9%



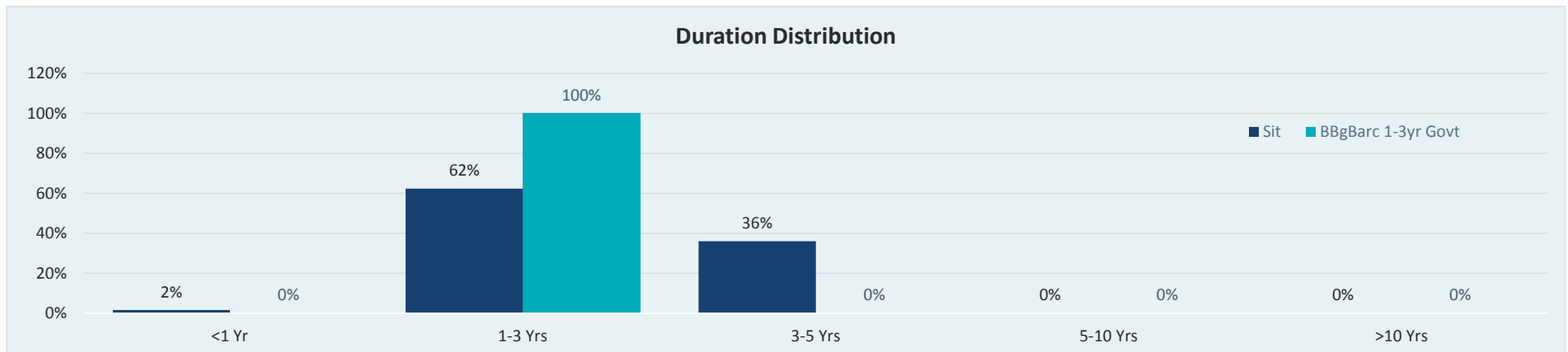
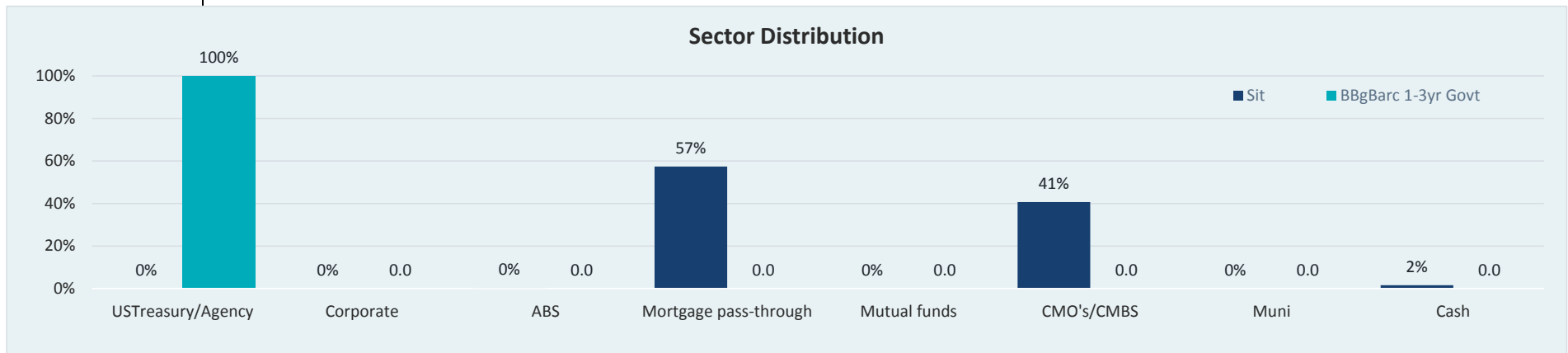
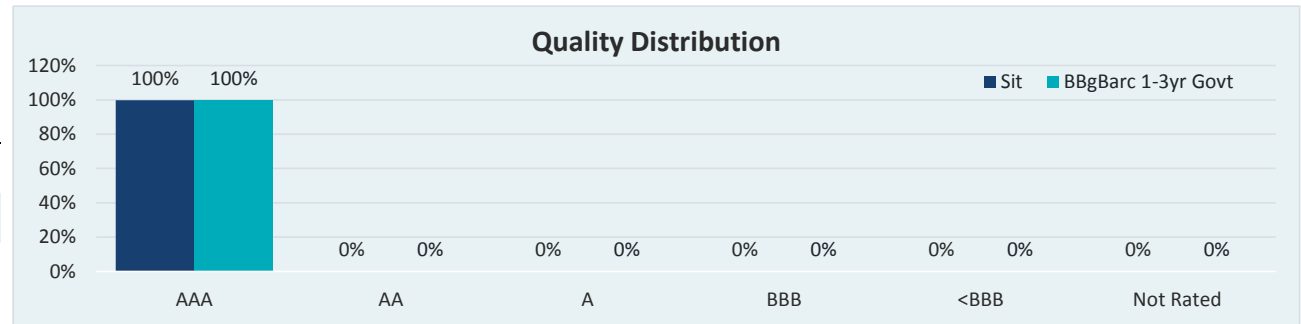


# Sit Short Duration Manager Portfolio Overview

Period Ending: June 30, 2018

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	2.60	1.9
Yield to Maturity	3.00	2.54
Average Quality	AAA	AAA
Average Coupon	6.5%	1.9%



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

DLJ RECP V	7/1/2014	DLJ	Pathway 7	2/7/2013	Pathway
Wastewater Opp. Fund	12/8/2015	Wastewater	Siguler Guff CCCERA Opps	6/3/2014	Siguler Guff
LaSalle Income & Growth VI	7/16/2013	LaSalle	Siguler Guff Secondary Opps	11/30/2016	Siguler Guff
LaSalle Income & Growth VII	2/28/2017	LaSalle	Aether Real Assets IV	3/16/2016	Aether
Hearthstone II	6/17/1998	Hearthstone	StepStone CC Opportunities Fund	2/1/2018	Stepstone
Parametric Overlay	3/29/2017	State Street			

**Policy & Custom Index Composition**

Policy Index (4/1/2018 - present)	5% S&P 500, 13% MSCI EAFE, 11% MSCI Emerging Markets, 11% Cambridge Associates US Private Equity, 12% S&P/LSTA Leveraged Loan Index+2%, 5% NCREIF Property Index +2%, 4.0% NCREIF Property Index +4%, 1% Wilshire REIT, 3% MSCI ACWI, 2% BBgBarc US Aggrgate, 23% BBgBarc 1-3 Yr Gov/Credi, 3% BBgBarc US Treasury 7-10 Year TR, 7% HFRI Fund of Funds Composite Index
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% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML 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% ICE BofAML 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.
Custom Growth Benchmark (4/1/2018-Current)	7.5% S&P 500, 19.4% MSCI EAFE, 16.4% MSCI Emerging Markets, 16.4% Cambridge Associates US Private Equity, 17.9% S&P/LSTA Leveraged Loan Index+2%, 7.5% NCREIF Property Index +2%, 6.0% NCREIF Property Index +4%, 1.5% Wilshire REIT, 4.5% MSCI ACWI, 3% BBgBarc US Aggrgate.
Custom Growth Benchmark (Prior to 4/1/2018)	Weighted-average of the benchmarks of the sub-composites that make up the composite.
Custom Diversifying Benchmark (4/1/2018-Current)	30% BBgBarc US Treasury 7-10 Year TR, 70% HFRI Fund of Funds Composite Index
Custom Diversifying Benchmark (Prior to 4/1/2018)	Weighted-average of the benchmarks of the sub-composites that make up the composite.
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: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - Risk-free Rate)].

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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