



# **PERSPECTIVES** THAT DRIVE ENTERPRISE SUCCESS



**PERIOD ENDING: JUNE 30, 2017**

Investment Performance Review for

**Imperial County Employees' Retirement System**

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Investment Landscape

TAB I

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Investment Performance  
Review

TAB II



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**

3<sup>RD</sup> QUARTER 2017  
Investment Landscape

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

## THE ECONOMIC CLIMATE

- Developed and emerging economies have exhibited coordinated positive growth for the first time in this recovery. Absolute growth remains subdued relative to history. [p. 15](#)
- Economic releases have begun to miss expectations in the U.S. and U.K. after much upside surprise. The Eurozone continued to deliver positive surprises, but by a smaller margin. Heightened expectations help to explain some of the recent data disappointment. [p. 10](#)
- Despite a healthy economy and longer than average expansion there is little indication of overheating in the U.S. This suggests the current expansion may have more room to run. [p. 7](#)

## MARKET PORTFOLIO IMPACTS

- Treasury yields fell slightly over the quarter. [p. 19](#)
- Credit spreads are tight, implying limited upside performance potential. U.S. credit markets have stabilized from recent defaults in the energy and metals/mining sectors. [p. 20](#)

## THE INVESTMENT CLIMATE

- Central banks communicated a more hawkish tone across developed markets. The Fed announced plans for balance sheet reduction, the ECB is expected to reduce easing starting next year, and Mark Carney of the BOE indicated he is receptive to tightening under the right conditions. Central bank governors have shown less concern over the recent decline in inflation than in the past. [p. 18](#)
- U.S. equities are expected to deliver robust earnings growth in Q2 of 6.8% YoY. Energy sector earnings have provided much of this improvement after a challenging period a year ago. [p. 30](#)

## ASSET ALLOCATION ISSUES

- Earnings growth beat expectations in recent quarters leading to a broad fall in equity price-to-earnings multiples, causing equities to become more attractive. [p. 29](#)
- Realized and implied market volatility is at historic lows across assets classes. This could be a sign of market complacency. [p. 31](#)

We maintain  
a neutral to  
slightly  
overweight  
risk stance

# What drove the market in Q2?

## “Bonds Continue Decline as Central Banks Signal Waning Stimulus”

### 10-YEAR GOVERNMENT YIELDS (%)

U.S.		U.K.		Germany	
Jun 1 <sup>st</sup>	Jul 7 <sup>th</sup>	Jun 1 <sup>st</sup>	Jul 7 <sup>th</sup>	Jun 1 <sup>st</sup>	Jul 7 <sup>th</sup>
2.21	2.38	1.07	1.31	0.30	0.57

Article Source: New York Times, June 30<sup>th</sup> 2017

## “Investors Look to Global Growth for Earnings Power”

### EQUITY EARNINGS GROWTH BY REGION (YOY)

ACWI ex U.S.	U.S.	Emerging Markets
12.0%	8.8%	18.5%

Article Source: Reuters, April 7<sup>th</sup> 2017

## “Dollar Has Worst Week in Over a Year Amid Political Uncertainty”

### USD TRADE WEIGHTED INDEX

Jan 31 <sup>st</sup>	Feb 28 <sup>th</sup>	Mar 31 <sup>st</sup>	Apr 30 <sup>th</sup>	May 31 <sup>st</sup>	Jun 30 <sup>th</sup>
127	126	124	124	123	122

Article Source: Reuters, May 19<sup>th</sup> 2017

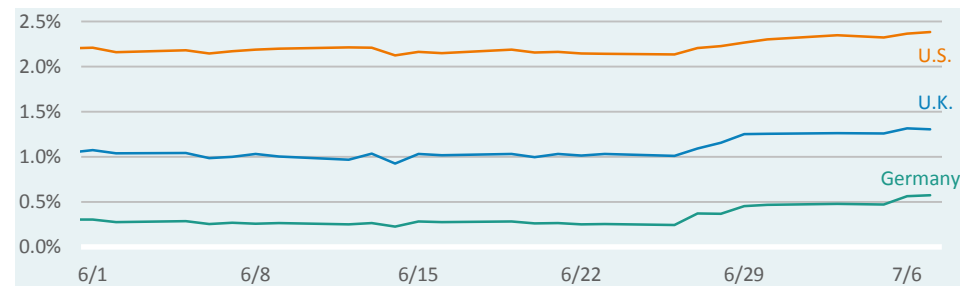
## “Tumbling U.S. Inflation Expectations Challenge the Fed”

### 10-YEAR BREAK-EVEN INFLATION RATE (%)

Jan 31 <sup>st</sup>	Feb 28 <sup>th</sup>	Mar 31 <sup>st</sup>	Apr 30 <sup>th</sup>	May 31 <sup>st</sup>	Jun 30 <sup>th</sup>
2.1	2.0	2.0	1.9	1.8	1.7

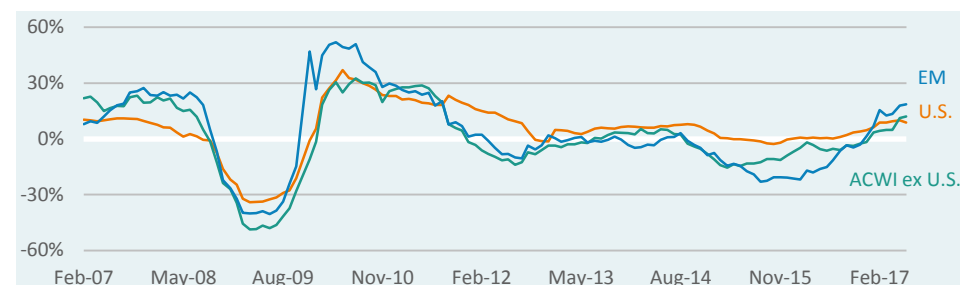
Article Source: Financial Times, June 15<sup>th</sup> 2017

### DEVELOPED 10-YEAR YIELDS



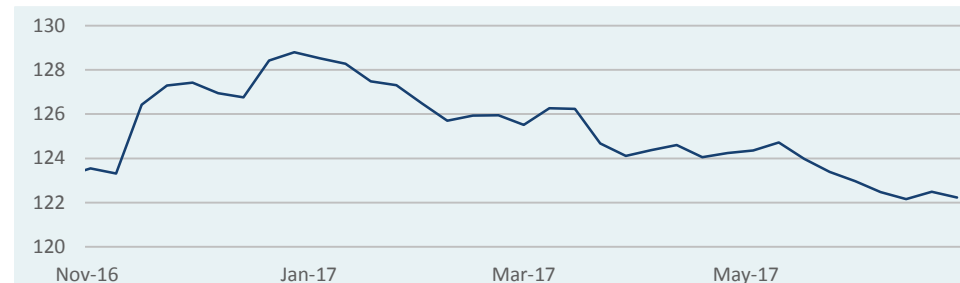
Source: Bloomberg, 7/7/17

### EARNINGS GROWTH (YOY)



Source: Bloomberg, as of 6/30/17

### USD TRADE WEIGHTED INDEX



Source: FRED, as of 6/28/17

# Economic environment

# U.S. economics summary

- U.S. real GDP grew 2.1% YoY in Q1, on par with the level of economic expansion in recent quarters. Consumer spending and business investment were the primary drivers of growth.
- Headline inflation decelerated from 2.4% in February to 1.6% in June. The slowdown was partially influenced by the effect of lower oil prices falling out of the year-over-year calculation, but the fall in price level was not solely due to energy. Lower telecom prices helped lead to a drop in core CPI, which fell from 2.0% to 1.7%.
- For a third consecutive quarter, the Fed raised the target federal funds rate by 25 bps. FOMC members looked past the recent soft patch in inflation and cited improving overall economic conditions.
- The Fed also released details on its balance sheet normalization plan, although timing remains unclear. Once the program begins, \$6 billion in Treasuries and \$4 billion in mortgage-backed securities will roll off the balance sheet each month. These amounts will increase every three months until a total cap of \$50 billion per month is reached.
- The economy added 194,000 jobs per month in the second quarter, on average. This marks the best quarter for job growth since the second quarter of 2010. Many of these jobs have been created in lower paying sectors such as leisure and hospitality, which may be helping to keep overall wage growth subdued.

	Most Recent	12 Months Prior
GDP ( <i>annual YoY</i> )	2.1% 3/31/17	1.6% 3/31/16
Inflation ( <i>CPI YoY, Headline</i> )	1.6% 6/30/17	0.9% 6/30/16
Expected Inflation ( <i>5yr-5yr forward</i> )	1.8% 6/30/17	1.5% 6/30/16
Fed Funds Rate	1.25% 6/30/17	0.50% 6/30/16
10 Year Rate	2.3% 6/30/17	1.5% 6/30/16
U-3 Unemployment	4.4% 6/30/17	4.9% 6/30/16
U-6 Unemployment	8.6% 6/30/17	9.6% 6/30/16

# U.S. economics – GDP growth

Real GDP grew 2.1% YoY in Q1 (1.4% quarterly annualized rate), slightly below expectations. First quarter growth has disappointed over the past few years, and investors seemed to overlook this release as second quarter growth forecasts were revised upward.

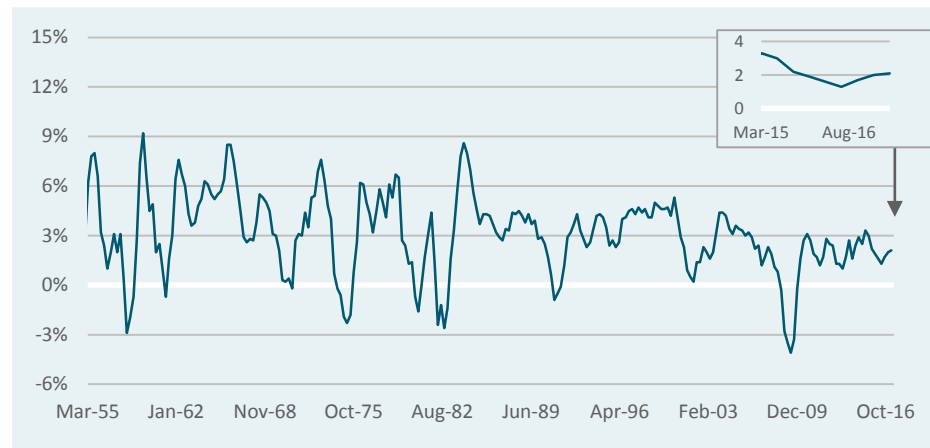
Personal consumption cooled in the first quarter, but was still a positive contributor to GDP. A temporary decline in utilities spending from milder winter weather across the country contributed to the softer growth.

Business investment increased the most in more than three years, and was the largest contributor to growth, suggestive of a rise in business confidence as companies put cash to work. Slower accumulation of private inventories was the largest detractor from GDP.

Economists are forecasting moderate economic growth throughout the rest of the year. Fundamentals for consumers and businesses remain strong even as the Fed is gradually tightening monetary policy.

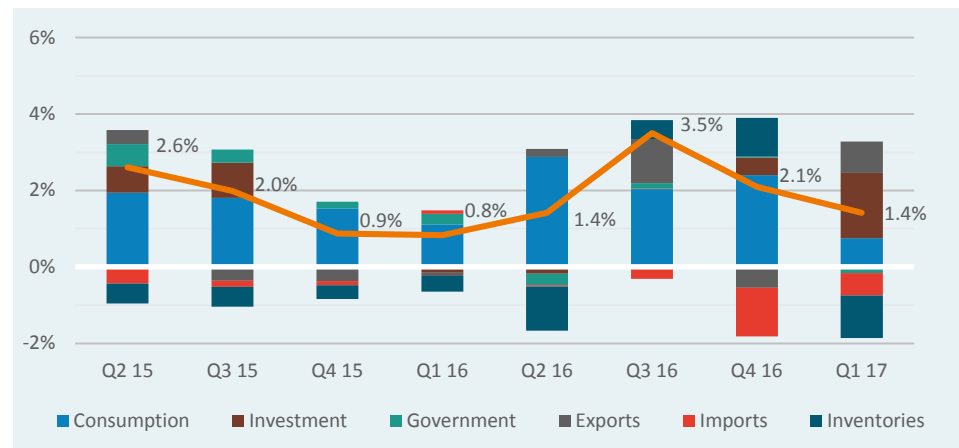
The trend of steady, moderate growth was sustained in Q1

U.S. REAL GDP GROWTH (YOY)



Source: FRED, as of 3/31/17

U.S. GDP COMPONENTS



Source: BEA, annualized quarterly rate, as of 3/31/17

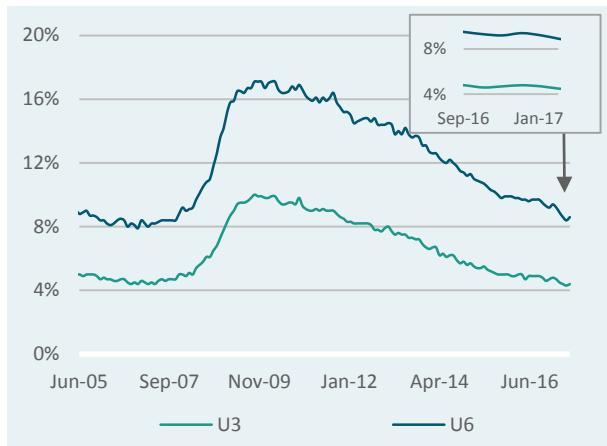
# U.S. economics – Labor market

Although low unemployment suggests a tight labor market, the economy still added jobs at a solid pace. Payrolls added an average of 194,000 jobs per month during the second quarter, compared to the expansion average of 198,000. The headline unemployment rate dropped 0.1% to 4.4%, and the broader U-6 unemployment rate fell 0.3% to 8.6%. The U-6 rate, which includes discouraged workers, has come down materially since the beginning of the year as people have reentered the labor force and been able to find work.

Despite low unemployment and other indicators of a tight labor market, workers have yet to experience strong wage gains. Average hourly earnings rose 2.5% on a nominal basis from the previous year and 0.6% on a real basis. Historically, wage growth has been higher during similar times of low unemployment. Mild wage growth is likely tied to the inflow of previously discouraged, less skilled, and less productive workers into the workforce. As these workers begin to participate in the economy they may provide continuing support for expansion.

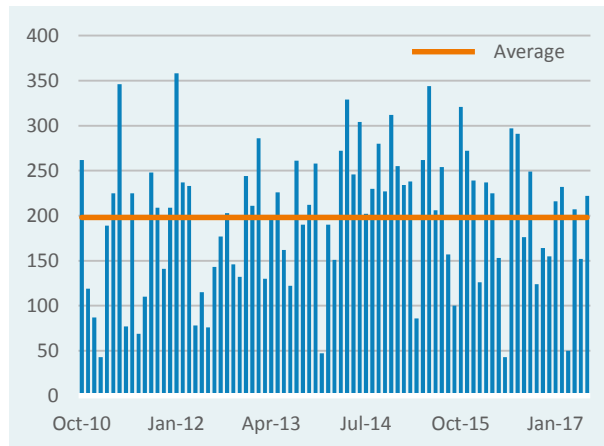
Job growth has been strong, while wages have seen less improvement

U.S. UNEMPLOYMENT



Source: FRED, as of 6/30/17

CHANGE IN NONFARM PAYROLLS (THOUSANDS)



Source: FRED, as of 6/30/17

REAL AVERAGE HOURLY EARNINGS (YOY)



Source: FRED, as of 5/31/17

# U.S. economics – The consumer

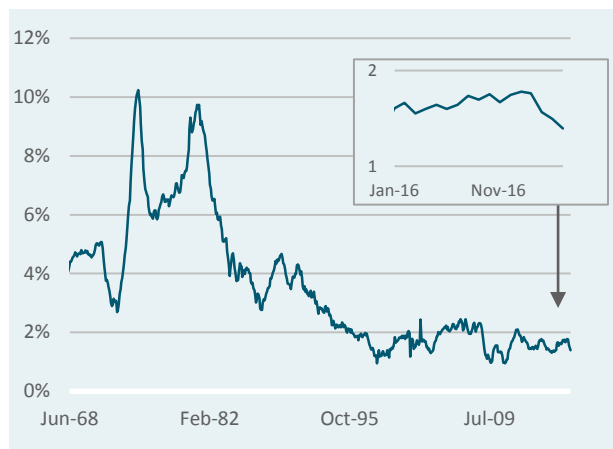
Consumer spending growth has slowed slightly this year, but is within a normal range. The move was partially due to a temporary decline in utilities expenditures. Despite the recent cooling, the fundamental picture for consumers is still positive. Low inflation, low unemployment, and moderate wage gains should provide a backdrop for further spending growth even though it appears less likely that the post-election jump in consumer sentiment will translate into a large increase in spending.

In addition, households have experienced a significant deleveraging over the past few years, and consumers have used credit sparingly in this cycle relative to history. Healthy balance sheets and a low interest burden should also support moderate spending in the future.

A potential risk to the consumer is that borrowing costs such as credit card, auto and student loan interest rates, are expected to rise along with Fed monetary tightening. This will act as a headwind to income and spending, but at this point these borrowing rates have only experienced a slight increase.

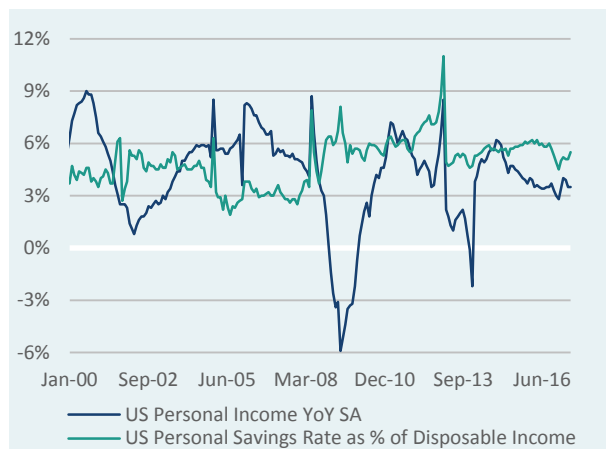
Consumer spending has cooled, but is still an important contributor to growth

CONSUMER SPENDING (YOY GROWTH)



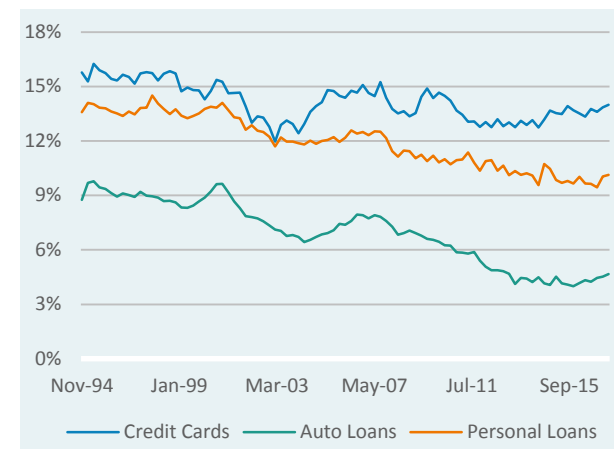
Source: Bloomberg, as of 5/31/17

SAVINGS & INCOME (YOY)



Source: FRED, as of 5/31/17

CONSUMER INTEREST RATES



Source: FRED, as of 5/31/17

# U.S. economics – Sentiment

Consumer sentiment indicators have trended downward from post-election highs, but remain elevated from a historical perspective. The University of Michigan Consumer Sentiment Index, which tracks both consumers' perception of current conditions and expectations of future conditions, fell from 96.9 to 95.1 during the quarter, its lowest level since the election.

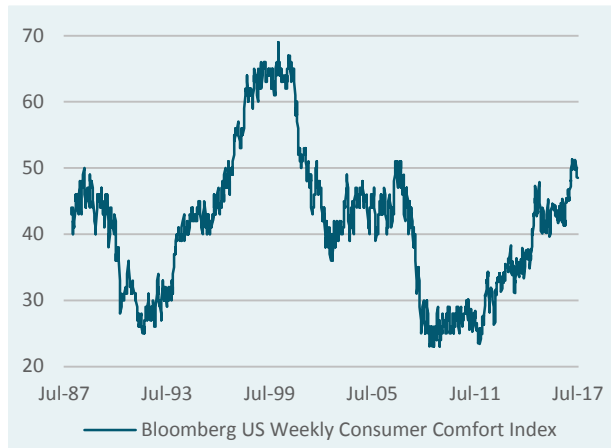
Weakened confidence was fueled by uncertainty surrounding fiscal policies, as reported by the University of Michigan Sentiment Survey. Consumers expect a low likelihood of successful policy implementation. Progress

from the Trump administration on these policies could lead to a positive surprise.

In aggregate, U.S. economic data came in below expectations during the quarter as the Citi Economic Surprise Index fell from 48 to -73. Although the drop is somewhat concerning, this indicator tends to be mean-reverting in nature and some of the decline should be expected. A positive (negative) reading of the Economic Surprise Index suggests that economic releases have on balance been beating (missing) consensus.

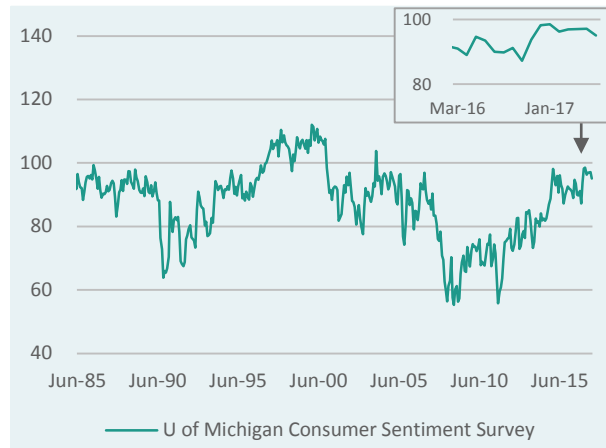
Consumer sentiment has faded since the post-election peak

**CONSUMER COMFORT INDEX**



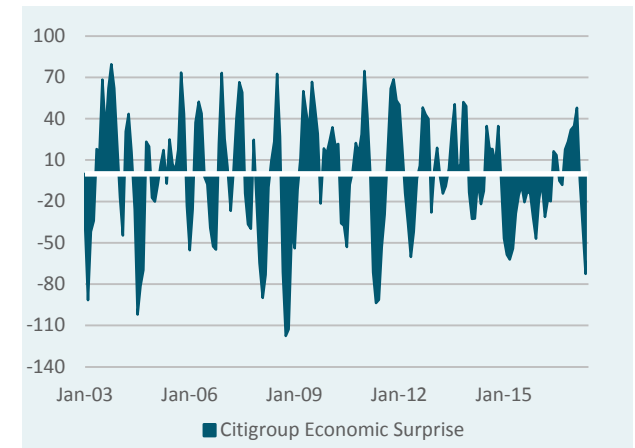
Source: Bloomberg, as of 7/2/17 (see Appendix)

**CONSUMER SENTIMENT**



Source: University of Michigan, as of 6/30/17 (see Appendix)

**U.S. ECONOMIC SURPRISE**



Source: Bloomberg, as of 6/30/17 (see Appendix for details)

# U.S. economics – Housing

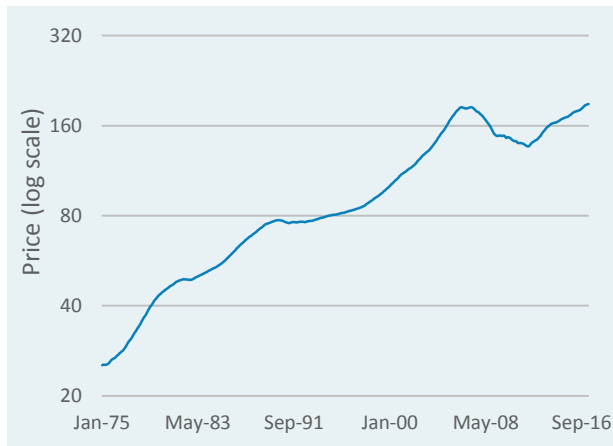
Single family home prices increased at a steady rate amid strong demand and low supply. Over the past 12 months, the Case-Shiller National Home Price Index rose 5.5%. Seattle, Portland, and Dallas reported the highest yearly growth among the top 20 metropolitan areas.

Tighter mortgage lending standards by banks have led to a higher quality pool of borrowers than in the previous real estate cycle. In addition to tighter lending standards, household deleveraging and lower interest rates have

been important drivers of lower delinquency and default rates. Mortgage rates spiked following the election, but have since come down slightly.

Housing starts and permits declined throughout the quarter, indicating a slowing of construction activity that could weigh on economic growth. The market is already constrained by low supply, and if new construction were to decline further, it may add upward pressure to housing prices.

**CASE-SHILLER HOME PRICE INDEX**



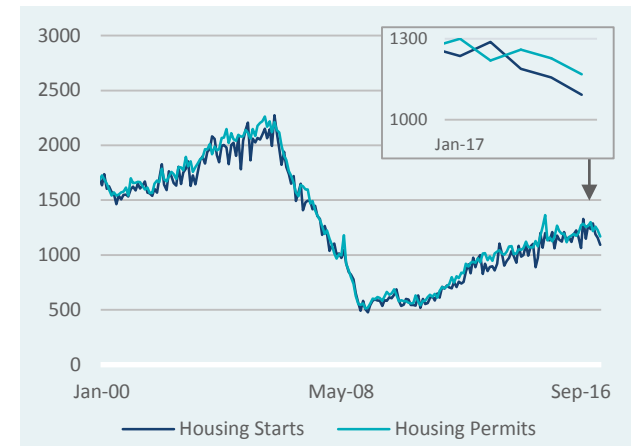
Source: FRED, as of 4/30/17

**30-YEAR MORTGAGE RATE**



Source: FRED, as of 7/6/17

**HOUSING STARTS AND PERMITS**



Source: FRED, as of 5/31/17

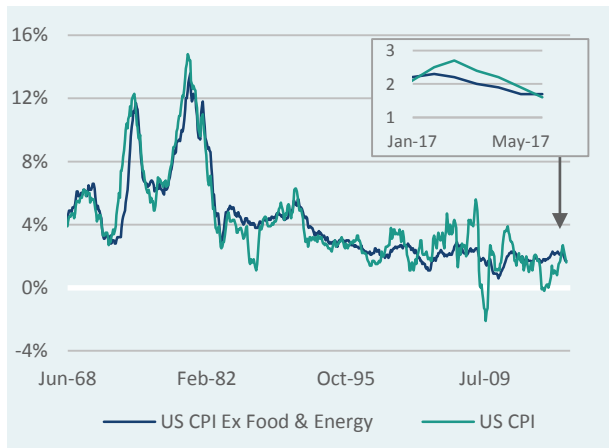
# U.S. economics – Inflation

Inflation decelerated during the quarter, falling back below the Fed's target of 2%. Headline CPI fell 0.8% to 1.6% and core CPI (ex food and energy) declined 0.3% to 1.7%. Much of the decline in the headline number was due to lower energy prices, though weakness in telecommunication, apparel, and health care prices also contributed to lower inflation. In her testimony to the Senate, Janet Yellen acknowledged the recent weakness in inflation as a concern, but said she still believes price levels will move gradually higher to reach the Fed's target. Further softness in inflation could give the Fed pause when considering additional tightening.

Lower realized inflation, which missed estimates for three consecutive months, helped lead the market to reprice inflation expectations. The 10-year TIPS breakeven inflation rate fell from 2.0% in March to 1.7% in June. Market-based inflation expectations are low compared to history, and participants may simply be naively projecting the current low inflation environment into the future. Late stage cyclical conditions including moderate economic expansion and a tightening labor market could place gradual pressure on inflation.

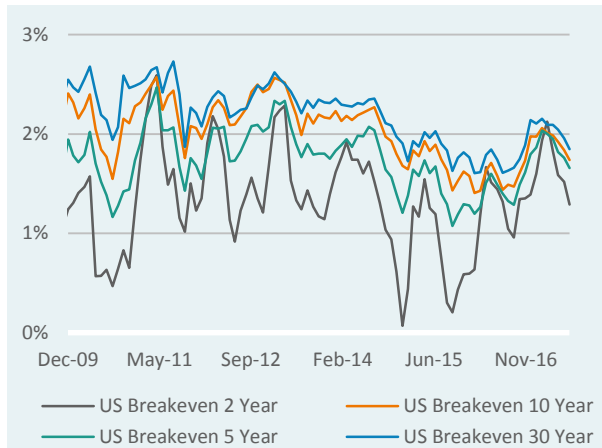
**Inflation decelerated in the second quarter**

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



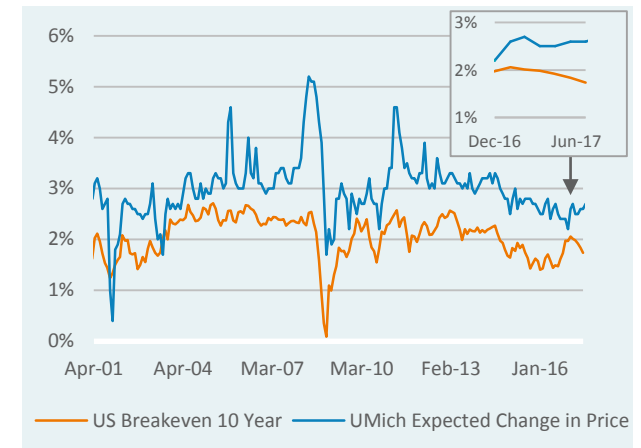
Source: FRED, as of 6/30/17

**U.S. TIPS BREAKEVEN RATES**



Source: FRED, as of 6/30/17

**INFLATION EXPECTATIONS**



Source: Bloomberg, as of 6/30/17

# International economics summary

- Developed and emerging economies have exhibited coordinated positive growth momentum from low absolute growth rates relative to history. A continuation of this trend may be self reinforcing, lifting weak and strong economies alike.
- Economic releases have missed expectations in the U.S. and U.K. after extended upside surprise. The Eurozone has delivered positive surprise, but by a smaller margin.
- Oil further contributed to commodity underperformance due to oversupply, disagreements within OPEC regarding production cuts, and concerns over the magnitude of U.S. production.
- Developed world inflation remained within a normal range, though slightly below levels targeted by central banks.
- In May, Emmanuel Macron defeated Marine Le Pen in the French presidential election, calming fears over populist politics gaining an increased foothold in Europe.
- On June 8th, the U.K. held a snap election in which the Conservative party surprised polls and gave up their majority in Parliament, potentially weakening their position in the upcoming Brexit negotiations.
- On June 27th, ECB President Mario Draghi surprised markets with comments perceived as hawkish compared to previous comments. In the following two days the Euro appreciated 2.3% against the U.S. dollar and developed global rates moved upward - German bunds in particular.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.1% 3/31/17	1.6% 6/30/17	4.4% 6/30/17
Western Europe	1.8% 3/31/17	1.3% 6/30/17	8.1% 3/31/17
Japan	1.3% 3/31/17	0.4% 5/31/17	3.1% 5/31/17
BRICS Nations	5.4% 3/31/17	2.3% 3/31/17	5.6% 12/31/16
Brazil	(0.4%) 3/31/17	3.0% 6/30/17	13.5% 6/30/17
Russia	0.5% 3/31/17	4.4% 6/30/17	5.5% 3/31/17
India	6.1% 3/31/17	2.2% 5/31/17	8.4% 12/31/16
China	6.9% 3/31/17	1.5% 5/31/17	4.0% 12/31/16

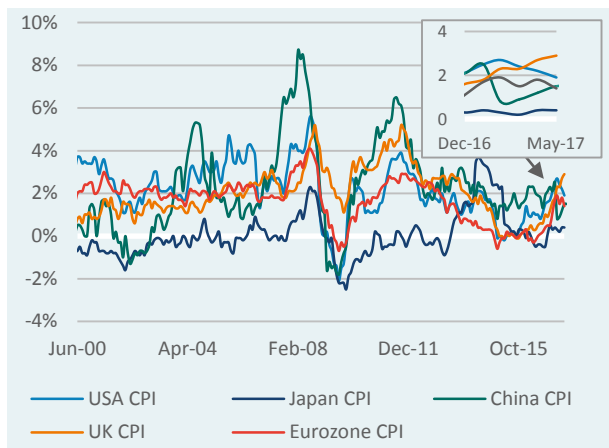
# International economics

Eurozone CPI was 1.3% YoY in June, arguably within the bounds of the European Central Bank mandate “...to maintain inflation rates below, but close to, 2% over the medium term.” Inflation below 2% likely implies a more dovish central bank stance.

Japan CPI remained low at 0.4% YoY in May. Bank of Japan Governor Haruhiko Kuroda explained in June that “...there is still a long way to go until the price stability target of 2 percent is achieved.” The Bank of Japan maintains its aggressive stimulus policy which separates the bank from those of other developed economies.

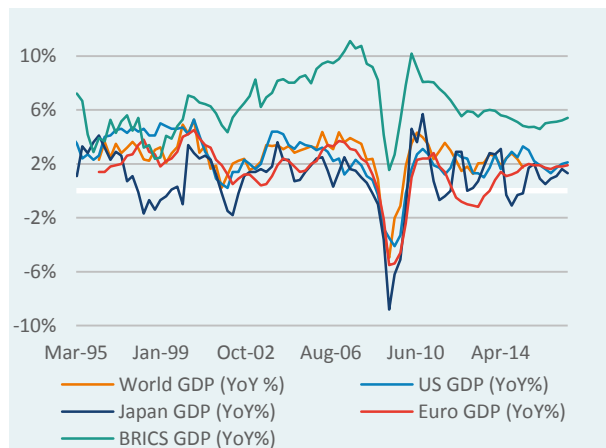
Employment has improved markedly across the globe, recovering to pre-crisis levels in most economies. Europe remains the exception in terms of aggregate employment, with labor markets displaying disparate levels of health from one country to the next. Core countries such as Germany and France have experienced a much greater fall in unemployment than periphery countries such as Spain and Italy.

## INTERNATIONAL INFLATION



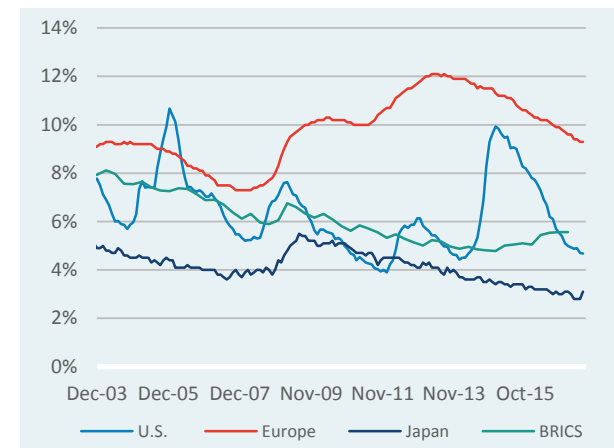
Source: Bloomberg, as of 5/31/17

## REAL GDP GROWTH



Source: Bloomberg, as of 3/31/17

## GLOBAL UNEMPLOYMENT



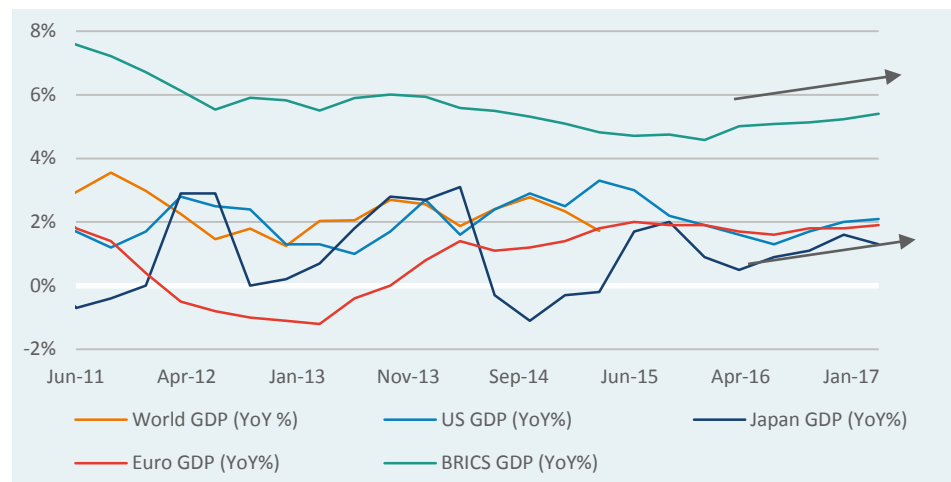
Source: Bloomberg, as of 5/31/17 or most recent release

# Synchronized global growth

Developed and emerging economies have begun to accelerate. A confluence of low inflation, higher employment (but weak wage pressure), improving consumer/business sentiment, and relatively accommodative central bank policy may lead to a unified global expansion. We expect that this trend would deliver outsized gains to open, export-focused economies. Emerging markets may be noteworthy beneficiaries within this environment, as these economies tend to be highly exposed to global growth trends.

The U.S. economy is arguably further along in its economic cycle than other economies; however, it is important to note that American corporations derive a significant portion of sales from overseas. S&P 500 foreign sales make up more than one third of total index revenue. U.S. corporations could participate substantially in global growth despite a more mild domestic expansion scenario.

## REAL GDP GROWTH



Source: Bloomberg, as of 3/31/17

## GLOBAL PMI

	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17
<strong>Manufacturing</strong>												
Global	51	51	51	52	52	53	53	53	53	53	53	53
Developed	52	51	52	53	53	54	54	54	54	54	54	54
US	52	49	52	52	54	55	56	58	57	55	55	58
Eurozone	52	52	53	54	54	55	55	55	56	57	57	57
Japan	49	50	50	51	51	52	53	53	52	53	53	52
EM	50	50	50	51	51	51	51	51	52	51	51	51
<strong>Services</strong>												
Global	52	52	52	53	53	53	54	53	54	54	54	54
Developed	51	52	52	54	54	54	55	54	54	54	54	55
US	55	52	57	55	56	57	57	58	55	58	57	57
Eurozone	53	53	52	53	54	54	54	56	56	56	56	55
Japan	50	50	48	51	52	52	52	51	53	52	53	53
EM	53	53	52	53	54	54	54	56	56	56	56	55

Source: Bloomberg, as of 6/30/17 – (blue stronger / orange weaker)

# Fixed income rates & credit

# Interest rate environment

- On June 14th, the Federal Reserve raised the federal funds rate by 25 bps to a target range of 1.00% - 1.25%.
- The Fed's own forecast indicates one more rate hike this year, and three more hikes in each of the next two years. Rates are expected to normalize at 3% at the end of 2019. We believe the probability that the Fed undershoots its target is significant, given persistent low inflation and a high degree of risk if policy is tightened too quickly.
- The Fed announced plans to begin reducing their balance sheet sometime this year. The initial plan is to runoff \$6 billion of Treasuries and \$4 billion of mortgage-backed securities per month. This will be scaled up commensurately every 3 months to \$50 billion per month.
- Markets expect the ECB to reduce monetary easing gradually throughout 2018, with a tapering plan announcement this fall.
- In May, the Bank of Japan raised its economic forecasts. The central bank implemented a "yield curve control" policy at its September meeting along with a mandate to keep the 10-year yield at 0%. The BoJ plans to maintain an easy stance until inflation hits its 2% target.
- Credit spreads remain broadly tight. Spread levels have historically been a strong predictor of credit performance relative to Treasuries, which at current levels implies muted future performance.
- We favor emerging market debt due to higher yields relative to other bond markets.

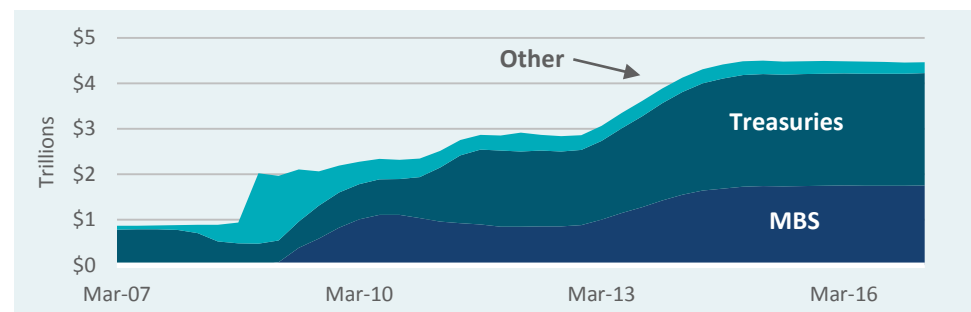
Area	Short Term (3M)	10 Year
United States	1.01%	2.30%
Germany	(0.82%)	0.47%
France	(0.60%)	0.82%
Spain	(0.44%)	1.54%
Italy	(0.38%)	2.16%
Greece	2.43%	5.42%
U.K.	0.17%	1.26%
Japan	(0.10%)	0.09%
Australia	1.63%	2.73%
China	2.63%	3.57%
Brazil	9.41%	10.54%
Russia	8.16%	7.90%

Source: Bloomberg, as of 6/30/17

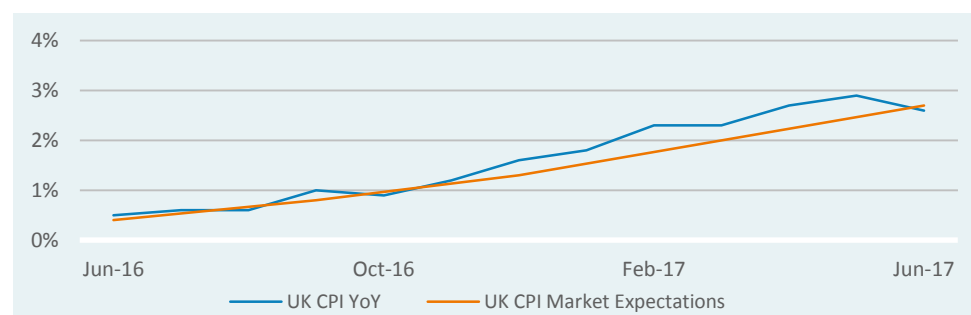
# Central bank confidence

- The U.S. Federal Reserve announced plans to begin reducing its balance sheet, which is expected to begin later this year. The initial plan is to runoff \$6 billion of Treasuries and \$4 billion of mortgage-backed securities per month. This will be scaled up commensurately every three months to a total of \$50 billion per month. Considering the Fed balance sheet has grown to \$4.5 trillion in size, it would take nearly seven years of uninterrupted runoff to fully unwind the balance sheet to the pre-crisis level. Central banks are likely aiming to build up more dry powder in order to address future economic downturns.
- Markets expect the ECB to announce a gradual tapering plan to its asset purchase program in the fall that will most likely begin sometime in 2018. More policy timing clues are anticipated from the ECB at the September 7<sup>th</sup> meeting.
- In the U.K., the argument for a rate hike is building after higher than expected inflation in May. This has likely contributed to recent British Pound appreciation. Mark Carney seems more receptive to rate hikes but has stated that business investment would need to grow to offset weaker consumer spending in order for him to push for a hike.
- The Bank of Japan announced that it would buy unlimited quantities of government bonds to keep yields from rising too far – recently this seems to be defined as 0.1% yield on the 10-year government bond. The bank plans to stick to policy until inflation hits the 2% target.

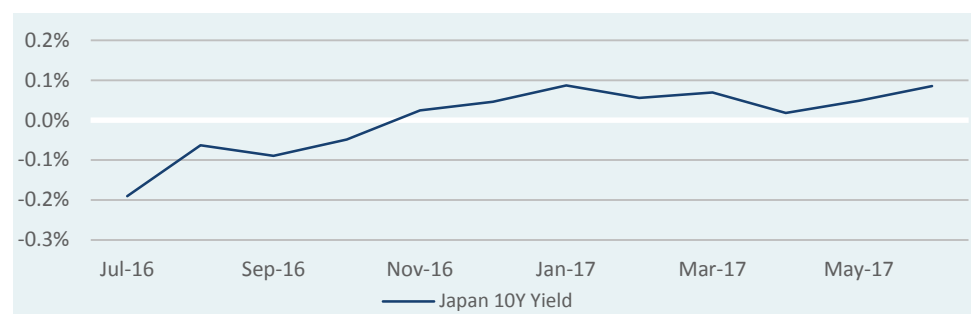
**FEDERAL RESERVE BALANCE SHEET**



**U.K. CPI YOY VS MARKET EXPECTATIONS**

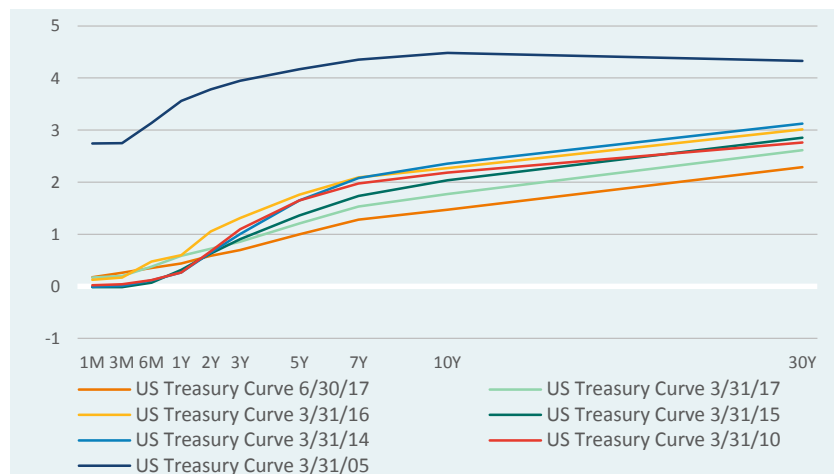


**JAPAN 10Y YIELD**

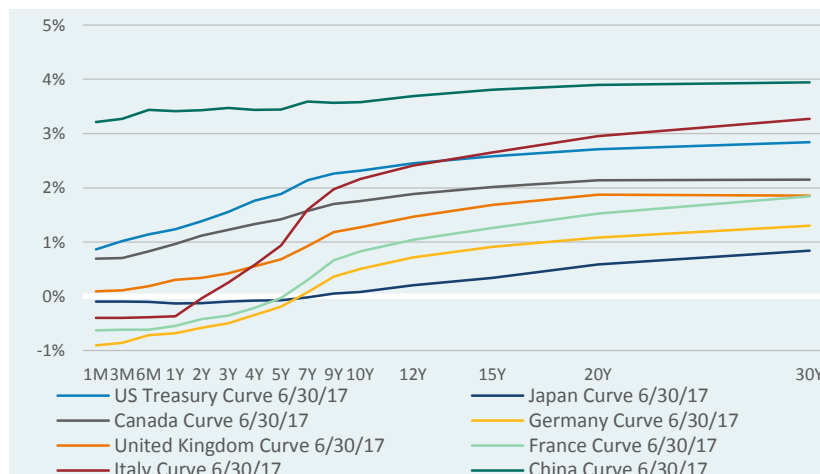


# Yield environment

U.S. YIELD CURVE

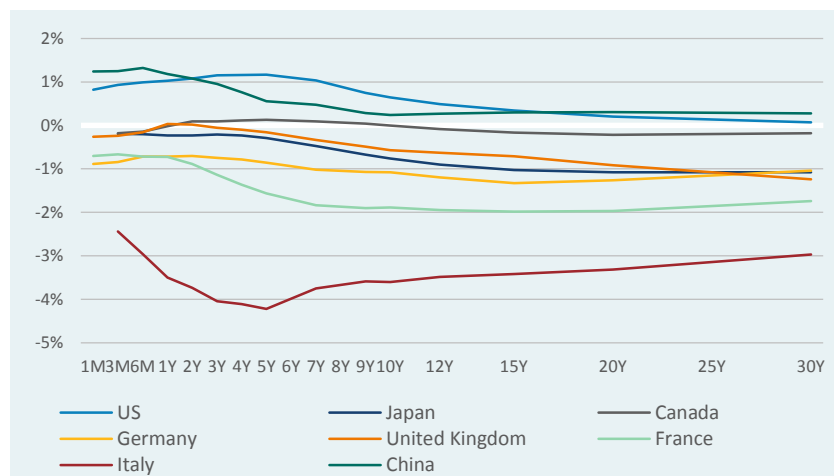


GLOBAL GOVERNMENT YIELD CURVES

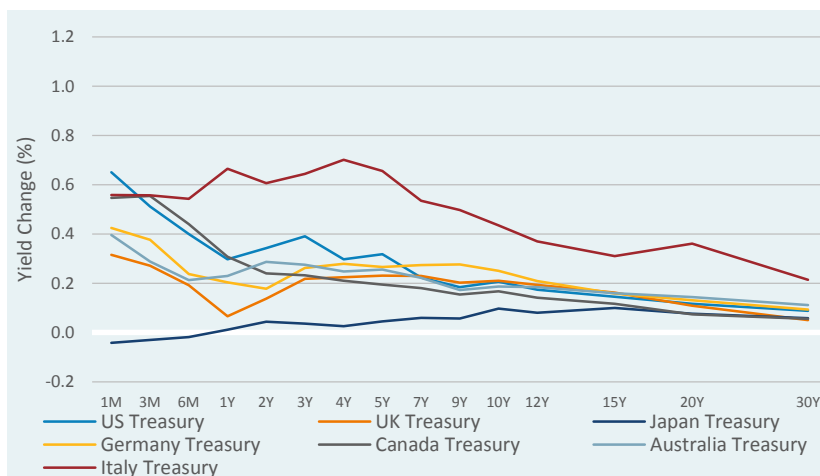


Across developed markets, U.S. Treasuries offer higher yields

YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 6/30/17

# Credit environment

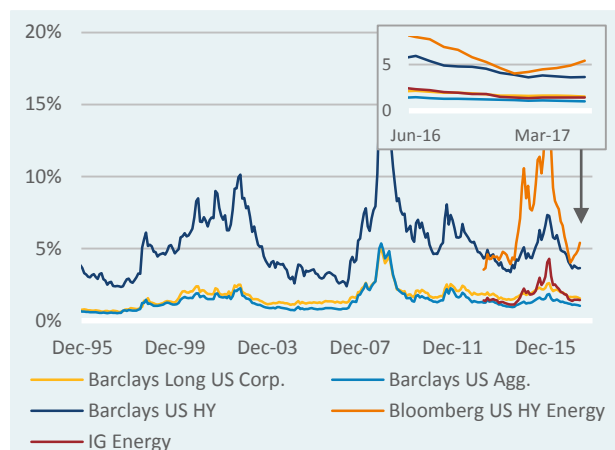
U.S. high yield option-adjusted spreads compressed in the second quarter to 3.6%, and the asset class generated a 2.2% total return (BBgBarc U.S. Corp. High Yield Index). High yield spreads are tighter than those of bank loans on a duration neutral basis.

The U.S. labor market remained strong, which helped the Fed to justify a rate increase of 0.25% in June. Investors continued to favor credit. A combination of tighter credit spreads and additional carry (greater yield) over Treasuries led credit to broadly outperform Treasuries in Q2. Spreads are near historic lows, though these levels

have been witnessed in later stages of previous credit cycles. Credit spreads have historically been a good indicator of future performance relative to Treasuries.

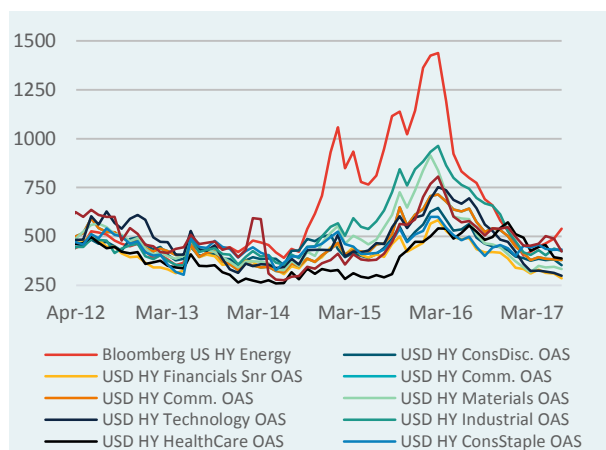
High yield energy spreads widened over the quarter to 5.4% - a very moderate rise relative to what was witnessed following the 2014 commodity drawdown. This lesser magnitude can be partly attributed to better credit ratings of companies in the index today. Additionally, innovation and technological gains have helped lower costs, which allows businesses to stay profitable at lower price levels.

## CREDIT SPREADS



Source: Barclays Capital Indices, Bloomberg, as of 6/30/17

## HIGH YIELD SECTOR SPREADS



Source: Bloomberg, as of 6/30/17

## SPREADS

Market	Credit Spread (6/30/17)	Credit Spread (1 Year Ago)
Long US Corporate	1.6%	2.2%
US Aggregate	1.1%	1.6%
US High Yield	3.6%	5.9%
US High Yield Energy	5.4%	8.0%
US Bank Loans	3.7%	3.9%

Source: Barclays, Credit Suisse, Bloomberg, as of 6/30/17

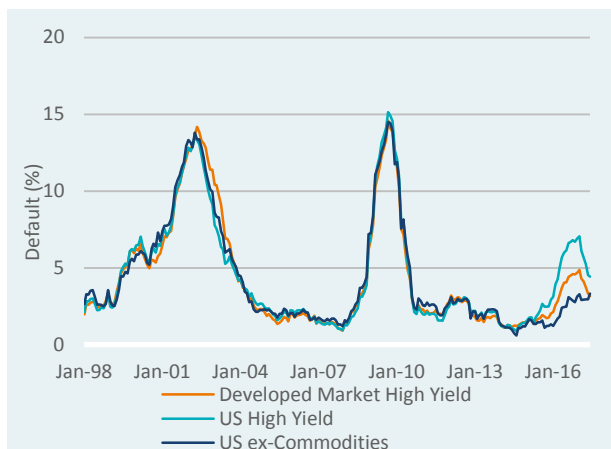
# Issuance and default

Both U.S. senior loan and high yield markets are stabilizing with the majority of par defaults last year coming from energy and metals/mining sectors. Rolling default rates should fall as commodity prices recover and commodity price-induced credit problems have a lesser impact on the credit universe. Active management may offer value to investors in the high yield space.

Global high yield and bank loan issuance has grown at a faster pace than what was seen last year. Lower spread levels have resulted in more attractive borrowing costs for these issuers. The direction of interest rates will likely impact future debt issuance levels.

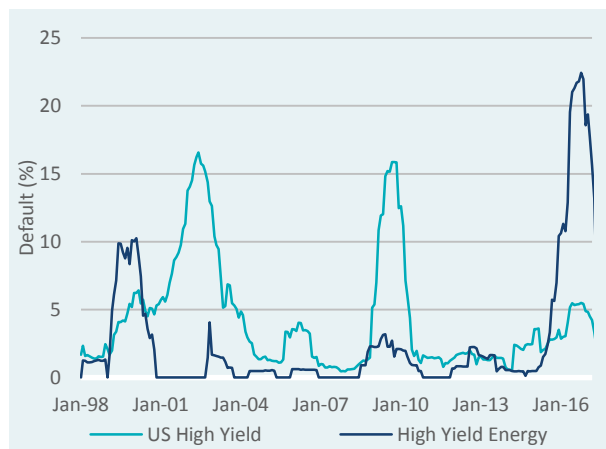
The effects of commodity related defaults are subsiding

HY DEFAULT TRENDS (ROLLING 1 YEAR)



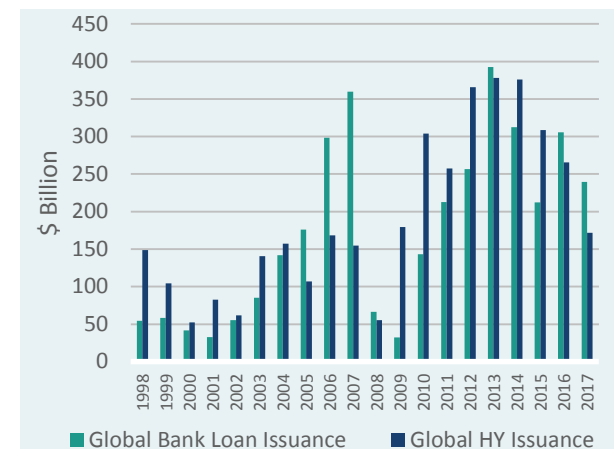
Source: BofA Merrill Lynch, as of 6/30/17

ENERGY DEFAULT TRENDS



Source: BofA Merrill Lynch, as of 6/30/17

GLOBAL ISSUANCE



Source: Bloomberg, BofA Merrill Lynch, as of 6/30/17

# Equity

# Equity environment

- We maintain a moderate overweight to equities with a preference for emerging markets due to attractive valuations and better growth prospects relative to developed markets.
- Global equity markets delivered another positive quarter, driven by strong earnings growth across regions. Earnings were strongest in Western Europe and emerging markets. These regions outperformed on a relative basis during the quarter.
- According to FactSet, the estimated Q2 earnings growth rate of the S&P 500 is 6.8% YoY. Energy companies are expected to contribute the most to overall growth due to stabilizing oil prices and a low earnings base one year ago.
- Increased uncertainty surrounding the Brexit negotiations following the Conservative party's surprise loss of a majority in Parliament likely helped lead to underperformance in U.K. equities. The FTSE 100 Index returned -4.9% in Q2.
- MSCI approved the inclusion of 222 mainland Chinese companies (China A Shares) into the MSCI Emerging Markets Index. This represents only a small portion of the overall market. Starting in 2018, these domestic shares will represent approximately 0.7% of the index. While initially this decision will have a minimal effect on index performance, it opens the door for additional China A shares to be added. If the entire market was included, it would represent 12.8% of the MSCI index.

	QTD TOTAL RETURN		YTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	3.1%		9.3%		18.0%	
US Small Cap (Russell 2000)	2.5%		5.0%		24.6%	
US Large Value (Russell 1000 Value)	1.3%		4.7%		4.7%	
US Large Growth (Russell 1000 Growth)	4.7%		14.0%		20.4%	
International Large (MSCI EAFE)	6.1%	3.1%	13.8%	16.1%	20.3%	23.5%
Eurozone (Euro Stoxx 50)	6.5%	3.8%	19.1%	22.5%	26.6%	28.3%
U.K. (FTSE 100)	4.9%	1.2%	10.0%	5.0%	13.6%	17.5%
Japan (NIKKEI 225)	5.1%	6.5%	9.6%	6.6%	19.9%	32.0%
Emerging Markets (MSCI Emerging Markets)	6.3%	6.1%	18.4%	11.6%	23.8%	19.3%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 6/30/17

# Domestic equity

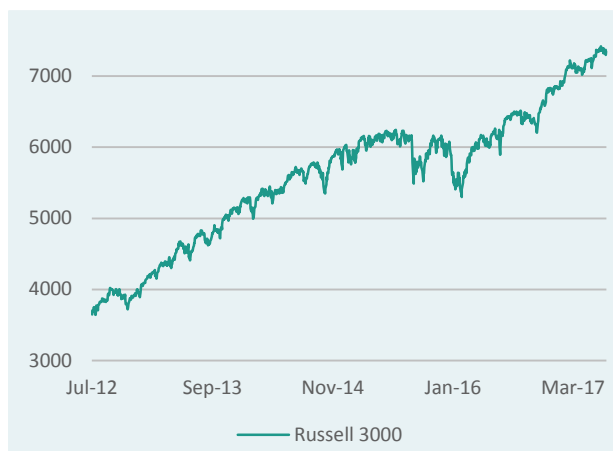
U.S. equities moved higher on robust earnings growth. According to FactSet, the estimated Q2 earnings growth rate of the S&P 500 is 6.8% YoY. Energy companies are expected to contribute the most to overall growth due to a low earnings base one year ago and stabilizing oil prices. The earnings outlook for the rest of the year is strong, and the expected growth rate for the 2017 calendar year is 9.8%. Positive global growth trends could help lift earnings further since a substantial portion of U.S. corporate revenues come from abroad.

All major U.S. banks passed the Fed's stress test in June, citing strong capital levels and ability to lend during a recession. The news drove financials upward as the positive results allowed banks to increase their future dividends and buybacks.

As discussed in recent quarters, we are relatively bullish on U.S. earnings growth in the near term, but investors may be paying for this excess growth upfront through higher valuations. We maintain a neutral weight to U.S. equities.

We maintain  
a neutral  
weight to  
U.S. equities

## U.S. EQUITIES



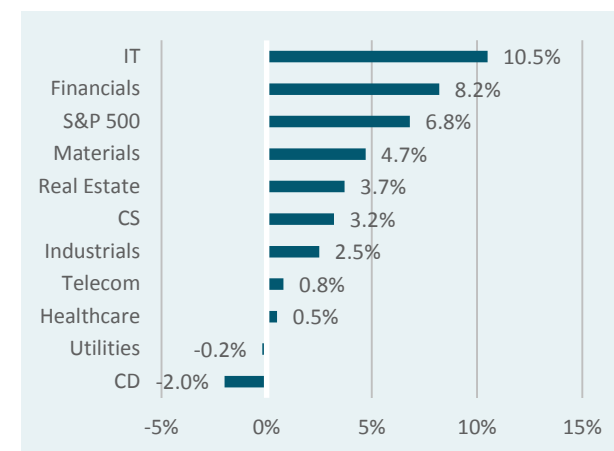
Source: Russell Investments, as of 7/7/17

## S&P 500 EPS GROWTH



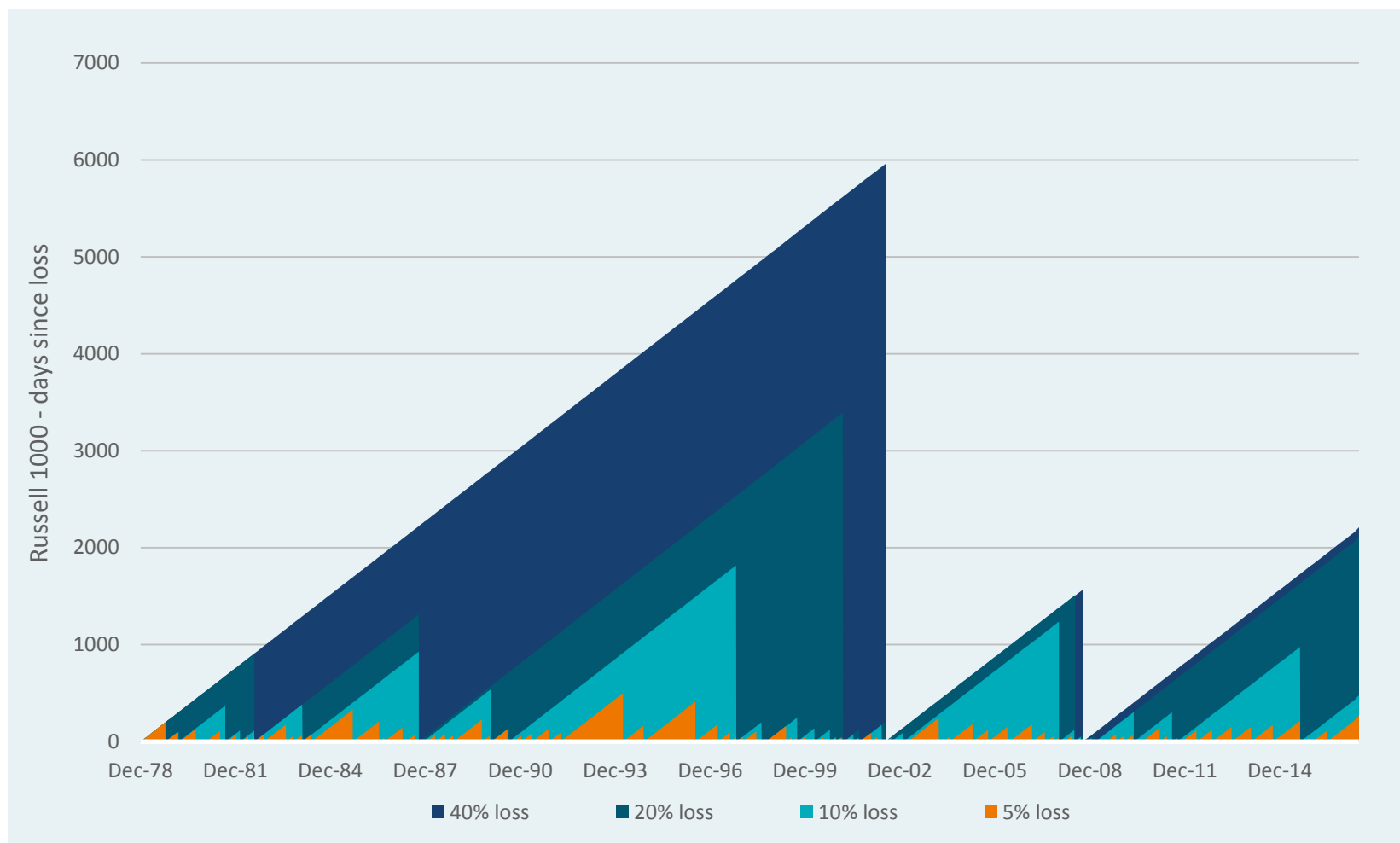
Source: Bloomberg, as of 6/30/17

## Q2 FORECAST EPS GROWTH



Source: FactSet, as of 7/14/17 - excludes energy sector

# Expect surprises



Market surprises are normal and in most cases should not affect long-term portfolio planning

Source: Bloomberg

# Domestic equity size and style

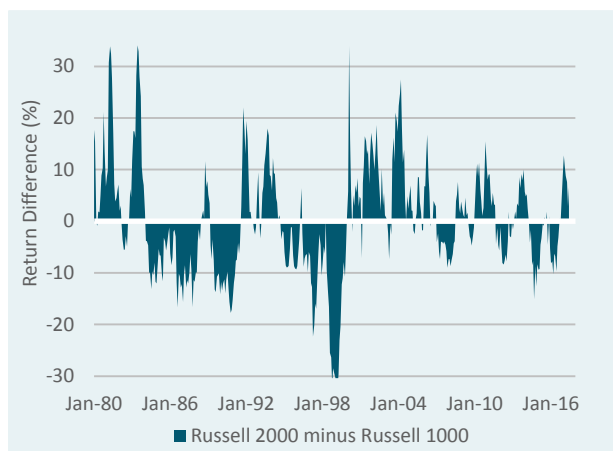
Despite a short selloff in June, strong returns from the tech sector helped lead to positive relative performance of growth over value during the quarter. Much of the gains were concentrated in the well known mega-cap stocks, including Apple, Amazon, and Microsoft. Momentum in growth stocks has continued to perform well so far this year.

In the second quarter, the Russell 1000 Growth Index and the Russell 1000 Value Index returned 4.7% and 1.3%, respectively. Falling oil prices were a headwind to energy

companies, which were the largest detractor from the value index.

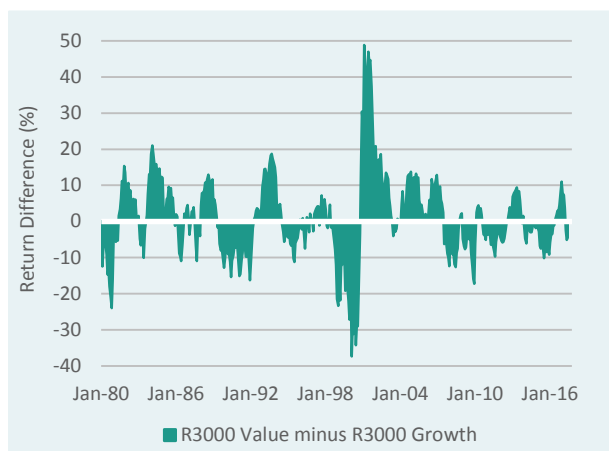
Large cap equities narrowly outperformed small cap equities. Much of the optimism surrounding Trump's pro-small business policies after his victory, including deregulation and tax reform, appears to have faded so far this year. If progress on these measures is made, smaller companies could receive another boost in the second half of 2017.

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



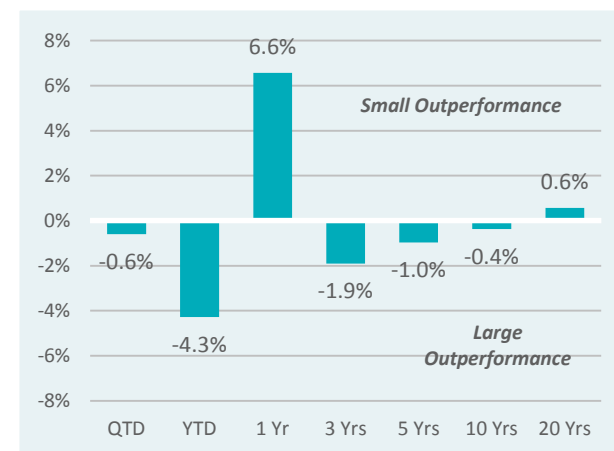
Source: Russell Investments, as of 6/30/17

**VALUE VS GROWTH (YOY)**



Source: Russell Investments, as of 6/30/17

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



Source: Morningstar, as of 6/30/17

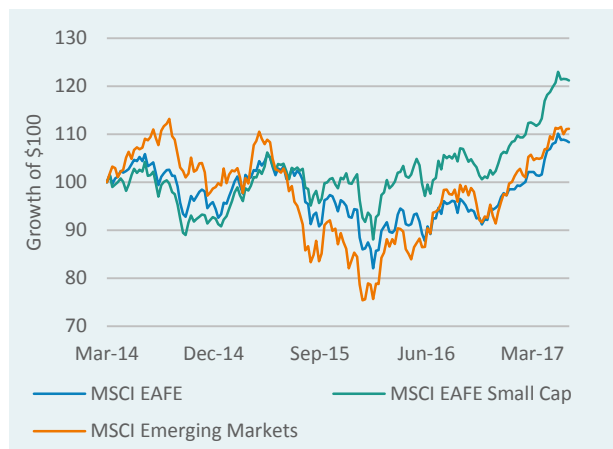
# International equity

International equities outperformed domestic equities over the quarter. The MSCI ACWI ex U.S. returned 5.8% on an unhedged basis while the S&P 500 returned 3.1%.

The U.S. dollar has steadily depreciated in value year-to-date against major currencies, down around 7%. This currency movement has added volatility to investors with unhedged currency exposure, with the MSCI EAFE Index returning 13.8% unhedged vs. 16.1% hedged, and the MSCI Emerging Markets Index returning 18.4% unhedged vs. 11.6% hedged.

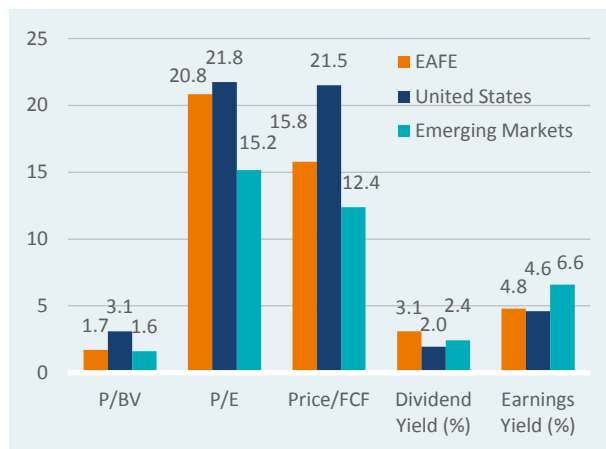
International equities are trading at lower multiples than domestic equities, based on various metrics. Valuations and earnings growth both play an important role in equity return outcomes and risk. Higher equity valuations imply greater optimism surrounding growth expectations, and greater optimism presents investors with more downside risk as the possibility of disappointment rises. Because of lower valuation levels, international markets may possess greater upside potential through either valuation expansion or positive earnings growth surprise. However, due to apparent tail risks in these markets we maintain a neutral weight in portfolios.

## GLOBAL EQUITY PERFORMANCE



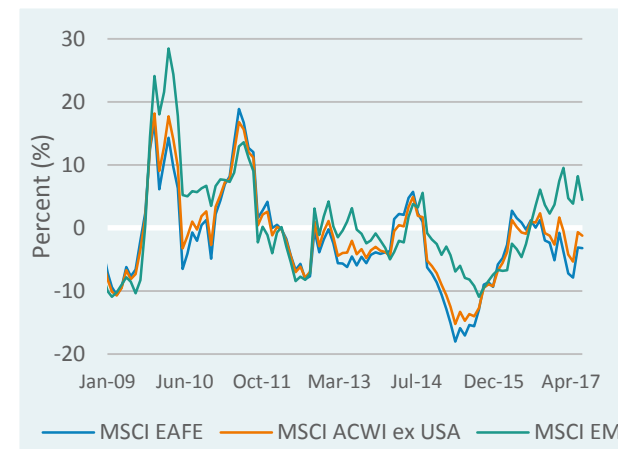
Source: Bloomberg, as of 6/30/17

## VALUATIONS



Source: Bloomberg, MSCI, as of 6/30/17 - 3 month average

## EFFECT OF CURRENCY (1 YEAR ROLLING)



Source: MSCI, as of 6/30/17

# Emerging market equity

We maintain an overweight to emerging markets due to attractive valuations and better growth prospects relative to developed markets.

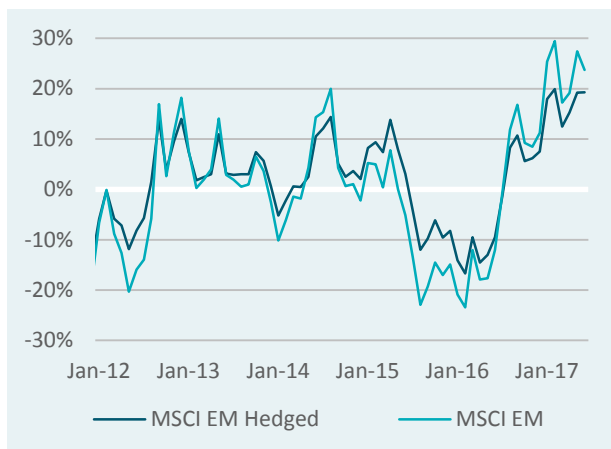
Emerging market equities continue to outperform developed markets, delivering 4.8% in Q2 and 17.1% year-to-date. Currency movement has been additive. Emerging market equity earnings are now expected to grow 22% YoY in 2017, which is a material increase from the 13% YoY increase expected at the beginning of 2017.

Interestingly, valuations have come down slightly despite very strong equity returns, as earnings rise faster than price.

If economic growth turns upward across the globe, we would expect major exporting economies to experience a significant tailwind. Emerging markets in particular tend to provide high exposure to global growth. Stabilizing commodities in this type of environment would likely provide an additional tailwind.

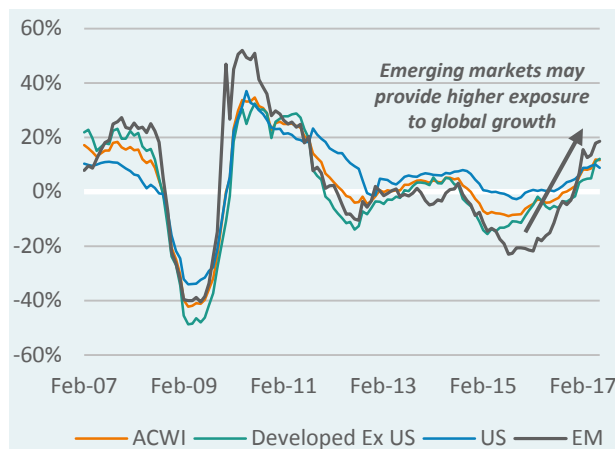
Accelerating global growth should have a positive effect on EM economies

12-MONTH ROLLING PERFORMANCE



Source: MPI, as of 6/30/17

EM EARNINGS GROWTH (YOY)



Source: Bloomberg, as of 6/30/17

TRAILING P/E RATIOS



Source: Bloomberg as of 6/30/17

# Equity valuations

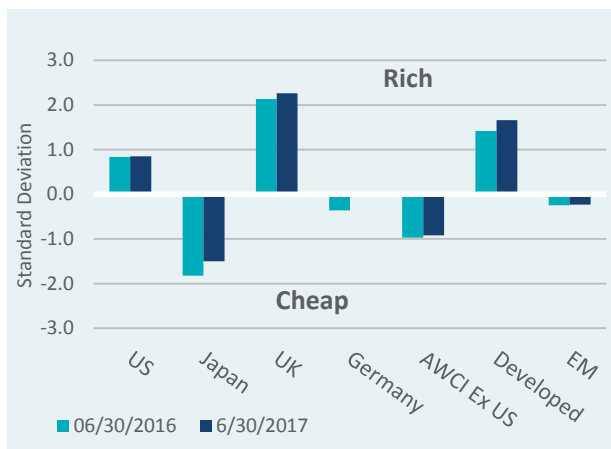
Strong global earnings in the first quarter and an increase in expected earnings growth throughout the rest of the year led to lower valuation multiples, especially in international developed markets. A pick up in earnings growth could help normalize P/E ratios.

Despite the recent strong earnings growth, valuation measures remain elevated relative to history. The trailing P/E for the S&P 500 was 21.5 at the end of June, above the 30-year average of 19.2. Higher P/E ratios imply lower future returns, but valuations can stay elevated for long periods of time, and changes are unpredictable.

Looking at the historical differences between regional P/E ratios and the global P/E ratio (ACWI) shows that Japan and emerging markets are the cheapest, while the U.K. and U.S. are the richest. Emerging markets are attractive on a variety of valuation measures. Strong global economic and earnings growth could give these cheaper markets more upside potential than richer markets such as the U.S.

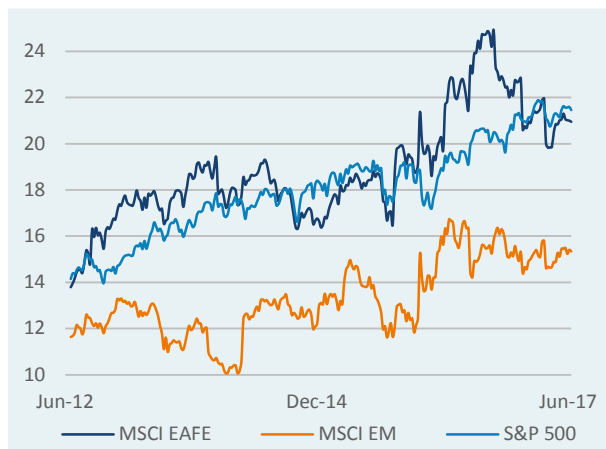
**Valuations are elevated, but relative opportunities exist**

RELATIVE PE TO ACWI



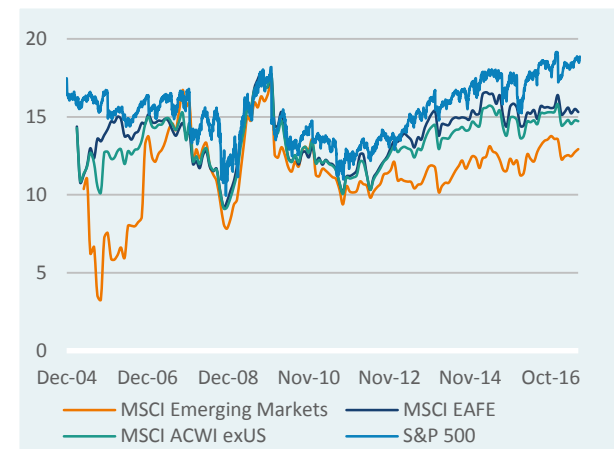
Source: Bloomberg, as of 6/30/17

TRAILING P/E RATIOS



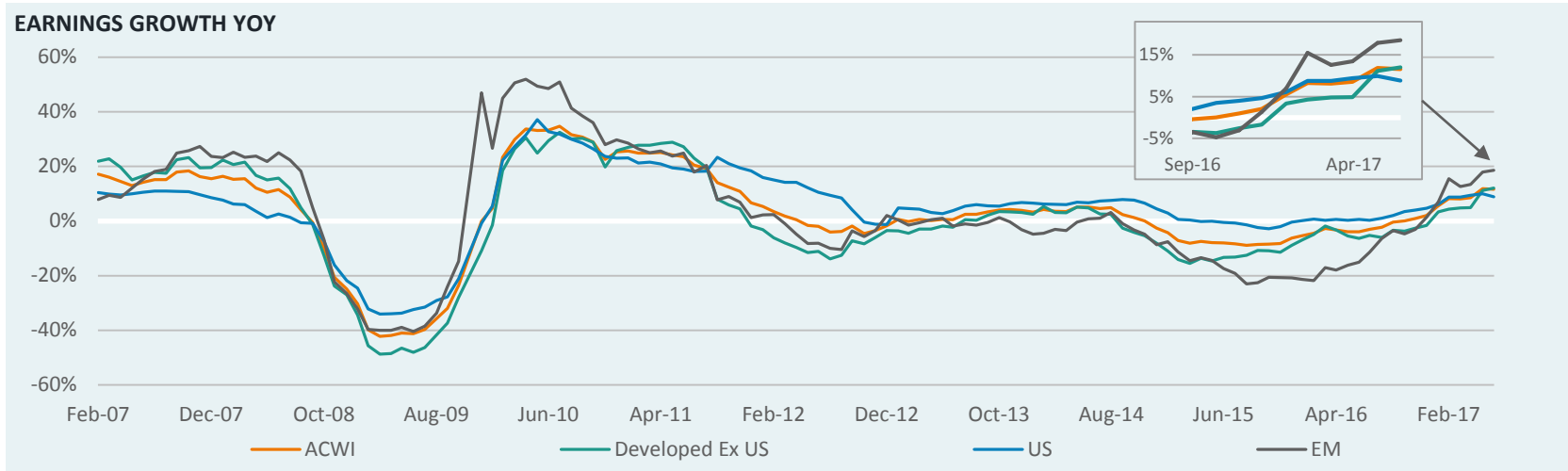
Source: Bloomberg, as of 6/30/17

INTERNATIONAL FORWARD P/E RATIOS

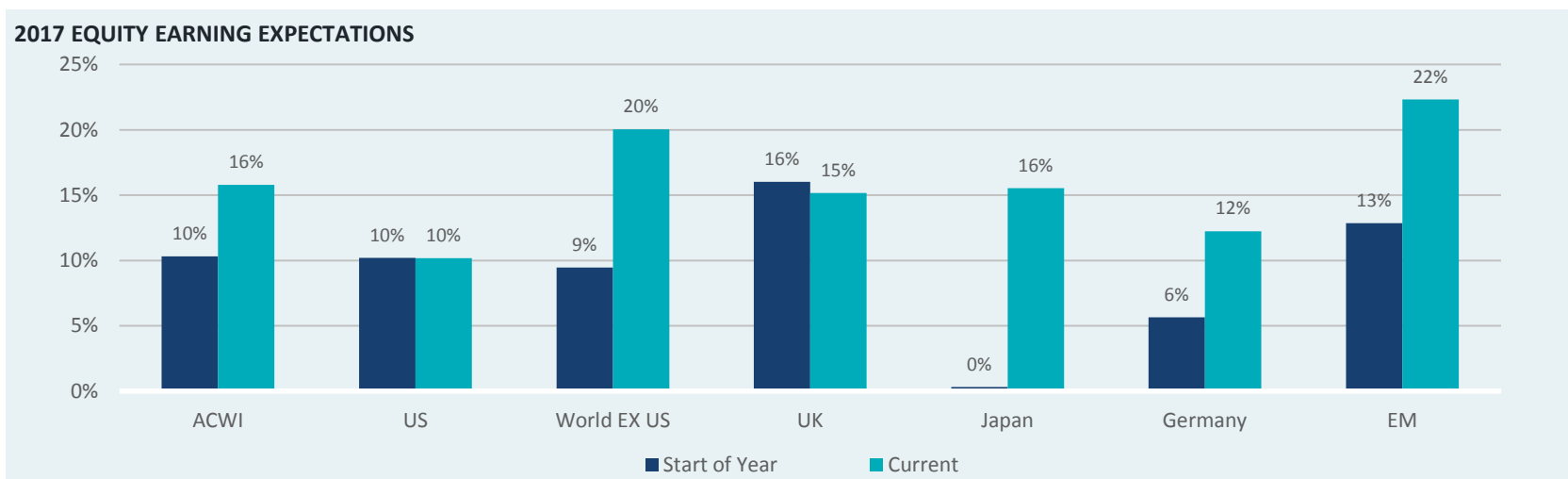


Source: Bloomberg, as of 6/30/17

# Global earnings growth



Earnings & earnings expectations have risen considerably across global markets



Source: MSCI, as of 6/30/17

# Equity volatility

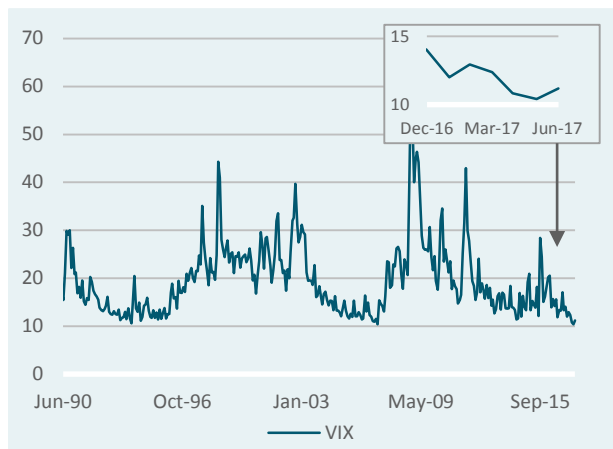
Both realized and implied volatility remains low relative to history across global equity markets. Although there have been a few spikes in implied volatility, including immediately after the first round of the French presidential election and the British general election, these have been short lived. For example, during the recent sell off in U.S. tech companies, the VIX jumped to 15, but fell back down within hours. While low equity market risk has been persistent, volatility can return quickly in an often unpredictable manner. For this reason,

judging portfolio volatility based on the current environment may understate the actual risks.

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

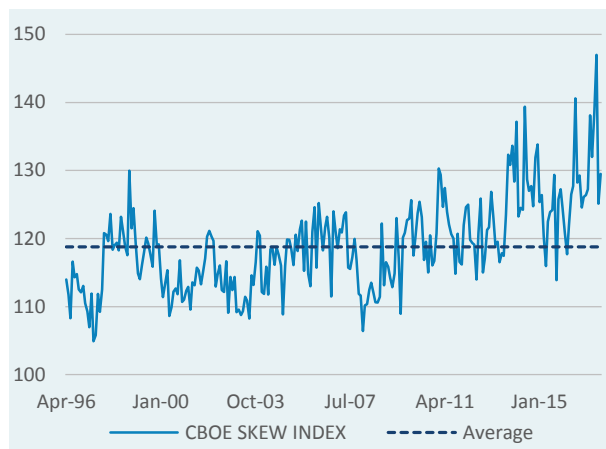
Equity volatility is well below average, but within a range consistent with past bull markets

**U.S. IMPLIED VOLATILITY**



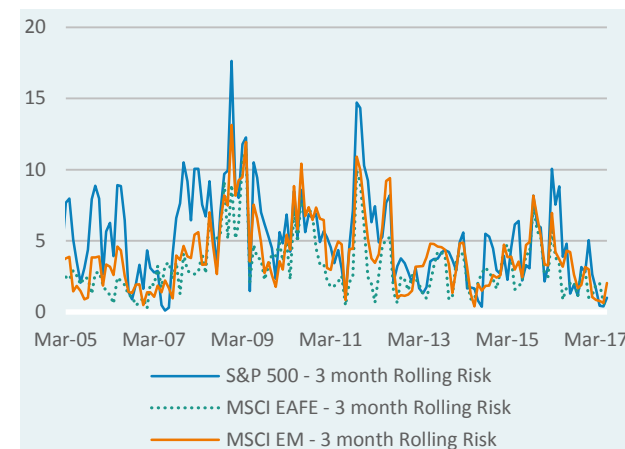
Source: CBOE, as of 6/30/17

**U.S. VOLATILITY SKEW**



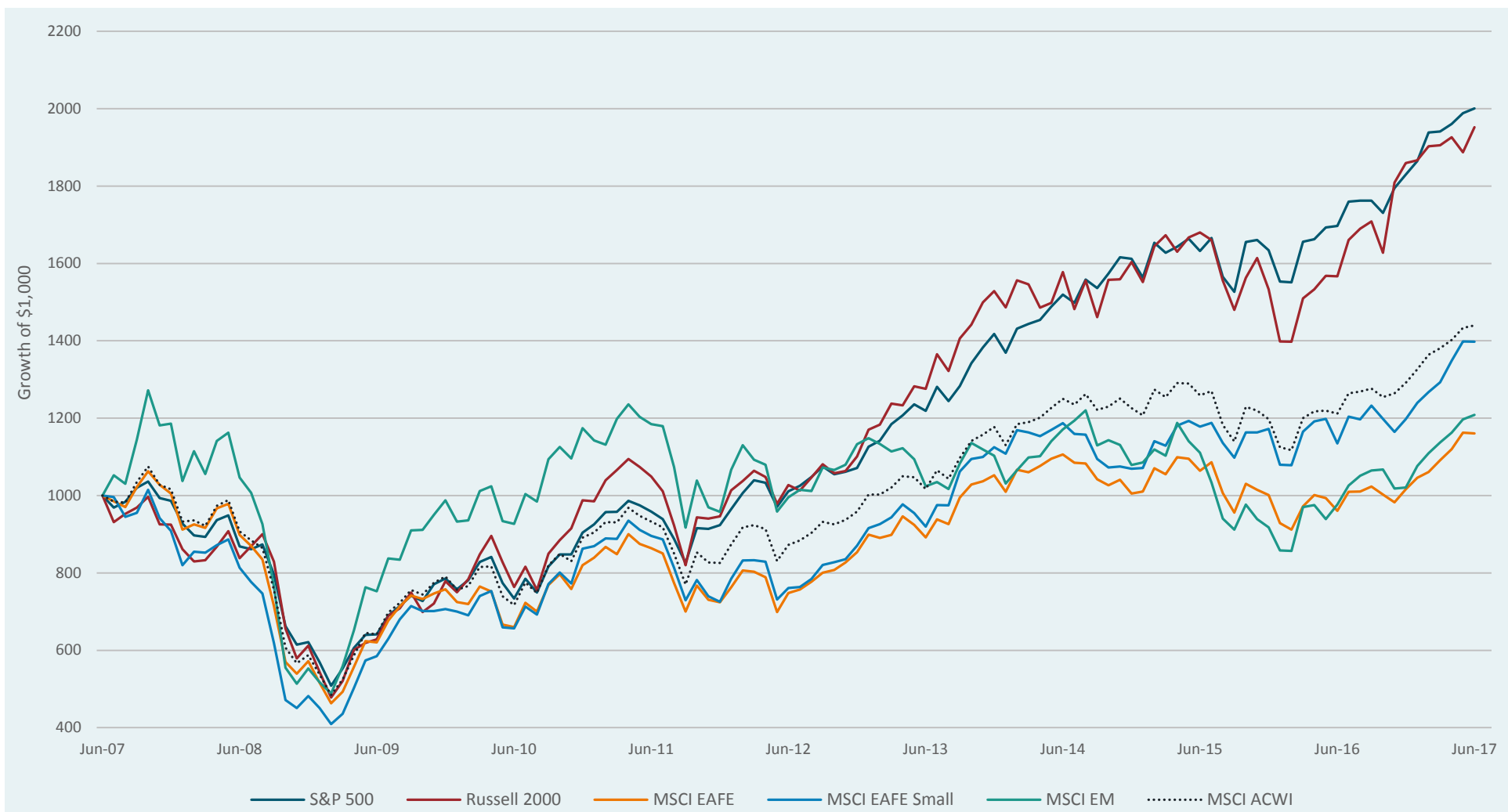
Source: CBOE, as of 6/30/17

**INTERNATIONAL EQUITY VOLATILITY**



Source: MSCI, as of 6/30/17

# Long-term equity performance



Source: MPI, as of 6/30/17

# Other assets

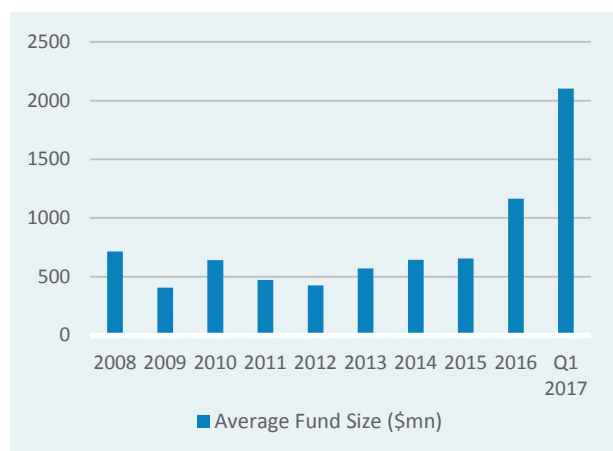
# Infrastructure

Global infrastructure performed strongly in the second quarter, with S&P Global Infrastructure Index up 14.4% for the year through June. Transaction multiples in several infrastructure sectors seemed to have peaked over the last year, impacted by rising interest; however, falling Treasury yields during the quarter sent yield-oriented investments higher in value.

Demand remains quite strong for infrastructure assets with institutional investors allocating to commingled funds and an influx of Asian buyers seeking higher yielding investments both in the U.S. and Europe.

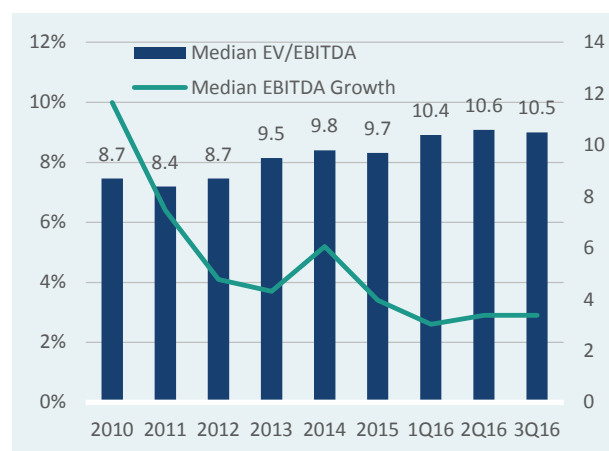
We are favorable towards value-add relative to core infrastructure as the risk/reward appears more attractive today. Interest rate sensitivity is generally lower in value-add infrastructure and pricing levels, though elevated, are below comparable core valuations. Within value-add we focus on sector specialists or teams with a track record of successful project development. As an example, in the utility/energy sectors there could be some interesting opportunities in merchant power generation where low natural gas prices and an influx of renewables have put downward pressure on spot power prices.

## INFRASTRUCTURE AVERAGE FUND SIZE



Source: Preqin

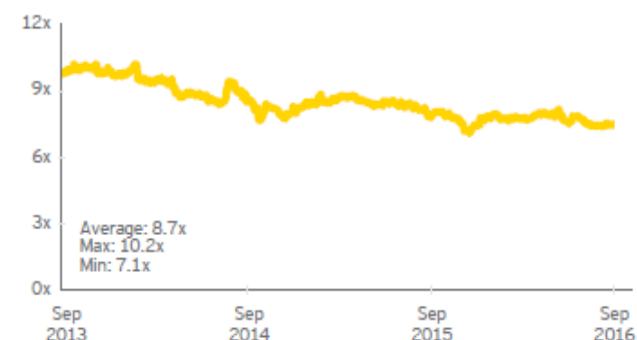
## LISTED INFRASTRUCTURE VALUATIONS/GROWTH



Source: Capital IQ

## VALUATIONS IN MERCHANT POWER

Average enterprise value/earnings before interest, taxes, depreciation and amortization (EV/EBITDA) trading multiples for select IPPs (on FY2 consensus EBITDA estimates, 2013-Q3 2016)



Source: E&Y

# Currency

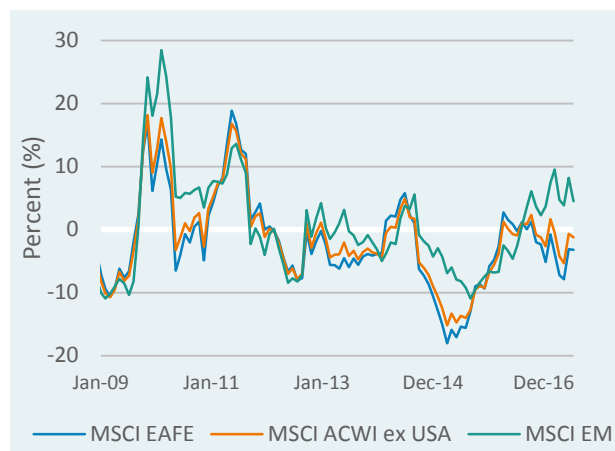
The U.S. dollar has steadily depreciated in value year-to-date against major currencies, down approximately 7% through quarter-end. Global central bank hawkishness, relative interest rate expectations, and improving international growth have likely guided the U.S. dollar lower.

Emerging market currencies exhibited further strength in Q2 and have appreciated 4.8% year-to-date according to

the JP Morgan Emerging Market Currency Index.

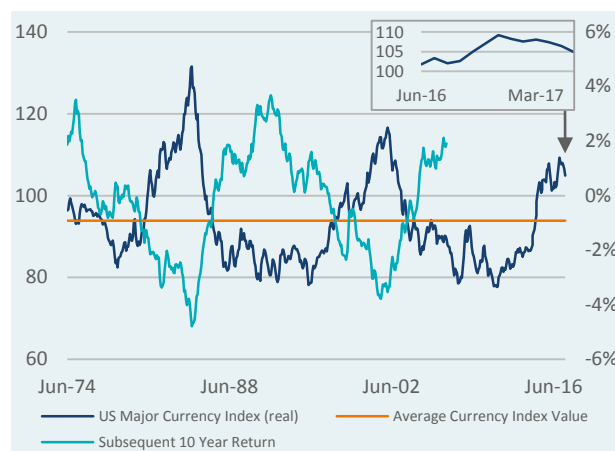
Currency movement has recently had a positive impact on the performance of unhedged foreign asset exposure. Dollar weakness has also acted as a tailwind for corporate earnings for those U.S. companies with revenues in foreign currency.

**EFFECT OF CURRENCY (1YR ROLLING)**



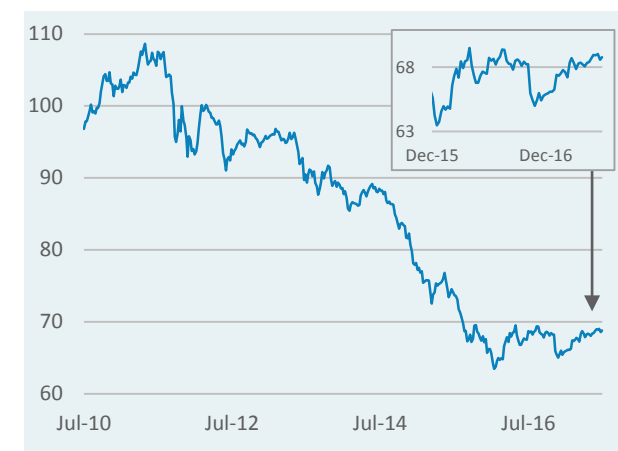
Source: MPI, as of 6/30/17

**U.S. DOLLAR MAJOR CURRENCY INDEX**



Source: Federal Reserve, as of 6/30/17

**JPM EM CURRENCY INDEX**



Source: Bloomberg, as of 6/30/17

# Appendix

# Periodic table of returns

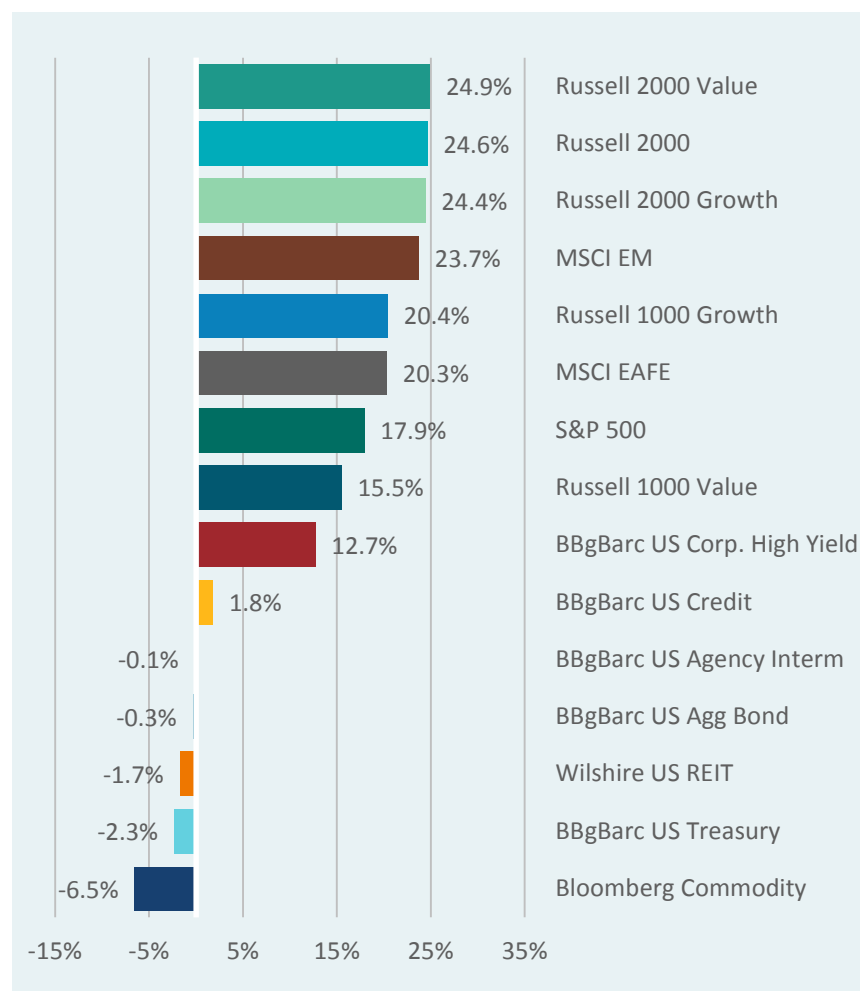
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	YTD	5-Year	10-Year
Emerging Markets Equity	16.6	38.4	23.2	35.2	38.7	66.4	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	18.4	15.3	8.9
Large Cap Growth	8.1	37.8	23.1	32.9	27.0	43.1	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	14.0	14.7	7.8
International Equity	6.4	37.2	22.4	31.8	20.3	33.2	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	13.8	14.0	7.3
Small Cap Growth	4.4	31.0	21.6	30.5	19.3	27.3	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	10.0	13.9	6.9
Large Cap Equity	3.2	28.5	21.4	22.4	16.2	26.5	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	9.3	13.7	6.7
60/40 Global Portfolio	2.6	25.7	16.5	16.2	15.6	24.3	6.0	2.5	-5.9	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	8.6	13.4	5.9
Small Cap Equity	0.4	19.6	14.4	13.9	8.7	21.3	4.1	-2.4	-6.0	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	5.0	10.7	5.6
Large Cap Value	-1.5	18.5	11.3	12.9	4.9	20.9	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	4.7	8.7	4.5
Hedge Funds of Funds	-1.8	15.2	10.3	10.6	1.2	13.2	-7.3	-9.1	-15.5	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	3.7	6.7	4.0
US Bonds	-2.0	11.6	9.9	9.7	-2.5	11.4	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	2.3	4.9	3.0
Real Estate	-2.4	11.1	6.4	5.2	-5.1	7.3	-14.0	-12.4	-20.5	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	1.6	4.0	1.9
Small Cap Value	-2.9	7.5	6.0	2.1	-6.5	4.8	-22.4	-19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	0.5	2.2	1.0
Cash	-3.5	5.7	5.1	-3.4	-25.3	-0.8	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	0.4	0.2	0.4
Commodities	-7.3	-5.2	3.6	-11.6	-27.0	-1.5	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	-5.3	-9.2	-6.5

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 3/31/17.

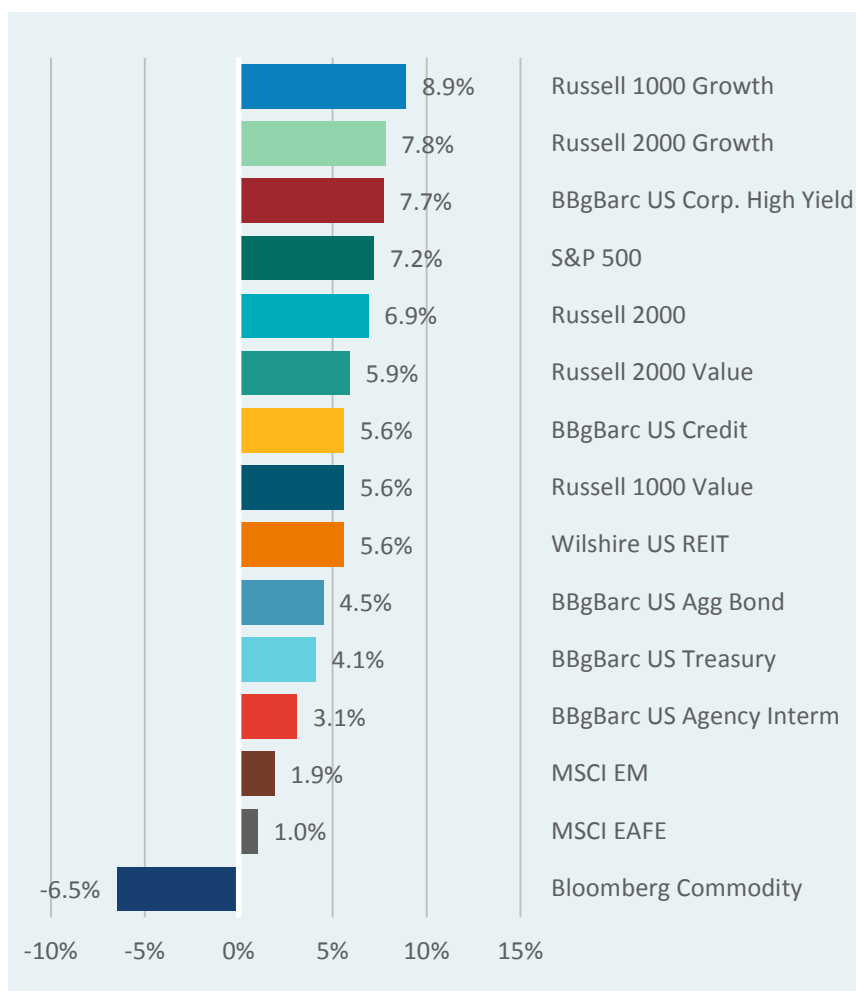
# Major asset class returns

ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/17

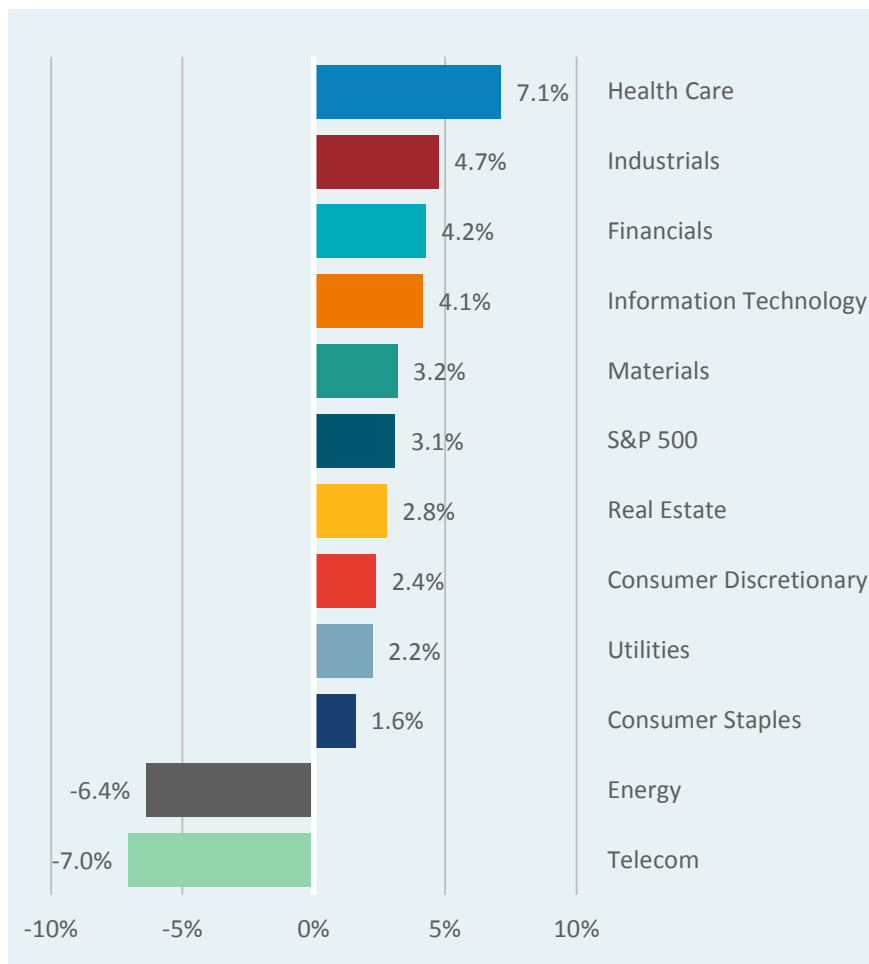
TEN YEARS ENDING JUNE



Source: Morningstar, as of 6/30/17

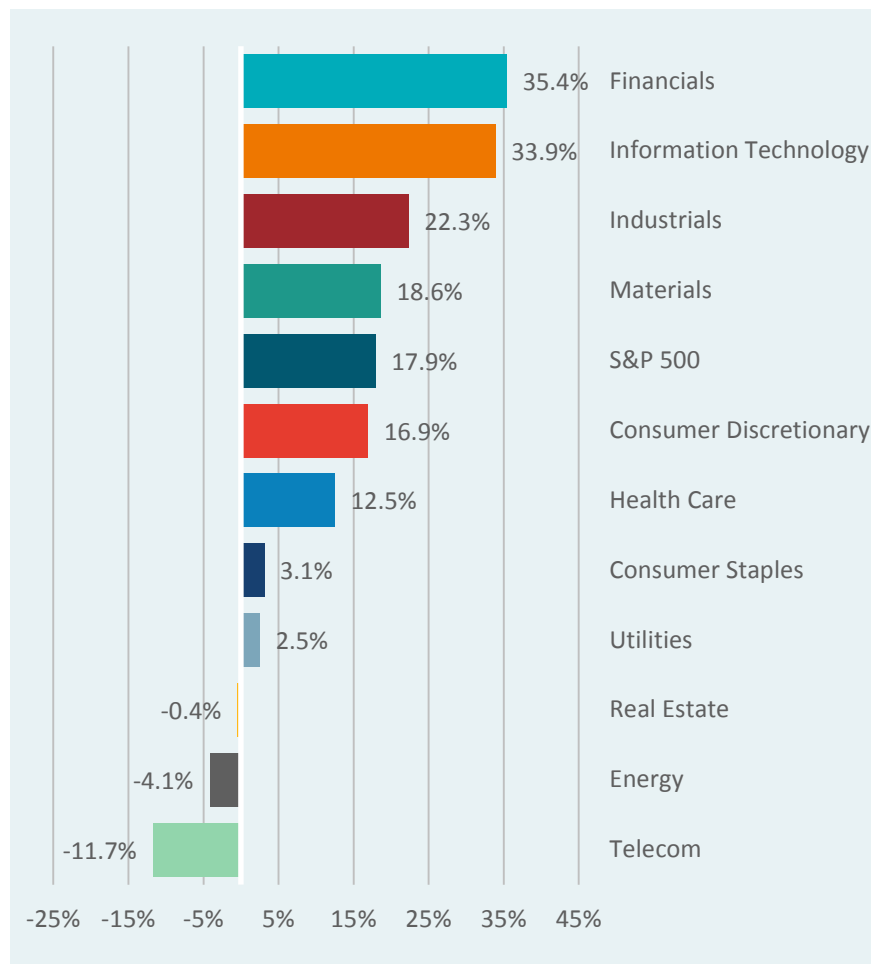
# S&P 500 sector returns

2<sup>ND</sup> QUARTER



Source: Morningstar, as of 6/30/17

ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/17

# Detailed index returns

## DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Core Index</b>							
S&P 500	0.6	3.1	9.3	17.9	9.6	14.6	7.2
S&P 500 Equal Weighted	1.2	2.5	8.1	17.3	8.5	15.5	8.3
DJ Industrial Average	1.7	4.0	9.3	22.1	11.0	13.5	7.6
Russell Top 200	0.6	3.2	9.8	18.6	9.9	14.6	7.2
Russell 1000	0.7	3.1	9.3	18.0	9.3	14.7	7.3
Russell 2000	3.5	2.5	5.0	24.6	7.4	13.7	6.9
Russell 3000	0.9	3.0	8.9	18.5	9.1	14.6	7.3
Russell Mid Cap	1.0	2.7	8.0	16.5	7.7	14.7	7.7
<b>Style Index</b>							
Russell 1000 Growth	(0.3)	4.7	14.0	20.4	11.1	15.3	8.9
Russell 1000 Value	1.6	1.3	4.7	15.5	7.4	13.9	5.6
Russell 2000 Growth	3.4	4.4	10.0	24.4	7.6	14.0	7.8
Russell 2000 Value	3.5	0.7	0.5	24.9	7.0	13.4	5.9

## INTERNATIONAL EQUITY

<b>Broad Index</b>							
MSCI ACWI	0.5	4.3	11.5	18.8	4.8	10.5	3.7
MSCI ACWI ex US	0.3	5.8	14.1	20.5	0.8	7.2	1.1
MSCI EAFE	(0.2)	6.1	13.8	20.3	1.1	8.7	1.0
MSCI EM	1.0	6.3	18.4	23.7	1.1	4.0	1.9
MSCI EAFE Small Cap	(0.0)	8.1	16.7	23.2	5.6	12.9	3.4
<b>Style Index</b>							
MSCI EAFE Growth	(0.7)	7.5	16.7	15.7	2.8	9.2	2.1
MSCI EAFE Value	0.3	4.8	11.1	25.0	(0.6)	8.1	(0.1)
<b>Regional Index</b>							
MSCI UK	(1.9)	4.7	10.0	13.3	(3.0)	5.3	0.2
MSCI Japan	1.1	5.2	9.9	19.2	5.5	9.6	1.2
MSCI Euro	(1.2)	7.5	16.6	27.7	0.1	10.4	(0.5)
MSCI EM Asia	1.7	8.6	23.2	27.9	5.0	7.7	3.8
MSCI EM Latin American	0.7	(1.7)	10.1	15.0	(6.6)	(3.8)	(1.1)

## FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Broad Index</b>							
BBgBarc US Treasury US TIPS	(0.9)	(0.4)	0.9	(0.6)	0.6	0.3	4.3
BBgBarc US Treasury Bills	0.1	0.2	0.3	0.5	0.3	0.2	0.7
BBgBarc US Agg Bond	(0.1)	1.4	2.3	(0.3)	2.5	2.2	4.5
<b>Duration</b>							
BBgBarc US Treasury 1-3 Yr	(0.1)	0.2	0.5	(0.1)	0.7	0.6	2.0
BBgBarc US Treasury Long	0.4	4.0	5.4	(7.2)	5.6	2.8	7.3
BBgBarc US Treasury	(0.2)	1.2	1.9	(2.3)	2.0	1.3	4.1
<b>Issuer</b>							
BBgBarc US MBS	(0.4)	0.9	1.3	(0.1)	2.2	2.0	4.3
BBgBarc US Corp. High Yield	0.1	2.2	4.9	12.7	4.5	6.9	7.7
BBgBarc US Agency Interm	(0.1)	0.5	1.0	(0.1)	1.4	1.1	3.1
BBgBarc US Credit	0.3	2.4	3.7	1.8	3.4	3.7	5.6

## OTHER

<b>Index</b>							
Bloomberg Commodity	(0.2)	(3.0)	(5.3)	(6.5)	(14.8)	(9.2)	(6.5)
Wilshire US REIT	2.4	1.8	1.8	(1.7)	8.3	9.3	5.6
CS Leveraged Loans	(0.1)	0.8	2.0	7.5	3.5	4.8	4.2
<b>Regional Index</b>							
JPM EMBI Global Div	(0.1)	2.2	6.2	6.0	5.4	5.7	7.4
JPM GBI-EM Global Div	0.5	3.6	10.4	6.4	(2.8)	(0.7)	4.0
<b>Hedge Funds</b>							
HFRI Composite	(0.6)	0.2	2.6	5.8	1.3	3.7	0.8
HFRI FOF Composite	0.4	1.1	3.7	8.0	2.6	4.9	3.0
<b>Currency (Spot)</b>							
Euro	1.4	6.6	8.1	2.7	(5.9)	(2.1)	(1.7)
Pound	0.6	3.9	5.1	(2.8)	(8.8)	(3.7)	(4.3)
Yen	(1.6)	(0.8)	3.8	(8.7)	(3.4)	(6.6)	0.9

Source: Morningstar, as of 6/30/17

# Definitions

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

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

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

**Merrill Lynch Option Volatility Estimate (MOVE) Index** – a yield curve weighted index comprised of a weighted set of 1-month Treasury options, including 2.5.10 and 30 year tenor contracts. This index is an indicator of the expected (implied) future volatility in the rate markets. ([www.Bloomberg.com](http://www.Bloomberg.com))

**OECD Consumer Confidence Index** - based on households' plans for major purchases and their economic situation, both currently and their expectations for the immediate future. Opinions compared to a "normal" state are collected and the difference between positive and negative answers provides a qualitative index on economic conditions. (<https://data.oecd.org/>)

**OECD Business Confidence Index** - based on enterprises' assessment of production, orders and stocks, as well as its current position and expectations for the immediate future. Opinions compared to a "normal" state are collected and the difference between positive and negative answers provides a qualitative index on economic conditions. (<https://data.oecd.org/>)

**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/>)

# Notices & disclosures

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# Imperial County Employees' Retirement System

Investment Performance Review

Period Ending: June 30, 2017



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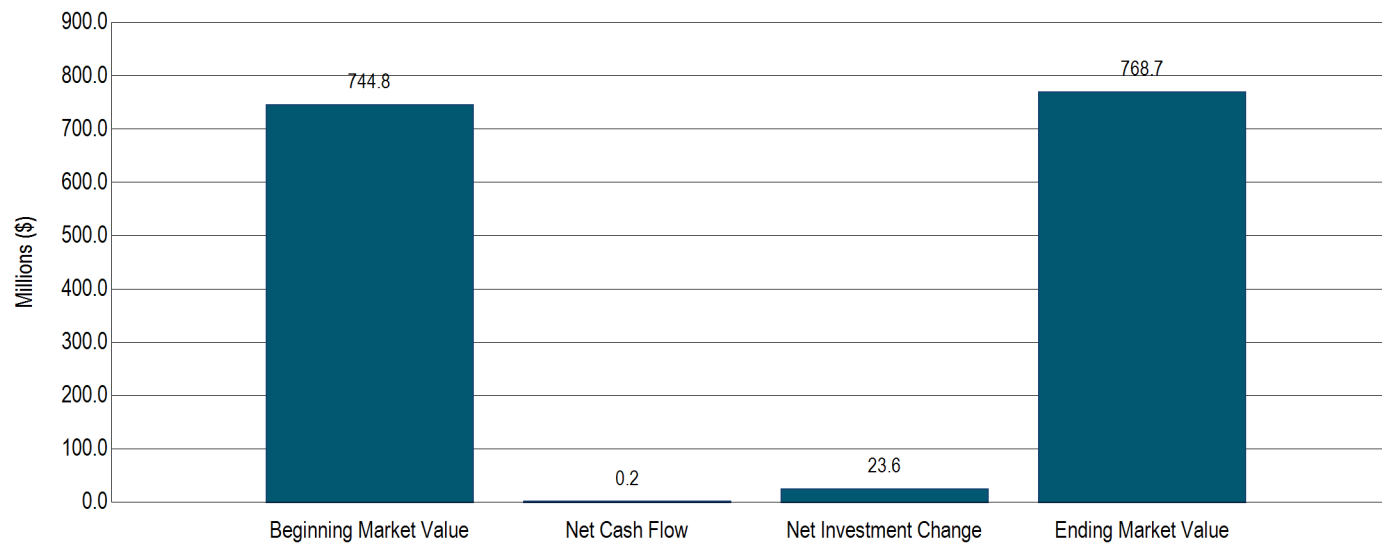
# Total Fund Portfolio Reconciliation

Period Ending: June 30, 2017

## Portfolio Reconciliation

	Last Three Months	Fiscal Year-To-Date	One Year
Beginning Market Value	\$744,823,708	\$688,962,382	\$688,962,382
Net Cash Flow	\$224,751	-\$5,844,422	-\$5,844,422
Net Investment Change	\$23,634,549	\$85,565,049	\$85,565,049
Ending Market Value	\$768,683,009	\$768,683,009	\$768,683,009

## Change in Market Value Last Three Months

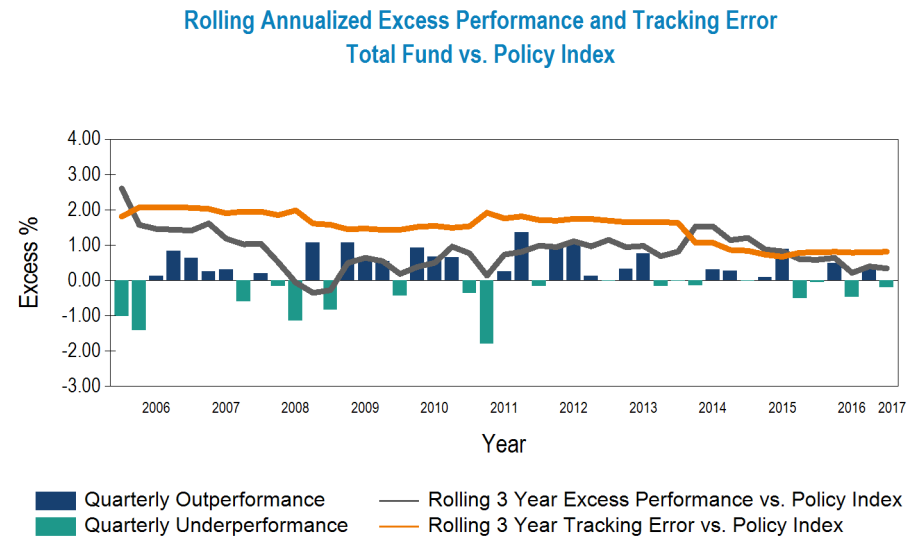
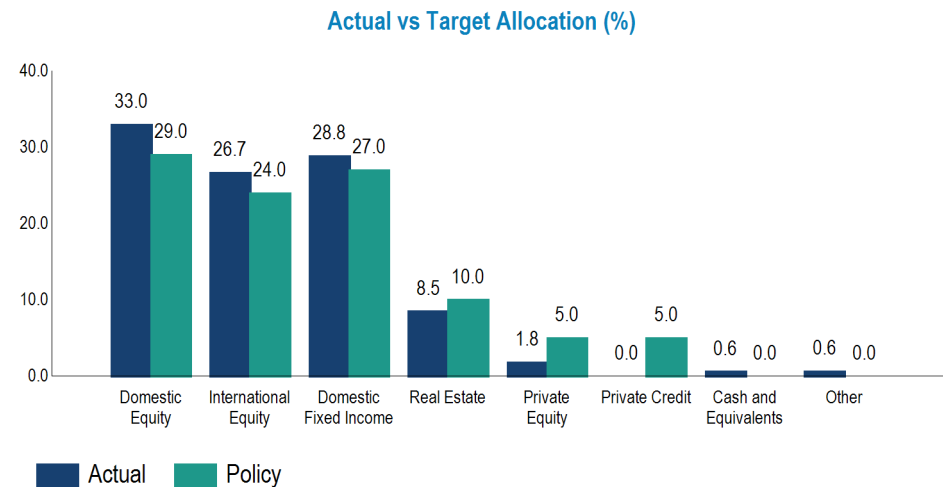


Contributions and withdrawals may include intra-account transfers between managers/funds. Fee transactions are excluded from Portfolio Reconciliation.

# Total Fund Executive Summary (Gross of Fees)

Period Ending: June 30, 2017

	QTD	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Total Fund</b>	<b>3.2</b>	<b>8.0</b>	<b>12.6</b>	<b>12.6</b>	<b>5.0</b>	<b>8.6</b>	<b>5.6</b>
Total Fund ex Parametric	3.2	8.0	12.6	12.6	5.0	8.6	5.5
Policy Index	3.4	7.9	12.4	12.4	4.6	7.8	5.0
InvestorForce Public DB Gross Rank	35	26	46	46	63	54	44
<b>Total Domestic Equity</b>	<b>3.1</b>	<b>9.0</b>	<b>18.7</b>	<b>18.7</b>	<b>8.6</b>	<b>14.3</b>	<b>7.7</b>
Russell 3000	3.0	8.9	18.5	18.5	9.1	14.6	7.3
InvestorForce Public DB US Eq Gross Rank	31	29	45	45	57	59	21
<b>Total International Equity</b>	<b>5.9</b>	<b>15.5</b>	<b>21.9</b>	<b>21.9</b>	<b>2.0</b>	<b>8.1</b>	<b>1.5</b>
MSCI ACWI ex USA Gross	6.0	14.5	21.0	21.0	1.3	7.7	1.6
InvestorForce Public DB ex-US Eq Gross Rank	72	58	29	29	56	61	55
<b>Total Fixed Income</b>	<b>1.5</b>	<b>2.7</b>	<b>1.9</b>	<b>1.9</b>	<b>2.9</b>	<b>3.1</b>	<b>6.0</b>
BBgBarc US Aggregate TR	1.4	2.3	-0.3	-0.3	2.5	2.2	4.5
InvestorForce Public DB Total Fix Inc Gross Rank	55	61	64	64	35	45	18
<b>Total Real Estate</b>	<b>1.0</b>	<b>2.7</b>	<b>5.8</b>	<b>5.8</b>	<b>11.2</b>	<b>11.2</b>	<b>4.7</b>
NCREIF Property Index	1.8	3.3	7.0	7.0	10.2	10.5	6.4
NCREIF-ODCE	1.7	3.5	7.9	7.9	11.3	11.8	5.3
<b>Total Private Equity</b>	<b>6.8</b>	<b>8.6</b>	<b>16.2</b>	<b>16.2</b>	<b>16.9</b>	<b>17.5</b>	<b>--</b>
Russell 3000 +3% Lagged	6.5	11.8	21.6	21.6	13.0	16.5	--
<b>Total Opportunistic</b>	<b>0.2</b>	<b>2.2</b>	<b>5.5</b>	<b>5.5</b>	<b>6.7</b>	<b>16.7</b>	<b>--</b>
Assumption Rate + 1%	2.2	4.4	9.0	9.0	9.0	9.0	--

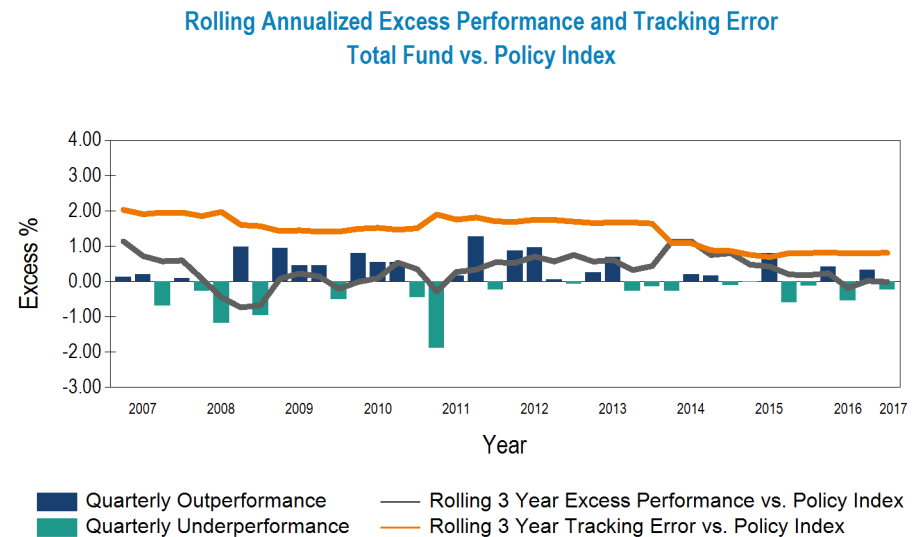
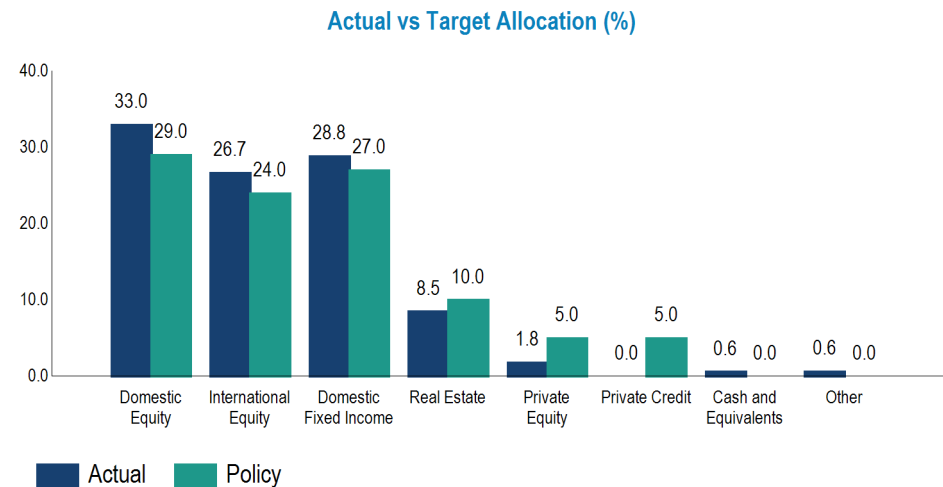


New Policy Index (as of 10/1/2016): 29% Russell 3000, 24% MSCI ACWI Free Ex US, 27% BBgBarc US Aggregate, 5% NCREIF Property, 5% NCREIF Property +2%, 5% Russell 3000 plus 300 bps (Lagged), 5% BBgBarc High Yield +2% (Lagged). Prior Policy Index (7/1/2014 to 9/30/2016): 29% Russell 3000, 25% MSCI ACWI Free Ex US, 30% BBgBarc Aggregate, 6% NCREIF Property, 5% Bloomberg Commodity Index, 5% Russell 3000 plus 300 bps (Lagged). Prior quarter Private Equity returns and index data are used. All returns are (G) gross of fees. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

# Total Fund Executive Summary (Net of Fees)

Period Ending: June 30, 2017

	QTD	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Total Fund</b>	<b>3.1</b>	<b>8.0</b>	<b>12.3</b>	<b>12.3</b>	<b>4.6</b>	<b>8.3</b>	<b>5.2</b>
<i>Total Fund ex Parametric</i>	3.1	8.0	12.3	12.3	4.6	8.2	5.1
<i>Policy Index</i>	3.4	7.9	12.4	12.4	4.6	7.8	5.0
<b>Total Domestic Equity</b>	<b>3.1</b>	<b>9.0</b>	<b>18.6</b>	<b>18.6</b>	<b>8.5</b>	<b>14.1</b>	<b>7.5</b>
<i>Russell 3000</i>	3.0	8.9	18.5	18.5	9.1	14.6	7.3
<b>Total International Equity</b>	<b>5.8</b>	<b>15.3</b>	<b>21.6</b>	<b>21.6</b>	<b>1.6</b>	<b>7.6</b>	<b>1.0</b>
<i>MSCI ACWI ex USA Gross</i>	6.0	14.5	21.0	21.0	1.3	7.7	1.6
<b>Total Fixed Income</b>	<b>1.4</b>	<b>2.6</b>	<b>1.6</b>	<b>1.6</b>	<b>2.6</b>	<b>2.8</b>	<b>5.7</b>
<i>BBgBarc US Aggregate TR</i>	1.4	2.3	-0.3	-0.3	2.5	2.2	4.5
<b>Total Real Estate</b>	<b>1.0</b>	<b>2.7</b>	<b>5.3</b>	<b>5.3</b>	<b>10.3</b>	<b>10.4</b>	<b>3.9</b>
<i>NCREIF Property Index</i>	1.8	3.3	7.0	7.0	10.2	10.5	6.4
<i>NCREIF-ODCE</i>	1.7	3.5	7.9	7.9	11.3	11.8	5.3
<b>Total Private Equity</b>	<b>6.8</b>	<b>8.6</b>	<b>15.4</b>	<b>15.4</b>	<b>15.0</b>	<b>13.8</b>	<b>--</b>
<i>Russell 3000 +3% Lagged</i>	6.5	11.8	21.6	21.6	13.0	16.5	--
<b>Total Opportunistic</b>	<b>0.2</b>	<b>2.2</b>	<b>4.5</b>	<b>4.5</b>	<b>5.2</b>	<b>14.9</b>	<b>--</b>
<i>Assumption Rate + 1%</i>	2.2	4.4	9.0	9.0	9.0	9.0	--



New Policy Index (as of 10/1/2016): 29% Russell 3000, 24% MSCI ACWI Free Ex US, 27% BBgBarc US Aggregate, 5% NCREIF Property, 5% NCREIF Property +2%, 5% Russell 3000 plus 300 bps (Lagged), 5% BBgBarc High Yield +2% (Lagged). Prior Policy Index (7/1/2014 to 9/30/2016): 29% Russell 3000, 25% MSCI ACWI Free Ex US, 30% BBgBarc Aggregate, 6% NCREIF Property, 5% Bloomberg Commodity Index, 5% Russell 3000 plus 300 bps (Lagged). Prior quarter Private Equity returns and index data are used. All returns are (N) net of fees. 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

## Attribution Analysis - Asset Class Level (Gross of Fees)

Period Ending: June 30, 2017

### Attribution Effects



### Performance Attribution

	Quarter	YTD
Wtd. Actual Return	3.21%	8.10%
Wtd. Index Return *	3.36%	7.81%
<b>Excess Return</b>	<b>-0.15%</b>	<b>0.29%</b>
Selection Effect	0.13%	0.32%
Allocation Effect	-0.11%	-0.05%
Interaction Effect	-0.17%	0.02%

\*Calculated from benchmark returns and weightings of each component.

### Attribution Summary Last Three Months

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Domestic Equity	3.1%	3.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Total International Equity	5.9%	6.0%	-0.1%	0.0%	0.1%	0.0%	0.0%
Total Fixed Income	1.5%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Real Estate	1.0%	1.8%	-0.7%	-0.1%	0.0%	0.0%	0.0%
Total Private Equity	6.8%	4.9%	1.9%	0.2%	-0.1%	-0.2%	-0.1%
Total Opportunistic	0.2%	2.2%	-2.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>3.2%</b>	<b>3.4%</b>	<b>-0.2%</b>	<b>0.1%</b>	<b>-0.1%</b>	<b>-0.2%</b>	<b>-0.2%</b>

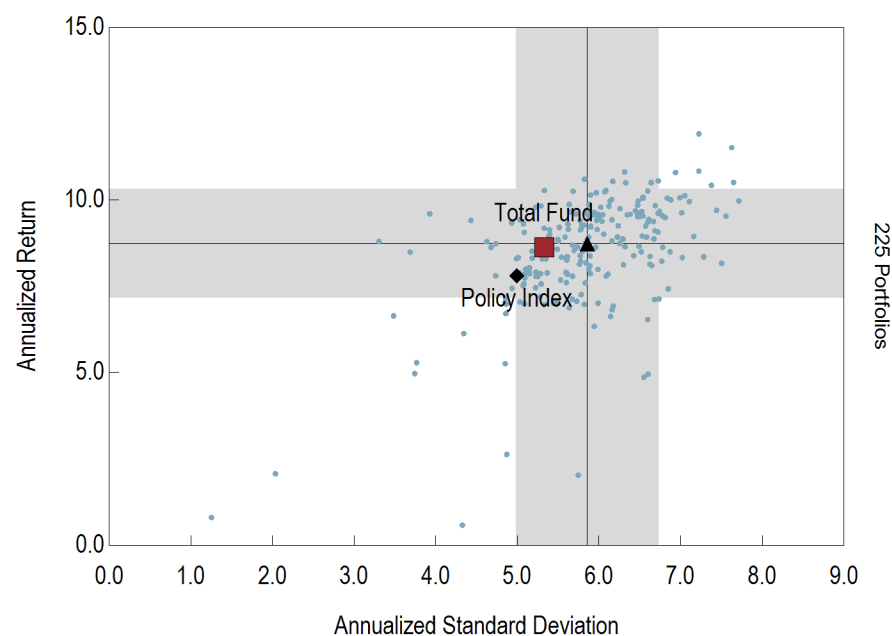
Weighted returns shown in attribution analysis may differ from actual returns.

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

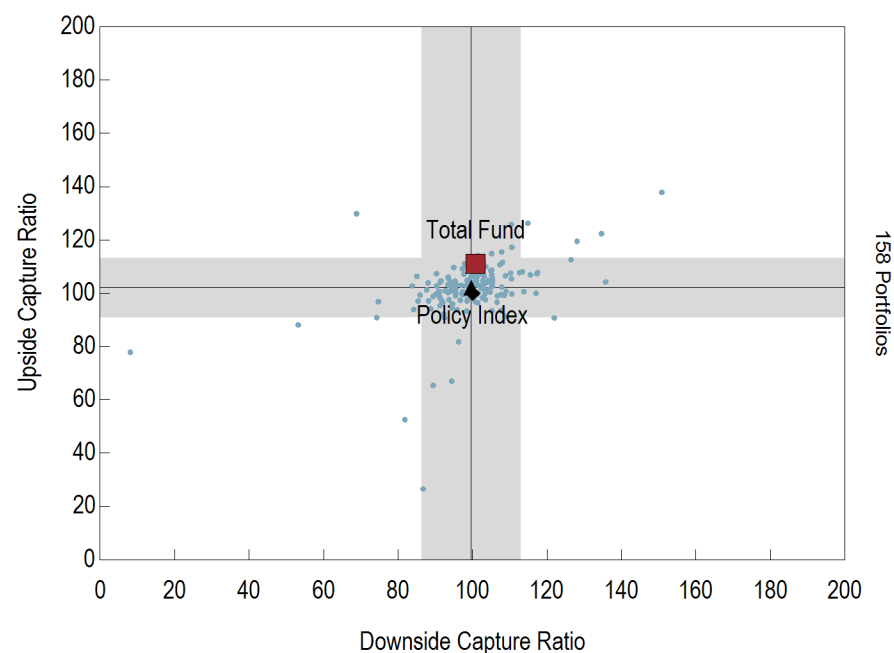
Period Ending: June 30, 2017

	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Total Fund	8.64%	0.84%	5.33%	0.42%	1.05	0.90%	0.97	1.59	0.94	111.04%	100.81%

Risk vs. Return



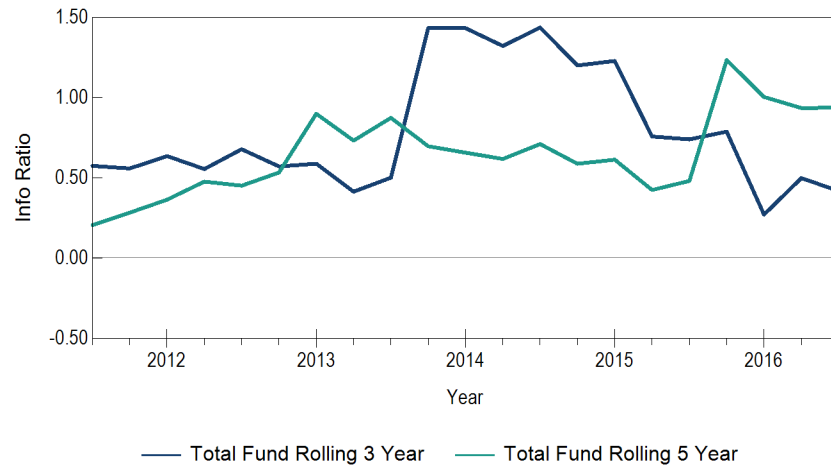
Up Markets vs. Down Markets



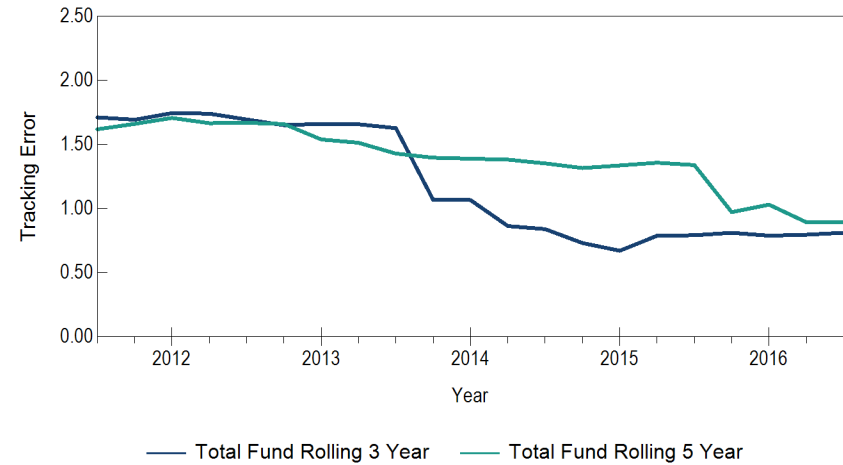
# Total Fund Rolling Risk Statistics (Gross of Fees)

Period Ending: June 30, 2017

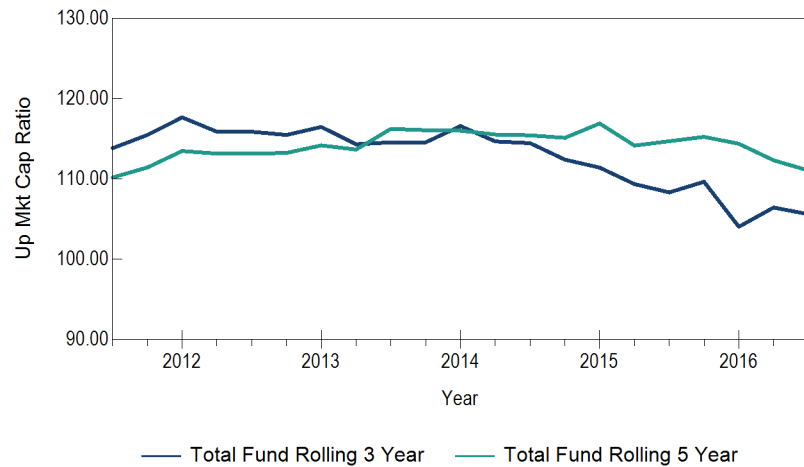
Rolling Information Ratio



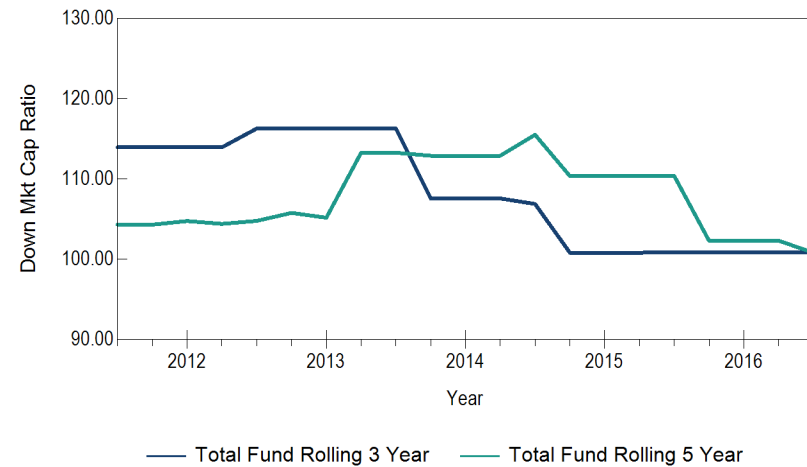
Rolling Tracking Error



Rolling Up Market Capture Ratio (%)



Rolling Down Market Capture Ratio (%)



# Total Fund Performance Summary (Gross of Fees)

Period Ending: June 30, 2017

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012	Return	Since
<b>Total Fund</b>	<b>768,683,009</b>	<b>100.0</b>	<b>3.2</b>	<b>8.0</b>	<b>12.6</b>	<b>12.6</b>	<b>5.0</b>	<b>8.6</b>	<b>5.6</b>	<b>7.7</b>	<b>0.0</b>	<b>4.8</b>	<b>14.8</b>	<b>14.6</b>	<b>9.4</b>	<b>Mar-89</b>
Policy Index			3.4	7.9	12.4	12.4	4.6	7.8	5.0	8.3	-1.2	4.9	13.5	11.2	--	Mar-89
InvestorForce Public DB Gross Rank			35	26	46	46	63	54	44	50	53	74	59	6	2	Mar-89
<b>Total Fund ex Parametric</b>			<b>3.2</b>	<b>8.0</b>	<b>12.6</b>	<b>12.6</b>	<b>5.0</b>	<b>8.6</b>	<b>5.5</b>	<b>7.7</b>	<b>0.0</b>	<b>4.9</b>	<b>14.7</b>	<b>14.2</b>	<b>9.3</b>	<b>Mar-89</b>
Policy Index			3.4	7.9	12.4	12.4	4.6	7.8	5.0	8.3	-1.2	4.9	13.5	11.2	--	Mar-89
InvestorForce Public DB Gross Rank			35	26	46	46	63	56	45	50	53	72	59	11	2	Mar-89
<b>Total Domestic Equity</b>	<b>253,648,928</b>	<b>33.0</b>	<b>3.1</b>	<b>9.0</b>	<b>18.7</b>	<b>18.7</b>	<b>8.6</b>	<b>14.3</b>	<b>7.7</b>	<b>12.9</b>	<b>0.3</b>	<b>10.2</b>	<b>33.9</b>	<b>17.1</b>		
Russell 3000			3.0	8.9	18.5	18.5	9.1	14.6	7.3	12.7	0.5	12.6	33.6	16.4		
InvestorForce Public DB US Eq Gross Rank			31	29	45	45	57	59	21	51	44	73	64	18		
BlackRock Russell 3000	253,648,928	33.0	3.1	9.0	18.7	18.7	--	--	--	12.9	--	--	--	--	13.1	Dec-15
Russell 3000			3.0	8.9	18.5	18.5	--	--	--	12.7	--	--	--	--	12.4	Dec-15
eA US All Cap Core Equity Gross Rank			49	46	50	50	--	--	--	35	--	--	--	--	56	Dec-15
<b>Total International Equity</b>	<b>205,088,963</b>	<b>26.7</b>	<b>5.9</b>	<b>15.5</b>	<b>21.9</b>	<b>21.9</b>	<b>2.0</b>	<b>8.1</b>	<b>1.5</b>	<b>4.7</b>	<b>-3.5</b>	<b>-4.4</b>	<b>14.0</b>	<b>19.3</b>		
MSCI ACWI ex USA Gross			6.0	14.5	21.0	21.0	1.3	7.7	1.6	5.0	-5.3	-3.4	15.8	17.4		
InvestorForce Public DB ex-US Eq Gross Rank			72	58	29	29	56	61	55	40	57	74	83	37		
BlackRock International Equity	143,080,266	18.6	6.3	14.2	20.8	20.8	1.5	9.1	1.4	1.5	-0.5	-4.7	23.2	17.8	7.7	Jul-03
MSCI EAFE Gross			6.4	14.2	20.8	20.8	1.6	9.2	1.5	1.5	-0.4	-4.5	23.3	17.9	7.8	Jul-03
eA All EAFE Equity Gross Rank			66	66	54	54	78	73	82	47	67	64	61	74	75	Jul-03
DFA Emerging Markets Value	29,447,561	3.8	3.0	17.8	28.3	28.3	1.3	4.4	2.0	20.5	-18.3	-3.9	-3.2	20.1	4.5	Jan-07
MSCI Emerging Markets Gross			6.4	18.6	24.2	24.2	1.4	4.3	2.2	11.6	-14.6	-1.8	-2.3	18.6	3.7	Jan-07
eA Emg Mkts Equity Gross Rank			93	73	20	20	74	80	82	7	92	84	84	56	53	Jan-07
Harding Loevner Emerging Markets	32,561,136	4.2	6.7	19.2	--	--	--	--	--	--	--	--	--	--	17.8	Jul-16
MSCI Emerging Markets Gross			6.4	18.6	--	--	--	--	--	--	--	--	--	--	18.2	Jul-16
eA Emg Mkts Equity Gross Rank			45	56	--	--	--	--	--	--	--	--	--	--	10	Jul-16
<b>Total Fixed Income</b>	<b>221,605,267</b>	<b>28.8</b>	<b>1.5</b>	<b>2.7</b>	<b>1.9</b>	<b>1.9</b>	<b>2.9</b>	<b>3.1</b>	<b>6.0</b>	<b>5.1</b>	<b>-0.3</b>	<b>5.9</b>	<b>-1.7</b>	<b>9.6</b>		
BBgBarc US Aggregate TR			1.4	2.3	-0.3	-0.3	2.5	2.2	4.5	2.6	0.6	6.0	-2.0	4.2		
InvestorForce Public DB Total Fix Inc Gross Rank			55	61	64	64	35	45	18	41	55	15	69	33		
Bradford & Marzec Fixed	110,803,179	14.4	1.5	2.8	1.8	1.8	3.6	3.9	6.4	5.1	1.2	7.0	-0.4	8.8	6.7	Dec-92
BBgBarc US Aggregate TR			1.4	2.3	-0.3	-0.3	2.5	2.2	4.5	2.6	0.6	6.0	-2.0	4.2	5.6	Dec-92
eA US Core Plus Fixed Inc Gross Rank			83	77	70	70	27	42	18	45	15	16	52	45	46	Dec-92
MackKay Shields Core Plus Opportunities	89,610,949	11.7	1.9	3.1	2.5	2.5	--	--	--	5.1	--	--	--	--	2.1	Mar-15
BBgBarc US Aggregate TR			1.4	2.3	-0.3	-0.3	--	--	--	2.6	--	--	--	--	1.9	Mar-15
eA US Core Plus Fixed Inc Gross Rank			44	55	52	52	--	--	--	46	--	--	--	--	86	Mar-15

Since Inception ranking is from the beginning of the first complete month. Templeton Foreign Equity liquidated 10/27/2015. TimesSquare, BlackRock Russell 1000 and T. Rowe liquidated 12/10/2015. BlackRock Russell 3000 funded 12/10/2015. Harding Loevner funded 7/5/2016. Parametric liquidated 7/5/2016. Vontobel liquidated 7/13/2016. Gresham MTAP liquidated 8/22/2016. BlackRock Commodities liquidated 9/2/2016.

# Total Fund Performance Summary (Gross of Fees)

Period Ending: June 30, 2017

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012	Return	Since
BlackRock US TIPS	21,191,139	2.8	-0.3	1.0	-0.4	-0.4	0.8	0.4	4.4	4.8	-1.2	3.6	-8.5	7.1	4.3	Apr-07
BBgBarc US TIPS TR			-0.4	0.9	-0.6	-0.6	0.6	0.3	4.3	4.7	-1.4	3.6	-8.6	7.0	4.1	Apr-07
eA TIPS / Infl Indexed Fixed Inc Gross Rank			45	41	57	57	40	59	44	37	43	45	62	59	64	Apr-07
<b>Total Real Estate</b>	<b>65,179,407</b>	<b>8.5</b>	<b>1.0</b>	<b>2.7</b>	<b>5.8</b>	<b>5.8</b>	<b>11.2</b>	<b>11.2</b>	<b>4.7</b>	<b>7.1</b>	<b>16.1</b>	<b>13.0</b>	<b>12.6</b>	<b>10.6</b>		
NCREIF Property Index			1.8	3.3	7.0	7.0	10.2	10.5	6.4	8.0	13.3	11.8	11.0	10.5		
NCREIF-ODCE			1.7	3.5	7.9	7.9	11.3	11.8	5.3	8.8	15.0	12.5	13.9	10.9		
ASB Real Estate	31,865,705	4.1	0.4	1.5	4.1	4.1	10.6	--	--	5.6	17.3	13.5	13.7	--	11.4	Dec-12
NCREIF Property Index			1.8	3.3	7.0	7.0	10.2	--	--	8.0	13.3	11.8	11.0	--	10.5	Dec-12
NCREIF-ODCE			1.7	3.5	7.9	7.9	11.3	--	--	8.8	15.0	12.5	13.9	--	11.9	Dec-12
Clarion Lion	31,879,497	4.1	1.7	4.1	7.8	7.8	12.4	12.0	4.2	9.1	15.7	13.2	12.8	10.9	4.9	Dec-06
NCREIF Property Index			1.8	3.3	7.0	7.0	10.2	10.5	6.4	8.0	13.3	11.8	11.0	10.5	6.9	Dec-06
NCREIF-ODCE			1.7	3.5	7.9	7.9	11.3	11.8	5.3	8.8	15.0	12.5	13.9	10.9	5.9	Dec-06
1221 State St. Corp	1,434,205	0.2	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	0.1	-0.4	Sep-08
<b>Total Cash</b>	<b>4,496,333</b>	<b>0.6</b>														
Cash Account	4,496,333	0.6	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	0.4		
91 Day T-Bills			0.2	0.4	0.5	0.5	0.2	0.2	--	0.3	0.0	0.0	0.0	0.1		

Since Inception ranking is from the beginning of the first complete month. Templeton Foreign Equity liquidated 10/27/2015. TimesSquare, BlackRock Russell 1000 and T. Rowe liquidated 12/10/2015. BlackRock Russell 3000 funded on 12/10/2015. Harding Loevner funded 7/5/2016. Parametric liquidated 7/5/2016. Vontobel liquidated 7/13/2016. Gresham MTAP liquidated 8/22/2016. BlackRock Commodities liquidated 9/2/2016.

# Total Fund Performance Summary (Net of Fees)

Period Ending: June 30, 2017

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012	Return	Since
<b>Total Fund</b>	<b>768,683,009</b>	<b>100.0</b>	<b>3.1</b>	<b>8.0</b>	<b>12.3</b>	<b>12.3</b>	<b>4.6</b>	<b>8.3</b>	<b>5.2</b>	<b>7.4</b>	<b>-0.4</b>	<b>4.4</b>	<b>14.5</b>	<b>14.2</b>	<b>8.9</b>	<b>Mar-89</b>
Policy Index			3.4	7.9	12.4	12.4	4.6	7.8	5.0	8.3	-1.2	4.9	13.5	11.2	--	Mar-89
Total Fund ex Parametric			3.1	8.0	12.3	12.3	4.6	8.2	5.1	7.4	-0.4	4.4	14.4	13.8	8.9	Mar-89
Policy Index			3.4	7.9	12.4	12.4	4.6	7.8	5.0	8.3	-1.2	4.9	13.5	11.2	--	Mar-89
<b>Total Domestic Equity</b>	<b>253,648,928</b>	<b>33.0</b>	<b>3.1</b>	<b>9.0</b>	<b>18.6</b>	<b>18.6</b>	<b>8.5</b>	<b>14.1</b>	<b>7.5</b>	<b>12.8</b>	<b>0.1</b>	<b>10.0</b>	<b>33.6</b>	<b>16.9</b>		
Russell 3000			3.0	8.9	18.5	18.5	9.1	14.6	7.3	12.7	0.5	12.6	33.6	16.4		
BlackRock Russell 3000	253,648,928	33.0	3.1	9.0	18.6	18.6	--	--	--	12.8	--	--	--	--	13.0	Dec-15
Russell 3000			3.0	8.9	18.5	18.5	--	--	--	12.7	--	--	--	--	12.4	Dec-15
<b>Total International Equity</b>	<b>205,088,963</b>	<b>26.7</b>	<b>5.8</b>	<b>15.3</b>	<b>21.6</b>	<b>21.6</b>	<b>1.6</b>	<b>7.6</b>	<b>1.0</b>	<b>4.4</b>	<b>-4.0</b>	<b>-4.9</b>	<b>13.4</b>	<b>18.6</b>		
MSCI ACWI ex USA Gross			6.0	14.5	21.0	21.0	1.3	7.7	1.6	5.0	-5.3	-3.4	15.8	17.4		
BlackRock International Equity	143,080,266	18.6	6.3	14.1	20.7	20.7	1.4	8.9	1.3	1.3	-0.6	-4.8	22.9	17.6	7.5	Jul-03
MSCI EAFE Gross			6.4	14.2	20.8	20.8	1.6	9.2	1.5	1.5	-0.4	-4.5	23.3	17.9	7.8	Jul-03
DFA Emerging Markets Value	29,447,561	3.8	2.8	17.4	27.6	27.6	0.8	3.8	1.4	19.8	-18.8	-4.4	-3.8	19.4	3.9	Jan-07
MSCI Emerging Markets Gross			6.4	18.6	24.2	24.2	1.4	4.3	2.2	11.6	-14.6	-1.8	-2.3	18.6	3.7	Jan-07
Harding Loevner Emerging Markets	32,561,136	4.2	6.4	18.6	--	--	--	--	--	--	--	--	--	--	16.6	Jul-16
MSCI Emerging Markets Gross			6.4	18.6	--	--	--	--	--	--	--	--	--	--	18.2	Jul-16
<b>Total Fixed Income</b>	<b>221,605,267</b>	<b>28.8</b>	<b>1.4</b>	<b>2.6</b>	<b>1.6</b>	<b>1.6</b>	<b>2.6</b>	<b>2.8</b>	<b>5.7</b>	<b>4.8</b>	<b>-0.6</b>	<b>5.6</b>	<b>-2.0</b>	<b>9.3</b>		
BBgBarc US Aggregate TR			1.4	2.3	-0.3	-0.3	2.5	2.2	4.5	2.6	0.6	6.0	-2.0	4.2		
Bradford & Marzec Fixed	110,803,179	14.4	1.4	2.7	1.5	1.5	3.3	3.6	6.1	4.8	0.9	6.7	-0.8	8.5	6.4	Dec-92
BBgBarc US Aggregate TR			1.4	2.3	-0.3	-0.3	2.5	2.2	4.5	2.6	0.6	6.0	-2.0	4.2	5.6	Dec-92
MacKay Shields Core Plus Opportunities	89,610,949	11.7	1.8	2.9	2.1	2.1	--	--	--	4.7	--	--	--	--	1.7	Mar-15
BBgBarc US Aggregate TR			1.4	2.3	-0.3	-0.3	--	--	--	2.6	--	--	--	--	1.9	Mar-15
BlackRock US TIPS	21,191,139	2.8	-0.4	1.0	-0.5	-0.5	0.7	0.3	4.3	4.8	-1.3	3.6	-8.6	7.0	4.2	Apr-07
BBgBarc US TIPS TR			-0.4	0.9	-0.6	-0.6	0.6	0.3	4.3	4.7	-1.4	3.6	-8.6	7.0	4.1	Apr-07
<b>Total Real Estate</b>	<b>65,179,407</b>	<b>8.5</b>	<b>1.0</b>	<b>2.7</b>	<b>5.3</b>	<b>5.3</b>	<b>10.3</b>	<b>10.4</b>	<b>3.9</b>	<b>6.1</b>	<b>15.0</b>	<b>11.6</b>	<b>12.1</b>	<b>10.3</b>		
NCREIF Property Index			1.8	3.3	7.0	7.0	10.2	10.5	6.4	8.0	13.3	11.8	11.0	10.5		
NCREIF-ODCE			1.7	3.5	7.9	7.9	11.3	11.8	5.3	8.8	15.0	12.5	13.9	10.9		
ASB Real Estate	31,865,705	4.1	0.4	1.5	3.7	3.7	9.7	--	--	4.6	16.2	12.5	12.5	--	10.4	Dec-12
NCREIF Property Index			1.8	3.3	7.0	7.0	10.2	--	--	8.0	13.3	11.8	11.0	--	10.5	Dec-12
NCREIF-ODCE			1.7	3.5	7.9	7.9	11.3	--	--	8.8	15.0	12.5	13.9	--	11.9	Dec-12
Clarion Lion	31,879,497	4.1	1.7	4.1	7.2	7.2	11.5	11.1	3.3	8.0	14.6	12.2	11.8	9.9	4.0	Dec-06
NCREIF Property Index			1.8	3.3	7.0	7.0	10.2	10.5	6.4	8.0	13.3	11.8	11.0	10.5	6.9	Dec-06
NCREIF-ODCE			1.7	3.5	7.9	7.9	11.3	11.8	5.3	8.8	15.0	12.5	13.9	10.9	5.9	Dec-06
1221 State St. Corp	1,434,205	0.2	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	0.1	-0.4	Sep-08

Total Fund  
Performance Summary (Net of Fees)

Period Ending: June 30, 2017

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012	Return	Since
Total Cash	4,496,333	0.6														
Cash Account	4,496,333	0.6	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	0.4		
91 Day T-Bills			0.2	0.4	0.5	0.5	0.2	0.2	--	0.3	0.0	0.0	0.0	0.1		

Investment Manager  
Performance Analysis - 3 & 5 Years (Net of Fees)

Period Ending: June 30, 2017

3 Years

	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
BlackRock International Equity	1.40%	-0.21%	11.17%	-0.22%	1.00	0.04%	1.00	0.11	-4.84	98.79%	101.11%
DFA Emerging Markets Value	0.78%	-0.67%	17.19%	-0.78%	1.08	4.53%	0.94	0.03	-0.15	98.67%	104.18%
Bradford & Marzec Fixed	3.27%	0.79%	3.49%	0.81%	0.99	0.94%	0.93	0.88	0.84	114.78%	89.82%
BlackRock US TIPS	0.70%	0.07%	3.84%	0.06%	1.01	0.12%	1.00	0.13	0.54	102.48%	100.41%
ASB Real Estate	9.75%	-0.42%	3.33%	-8.42%	1.79	2.48%	0.55	2.87	-0.17	95.51%	--
Clarion Lion	11.52%	1.36%	2.04%	-0.59%	1.19	1.23%	0.65	5.56	1.11	114.88%	--

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
BlackRock International Equity	8.91%	-0.27%	10.68%	-0.26%	1.00	0.05%	1.00	0.82	-5.29	98.40%	101.42%
DFA Emerging Markets Value	3.82%	-0.50%	15.23%	-0.91%	1.09	3.78%	0.95	0.24	-0.13	102.99%	107.17%
Bradford & Marzec Fixed	3.55%	1.34%	3.47%	1.19%	1.07	1.03%	0.92	0.98	1.30	130.28%	82.42%
BlackRock US TIPS	0.31%	0.04%	5.02%	0.04%	1.01	0.10%	1.00	0.03	0.44	101.77%	100.42%
Clarion Lion	11.05%	0.56%	1.86%	-0.83%	1.13	1.39%	0.44	5.87	0.41	106.58%	--

# Private Equity Non Marketable Securities Overview

Period Ending: June 30, 2017

Vintage	Manager & Fund Name	Estimated 6/30 Market Value <sup>3</sup>	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value for IRR	Distrib./ Paid-In (DPI) <sup>1</sup>	Tot. Value/ Paid-In (TVPI) <sup>2</sup>	Net IRR Since Inception <sup>5</sup>	IRR Date	
2011	HarbourVest IX-Buyout	\$6,283,803	\$10,000,000	\$6,325,000	63%	\$3,675,000	\$2,442,582	\$6,256,293	38.6%	138.0%	16.1%	3/31/17	
2011	HarbourVest IX-Credit	\$1,061,926	\$2,000,000	\$1,250,000	63%	\$750,000	\$518,760	\$1,082,581	41.5%	126.5%	13.1%	3/31/17	
2008	HarbourVest Int'l VI <sup>6</sup>	\$2,792,190	\$3,712,930	\$2,558,231	69%	\$1,154,699	\$1,009,411	\$2,792,190	39.5%	148.6%	15.5%	3/31/17	
2011	HarbourVest IX-Venture	\$3,707,608	\$4,000,000	\$3,400,000	85%	\$600,000	\$1,030,267	\$4,722,469	30.3%	139.3%	15.7%	3/31/17	
2010	KKR Mezzanine <sup>7</sup>	\$4,055,564	\$10,000,000	\$10,000,000	100%	\$0	\$10,608,768	\$4,159,435	106.1%	146.6%	8.0%	3/31/17	
2011	PIMCO BRAVO <sup>4</sup>	\$763,020	\$10,000,000	\$10,000,000	100%	\$0	\$17,470,960	\$763,020	174.7%	182.3%	22.2%	3/31/17	
Total Alternative Illiquids		\$18,664,111	\$39,712,930	\$33,533,231	84%	\$6,179,699	\$33,080,748	\$19,775,988	59.0%	157.6%			
% of Portfolio (Market Value)		2.4%											
								Management Fee	Admin Fee	Interest Expense	Other Expense	Total Expense <sup>8</sup>	
								HarbourVest IX-Buyout	\$24,887	\$0	\$0	\$1,829	\$26,716
								HarbourVest IX-Credit	\$4,970	\$0	\$0	\$987	\$5,957
								HarbourVest Int'l VI	\$7,197	\$0	\$0	\$184	\$7,381
								HarbourVest IX-Venture	\$9,973	\$0	\$0	\$586	\$10,559
								KKR Mezzanine	\$15,188	\$0	\$0	\$0	\$15,188
								PIMCO BRAVO	\$3,357	\$740	\$345	\$6,403	\$10,845
									\$65,572	\$740	\$345	\$9,989	\$76,646

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

<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>Last known market value + capital calls - distributions (MV's as of 3/31/17)

<sup>4</sup>Investment period ended, no further capital to be called.

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

<sup>6</sup>HarbourVest International Private Equity Partners VI-Partnership Fund L.P. values are originally presented in euros and are calculated to dollars using XE™.

<sup>7</sup>KKR: Total capital called is \$11,718,569, which includes recycled distributions. Unused capital commitment is \$1,054,718 after including distribution proceeds available for reinvestment

<sup>8</sup>All fees and expenses are for 1Q 2017

Total Fund  
Financial Reconciliation (Last Three Months)

Period Ending: June 30, 2017

Manager	Beginning Market Value	Contributions	Disbursements	Fees <sup>2</sup>	Net Cash Flow	Investment Income	Capital Gain/ Loss	Total Gains/Earnings/ Losses	Ending Market Value
Blackrock Russell 3000 Index	\$246,075,610	\$0	\$0	\$0	\$0	\$0	\$7,573,318	\$7,573,318	\$253,648,928
DFA Emerging Markets	\$28,637,952	\$0	\$0	\$0	\$0	\$0	\$809,609	\$809,609	\$29,447,561
Harding Loevner Emerging Markets	\$30,517,194	\$0	\$0	\$0	\$0	\$0	\$2,043,942	\$2,043,942	\$32,561,136
Blackrock International Equity	\$134,569,730	\$0	\$0	\$0	\$0	\$0	\$8,510,536	\$8,510,536	\$143,080,266
Bradford & Marzec, Inc.	\$109,142,764	\$0	\$0	\$0	\$0	\$895,796	\$764,619	\$1,660,415	\$110,803,179
MacKay Shields Core Plus Opp.	\$88,053,697	\$0	\$0	\$0	\$0	\$0	\$1,557,251	\$1,557,251	\$89,610,949
Blackrock US TIPS	\$21,264,728	\$0	\$0	\$0	\$0	\$0	(\$73,589)	(\$73,589)	\$21,191,139
Clarion Lion Properties	\$31,361,652	\$311,340	(\$315,555)	(\$80,800)	(\$85,015)	\$346,756	\$256,104	\$602,860	\$31,879,497
ICERS State Street Real Estate	\$1,410,480	\$33,452	(\$9,735)	\$0	\$23,717	\$7	(\$0)	\$7	\$1,434,205
ASB Allegiance Real Estate	\$31,655,884	\$72,161	\$0	(\$72,161)	\$0	\$277,652	(\$67,832)	\$209,820	\$31,865,705
PIMCO BRAVO <sup>1</sup>	\$832,303	\$0	\$0	(\$3,357)	(\$3,357)	\$0	(\$65,926)	(\$65,926)	\$763,020
KKR Mezzanine I <sup>1</sup>	\$4,159,435	\$15,157	(\$198,825)	(\$15,188)	(\$198,856)	\$0	\$94,985	\$94,985	\$4,055,564
HarbourVest International VI <sup>1</sup>	\$2,623,277	\$45,506	(\$45,506)	(\$7,197)	(\$7,197)	(\$8)	\$176,118	\$176,110	\$2,792,190
HarbourVest Buyout IX <sup>1</sup>	\$5,729,992	\$300,000	(\$363,607)	(\$24,887)	(\$88,494)	\$77	\$642,228	\$642,305	\$6,283,803
HarbourVest Credit Opportunities IX <sup>1</sup>	\$1,115,802	\$20,000	(\$40,655)	(\$4,970)	(\$25,625)	\$1,458	(\$29,709)	(\$28,251)	\$1,061,926
HarbourVest Venture IX <sup>1</sup>	\$3,592,753	\$100,000	(\$114,861)	(\$9,973)	(\$24,834)	\$21	\$139,668	\$139,689	\$3,707,608
Cash	\$4,080,454	\$415,880	\$0	\$0	\$415,880	\$0	\$0	\$0	\$4,496,333
<b>Totals</b>	<b>\$744,823,708</b>	<b>\$1,313,495</b>	<b>(\$1,088,743)</b>	<b>(\$218,533)</b>	<b>\$6,219</b>	<b>\$1,521,759</b>	<b>\$22,331,322</b>	<b>\$23,853,081</b>	<b>\$768,683,009</b>

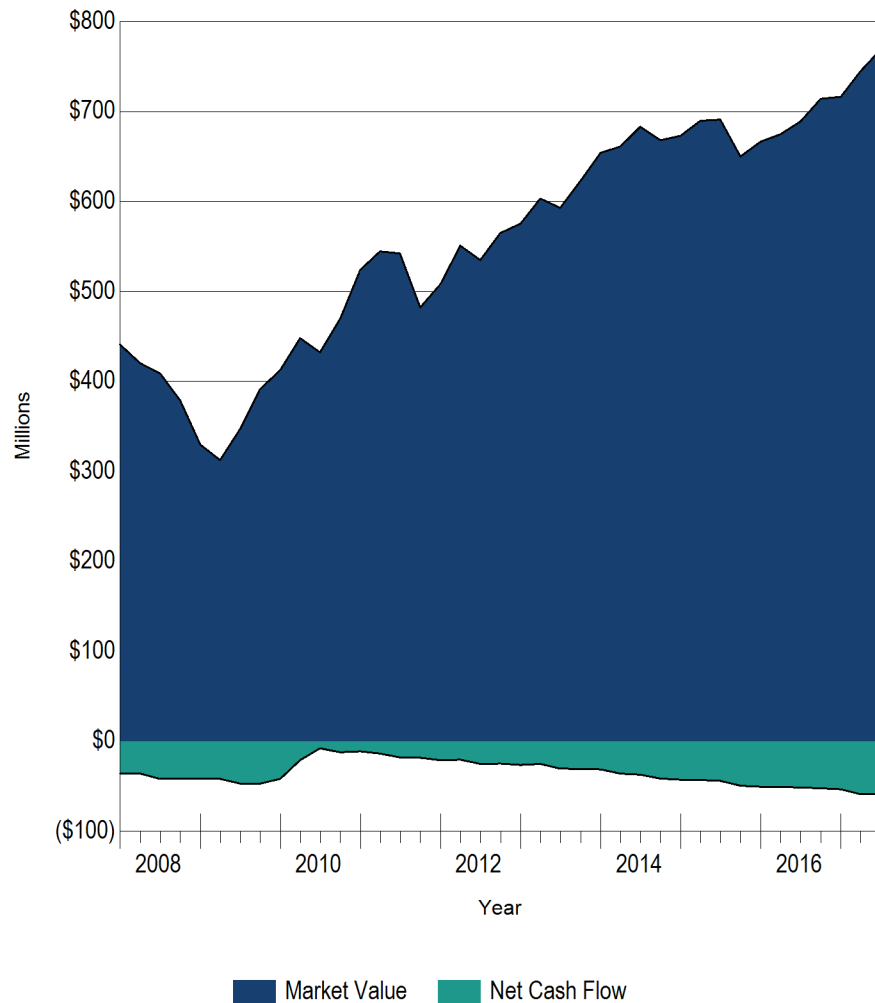
<sup>1</sup>Market value as of 3/31/2017 +/- 2Q calls and distributions

<sup>2</sup>Fee transactions not included in the Portfolio Reconciliation page at beginning of report

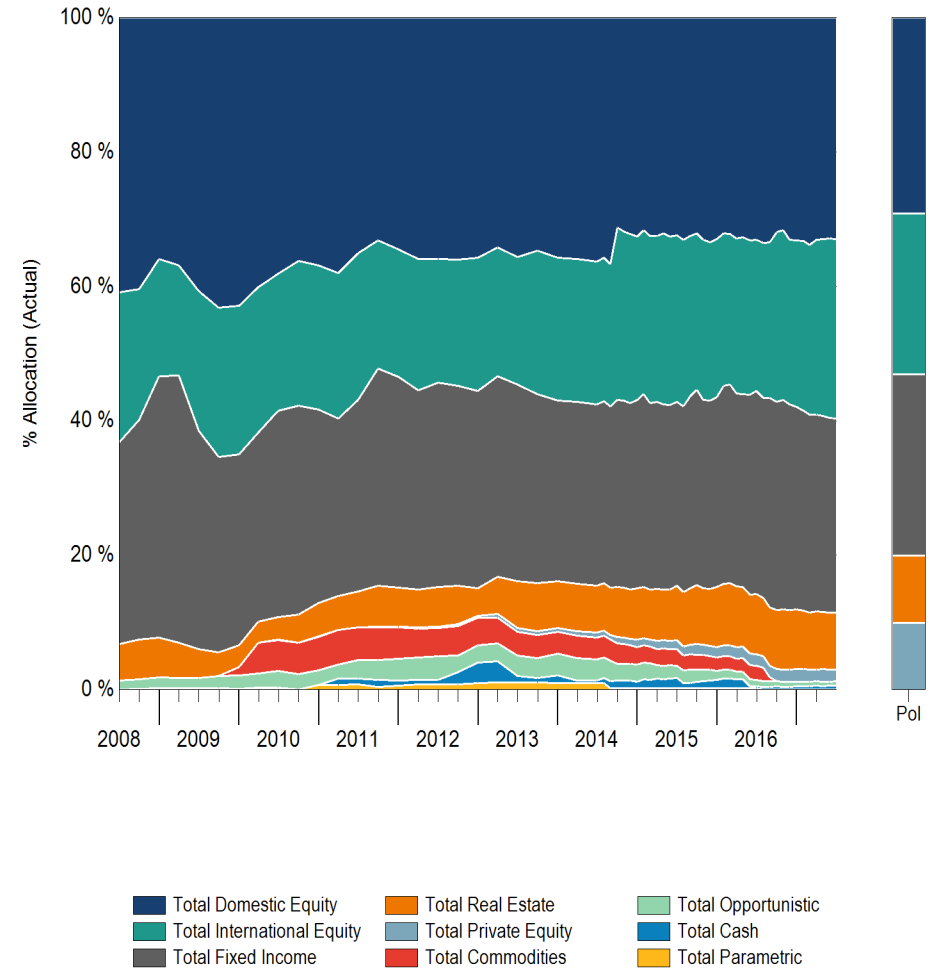
# Total Fund Asset Allocation History

Period Ending: June 30, 2017

Market Value History

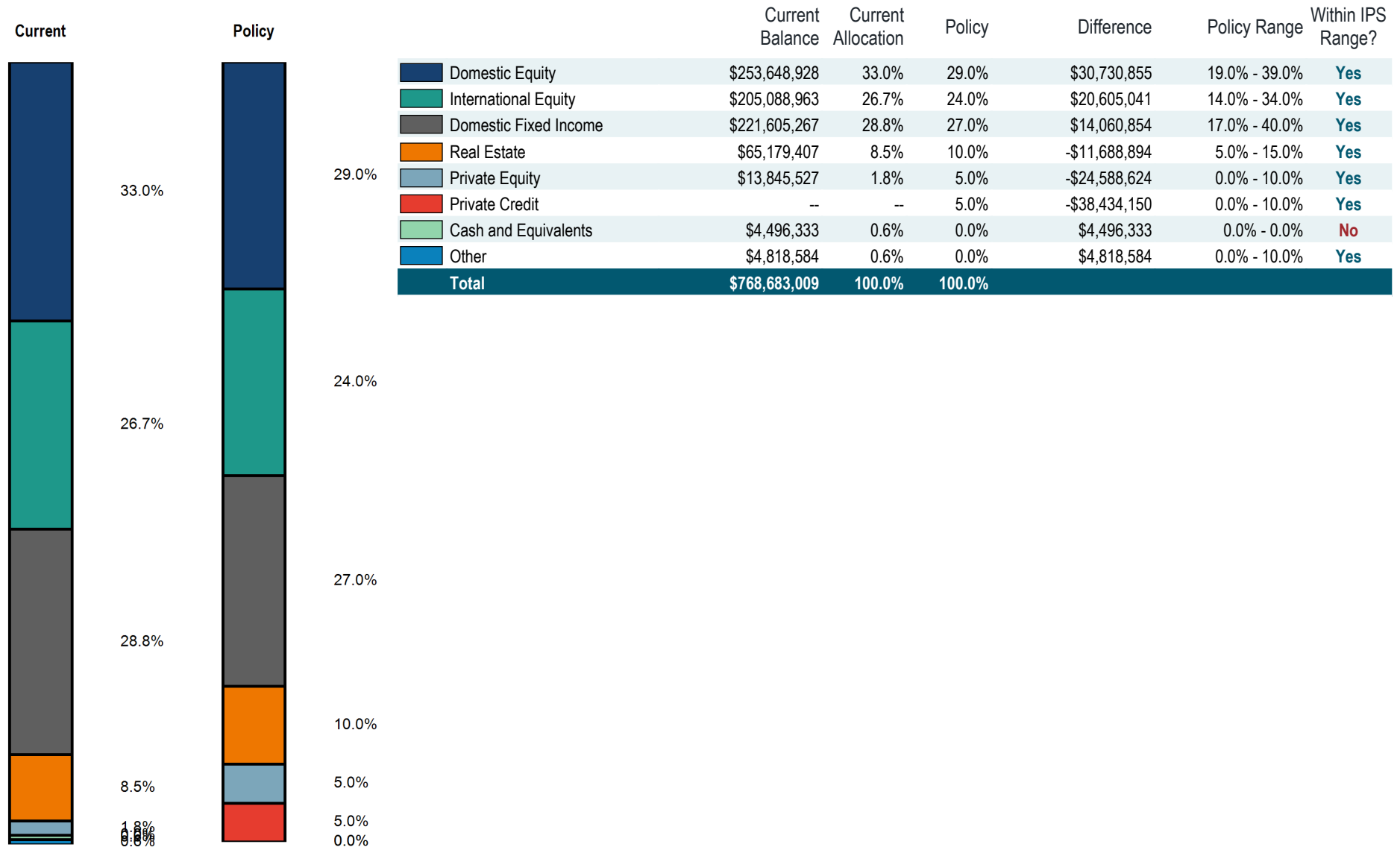


Asset Allocation History



# Total Fund Asset Allocation vs. Policy

Period Ending: June 30, 2017



# Total Fund Manager Report Card

Period Ending: June 30, 2017

**Objective 1: Exceed passive benchmark on a net-of-fee basis**

**Objective 2: Exceed median manager return in comparable universe on a gross-of-fee basis**

Asset Class / Manager	Benchmark	3-Year					5-Year				
		Manager Return	Benchmark Return	Meets Expectations	Universe Ranking	Meets Expectations	Manager Return	Benchmark Return	Meets Expectations	Universe Ranking	Meets Expectations
<u>Domestic Equity</u>											
BlackRock	Russell 3000 Index										
<u>International Equity</u>											
BlackRock	MSCI EAFE Index	1.4%	1.6%	No			8.9%	9.2%	No		
Dimensional Fund Advisors	MSCI Emerging Markets Index + 150 basis points	0.8%	2.9%	No	76	No	3.8%	5.8%	No	81	No
Harding Loevner	MSCI Emerging Markets Index + 150 basis points										
<u>Fixed Income</u>											
Bradford & Marzec	Barclays Credit Aggregate Bond Index + 50 basis points	3.3%	3.0%	Yes	27	Yes	3.6%	2.7%	Yes	42	Yes
MacKay Shields	Barclays Credit Aggregate Bond Index + 50 basis points										
BlackRock	Barclays Credit US TIPS Index	0.7%	0.6%	Yes			0.3%	0.3%	No		
<u>Alternatives</u>											
Clarion	NCREIF Property Index	11.5%	10.2%	Yes			11.1%	10.5%	Yes		
ASB Allegiance	NCREIF Property Index	9.7%	10.2%	No							
PIMCO	Actuarial Assumption Rate + 100 basis points										
KKR	Actuarial Assumption Rate + 100 basis points										
HarbourVest Partners	Russell 3000 + 250 basis points										

Asset Class / Manager	Benchmark	10-Year					15-Year				
		Manager Return	Benchmark Return	Meets Expectations	Universe Ranking	Meets Expectations	Manager Return	Benchmark Return	Meets Expectations	Universe Ranking	Meets Expectations
<u>Domestic Equity</u>											
BlackRock	Russell 3000 Index										
<u>International Equity</u>											
BlackRock	MSCI EAFE Index	1.3%	1.5%	No							
Dimensional Fund Advisors	MSCI Emerging Markets Index + 150 basis points	1.4%	3.7%	No	81	No					
Harding Loevner	MSCI Emerging Markets Index + 150 basis points										
<u>Fixed Income</u>											
Bradford & Marzec	Barclays Credit Aggregate Bond Index + 50 basis points	6.1%	5.0%	Yes	17	Yes	5.6%	5.0%	Yes		
MacKay Shields	Barclays Credit Aggregate Bond Index + 50 basis points										
BlackRock	Barclays Credit US TIPS Index	4.3%	4.3%	No							
<u>Alternatives</u>											
Clarion	NCREIF Property Index	3.3%	6.4%	No							
ASB Allegiance	NCREIF Property Index										
PIMCO	Actuarial Assumption Rate + 100 basis points										
KKR	Actuarial Assumption Rate + 100 basis points										
HarbourVest Partners	Russell 3000 + 250 basis points										

# Total Fund Investment Fee Analysis

Period Ending: June 30, 2017

Account	Fee Schedule	Market Value As of 6/30/2017	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
1221 State St. Corp	No Fee	\$1,434,205	0.2%	--	--
ASB Real Estate	1.25% of First \$5.0 Mil, 1.00% of Next \$10.0 Mil, 0.75% Thereafter	\$31,865,705	4.1%	\$288,993	0.91%
BlackRock International Equity	0.15% of First \$50.0 Mil, 0.10% of Next \$50.0 Mil	\$143,080,266	18.6%	\$125,000	0.09%
BlackRock Russell 3000	0.03% of Assets	\$253,648,928	33.0%	\$76,095	0.03%
BlackRock US TIPS	0.07% of Assets	\$21,191,139	2.8%	\$14,834	0.07%
Bradford & Marzec Fixed	0.29% of First \$100.0 Mil, 0.25% of Next \$100.0 Mil	\$110,803,179	14.4%	\$312,008	0.28%
Cash Account	No Fee	\$4,496,333	0.6%	--	--
Clarion Lion	1.25% of First \$10.0 Mil, 1.00% of Next \$15.0 Mil, 0.85% Thereafter	\$31,879,497	4.1%	\$333,476	1.05%
DFA Emerging Markets Value	0.56% of Assets	\$29,447,561	3.8%	\$164,906	0.56%
Harbourvest Buyout IX	\$100,000 Annually	\$6,283,803	0.8%	\$100,000	1.59%
Harbourvest Credit Ops IX	\$20,000 Annually	\$1,061,926	0.1%	\$20,000	1.88%
Harbourvest International PE VI	\$35,000 Annually	\$2,792,190	0.4%	\$35,000	1.25%
Harbourvest Venture IX	\$40,000 Annually	\$3,707,608	0.5%	\$40,000	1.08%
Harding Loevner Emerging Markets	1.05% of Assets	\$32,561,136	4.2%	\$341,892	1.05%
KKR Mezzanine Partners	\$150,000 Annually	\$4,055,564	0.5%	\$150,000	3.70%
Mackay Shields Core Plus Opportunities	0.35% of Assets	\$89,610,949	11.7%	\$313,638	0.35%
PIMCO BRAVO	1.90% of Assets	\$763,020	0.1%	\$14,497	1.90%
Verus Advisory Fee	\$175,000 Annually				
<b>Investment Management Fee</b>		<b>\$768,683,009</b>	<b>100.0%</b>	<b>\$2,330,339</b>	<b>0.30%</b>

\*HarbourVest, KKR and PIMCO BRAVO fees are estimated gross management fees only and do not include incentive allocations or offsetting cash flows received by the fund.

\*HarbourVest International Private Equity VI fees are based on committed Euros, actual US Dollar amount will fluctuate based on exchange rates.

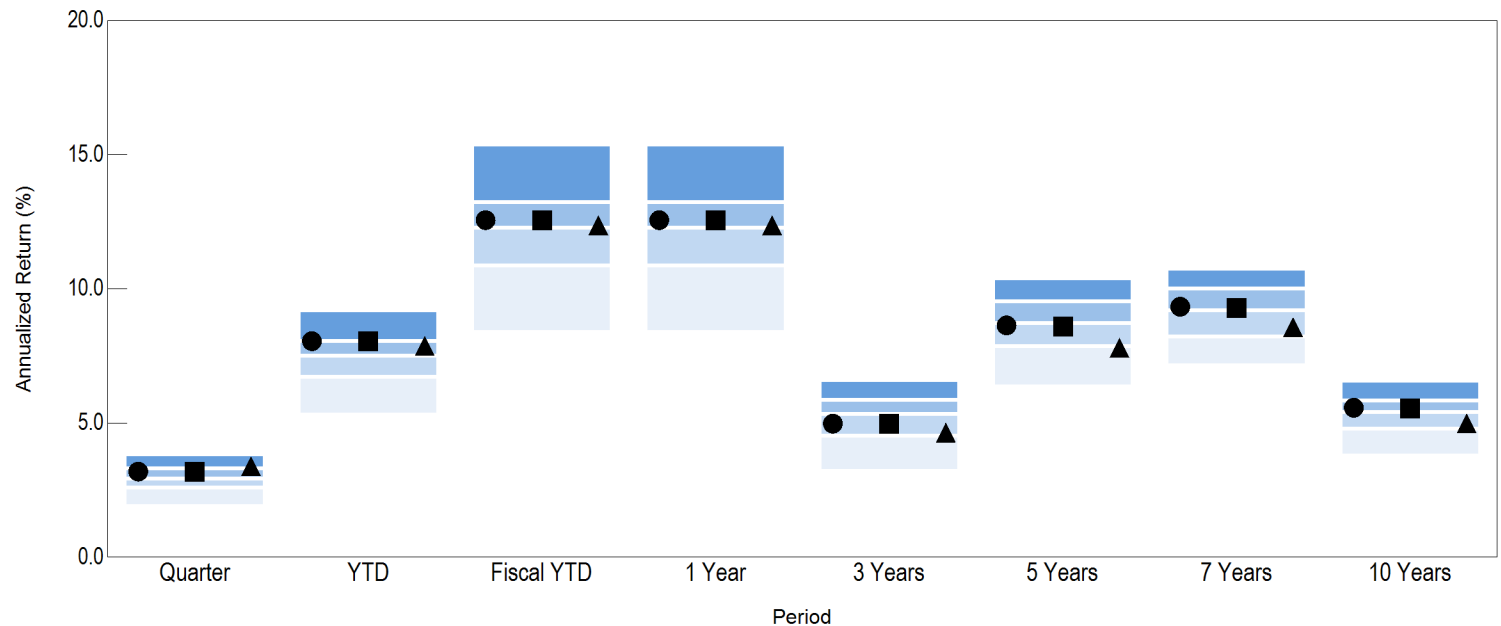
\*Verus advisory fee shown for disclosure purposes only and is not included in total investment management fee calculations.

# Total Fund

## Peer Universe Comparison: Cumulative Performance (Gross of Fees)

Period Ending: June 30, 2017

Total Fund Cumulative Performance vs. InvestorForce Public DB Gross

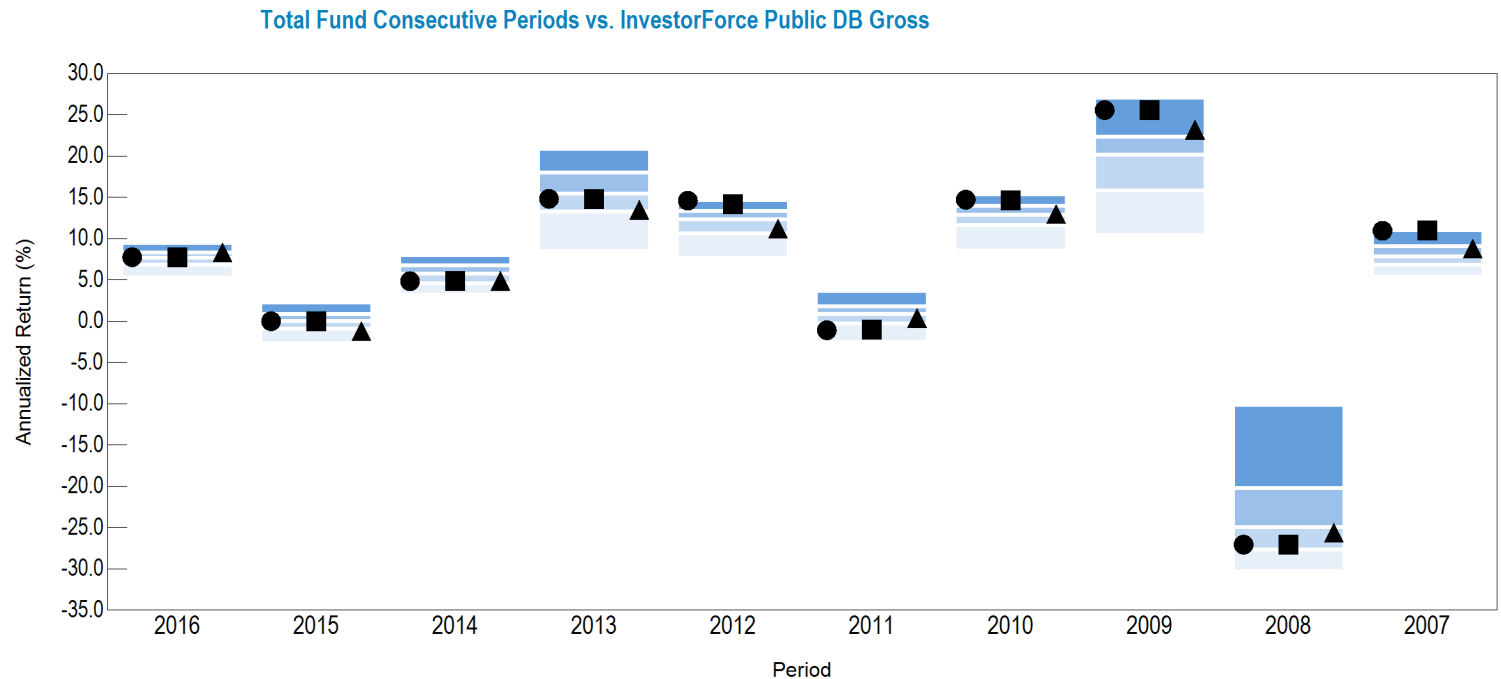


	Return (Rank)							
5th Percentile	3.8	9.2	15.4	15.4	6.6	10.4	10.8	6.6
25th Percentile	3.3	8.1	13.2	13.2	5.9	9.5	10.0	5.9
Median	3.0	7.5	12.3	12.3	5.3	8.7	9.2	5.4
75th Percentile	2.6	6.7	10.9	10.9	4.5	7.9	8.2	4.8
95th Percentile	1.9	5.3	8.4	8.4	3.2	6.4	7.2	3.8
# of Portfolios	270	269	267	267	242	225	200	180
● Total Fund	3.2 (35)	8.0 (26)	12.6 (46)	12.6 (46)	5.0 (63)	8.6 (54)	9.3 (46)	5.6 (44)
■ Total Fund ex Parametric	3.2 (35)	8.0 (26)	12.6 (46)	12.6 (46)	5.0 (63)	8.6 (56)	9.3 (47)	5.5 (45)
▲ Policy Index	3.4 (21)	7.9 (34)	12.4 (49)	12.4 (49)	4.6 (73)	7.8 (79)	8.6 (66)	5.0 (69)

# Total Fund

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

Period Ending: June 30, 2017



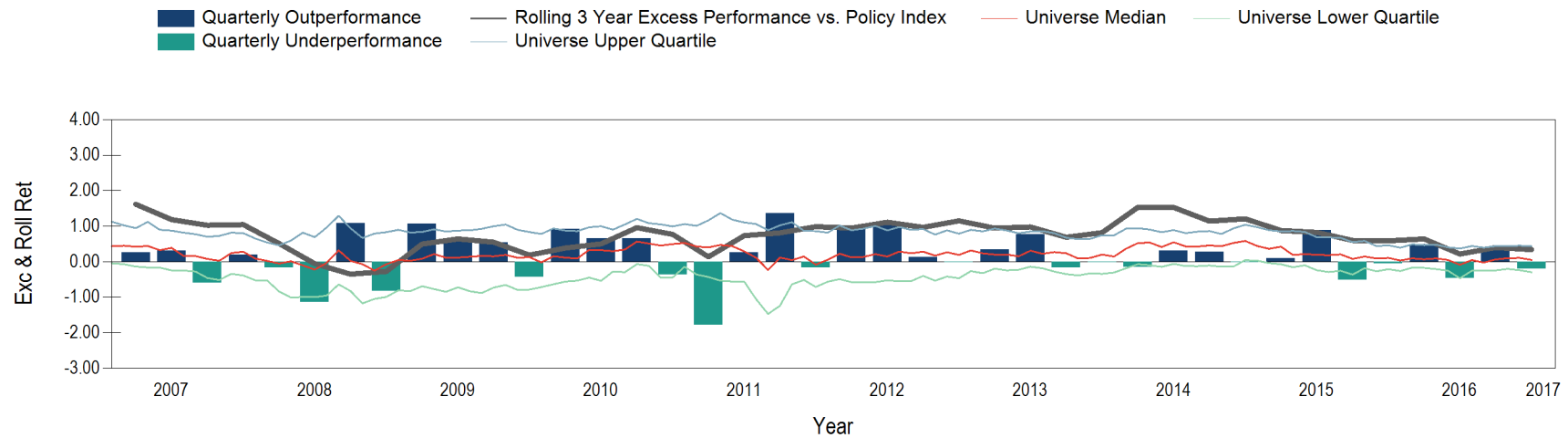
	Return (Rank)									
5th Percentile	9.4	2.2	8.0	20.8	14.6	3.6	15.4	27.0	-10.1	11.0
25th Percentile	8.4	0.9	6.8	18.0	13.4	1.9	14.0	22.4	-20.1	9.1
Median	7.7	0.1	5.8	15.5	12.4	0.9	12.9	20.2	-24.9	7.9
75th Percentile	6.9	-0.9	4.6	13.3	10.7	-0.3	11.7	15.9	-27.6	6.9
95th Percentile	5.3	-2.6	3.2	8.5	7.8	-2.5	8.6	10.5	-30.3	5.4
# of Portfolios	305	316	248	231	236	206	188	184	181	177
● Total Fund	7.7 (50)	0.0 (53)	4.8 (74)	14.8 (59)	14.6 (6)	-1.1 (89)	14.7 (13)	25.6 (11)	-27.1 (68)	10.9 (6)
■ Total Fund ex Parametric	7.7 (50)	0.0 (53)	4.9 (72)	14.7 (59)	14.2 (11)	-1.0 (88)	14.7 (15)	25.6 (11)	-27.1 (68)	10.9 (6)
▲ Policy Index	8.3 (26)	-1.2 (81)	4.9 (72)	13.5 (74)	11.2 (72)	0.4 (63)	13.0 (49)	23.2 (23)	-25.6 (58)	8.8 (31)

# Total Fund

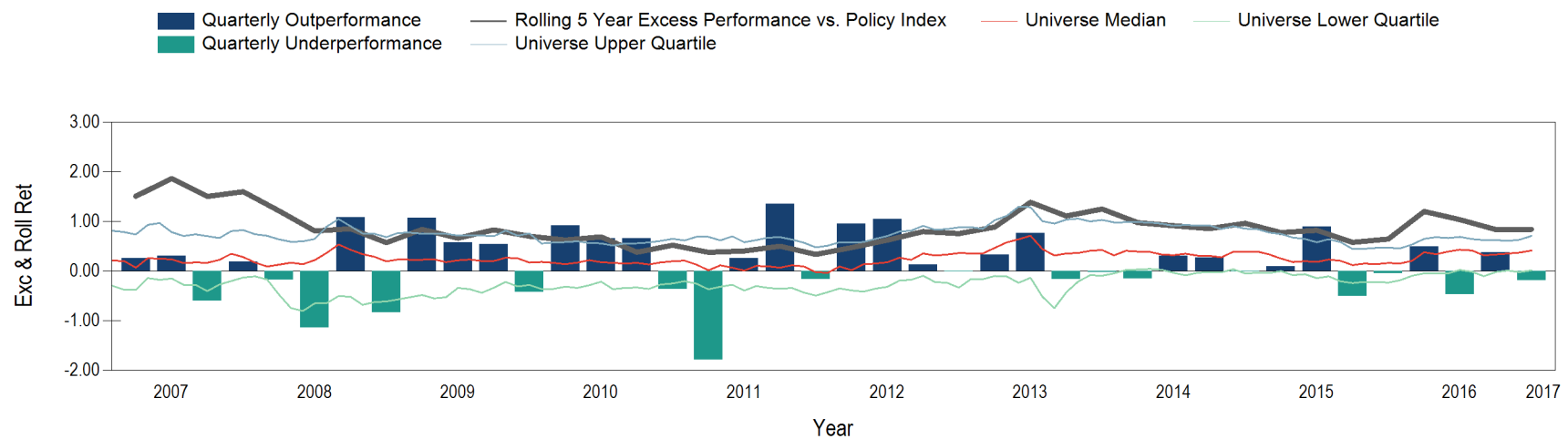
## Rolling Return Analysis (Gross of Fees)

Period Ending: June 30, 2017

### Rolling 3 Year Annualized Excess Performance



### Rolling 5 Year Annualized Excess Performance



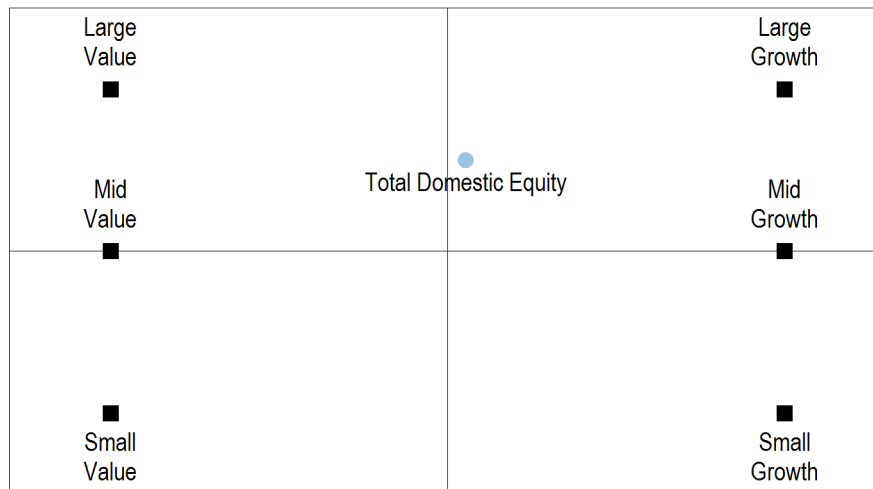
# Total Domestic Equity

## Asset Class Overview (Gross of Fees)

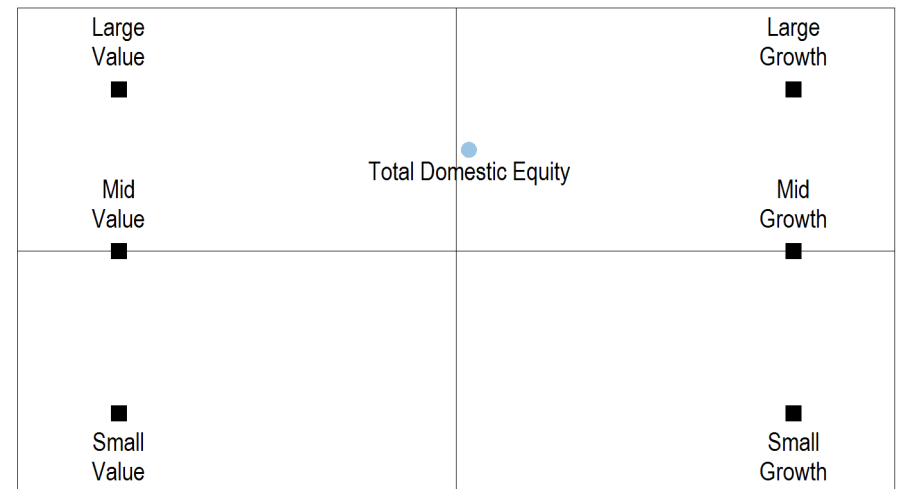
Period Ending: June 30, 2017

	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
<b>Total Domestic Equity</b>	<b>253,648,928</b>	<b>3.1</b>	<b>9.0</b>	<b>18.7</b>	<b>18.7</b>	<b>8.6</b>	<b>14.3</b>	<b>7.7</b>	<b>12.9</b>	<b>0.3</b>	<b>10.2</b>	<b>33.9</b>	<b>17.1</b>
<i>Russell 3000</i>		3.0	8.9	18.5	18.5	9.1	14.6	7.3	12.7	0.5	12.6	33.6	16.4
<i>InvestorForce Public DB US Eq Gross Rank</i>		31	29	45	45	57	59	21	51	44	73	64	18
<b>BlackRock Russell 3000</b>	<b>253,648,928</b>	<b>3.1</b>	<b>9.0</b>	<b>18.7</b>	<b>18.7</b>	--	--	--	<b>12.9</b>	--	--	--	--
<i>Russell 3000</i>		3.0	8.9	18.5	18.5	--	--	--	12.7	--	--	--	--
<i>eA US All Cap Core Equity Gross Rank</i>		49	46	50	50	--	--	--	35	--	--	--	--

U.S. Effective Style Map  
3 Years Ending June 30, 2017



U.S. Effective Style Map  
5 Years Ending June 30, 2017



Total Domestic Equity  
Asset Class Overview (Net of Fees)

Period Ending: June 30, 2017

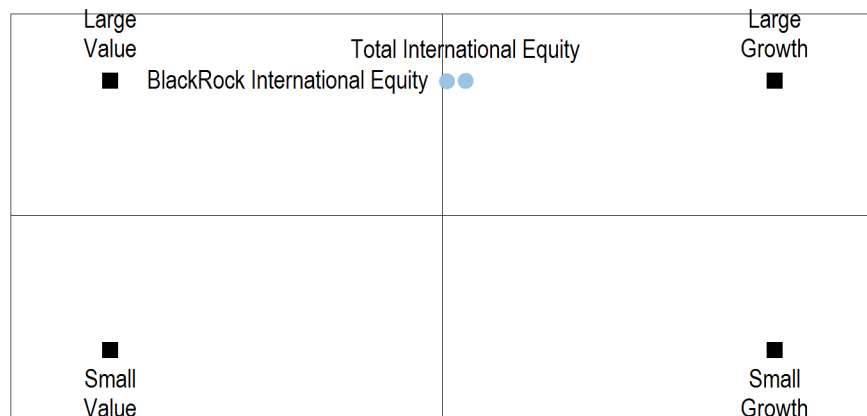
	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
<b>Total Domestic Equity</b>	<b>253,648,928</b>	<b>3.1</b>	<b>9.0</b>	<b>18.6</b>	<b>18.6</b>	<b>8.5</b>	<b>14.1</b>	<b>7.5</b>	<b>12.8</b>	<b>0.1</b>	<b>10.0</b>	<b>33.6</b>	<b>16.9</b>
<i>Russell 3000</i>		3.0	8.9	18.5	18.5	9.1	14.6	7.3	12.7	0.5	12.6	33.6	16.4
BlackRock Russell 3000	253,648,928	3.1	9.0	18.6	18.6	--	--	--	12.8	--	--	--	--
<i>Russell 3000</i>		3.0	8.9	18.5	18.5	--	--	--	12.7	--	--	--	--

# Total International Equity Asset Class Overview (Gross of Fees)

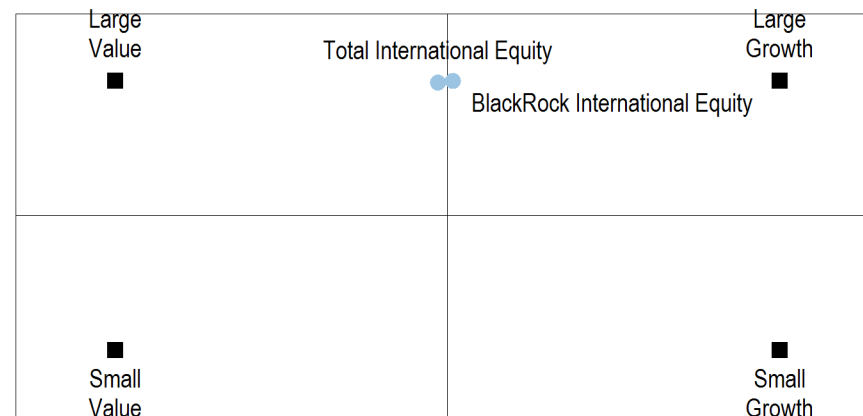
Period Ending: June 30, 2017

	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
<b>Total International Equity</b>	<b>205,088,963</b>	<b>5.9</b>	<b>15.5</b>	<b>21.9</b>	<b>21.9</b>	<b>2.0</b>	<b>8.1</b>	<b>1.5</b>	<b>4.7</b>	<b>-3.5</b>	<b>-4.4</b>	<b>14.0</b>	<b>19.3</b>
MSCI ACWI ex USA Gross		6.0	14.5	21.0	21.0	1.3	7.7	1.6	5.0	-5.3	-3.4	15.8	17.4
InvestorForce Public DB ex-US Eq Gross Rank		72	58	29	29	56	61	55	40	57	74	83	37
<b>BlackRock International Equity</b>	<b>143,080,266</b>	<b>6.3</b>	<b>14.2</b>	<b>20.8</b>	<b>20.8</b>	<b>1.5</b>	<b>9.1</b>	<b>1.4</b>	<b>1.5</b>	<b>-0.5</b>	<b>-4.7</b>	<b>23.2</b>	<b>17.8</b>
MSCI EAFE Gross		6.4	14.2	20.8	20.8	1.6	9.2	1.5	1.5	-0.4	-4.5	23.3	17.9
eA All EAFE Equity Gross Rank		66	66	54	54	78	73	82	47	67	64	61	74
<b>DFA Emerging Markets Value</b>	<b>29,447,561</b>	<b>3.0</b>	<b>17.8</b>	<b>28.3</b>	<b>28.3</b>	<b>1.3</b>	<b>4.4</b>	<b>2.0</b>	<b>20.5</b>	<b>-18.3</b>	<b>-3.9</b>	<b>-3.2</b>	<b>20.1</b>
MSCI Emerging Markets Gross		6.4	18.6	24.2	24.2	1.4	4.3	2.2	11.6	-14.6	-1.8	-2.3	18.6
eA Emg Mkts Equity Gross Rank		93	73	20	20	74	80	82	7	92	84	84	56
<b>Harding Loevner Emerging Markets</b>	<b>32,561,136</b>	<b>6.7</b>	<b>19.2</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
MSCI Emerging Markets Gross		6.4	18.6	--	--	--	--	--	--	--	--	--	--
eA Emg Mkts Equity Gross Rank		45	56	--	--	--	--	--	--	--	--	--	--

EAFE Effective Style Map  
3 Years Ending June 30, 2017



EAFE Effective Style Map  
5 Years Ending June 30, 2017



# Total International Equity Asset Class Overview (Net of Fees)

Period Ending: June 30, 2017

	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
<b>Total International Equity</b>	<b>205,088,963</b>	<b>5.8</b>	<b>15.3</b>	<b>21.6</b>	<b>21.6</b>	<b>1.6</b>	<b>7.6</b>	<b>1.0</b>	<b>4.4</b>	<b>-4.0</b>	<b>-4.9</b>	<b>13.4</b>	<b>18.6</b>
MSCI ACWI ex USA Gross		6.0	14.5	21.0	21.0	1.3	7.7	1.6	5.0	-5.3	-3.4	15.8	17.4
BlackRock International Equity	143,080,266	6.3	14.1	20.7	20.7	1.4	8.9	1.3	1.3	-0.6	-4.8	22.9	17.6
MSCI EAFE Gross		6.4	14.2	20.8	20.8	1.6	9.2	1.5	1.5	-0.4	-4.5	23.3	17.9
DFA Emerging Markets Value	29,447,561	2.8	17.4	27.6	27.6	0.8	3.8	1.4	19.8	-18.8	-4.4	-3.8	19.4
MSCI Emerging Markets Gross		6.4	18.6	24.2	24.2	1.4	4.3	2.2	11.6	-14.6	-1.8	-2.3	18.6
Harding Loevner Emerging Markets	32,561,136	6.4	18.6	--	--	--	--	--	--	--	--	--	--
MSCI Emerging Markets Gross		6.4	18.6	--	--	--	--	--	--	--	--	--	--

EM Effective Style Map  
3 Years Ending June 30, 2017

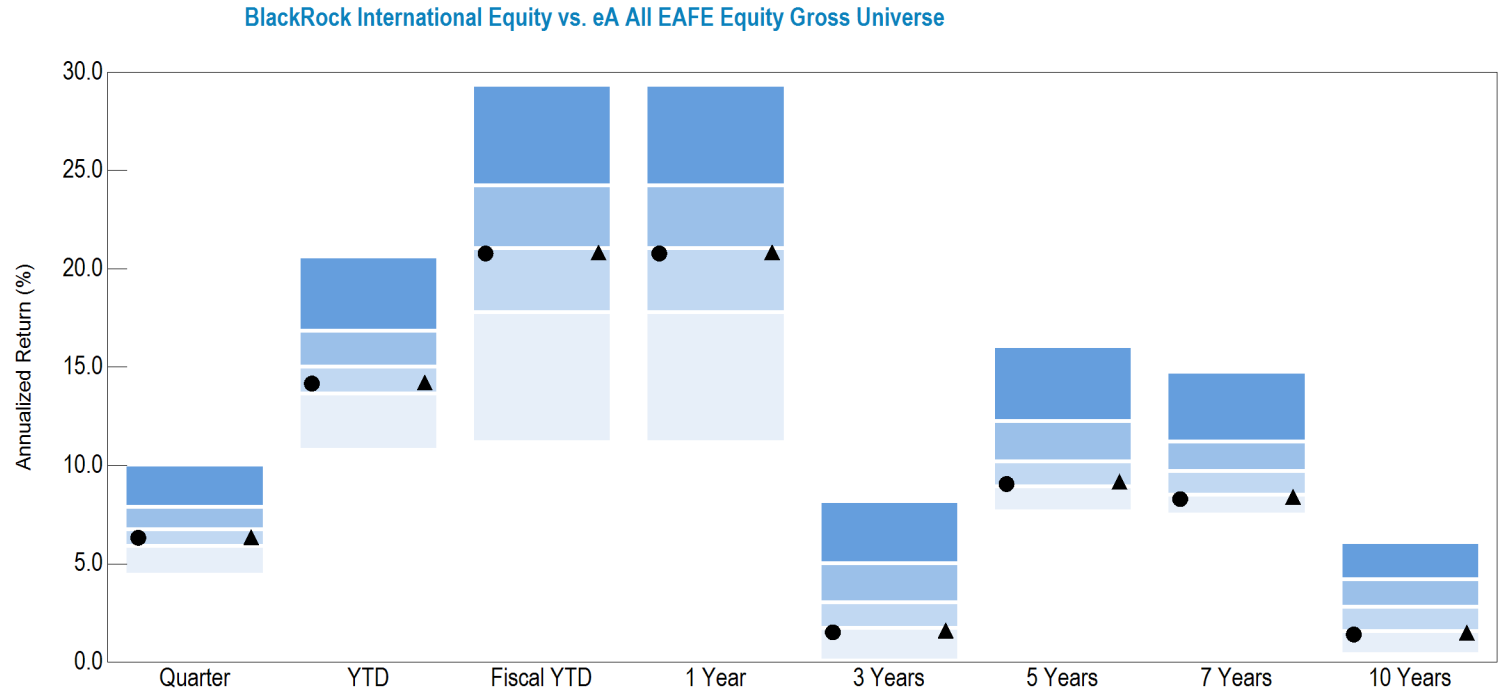


EM Effective Style Map  
5 Years Ending June 30, 2017



# BlackRock International Equity Cumulative Performance Comparison (Gross of Fees)

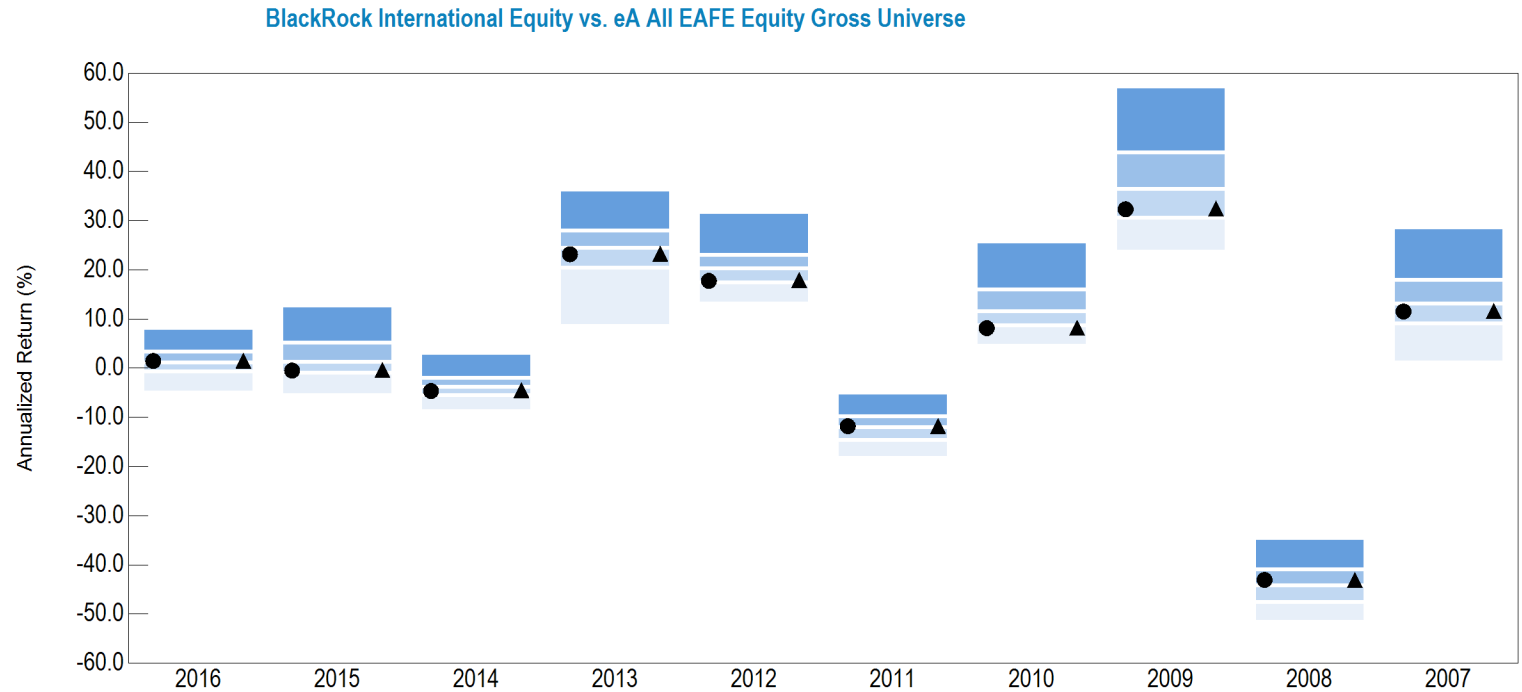
Period Ending: June 30, 2017



	Return (Rank)							
5th Percentile	10.0	20.6	29.3	29.3	8.2	16.0	14.7	6.1
25th Percentile	7.9	16.9	24.2	24.2	5.0	12.3	11.2	4.2
Median	6.8	15.0	21.1	21.1	3.1	10.2	9.7	2.8
75th Percentile	5.9	13.7	17.8	17.8	1.7	8.9	8.5	1.6
95th Percentile	4.5	10.8	11.2	11.2	0.1	7.7	7.5	0.4
# of Portfolios	365	362	361	361	335	306	284	233
● BlackRock International Equity	6.3 (66)	14.2 (66)	20.8 (54)	20.8 (54)	1.5 (78)	9.1 (73)	8.3 (82)	1.4 (82)
▲ MSCI EAFE Gross	6.4 (65)	14.2 (65)	20.8 (53)	20.8 (53)	1.6 (77)	9.2 (71)	8.4 (80)	1.5 (80)

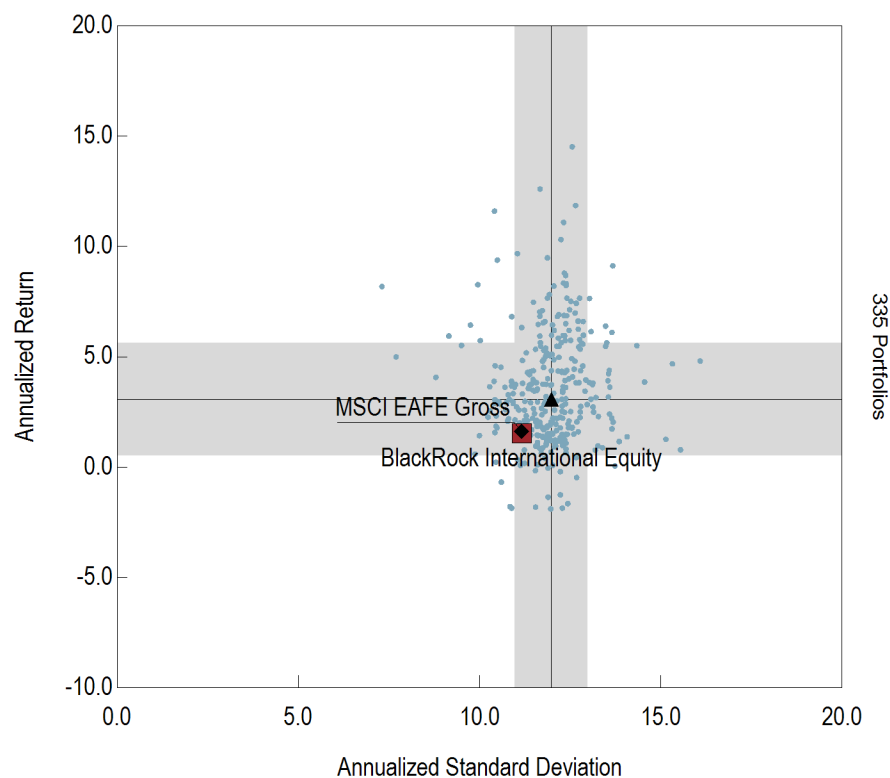
# BlackRock International Equity Consecutive Performance Comparison (Gross of Fees)

Period Ending: June 30, 2017



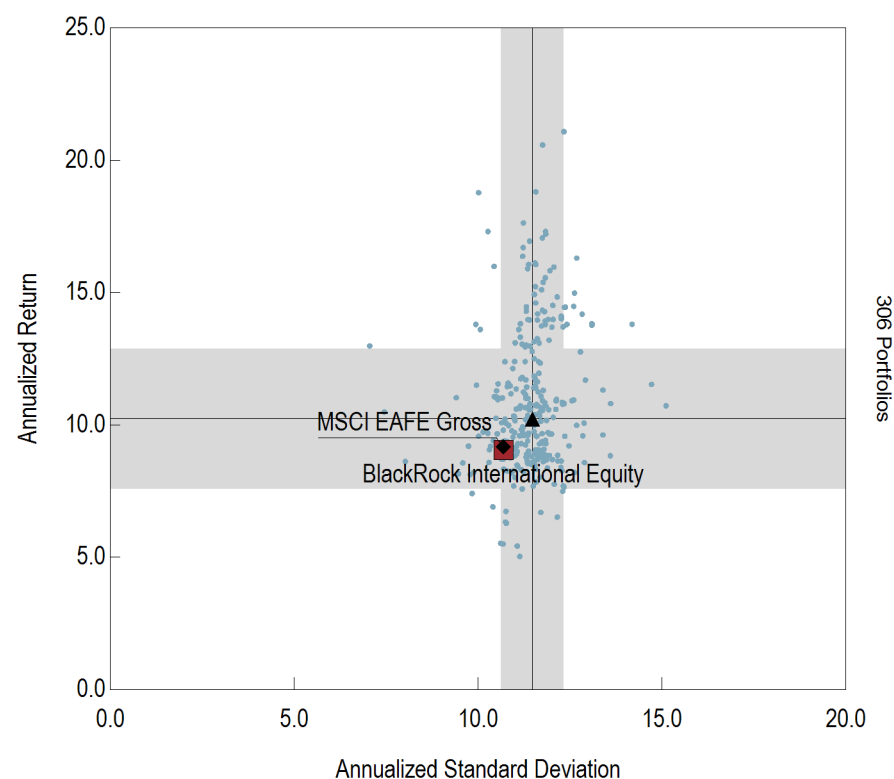
	Return (Rank)									
5th Percentile	8.1	12.6	3.0	36.3	31.7	-5.1	25.7	57.3	-34.5	28.5
25th Percentile	3.4	5.2	-1.9	28.1	23.1	-9.7	16.1	44.0	-40.8	18.0
Median	1.3	1.4	-3.7	24.6	20.4	-12.0	11.7	36.5	-44.1	13.2
75th Percentile	-0.6	-0.9	-5.4	20.5	17.5	-14.5	8.7	30.7	-47.5	9.1
95th Percentile	-4.9	-5.4	-8.6	8.6	13.3	-18.2	4.6	23.7	-51.5	1.2
# of Portfolios	350	325	314	284	263	278	352	455	477	466
● BlackRock International Equity	1.5 (47)	-0.5 (67)	-4.7 (64)	23.2 (61)	17.8 (74)	-11.8 (48)	8.1 (79)	32.3 (68)	-43.1 (41)	11.5 (60)
▲ MSCI EAFE Gross	1.5 (47)	-0.4 (66)	-4.5 (60)	23.3 (60)	17.9 (72)	-11.7 (47)	8.2 (78)	32.5 (67)	-43.1 (41)	11.6 (59)

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending June 30, 2017



- BlackRock International Equity
- ◆ MSCI EAFE Gross
- ▲ Universe Median
- 68% Confidence Interval
- eA All EAFE Equity Gross

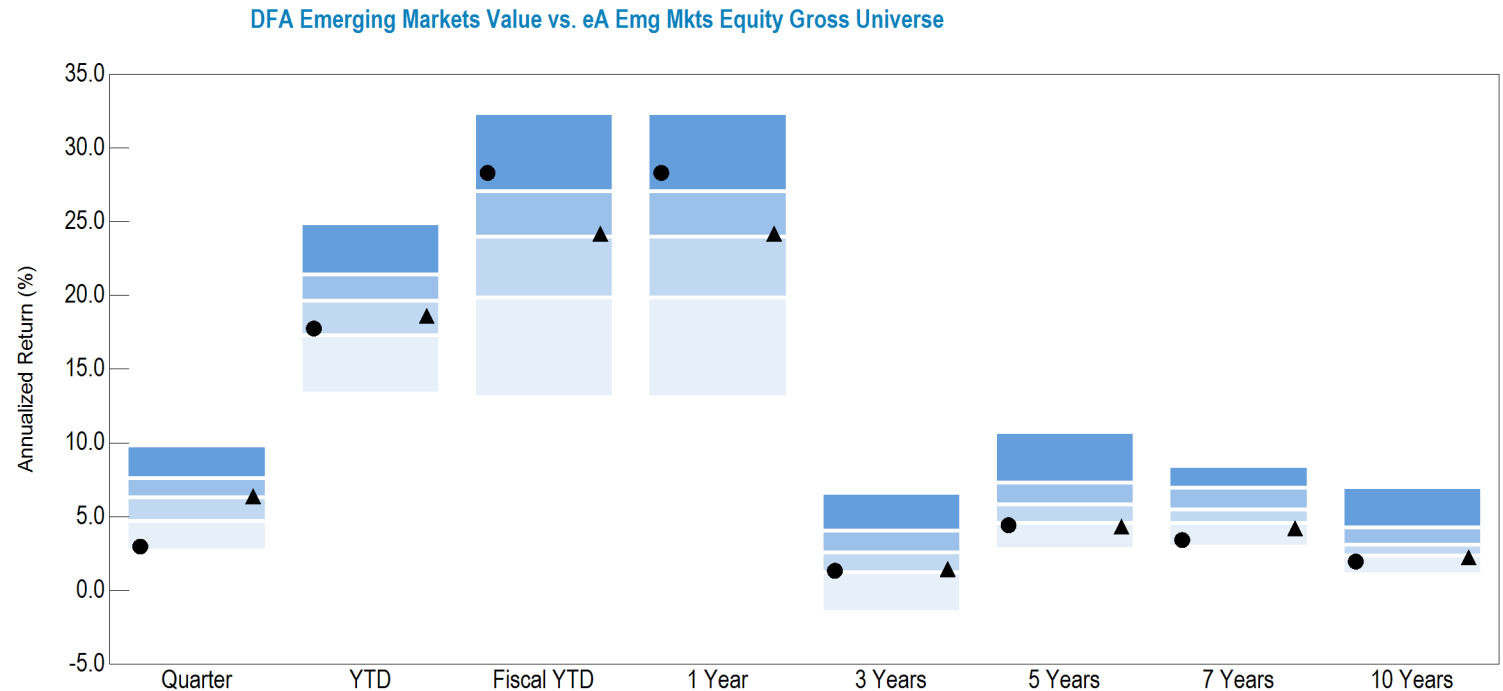
Annualized Return vs. Annualized Standard Deviation  
5 Years Ending June 30, 2017



- BlackRock International Equity
- ◆ MSCI EAFE Gross
- ▲ Universe Median
- 68% Confidence Interval
- eA All EAFE Equity Gross

# DFA Emerging Markets Value Cumulative Performance Comparison (Gross of Fees)

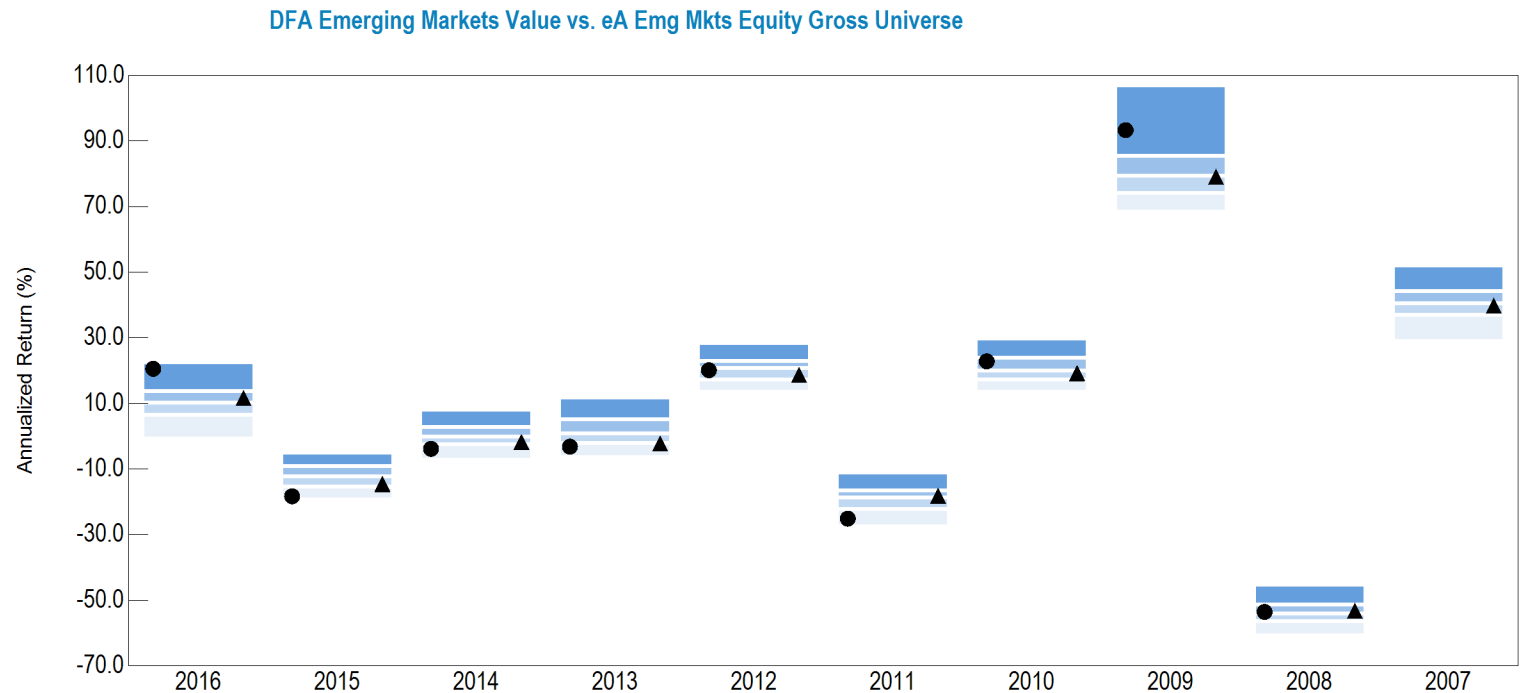
Period Ending: June 30, 2017



	Return (Rank)							
5th Percentile	9.8	24.9	32.4	32.4	6.6	10.7	8.4	7.0
25th Percentile	7.6	21.4	27.1	27.1	4.1	7.3	7.0	4.3
Median	6.4	19.7	24.0	24.0	2.6	5.9	5.5	3.1
75th Percentile	4.7	17.3	19.9	19.9	1.3	4.6	4.6	2.4
95th Percentile	2.7	13.4	13.1	13.1	-1.4	2.8	3.0	1.1
# of Portfolios	328	327	327	327	299	241	172	118
● DFA Emerging Markets Value	3.0 (93)	17.8 (73)	28.3 (20)	28.3 (20)	1.3 (74)	4.4 (80)	3.4 (92)	2.0 (82)
▲ MSCI Emerging Markets Gross	6.4 (50)	18.6 (63)	24.2 (49)	24.2 (49)	1.4 (71)	4.3 (82)	4.2 (80)	2.2 (77)

# DFA Emerging Markets Value Consecutive Performance Comparison (Gross of Fees)

Period Ending: June 30, 2017

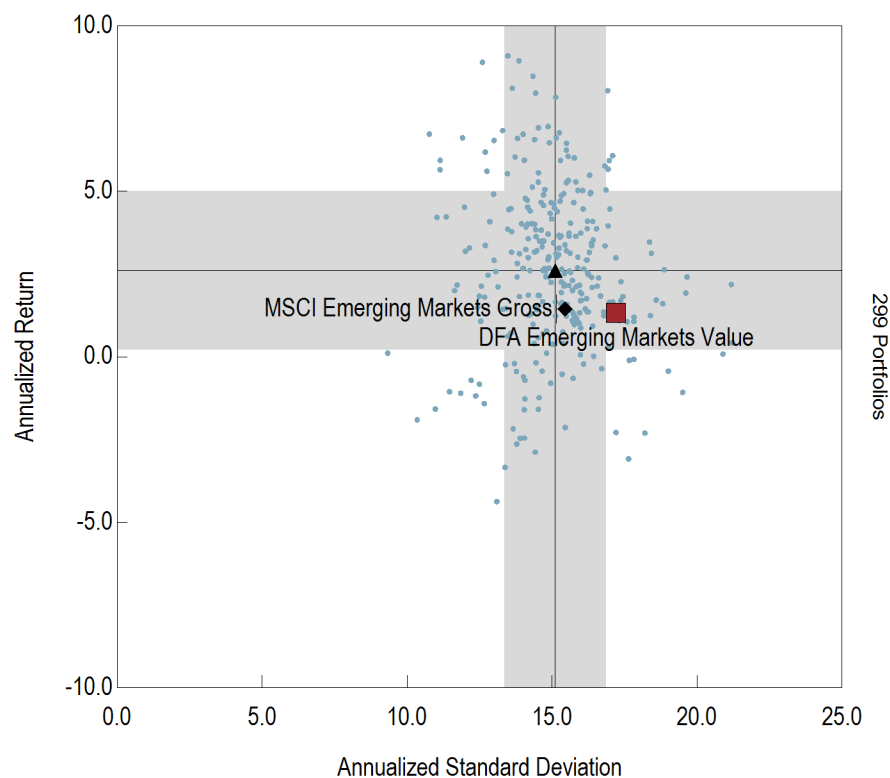


	Return (Rank)									
5th Percentile	22.4	-5.0	8.0	11.7	28.4	-11.1	29.6	106.8	-45.4	51.9
25th Percentile	13.7	-9.0	2.9	5.2	23.0	-16.4	23.9	85.5	-51.3	44.3
Median	10.4	-12.2	-0.1	1.0	20.9	-18.6	20.1	79.5	-54.0	40.5
75th Percentile	6.6	-15.3	-2.4	-2.0	17.3	-22.2	17.3	74.3	-56.3	37.1
95th Percentile	-0.6	-19.2	-7.0	-6.3	13.7	-27.3	13.7	68.5	-60.7	29.1
# of Portfolios	337	273	251	198	155	139	113	113	118	115
● DFA Emerging Markets Value	20.5 (7)	-18.3 (92)	-3.9 (84)	-3.2 (84)	20.1 (56)	-25.2 (92)	22.8 (33)	93.3 (12)	-53.6 (44)	-- (--)
▲ MSCI Emerging Markets Gross	11.6 (40)	-14.6 (67)	-1.8 (69)	-2.3 (78)	18.6 (68)	-18.2 (45)	19.2 (62)	79.0 (54)	-53.2 (37)	39.8 (58)

# DFA Emerging Markets Value Risk vs Return Three & Five Year (Gross of Fees)

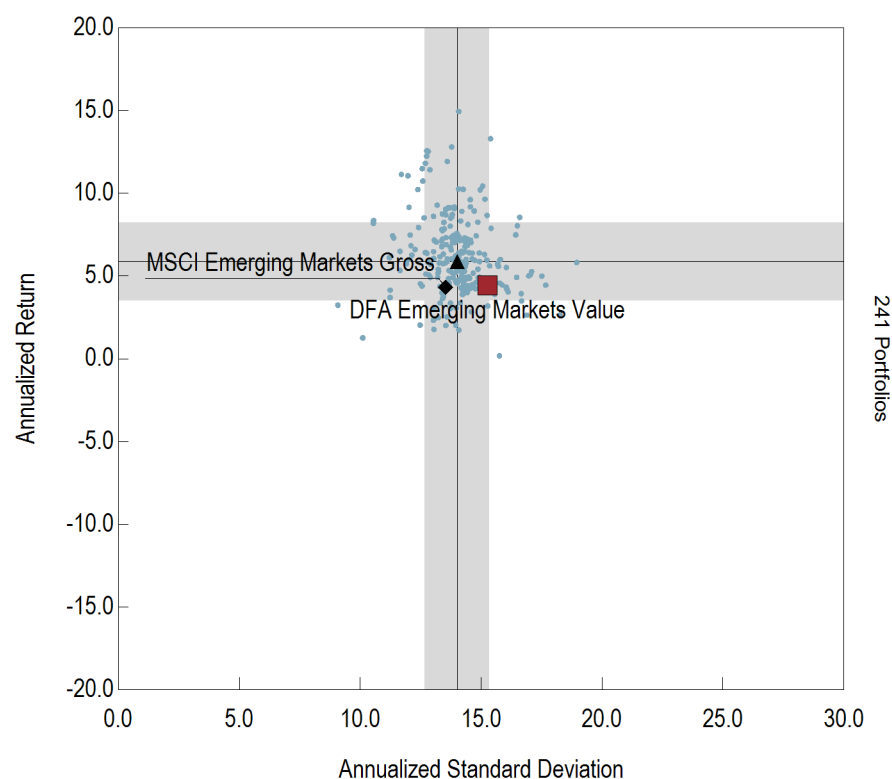
Period Ending: June 30, 2017

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending June 30, 2017



- DFA Emerging Markets Value
- ◆ MSCI Emerging Markets Gross
- ▲ Universe Median
- ▣ 68% Confidence Interval
- eA Emg Mkts Equity Gross

Annualized Return vs. Annualized Standard Deviation  
5 Years Ending June 30, 2017

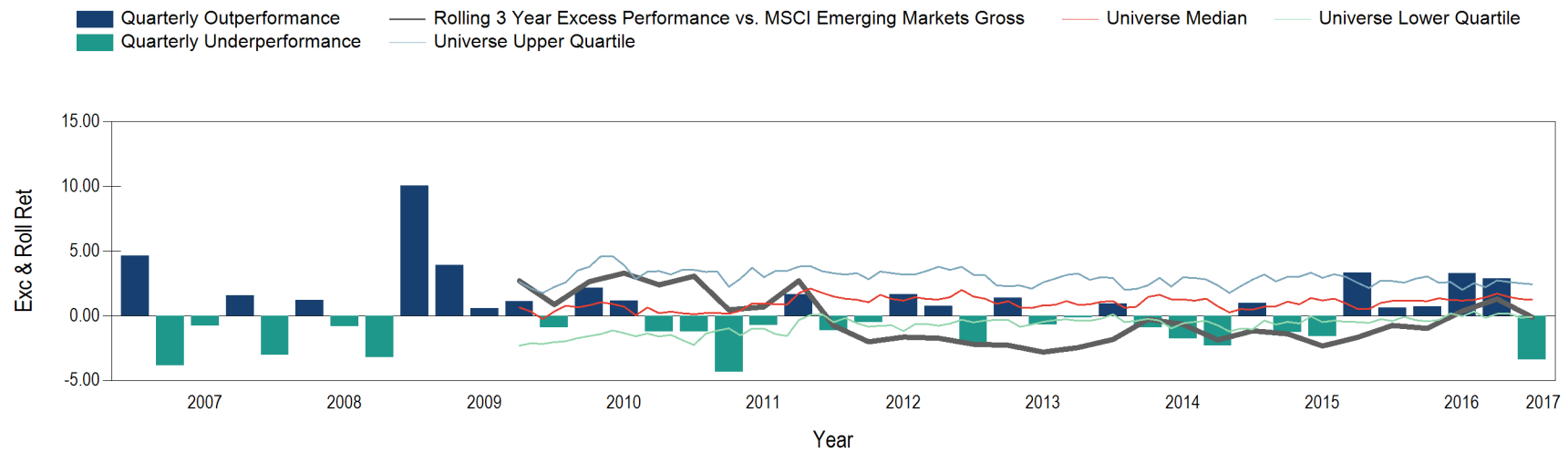


- DFA Emerging Markets Value
- ◆ MSCI Emerging Markets Gross
- ▲ Universe Median
- ▣ 68% Confidence Interval
- eA Emg Mkts Equity Gross

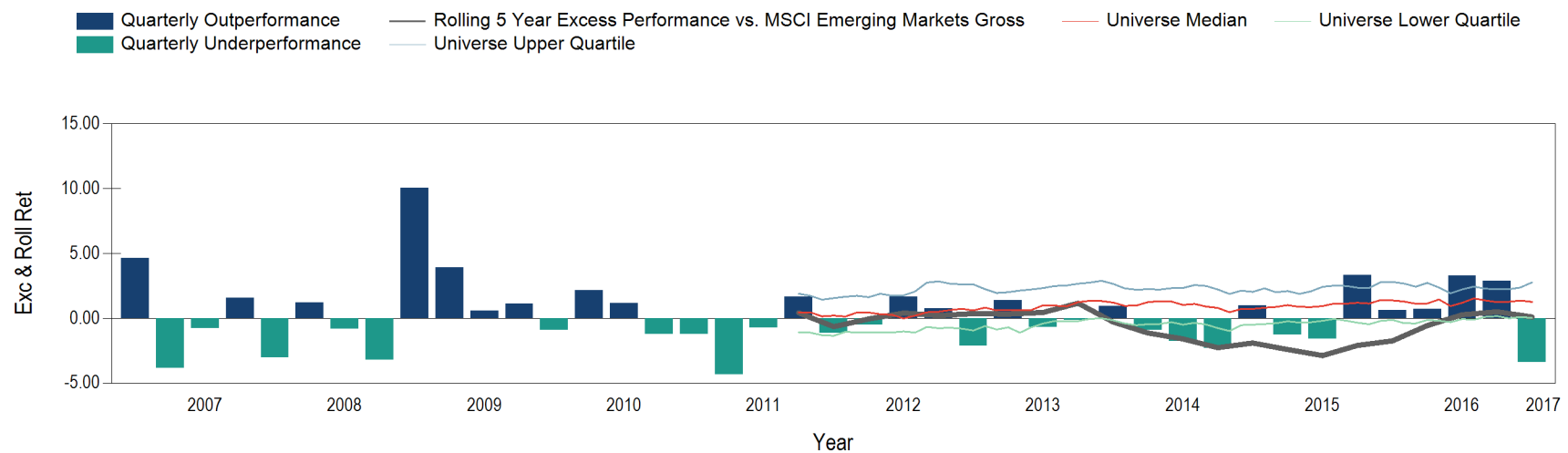
# DFA Emerging Markets Value Rolling Return Analysis (Gross of Fees)

Period Ending: June 30, 2017

## Rolling 3 Year Annualized Excess Performance



## Rolling 5 Year Annualized Excess Performance

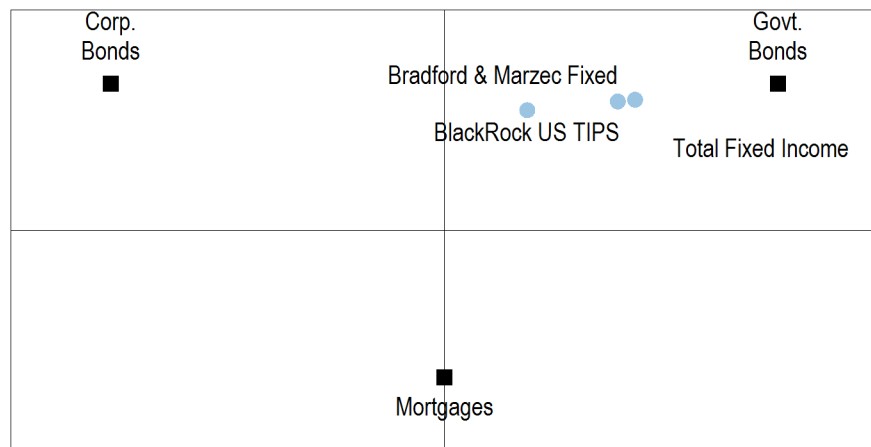


# Total Fixed Income Asset Class Overview (Gross of Fees)

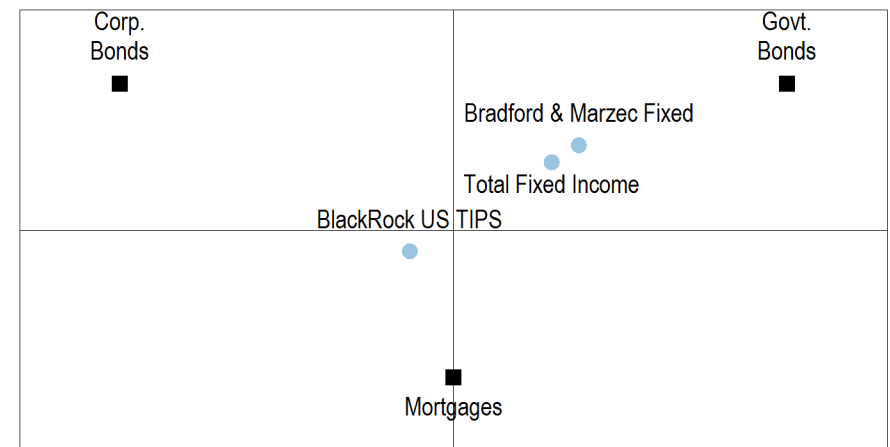
Period Ending: June 30, 2017

	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
<b>Total Fixed Income</b>	<b>221,605,267</b>	<b>1.5</b>	<b>2.7</b>	<b>1.9</b>	<b>1.9</b>	<b>2.9</b>	<b>3.1</b>	<b>6.0</b>	<b>5.1</b>	<b>-0.3</b>	<b>5.9</b>	<b>-1.7</b>	<b>9.6</b>
BBgBarc US Aggregate TR		1.4	2.3	-0.3	-0.3	2.5	2.2	4.5	2.6	0.6	6.0	-2.0	4.2
InvestorForce Public DB Total Fix Inc Gross Rank		55	61	64	64	35	45	18	41	55	15	69	33
Bradford & Marzec Fixed	110,803,179	1.5	2.8	1.8	1.8	3.6	3.9	6.4	5.1	1.2	7.0	-0.4	8.8
BBgBarc US Aggregate TR		1.4	2.3	-0.3	-0.3	2.5	2.2	4.5	2.6	0.6	6.0	-2.0	4.2
eA US Core Plus Fixed Inc Gross Rank		83	77	70	70	27	42	18	45	15	16	52	45
MacKay Shields Core Plus Opportunities	89,610,949	1.9	3.1	2.5	2.5	--	--	--	5.1	--	--	--	--
BBgBarc US Aggregate TR		1.4	2.3	-0.3	-0.3	--	--	--	2.6	--	--	--	--
eA US Core Plus Fixed Inc Gross Rank		44	55	52	52	--	--	--	46	--	--	--	--
BlackRock US TIPS	21,191,139	-0.3	1.0	-0.4	-0.4	0.8	0.4	4.4	4.8	-1.2	3.6	-8.5	7.1
BBgBarc US TIPS TR		-0.4	0.9	-0.6	-0.6	0.6	0.3	4.3	4.7	-1.4	3.6	-8.6	7.0
eA TIPS / Infl Indexed Fixed Inc Gross Rank		45	41	57	57	40	59	44	37	43	45	62	59

Fixed Income Style Map  
3 Years Ending June 30, 2017



Fixed Income Style Map  
5 Years Ending June 30, 2017



# Total Fixed Income Asset Class Overview (Net of Fees)

Period Ending: June 30, 2017

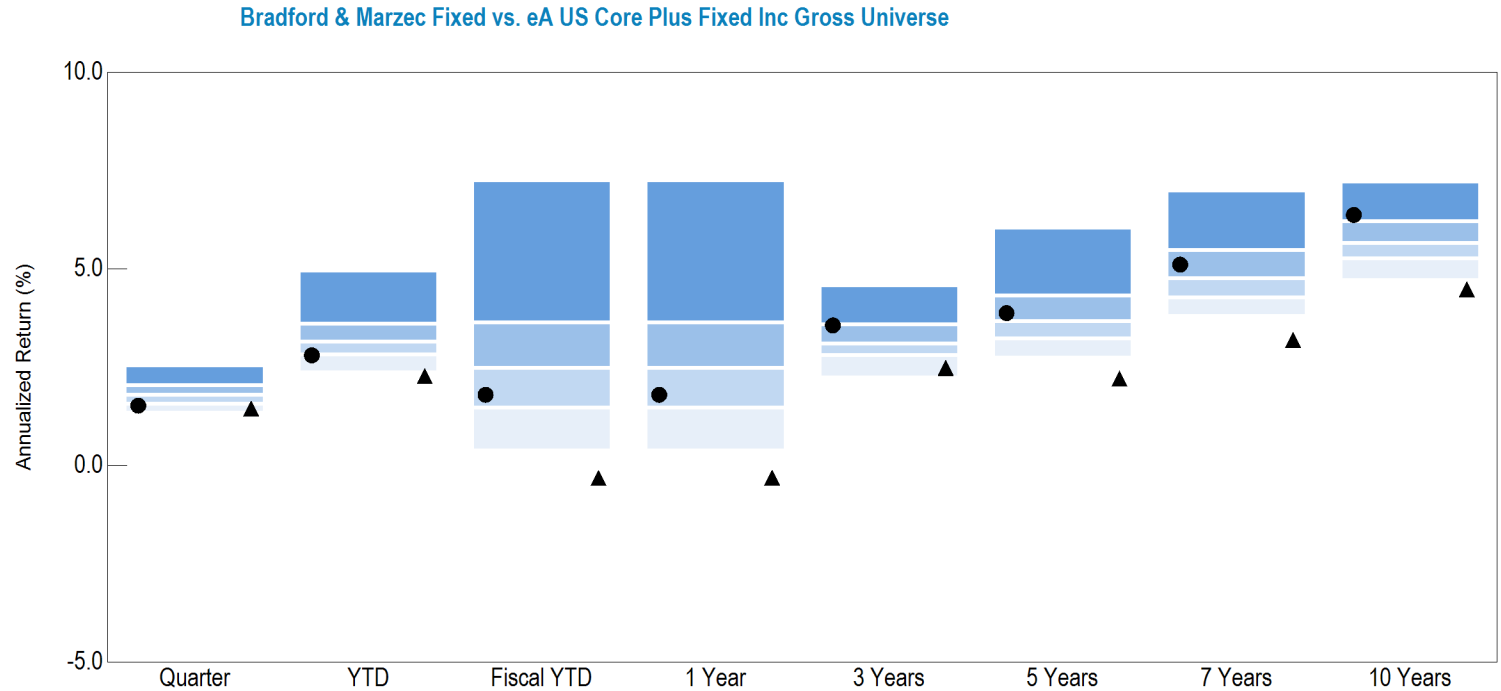
	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
<b>Total Fixed Income</b>	<b>221,605,267</b>	<b>1.4</b>	<b>2.6</b>	<b>1.6</b>	<b>1.6</b>	<b>2.6</b>	<b>2.8</b>	<b>5.7</b>	<b>4.8</b>	<b>-0.6</b>	<b>5.6</b>	<b>-2.0</b>	<b>9.3</b>
<i>BBgBarc US Aggregate TR</i>		1.4	2.3	-0.3	-0.3	2.5	2.2	4.5	2.6	0.6	6.0	-2.0	4.2
Bradford & Marzec Fixed	110,803,179	1.4	2.7	1.5	1.5	3.3	3.6	6.1	4.8	0.9	6.7	-0.8	8.5
<i>BBgBarc US Aggregate TR</i>		1.4	2.3	-0.3	-0.3	2.5	2.2	4.5	2.6	0.6	6.0	-2.0	4.2
Mackay Shields Core Plus Opportunities	89,610,949	1.8	2.9	2.1	2.1	--	--	--	4.7	--	--	--	--
<i>BBgBarc US Aggregate TR</i>		1.4	2.3	-0.3	-0.3	--	--	--	2.6	--	--	--	--
BlackRock US TIPS	21,191,139	-0.4	1.0	-0.5	-0.5	0.7	0.3	4.3	4.8	-1.3	3.6	-8.6	7.0
<i>BBgBarc US TIPS TR</i>		-0.4	0.9	-0.6	-0.6	0.6	0.3	4.3	4.7	-1.4	3.6	-8.6	7.0

## Correlation Matrix Last 5 Years

	Total Fixed Income	Bradford & Marzec Fixed	Mackay Shields Core Plus Opportunities	BlackRock US TIPS	BBgBarc US Aggregate TR
Total Fixed Income	1.00	--	--	--	--
Bradford & Marzec Fixed	0.98	1.00	--	--	--
Mackay Shields Core Plus Opportunities	--	--	--	--	--
BlackRock US TIPS	0.90	0.85	--	1.00	--
BBgBarc US Aggregate TR	0.93	0.96	--	0.80	1.00

Bradford & Marzec Fixed  
Cumulative Performance Comparison (Gross of Fees)

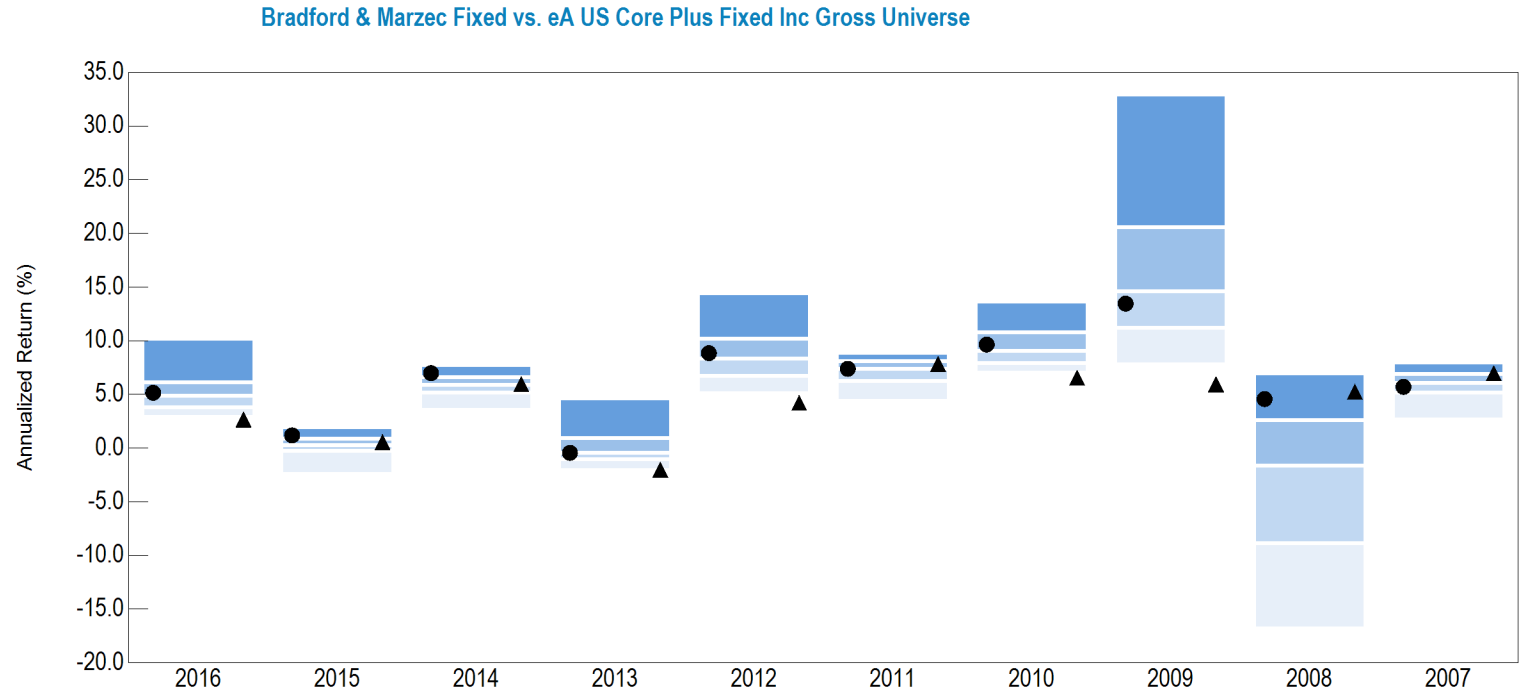
Period Ending: June 30, 2017



	Return (Rank)													
5th Percentile	2.5		4.9		7.2		7.2		4.6		6.0		7.0	
25th Percentile	2.0		3.6		3.7		3.7		3.6		4.3		5.5	
Median	1.8		3.2		2.5		2.5		3.1		3.7		4.8	
75th Percentile	1.6		2.8		1.5		1.5		2.8		3.2		4.3	
95th Percentile	1.4		2.4		0.4		0.4		2.2		2.8		3.8	
# of Portfolios	134		134		134		134		128		128		123	
● Bradford & Marzec Fixed	1.5	(83)	2.8	(77)	1.8	(70)	1.8	(70)	3.6	(27)	3.9	(42)	5.1	(35)
▲ BBgBarc US Aggregate TR	1.4	(90)	2.3	(98)	-0.3	(99)	-0.3	(99)	2.5	(91)	2.2	(99)	3.2	(99)

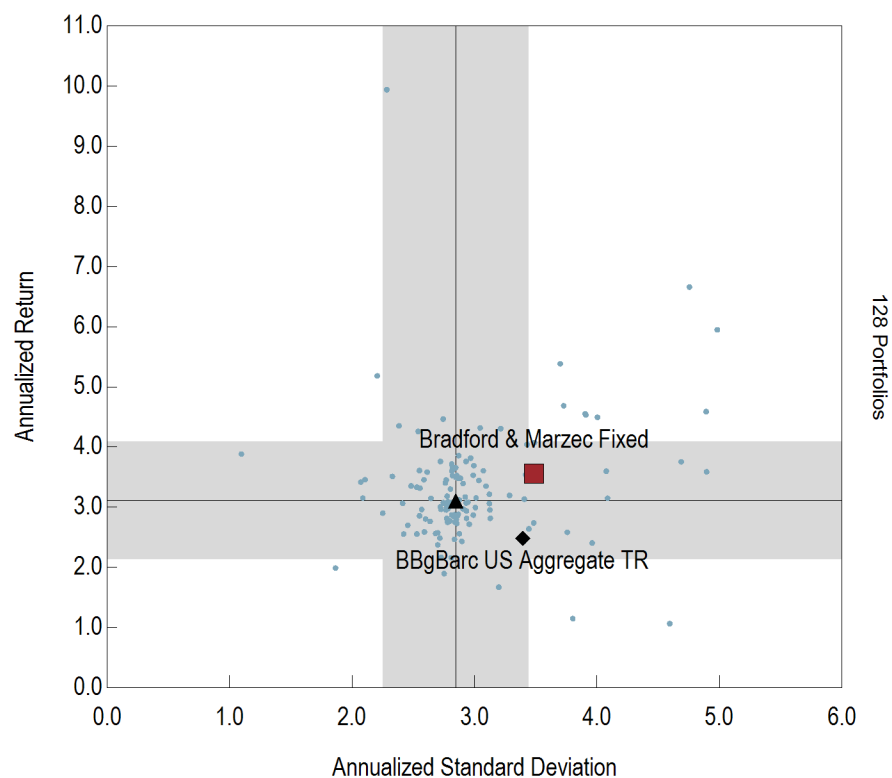
Bradford & Marzec Fixed  
Consecutive Performance Comparison (Gross of Fees)

Period Ending: June 30, 2017

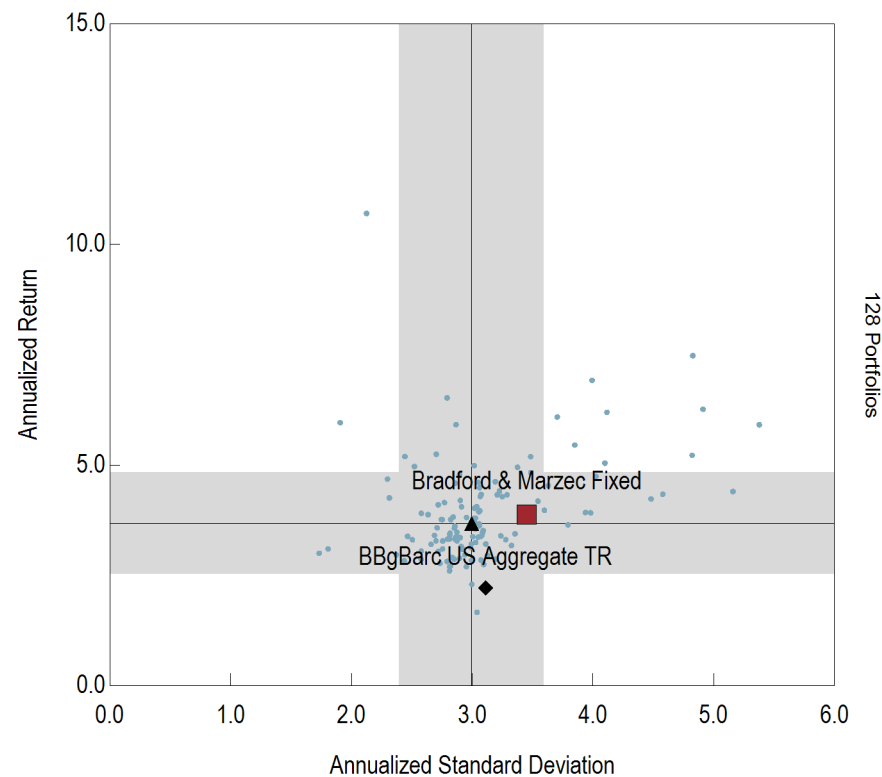


	Return (Rank)									
5th Percentile	10.1	1.9	7.7	4.6	14.4	8.8	13.6	32.9	6.9	7.9
25th Percentile	6.1	0.9	6.7	1.0	10.2	8.1	10.8	20.6	2.7	6.9
Median	4.9	0.3	5.9	-0.4	8.3	7.4	9.1	14.6	-1.6	6.1
75th Percentile	3.9	-0.2	5.2	-1.0	6.7	6.3	8.0	11.2	-8.9	5.2
95th Percentile	2.9	-2.4	3.6	-2.0	5.1	4.4	7.0	7.8	-16.8	2.7
# of Portfolios	134	115	118	116	124	118	123	128	136	144
● Bradford & Marzec Fixed	5.1 (45)	1.2 (15)	7.0 (16)	-0.4 (52)	8.8 (45)	7.4 (51)	9.6 (40)	13.5 (55)	4.6 (17)	5.7 (66)
▲ BBgBarc US Aggregate TR	2.6 (97)	0.6 (42)	6.0 (50)	-2.0 (96)	4.2 (97)	7.8 (37)	6.5 (97)	5.9 (99)	5.2 (13)	7.0 (25)

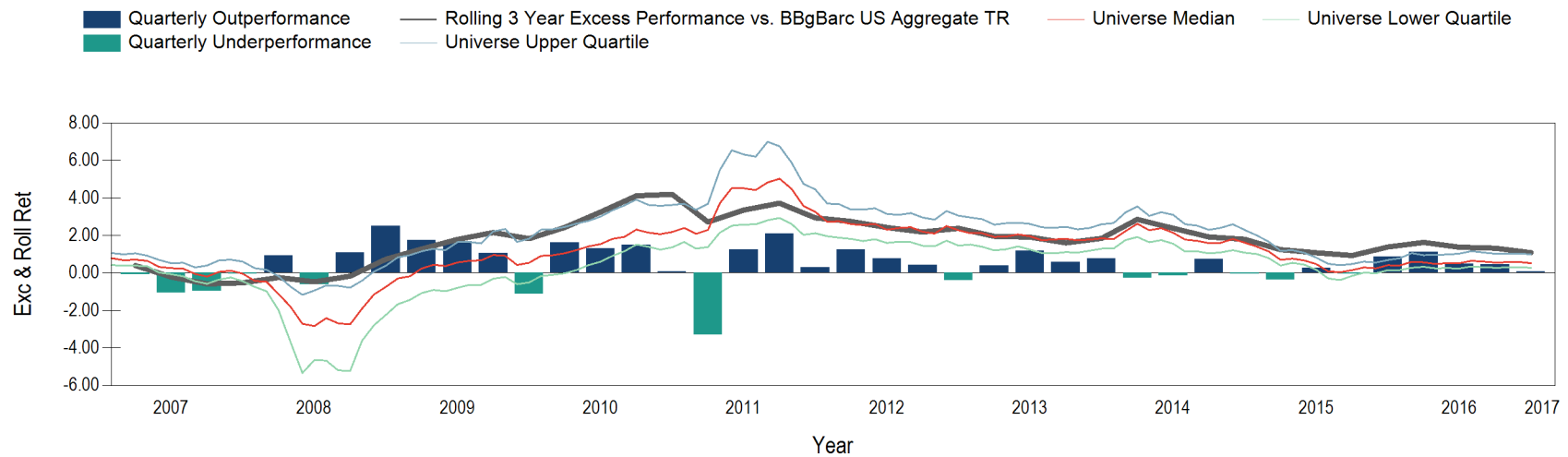
Annualized Return vs. Annualized Standard Deviation  
3 Years Ending June 30, 2017



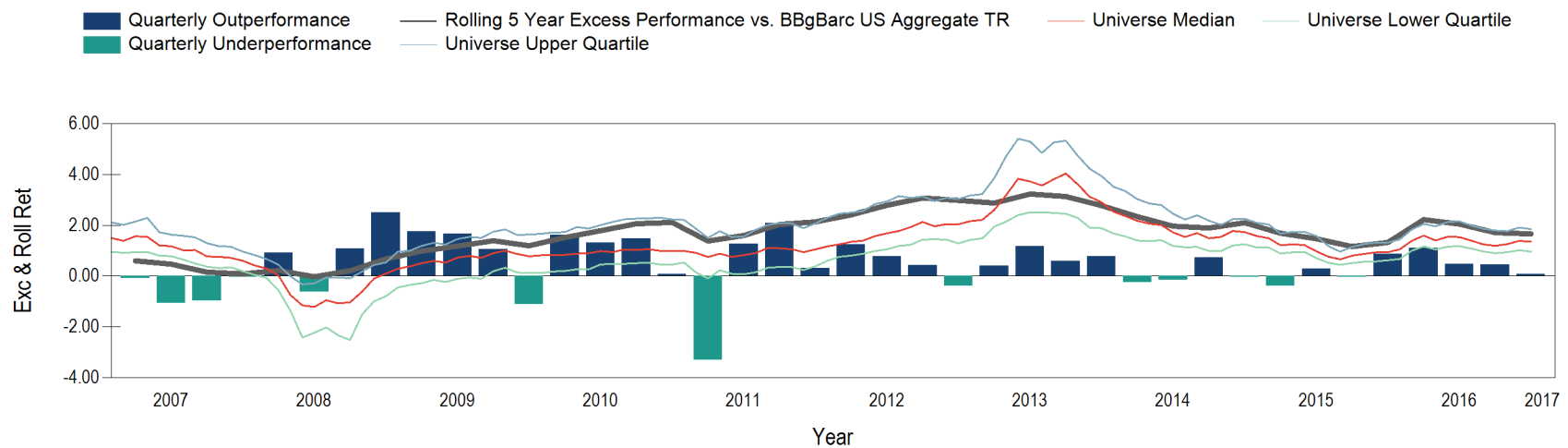
Annualized Return vs. Annualized Standard Deviation  
5 Years Ending June 30, 2017



### Rolling 3 Year Annualized Excess Performance



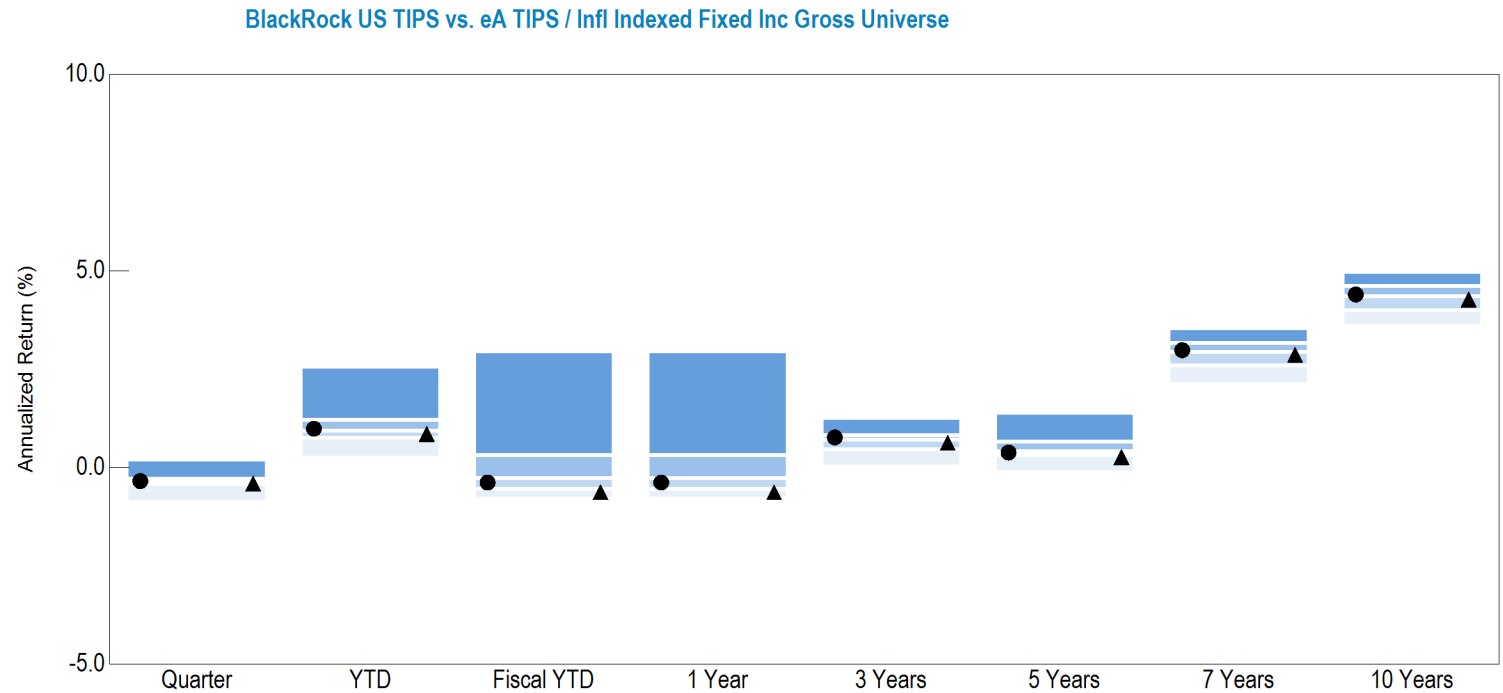
### Rolling 5 Year Annualized Excess Performance



# BlackRock US TIPS

## Cumulative Performance Comparison (Gross of Fees)

Period Ending: June 30, 2017

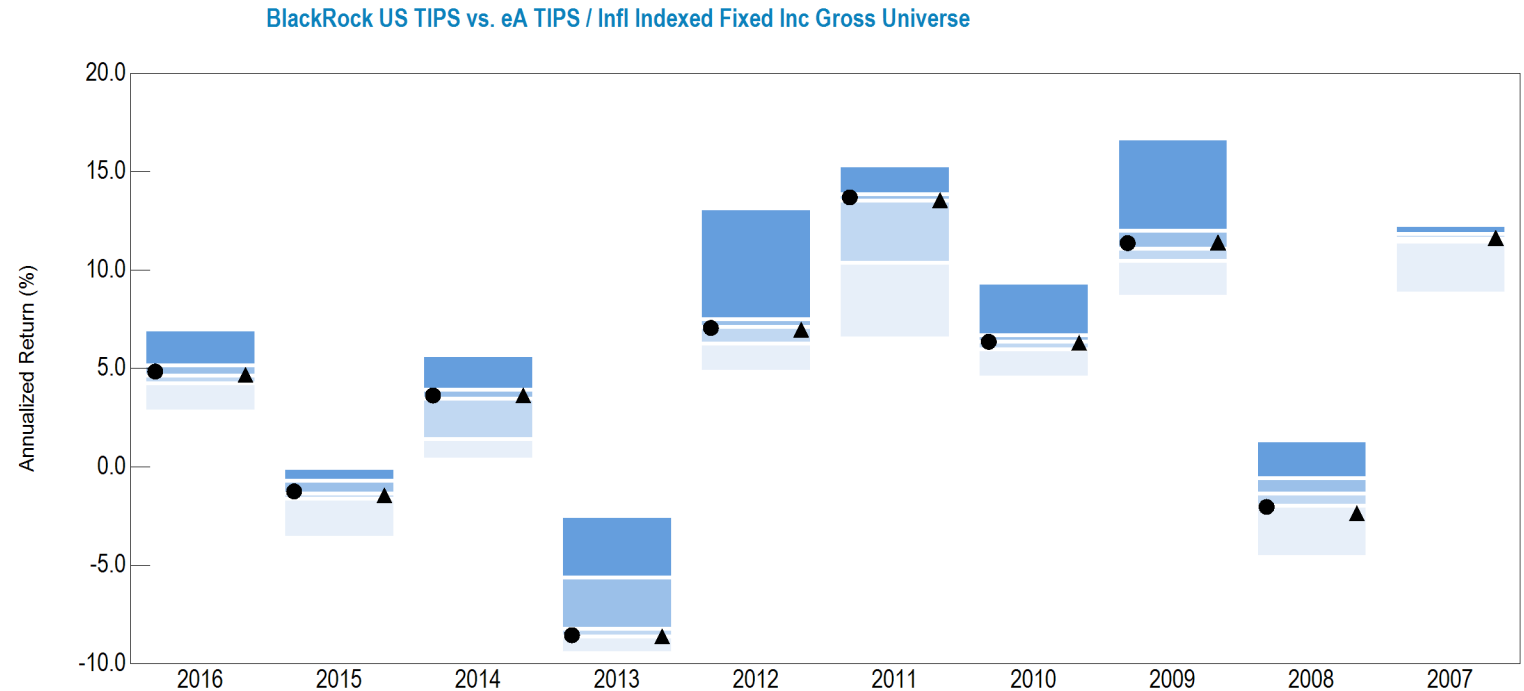


	Return (Rank)											
5th Percentile	0.2		2.6		3.0		3.0		1.3		1.4	
25th Percentile	-0.3		1.2		0.3		0.3		0.8		0.7	
Median	-0.4		0.9		-0.3		-0.3		0.7		0.4	
75th Percentile	-0.4		0.8		-0.5		-0.5		0.5		0.3	
95th Percentile	-0.9		0.3		-0.8		-0.8		0.0		-0.1	
# of Portfolios	40		40		40		40		40		40	
● BlackRock US TIPS	-0.3	(45)	1.0	(41)	-0.4	(57)	-0.4	(57)	0.8	(40)	0.4	(59)
▲ BBgBarc US TIPS TR	-0.4	(76)	0.9	(71)	-0.6	(84)	-0.6	(84)	0.6	(61)	0.3	(86)
											3.0	(46)
											2.9	(63)
											4.4	(44)
											4.3	(63)

# BlackRock US TIPS

## Consecutive Performance Comparison (Gross of Fees)

Period Ending: June 30, 2017



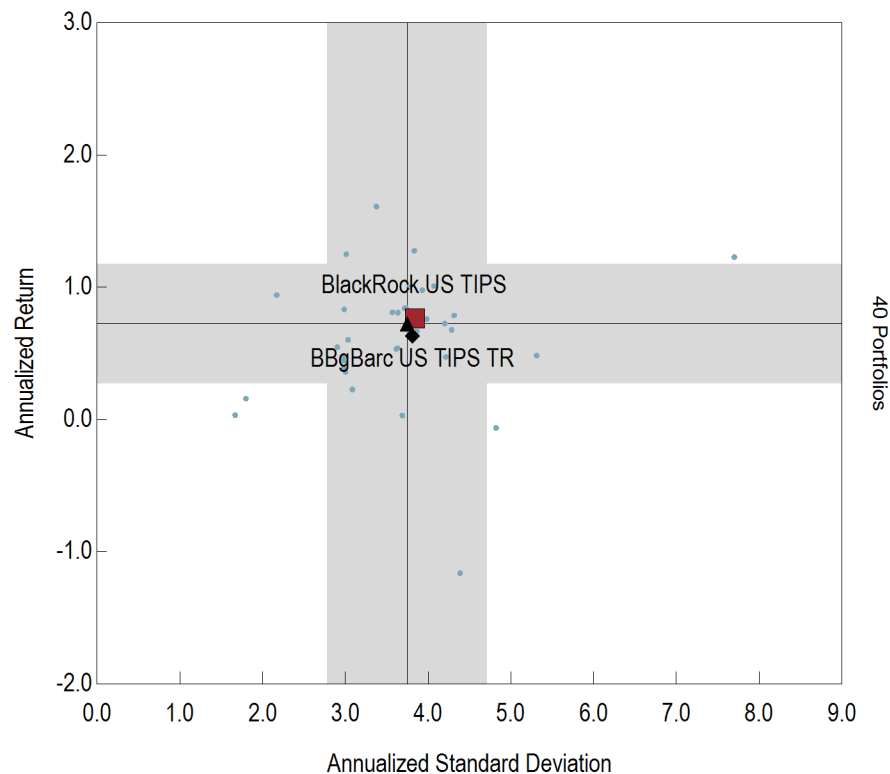
	Return (Rank)									
5th Percentile	7.0	-0.1	5.7	-2.5	13.1	15.3	9.4	16.7	1.3	12.3
25th Percentile	5.2	-0.7	4.0	-5.6	7.5	13.9	6.7	12.0	-0.5	11.8
Median	4.7	-1.3	3.5	-8.2	7.1	13.5	6.4	11.1	-1.4	11.6
75th Percentile	4.3	-1.6	1.4	-8.6	6.3	10.4	6.0	10.5	-1.9	11.5
95th Percentile	2.8	-3.6	0.4	-9.4	4.9	6.6	4.6	8.7	-4.6	8.8
# of Portfolios	42	44	50	43	43	47	39	37	40	37
● BlackRock US TIPS	4.8 (37)	-1.2 (43)	3.6 (45)	-8.5 (62)	7.1 (59)	13.7 (37)	6.4 (52)	11.4 (36)	-2.0 (78)	-- (--)
▲ BBgBarc US TIPS TR	4.7 (47)	-1.4 (59)	3.6 (44)	-8.6 (76)	7.0 (66)	13.6 (49)	6.3 (57)	11.4 (35)	-2.4 (85)	11.6 (49)

# BlackRock US TIPS

## Risk vs Return Three & Five Year (Gross of Fees)

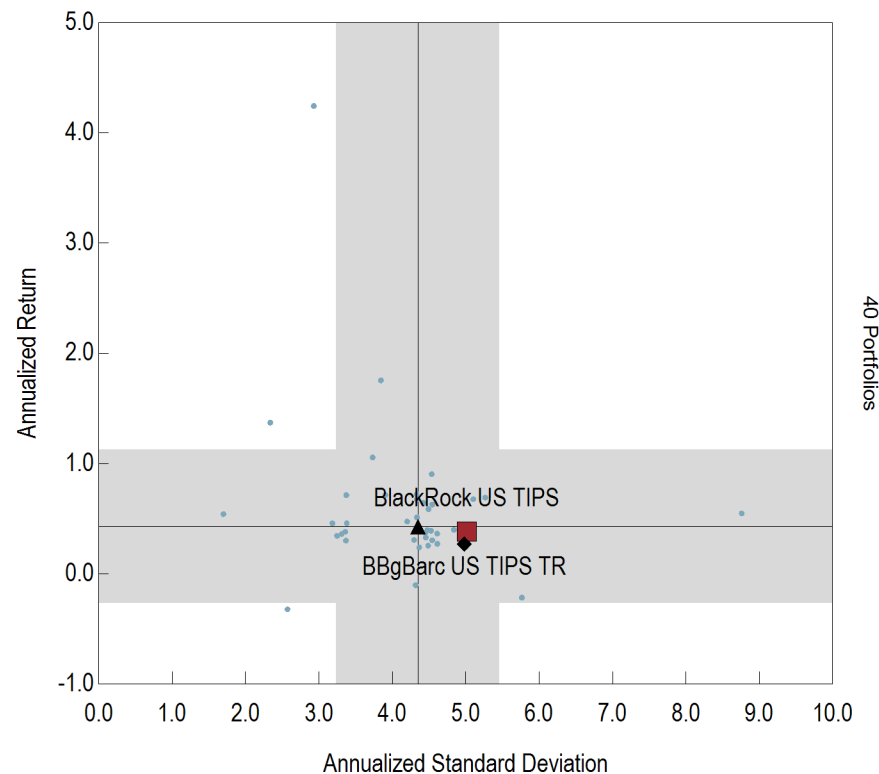
Period Ending: June 30, 2017

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending June 30, 2017



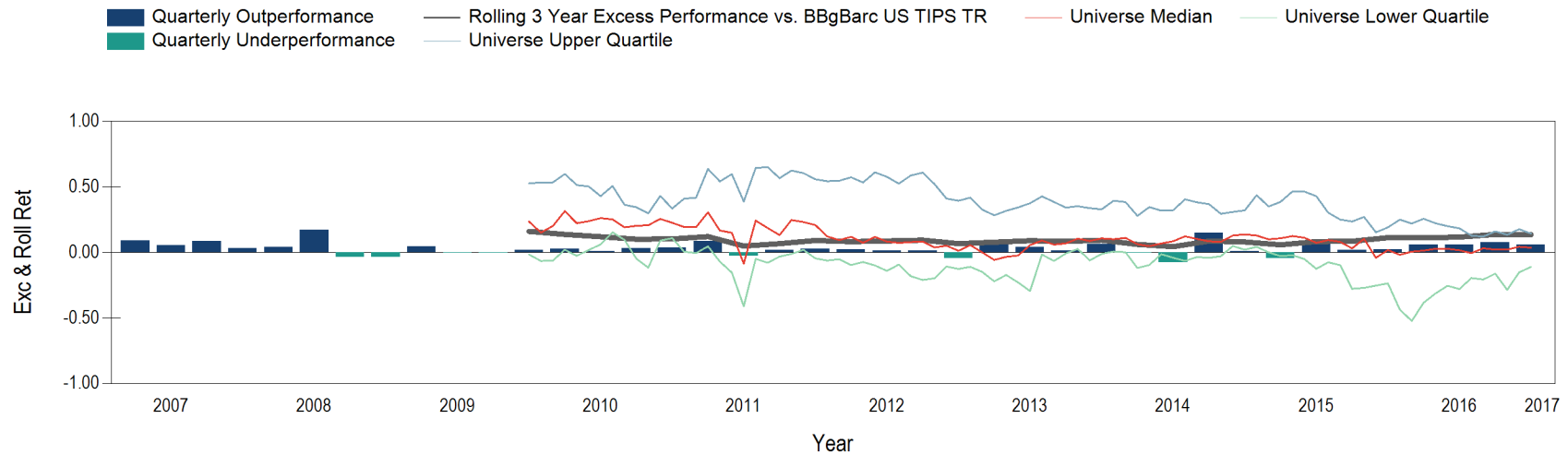
- BlackRock US TIPS
- ◆ BBgBarc US TIPS TR
- ▲ Universe Median
- 68% Confidence Interval
- eA TIPS / Infl Indexed Fixed Inc Gross

Annualized Return vs. Annualized Standard Deviation  
5 Years Ending June 30, 2017

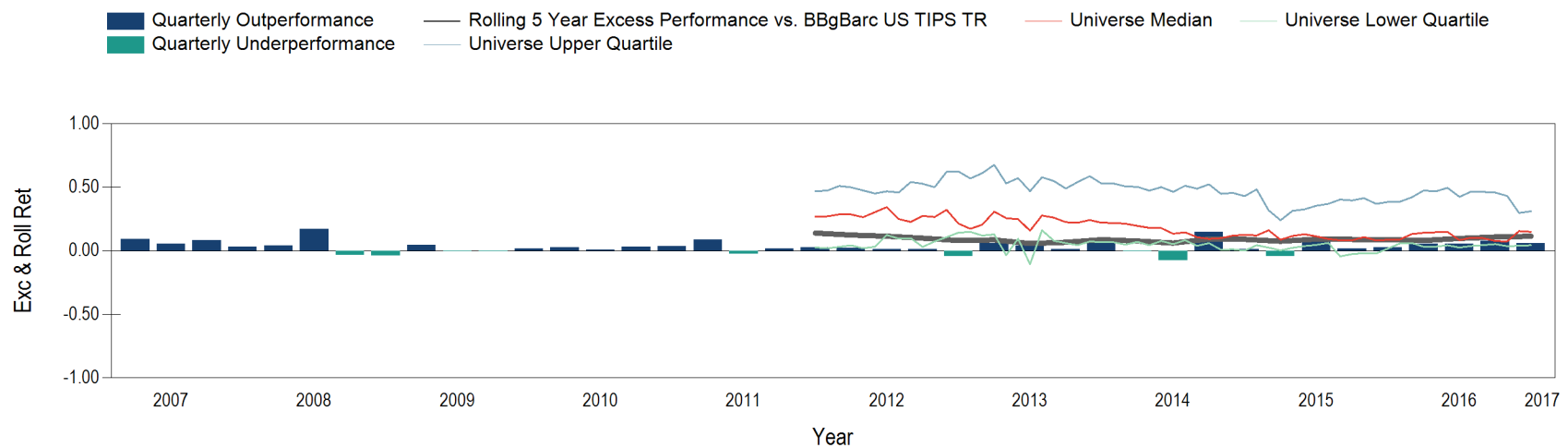


- BlackRock US TIPS
- ◆ BBgBarc US TIPS TR
- ▲ Universe Median
- 68% Confidence Interval
- eA TIPS / Infl Indexed Fixed Inc Gross

### Rolling 3 Year Annualized Excess Performance



### Rolling 5 Year Annualized Excess Performance

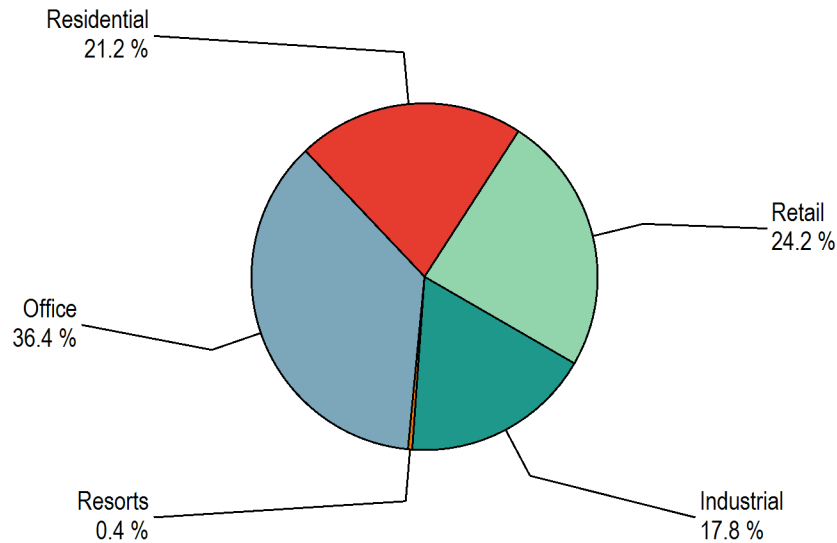


# Total Real Estate Asset Class Overview (Gross of Fees)

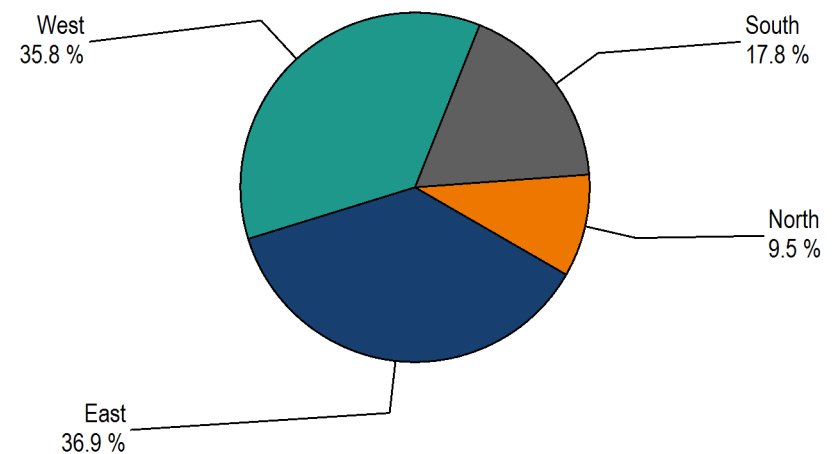
Period Ending: June 30, 2017

	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
<b>Total Real Estate</b>	<b>65,179,407</b>	<b>1.0</b>	<b>2.7</b>	<b>5.8</b>	<b>5.8</b>	<b>11.2</b>	<b>11.2</b>	<b>4.7</b>	<b>7.1</b>	<b>16.1</b>	<b>13.0</b>	<b>12.6</b>	<b>10.6</b>
NCREIF Property Index		1.8	3.3	7.0	7.0	10.2	10.5	6.4	8.0	13.3	11.8	11.0	10.5
NCREIF-ODCE		1.7	3.5	7.9	7.9	11.3	11.8	5.3	8.8	15.0	12.5	13.9	10.9
ASB Real Estate	31,865,705	0.4	1.5	4.1	4.1	10.6	--	--	5.6	17.3	13.5	13.7	--
NCREIF Property Index		1.8	3.3	7.0	7.0	10.2	--	--	8.0	13.3	11.8	11.0	--
NCREIF-ODCE		1.7	3.5	7.9	7.9	11.3	--	--	8.8	15.0	12.5	13.9	--
Clarion Lion	31,879,497	1.7	4.1	7.8	7.8	12.4	12.0	4.2	9.1	15.7	13.2	12.8	10.9
NCREIF Property Index		1.8	3.3	7.0	7.0	10.2	10.5	6.4	8.0	13.3	11.8	11.0	10.5
NCREIF-ODCE		1.7	3.5	7.9	7.9	11.3	11.8	5.3	8.8	15.0	12.5	13.9	10.9
1221 State St. Corp	1,434,205	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	0.1

Property Type Allocation  
Allocation as of June 30, 2017



Geographic Diversification  
Allocation as of June 30, 2017

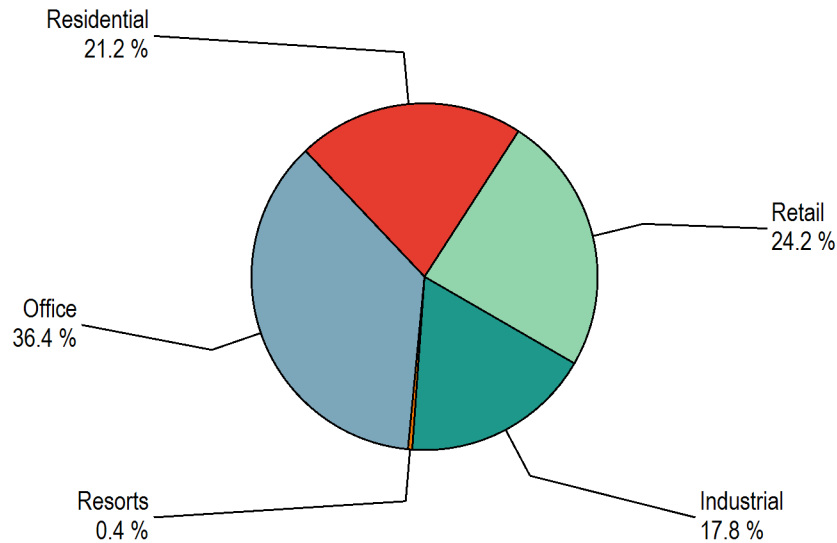


# Total Real Estate Asset Class Overview (Net of Fees)

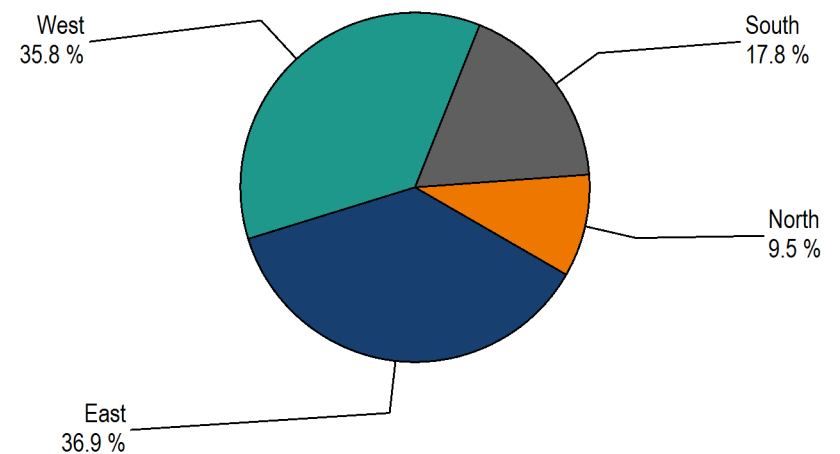
Period Ending: June 30, 2017

	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2016	2015	2014	2013	2012
<b>Total Real Estate</b>	<b>65,179,407</b>	<b>1.0</b>	<b>2.7</b>	<b>5.3</b>	<b>5.3</b>	<b>10.3</b>	<b>10.4</b>	<b>3.9</b>	<b>6.1</b>	<b>15.0</b>	<b>11.6</b>	<b>12.1</b>	<b>10.3</b>
NCREIF Property Index		1.8	3.3	7.0	7.0	10.2	10.5	6.4	8.0	13.3	11.8	11.0	10.5
NCREIF-ODCE		1.7	3.5	7.9	7.9	11.3	11.8	5.3	8.8	15.0	12.5	13.9	10.9
ASB Real Estate	31,865,705	0.4	1.5	3.7	3.7	9.7	--	--	4.6	16.2	12.5	12.5	--
NCREIF Property Index		1.8	3.3	7.0	7.0	10.2	--	--	8.0	13.3	11.8	11.0	--
NCREIF-ODCE		1.7	3.5	7.9	7.9	11.3	--	--	8.8	15.0	12.5	13.9	--
Clarion Lion	31,879,497	1.7	4.1	7.2	7.2	11.5	11.1	3.3	8.0	14.6	12.2	11.8	9.9
NCREIF Property Index		1.8	3.3	7.0	7.0	10.2	10.5	6.4	8.0	13.3	11.8	11.0	10.5
NCREIF-ODCE		1.7	3.5	7.9	7.9	11.3	11.8	5.3	8.8	15.0	12.5	13.9	10.9
1221 State St. Corp	1,434,205	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	0.1

Property Type Allocation  
Allocation as of June 30, 2017



Geographic Diversification  
Allocation as of June 30, 2017



**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 3000	12/10/2015	J.P. Morgan	1221 State Street Corp	9/30/2008	ICERS/Union Bank
BlackRock International Equity	7/3/2003	J.P. Morgan	Cash	-	J.P. Morgan
DFA Emerging Markets Value	1/11/2007	J.P. Morgan	HarbourVest IX-Buyout	2011 <sup>1</sup>	HarbourVest
Harding Loevner	7/5/2016	Harding Loevner	HarbourVest IX-Credit	2011 <sup>1</sup>	HarbourVest
Bradford & Marzec Fixed	12/1/1992	J.P. Morgan	HarbourVest International VI	2008 <sup>1</sup>	HarbourVest
MacKay Shields Core Plus Ops	3/2/2015	CITCO	Harbourvest IX-Venture	2011 <sup>1</sup>	HarbourVest
BlackRock US TIPS	4/11/2007	J.P. Morgan	KKR Mezzanine	2010 <sup>1</sup>	KKR
ASB Real Estate	12/31/2012	ASB Real Estate	PIMCO BRAVO	2011 <sup>1</sup>	PIMCO
Clarion Lion	12/31/2006	Clarion Lion			

<sup>1</sup>Represents fund vintage year.

**Policy & Custom Index Composition**

Policy Index (10/1/2016-Current)	29% Russell 3000, 24% MSCI ACWI Free Ex US, 27% BBgBarc Aggregate, 5% NCREIF Property, 5% NCREIF Property +2%, 5% Russell 3000 plus 300 bps (Lagged), 5% BBgBarc High Yield +2% lagged.
Policy Index (7/1/2014-9/30/2016)	29% Russell 3000, 25% MSCI ACWI ex-US (Gross), 30% Barclays U.S. Aggregate, 6% NCREIF Property Index, 5% Bloomberg Commodity Index, 5% Russell 3000 plus 300 bps (Lagged).

# Glossary

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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