CONTRA COSTA COUNTY CCCERA Employees' Retirement Association

AGENDA

RETIREMENT BOARD MEETING

SECOND MONTHLY MEETING
May 23, 2018
9:00 a.m.

Retirement Board Conference Room
The Willows Office Park
1355 Willow Way, Suite 221
Concord, California

THE RETIREMENT BOARD MAY DISCUSS AND TAKE ACTION ON THE FOLLOWING:

1. Pledge of Allegiance.

2. Accept comments from the public.

3. Review of total portfolio performance for period ending March 31, 2018.
   a. Presentation from Verus.
   b. Presentation from staff.

4. Review of Report on Liquidity Sub-portfolio.

5. Consider and take possible action to adopt Board of Retirement Resolution 2018-1 to increase the salary ranges by 3% for all unrepresented classifications effective July 1, 2018, with the exception of the Chief Executive Officer.

6. Consider and take possible action to adopt CCCERA Position Pay Schedules effective July 1, 2018 which reflects the salary range changes in Board of Retirement Resolution 2018-1.

7. Consider authorizing the attendance of Board:
   a. SACRS/UC Berkeley Program, July 15-18, 2018, Berkeley, CA.
   b. NASRA Annual Conference, August 4-8, 2018, San Diego, CA. (Note: Conflict with meeting)
   c. CALAPRS Principles of Pension Management, August 27-30, 2018, Malibu, CA.

8. Miscellaneous
   a. Staff Report
   b. Outside Professionals' Report
   c. Trustees' comments

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The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.

Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

PERIOD ENDING: MARCH 31, 2018

Investment Performance Review for

Contra Costa County Employees' Retirement Association

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Verus

VERUSINVESTMENTS.COM

SEATTLE 206-622-3700
LOS ANGELES 310-297-1777
SAN FRANCISCO 415-362-3484

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Investment Performance Review TAB II

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

2ND QUARTER 2018
Investment Landscape

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1st quarter summary

THE ECONOMIC CLIMATE

— The U.S. economy is expected to grow at around 2.2% in Q1. Economists expect a slightly quicker rate of growth throughout the year. We believe that this *middle-of-the-road* expansion – characterized as not too fast and not too slow – may allow the U.S. economy to continue expanding for longer than expected. ***p. 8***

— The U.S. has enacted a 25% tariff on steel and a 10% tariff on aluminum, which went into effect on March 23rd. The U.S. also engaged with China over allegations of asymmetrical trade policies and intellectual property theft. ***p. 18, 19***

PORTFOLIO IMPACTS

— Global economic growth has improved – low inflation, strong employment, and accommodative foreign central bank policies have been supportive of equity prices. In the U.S., monetary tightening has yet to have a major impact on equities. ***p. 17***

— Concerns over increasing trade protectionism weighed on financial markets. The tariffs placed on steel and aluminum are not likely to have a material impact on asset prices, but escalating tensions and retaliatory measures could have a negative impact on global growth. ***p. 18, 19***

THE INVESTMENT CLIMATE

— Excitement and optimism over tax cuts helped lead equities higher to begin the year. However, markets stumbled in February – falling roughly 10%. Equities recovered much of the losses throughout the quarter, but then fell back to their lows at the end of March. ***p. 29***

— 2018 is expected to be a banner year for U.S. corporate profits. Earnings for the calendar year are forecast to grow 17.3%, with 7.3% revenue growth. These 2018 expectations may already be priced in. ***p. 29***

— February's market correction appeared isolated to the equity markets. "Risk-off" selling that often accompanies market drawdowns was not apparent – credit spreads, U.S. Treasuries, and gold, reacted minimally. ***p. 28***

ASSET ALLOCATION ISSUES

— Upward price momentum in equities has diminished following the February market correction. Investor sentiment is less positive, but the global economic and earnings backdrop remains intact. We believe a neutral or mild risk overweight is warranted in this environment. ***p. 32***

— Equity volatility spiked in February, ending the period of extreme calm that investors experienced since the beginning of 2017. The VIX Index averaged 20.7 during the last two months of the quarter. ***p. 35, 36***

Changing market dynamics suggest a neutral or mild risk overweight may be warranted

What drove the market in Q1?

"Record high increase in S&P 500 EPS estimates for Q1 2018"

CHANGE IN EPS ESTIMATE DURING THE QUARTER (NET)

Q4 16	Q1 17	Q2 17	Q3 17	Q4 17	Q1 18
-2%	-4%	-2%	-4%	0%	+7%

Article Source: FactSet, March 29th, 2018

"U.S. stocks sell off on concerns about trade"

U.S. TRADE DEFICIT BY COUNTRY ($ BILLIONS)

China	Japan	Germany	Italy	S. Korea	India
-375	-69	-64	-32	-23	-23

Article Source: WSJ, March 23rd, 2018

"Volatility index spikes by largest-ever [one day] amount"

VIX Index (Average)

Oct	Nov	Dec	Jan	Feb	Mar
10.1	10.5	10.2	11.1	22.5	19.0

Article Source: Bloomberg, February 5th, 2018

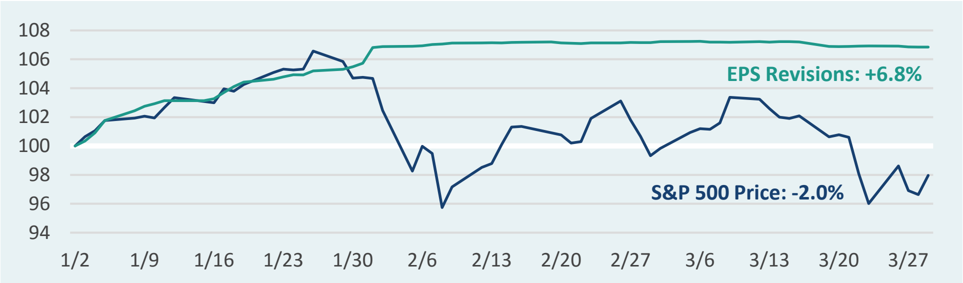
"U.S. Treasury yields rise to a new 4-year high as inflation concerns drag on"

U.S. 10-Year Treasury Yield

Oct	Nov	Dec	Jan	Feb	Mar
2.38%	2.41%	2.41%	2.71%	2.86%	2.74%

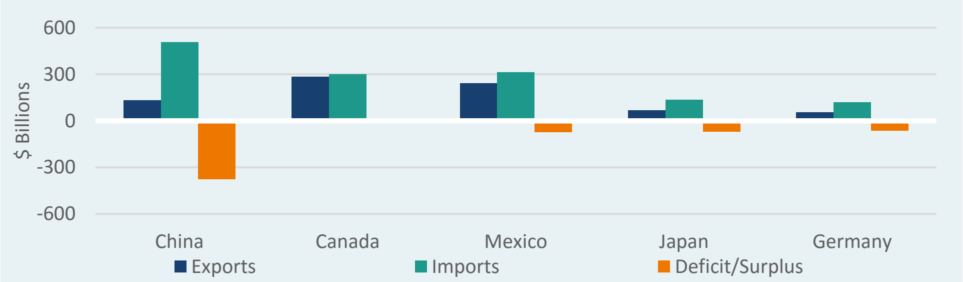
Article Source: USA Today, February 12th, 2018

S&P 500 PRICE INDEX AND Q1 EPS ESTIMATES (INDEXED TO 100)



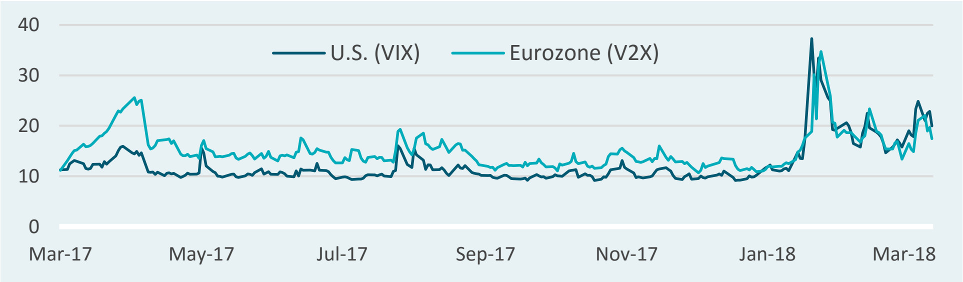
Source: Bloomberg, as of 3/29/18

U.S. TRADE DEFICIT BY COUNTRY



Source: U.S. Census Bureau, 2017

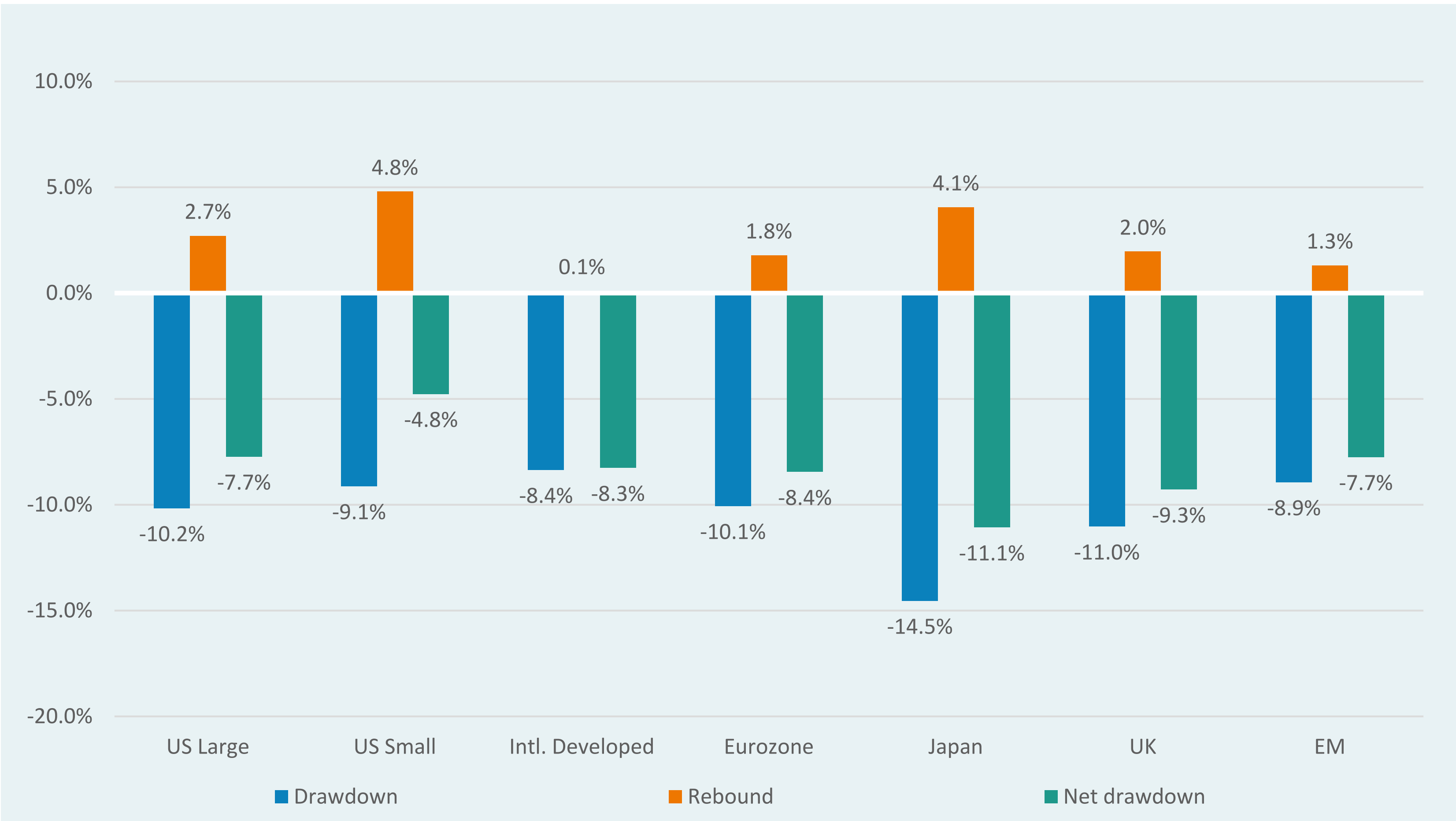
IMPLIED VOLATILITY



Source: Bloomberg, as of 3/29/18

The return of volatility

PEAK TO TROUGH (LOCAL RETURNS)



Timeframe includes the February drawdown and subsequent "bottom" of each market, then recovery through 3/31/18

Economic environment

U.S. economics summary

— Economic growth remained near expansion highs in the fourth quarter. U.S. real GDP growth was 2.6% from the previous year. Consumer spending and investment pushed the economy ahead, while falling exports were a drag on growth.

— The U.S. enacted a 25% tariff on steel and 10% tariff on aluminum, which went into effect March 23rd. The U.S. has engaged with China over allegations of asymmetrical trade policies and intellectual property theft, creating concerns over the risks of a trade war.

— Additions to U.S. payrolls averaged 202,000 per month in the first quarter, above the expansion average.

— In recent years, the U.S. has seen discouraged and part-time workers drawn back to full-time employment. This effect can be quantified by the shrinking difference between U-6 and U-3 unemployment figures. The difference between these two measures fell to 3.9%, matching expansion lows.

— Core CPI inflation moved from 1.8% to 2.1% YoY during the quarter, the highest rate in more than a year. Prices jumped in March primarily due to the low base effect from an unexpected drop in wireless telecom prices one year ago.

— The Fed raised interest rates on March 21st to 1.50-1.75%. Comments made during the March meeting suggest the FOMC expects continued moderate economic activity, spending, and business investment. Unsurprisingly, the Committee stated that the U.S. inflation rate is expected to stabilize at the 2% target over the near-term.

	Most Recent	**12 Months Prior**
GDP *(YoY)*	2.6% *12/31/17*	1.8% *12/31/16*
Inflation *(CPI YoY, Core)*	2.1% *3/31/18*	2.0% *3/31/17*
Expected Inflation *(5yr-5yr forward)*	2.2% *3/31/18*	2.2% *3/31/17*
Fed Funds Target Range	1.50 – 1.75% *3/31/18*	0.75 – 1.00% *3/31/17*
10 Year Rate	2.8% *3/31/18*	2.4% *3/31/17*
U-3 Unemployment	4.1% *3/31/18*	4.5% *3/31/17*
U-6 Unemployment	8.0% *3/31/18*	8.8% *3/31/17*

GDP growth

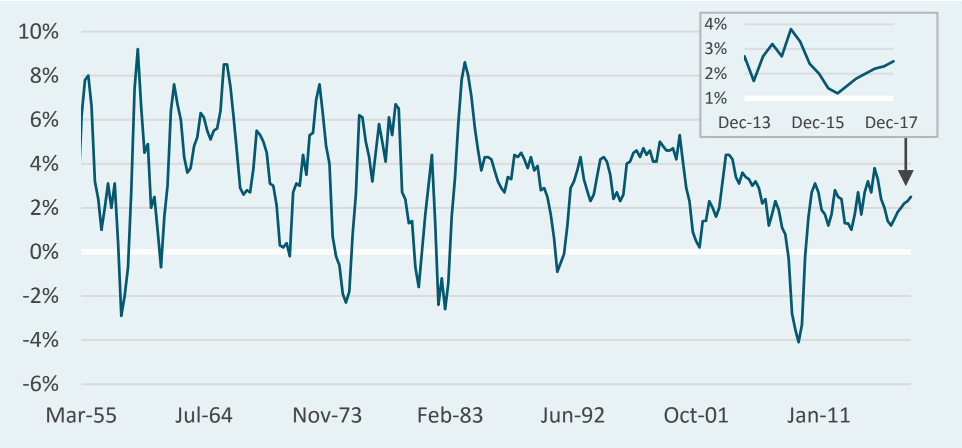
Economic growth accelerated further in the fourth quarter of 2017. Real GDP increased 2.6% from the previous year (2.9% annualized quarterly rate), driven by consumer spending. The pace of growth was faster than the expansion average of 2.2%. Consumer spending contributed 2.8% to the quarterly growth rate, partly due to a strong holiday retail season. Corporate capex spending slowed in Q4, but was still the second largest contributor to the overall growth rate at 1.3%. As discussed last quarter, changes to the tax code could reinforce the current positive trend in fixed business investment.

The economy is expected to experience slower but still moderate growth in the first quarter – the consensus estimate is 2.2%, according to Bloomberg. First quarter growth has underwhelmed the past few years, which may occur again this year. However, expectations for 2018 calendar growth remain robust at 2.8%.

While we continue to see mild pressures building, such as firming inflation, rising interest rates, and tightening in the labor market, there do not appear to be clear signs of economic overheating.

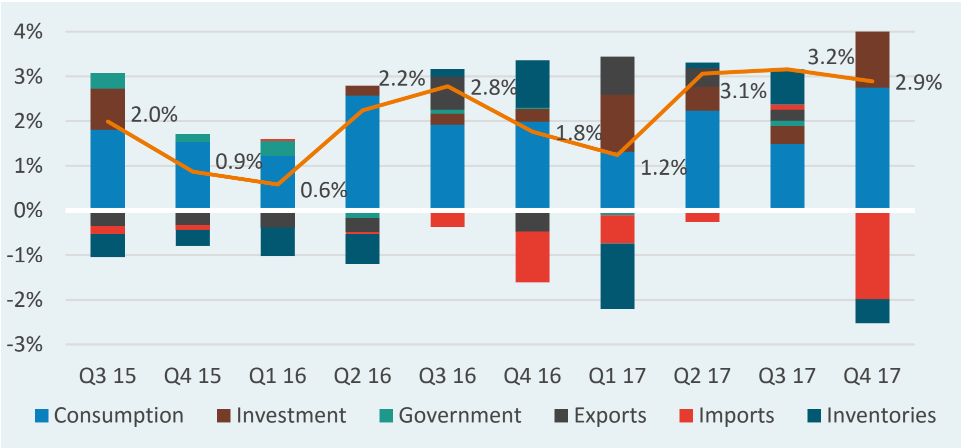
The economy experienced above-trend growth in 2017

U.S. REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 12/31/17

U.S. GDP COMPONENTS



Source: BEA, annualized quarterly rate, as of 12/31/17

Inflation

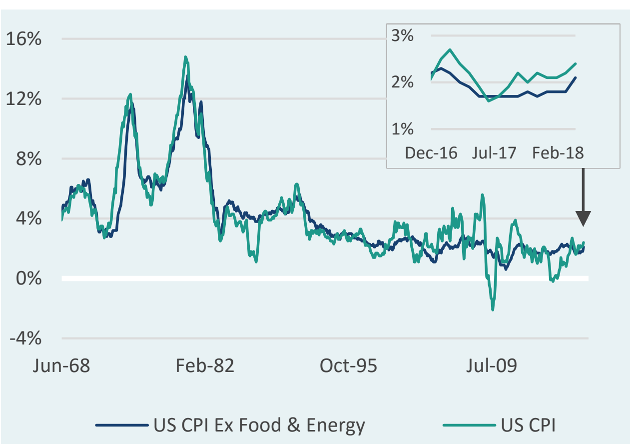
Core CPI inflation moved from 1.8% to 2.1% YoY during the quarter, the highest rate in more than a year. Prices jumped in March primarily due to the low base effect from an unexpected drop in wireless telecom prices one year ago.

Market inflation expectations have recovered a bit since the deflation scare in 2015 that coincided with an energy driven slump in inflation figures. The 10-year TIPS breakeven inflation rate moved marginally from 2.0% to 2.1%. Investors expect inflation to stay relatively muted over the longer-term – recent mild rises in inflation may not be indicative of a trend.

While inflation does not actually appear to be bubbling up in most global economies, it is interesting to note that investors are generally expecting higher inflation. Sentiment has transitioned from fear of deflation to fear of inflation, which has broad implications for the markets – central bank confidence in raising rates, and pricing across the fixed income markets, to name a few.

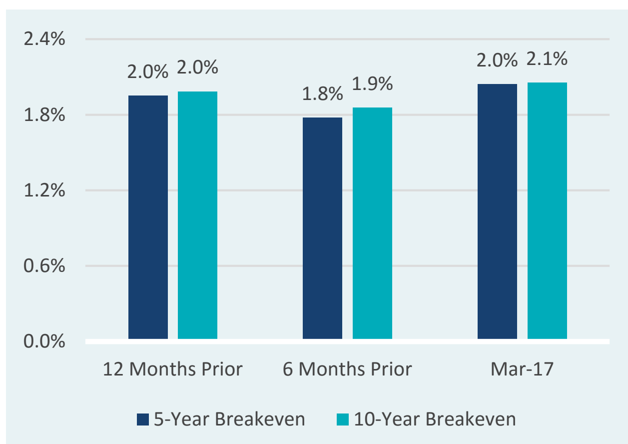
Fears of rising inflation emerged during the quarter

U.S. CPI (YOY)



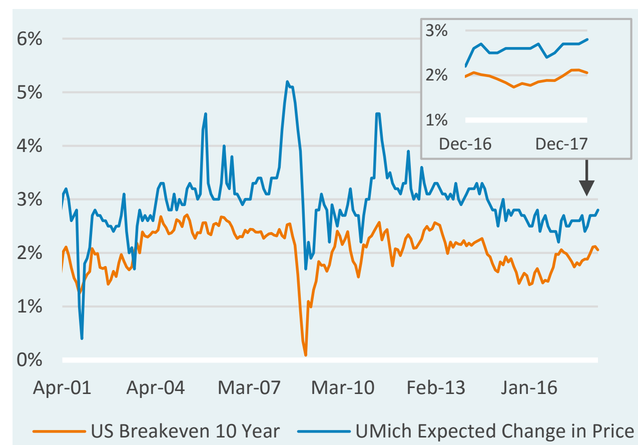
Source: FRED, as of 3/31/18

U.S. TIPS BREAKEVEN RATES



Source: Bloomberg, as of 3/31/18

INFLATION EXPECTATIONS



Source: Bloomberg, as of 3/31/18

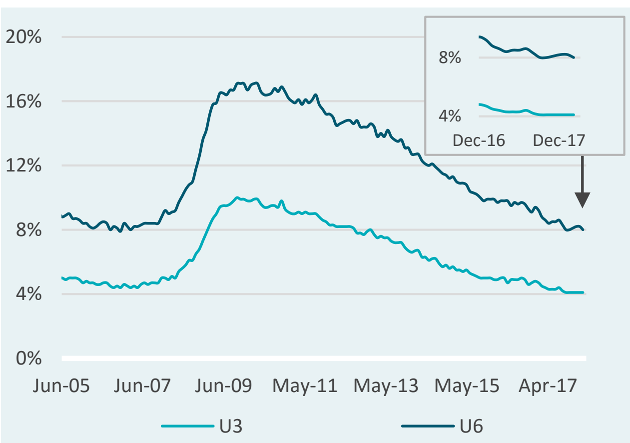
Labor market

Conditions in the U.S. labor market tightened slightly in Q1. Unemployment kept steady at 4.1%, while the unemployment rate that includes discouraged and part time workers fell to 8.0% from 8.2%. In Q1, 202,000 jobs were created per month - slightly stronger than the expansion average.

As we have discussed in recent years, continued labor market slack, not captured in the popular U-3 unemployment figure, has contributed to slower wage gains. Another key contributor to modest wage gains has been weak improvements in business productivity.

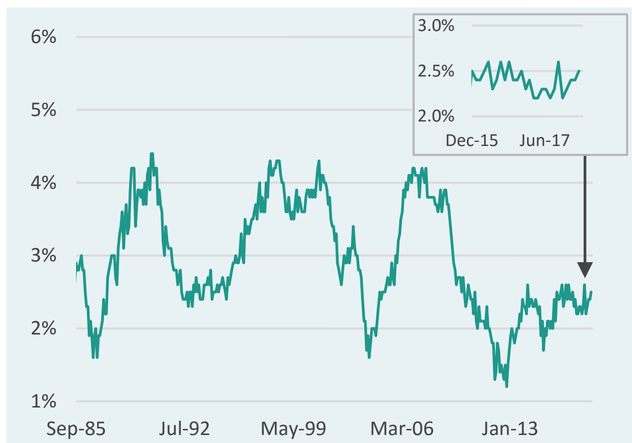
The degree to which U.S. businesses are able to become more efficient has an impact on U.S. employee wages through time. Efficiency is also referred to as *productivity*. As businesses realize productivity gains they are able to pass on some of these gains to employees in the form of higher wages, since output per employee has increased. If businesses are not becoming more productive, this makes it difficult to sustainably raise employee pay. In the current economic expansion, businesses have realized minimal productivity growth, which is likely a contributor to tepid wage growth.

UNEMPLOYMENT RATE



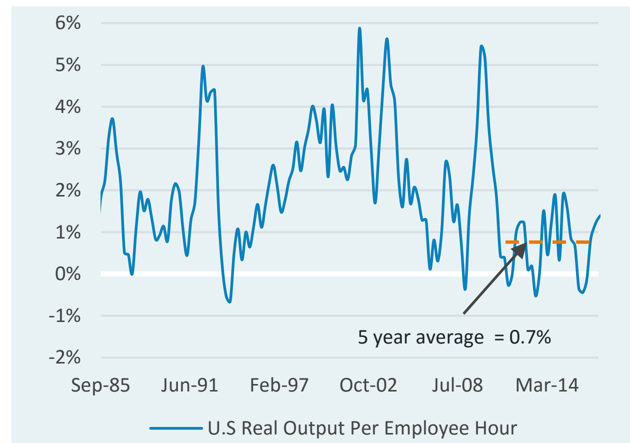
Source: FRED, as of 3/31/18

AVERAGE HOURLY EARNINGS (YOY)



Source: Bloomberg, as 2/28/18

U.S. PRODUCTIVITY GROWTH



Source: FRED, as of 12/31/17

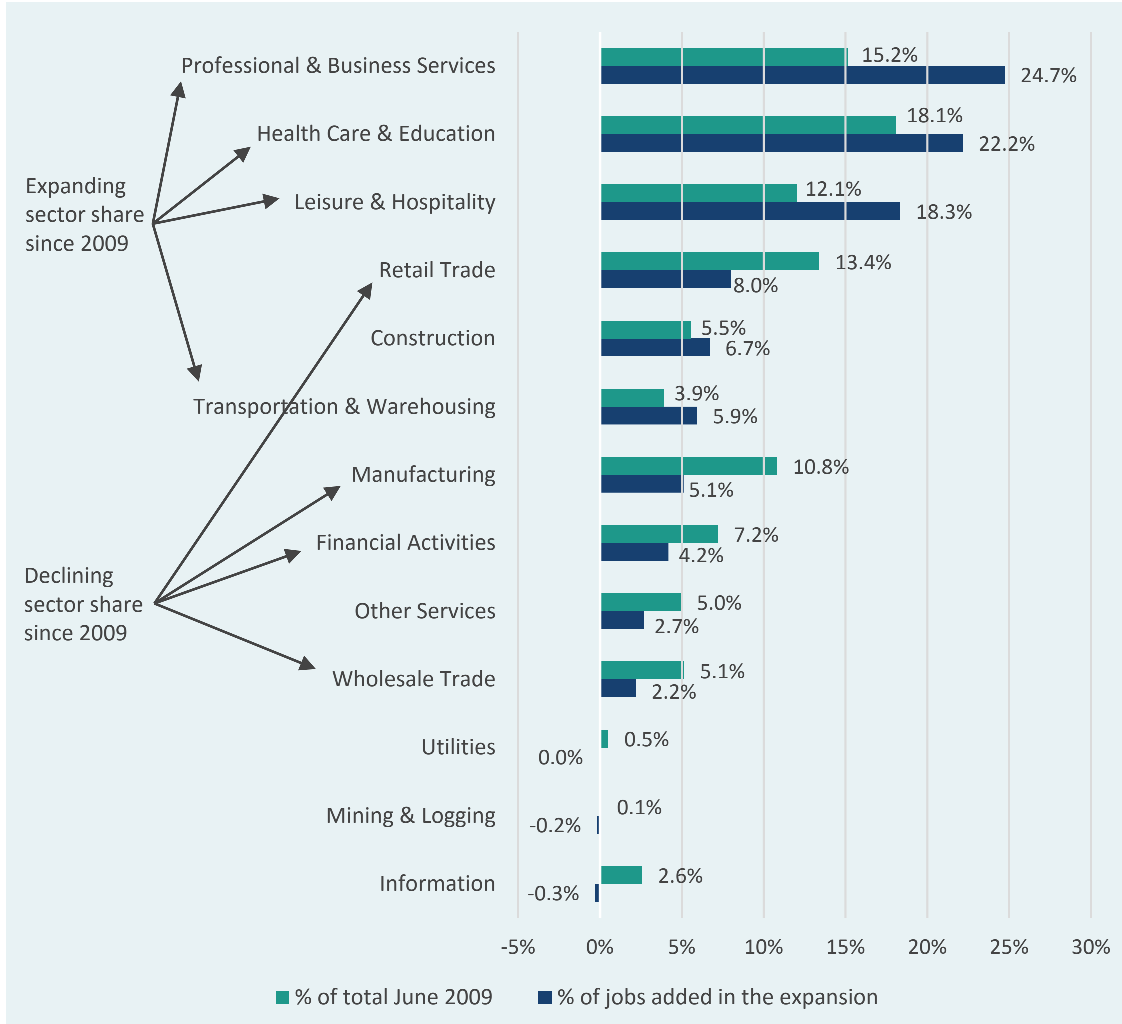
Job creation since the financial crisis

Since the end of the global financial crisis, the U.S. has added more than 17 million workers to the labor force and the unemployment rate has fallen from 9.9% to 4.1%. During this time the composition of the workforce has changed.

Three broad sectors have experienced outsized gains in employment compared to their sizes in June of 2009: Professional and Business Services, Health Care & Education, and Leisure & Hospitality.

Disproportionate gains in the last two sectors have led some to question the quality of jobs that are being added because they are typically low paid positions. On average, Leisure & Hospitality jobs receive $15.74 per hour, compared to the national average of $26.75. The changing sector composition is likely one of many structural factors (i.e. globalization and automation) limiting wage growth in the current cycle.

This exercise also created a useful lens to view recent employment trends in terms of the cyclicality of each sector. Manufacturing and construction have historically been the most cyclical sectors and are both growing above trend over the past year, indicating a recent pickup in hiring. This data confirms acceleration in manufacturing surveys, such as PMIs.



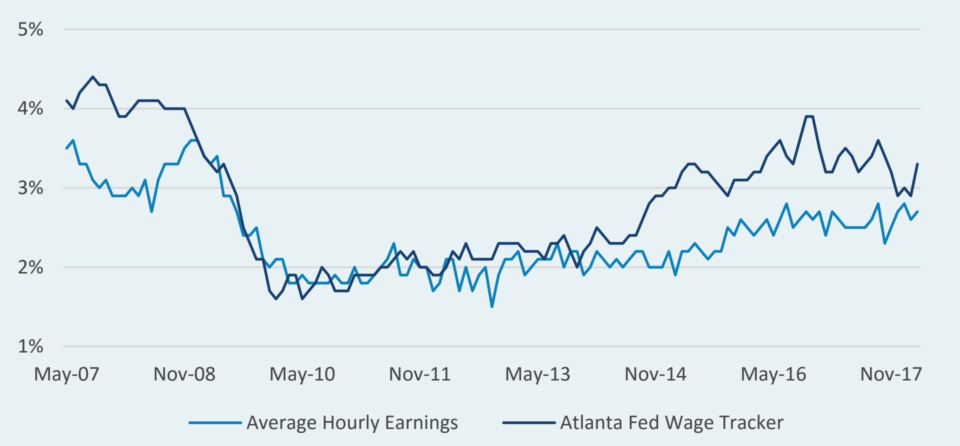
Source: FRED, as of 2/28/18

Wages

Muted wage growth has been heavily scrutinized during the expansion due to its historically strong relationship with the unemployment rate. Although wage growth has accelerated over the past few years, we have yet to experience a material rise in wages that would be consistent with a tight labor market. The broad unemployment rate (U-6, 8.0%) implies wage growth of around 4.5% versus actual wage growth of 3.3% based on a historical regression analysis. Much like our view on overall inflation, we believe cyclical forces may place modest upward pressures on wages, but at a gradual pace.

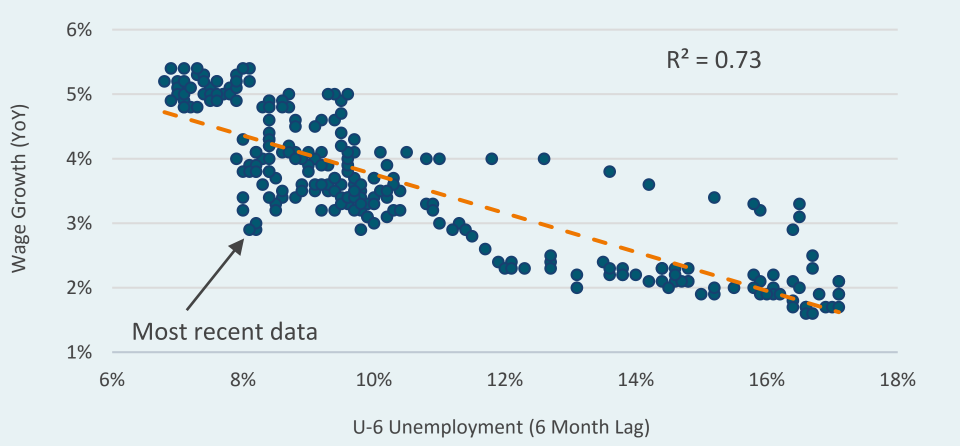
An interesting development during the quarter was a shift in the market narrative surrounding wage growth. In January, a positive surprise in average hourly earnings (mainly caused by a fall in aggregate hours worked during the month) sparked concerns that a faster rate of growth might result in quicker-than-expected monetary tightening. The surprise coincided with a material increase in Treasury yields, although many factors likely influenced these moves. Earlier in the expansion, many market participants voiced concerns that low wage growth was a potential indicator of economic weakness.

WAGE GROWTH (YOY)



Source: Bloomberg, Atlanta Fed, as of 3/31/18 (see appendix)

RELATIONSHIP BETWEEN WAGES AND UNEMPLOYMENT



Source: Bloomberg, Atlanta Fed, Verus, as of 3/31/18

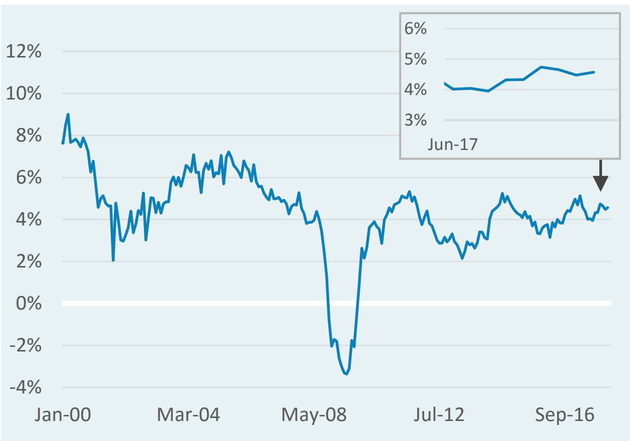
The consumer

The U.S. continues to be in a *middle-of-the-road* expansion – characterized as not too fast and not too slow. Moderate improvements in wages and employment, conservative spending and borrowing trends, and rising wealth, indicate a sustainable environment going forward for the American consumer.

Current U.S. spending trends appear in-line, or a bit more conservative, than previous economic expansions. Behavior may be partly explained by a more timid pace of employee wage growth, as well as not-too-distant memories of hardships experienced during the U.S. housing bubble.

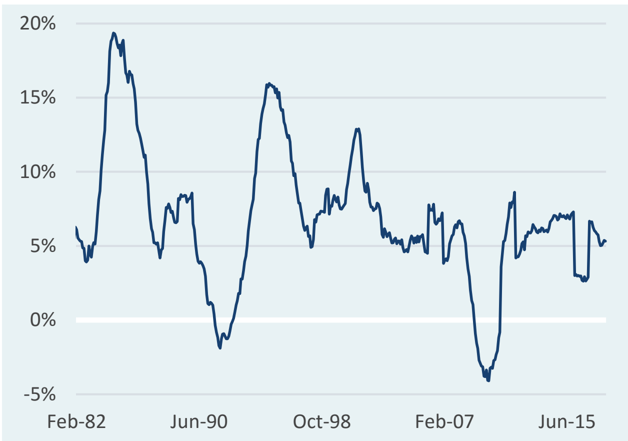
If interest rates continue to rise, this will likely act as a headwind to consumer spending as it becomes more expensive to borrow. Historically, spending patterns tend to ebb and flow through the economic cycle largely through the use of credit (i.e. credit cards, auto loans, home loans).

CONSUMER SPENDING (YOY GROWTH)



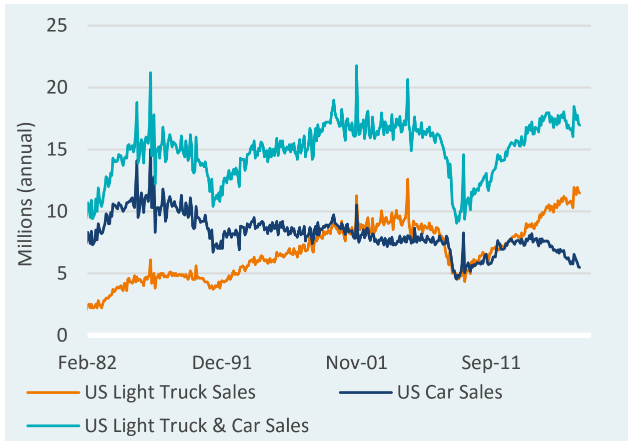
Source: Bloomberg, as of 2/28/18

CONSUMER CREDIT GROWTH (YOY)



Source: FRED, as of 1/31/18

AUTO SALES



Source: Bloomberg, as of 2/28/18

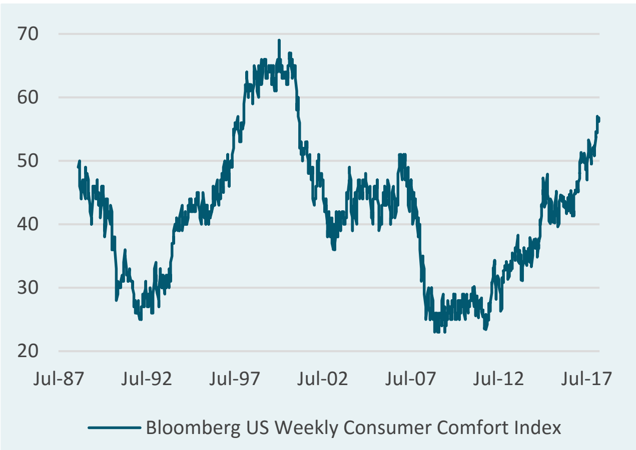
Sentiment

Consumer and business sentiment surveys further improved over the quarter and are now at or above levels of the latest 2001-2007 U.S. economic cycle. The University of Michigan Consumer Sentiment Index now sits at 101.4, which places it in the 91st percentile relative to its own history, since 1978. Consumers' perception of current economic conditions (employment and wage prospects) are at their highest level since the late 1990s. The Bloomberg Consumer Comfort Index has risen to levels last seen in 2001.

The NFIB Small Business Optimism Index was 107.4 at the end of the quarter – near a record high, although there was a significant drop in businesses' expectations for the economy. The net number of firms that expect the economy to improve fell from 43% to 32% in March, but this figure was still near historical highs.

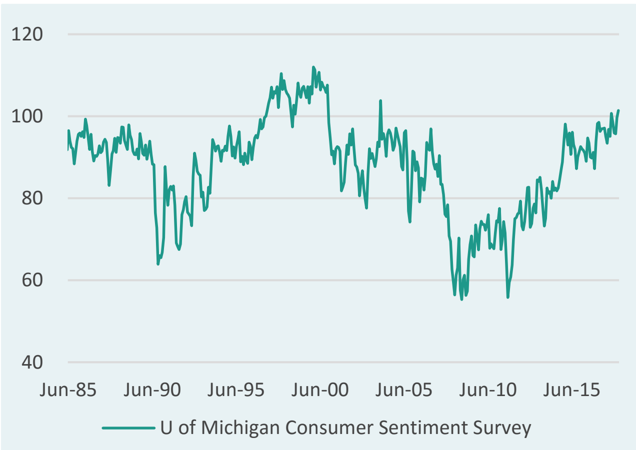
Consumers and small businesses have a positive outlook on the U.S. economy

CONSUMER COMFORT INDEX



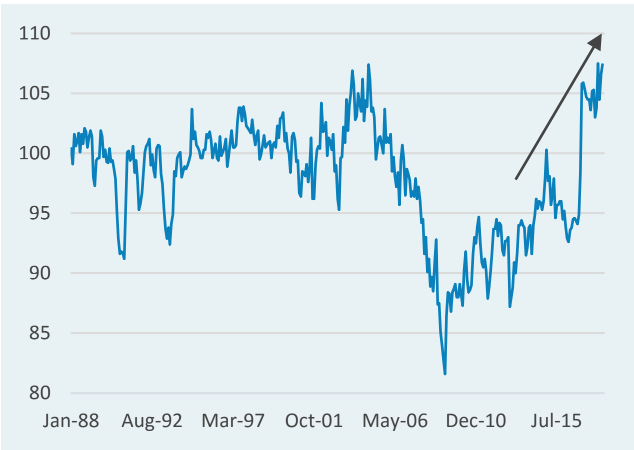
Source: Bloomberg, as of 3/25/18 (see Appendix)

CONSUMER SENTIMENT



Source: University of Michigan, as of 3/31/18 (see Appendix)

NFIB SMALL BUSINESS OPTIMISM INDEX



Source: NFIB, as of 2/28/18 (see Appendix)

Housing

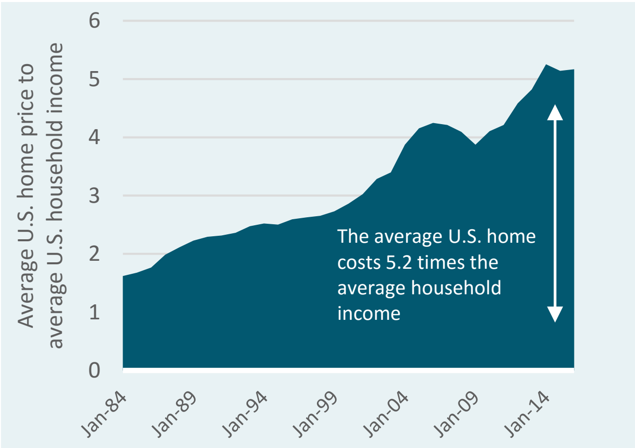
U.S. home prices rose 6.2% YoY, as of January, according to the Case-Shiller National Home Price Index.

Following the U.S. 2008 housing crisis, a combination of lower home prices and ultra-low interest rates made home ownership very affordable. These conditions eventually helped to bring back demand for homes and supported a rise in prices. Today, the price of an American home has returned to, and surpassed, pre-crisis levels. The average U.S. home costs more than 5 times the average household income, which has made purchasing a home increasingly difficult.

This affordability problem could be compounded further if interest rates rise and push mortgage interest rates upward.

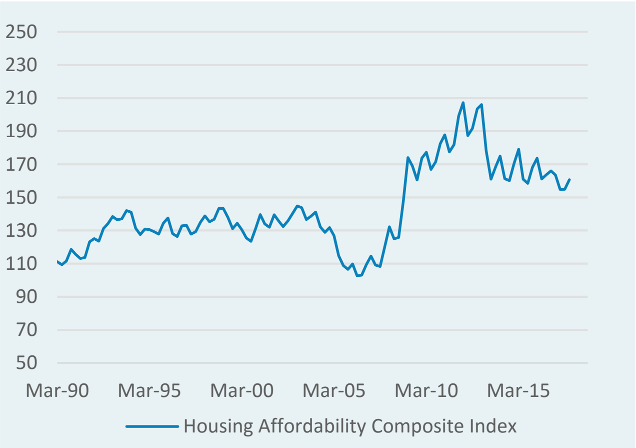
Rising home prices have lopsided effects on consumers. Higher prices add to the wealth of existing homeowners and land owners initially, but also lead to higher property taxes. For prospective homeowners, higher prices translate to a larger required down payment, greater mortgage payments, higher property taxes, and therefore a greater overall drag on standard of living.

HOME PRICE RELATIVE TO HOUSEHOLD INCOME



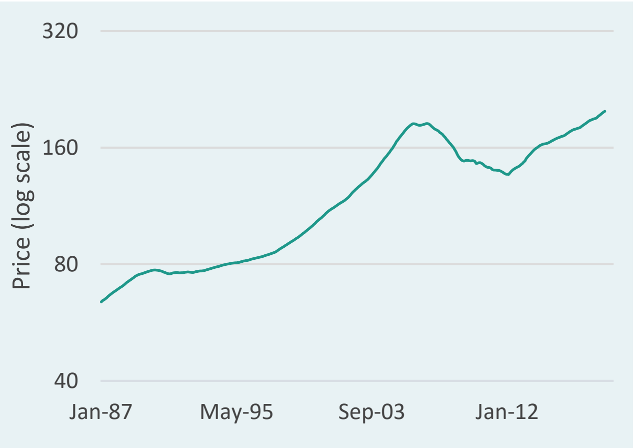
Source: FRED, 2016 census data

HOUSING AFFORDABILITY



Source: National Association of Realtors, as of 12/31/17

U.S. HOME PRICE INDEX



Source: Case-Shiller National Home Price Index, as of 2/28/18

International economics summary

— International economic growth was strong across countries in the fourth quarter, but a combination of recent economic data coming in below expectations and trade concerns created risks to the synchronized global growth narrative.

— The U.S. implemented 25% and 10% tariffs on steel and aluminum imports, respectively. When the tariffs were initially announced the White House pushed for all countries to be subject to them. However, many countries, such as Canada and Mexico, were given exemptions to allow for ongoing negotiations.

— In April, concerns over trade shifted to escalating tensions between the U.S. and China.

— The Eurozone experienced above-trend growth in the fourth quarter at 2.7% YoY, driven by contributions from household spending and fixed capital investment.

— Economic data out of the Eurozone consistently missed expectations in the first quarter. Industrial production was particularly disappointing – the year-over-year rate fell from 5.2% in December to 2.9% in February.

— Global PMIs remained above 50, indicating expansion in the manufacturing sector, although several countries experienced a decline. The Eurozone PMI fell from 60.8 to 56.6 during the quarter.

— The populist Five Star Movement performed better than expected in the Italian general election in March, winning the most seats of any party. However, no party won a majority in Parliament, resulting in the need to form a coalition government. Increasing support for populist governments (i.e. Hungary and Poland) across Europe remains a risk to investors.

Area	**GDP (Real, YoY)**	**Inflation (CPI, YoY)**	**Unemployment**
United States	2.5% *12/31/17*	2.4% *3/31/18*	4.1% *3/31/18*
Western Europe	2.5% *12/31/17*	1.3% *3/31/18*	7.4% *12/31/17*
Japan	2.0% *12/31/17*	1.5% *2/28/18*	2.5% *2/28/18*
BRICS Nations	6.2% *12/31/17*	2.6% *3/31/18*	5.6% *12/31/17*
Brazil	2.1% *12/31/17*	2.7% *3/31/18*	12.4% *3/31/18*
Russia	0.9% *12/31/17*	2.4% *3/31/18*	5.0% *2/28/18*
India	7.2% *12/31/17*	4.4% *2/28/18*	8.8% *12/31/17*
China	6.8% *12/31/17*	2.1% *3/31/18*	3.9% *12/31/17*

International economics

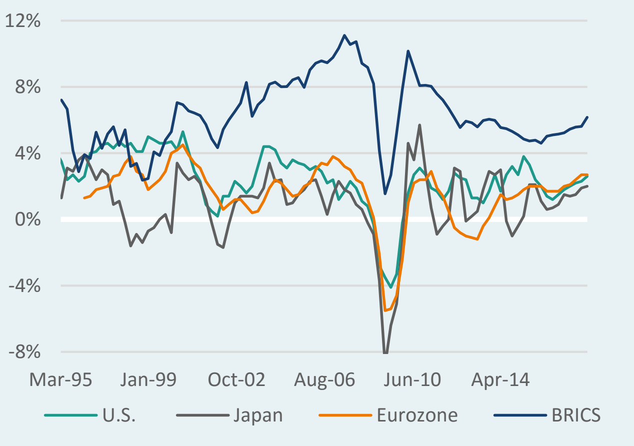
International economic growth continued its upward trend, particularly in emerging countries, where a weaker dollar, higher commodity prices, and stronger external demand has been supportive. Additionally, inflation in emerging economies decelerated to 3.0% in 2017, allowing central banks to cut interest rates. Collectively, the BRICS countries grew by 6.2% in the fourth quarter, the fastest pace since 2012.

The narrative on international developed economies did not materially change during the quarter – growth accelerated, inflation remained low, and central banks provided support, but contemplated exit strategies. While inflation is starting to show modest signs of life in the U.S., the Eurozone and Japan are still experiencing inflation well below 2%. In February, year-over-year core CPI growth was 1.0% in both economies.

The European Central Bank continues to express plans to end asset purchases in September and begin raising interest rates sometime next year. The pace of interest rate hikes will likely be heavily dependent on inflation and market reaction to tightening.

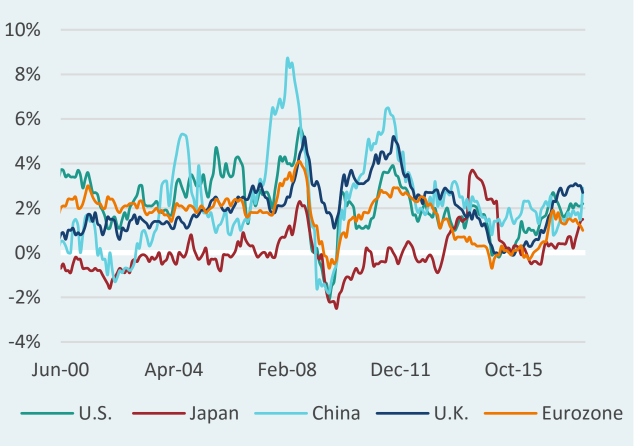
Economic growth improved, especially in emerging markets

REAL GDP GROWTH (YOY)



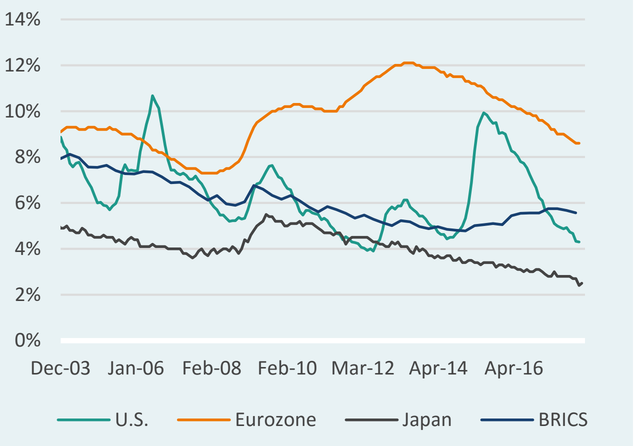
Source: Bloomberg, as of 12/31/17

INFLATION (CPI)



Source: Bloomberg, as of 2/28/18

UNEMPLOYMENT



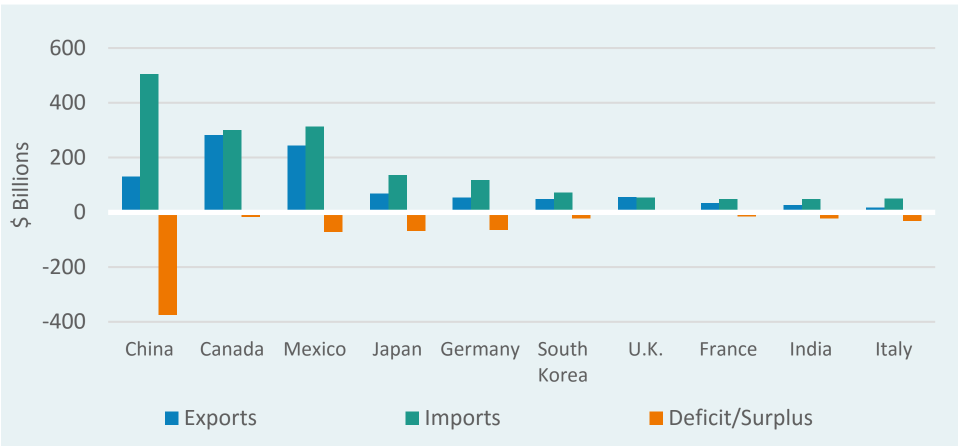
Source: Bloomberg, as of 1/31/18 or most recent release

International trade

The U.S. has enacted a 25% tariff on steel and 10% tariff on aluminum, which went into effect March 23rd, though many U.S. trade partners have been exempted. The U.S. is engaged with China over the significant U.S.-China trade deficit, allegations of China's asymmetrical trade barriers, and the long-term issue of theft of U.S. intellectual property by Chinese companies. The actions of the U.S. administration have stoked fears of a global trade war. While it is broadly agreed that tariffs have a net negative impact on global growth, many hold the view that the U.S. should address these long-running trade issues with China. The motivations and strategy behind the U.S. administration's actions are not yet fully known, but it should not be assumed that the outcome of this process will be negative for the U.S. or the global economy.

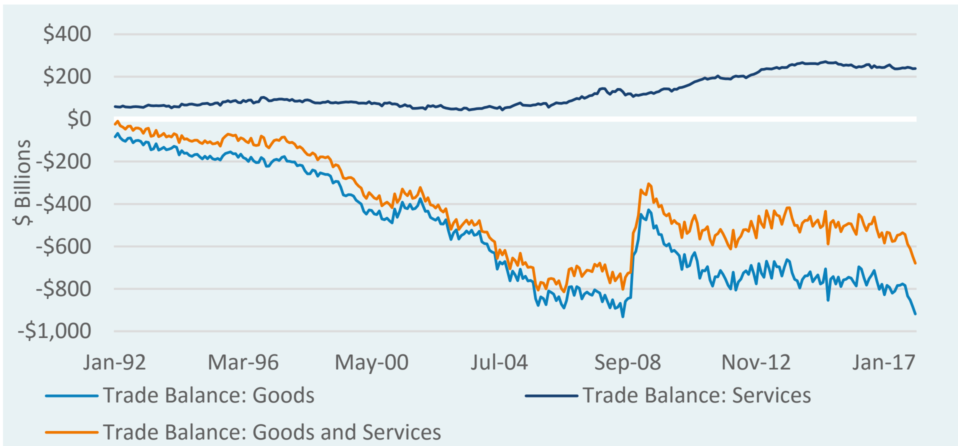
Steel and aluminum represent a small portion of total U.S. imports. On a standalone basis, the economic impact of these tariffs will likely be small. The risk of escalation seems to be the market's primary concern. China-U.S. trade amounts to approximately $650 Billion annually.

U.S. TRADE BALANCE



Source: U.S. Census Bureau, 2017

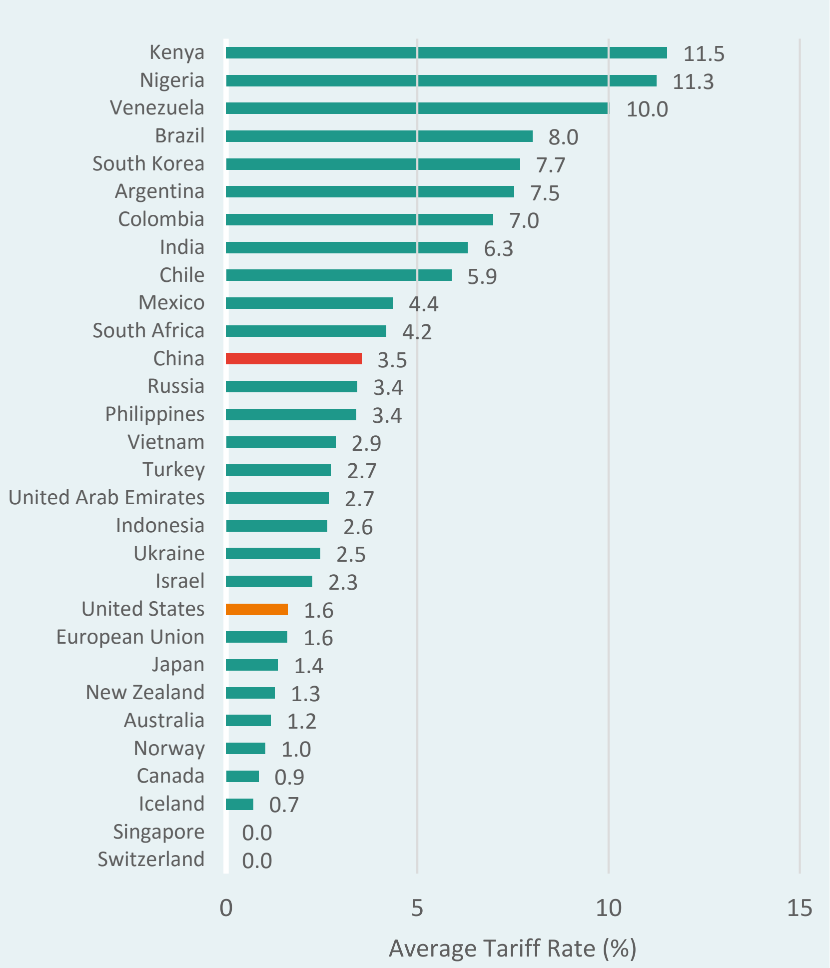
U.S. TRADE – GOODS & SERVICES (ANNUALIZED)



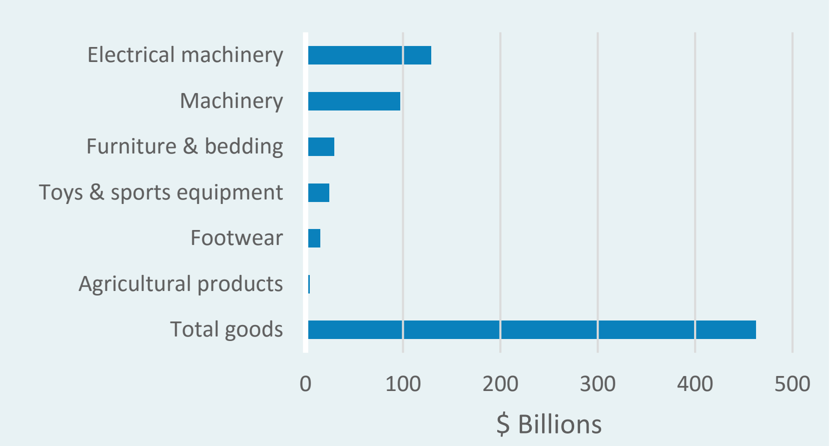
Source: FRED

International trade

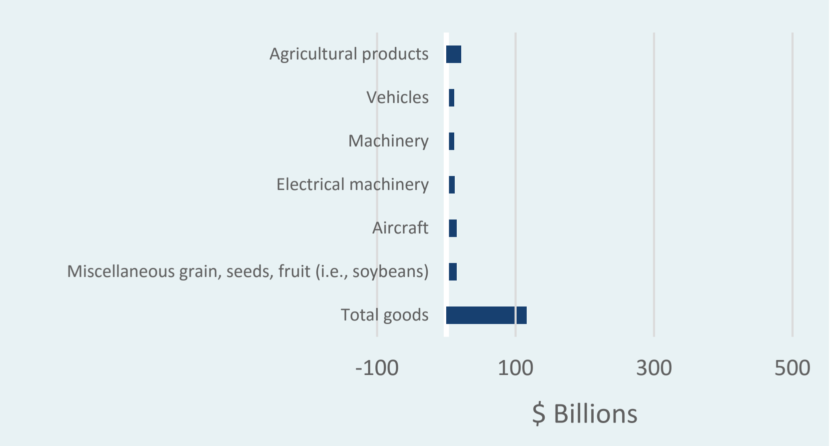
GLOBAL TARIFFS



CHINA EXPORTS TO U.S.



U.S. EXPORTS TO CHINA



Source: World Trade Organization, 2016

Fixed income rates & credit

Interest rate environment

— The Fed raised interest rates by 25 bps to a target range of 1.50% - 1.75% in March, as expected. In his first public comments since taking over as Fed chairman, Jerome Powell's views appeared to support a continuation of gradual monetary tightening.

— According to the Fed dot plot, officials are expecting two additional rate hikes this year, on par with market pricing.

— Long-term Treasury yields rose at the beginning of the year, likely influenced by increasing growth and inflation expectations. The 10-year yield peaked at 2.95% in late February, up 55 bps from year-end. Yields failed to hold these levels, however, and finished the quarter at 2.74%.

— Short-term borrowing costs continued to rise during the quarter, especially in debt tied to Libor. The 3-month USD Libor rate moved steadily higher from 1.7% to 2.3%. Much of this increase was likely mechanical due to record high Treasury bill issuance and repatriation of foreign profits.

— Sovereign yields in developed Europe also ticked up in January, coinciding with yield increases in U.S. Treasuries, but came back down in the last two months of the quarter. German 10-year yields peaked at a two year high of 0.77% in early February before finishing the quarter at 0.50%.

— Developed international central banks remain accommodative compared to the Fed, but they have increasingly hinted towards policy normalization. The ECB is likely next in line to begin monetary tightening by ending asset purchases and raising rates sometime next year. The BOJ has yet to provide any details on ending its stimulus program, but officials have noted internal discussions have begun.

Area	Short Term (3M)	10 Year
United States	1.70%	2.74%
Germany	(0.75%)	0.50%
France	(0.58%)	0.72%
Spain	(0.50%)	1.16%
Italy	(0.43%)	1.79%
Greece	1.31%	4.32%
U.K.	0.49%	1.35%
Japan	(0.17%)	0.04%
Australia	2.03%	2.60%
China	3.12%	3.77%
Brazil	6.31%	9.50%
Russia	6.01%	7.16%

Source: Bloomberg, as of 3/31/18

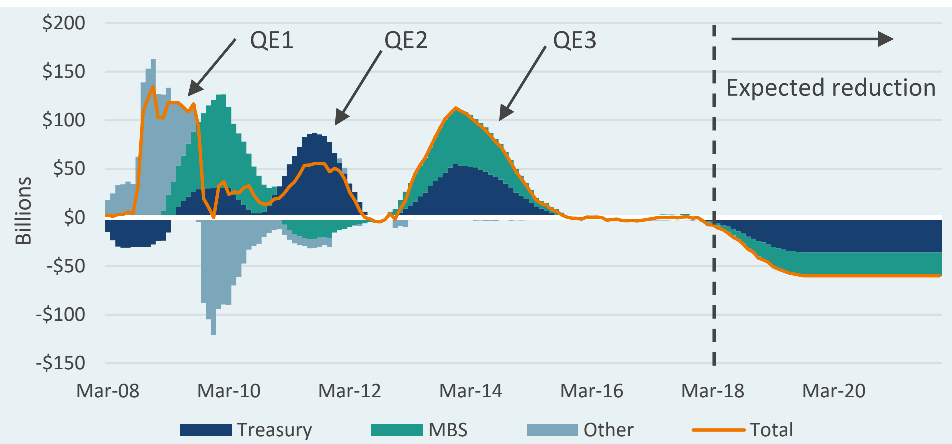
Fed tightening

In Jerome Powell's first meeting as chairman, the Fed hiked interest rates by 25 bps to a target range of 1.50% - 1.75%, as expected. The Fed's forecast for future hikes shifted up slightly based on the dot plot, but Powell's messaging appeared to be similar to the precedent set by Yellen – slow and gradual rate increases coinciding with firming inflation that will eventually reach the 2% target. Markets priced in 25 bps of additional tightening for 2018 during the quarter, and pricing is now on par with Fed expectations of two more rate rises this year. The balance sheet reduction has gone as planned, but we are likely too early in the process to gain insight into its market impact.

The Fed has intentionally tightened slowly, and markets have been able to digest the 150 bps of rate increases thus far. This is consistent with the beginning of past Fed tightening cycles where economic fundamentals were strong. As we move further down this path, additional increases in discount rates will have an increasing impact on the economy and risk assets. However, we believe the Fed will continue to be patient, barring a material change in the inflation environment.

Fed tightening has gone as expected

FED BALANCE SHEET FLOW (12-MONTH CHANGE)



Source: Federal Reserve, as of 3/31/18

FED FUND EXPECTATIONS

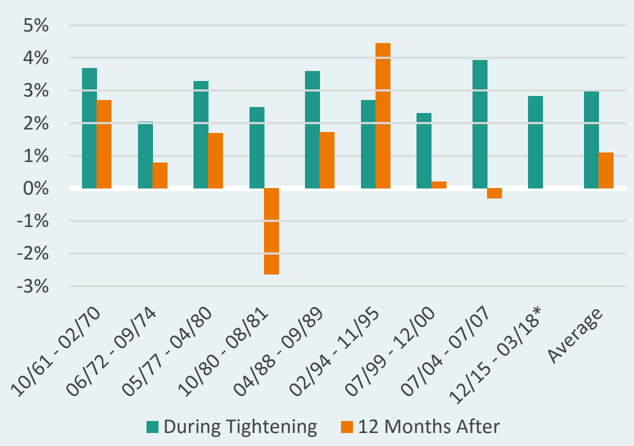
Source: Bloomberg, Federal Reserve as of 3/31/18

The history of monetary tightening

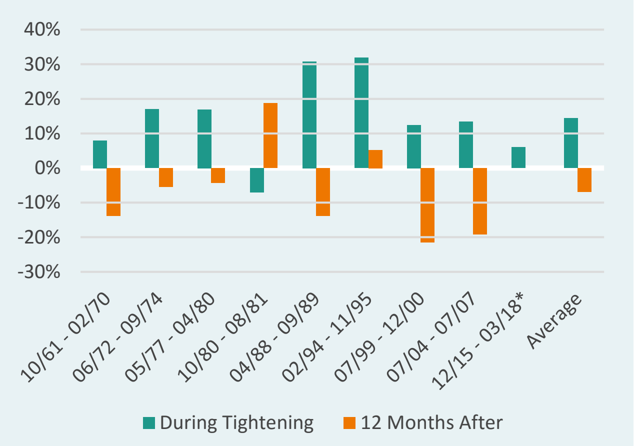
The difficulty of assessing the potential effect of monetary tightening lies in the fact that there are relatively few historical observations to analyze. Since 1959, the Fed has only tightened policy nine times, including the current period which began in December of 2015. There are also unique circumstances in each period, such as the balance sheet reduction coinciding with interest rate increases in this cycle. We looked at three variables: GDP growth, equity earnings growth, and equity performance to get a better understanding of how Fed tightening has historically impacted the economy and financial markets.

As one might expect, GDP growth has been stronger during Fed tightening than in the 12 months following. The same relationship has occurred with equity earnings. This is most likely because the Fed is reacting to underlying economic data rather than driving it. When the economy heats up, the Fed hikes interest rates to avoid overheating, and then stops when things turn over. Equity returns reveal a much more interesting, but muddier picture. On average, equity returns have been higher in the 12 months after tightening than during, although in three of the eight previous periods, equities have experienced a 10% correction.

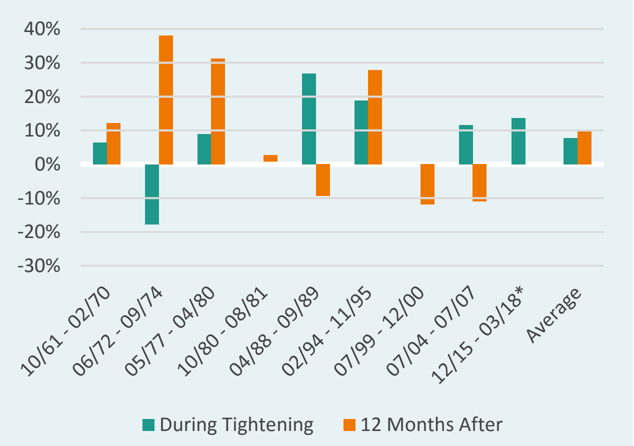
REAL GDP GROWTH



S&P 500 EARNINGS GROWTH



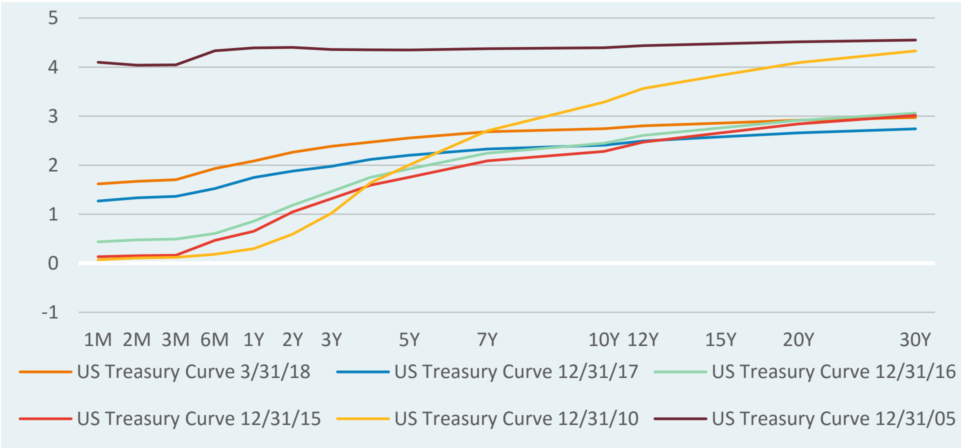
S&P 500 PERFORMANCE



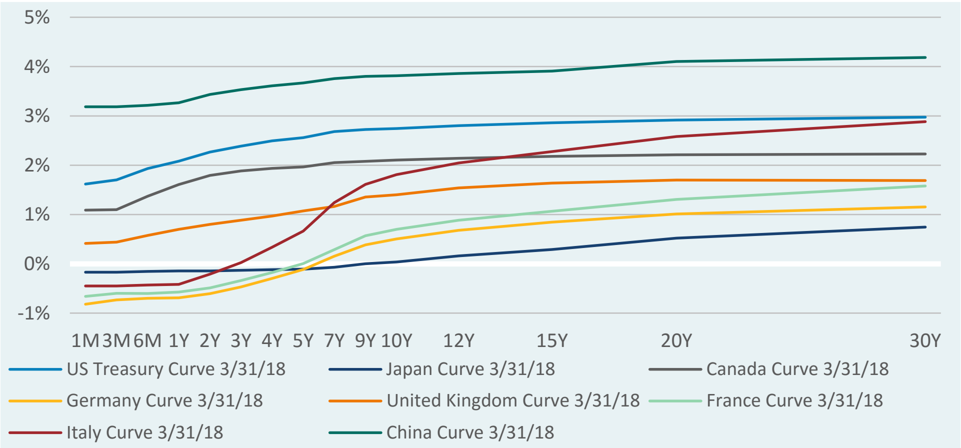
Source: Bloomberg, Verus, analysis started in 1959, all growth calculations are annualized using monthly (earnings/equity performance) or quarterly (GDP) data

Yield environment

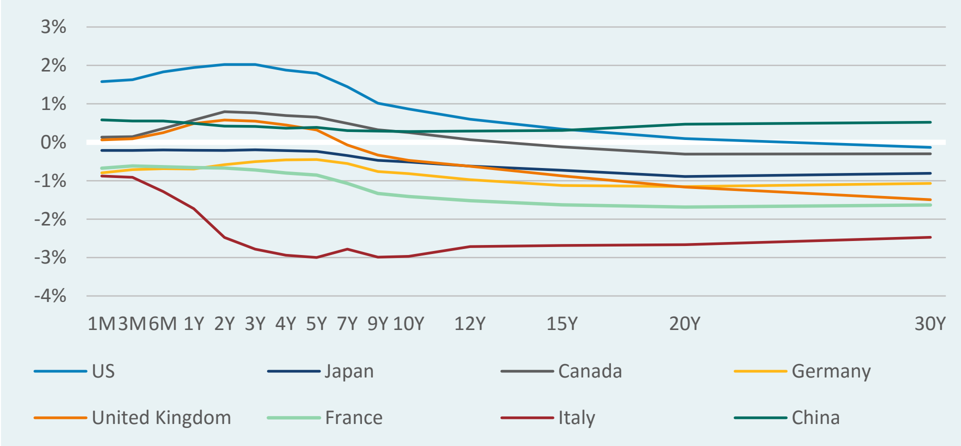
U.S. YIELD CURVE



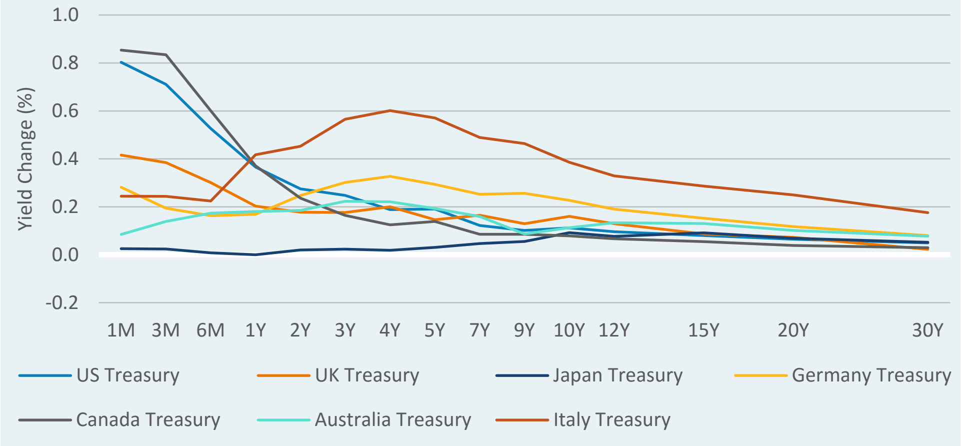
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 3/31/18

Credit environment

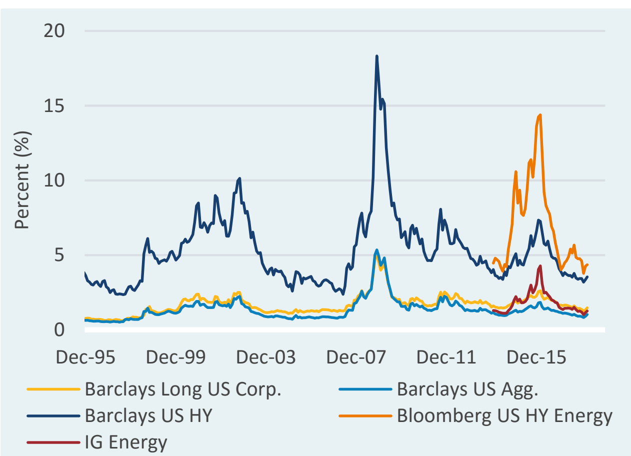
Credit spreads in both leveraged loans and high yield have continued to be tight, sitting well below their historic averages. Leveraged loan prices were relatively immune to equity volatility in February. Loans have outperformed high yield year-to-date with an absolute return of 1.6%, driven by strong issuance and demand. LIBOR has steadily risen since 2016, surpassing the LIBOR floors that exist in senior loans, causing them to be fully floating-rate instruments.

U.S. high yield option-adjusted spreads widened slightly in the first quarter to 3.5%, with the asset class generating a -0.9% total return for the quarter. Tight credit spreads in both high yield and loans have been driven by strong corporate fundamentals, manageable debt maturities and general macroeconomic improvement. Credit spreads have historically been a good indicator of future performance relative to Treasuries.

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

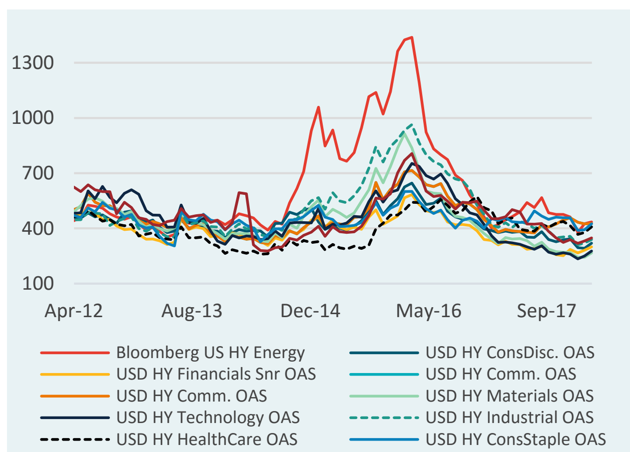
Credit spreads are tight across the capital structure

SPREADS



Source: Barclays, Bloomberg, as of 3/31/18

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 3/31/18

Market	Credit Spread (3/31/18)	Credit Spread (1 Year Ago)
Long US Corporate	1.5%	1.1%
US Aggregate	1.0%	1.1%
US High Yield	3.5%	3.8%
US Bank Loans	3.5%	3.8%

Source: Barclays, Credit Suisse, Bloomberg, as of 3/31/18

Issuance and default

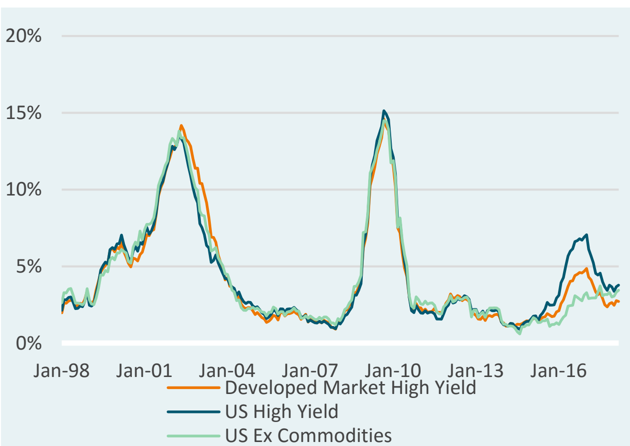
Default activity remains low and stable in the U.S. and international credit markets. The par-weighted U.S. default rate remains below its long-term average of 3.0-3.5% and is currently at 2.4%. In the first quarter, 27% of total defaults have been in the retail sector, followed by energy and broadcasting.

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

Issuance in bonds and loans both increased in 2017. New issue spreads continue to compress with strong demand supported by significant retail and institutional inflows into the both high yield and senior loan asset class, as well as CLO formation.

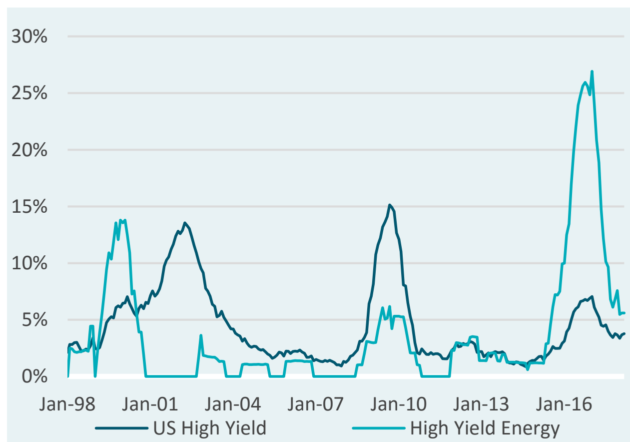
Default volume remains below long-term averages

HY DEFAULT TRENDS (ROLLING 1 YEAR)



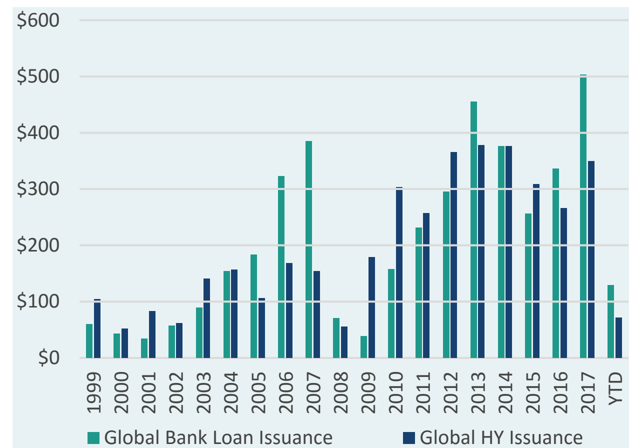
Source: BofA Merrill Lynch, as of 3/31/18

ENERGY DEFAULT TRENDS



Source: BofA Merrill Lynch, as of 3/31/18

GLOBAL ISSUANCE (BILLIONS)



Source: Bloomberg, BofA Merrill Lynch, as of 3/31/18

Equity

Equity environment

— We maintain an overweight position to equities primarily due to enthusiasm for emerging markets. Though the February market correction dampened investor excitement, it is helpful to remind ourselves that 10% equity drawdowns are fairly common.

— Upward price momentum in equities has diminished following the February market correction. Investor sentiment is less positive, but the global economic and earnings backdrop remains intact.

— 2018 is expected to be a banner year for U.S. corporate profits. Earnings for the year are forecast to grow 17.3%, with revenue growth of 7.3% according to Factset - a rare and impressive year for U.S. businesses. A continuation of this trend would be supportive of equity performance.

— Equity valuations (price-to-earnings multiples) fell to more attractive levels in Q1 due to the combination of lower equity prices and strong earnings growth.

— Equity volatility has remained extremely low since the beginning of 2017. However, the equity drawdown and volatility spike in February appears to have ended this period of calm. Investors might expect a more normal volatility environment going forward.

— Currency movement has contributed to volatility and great return disparity for investors with unhedged investments in international assets. A hedging program could allow investors to reduce or eliminate uncompensated currency risk.

	QTD TOTAL RETURN		YTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	(2.0%)		(2.0%)		12.4%	
US Small Cap (Russell 2000)	(1.1%)		(1.1%)		10.5%	
US Large Value (Russell 1000 Value)	(4.0%)		(4.0%)		5.6%	
US Large Growth (Russell 1000 Growth)	(0.1%)		(0.1%)		19.3%	
International Large (MSCI EAFE)	(1.6%)	(3.8%)	(1.6%)	(3.8%)	14.4%	7.1%
Eurozone (Euro Stoxx 50)	(0.5%)	(3.2%)	(0.5%)	(3.2%)	18.0%	0.3%
U.K. (FTSE 100)	(3.8%)	(6.9%)	(3.8%)	(6.9%)	11.9%	1.2%
Japan (NIKKEI 225)	0.6%	(5.3%)	0.6%	(5.3%)	20.9%	15.2%
Emerging Markets (MSCI Emerging Markets)	1.2%	0.4%	1.2%	0.4%	23.1%	20.4%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 3/31/18

Domestic equity

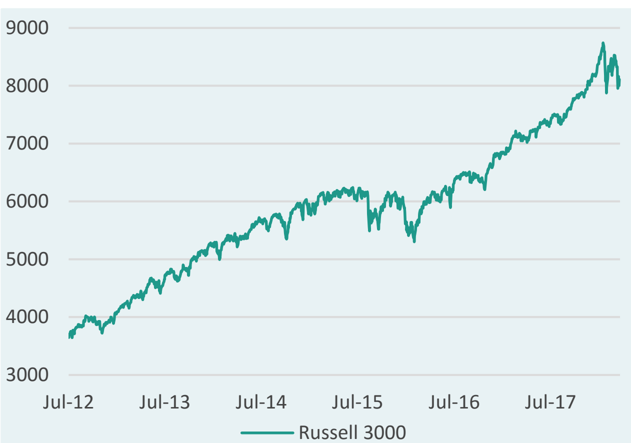
U.S. equities delivered a loss in Q1 (Russell 1000 -2.0%) - a change of pace from steady and strong gains in 2017. Equity indexes around the world fell between 8-12% in early February as the recent bull run was interrupted. Since the selloff, most markets have been rangebound but relatively flat overall. Volatility seems to have returned to the markets as sizable day-to-day swings have been the norm.

While large price movements tend to naturally cause investor fear, it is not apparent that the attractive macro picture has changed – i.e. positive economic growth, very strong earnings gains, and healthy sentiment. Equity prices typically follow growth and corporate profit trends over the medium and long-term term, which likely provides some support against larger downside equity movement.

However, the February selloff has dampened recent positive upward price momentum. Momentum is now more neutral as market prices flatten out.

Fundamentals appear unchanged despite falling prices

U.S. EQUITIES



Source: Russell Investments, as of 3/31/18

EARNINGS GROWTH

Source: S&P 500, as of 3/31/18

S&P 500 PRICE & EARNINGS

Source: Bloomberg, as of 3/31/18

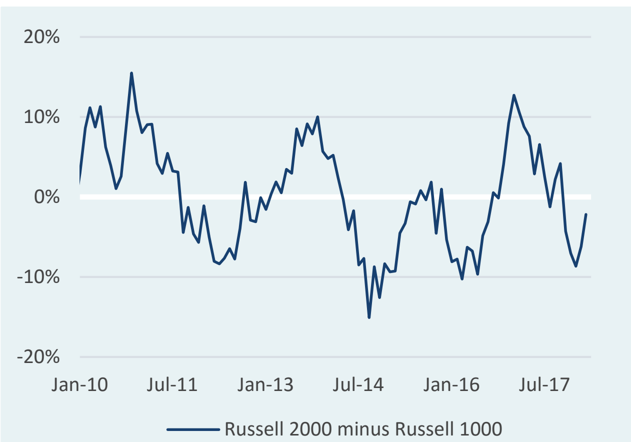
Domestic equity size & style

Large cap equities (Russell 1000 -2.0%) lagged small cap equities (Russell 2000 -1.1%) during the quarter. Value stocks delivered exceptionally poor performance in Q1 (Russell 1000 Value -4.0% vs. Russell 1000 Growth -0.1%), dragged down by the energy and materials sectors, which are heavily tilted towards value. Despite a sell-off in mega-cap tech stocks in March due mainly to company-specific issues, such as a data breach at Facebook and President Trump targeting Amazon over its relationship with the U.S. Postal Service, tech was still the best performing sector in the first quarter.

Traditional style factors – small cap and value in particular – have hit a rough patch since the 2008-2009 global financial crisis. It may be helpful to remember that these periods do occur. In fact, there are multiple points in history where the equity small-cap and value premiums delivered negative returns over more than a 10 year period.

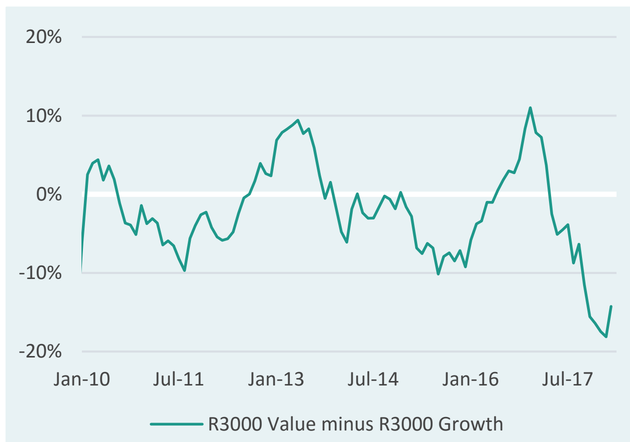
In U.S. equities, value has continued to underperform in recent years, while momentum delivered outperformance alongside the bull market rally.

SMALL CAP VS LARGE CAP (YOY)



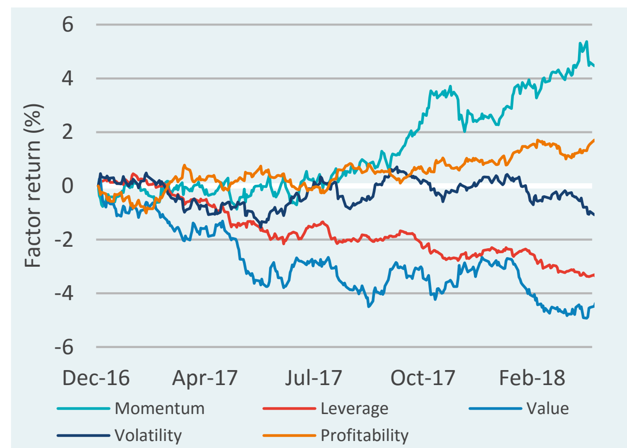
Source: FTSE, as of 3/31/18

VALUE VS GROWTH (YOY)



Source: FTSE, as of 3/31/18

BLOOMBERG FACTOR PERFORMANCE



Source: Bloomberg, as of 3/31/18

Hard times for value investing

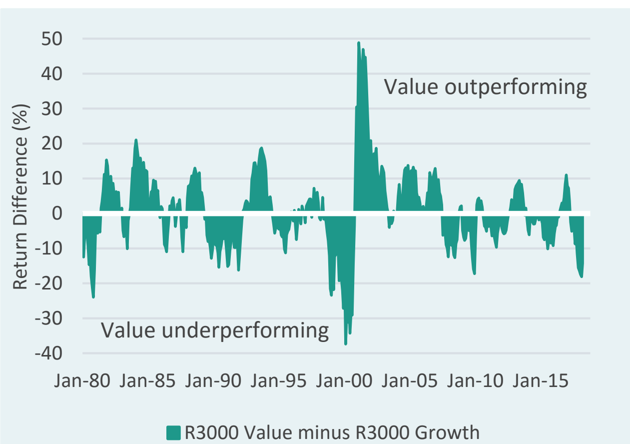
Value equities have underperformed growth equities over the past 10 years. This has occurred only two other times since the 1920's - both periods were followed by a rapid bounce-back in value performance. Is a turning point is on the horizon?

Value stocks are concentrated in the financial sector, and growth stocks are concentrated in the technology sector. The global financial crisis led to extreme underperformance of financial stocks, which hurt value. At the same time, technology stocks have fared exceptionally well. These two effects compounded value's underperformance.

The current price difference between value and growth stocks is near the historical average, which is notably different from the most recent bout of value underperformance – the 2001 tech bubble. At that time, growth stocks were anomalously expensive relative to value stocks, which helped explain how value stocks roared back to life after the tech bubble burst.

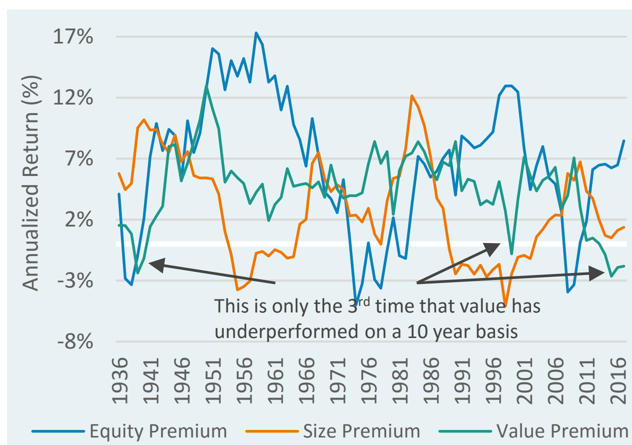
We do not yet see a catalyst for a value comeback. Prices are fairly normal, and the economic environment is positive (growth often performs well during later stages of economic expansions). We recommend that value investors stay the course. Timing factors over the short term is and will always be difficult.

U.S. VALUE PERFORMANCE (1YR ROLLING)



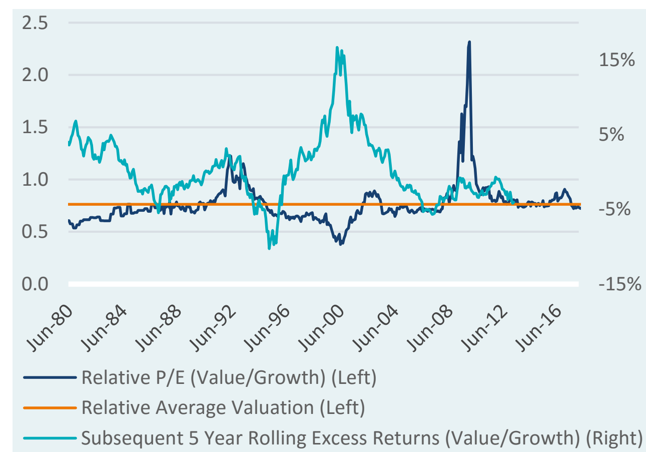
Source: FTSE, as 3/31/18

U.S. VALUE PERFORMANCE (10YR ROLLING)



Source: Fama French Library, as of 2/28/18

VALUE VS GROWTH - P/E MULTIPLES



Source: FTSE Russell, Bloomberg, as of 3/31/18

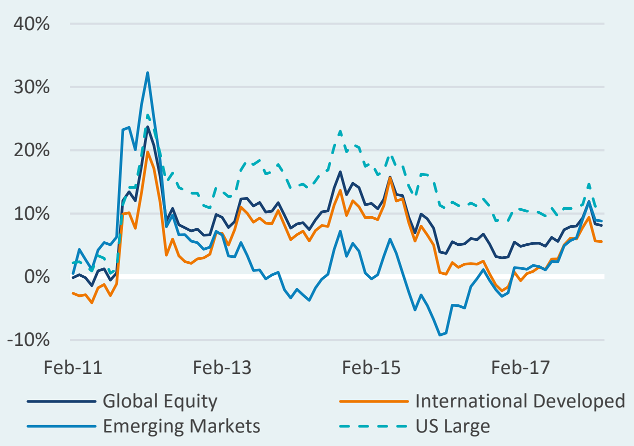
International developed equity

Unhedged International equities were in line with U.S. equities during Q1, delivering slightly negative performance. The MSCI EAFE Index returned -1.5%. Positive currency returns masked underperformance of local developed market equities. On a hedged basis, the MSCI EAFE Index posted a -3.8% return. Looking forward, accelerating corporate earnings, and more attractive valuations following the February fall in equity prices, may be supportive for another positive year in 2018. Forward one year earnings growth is expected to be around 15%.

Along with the U.S., most developed markets also experienced an approximate 10% drawdown in February, but were not as quick to recover. Most regional benchmarks finished the quarter still 7-10% below recent peaks.

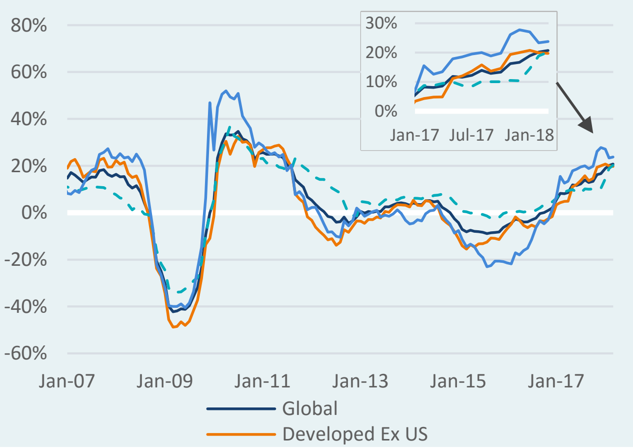
Trailing P/E ratios for the EAFE Index have moved to below average, providing a possible value opportunity. However, downside risks to these markets, including political issues and reliance on central bank support may be a justification for low valuations.

EQUITY PERFORMANCE (3-YEAR ROLLING)



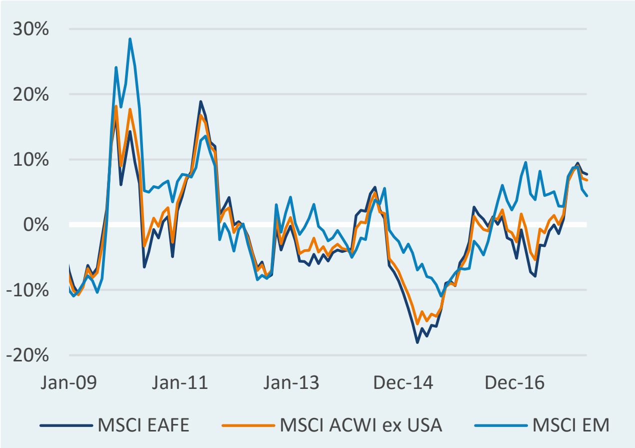
Source: Bloomberg, as of 3/31/18

EARNINGS GROWTH (YOY)



Source: MSCI, as of 3/31/18 – YoY growth in forward earnings

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 3/31/18

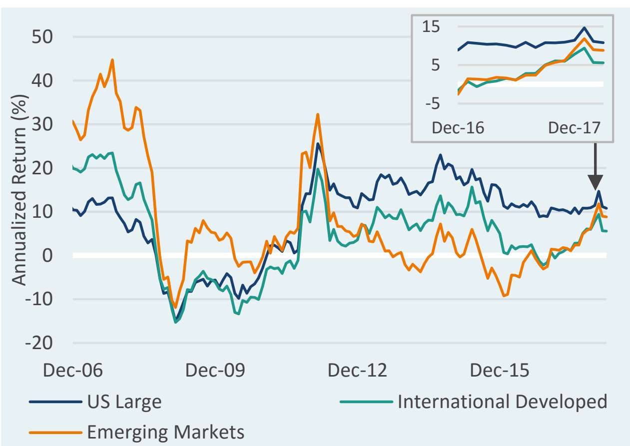
Emerging market equity

We maintain an overweight to emerging market equities. Emerging market equities have exhibited more modest valuations relative to developed markets such as the U.S., while these economies in aggregate continue to outpace developed economies by a wide margin. Furthermore, emerging market currencies remain depressed relative to history. Cheaper valuations, much stronger economic growth, and a currency tailwind may bode well for future performance.

Emerging economies have led the way over the past year in terms of economic growth, earnings, and equity performance. Emerging market equities have delivered positive performance year-to-date despite the February sell-off (MSCI Emerging Markets +1.2%) while developed markets were in negative territory to end the first quarter.

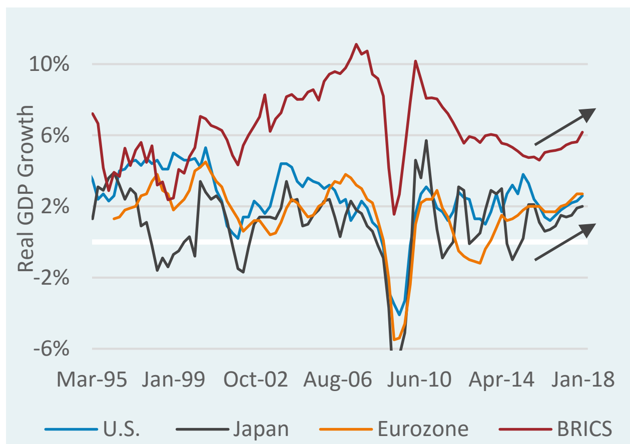
Coordinated global growth has helped propel emerging market equities forward

EQUITY PERFORMANCE (3YR ROLLING)



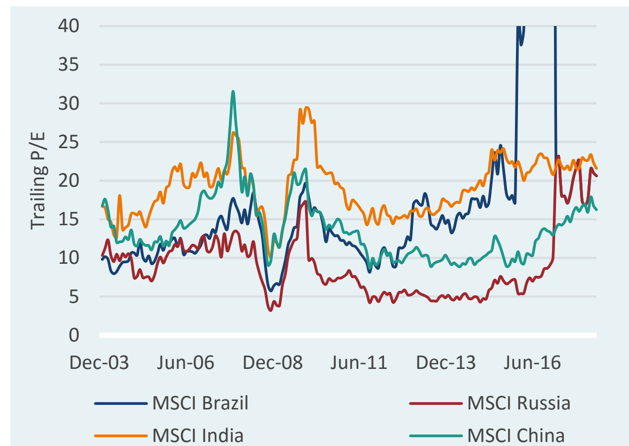
Source: Standard & Poor's, MSCI, as of 3/31/18

ECONOMIC MOMENTUM



Source: Bloomberg, as of 12/31/18

BRIC VALUATIONS



Source: MSCI, as of 3/31/18

Equity valuations

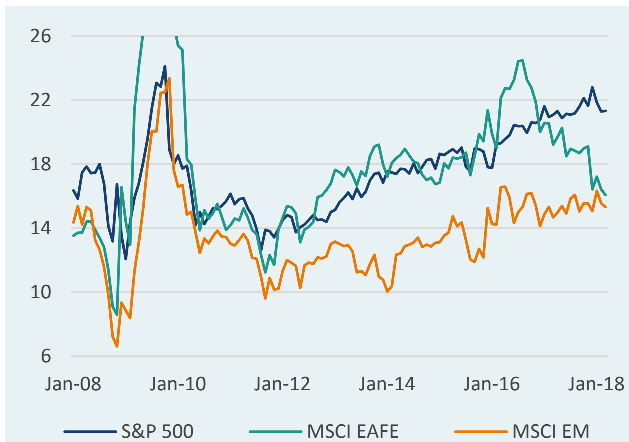
Equity valuations fell over the quarter due to both a decrease in price and an increase in earnings. International developed equities experienced the biggest contraction in valuations and the trailing P/E ratio (16.5) is now below the median multiple since 1995 (20.0). Price-to-earnings multiples also came down in the U.S., although they remain above average. The trailing 12-month P/E ratio for the S&P 500 Index was 21.3 at the end of March, compared to the 30-year median value of 18.3. After strong price gains over the past year, emerging market equity valuation metrics are near their long-term averages.

Although most equity markets experienced a 10% correction during the quarter, momentum in earnings growth remained strong. A continuation of this trend may result in further normalization of valuations without a significant drop in equity prices.

FORWARD P/E RATIOS

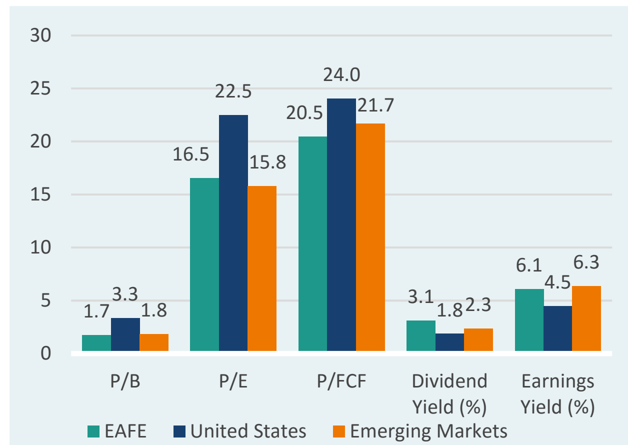
Source: MSCI, as of 3/31/2018

TRAILING P/E RATIOS



Source: Bloomberg, as of 3/31/18

VALUATION METRICS



Source: Bloomberg, as of 3/31/18 - trailing P/E

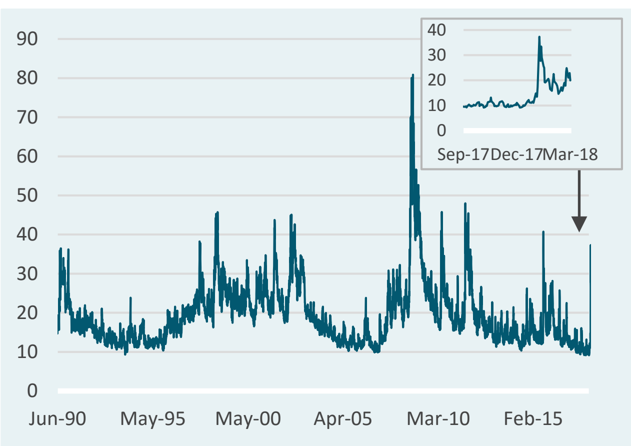
Equity volatility

Volatility in U.S. equities spiked in February and stayed elevated. The VIX Index of implied volatility on the S&P 500 Index registered its largest one-day increase on February 5th, jumping from 17.3 to 37.3. The well-documented period of low volatility that markets experienced in 2017 was broken rather suddenly. Volatility remained high with the VIX averaging 20.7 in the last two month of the quarter, compared to 11.0 during the previous 12 months. The increase in volatility was a U.S. focused event, rather than a global phenomenon – volatility was relatively benign in international developed and emerging markets.

One of the likely drivers of the spike in volatility that occurred in February was the unwinding of the "short vol" trade. The low volatility environment that began in 2016 created an opportunity to profit from selling volatility in the futures market, which is similar to selling insurance. Speculators selling volatility receive a premium for taking on risk from those looking to hedge, and are able to capture this premium when volatility remains low. When volatility increases, however, losses can be catastrophic. An index tracking this strategy lost 96% of its value during one day of trading, which likely reinforced the increase in volatility.

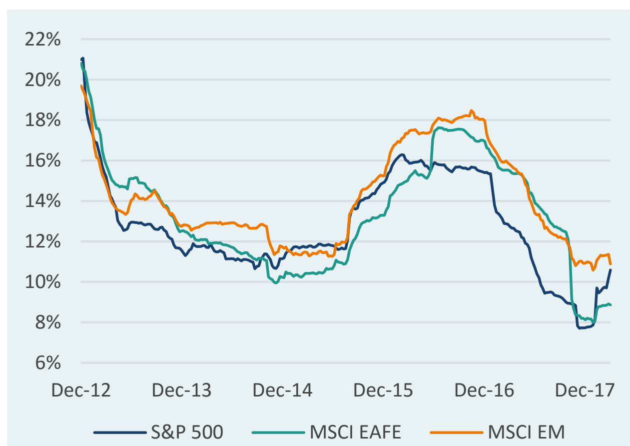
Equity volatility spiked in February and remained at heightened levels

U.S. IMPLIED VOLATILITY (VIX)



Source: CBOE, as of 3/31/18

REALIZED 1-YEAR ROLLING VOLATILITY

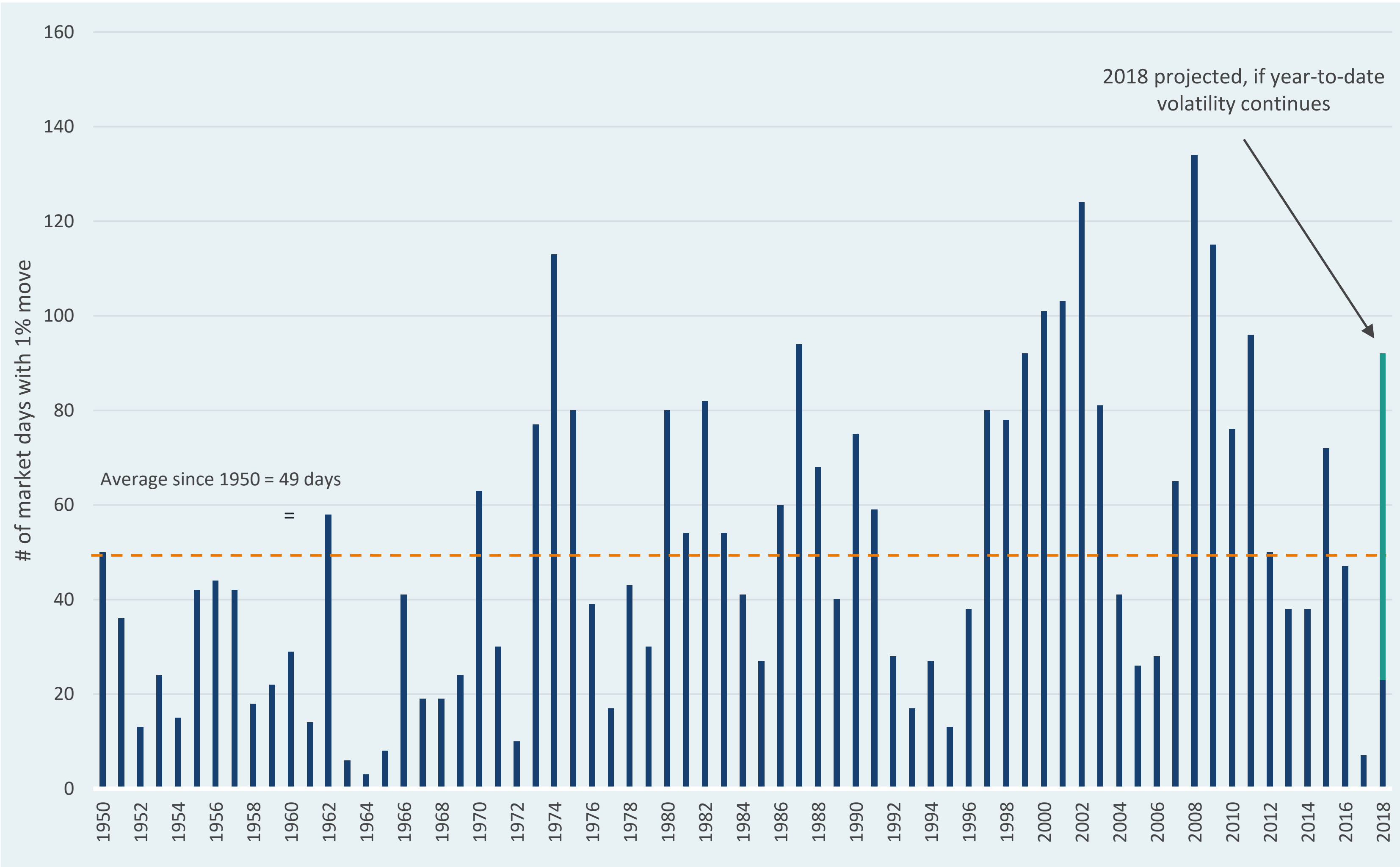


Source: Bloomberg, as of 3/31/18

S&P INVERSE VIX FUTURES INDEX

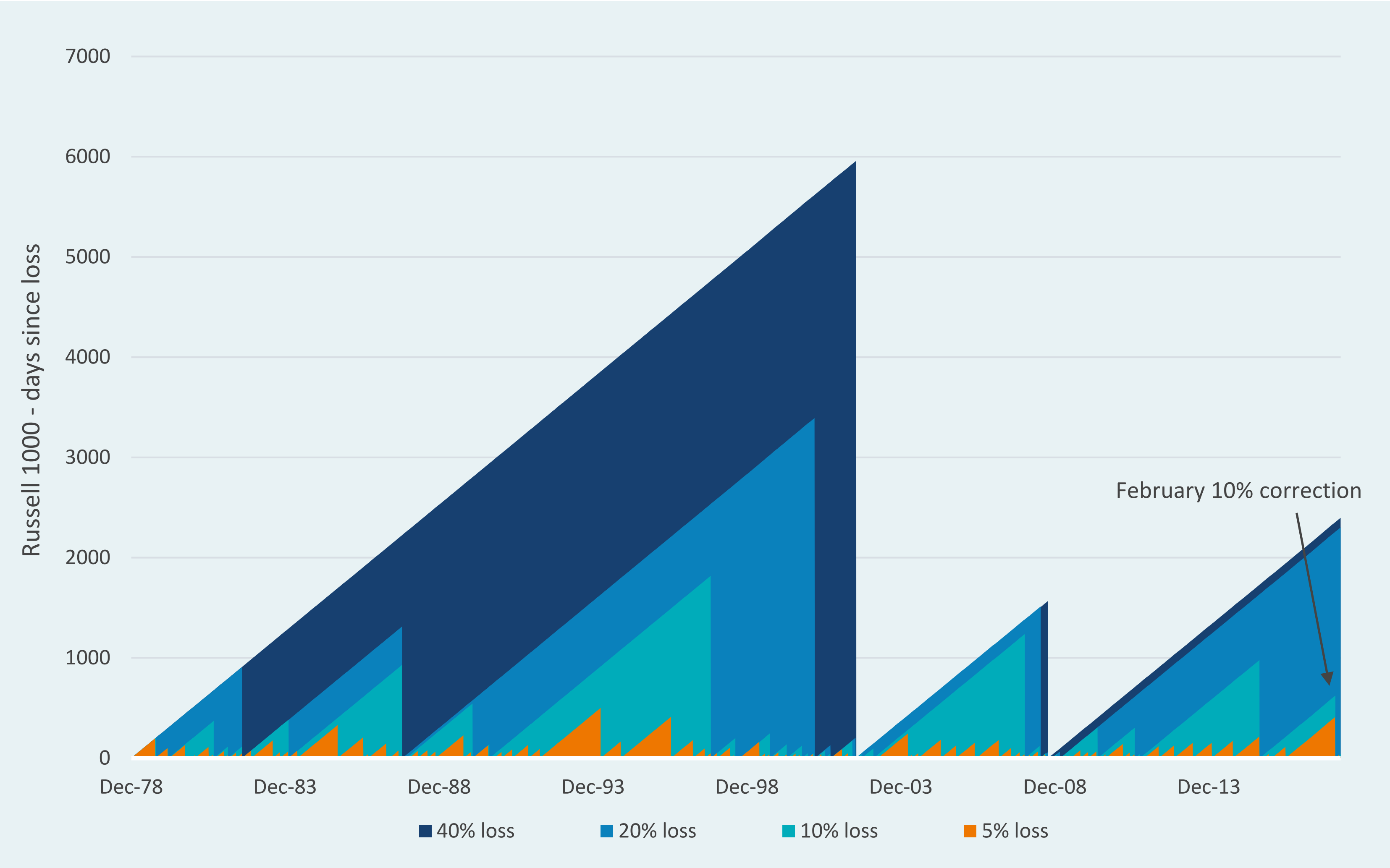
Source: Bloomberg, as of 3/31/18

Equity volatility



Source: S&P 500, as of 3/31/18

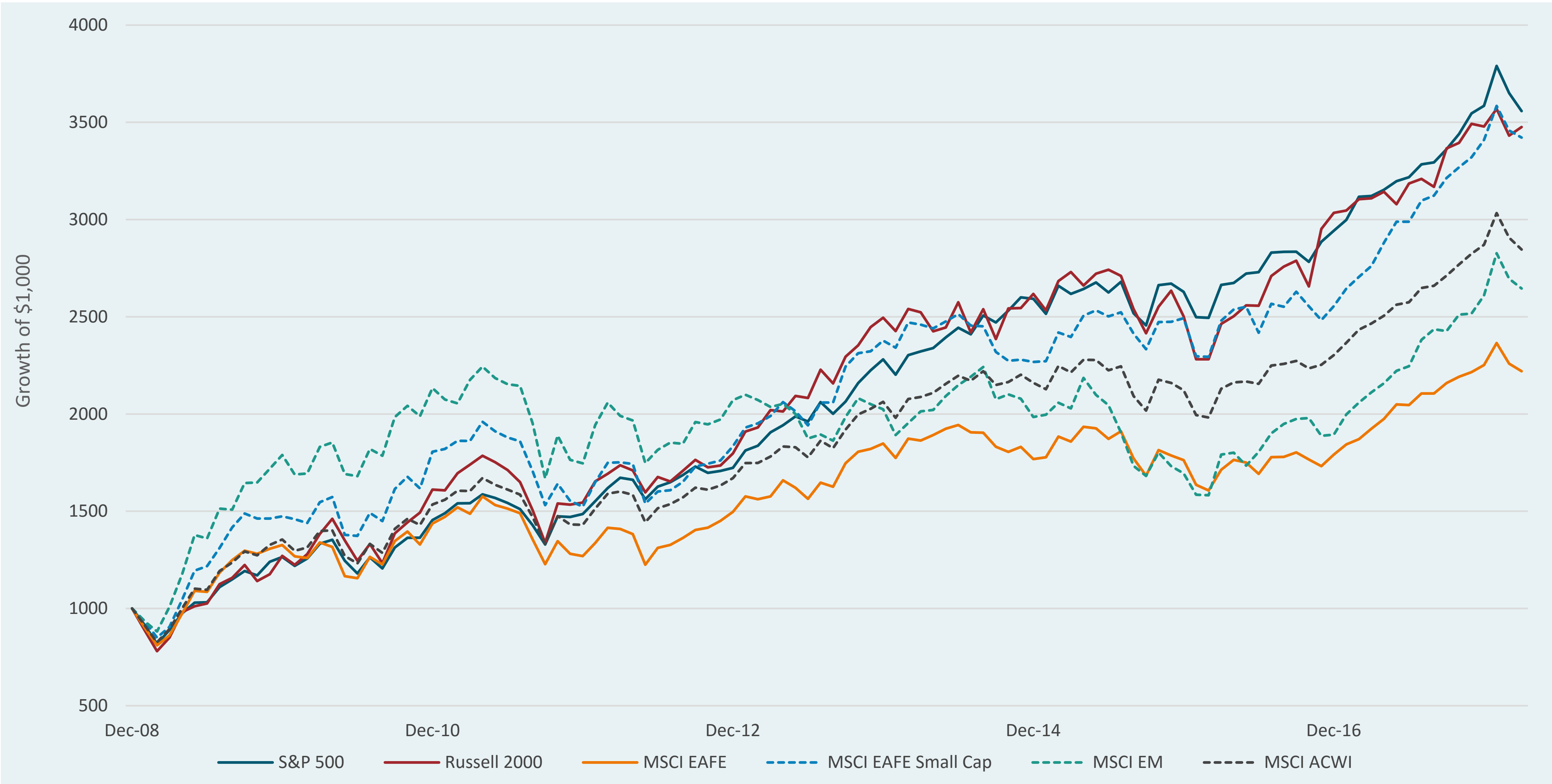
Expect the unexpected



Equities experienced a 10% correction for the first time in more than two years

Source: FTSE Russell, Bloomberg, as of 4/11/18

Long-term equity performance



Source: MPI, as of 3/31/18

Other assets

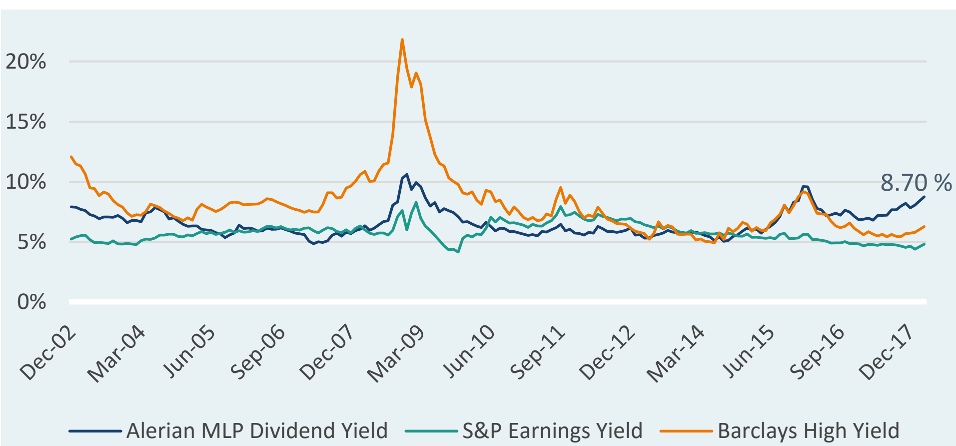
Opportunity in MLPs

MLP valuations look attractive across a number of historical metrics, including enterprise value-to-EBITDA and price-to-distributable cash flow. We believe there is opportunity to allocate to MLPs for a short to medium holding period (2-4 years).

MLP yields have steadily climbed since mid-2016 on the back of a sell-off in the sector and recovery in distributions following the energy price collapse. Balance sheets across the industry are in better shape today than before the oil crisis. Debt-to-cash flow levels have improved since peaking at 6.4x in 2015. Furthermore, the U.S. is expected to surpass Russia in 2018 to be the largest oil producer in the world, which is important because midstream companies grow through volume increases rather than commodity price appreciation.

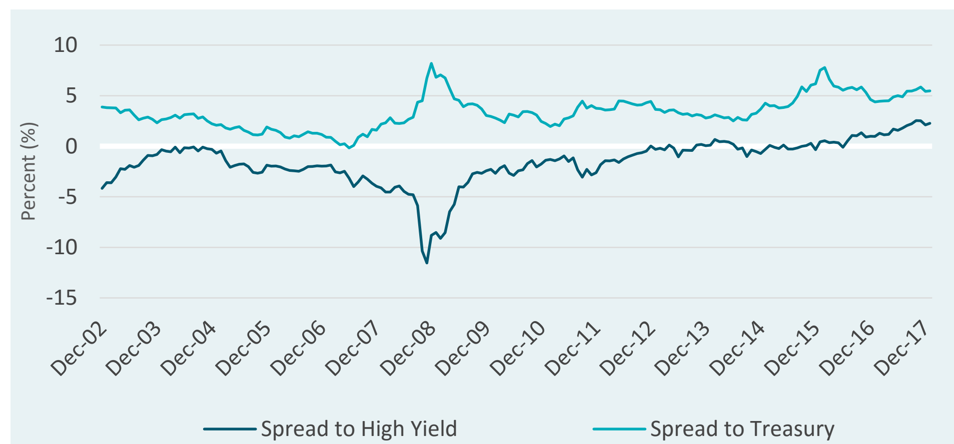
A decision to invest in MLPs, however, is one that should be considered carefully, and after detailed analysis, as it remains a specialist asset class.

MLP YIELDS



Source: Bloomberg, as of 12/31/17

MLP SPREADS VS HIGH YIELD AND TREASURY RATES



Source: Bloomberg, as of 12/31/17

Currency

The U.S. dollar declined further to begin the quarter, but recovered slightly over the past two months. The broad U.S. trade weighted index fell 1.9% in the first quarter. This index was down 8.5% since peaking at the end of 2016.

Dollar depreciation has occurred despite widening short-term interest rate differentials between the U.S. and the rest of the developed world. Typically, higher interest rate differentials result in currency appreciation as investors take advantage of the yield, at least in the short-term.

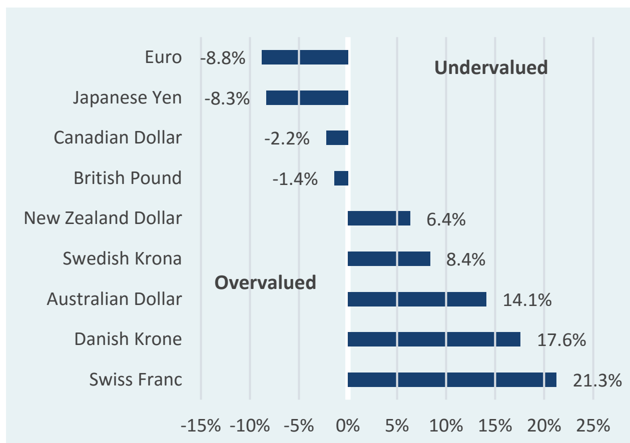
Based on purchasing power parity (PPP), the dollar is overvalued against the currencies with the biggest weights in international equity benchmarks: the euro, yen, and pound.

Unhedged foreign currency exposure added to equity returns over the past year, especially in developed markets. Although currency exposure has been positive lately, it has historically tended to experience large swings that add volatility to portfolios.

U.S. DOLLAR TRADE WEIGHTED INDEX

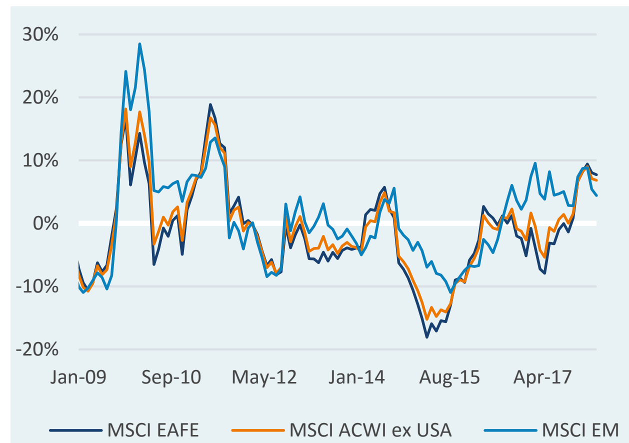
Source: Federal Reserve, as of 3/28/18

CURRENCY VALUATIONS VS USD (PPP)



Source: OECD, as of 3/31/2018 (see appendix)

EFFECT OF CURRENCY (1-YR ROLLING)



Source: MSCI, as of 3/31/18

Appendix

Periodic table of returns

BEST

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	YTD	5-Year	10-Year
Small Cap Growth	38.7	66.4	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	2.3	15.5	11.3
Emerging Markets Equity	27.0	43.1	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.4	13.2	11.0
Large Cap Growth	20.3	33.2	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	1.4	12.9	9.8
Hedge Funds of Funds	19.3	27.3	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	0.9	11.5	9.6
Cash	16.2	26.5	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	0.4	10.8	8.6
60/40 Global Portfolio	15.6	24.3	6.0	2.5	-5.9	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	0.0	10.2	7.8
Real Estate	8.7	21.3	4.1	-2.4	-6.0	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	0.0	10.0	6.1
Small Cap Equity	4.9	20.9	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-0.1	6.5	4.7
Commodities	1.2	13.2	-7.3	-9.1	15.5	25.2	11.4	4.7	13.3	7.0	36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-0.4	6.2	3.6
Large Cap Equity	-2.5	11.4	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-0.7	5.0	3.0
US Bonds	-5.1	7.3	-14.0	-12.4	-20.5	11.6	6.9	4.6	9.1	4.4	38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	5.1	-1.5	3.5	2.7
International Equity	-6.5	4.8	22.4	19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-1.5	1.8	1.6
Small Cap Value	25.3	-0.8	22.4	20.4	27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	13.3	0.1	-2.3	-4.5	14.9	0.5	1.7	-2.6	0.3	0.3
Large Cap Value	27.0	-1.5	30.6	-21.2	30.3	1.0	1.4	2.4	2.1	-9.8	53.2	-16.9	0.1	18.2	-1.1	-9.5	17.0	24.7	0.3	0.9	-2.8	-8.3	-7.7

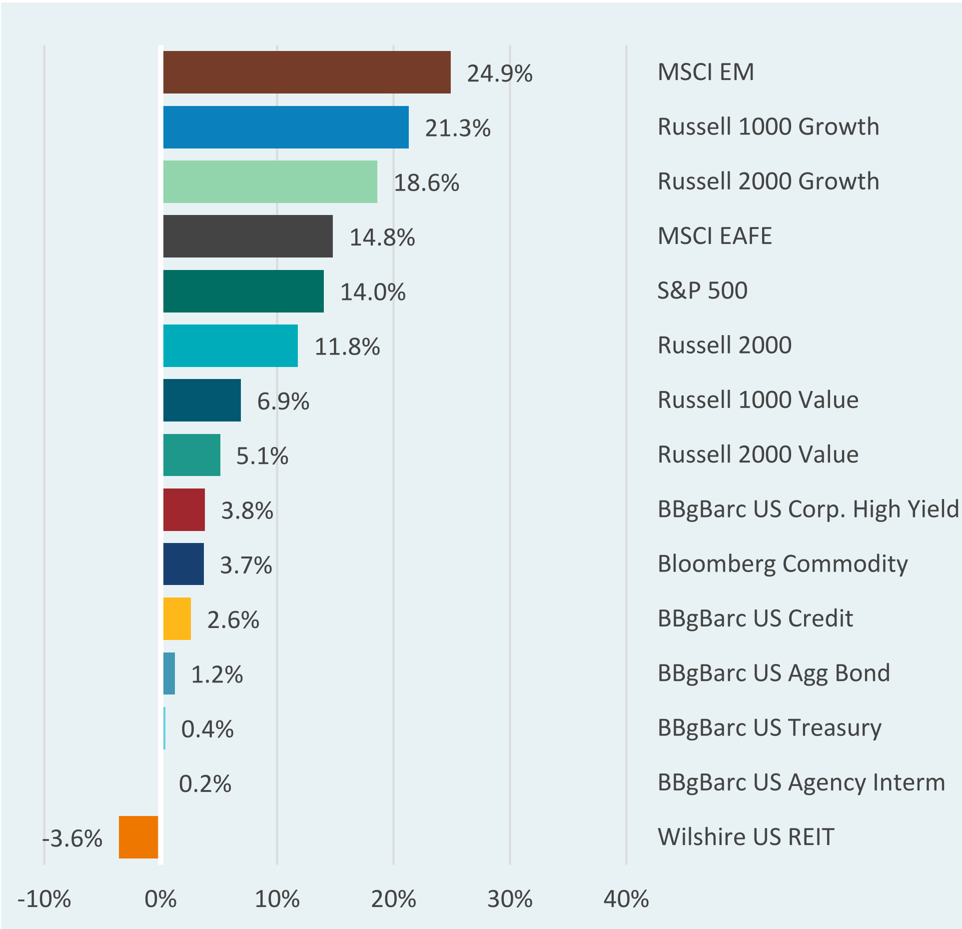
WORST

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

Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 12/31/17.

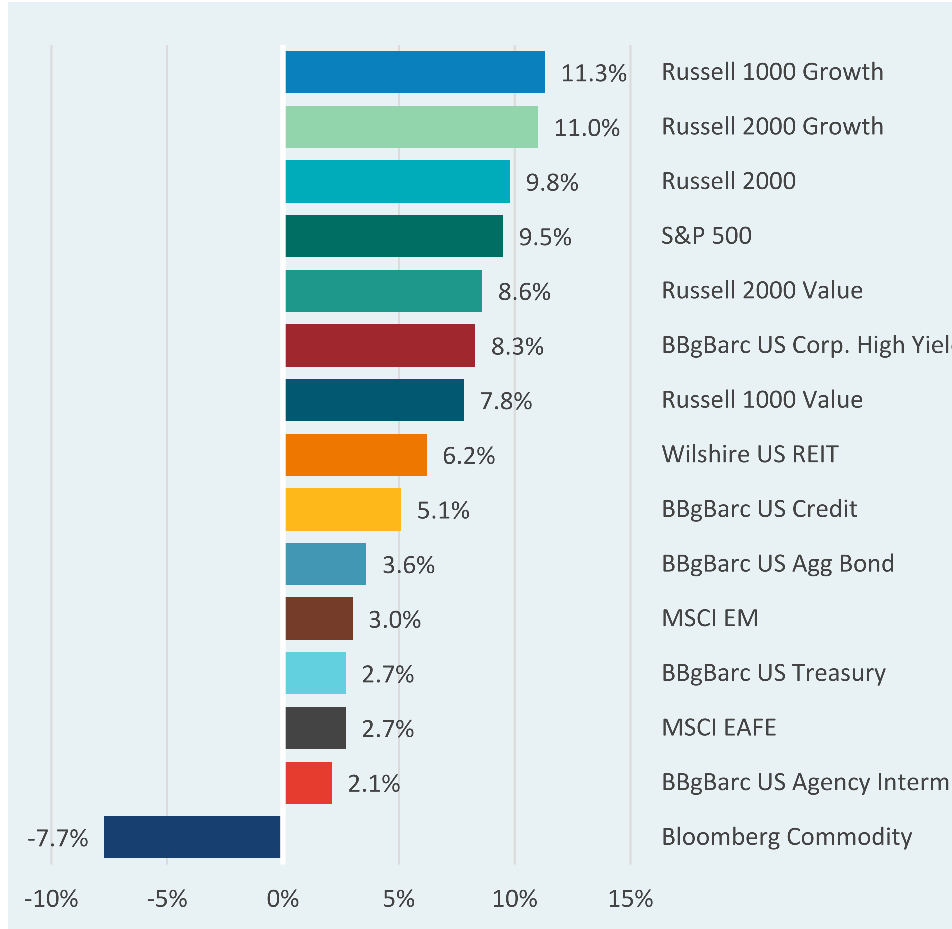
Major asset class returns

ONE YEAR ENDING MARCH



Source: Morningstar, as of 3/31/18

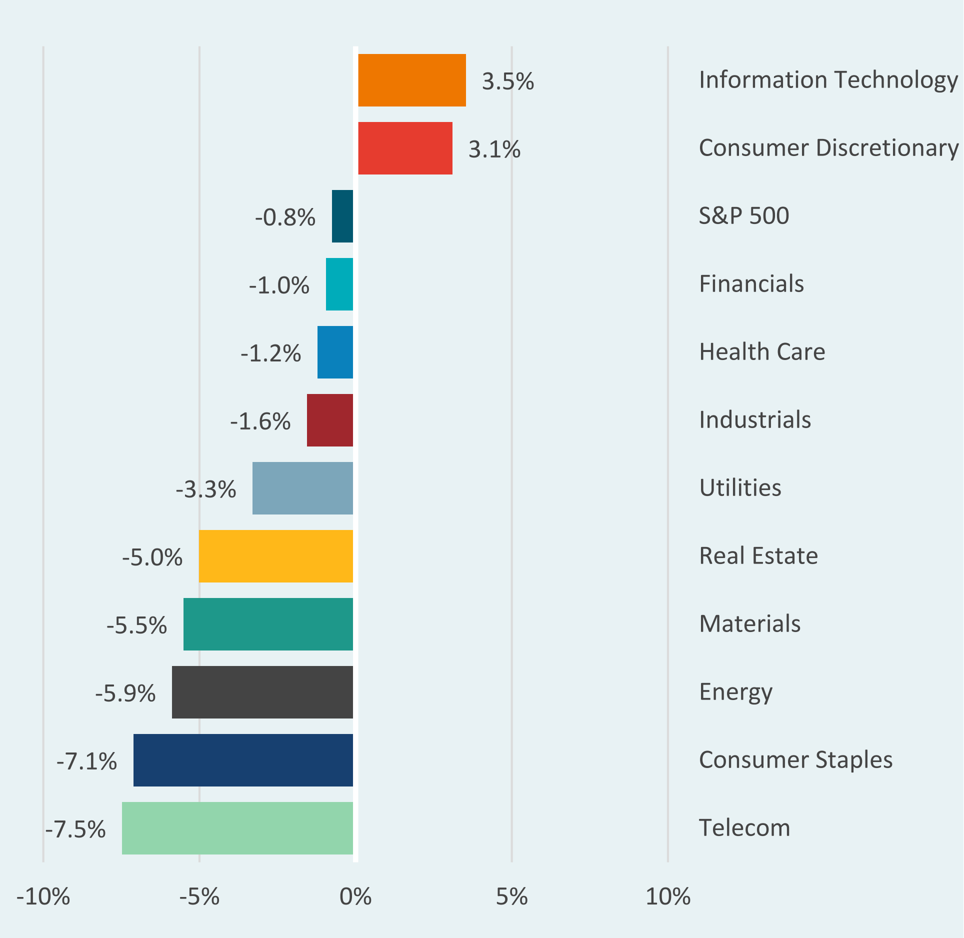
TEN YEARS ENDING MARCH



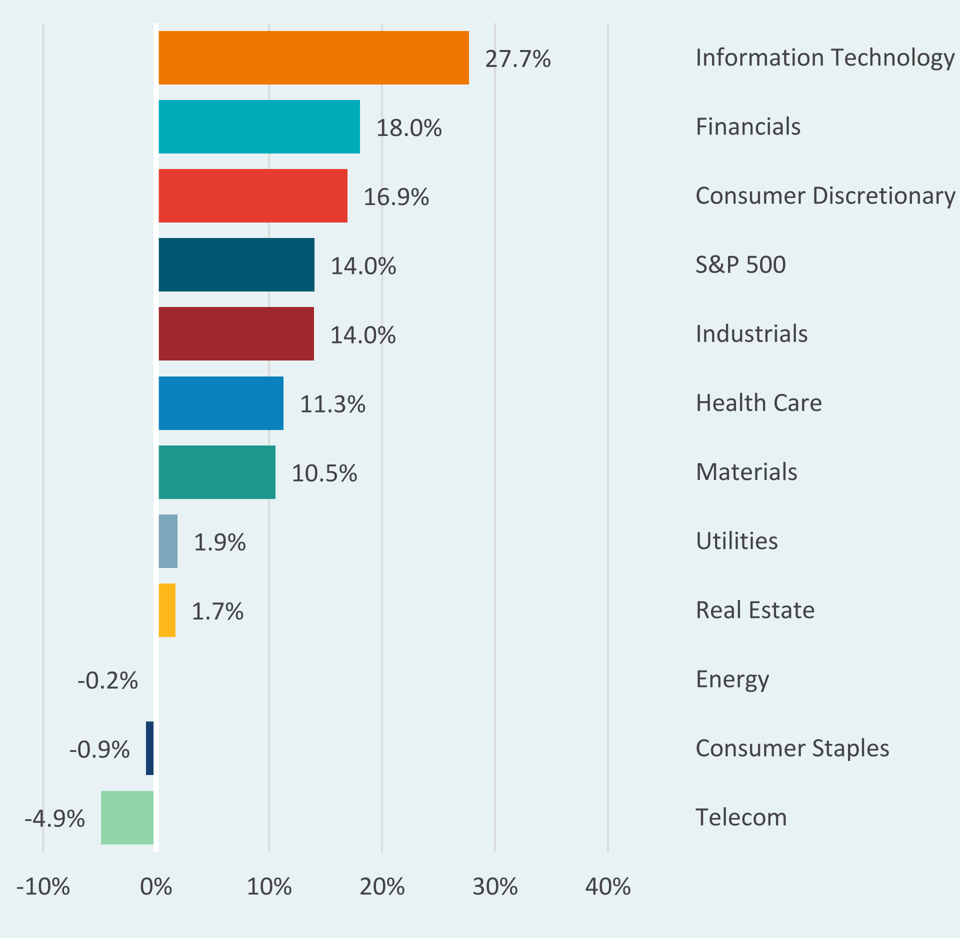
Source: Morningstar, as of 3/31/18

S&P 500 sector returns

1ST QUARTER



ONE YEAR ENDING MARCH



Source: Morningstar, as of 3/31/18

Source: Morningstar, as of 3/31/18

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	(2.5)	(0.8)	(0.8)	14.0	10.8	13.3	9.5
S&P 500 Equal Weighted	(0.9)	(1.0)	(1.0)	11.7	9.1	12.9	11.0
DJ Industrial Average	(3.6)	(2.0)	(2.0)	19.4	13.5	13.3	9.9
Russell Top 200	(3.2)	(0.8)	(0.8)	14.7	11.4	13.6	9.4
Russell 1000	(2.3)	(0.7)	(0.7)	14.0	10.4	13.2	9.6
Russell 2000	1.3	(0.1)	(0.1)	11.8	8.4	11.5	9.8
Russell 3000	(2.0)	(0.6)	(0.6)	13.8	10.2	13.0	9.6
Russell Mid Cap	0.1	(0.5)	(0.5)	12.2	8.0	12.1	10.2
Style Index							
Russell 1000 Growth	(2.7)	1.4	1.4	21.3	12.9	15.5	11.3
Russell 1000 Value	(1.8)	(2.8)	(2.8)	6.9	7.9	10.8	7.8
Russell 2000 Growth	1.3	2.3	2.3	18.6	8.8	12.9	11.0
Russell 2000 Value	1.2	(2.6)	(2.6)	5.1	7.9	10.0	8.6

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
BBgBarc US TIPS	1.1	(0.8)	(0.8)	0.9	1.3	0.0	2.9
BBgBarc US Treasury Bills	0.1	0.3	0.3	1.0	0.5	0.3	0.4
BBgBarc US Agg Bond	0.6	(1.5)	(1.5)	1.2	1.2	1.8	3.6
Duration							
BBgBarc US Treasury 1-3 Yr	0.2	(0.2)	(0.2)	(0.0)	0.4	0.5	1.1
BBgBarc US Treasury Long	3.0	(3.3)	(3.3)	3.5	0.4	3.3	5.8
BBgBarc US Treasury	0.9	(1.2)	(1.2)	0.4	0.4	1.1	2.7
Issuer							
BBgBarc US MBS	0.6	(1.2)	(1.2)	0.8	1.1	1.8	3.5
BBgBarc US Corp. High Yield	(0.6)	(0.9)	(0.9)	3.8	5.2	5.0	8.3
BBgBarc US Agency Interm	0.3	(0.4)	(0.4)	0.2	0.7	0.9	2.1
BBgBarc US Credit	0.3	(2.1)	(2.1)	2.6	2.2	2.8	5.1

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	(2.1)	(1.0)	(1.0)	14.8	8.1	9.2	5.6
MSCI ACWI ex US	(1.8)	(1.2)	(1.2)	16.5	6.2	5.9	2.7
MSCI EAFE	(1.8)	(1.5)	(1.5)	14.8	5.6	6.5	2.7
MSCI EM	(1.9)	1.4	1.4	24.9	8.8	5.0	3.0
MSCI EAFE Small Cap	(1.1)	0.2	0.2	23.5	12.3	11.1	6.5
Style Index							
MSCI EAFE Growth	(1.2)	(1.0)	(1.0)	17.5	6.7	7.1	3.4
MSCI EAFE Value	(2.4)	(2.0)	(2.0)	12.2	4.3	5.8	2.0
Regional Index							
MSCI UK	(0.3)	(3.9)	(3.9)	11.9	3.1	3.9	2.3
MSCI Japan	(2.1)	0.8	0.8	19.6	8.4	8.9	4.1
MSCI Euro	(1.2)	(0.4)	(0.4)	16.1	5.7	8.1	0.7
MSCI EM Asia	(1.4)	0.8	0.8	27.0	9.4	8.4	5.2
MSCI EM Latin American	(1.0)	8.0	8.0	19.3	10.1	(1.9)	(0.8)

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	(0.6)	(0.4)	(0.4)	3.7	(3.2)	(8.3)	(7.7)
Wilshire US REIT	4.1	(7.5)	(7.5)	(3.6)	1.0	6.1	6.2
CS Leveraged Loans	0.3	1.6	1.6	4.6	4.3	4.2	5.4
Regional Index							
JPM EMBI Global Div	0.3	(1.7)	(1.7)	4.3	5.8	4.7	7.0
JPM GBI-EM Global Div	1.0	4.4	4.4	13.0	5.4	(0.7)	3.8
Hedge Funds							
HFRI Composite	(0.7)	0.1	0.1	4.6	2.0	3.9	3.6
HFRI FOF Composite	(0.0)	0.9	0.9	6.2	2.1	3.5	1.6
Currency (Spot)							
Euro	0.8	2.4	2.4	15.0	4.6	(0.9)	(2.5)
Pound	1.8	3.7	3.7	12.2	(1.9)	(1.6)	(3.4)
Yen	0.3	5.9	5.9	4.8	4.1	(2.4)	(0.7)

Source: Morningstar, as of 3/31/18

Definitions

Atlanta Fed Wage Tracker – *a measure of the nominal wage growth of individuals. It is constructed using microdata from the Current Population Survey (CPS), and is the median percent change in the hourly wage of individuals observed 12 months apart. (www.frbatlanta.org)*

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

University of Michigan Consumer Sentiment Index *- A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic 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)*

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)*

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/)*

OECD Purchasing Power Parity *– the rates of currency conversion that equalize the purchasing power of different currencies by eliminating the differences in price levels between countries. In their simplest form, PPPs show the ratio of prices in national currencies of the same good or service in different countries. (www.OECD.org)*

Notices & disclosures

Contra Costa County Employees' Retirement Association

Investment Performance Review

Period Ending: March 31, 2018

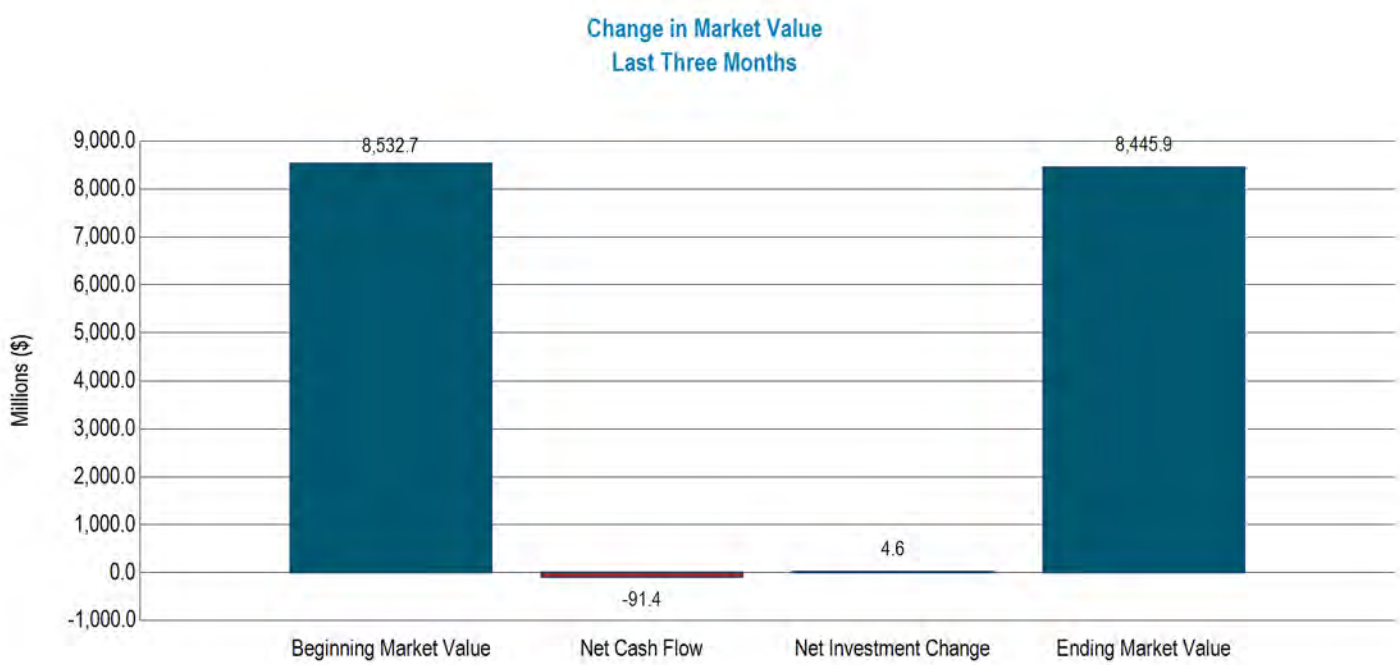
Verus

VERUSINVESTMENTS.COM

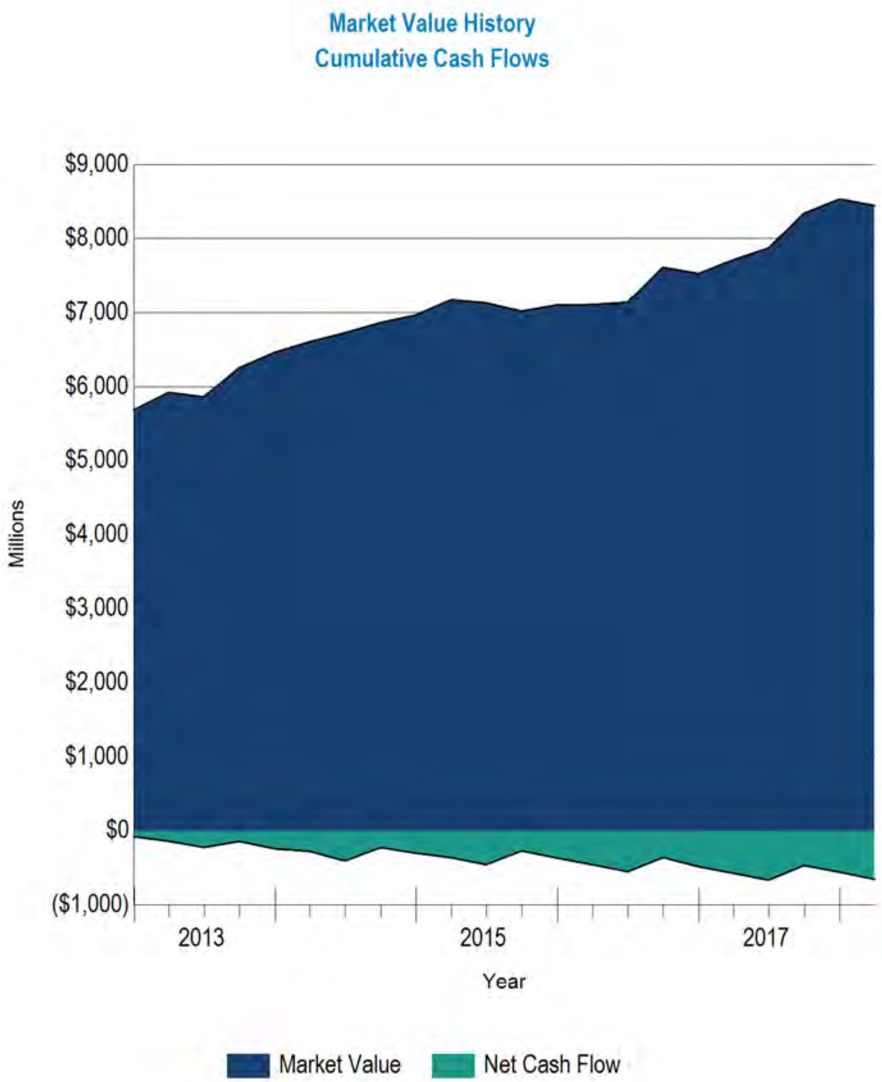
SEATTLE 206-622-3700
LOS ANGELES 310-297-1777
SAN FRANCISCO 415-362-3484

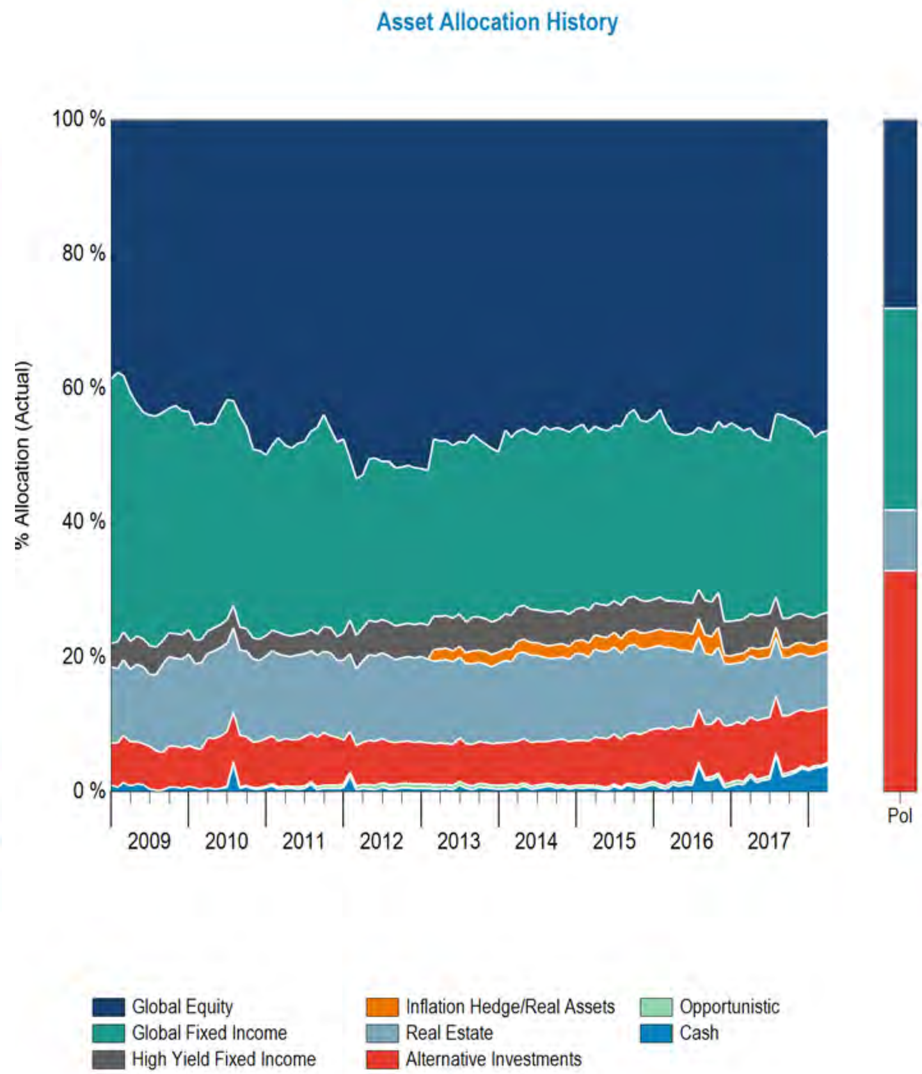
Portfolio Reconciliation

	Last Three Months	Year-To-Date
Beginning Market Value	$8,532,697,023	$8,532,697,023
Net Cash Flow	-$91,377,174	-$91,377,174
Net Investment Change	$4,583,240	$4,583,240
Ending Market Value	$8,445,903,088	$8,445,903,088

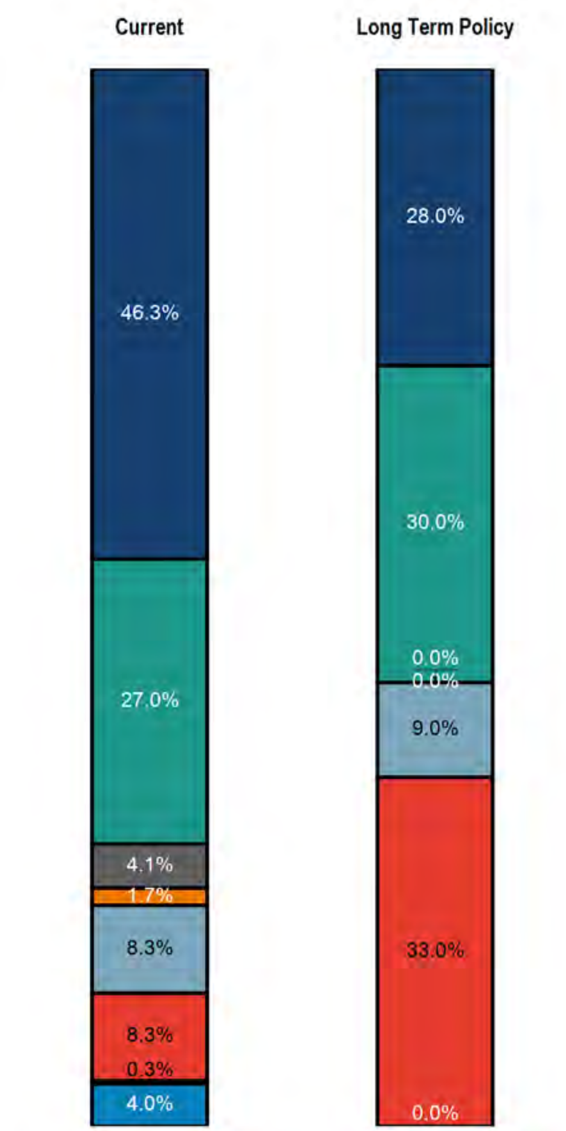


Contributions and withdrawals may include intra-account transfers between managers/funds.





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



Allocation vs. Long Term Target

	Current Balance	Current Allocation	Long Term Target	Difference
Global Equity	$3,910,830,786	46.3%	28.0%	$1,545,977,921
Global Fixed Income	$2,280,651,804	27.0%	30.0%	-$253,119,123
High Yield Fixed Income	$349,782,801	4.1%	0.0%	$349,782,801
Inflation Hedge/Real Assets	$141,109,267	1.7%	0.0%	$141,109,267
Real Estate	$698,521,761	8.3%	9.0%	-$61,609,517
Alternative Investments	$700,082,029	8.3%	33.0%	-$2,087,065,990
Opportunistic	$26,035,088	0.3%	0.0%	$26,035,088
Cash	$338,889,553	4.0%	0.0%	$338,889,553
Total	**$8,445,903,088**	**100.0%**	**100.0%**	

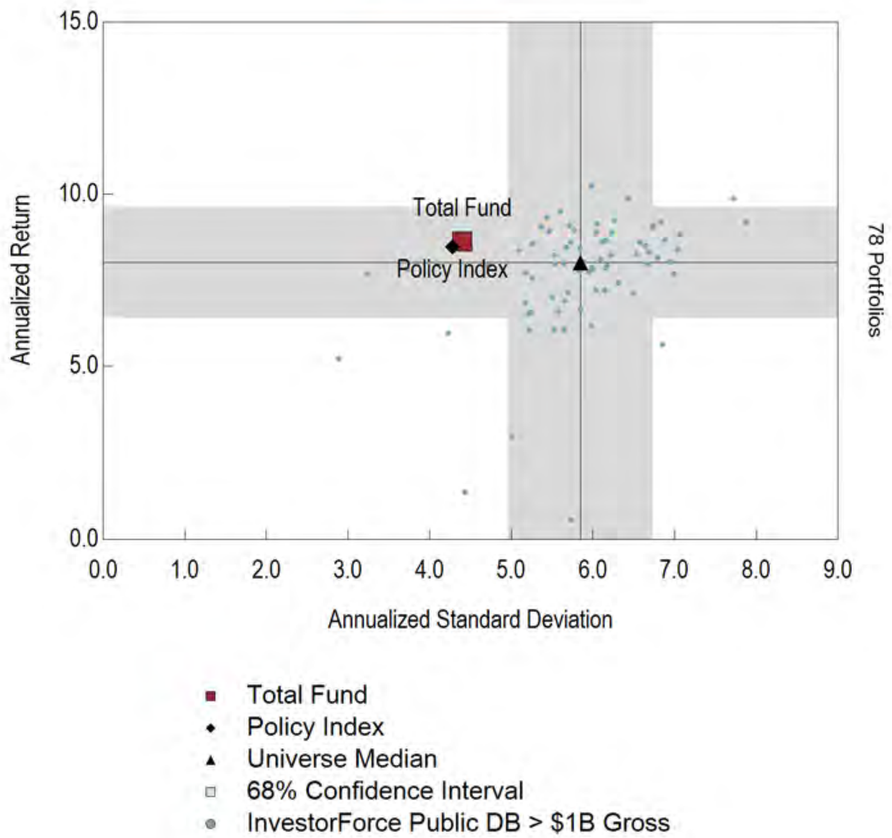
Allocation vs. Current Targets

	Current Balance	Current Allocation	Current Target	Difference
Global Equity	$3,910,830,786	46.3%	44.4%	$160,849,814
Global Fixed Income	$2,280,651,804	27.0%	27.4%	-$33,525,642
High Yield Fixed Income	$349,782,801	4.1%	5.0%	-$72,512,353
Inflation Hedge/Real Assets	$141,109,267	1.7%	3.9%	-$188,280,953
Real Estate	$698,521,761	8.3%	9.2%	-$78,501,323
Alternative Investments	$700,082,029	8.3%	8.2%	$7,517,976
Opportunistic	$26,035,088	0.3%	0.5%	-$16,194,428
Cash	$338,889,553	4.0%	1.4%	$220,646,910
Total	**$8,445,903,088**	**100.0%**	**100.0%**	

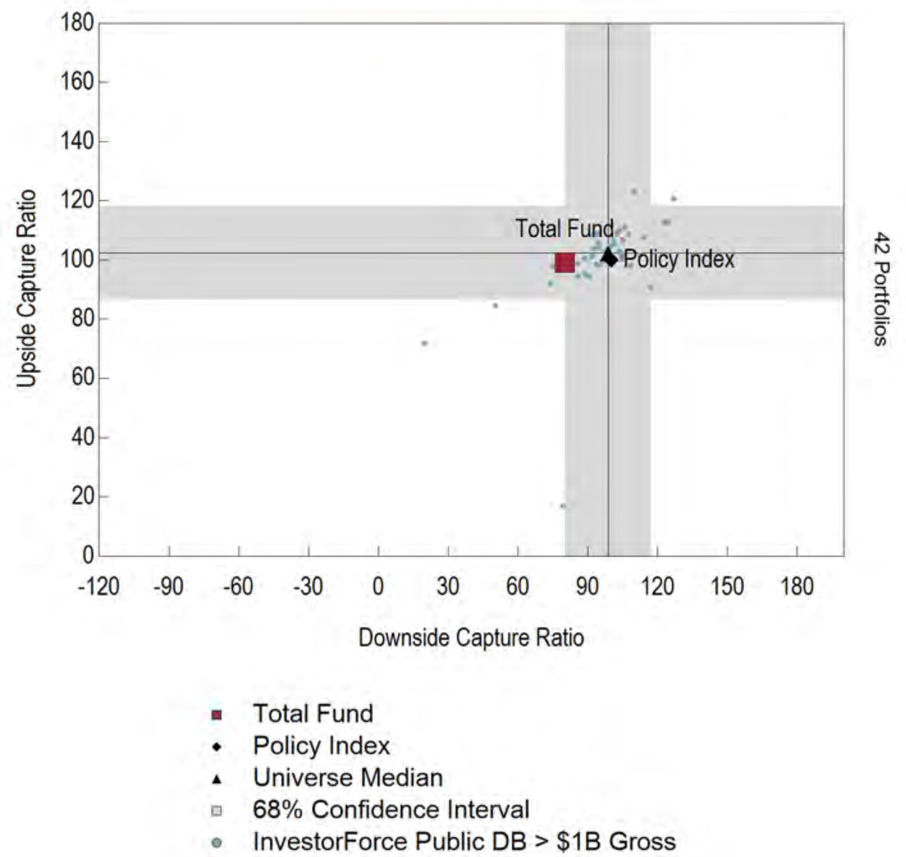
Long Term Targets reflect FFP 4-Yr allocations approved in May 2017.
Current Targets reflect Phase 2a Targets approved in March 2017.

	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	8.62%	0.16%	4.40%	0.19%	1.00	1.08%	0.94	1.88	0.14	99.05%	80.15%

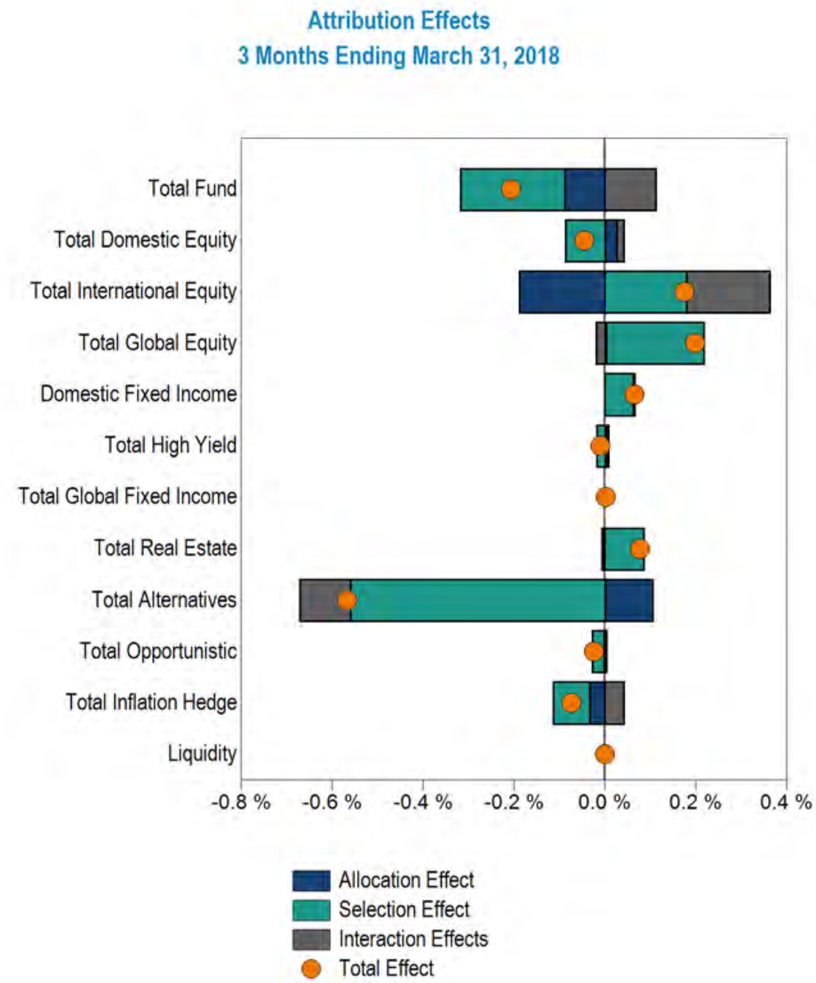
Risk vs. Return



Up Markets vs. Down Markets

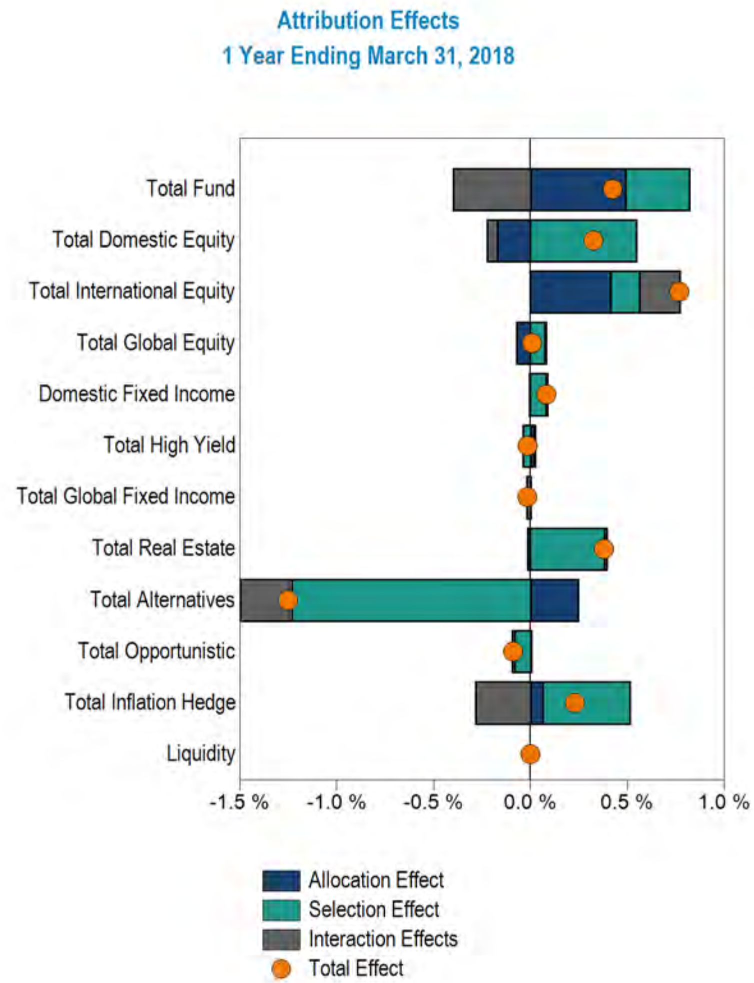


	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	100.0	0.1	10.3	6.7	8.6	7.2
Policy Index		0.3	9.9	6.8	8.5	--
InvestorForce Public DB > $1B Gross Rank		54	71	70	26	11
Total Fund ex Overlay & Cash	96.0	0.1	10.3	6.7	8.6	7.2
Policy Index		0.3	9.9	6.8	8.5	--
InvestorForce Public DB > $1B Gross Rank		49	71	70	26	11
Growth	69.1	0.3	13.9			
Total Domestic Equity	17.3	-1.0	16.3	10.2	13.6	10.5
Russell 3000		-0.6	13.8	10.2	13.0	9.6
InvestorForce Public DB US Eq Gross Rank		86	13	42	12	8
Total International Equity	20.1	0.5	18.5	6.6	7.7	2.6
MSCI ACWI ex USA Gross		-1.1	17.0	6.7	6.4	3.2
MSCI EAFE Gross		-1.4	15.3	6.0	7.0	3.2
InvestorForce Public DB ex-US Eq Gross Rank		14	50	77	32	79
International Equity	11.3	-0.7	16.1	6.1	7.4	2.4
MSCI ACWI ex USA Gross		-1.1	17.0	6.7	6.4	3.2
InvestorForce Public DB ex-US Eq Gross Rank		73	83	90	45	85
Emerging Markets Equity	8.8	2.2	20.3	--	--	--
MSCI Emerging Markets		1.4	24.9	--	--	--
InvestorForce Public DB Emg Mkt Eq Gross Rank		35	71	--	--	--



Policy Index (12/1/2016 -present): 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 22.4% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc US Aggregate, 1.7% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML High Yield Master II, 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%, 1.6% 90-day T-Bills.
Policy Index (4/1/2012-11/30/16): 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 5.4% Wilshire REIT, 6.75% NCREIF Property Index, 1.35% FTSE/EPRA NAREIT Developed exUS, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
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.

	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Global Equity	8.9	1.0	15.6	10.0	10.9	--
MSCI ACWI		*-1.0*	*14.8*	*8.1*	*9.2*	*--*
InvestorForce Public DB Glbl Eq Gross Rank		*2*	*54*	*1*	*41*	*--*
Domestic Fixed Income	1.8	3.0	8.5	4.2	4.6	--
ICE BofAML High Yield Master II +2%		*-0.4*	*5.8*	*7.3*	*7.1*	*--*
Total High Yield	4.1	-1.3	3.0	4.2	4.3	7.9
ICE BofAML High Yield Master II		*-0.9*	*3.7*	*5.2*	*5.0*	*8.1*
eV US High Yield Fixed Inc Gross Rank		*82*	*85*	*78*	*80*	*54*
Total Real Estate	8.3	2.0	10.7	8.1	11.5	6.2
Real Estate Benchmark		*1.0*	*6.6*	*6.3*	*8.7*	*6.9*
NCREIF-ODCE		*2.2*	*8.1*	*10.0*	*11.4*	*5.1*
NCREIF Property Index		*1.7*	*7.1*	*8.7*	*10.0*	*6.1*
Total Alternatives	8.3	0.3	9.6	8.2	12.7	9.6
S&P 500 Index +4% (Lagged)		*7.7*	*26.6*	*15.8*	*20.4*	*12.8*
Total Opportunistic	0.3	1.7	5.2	2.6	6.0	--
CPI + 4%		*2.2*	*6.4*	*5.9*	*5.5*	*--*
Diversifying	**7.7**	**-0.6**	**4.5**			
Diversifying Fixed Income	6.0	-0.8	1.2	1.5	2.2	4.0
eV US Core Fixed Inc Gross Rank		*7*	*79*	*56*	*54*	*72*
Total Inflation Hedge	1.7	0.0	18.1	9.1	5.1	--
CPI + 4%		*2.2*	*6.4*	*5.9*	*5.5*	*--*

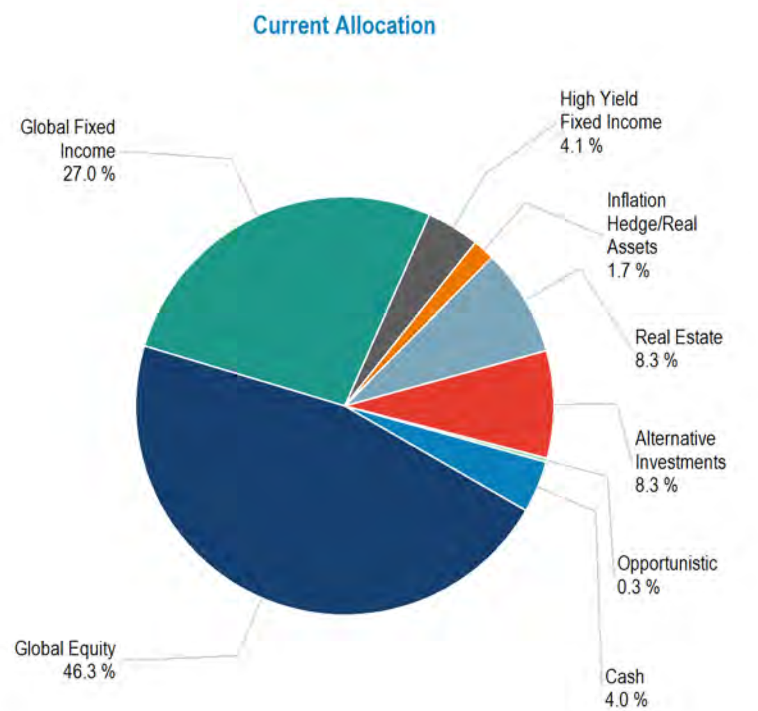


Policy Index (12/1/2016 -present): 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 22.4% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc US Aggregate, 1.7% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML High Yield Master II, 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%, 1.6% 90-day T-Bills.
Policy Index (4/1/2012-11/30/16): 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 5.4% Wilshire REIT, 6.75% NCREIF Property Index, 1.35% FTSE/EPRA NAREIT Developed exUS, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
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.

	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Liquidity	**19.2**	**-0.2**	**0.8**			
BBgBarc US Govt/Credit 1-3 Yr. TR		*-0.2*	*0.2*	--	--	--
eV US Short Duration Fixed Inc Gross Rank		*60*	*48*	--	--	--
Total Cash	**3.4**	**0.3**	**1.0**	**0.7**	**0.6**	
91 Day T-Bills		*0.4*	*1.2*	*0.5*	*0.3*	--

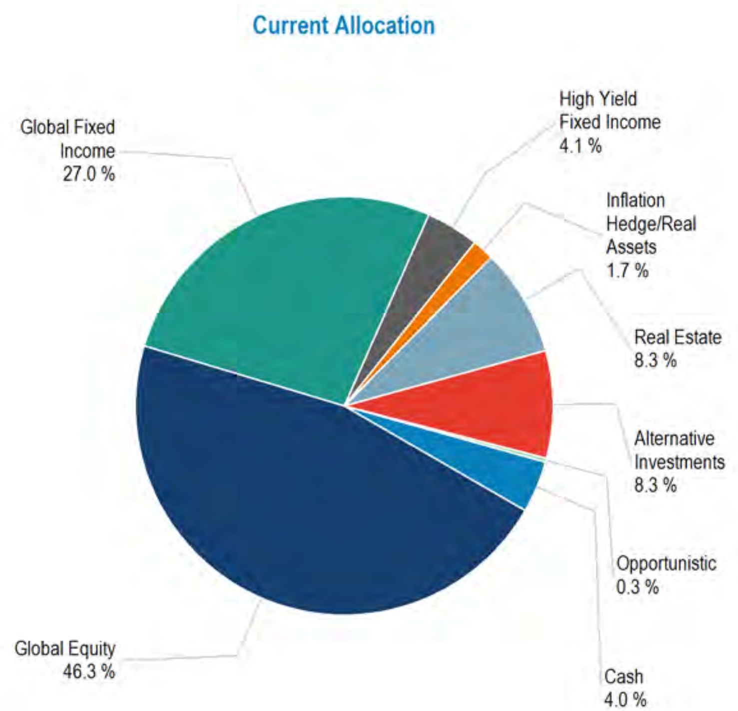
Policy Index (12/1/2016 -present): 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 22.4% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc US Aggregate, 1.7% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML High Yield Master II, 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%, 1.6% 90-day T-Bills.
Policy Index (4/1/2012-11/30/16): 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 5.4% Wilshire REIT, 6.75% NCREIF Property Index, 1.35% FTSE/EPRA NAREIT Developed exUS, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
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.

	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	**100.0**	**0.0**	**10.0**	**6.3**	**8.1**	**6.6**
Policy Index		*0.3*	*9.9*	*6.8*	*8.5*	*--*
Total Fund ex Overlay & Cash	**96.0**	**0.0**	**9.9**	**6.3**	**8.1**	**6.6**
Policy Index		*0.3*	*9.9*	*6.8*	*8.5*	*--*
Growth	**69.1**	**0.2**	**13.5**			
Total Domestic Equity	17.3	-1.1	15.8	9.7	13.1	10.0
Russell 3000		*-0.6*	*13.8*	*10.2*	*13.0*	*9.6*
Total International Equity	20.1	0.4	18.0	6.1	7.3	2.1
MSCI ACWI ex USA Gross		*-1.1*	*17.0*	*6.7*	*6.4*	*3.2*
MSCI EAFE Gross		*-1.4*	*15.3*	*6.0*	*7.0*	*3.2*
International Equity	11.3	-0.8	15.7	5.6	7.0	2.0
MSCI ACWI ex USA Gross		*-1.1*	*17.0*	*6.7*	*6.4*	*3.2*
Emerging Markets Equity	8.8	2.1	19.7	--	--	--
MSCI Emerging Markets		*1.4*	*24.9*	*--*	*--*	*--*
Total Global Equity	8.9	0.8	14.8	9.2	10.2	--
MSCI ACWI		*-1.0*	*14.8*	*8.1*	*9.2*	*--*
Domestic Fixed Income	1.8	3.0	8.5	4.0	4.3	--
ICE BofAML High Yield Master II+2%		*-0.4*	*5.8*	*7.3*	*7.1*	*--*
Total High Yield	4.1	-1.3	2.6	3.8	3.9	7.6
ICE BofAML High Yield Master II		*-0.9*	*3.7*	*5.2*	*5.0*	*8.1*
Total Real Estate	8.3	2.0	10.7	7.6	10.5	5.2
Real Estate Benchmark		*1.0*	*6.6*	*6.3*	*8.7*	*6.9*
NCREIF-ODCE		*2.2*	*8.1*	*10.0*	*11.4*	*5.1*
NCREIF Property Index		*1.7*	*7.1*	*8.7*	*10.0*	*6.1*



Policy Index (12/1/2016 -present): 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 22.4% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc US Aggregate, 1.7% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML High Yield Master II, 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%, 1.6% 90-day T-Bills.
Policy Index (4/1/2012-11/30/16): 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 5.4% Wilshire REIT, 6.75% NCREIF Property Index, 1.35% FTSE/EPRA NAREIT Developed exUS, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
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.

	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Alternatives	8.3	0.3	9.6	7.8	11.5	7.5
S&P 500 Index +4% (Lagged)		*7.7*	*26.6*	*15.8*	*20.4*	*12.8*
Total Opportunistic	0.3	1.7	5.2	2.4	5.8	--
CPI + 4%		*2.2*	*6.4*	*5.9*	*5.5*	--
Diversifying	**7.7**	**-0.7**	**4.3**			
Diversifying Fixed Income	6.0	-0.9	1.0	1.2	1.8	3.6
Total Inflation Hedge	1.7	0.0	18.1	8.5	4.3	--
CPI + 4%		*2.2*	*6.4*	*5.9*	*5.5*	--
Liquidity	**19.2**	**-0.3**	**0.7**			
BBgBarc US Govt/Credit 1-3 Yr. TR		*-0.2*	*0.2*	--	--	--
Total Cash	**3.4**	**0.3**	**1.0**	**0.7**	**0.6**	
91 Day T-Bills		*0.4*	*1.2*	*0.5*	*0.3*	--



Policy Index (12/1/2016 -present): 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 22.4% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc US Aggregate, 1.7% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML High Yield Master II, 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%, 1.6% 90-day T-Bills.
Policy Index (4/1/2012-11/30/16): 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 5.4% Wilshire REIT, 6.75% NCREIF Property Index, 1.35% FTSE/EPRA NAREIT Developed exUS, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
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.

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
Total Fund	**8,445,903,088**	**100.0**	**0.1**	**10.3**	**6.7**	**8.6**	**7.2**	**14.2**	**7.4**	**2.7**	**8.4**	**16.4**
Policy Index			*0.3*	*9.9*	*6.8*	*8.5*	*--*	*13.8*	*8.8*	*0.6*	*9.0*	*15.6*
InvestorForce Public DB > $1B Gross Rank			*54*	*71*	*70*	*26*	*11*	*83*	*74*	*5*	*6*	*33*
Total Fund ex Overlay & Cash	**8,107,013,535**	**96.0**	**0.1**	**10.3**	**6.7**	**8.6**	**7.2**	**14.1**	**7.4**	**2.7**	**8.4**	**16.4**
Policy Index			*0.3*	*9.9*	*6.8*	*8.5*	*--*	*13.8*	*8.8*	*0.6*	*9.0*	*15.6*
InvestorForce Public DB > $1B Gross Rank			*49*	*71*	*70*	*26*	*11*	*84*	*74*	*5*	*6*	*33*
Growth	**5,837,485,248**	**69.1**	**0.3**	**13.9**								
Total Domestic Equity	**1,460,913,006**	**17.3**	**-1.0**	**16.3**	**10.2**	**13.6**	**10.5**	**23.9**	**11.5**	**1.1**	**11.4**	**36.2**
Russell 3000			*-0.6*	*13.8*	*10.2*	*13.0*	*9.6*	*21.1*	*12.7*	*0.5*	*12.6*	*33.6*
InvestorForce Public DB US Eq Gross Rank			*86*	*13*	*42*	*12*	*8*	*6*	*77*	*21*	*50*	*19*
BlackRock Russell 1000 Index	119,150,367	1.4	-0.7	--	--	--	--	--	--	--	--	--
Russell 1000			*-0.7*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
eV US Large Cap Equity Gross Rank			*50*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
Jackson Square Partners	407,118,868	4.8	1.6	22.1	8.9	13.2	10.8	29.3	-4.4	6.1	13.9	35.4
Russell 1000 Growth			*1.4*	*21.3*	*12.9*	*15.5*	*11.3*	*30.2*	*7.1*	*5.7*	*13.0*	*33.5*
eV US Large Cap Growth Equity Gross Rank			*60*	*44*	*91*	*80*	*56*	*47*	*98*	*37*	*31*	*40*
Robeco Boston Partners	397,295,187	4.7	-1.5	13.6	9.3	12.6	10.5	20.1	15.1	-3.9	12.0	37.4
Russell 1000 Value			*-2.8*	*6.9*	*7.9*	*10.8*	*7.8*	*13.7*	*17.3*	*-3.8*	*13.5*	*32.5*
eV US Large Cap Value Equity Gross Rank			*31*	*15*	*37*	*29*	*12*	*23*	*50*	*65*	*55*	*24*
Emerald Advisers	283,871,667	3.4	-1.6	20.8	9.7	15.5	13.5	28.8	10.1	4.1	7.3	50.3
Russell 2000 Growth			*2.3*	*18.6*	*8.8*	*12.9*	*11.0*	*22.2*	*11.3*	*-1.4*	*5.6*	*43.3*
eV US Small Cap Growth Equity Gross Rank			*93*	*51*	*57*	*20*	*22*	*26*	*54*	*19*	*21*	*27*
Ceredex	253,419,337	3.0	-3.6	5.6	9.1	10.9	--	11.4	29.8	-4.4	3.3	36.5
Russell 2000 Value			*-2.6*	*5.1*	*7.9*	*10.0*	*--*	*7.8*	*31.7*	*-7.5*	*4.2*	*34.5*
eV US Small Cap Value Equity Gross Rank			*82*	*71*	*41*	*65*	*--*	*48*	*32*	*52*	*74*	*66*
Total International Equity	**1,695,614,906**	**20.1**	**0.5**	**18.5**	**6.6**	**7.7**	**2.6**	**25.5**	**1.2**	**-1.2**	**0.3**	**17.8**
MSCI ACWI ex USA Gross			*-1.1*	*17.0*	*6.7*	*6.4*	*3.2*	*27.8*	*5.0*	*-5.3*	*-3.4*	*15.8*
MSCI EAFE Gross			*-1.4*	*15.3*	*6.0*	*7.0*	*3.2*	*25.6*	*1.5*	*-0.4*	*-4.5*	*23.3*
InvestorForce Public DB ex-US Eq Gross Rank			*14*	*50*	*77*	*32*	*79*	*90*	*89*	*28*	*5*	*50*
International Equity	**950,723,333**	**11.3**	**-0.7**	**16.1**	**6.1**	**7.4**	**2.4**	**25.3**	**1.2**	**-1.2**	**0.3**	**17.8**
MSCI ACWI ex USA Gross			*-1.1*	*17.0*	*6.7*	*6.4*	*3.2*	*27.8*	*5.0*	*-5.3*	*-3.4*	*15.8*
InvestorForce Public DB ex-US Eq Gross Rank			*73*	*83*	*90*	*45*	*85*	*93*	*89*	*28*	*5*	*50*

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has $17,079 of residual cash. JPM Global has $225,965 of residual cash. Lazard has $31,896 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -$1,255 of residual cash. Intech Global Low Vol has $25,695 of residual cash. PIMCO Stock Plus has $58,835 of residual cash. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
Pyrford	453,344,092	5.4	-2.0	9.9	4.5	--	--	19.8	3.4	-2.9	--	--
MSCI ACWI ex USA Value			*-1.5*	*13.3*	*5.0*	*--*	*--*	*22.7*	*8.9*	*-10.1*	*--*	*--*
eV ACWI ex-US Value Equity Gross Rank			*80*	*84*	*89*	*--*	*--*	*84*	*74*	*59*	*--*	*--*
William Blair	497,379,241	5.9	0.4	22.4	7.4	8.1	--	30.9	-1.4	0.5	-1.2	20.9
MSCI ACWI ex USA Growth			*-0.9*	*19.9*	*7.3*	*6.8*	*--*	*32.0*	*0.1*	*-1.3*	*-2.6*	*15.5*
eV ACWI ex-US Growth Equity Gross Rank			*67*	*70*	*89*	*88*	*--*	*81*	*55*	*69*	*37*	*44*
Emerging Markets Equity	**744,891,573**	**8.8**	**2.2**	**20.3**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
MSCI Emerging Markets			*1.4*	*24.9*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
InvestorForce Public DB Emg Mkt Eq Gross Rank			*35*	*71*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
PIMCO RAE Emerging Markets	382,799,181	4.5	3.3	19.9	--	--	--	--	--	--	--	--
MSCI Emerging Markets			*1.4*	*24.9*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
eV Emg Mkts Equity Gross Rank			*14*	*79*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
TT Emerging Markets	362,092,392	4.3	1.0	--	--	--	--	--	--	--	--	--
MSCI Emerging Markets			*1.4*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
eV Emg Mkts Equity Gross Rank			*67*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
Total Global Equity	**754,302,873**	**8.9**	**1.0**	**15.6**	**10.0**	**10.9**	**--**	**23.7**	**7.6**	**2.2**	**5.2**	**23.7**
MSCI ACWI			*-1.0*	*14.8*	*8.1*	*9.2*	*--*	*24.0*	*7.9*	*-2.4*	*4.2*	*22.8*
InvestorForce Public DB Glbl Eq Gross Rank			*2*	*54*	*1*	*41*	*--*	*79*	*40*	*16*	*41*	*64*
Artisan Partners	392,301,901	4.6	3.2	24.0	14.5	14.3	--	32.9	5.6	9.2	3.9	26.1
MSCI ACWI			*-1.0*	*14.8*	*8.1*	*9.2*	*--*	*24.0*	*7.9*	*-2.4*	*4.2*	*22.8*
eV All Global Equity Gross Rank			*7*	*10*	*5*	*8*	*--*	*11*	*61*	*4*	*56*	*51*
First Eagle	361,749,312	4.3	-1.3	7.6	7.5	8.1	--	15.1	11.7	0.2	4.5	17.9
MSCI ACWI			*-1.0*	*14.8*	*8.1*	*9.2*	*--*	*24.0*	*7.9*	*-2.4*	*4.2*	*22.8*
eV All Global Equity Gross Rank			*59*	*89*	*68*	*79*	*--*	*89*	*19*	*49*	*51*	*80*
Domestic Fixed Income	**152,200,887**	**1.8**	**3.0**	**8.5**	**4.2**	**4.6**	**--**	**7.5**	**2.6**	**1.7**	**7.4**	**2.0**
ICE BofAML High Yield Master II +2%			*-0.4*	*5.8*	*7.3*	*7.1*	*--*	*9.6*	*19.8*	*-2.7*	*4.5*	*9.6*
Total High Yield	**349,782,801**	**4.1**	**-1.3**	**3.0**	**4.2**	**4.3**	**7.9**	**6.5**	**14.3**	**-3.5**	**1.2**	**8.8**
ICE BofAML High Yield Master II			*-0.9*	*3.7*	*5.2*	*5.0*	*8.1*	*7.5*	*17.5*	*-4.6*	*2.5*	*7.4*
eV US High Yield Fixed Inc Gross Rank			*82*	*85*	*78*	*80*	*54*	*74*	*47*	*68*	*83*	*28*

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has $17,079 of residual cash. JPM Global has $225,965 of residual cash. Lazard has $31,896 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -$1,255 of residual cash. Intech Global Low Vol has $25,695 of residual cash. PIMCO Stock Plus has $58,835 of residual cash. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
Allianz Global Investors	349,782,801	4.1	-1.3	3.0	4.2	4.3	7.9	6.5	14.3	-3.5	1.2	8.8
ICE BofAML High Yield Master II			*-0.9*	*3.7*	*5.2*	*5.0*	*8.1*	*7.5*	*17.5*	*-4.6*	*2.5*	*7.4*
eV US High Yield Fixed Inc Gross Rank			*82*	*85*	*78*	*80*	*54*	*74*	*47*	*68*	*83*	*28*
Total Real Estate	**698,521,761**	**8.3**	**2.0**	**10.7**	**8.1**	**11.5**	**6.2**	**11.1**	**5.5**	**13.5**	**20.6**	**10.5**
Real Estate Benchmark			*1.0*	*6.6*	*6.3*	*8.7*	*6.9*	*7.1*	*6.7*	*8.3*	*18.8*	*7.1*
NCREIF-ODCE			*2.2*	*8.1*	*10.0*	*11.4*	*5.1*	*7.6*	*8.8*	*15.0*	*12.5*	*13.9*
NCREIF Property Index			*1.7*	*7.1*	*8.7*	*10.0*	*6.1*	*7.0*	*8.0*	*13.3*	*11.8*	*11.0*
Adelante	63,257,765	0.7	-6.5	0.0	1.3	7.6	6.1	7.8	4.1	5.1	33.4	3.6
Wilshire REIT			*-7.5*	*-3.6*	*1.0*	*6.1*	*6.2*	*4.2*	*7.2*	*4.2*	*31.8*	*1.9*
Total Alternatives	**700,082,029**	**8.3**	**0.3**	**9.6**	**8.2**	**12.7**	**9.6**	**10.9**	**9.0**	**13.3**	**17.3**	**15.0**
S&P 500 Index +4% (Lagged)			*7.7*	*26.6*	*15.8*	*20.4*	*12.8*	*23.3*	*20.0*	*3.4*	*24.5*	*24.0*
Total Opportunistic	**26,035,088**	**0.3**	**1.7**	**5.2**	**2.6**	**6.0**	**--**	**11.6**	**10.1**	**-12.2**	**8.7**	**16.8**
CPI + 4%			*2.2*	*6.4*	*5.9*	*5.5*	*--*	*6.2*	*6.2*	*4.8*	*4.8*	*5.6*
Diversifying	**651,079,191**	**7.7**	**-0.6**	**4.5**								
Diversifying Fixed Income	**509,969,924**	**6.0**	**-0.8**	**1.2**	**1.5**	**2.2**	**4.0**	**2.8**	**2.8**	**1.6**	**6.6**	**-1.9**
eV US Core Fixed Inc Gross Rank			*7*	*79*	*56*	*54*	*72*	*96*	*72*	*15*	*25*	*78*
AFL-CIO	320,733,542	3.8	-1.2	1.5	1.5	2.2	4.1	3.6	2.4	1.6	6.6	-1.9
BBgBarc US Aggregate TR			*-1.5*	*1.2*	*1.2*	*1.8*	*3.6*	*3.5*	*2.6*	*0.6*	*6.0*	*-2.0*
eV US Core Fixed Inc Gross Rank			*25*	*64*	*57*	*54*	*69*	*76*	*87*	*15*	*25*	*78*
Wellington Real Total Return	189,236,383	2.2	-0.1	1.2	-2.6	-1.5	--	1.9	-0.1	-4.9	-2.5	--
CPI + 4%			*2.2*	*6.4*	*5.9*	*5.5*	*--*	*6.2*	*6.2*	*4.8*	*4.8*	*--*
Total Inflation Hedge	**141,109,267**	**1.7**	**0.0**	**18.1**	**9.1**	**5.1**	**--**	**19.6**	**14.9**	**-5.3**	**-0.6**	**1.3**
CPI + 4%			*2.2*	*6.4*	*5.9*	*5.5*	*--*	*6.2*	*6.2*	*4.8*	*4.8*	*5.6*
Liquidity	**1,618,449,096**	**19.2**	**-0.2**	**0.8**				**1.5**				
BBgBarc US Govt/Credit 1-3 Yr. TR			*-0.2*	*0.2*	*--*	*--*	*--*	*0.8*	*--*	*--*	*--*	*--*
eV US Short Duration Fixed Inc Gross Rank			*60*	*48*	*--*	*--*	*--*	*50*	*--*	*--*	*--*	*--*

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has $17,079 of residual cash. JPM Global has $225,965 of residual cash. Lazard has $31,896 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -$1,255 of residual cash. Intech Global Low Vol has $25,695 of residual cash. PIMCO Stock Plus has $58,835 of residual cash. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
DFA Short Credit	366,956,381	4.3	-0.7	0.4	--	--	--	1.9	--	--	--	--
ICE BofAML 1-5 Yrs US Corp & Govt TR			*-0.5*	*0.2*	--	--	--	*1.3*	--	--	--	--
eV US Short Duration Fixed Inc Gross Rank			*99*	*84*	--	--	--	*26*	--	--	--	--
Insight Short Duration	765,466,226	9.1	-0.2	0.8	--	--	--	1.5	--	--	--	--
BBgBarc US Govt/Credit 1-3 Yr. TR			*-0.2*	*0.2*	--	--	--	*0.8*	--	--	--	--
eV US Short Duration Fixed Inc Gross Rank			*41*	*43*	--	--	--	*50*	--	--	--	--
Sit Short Duration	486,026,489	5.8	0.0	1.0	--	--	--	1.3	--	--	--	--
BBgBarc US Govt 1-3 Yr TR			*-0.1*	*0.0*	--	--	--	*0.4*	--	--	--	--
eV US Short Duration Fixed Inc Gross Rank			*16*	*31*	--	--	--	*68*	--	--	--	--
Total Cash	**286,129,622**	**3.4**	**0.3**	**1.0**	**0.7**	**0.6**		**0.9**	**0.9**	**0.1**	**-3.0**	**8.8**
91 Day T-Bills			*0.4*	*1.2*	*0.5*	*0.3*	--	*0.9*	*0.3*	*0.0*	*0.0*	*0.0*
Cash	286,129,622	3.4	0.3	1.0	0.7	1.4	3.2	0.9	0.9	0.1	1.4	4.5

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has $17,079 of residual cash. JPM Global has $225,965 of residual cash. Lazard has $31,896 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -$1,255 of residual cash. Intech Global Low Vol has $25,695 of residual cash. PIMCO Stock Plus has $58,835 of residual cash. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund
Performance Summary (Net of Fees) — Period Ending: March 31, 2018

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
Total Fund	**8,445,903,088**	**100.0**	**0.0**	**10.0**	**6.3**	**8.1**	**6.6**	**13.9**	**6.9**	**2.1**	**7.7**	**15.6**
Policy Index			*0.3*	*9.9*	*6.8*	*8.5*	*--*	*13.8*	*8.8*	*0.6*	*9.0*	*15.6*
Total Fund ex Overlay & Cash	**8,107,013,535**	**96.0**	**0.0**	**9.9**	**6.3**	**8.1**	**6.6**	**13.8**	**6.9**	**2.1**	**7.7**	**15.6**
Policy Index			*0.3*	*9.9*	*6.8*	*8.5*	*--*	*13.8*	*8.8*	*0.6*	*9.0*	*15.6*
Growth	**5,837,485,248**	**69.1**	**0.2**	**13.5**								
Total Domestic Equity	**1,460,913,006**	**17.3**	**-1.1**	**15.8**	**9.7**	**13.1**	**10.0**	**23.5**	**11.1**	**0.6**	**11.0**	**35.7**
Russell 3000			*-0.6*	*13.8*	*10.2*	*13.0*	*9.6*	*21.1*	*12.7*	*0.5*	*12.6*	*33.6*
BlackRock Russell 1000 Index	119,150,367	1.4	-0.7	--	--	--	--	--	--	--	--	--
Russell 1000			*-0.7*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
Jackson Square Partners	407,118,868	4.8	1.5	21.6	8.4	12.8	10.3	28.7	-4.8	5.6	13.4	35.0
Russell 1000 Growth			*1.4*	*21.3*	*12.9*	*15.5*	*11.3*	*30.2*	*7.1*	*5.7*	*13.0*	*33.5*
Robeco Boston Partners	397,295,187	4.7	-1.6	13.2	8.9	12.2	10.1	19.7	14.7	-4.2	11.6	37.0
Russell 1000 Value			*-2.8*	*6.9*	*7.9*	*10.8*	*7.8*	*13.7*	*17.3*	*-3.8*	*13.5*	*32.5*
Emerald Advisers	283,871,667	3.4	-1.7	20.1	9.1	14.8	12.8	28.0	9.4	3.5	6.6	49.4
Russell 2000 Growth			*2.3*	*18.6*	*8.8*	*12.9*	*11.0*	*22.2*	*11.3*	*-1.4*	*5.6*	*43.3*
Ceredex	253,419,337	3.0	-3.8	5.0	8.4	10.2	--	10.7	29.1	-5.0	2.7	35.8
Russell 2000 Value			*-2.6*	*5.1*	*7.9*	*10.0*	*--*	*7.8*	*31.7*	*-7.5*	*4.2*	*34.5*
Total International Equity	**1,695,614,906**	**20.1**	**0.4**	**18.0**	**6.1**	**7.3**	**2.1**	**25.0**	**0.8**	**-1.6**	**0.0**	**17.4**
MSCI ACWI ex USA Gross			*-1.1*	*17.0*	*6.7*	*6.4*	*3.2*	*27.8*	*5.0*	*-5.3*	*-3.4*	*15.8*
MSCI EAFE Gross			*-1.4*	*15.3*	*6.0*	*7.0*	*3.2*	*25.6*	*1.5*	*-0.4*	*-4.5*	*23.3*
International Equity	**950,723,333**	**11.3**	**-0.8**	**15.7**	**5.6**	**7.0**	**2.0**	**24.8**	**0.8**	**-1.6**	**0.0**	**17.4**
MSCI ACWI ex USA Gross			*-1.1*	*17.0*	*6.7*	*6.4*	*3.2*	*27.8*	*5.0*	*-5.3*	*-3.4*	*15.8*
Pyrford	453,344,092	5.4	-2.1	9.5	4.1	--	--	19.3	3.0	-3.3	--	--
MSCI ACWI ex USA Value			*-1.5*	*13.3*	*5.0*	*--*	*--*	*22.7*	*8.9*	*-10.1*	*--*	*--*
William Blair	497,379,241	5.9	0.3	22.0	7.0	7.7	--	30.4	-1.8	0.0	-1.7	20.4
MSCI ACWI ex USA Growth			*-0.9*	*19.9*	*7.3*	*6.8*	*--*	*32.0*	*0.1*	*-1.3*	*-2.6*	*15.5*
Emerging Markets Equity	**744,891,573**	**8.8**	**2.1**	**19.7**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
MSCI Emerging Markets			*1.4*	*24.9*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
PIMCO RAE Emerging Markets	382,799,181	4.5	3.3	19.4	--	--	--	--	--	--	--	--
MSCI Emerging Markets			*1.4*	*24.9*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
TT Emerging Markets	362,092,392	4.3	0.9	--	--	--	--	--	--	--	--	--
MSCI Emerging Markets			*1.4*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
Total Global Equity	**754,302,873**	**8.9**	**0.8**	**14.8**	**9.2**	**10.2**	**--**	**22.8**	**6.9**	**1.6**	**4.5**	**22.9**
MSCI ACWI			*-1.0*	*14.8*	*8.1*	*9.2*	*--*	*24.0*	*7.9*	*-2.4*	*4.2*	*22.8*

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has $17,079 of residual cash. JPM Global has $225,965 of residual cash. Lazard has $31,896 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -$1,255 of residual cash. Intech Global Low Vol has $25,695 of residual cash. PIMCO Stock Plus has $58,835 of residual cash.

Performance Summary (Net of Fees)

Period Ending: March 31, 2018

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
Artisan Partners	392,301,901	4.6	3.0	23.0	13.7	13.4	--	31.9	4.8	8.4	3.1	25.2
MSCI			*-1.0*	*14.8*	*8.1*	*9.2*	--	*24.0*	*7.9*	*-2.4*	*4.2*	*22.8*
First Eagle	361,749,312	4.3	-1.5	6.8	6.7	7.3	--	14.3	10.9	-0.6	3.7	17.1
MSCI ACWI			*-1.0*	*14.8*	*8.1*	*9.2*	--	*24.0*	*7.9*	*-2.4*	*4.2*	*22.8*
Domestic Fixed Income	**152,200,887**	**1.8**	**3.0**	**8.5**	**4.0**	**4.3**	**--**	**7.5**	**2.1**	**1.4**	**6.9**	**1.6**
ICE BofAML High Yield Master II +2%			*-0.4*	*5.8*	*7.3*	*7.1*	--	*9.6*	*19.8*	*-2.7*	*4.5*	*9.6*
Total High Yield	**349,782,801**	4.1	**-1.3**	**2.6**	**3.8**	**3.9**	**7.6**	**6.1**	**13.9**	**-3.9**	**0.8**	**8.4**
ICE BofAML High Yield Master II			*-0.9*	*3.7*	*5.2*	*5.0*	*8.1*	*7.5*	*17.5*	*-4.6*	*2.5*	*7.4*
Allianz Global Investors	349,782,801	4.1	-1.3	2.6	3.8	3.9	7.4	6.1	13.9	-3.9	0.8	8.4
ICE BofAML High Yield Master II			*-0.9*	*3.7*	*5.2*	*5.0*	*8.1*	*7.5*	*17.5*	*-4.6*	*2.5*	*7.4*
Total Real Estate	**698,521,761**	**8.3**	**2.0**	**10.7**	**7.6**	**10.5**	**5.2**	**11.0**	**4.8**	**12.4**	**19.1**	**8.9**
Real Estate Benchmark			*1.0*	*6.6*	*6.3*	*8.7*	*6.9*	*7.1*	*6.7*	*8.3*	*18.8*	*7.1*
NCREIF-ODCE			*2.2*	*8.1*	*10.0*	*11.4*	*5.1*	*7.6*	*8.8*	*15.0*	*12.5*	*13.9*
NCREIF Property Index			*1.7*	*7.1*	*8.7*	*10.0*	*6.1*	*7.0*	*8.0*	*13.3*	*11.8*	*11.0*
Adelante	63,257,765	0.7	-6.6	-0.5	0.8	7.1	5.5	7.2	3.6	4.6	32.7	3.0
Wilshire REIT			*-7.5*	*-3.6*	*1.0*	*6.1*	*6.2*	*4.2*	*7.2*	*4.2*	*31.8*	*1.9*
Total Alternatives	**700,082,029**	**8.3**	**0.3**	**9.6**	**7.8**	**11.5**	**7.5**	**10.9**	**8.6**	**11.7**	**15.2**	**12.7**
S&P 500 Index +4% (Lagged)			*7.7*	*26.6*	*15.8*	*20.4*	*12.8*	*23.3*	*20.0*	*3.4*	*24.5*	*24.0*
Total Opportunistic	**26,035,088**	**0.3**	**1.7**	**5.2**	**2.4**	**5.8**	**--**	**11.6**	**9.5**	**-12.3**	**8.7**	**16.8**
CPI + 4%			*2.2*	*6.4*	*5.9*	*5.5*	--	*6.2*	*6.2*	*4.8*	*4.8*	*5.6*
Diversifying	**651,079,191**	**7.7**	**-0.7**	**4.3**								
Diversifying Fixed Income	**509,969,924**	**6.0**	**-0.9**	**1.0**	**1.2**	**1.8**	**3.6**	**2.6**	**2.3**	**1.1**	**6.1**	**-2.4**
AFL-CIO	320,733,542	3.8	-1.3	1.0	1.1	1.7	3.6	3.2	1.9	1.1	6.1	-2.4
BBgBarc US Aggregate TR			*-1.5*	*1.2*	*1.2*	*1.8*	*3.6*	*3.5*	*2.6*	*0.6*	*6.0*	*-2.0*
Wellington Real Total Return	189,236,383	2.2	-0.1	1.2	-3.0	-1.9	--	1.9	-0.6	-5.4	-3.1	--
CPI + 4%			*2.2*	*6.4*	*5.9*	*5.5*	--	*6.2*	*6.2*	*4.8*	*4.8*	--
Total Inflation Hedge	**141,109,267**	**1.7**	**0.0**	**18.1**	**8.5**	**4.3**	**--**	**19.6**	**13.7**	**-6.7**	**-1.5**	**0.3**
CPI + 4%			*2.2*	*6.4*	*5.9*	*5.5*	--	*6.2*	*6.2*	*4.8*	*4.8*	*5.6*
Liquidity	**1,618,449,096**	**19.2**	**-0.3**	**0.7**				**1.4**				
BBgBarc US Govt/Credit 1-3 Yr. TR			*-0.2*	*0.2*	--	--	--	*0.8*	--	--	--	--
DFA Short Credit	366,956,381	4.3	-0.8	0.3	--	--	--	1.8	--	--	--	--
ICE BofAML 1-5 Yrs US Corp & Govt TR			*-0.5*	*0.2*	--	--	--	*1.3*	--	--	--	--

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has $17,079 of residual cash. JPM Global has $225,965 of residual cash. Lazard has $31,896 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -$1,255 of residual cash. Intech Global Low Vol has $25,695 of residual cash. PIMCO Stock Plus has $58,835 of residual cash.

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013
Insight Short Duration	765,466,226	9.1	-0.2	0.8	--	--	--	1.5	--	--	--	--
BBgBarc US Govt/Credit 1-3 Yr. TR			*-0.2*	*0.2*	--	--	--	*0.8*	--	--	--	--
Sit Short Duration	486,026,489	5.8	0.0	0.8	--	--	--	1.1	--	--	--	--
BBgBarc US Govt 1-3 Yr TR			*-0.1*	*0.0*	--	--	--	*0.4*	--	--	--	--
Total Cash	**286,129,622**	**3.4**	**0.3**	**1.0**	**0.7**	**0.6**		**0.9**	**0.9**	**0.1**	**-3.0**	**8.8**
91 Day T-Bills			*0.4*	*1.2*	*0.5*	*0.3*	--	*0.9*	*0.3*	*0.0*	*0.0*	*0.0*
Cash	286,129,622	3.4	0.3	1.0	0.7	1.4	2.8	0.9	0.9	0.1	1.4	4.5

Individual closed end funds are not shown in performance summary table. PIMCO RAE EM funded 2/28/2017. JPM Global liquidated 2/28/2017. BlackRock Russell 1000 funded 4/20/2017. Goldman Sachs has $17,079 of residual cash. JPM Global has $225,965 of residual cash. Lazard has $31,896 of residual cash. TT Emerging Markets funded 7/27/2017. PIMCO Stock Plus, Intech Large Cap and Global Low Vol liquidated 7/27/2017. Intech Large Cap has -$1,255 of residual cash. Intech Global Low Vol has $25,695 of residual cash. PIMCO Stock Plus has $58,835 of residual cash.

Inception Date	Manager Name/Fund Name	Estimated Market Value as of 3/31/18[3]	Total Commitment	% Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions[4]	Remaining Commitment	Distrib./ Paid-In (DPI)[1]	Tot. Value/ Paid-In (TVPI)[2]	Latest Valuation
			Verus Internal Analysis									
Fixed Income												
7/1/2006	Torchlight II	$42,050,435	$128,000,000	100%	$128,000,000	$0	$0	$162,016,952	$0	1.27	1.59	3/31/2018
12/12/2008	Torchlight III	$2,349,629	$75,000,000	100%	$75,000,000	$0	$3,530,048	$109,160,219	$0	1.46	1.49	3/31/2018
8/1/2012	Torchlight IV	$42,691,274	$60,000,000	100%	$60,000,000	$0	$5,979,463	$66,801,807	$0	1.11	1.82	3/31/2018
3/12/2015	Torchlight V	$49,428,363	$75,000,000	60%	$44,999,912	$0	$0	$1,809,848	$30,000,088	0.04	1.14	12/31/2017
2/2/2018	Stepstone CC Opportunities Fund	$15,657,141	$200,000,000	8%	$15,657,141	$15,657,141	$0	$0	$184,342,859	0.00	1.00	N/A
	Total Fixed Income	**$152,176,842**										
	% of Portfolio (Market Value)	1.8%										
Inflation Hedge												
11/27/2013	Aether Real Assets III	$23,265,552	$25,000,000	77%	$19,135,133	$449,538	$123,651	$940,554	$6,671,958	0.05	1.27	9/30/2017
11/27/2013	Aether Real Assets III Surplus	$58,799,252	$50,000,000	89%	$44,438,658	$945,290	$177,841	$789,814	$6,124,823	0.02	1.34	9/30/2017
3/16/2016	Aether Real Assets IV	$16,774,950	$50,000,000	39%	$19,453,951	$780,115	$3,844,060	$3,993,014	$30,397,095	0.21	1.07	9/30/2017
6/28/2013	Commonfund	$42,269,513	$50,000,000	78%	$39,000,000	$1,250,000	$1,098,325	$0	$11,000,000	0.00	1.08	9/30/2017
	Total Inflation Hedge	**$141,109,267**										
	% of Portfolio (Market Value)	1.7%										
Opportunistic												
2/18/2010	Oaktree PIF 2009	$9,461,507	$40,000,000	87%	$34,800,000	$0	$3,760,000	$38,398,579	$6,308,960	1.10	1.38	3/31/2018
9/24/2015	Angelo Gordon Energy Credit Opp.	$9,805,472	$28,125,000	67%	$18,750,000	$0	$1,155,000	$14,250,816	$9,375,000	0.76	1.28	12/31/2017
12/8/2015	Wastewater Opportunity Fund	$6,768,109	$25,000,000	25%	$6,167,751	$2,112,421	$0	$0	$18,832,249	0.00	1.10	12/31/2017
	Total Opportunistic	**$26,035,088**										
	% of Portfolio (Market Value)	0.3%										

[1](DPI) is equal to (capital returned / capital called)
[2](TVPI) is equal to (market value + capital returned) / capital called
[3]Latest valuation + capital calls - distributions
[4]Total distributions may contain recallable capital

Inception Date	Manager Name/Fund Name	Estimated Market Value as of 3/31/18[3]	Total Commitment	Total % Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions[6]	Remaining Commitment	Distrib./ Paid-In (DPI)[1]	Tot. Value/ Paid-In (TVPI)[2]	Latest Valuation
			Verus Internal Analysis									
Real Estate												
1/23/2012	Angelo Gordon Realty Fund VIII	$39,895,542	$80,000,000	94%	$75,401,855	$0	$3,800,000	$78,152,397	$12,334,302	1.04	1.57	12/31/2017
12/8/2014	Angelo Gordon Realty Fund IX	$45,002,926	$65,000,000	61%	$39,487,500	$3,575,000	$4,225,000	$5,200,000	$25,844,000	0.13	1.27	12/31/2017
6/23/2005	DLJ RECP III	$23,268,146	$75,000,000	95%	$70,968,662	$0	$0	$72,565,242	$4,031,338	1.02	1.35	12/31/2017
2/11/2008	DLJ RECP IV	$95,587,343	$100,000,000	92%	$92,307,371	$2,020,388	$3,835,032	$62,980,698	$7,692,629	0.68	1.72	12/31/2017
7/1/2014	DLJ RECP V	$34,730,853	$75,000,000	71%	$53,538,538	$0	$0	$39,992,931	$40,791,875	0.75	1.40	12/31/2017
6/17/1998	Hearthstone II[4]	-$14,920	$25,000,000	80%	$19,932,386	$0	$0	$19,952,734	$2,520,348	1.00	1.00	12/31/2017
11/26/2007	Invesco Real Estate II	$446,612	$85,000,000	92%	$78,202,813	$0	$0	$100,620,489	$6,797,187	1.29	1.29	3/31/2017
6/30/2013	Invesco Real Estate III	$13,079,388	$35,000,000	93%	$32,386,423	$0	$0	$32,987,218	$2,613,577	1.02	1.42	3/31/2017
6/30/2014	Invesco Real Estate IV	$21,280,482	$35,000,000	70%	$24,520,622	$0	$0	$7,578,475	$10,479,378	0.31	1.18	3/31/2017
7/16/2013	LaSalle Income & Growth VI	$34,667,850	$75,000,000	95%	$71,428,571	$0	$5,002,810	$70,239,356	$3,571,429	0.98	1.47	12/31/2017
2/28/2017	LaSalle Income & Growth VII	$52,280,012	$75,000,000	62%	$46,589,379	$0	$0	$0	$28,410,621	0.00	1.12	12/31/2017
7/3/2013	Long Wharf Fund IV	$14,784,203	$25,000,000	100%	$25,000,000	$0	$3,994,871	$20,033,537	$0	0.80	1.39	3/31/2017
9/30/2016	Long Wharf Fund V	$33,763,881	$50,000,000	65%	$32,360,334	$6,900,491	$0	$1,028,219	$17,639,666	0.03	1.08	3/31/2017
12/31/2011	Oaktree REOF V	$7,978,993	$50,000,000	100%	$50,000,000	$0	$2,133,211	$77,756,587	$25,750,000	1.56	1.71	3/31/2017
9/30/2013	Oaktree REOF VI[5]	$50,992,134	$80,000,000	100%	$80,000,000	$0	$9,513,578	$59,588,388	$18,400,000	0.74	1.38	3/31/2017
4/1/2015	Oaktree REOF VII	$12,541,185	$65,000,000	20%	$13,000,000	$3,250,000	$0	$4,615,000	$56,615,000	0.36	1.32	3/31/2017
11/10/2013	Paulson Real Estate Fund II	$24,891,170	$20,000,000	97%	$19,345,623	$0	$0	$4,594,996	$654,377	0.24	1.52	12/31/2017
1/25/2012	Siguler Guff DREOF	$53,783,718	$75,000,000	93%	$69,375,000	$0	$1,379,600	$65,665,303	$5,625,000	0.95	1.72	12/31/2017
8/31/2013	Siguler Guff DREOF II	$55,330,841	$70,000,000	80%	$55,720,000	$0	$3,026,623	$13,340,811	$14,280,000	0.24	1.23	9/30/2017
1/27/2016	Siguler Guff DREOF II Co-Inv	$20,973,638	$25,000,000	79%	$19,850,362	$2,750,000	$0	$0	$5,149,638	0.00	1.06	9/30/2017
	Total Closed End Real Estate	**$635,263,996**	$1,185,000,000	82%	$969,415,439	$18,495,879	$36,910,724	$736,892,382	$289,200,365	0.30	0.95	
	% of Portfolio (Market Value)	7.5%										

[1](DPI) is equal to (capital returned / capital called)
[2](TVPI) is equal to (market value + capital returned) / capital called
[3]Latest valuation + capital calls - distributions
[4]No further capital to be called
[5]Actual capital called is $85,600,000 which includes recallable distributions
[6]Total distributions may include recallable distributions

Inception Date	Manager Name/Fund Name	Estimated Market Value as of 3/31/18[3]	Total Commitment	Total % Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions	Remaining Commitment	Distrib./ Paid-In (DPI)[1]	Tot. Value/ Paid-In (TVPI)[2]	Latest Valuation
			Verus Internal Analysis									
Private Equity & Venture Capital												
3/18/1996	Adams Street Partners	$138,942,201	$210,000,000	83%	$173,767,618	$2,425,000	$4,509,376	$114,023,429	$36,232,382	0.66	1.46	12/31/2017
1/16/2009	Adams Street Partners II	$11,258,400	$30,000,000	95%	$28,365,000	$0	$0	$35,718,244	$1,635,000	1.26	1.66	12/31/2017
9/21/2012	Adams Street Partners - Fund 5	$24,524,106	$40,000,000	77%	$30,611,900	$0	$906,392	$10,613,177	$9,388,100	0.35	1.15	12/31/2017
1/18/1996	Adams Street Partners - BPF	$2,773,988	$59,565,614	97%	$57,517,409	$0	$578,218	$101,648,107	$2,048,205	1.77	1.82	12/31/2017
4/28/2017	Adams Street Venture Innovation	$6,195,074	$75,000,000	10%	$7,162,500	$0	$0	$0	$67,837,500	0.00	0.86	12/31/2017
6/14/2004	Bay Area Equity Fund	$2,900,756	$10,000,000	100%	$10,000,000	$0	$0	$36,331,243	$0	3.63	3.92	12/31/2017
12/7/2009	Bay Area Equity Fund II	$10,795,460	$10,000,000	100%	$10,000,000	$0	$0	$2,026,313	$0	0.20	1.28	12/31/2017
11/26/2003	EIF US Power Fund I	$56,407	$30,000,000	100%	$30,000,000	$0	$0	$64,404,030	$0	2.15	2.15	12/31/2017
8/16/2005	EIF US Power Fund II[5]	$28,218,419	$50,000,000	100%	$50,000,000	$0	$2,610,824	$51,164,099	$0	1.02	1.59	12/31/2017
5/30/2007	EIF US Power Fund III[6]	$34,513,591	$65,000,000	100%	$65,000,000	$0	$3,972,222	$59,082,424	$0	0.91	1.44	12/31/2017
11/28/2011	EIF US Power Fund IV[4]	$47,366,503	$50,000,000	113%	$56,555,731	$379,578	$740,697	$19,150,781	$6,308,439	0.34	1.18	12/31/2017
11/28/2016	EIF US Power Fund V	$6,465,893	$50,000,000	22%	$11,078,680	$0	$0	$4,254,292	$38,921,320	0.38	0.97	12/31/2017
5/24/2011	Pathway 6	$37,264,746	$40,000,000	86%	$34,293,286	$1,074,001	$1,296,870	$10,953,093	$5,706,714	0.32	1.41	12/31/2017
2/7/2013	Pathway 7	$57,207,027	$70,000,000	76%	$53,506,882	$157,500	$861,609	$6,746,475	$16,493,118	0.13	1.20	12/31/2017
11/23/2015	Pathway 8	$25,212,905	$50,000,000	46%	$23,161,211	$1,681,181	$1,224,806	$2,252,118	$26,838,789	0.10	1.19	12/31/2017
11/9/1998	Pathway	$24,866,929	$125,000,000	98%	$122,393,914	$0	$2,751,379	$161,163,526	$2,606,086	1.32	1.52	12/31/2017
12/26/2008	Pathway 2008	$24,124,620	$30,000,000	94%	$28,118,528	$462,761	$897,578	$18,889,751	$1,881,472	0.67	1.53	12/31/2017
1/31/2008	Carpenter Bancfund	$5,950,479	$30,000,000	97%	$29,239,890	$0	$0	$43,976,891	$979,075	1.50	1.71	9/30/2017
2/15/2004	Nogales	$34,188	$15,000,000	99%	$14,805,103	$0	$0	$12,326,577	$111,251	0.83	0.83	3/31/2017
11/30/2007	Paladin III	$20,393,337	$25,000,000	101%	$25,326,455	$0	$7,651,886	$23,414,348	$983,203	0.92	1.73	12/31/2017
6/11/2014	Ocean Avenue Fund II	$24,719,642	$30,000,000	73%	$21,900,000	$900,000	$0	$3,589,938	$8,100,000	0.16	1.29	12/31/2017
4/15/2016	Ocean Avenue Fund III	$18,795,427	$50,000,000	37%	$18,500,000	$0	$0	$1,000,000	$31,500,000	0.05	1.07	12/31/2017
6/3/2014	Siguler Guff CCCERA Opportunities	$132,632,172	$200,000,000	64%	$128,552,500	$5,900,000	$14,856,909	$22,222,898	$71,447,500	0.17	1.20	9/30/2017
11/30/2016	Siguler Guff Secondary Opportunities	$14,869,762	$50,000,000	49%	$24,616,556	$0	$3,148,534	$16,323,604	$25,383,444	0.66	1.27	9/30/2017
	Total Private Equity and Venture Capital	**$700,082,029**	$1,394,565,614	74%	$1,029,856,607	$12,980,021	$46,007,300	$821,275,359	$354,401,598	0.80	1.48	
	% of Portfolio (Market Value)	8.3%										

[1](DPI) is equal to (capital returned / capital called)
[2](TVPI) is equal to (market value + capital returned) / capital called
[3]Latest valuation + capital calls - distributions
[4]EIF IV has $12,677,767 of recallable distributions
[5]EIF II has $15,029,557 of recallable distributions
[6]EIF III has $6,125,861 of recallable distributions

Fixed Income	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Torchlight II	07/01/2006	-	-	-	-1.4%	12/31/2017
Torchlight III	12/12/2008	18.3%	16.4%	13.7%	13.8%	03/31/2018
Torchlight IV	08/01/2012	13.6%	14.0%	10.5%	11.2%	03/31/2018
Torchlight V	03/12/2015	22.9%	22.7%	13.3%	13.2%	12/31/2017
Stepstone CC Opportunities Fund[1]	02/02/2018	-	-	-	-	-

Inflation Hedge	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Aether Real Assets III[4]	11/27/2013	-	-	14.9%	-	09/30/2017
Aether Real Assets III Surplus[4]	11/27/2013	-	-	16.9%	-	09/30/2017
Aether Real Assets IV[1]	01/01/2016	-	-	-	-	-
CommonFund[4]	06/28/2013	-	11.4%	-	8.4%	09/30/2017
Wastewater Opportunity Fund	12/08/2015	-2.0%	-	-21.9%	-	12/31/2017

Opportunistic	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Oaktree PIF 2009	02/18/2010	7.3%	-	7.1%	-	03/31/2018
Angelo Gordon Energy Cred Opp.	09/24/2015	-	-	17.3%	15.0%	12/31/2017

Real Estate	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Angelo Gordon VIII	01/23/2012	-	-	14.6%	16.2%	12/31/2017
Angelo Gordon IX	12/08/2014	-	-	13.2%	12.6%	12/31/2017
DLJ RECP III	06/23/2005	1.0%	1.0%	-1.0%	-1.0%	12/31/2017
DLJ RECP IV	02/11/2008	7.0%	7.0%	5.0%	5.0%	12/31/2017
DLJ RECP V	07/01/2014	31.0%	31.0%	17.0%	17.0%	12/31/2017
Hearthstone II	06/17/1998	-	30.1%	-	30.1%	12/31/2017
Invesco Fund III	06/30/2013	21.0%	-	15.2%	-	12/31/2017
Invesco Fund IV	06/30/2014	20.3%	-	14.1%	-	12/31/2017
LaSalle Income & Growth VI	07/16/2013	16.7%	-	13.8%	-	12/31/2017
LaSalle Income & Growth VII[1]	02/28/2017	-	-	-	-	-
Long Wharf IV	07/03/2013	18.0%	18.2%	12.9%	12.9%	03/31/2018
Long Wharf V	09/30/2016	14.3%	18.1%	7.4%	9.2%	03/31/2018
Oaktree REOF V	12/31/2011	17.4%	-	12.9%	-	03/31/2018
Oaktree REOF VI	09/30/2013	15.2%	-	10.2%	-	03/31/2018
Oaktree REOF VII[1]	04/01/2015	140.4%	-	66.2%	-	03/31/2018
Paulson[1]	11/10/2013	-	-	-	-	-
Siguler Guff I	01/25/2012	16.9%	18.0%	15.2%	14.8%	12/31/2017
Siguler Guff II	08/31/2013	14.7%	14.2%	13.2%	11.7%	12/31/2017
Siguler Guff DREOF II Co-Inv	01/27/2016	17.42	17.1%	16.4	13.7%	12/31/2017

[1]Manager has yet to report IRR figure due to no capital invested or meaningful distributions.
[2]Fund level data includes CCCERA and all other fund investors.
[3]Net IRR calculated after deductions of management fees and carried interest to the General Partner.
[4]Manager has reported IRR figures, but does not consider them to be meaningful, due to the age of the fund.

Private Equity & Venture Capital	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Adams Street Partners	3/18/1996	*11.4%*	12.3%	-	9.7%	*12/31/2017*
Adams Street Partners II	1/16/2009	*17.2%*	17.4%	-	14.9%	*12/31/2017*
Adams Street Partners - Fund 5	9/21/2012	*9.1%*	9.1%	-	6.4%	*12/31/2017*
Adams Street Partners Venture[1]	4/28/2017	-18.1%	-18.1%	-	-28.4%	*12/31/2017*
Adams Street Partners - BPF	1/18/1996	*14.3%*	14.3%	-	11.6%	*12/31/2017*
Bay Area Equity Fund I	6/14/2004	25.9%	-	23.3%	-	*12/31/2017*
Bay Area Equity Fund II	12/7/2009	6.1%	-	5.0%	-	*12/31/2017*
Energy Investor Fund	11/26/2003	33.5%	34.7%	28.5%	28.3%	*12/31/2017*
Energy Investor Fund II	8/16/2005	6.6%	6.1%	3.9%	3.4%	*12/31/2017*
Energy Investor Fund III	5/30/2007	8.3%	8.3%	5.8%	5.8%	*12/31/2017*
Energy Investor Fund IV	11/28/2011	11.3%	11.2%	6.6%	6.0%	*12/31/2017*
Energy Investor Fund V[1]	11/26/2016	-	-	-	-	-
Pathway 6	5/24/2011	15.8%	15.8%	12.7%	12.7%	*12/31/2017*
Pathway 7	2/7/2013	*13.6%*	*13.6%*	*10.0%*	*10.0%*	*12/31/2017*
Pathway 8[1]	11/6/2015	-	-	-	-	-
Pathway Private Equity Fund	11/9/1998	10.3%	10.3%	8.5%	8.4%	*12/31/2017*
Pathway Private Equity Fund 2008	12/26/2008	15.0%	15.0%	12.1%	12.1%	*12/31/2017*
Carpenter Bancfund	1/31/2008	-	-	-	10.5%	*12/31/2017*
Nogales	2/15/2004		-4.5%	-8.6%	-8.8%	*3/31/2017*
Paladin III	11/30/2007	15.5%	-	7.5%	-	*12/31/2017*
Ocean Avenue II	6/11/2014	-	-	11.1%	-	*12/31/2017*
Ocean Avenue III	4/15/2016	-	-	10.6%	-	*12/31/2017*
Siguler Guff CCCERA Opportunities	6/3/2014	*16.0%*	16.5%	*15.3%*	13.4%	*12/31/2017*
Siguler Guff Secondary Opportunities[4]	11/30/2016	-	-	-	25+%	*12/31/2017*

[1]Manager has yet to report IRR figure due to no capital invested or meaningful distributions.

[2]Fund level data includes CCCERA and all other fund investors.

[3]Net IRR calculated after deductions of management fees and carried interest to the General Partner.

[4]Net IRR is shown as "25% +" because the discount to net asset value typically associated with the purchase of secondary investments produces an unrepresentative high IRR in the early months after an investment is acquired, which will dissipate over time absent appreciation in net asset value, and which may not be meaningful early in a fund's life. Additional information regarding SOF's IRR is available upon request.

3 Years

	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Jackson Square Partners	8.43%	-4.47%	11.67%	-6.95%	1.19	6.57%	0.70	0.68	-0.68	71.99%	136.22%
Robeco Boston Partners	8.95%	1.07%	9.14%	0.85%	1.03	3.06%	0.89	0.92	0.35	108.03%	94.76%
Emerald Advisers	9.08%	0.32%	12.27%	0.93%	0.93	5.79%	0.78	0.70	0.06	98.82%	93.68%
Ceredex	8.45%	0.58%	9.94%	3.60%	0.62	8.01%	0.57	0.79	0.07	86.44%	62.71%
Pyrford	4.09%	-0.95%	8.58%	0.94%	0.63	6.41%	0.69	0.41	-0.15	58.36%	49.06%
William Blair	6.98%	-0.30%	11.10%	0.33%	0.91	2.91%	0.94	0.58	-0.10	92.76%	92.25%
Artisan Partners	13.69%	5.57%	12.05%	4.65%	1.11	6.84%	0.68	1.09	0.81	136.39%	55.31%
First Eagle	6.66%	-1.46%	6.82%	1.02%	0.70	3.88%	0.84	0.90	-0.38	78.43%	78.88%
Allianz Global Investors	3.80%	-1.36%	5.48%	-0.70%	0.87	1.36%	0.96	0.59	-1.00	79.38%	94.42%
Adelante	0.78%	-0.19%	9.08%	-0.06%	0.87	2.07%	0.97	0.03	-0.09	92.03%	95.03%
AFL-CIO	1.10%	-0.10%	3.16%	0.00%	0.91	0.51%	0.98	0.17	-0.21	91.48%	92.39%
Wellington Real Total Return	-2.97%	-8.90%	6.49%	-10.61%	1.29	6.29%	0.06	-0.54	-1.41	-45.84%	--

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

	5 Years										
	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Jackson Square Partners	12.77%	-2.76%	10.65%	-6.51%	1.24	5.38%	0.77	1.17	-0.51	82.28%	136.22%
Robeco Boston Partners	12.22%	1.44%	8.36%	1.33%	1.01	2.93%	0.88	1.42	0.49	109.71%	85.22%
Emerald Advisers	14.77%	1.88%	13.41%	1.51%	1.03	5.82%	0.81	1.08	0.32	110.04%	90.70%
Ceredex	10.25%	0.29%	11.37%	2.08%	0.82	6.41%	0.72	0.87	0.05	94.59%	84.69%
William Blair	7.69%	0.85%	10.16%	1.40%	0.92	2.72%	0.94	0.72	0.31	97.85%	84.78%
Artisan Partners	13.42%	4.22%	10.36%	3.65%	1.06	5.66%	0.70	1.26	0.75	127.03%	44.92%
First Eagle	7.34%	-1.87%	6.41%	0.70%	0.72	3.38%	0.85	1.09	-0.55	78.63%	91.67%
Allianz Global Investors	3.90%	-1.10%	4.92%	-0.56%	0.89	1.14%	0.96	0.72	-0.96	82.61%	98.07%
Adelante	7.12%	1.00%	10.99%	1.48%	0.92	1.92%	0.98	0.62	0.52	98.30%	84.15%
AFL-CIO	1.72%	-0.11%	3.08%	-0.03%	0.96	0.48%	0.98	0.45	-0.22	93.28%	93.76%

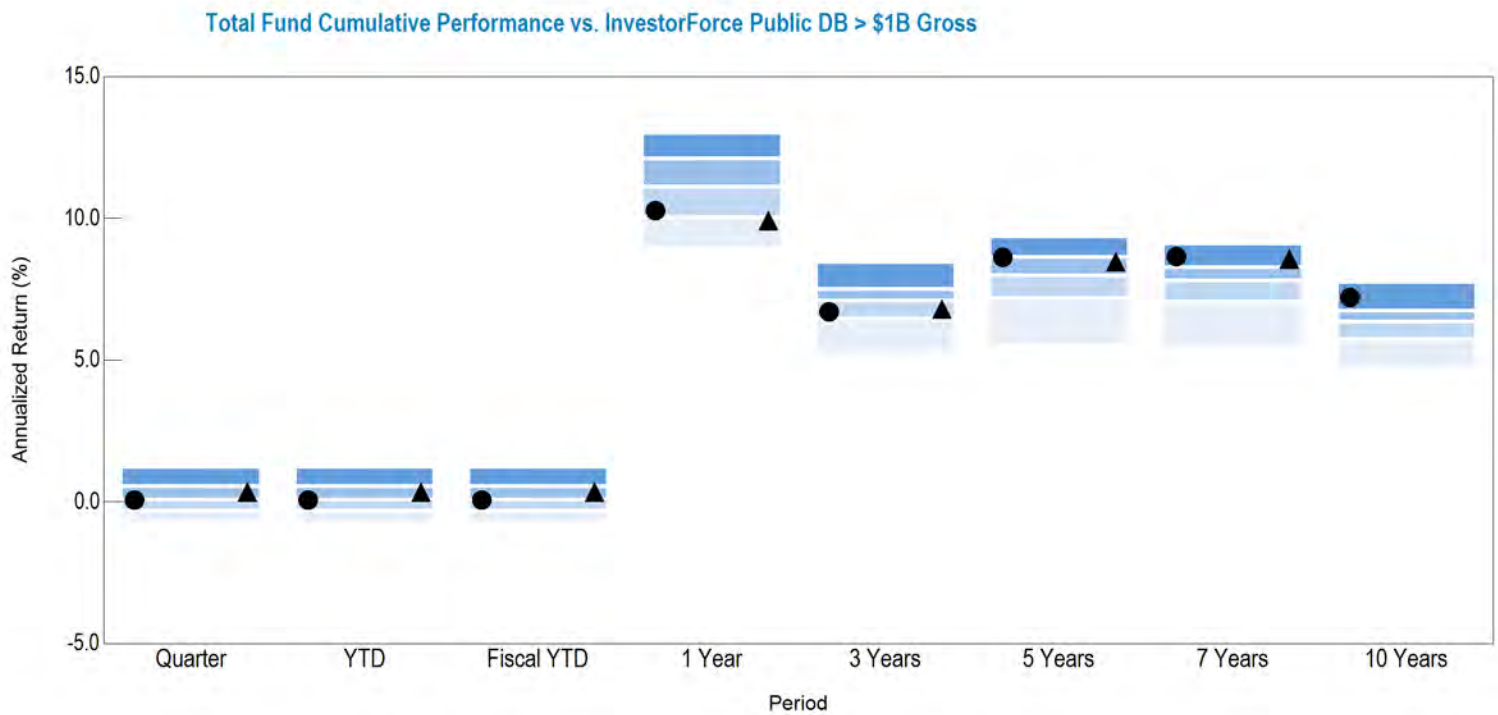
Performance Analysis excludes closed end funds and those funds without 5 years of performance.

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
BlackRock Russell 1000 Index	Global Equity	0.03% of Assets	$119,150,367	$35,745	0.03%
Jackson Square Partners	Global Equity	0.50% of First 100.0 Mil, 0.40% of Next 150.0 Mil, 0.35% Thereafter	$407,118,868	$1,649,916	0.41%
Robeco Boston Partners	Global Equity	0.50% of First 25.0 Mil, 0.30% Thereafter	$397,295,187	$1,241,886	0.31%
Emerald Advisers	Global Equity	0.75% of First 10.0 Mil, 0.60% Thereafter	$283,871,667	$1,718,230	0.61%
Ceredex	Global Equity	0.85% of First 10.0 Mil, 0.68% of Next 40.0 Mil, 0.51% Thereafter	$253,419,337	$1,394,439	0.55%
Pyrford	Global Equity	0.70% of First 50.0 Mil, 0.50% of Next 50.0 Mil, 0.35% Thereafter	$453,344,092	$1,836,704	0.41%
William Blair	Global Equity	0.80% of First 20.0 Mil, 0.60% of Next 30.0 Mil, 0.50% of Next 50.0 Mil, 0.45% of Next 50.0 Mil, 0.40% of Next 50.0 Mil, 0.30% Thereafter	$497,379,241	$1,907,138	0.38%
PIMCO RAE Emerging Markets	Global Equity	0.75% of First 50.0 Mil, 0.68% of Next 50.0 Mil, 0.50% of Next 100.0 Mil, 0.45% Thereafter	$382,799,181	$2,035,096	0.53%
TT Emerging Markets	Global Equity	0.70% of First 100.0 Mil, 0.65% of Next 100.0 Mil, 0.60% Thereafter	$362,092,392	$2,322,554	0.64%
Artisan Partners	Global Equity	0.75% of Assets	$392,301,901	$2,942,264	0.75%
First Eagle	Global Equity	0.75% of Assets	$361,749,312	$2,713,120	0.75%
Allianz Global Investors	High Yield Fixed Income	0.50% of First 50.0 Mil, 0.40% of Next 50.0 Mil, 0.35% Thereafter	$349,782,801	$1,324,240	0.38%
AFL-CIO	Global Fixed Income	0.43% of Assets	$320,733,542	$1,379,154	0.43%

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

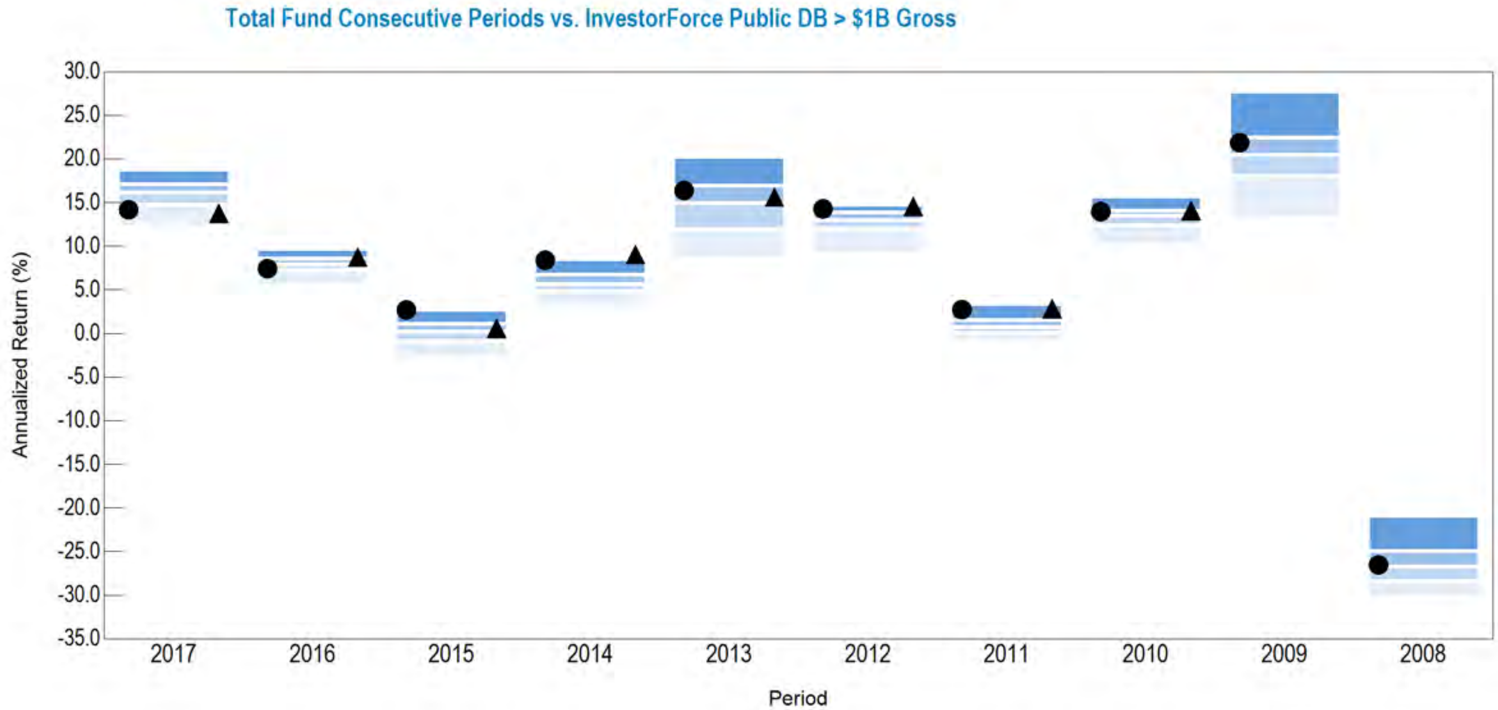
Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Wellington Real Total Return	Global Fixed Income	0.55% of Assets	$189,236,383	$1,040,800	0.55%
DFA Short Credit	Global Fixed Income	0.20% of First 25.0 Mil, 0.10% Thereafter	$366,956,381	$391,956	0.11%
Insight Short Duration	Global Fixed Income	0.06% of First 500.0 Mil, 0.05% of Next 500.0 Mil, 0.04% Thereafter	$765,466,226	$432,733	0.06%
Sit Short Duration	Global Fixed Income	0.15% of Assets	$486,026,489	$729,040	0.15%

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



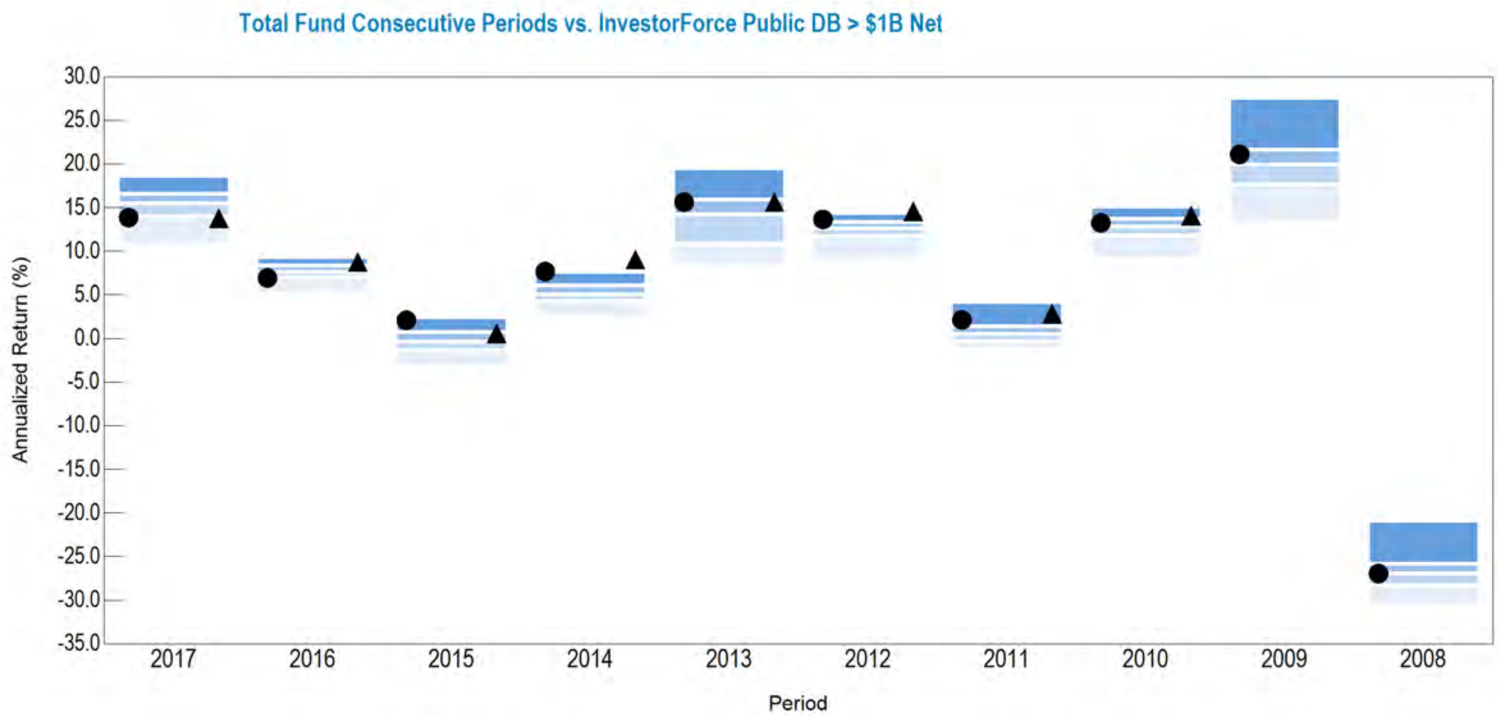
Return (Rank)	Quarter		YTD		Fiscal YTD		1 Year		3 Years		5 Years		7 Years		10 Years	
5th Percentile	1.2		1.2		1.2		13.0		8.5		9.3		9.1		7.7	
25th Percentile	0.6		0.6		0.6		12.1		7.5		8.6		8.3		6.7	
Median	0.1		0.1		0.1		11.1		7.1		8.0		7.8		6.4	
75th Percentile	-0.3		-0.3		-0.3		10.1		6.5		7.2		7.1		5.8	
95th Percentile	-0.7		-0.7		-0.7		9.0		5.2		5.6		5.4		4.7	
# of Portfolios	97		97		97		95		86		78		69		67	
● Total Fund	0.1	(54)	0.1	(54)	0.1	(54)	10.3	(71)	6.7	(70)	8.6	(26)	8.6	(12)	7.2	(11)
▲ Policy Index	0.3	(32)	0.3	(32)	0.3	(32)	9.9	(77)	6.8	(67)	8.5	(34)	8.6	(17)	--	(--)

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.

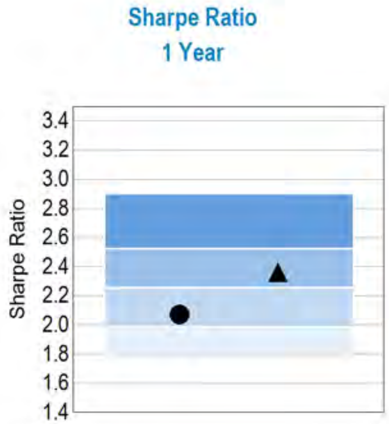


	Return (Rank)																			
5th Percentile	18.8		9.7		2.7		8.5		20.2		14.7		3.3		15.7		27.7		-21.0	
25th Percentile	17.2		8.6		1.1		6.8		17.0		13.9		1.6		14.2		22.5		-24.9	
Median	16.2		8.0		0.3		5.7		15.0		13.0		0.8		13.5		20.5		-26.7	
75th Percentile	14.8		7.4		-0.7		4.9		12.0		12.1		0.1		12.5		18.1		-28.3	
95th Percentile	12.4		5.5		-2.8		3.1		8.7		9.2		-0.9		10.2		13.4		-30.2	
# of Portfolios	98		92		98		79		67		74		68		66		66		65	
● Total Fund	14.2	(83)	7.4	(74)	2.7	(5)	8.4	(6)	16.4	(33)	14.3	(13)	2.7	(9)	14.0	(29)	21.9	(34)	-26.5	(48)
▲ Policy Index	13.8	(89)	8.8	(17)	0.6	(40)	9.0	(2)	15.6	(43)	14.6	(8)	2.8	(9)	14.1	(27)	--	(--)	--	(--)

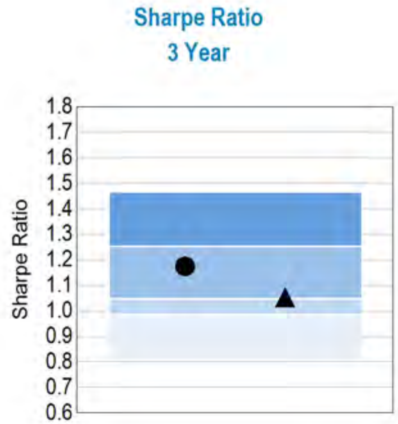
Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.



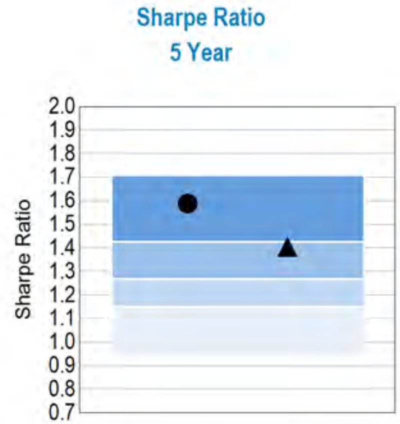
Return (Rank)	2017		2016		2015		2014		2013		2012		2011		2010		2009		2008	
5th Percentile	18.6		9.3		2.4		7.6		19.5		14.3		4.2		15.1		27.5		-20.9	
25th Percentile	16.6		8.4		0.8		6.1		16.0		13.4		1.5		13.8		21.7		-25.7	
Median	15.6		7.7		-0.4		5.1		14.3		12.7		0.6		12.8		20.0		-26.9	
75th Percentile	14.1		7.1		-1.3		4.4		11.0		11.8		-0.3		11.8		17.7		-28.3	
95th Percentile	10.7		5.3		-3.2		2.6		8.5		9.0		-1.2		9.3		13.4		-30.5	
# of Portfolios	61		62		57		55		48		44		42		41		40		39	
● Total Fund	13.9	(81)	6.9	(78)	2.1	(12)	7.7	(5)	15.6	(33)	13.6	(21)	2.1	(12)	13.3	(34)	21.1	(33)	-26.9	(51)
▲ Policy Index	13.8	(84)	8.8	(14)	0.6	(29)	9.0	(2)	15.6	(33)	14.6	(1)	2.8	(11)	14.1	(15)	--	(--)	--	(--)



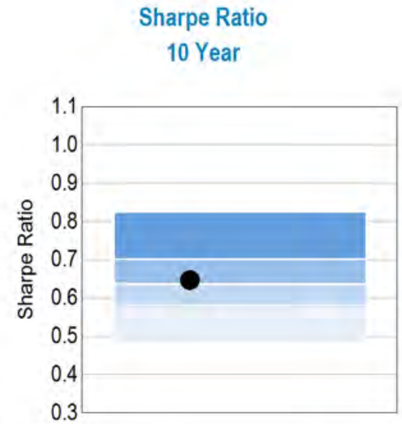
● Total Fund	
Value	2.1
Rank	71
▲ Policy Index	
Value	2.4
Rank	42
Universe	
5th %tile	2.9
25th %tile	2.5
Median	2.3
75th %tile	2.0
95th %tile	1.8



● Total Fund	
Value	1.2
Rank	32
▲ Policy Index	
Value	1.1
Rank	50
Universe	
5th %tile	1.5
25th %tile	1.3
Median	1.0
75th %tile	1.0
95th %tile	0.8



● Total Fund	
Value	1.6
Rank	13
▲ Policy Index	
Value	1.4
Rank	31
Universe	
5th %tile	1.7
25th %tile	1.4
Median	1.3
75th %tile	1.2
95th %tile	0.9



● Total Fund	
Value	0.6
Rank	47
▲ Policy Index	
Value	--
Rank	--
Universe	
5th %tile	0.8
25th %tile	0.7
Median	0.6
75th %tile	0.6
95th %tile	0.5

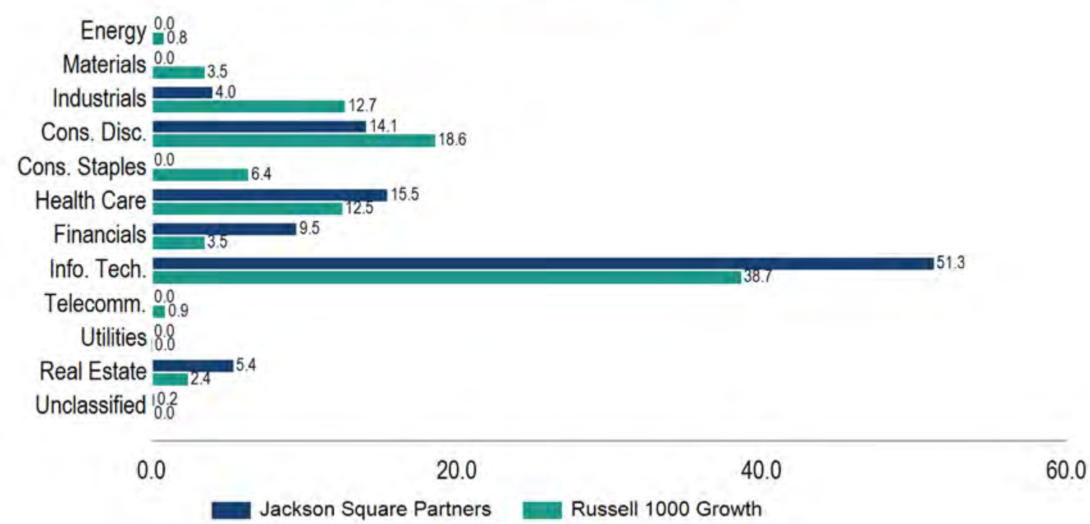
Domestic Equity Managers

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

Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	32	553
Weighted Avg. Market Cap. ($B)	133.79	212.03
Median Market Cap. ($B)	42.13	11.59
Price To Earnings	35.69	27.97
Price To Book	5.47	7.32
Price To Sales	6.68	5.23
Return on Equity (%)	20.73	29.91
Yield (%)	0.78	1.37
Beta	1.19	1.00

Sector Allocation (%) vs Russell 1000 Growth



Largest Holdings

	End Weight	Return
MICROSOFT	8.15	7.19
PAYPAL HOLDINGS	6.91	3.06
VISA 'A'	6.14	5.09
MASTERCARD	5.63	15.91
FEDEX	4.01	-3.58
ALPHABET A	3.78	-1.54
EBAY	3.66	6.62
INTERCONTINENTAL EX.	3.60	3.11
IQVIA HOLDINGS	3.57	0.21
CROWN CASTLE INTL.	3.56	-0.32

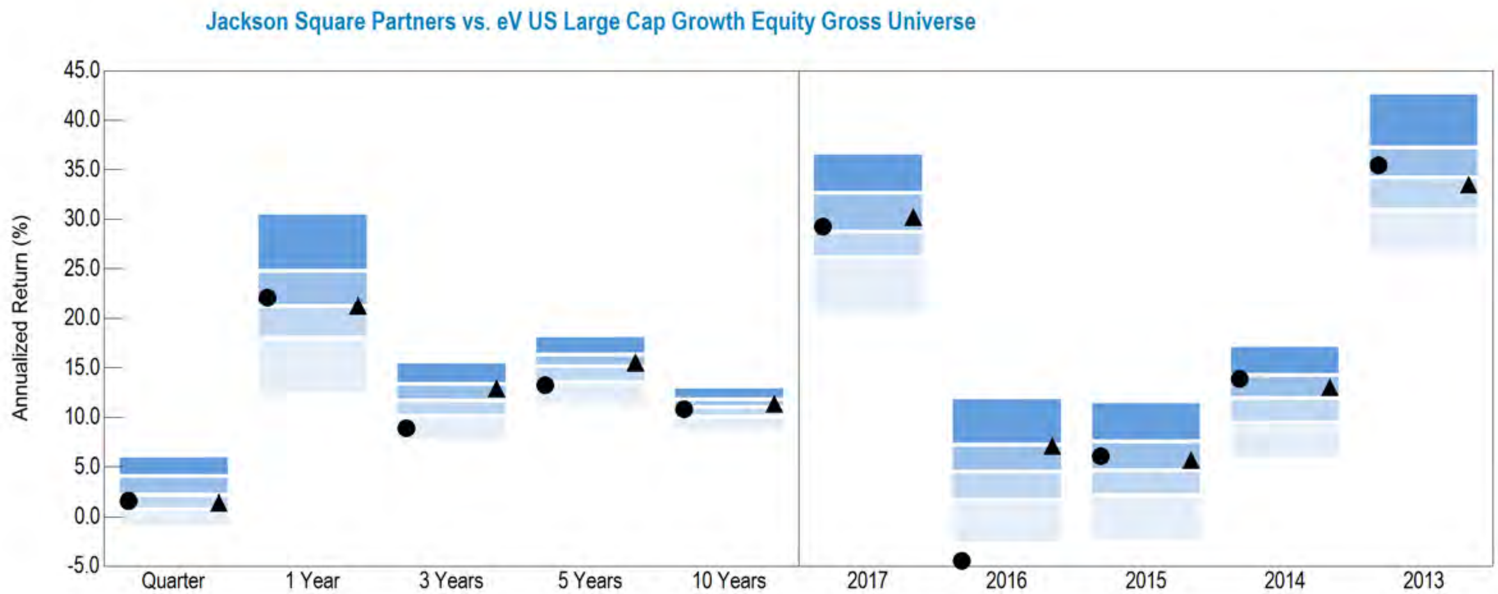
Top Contributors

	Avg Wgt	Return	Contribution
MASTERCARD	5.17	15.91	0.82
MICROSOFT	6.88	7.19	0.50
ELECTRONIC ARTS	2.61	15.40	0.40
TRIPADVISOR 'A'	2.01	18.66	0.37
DOMINO'S PIZZA	1.54	23.90	0.37
VISA 'A'	6.03	5.09	0.31
ASML HLDG.ADR 1:1	1.99	14.23	0.28
CME GROUP	2.27	11.20	0.25
EBAY	3.59	6.62	0.24
APPLIED MATS.	2.63	8.98	0.24

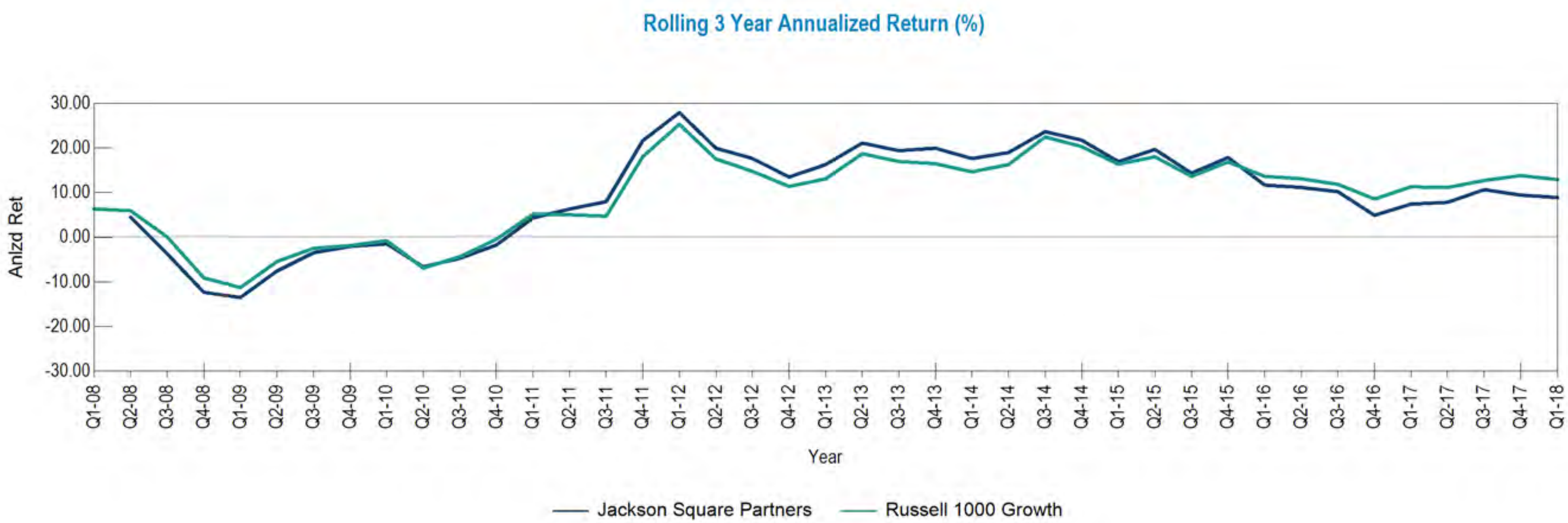
Bottom Contributors

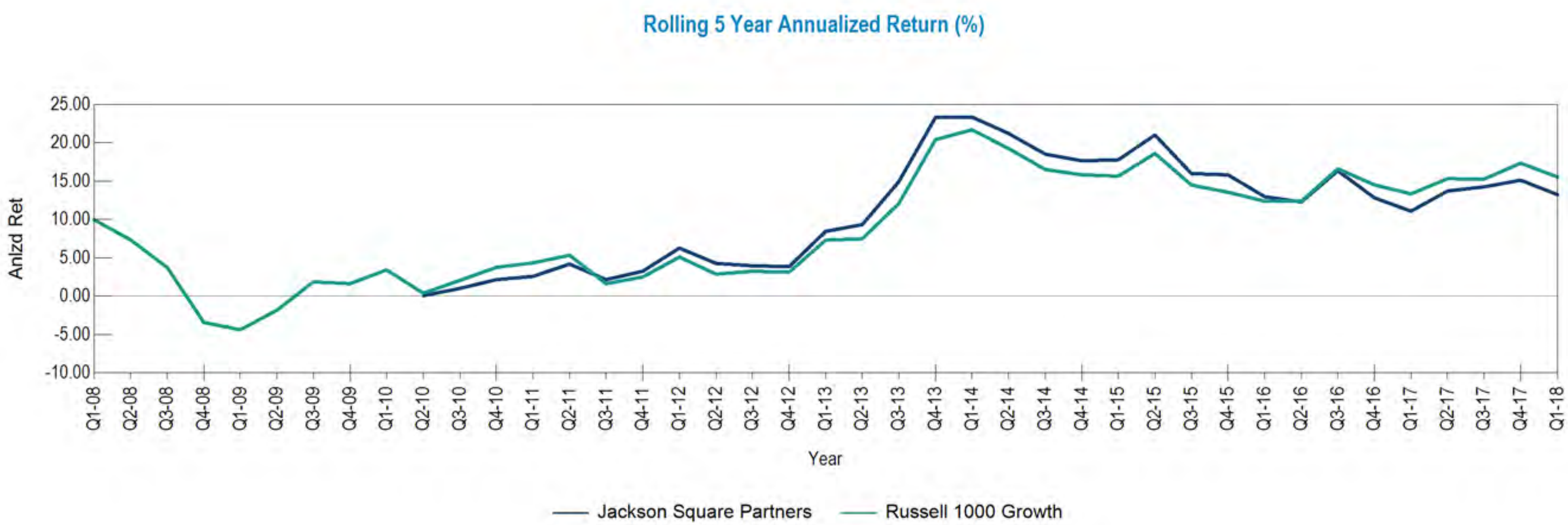
	Avg Wgt	Return	Contribution
DENTSPLY SIRONA	2.75	-23.44	-0.65
BIOGEN	3.72	-14.05	-0.52
TAKE TWO INTACT.SFTW.	3.21	-10.93	-0.35
LIBERTY GLOBAL SR.C	3.02	-10.08	-0.30
FACEBOOK CLASS A	2.65	-9.45	-0.25
CELGENE	1.19	-14.52	-0.17
SYMANTEC	2.11	-7.62	-0.16
FEDEX	3.69	-3.58	-0.13
EQUINIX	1.82	-7.21	-0.13
LIBERTY GLOBAL CL.A	0.73	-12.64	-0.09

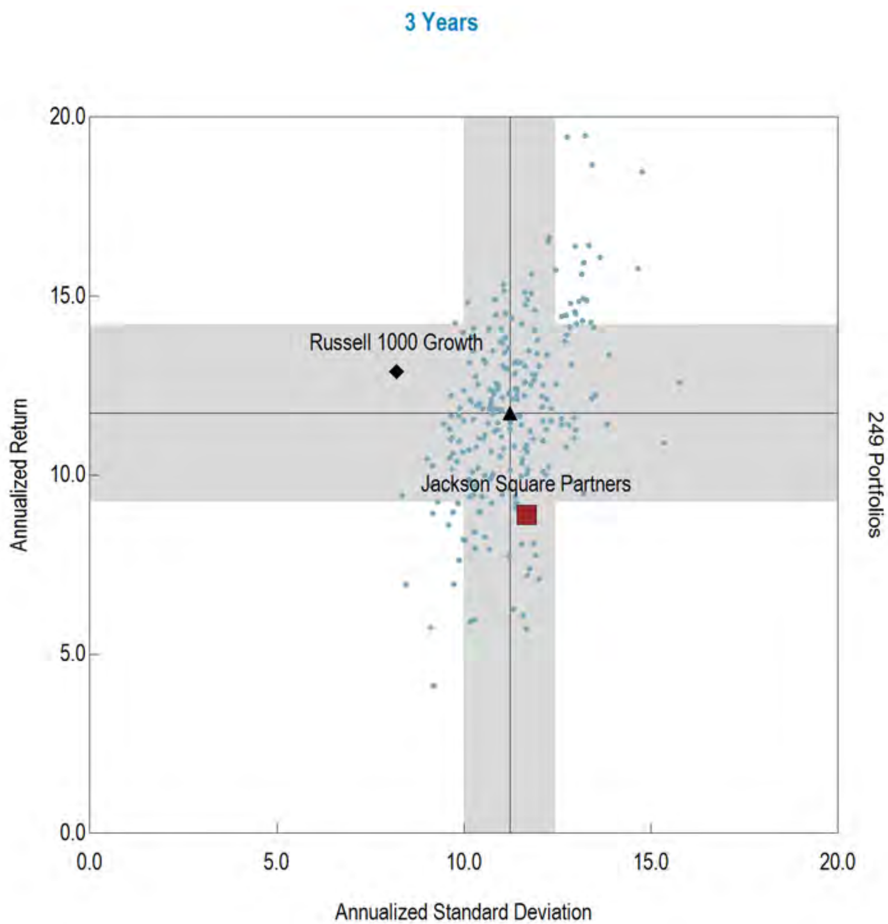
Unclassified sector allocation includes cash allocations.

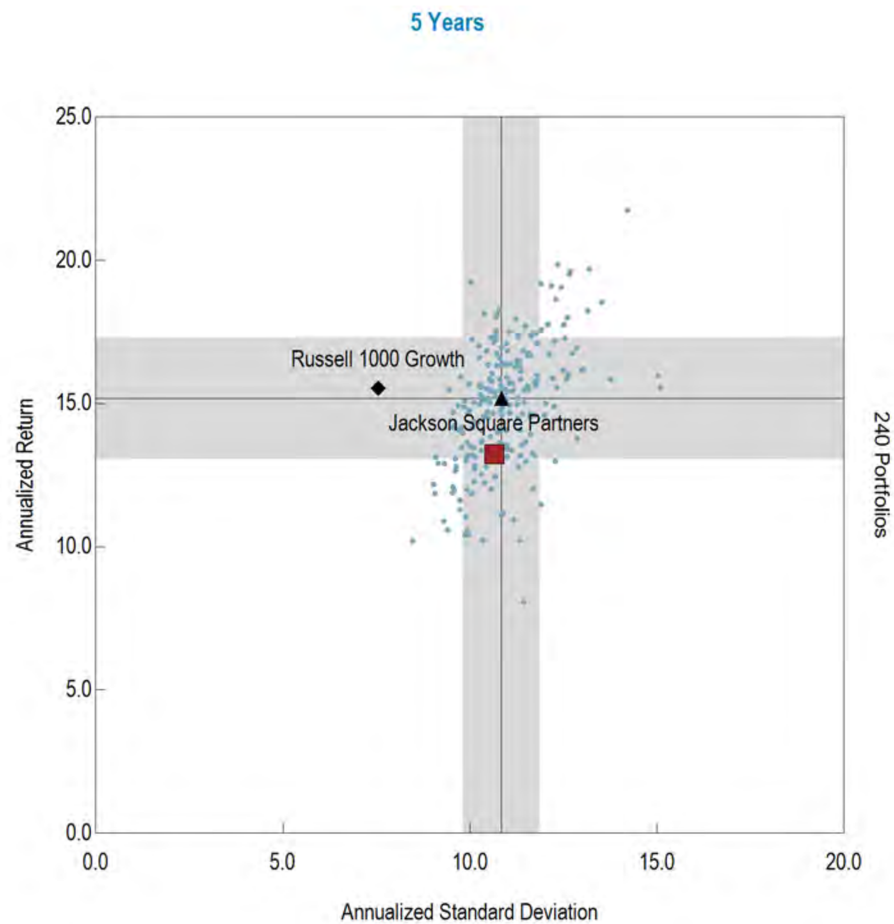


	Quarter	1 Year	3 Years	5 Years	10 Years	2017	2016	2015	2014	2013
Return (Rank)										
5th Percentile	6.1	30.7	15.6	18.2	13.1	36.7	12.0	11.6	17.3	42.8
25th Percentile	4.1	24.8	13.4	16.4	11.9	32.7	7.3	7.6	14.3	37.3
Median	2.2	21.3	11.7	15.2	11.1	28.8	4.6	4.7	12.0	34.3
75th Percentile	0.8	18.1	10.2	13.6	10.1	26.2	1.8	2.1	9.5	31.0
95th Percentile	-1.0	12.5	7.7	11.2	8.6	20.5	-2.7	-2.4	5.8	26.6
# of Portfolios	253	253	249	240	216	265	282	270	291	274
● Jackson Square Partners	1.6 (60)	22.1 (44)	8.9 (91)	13.2 (80)	10.8 (56)	29.3 (47)	-4.4 (98)	6.1 (37)	13.9 (31)	35.4 (40)
▲ Russell 1000 Growth	1.4 (64)	21.3 (51)	12.9 (31)	15.5 (42)	11.3 (42)	30.2 (42)	7.1 (26)	5.7 (42)	13.0 (38)	33.5 (56)


Rolling 3 Year Annualized Return (%)
Anlzd Ret
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
Q1-08 Q2-08 Q3-08 Q4-08 Q1-09 Q2-09 Q3-09 Q4-09 Q1-10 Q2-10 Q3-10 Q4-10 Q1-11 Q2-11 Q3-11 Q4-11 Q1-12 Q2-12 Q3-12 Q4-12 Q1-13 Q2-13 Q3-13 Q4-13 Q1-14 Q2-14 Q3-14 Q4-14 Q1-15 Q2-15 Q3-15 Q4-15 Q1-16 Q2-16 Q3-16 Q4-16 Q1-17 Q2-17 Q3-17 Q4-17 Q1-18
Year
Jackson Square Partners
Russell 1000 Growth


Rolling 5 Year Annualized Return (%)
Anlzd Ret
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
Q1-08 Q2-08 Q3-08 Q4-08 Q1-09 Q2-09 Q3-09 Q4-09 Q1-10 Q2-10 Q3-10 Q4-10 Q1-11 Q2-11 Q3-11 Q4-11 Q1-12 Q2-12 Q3-12 Q4-12 Q1-13 Q2-13 Q3-13 Q4-13 Q1-14 Q2-14 Q3-14 Q4-14 Q1-15 Q2-15 Q3-15 Q4-15 Q1-16 Q2-16 Q3-16 Q4-16 Q1-17 Q2-17 Q3-17 Q4-17 Q1-18
Year
Jackson Square Partners
Russell 1000 Growth





3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Jackson Square Partners	8.9%	11.7%	0.7
Russell 1000 Growth	12.9%	8.2%	1.5
eV US Large Cap Growth Equity Gross Median	11.7%	11.2%	1.0

5 Years

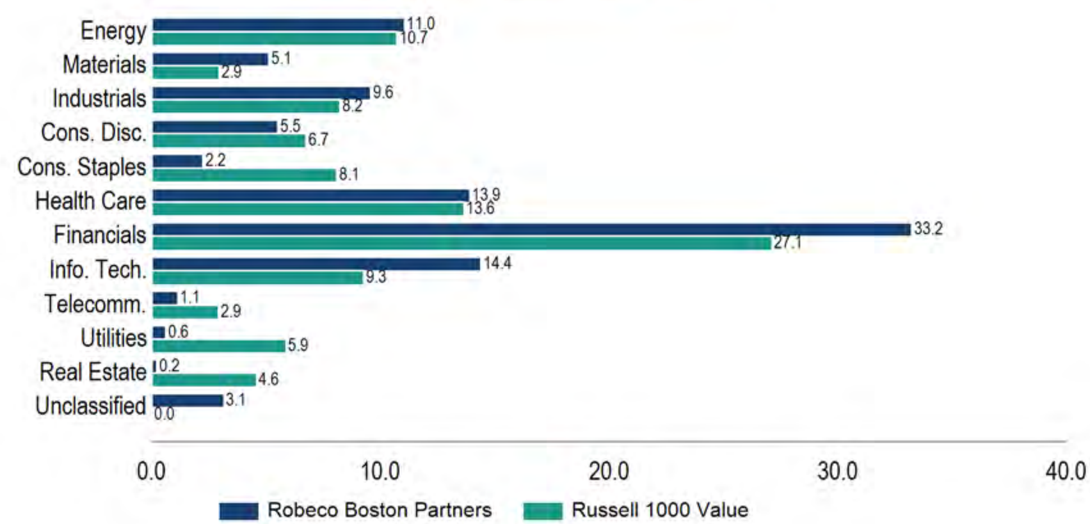
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Jackson Square Partners	13.2%	10.7%	1.2
Russell 1000 Growth	15.5%	7.5%	2.0
eV US Large Cap Growth Equity Gross Median	15.2%	10.8%	1.4

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

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	81	711
Weighted Avg. Market Cap. ($B)	133.98	113.40
Median Market Cap. ($B)	35.12	9.02
Price To Earnings	19.81	20.40
Price To Book	2.81	2.52
Price To Sales	2.50	2.95
Return on Equity (%)	17.22	11.45
Yield (%)	2.06	2.45
Beta	1.03	1.00

Sector Allocation (%) vs Russell 1000 Value



Largest Holdings

	End Weight	Return
BANK OF AMERICA	4.58	1.98
BERKSHIRE HATHAWAY 'B'	4.25	0.64
JP MORGAN CHASE & CO.	4.06	3.36
JOHNSON & JOHNSON	3.92	-7.70
CITIGROUP	3.65	-8.91
CISCO SYSTEMS	3.28	12.82
CHEVRON	2.66	-8.00
WELLS FARGO & CO	2.66	-13.10
PFIZER	2.53	-1.11
ROYAL DUTCH SHELL A ADR 1:2	2.05	-2.96

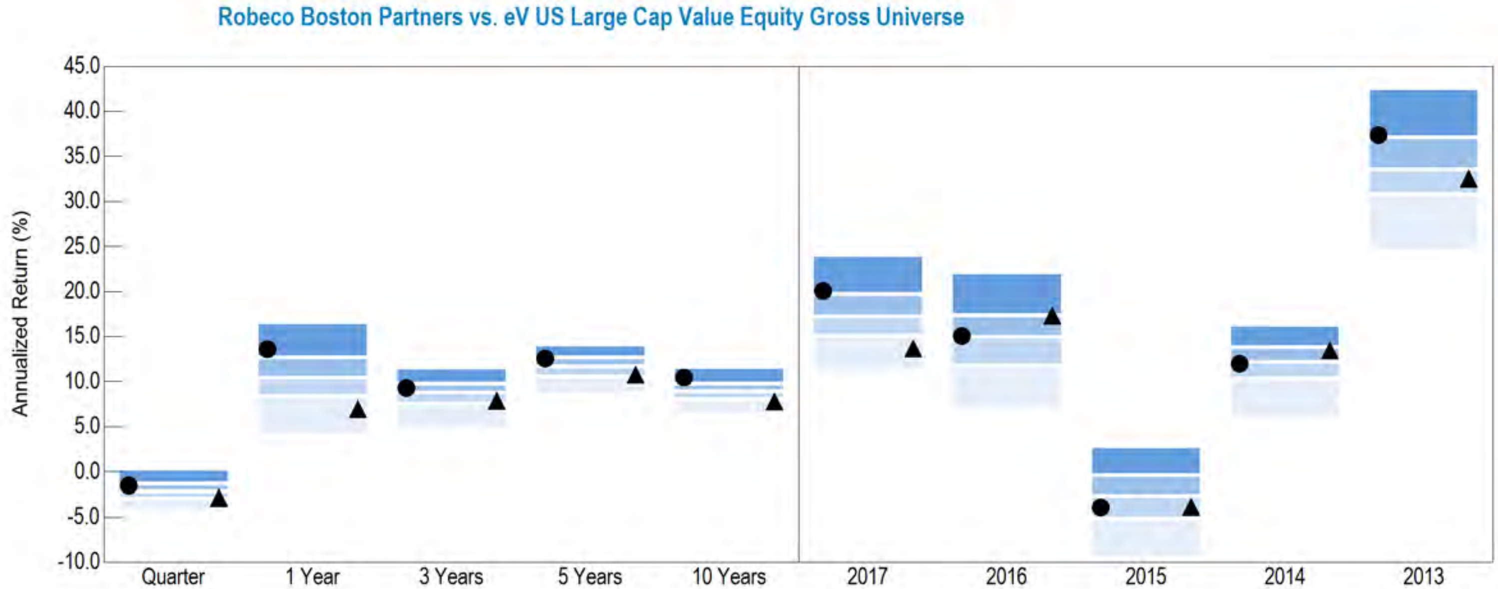
Top Contributors

	Avg Wgt	Return	Contribution
XL GROUP	0.70	57.79	0.40
CISCO SYSTEMS	3.06	12.82	0.39
JP MORGAN CHASE & CO.	4.89	3.36	0.16
MARATHON PETROLEUM	1.13	11.58	0.13
TE CONNECTIVITY	2.14	5.53	0.12
CONOCOPHILLIPS	1.30	8.61	0.11
EVEREST RE GP.	0.65	16.66	0.11
BOOKING HOLDINGS	0.50	19.72	0.10
BANK OF AMERICA	4.92	1.98	0.10
NETAPP	0.82	11.90	0.10

Bottom Contributors

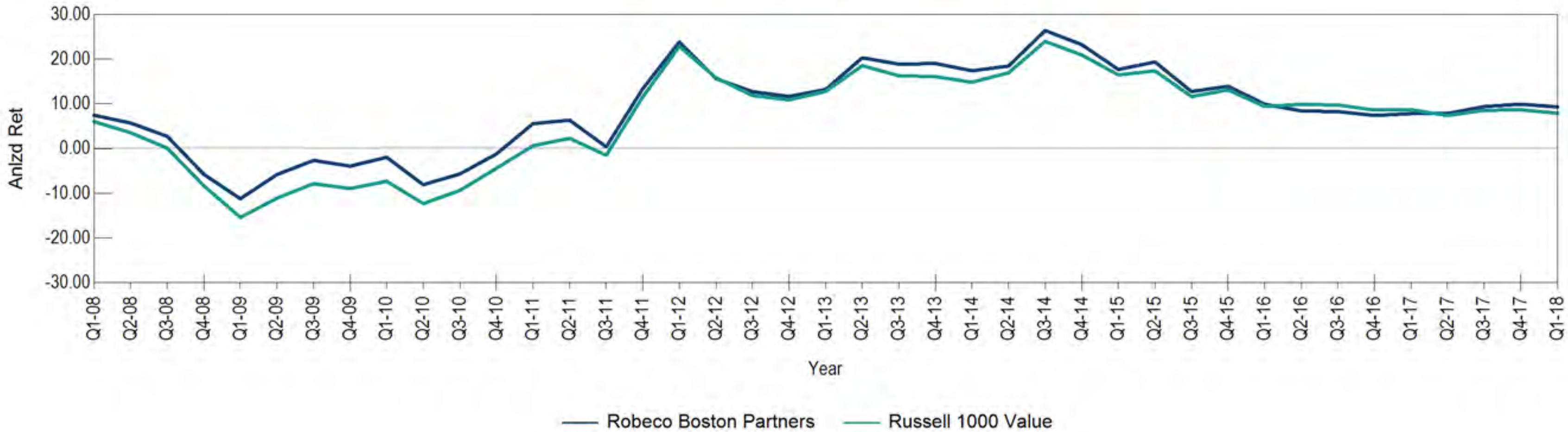
	Avg Wgt	Return	Contribution
WELLS FARGO & CO	2.79	-13.10	-0.37
CITIGROUP	3.75	-8.91	-0.33
JOHNSON & JOHNSON	2.99	-7.70	-0.23
CHEVRON	2.71	-8.00	-0.22
COMCAST 'A'	1.44	-14.35	-0.21
CIGNA	1.07	-17.39	-0.19
CVS HEALTH	1.29	-13.66	-0.18
ANDEAVOR	1.43	-11.50	-0.16
ALLSTATE	1.12	-9.01	-0.10
VERIZON COMMUNICATIONS	1.17	-8.62	-0.10

Unclassified sector allocation includes cash allocations.

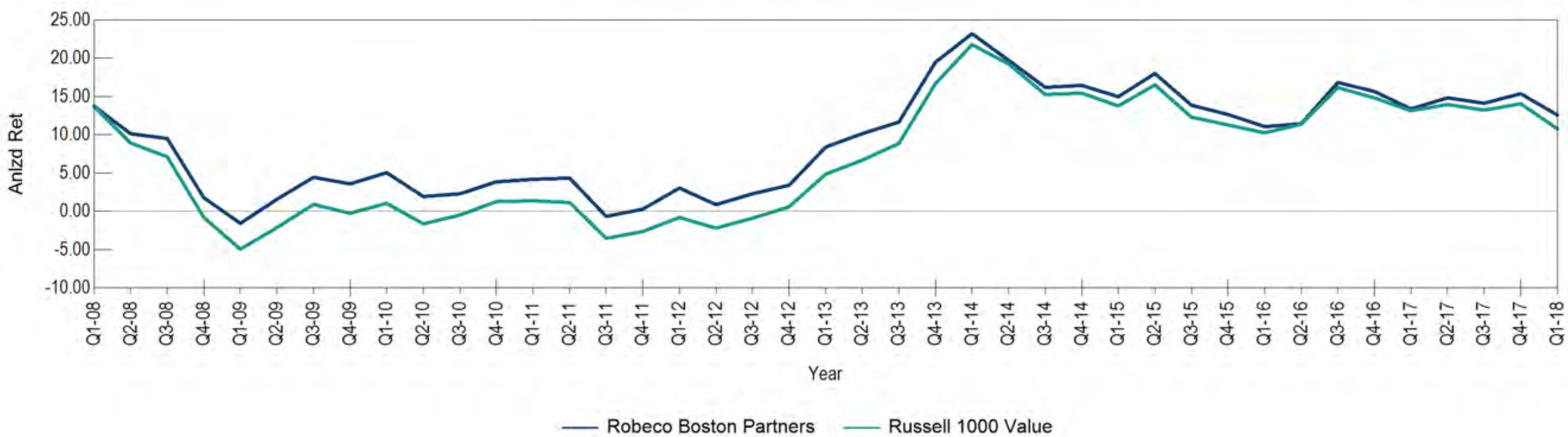


Return (Rank)	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	0.3		16.5		11.5		14.1		11.6		24.0		22.1		2.8		16.3		42.5	
25th Percentile	-1.3		12.7		9.8		12.7		9.8		19.8		17.4		-0.4		13.9		37.2	
Median	-2.1		10.4		8.8		11.7		9.0		17.2		15.0		-2.6		12.2		33.6	
75th Percentile	-2.9		8.5		7.6		10.6		8.1		15.1		11.8		-5.1		10.4		30.8	
95th Percentile	-4.3		4.1		4.8		8.7		6.5		11.2		7.0		-9.4		5.9		24.6	
# of Portfolios	338		338		336		323		267		342		346		312		307		310	
● Robeco Boston Partners	-1.5	(31)	13.6	(15)	9.3	(37)	12.6	(29)	10.5	(12)	20.1	(23)	15.1	(50)	-3.9	(65)	12.0	(55)	37.4	(24)
▲ Russell 1000 Value	-2.8	(74)	6.9	(87)	7.9	(70)	10.8	(72)	7.8	(82)	13.7	(87)	17.3	(26)	-3.8	(64)	13.5	(33)	32.5	(60)

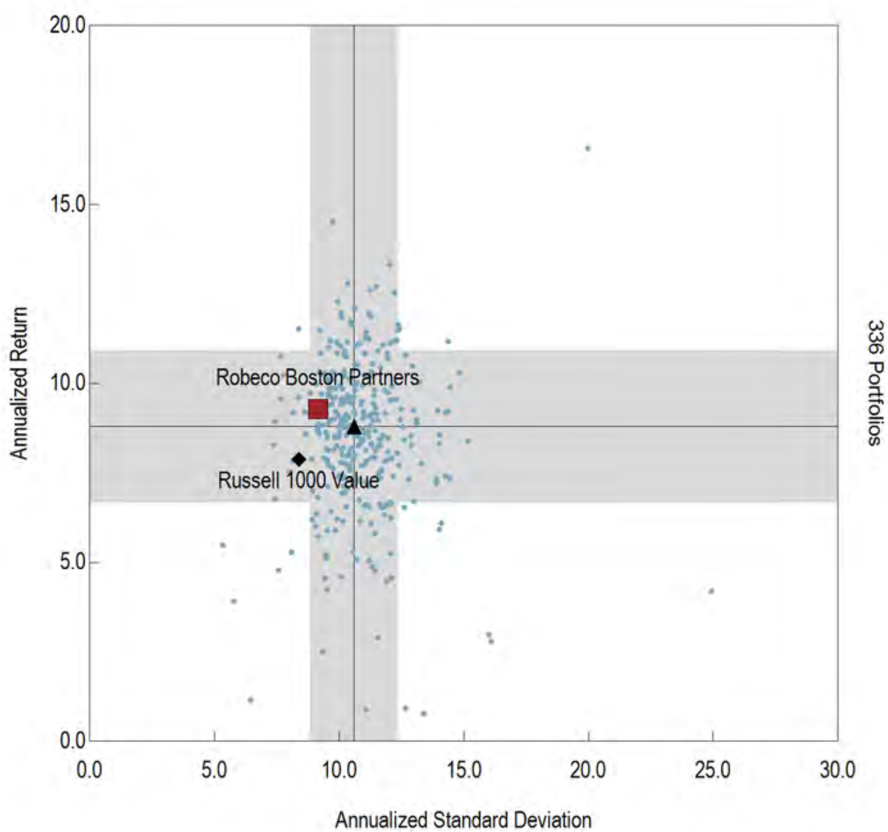
Rolling 3 Year Annualized Return (%)



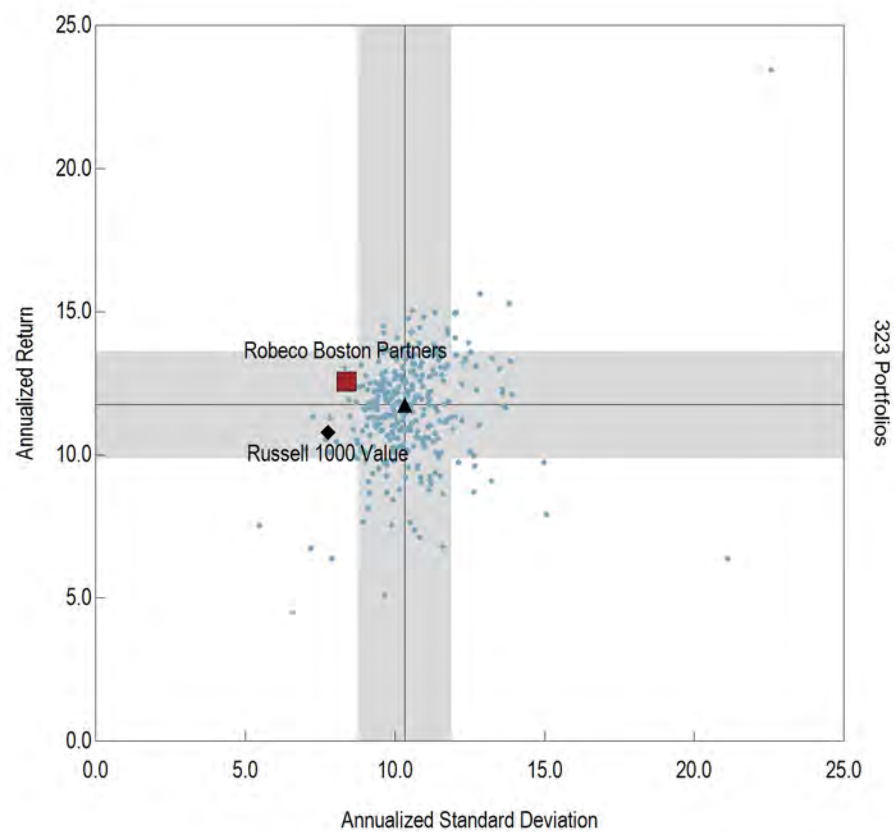
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Robeco Boston Partners	9.3%	9.1%	1.0
Russell 1000 Value	7.9%	8.4%	0.9
eV US Large Cap Value Equity Gross Median	8.8%	10.6%	0.8

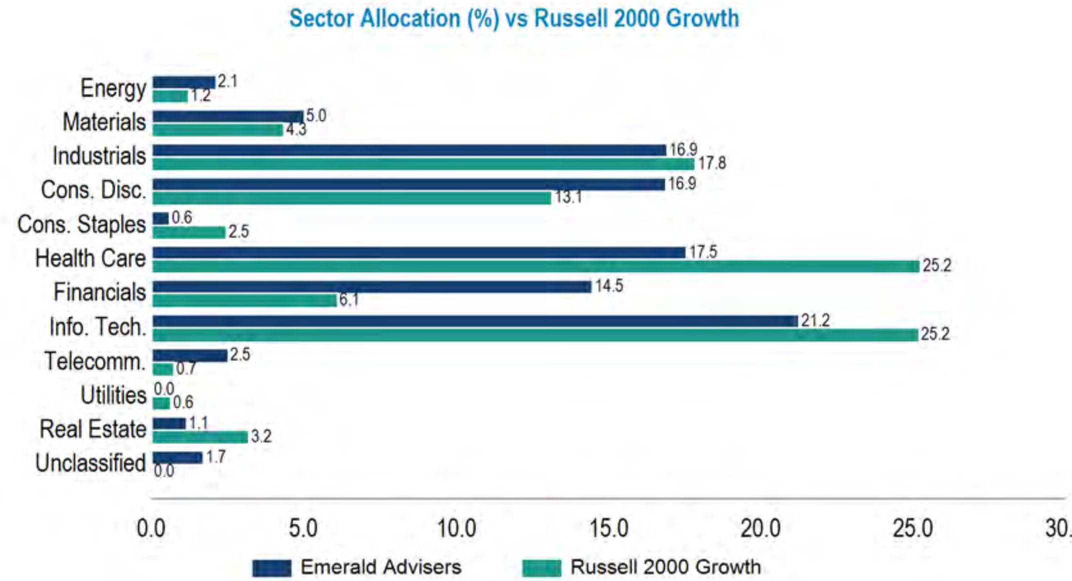
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Robeco Boston Partners	12.6%	8.4%	1.5
Russell 1000 Value	10.8%	7.8%	1.3
eV US Large Cap Value Equity Gross Median	11.7%	10.3%	1.1

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

Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	121	1,188
Weighted Avg. Market Cap. ($B)	2.78	2.95
Median Market Cap. ($B)	1.89	1.01
Price To Earnings	10.97	18.45
Price To Book	5.47	5.18
Price To Sales	4.27	3.70
Return on Equity (%)	-2.35	7.95
Yield (%)	0.42	0.54
Beta	0.93	1.00



Largest Holdings

	End Weight	Return
LENDINGTREE	2.78	-3.61
CHEGG	2.23	26.59
GTT COMMUNICATIONS	1.96	20.77
VONAGE HOLDINGS	1.92	4.72
PROOFPOINT	1.90	27.97
EPAM SYSTEMS	1.87	6.60
KLX	1.84	4.12
TREX	1.72	0.35
VARONIS SYSTEMS	1.71	24.61
FCB FINANCIAL HDG.CL.A	1.70	0.59

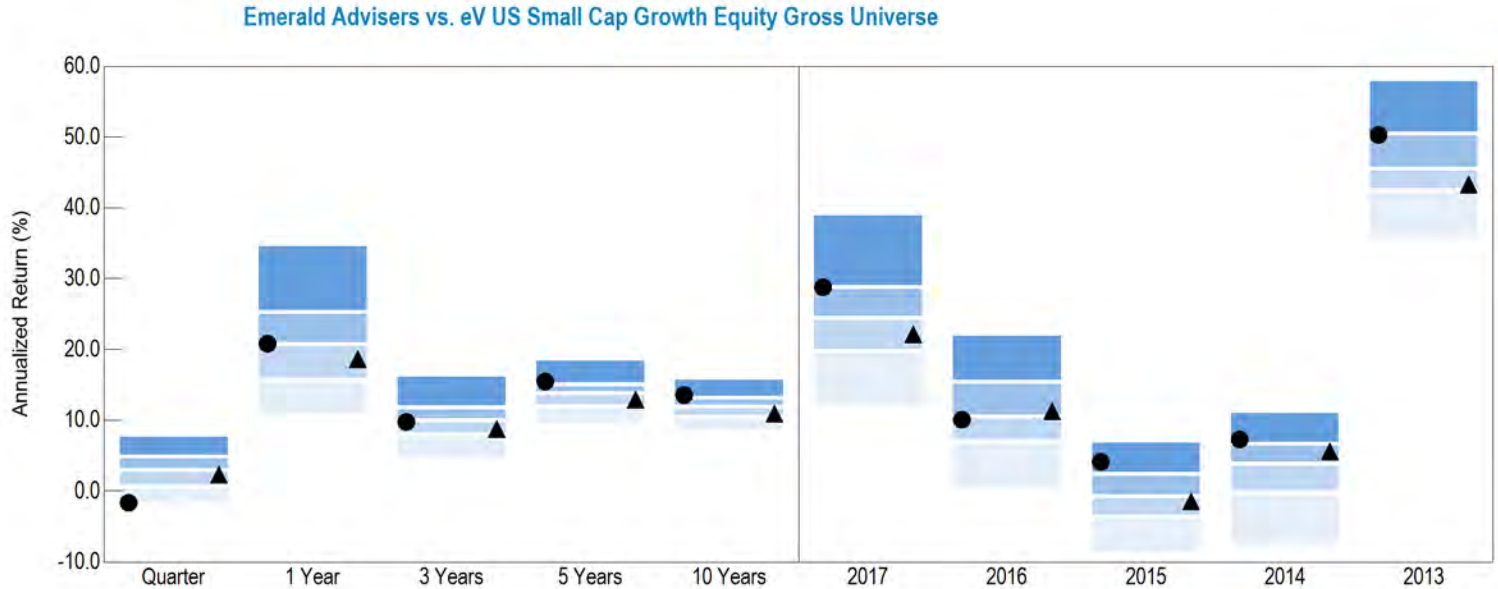
Top Contributors

	Avg Wgt	Return	Contribution
G1 THERAPEUTICS	0.70	86.74	0.61
SAREPTA THERAPEUTICS	1.64	33.16	0.54
CHEGG	1.88	26.59	0.50
PROOFPOINT	1.62	27.97	0.45
GRUBHUB	0.95	41.32	0.39
GTT COMMUNICATIONS	1.74	20.77	0.36
VARONIS SYSTEMS	1.45	24.61	0.36
BOFI HOLDING	0.98	35.55	0.35
MICROSEMI	0.85	25.30	0.22
TABULA RASA HEALTHCARE	0.52	38.32	0.20

Bottom Contributors

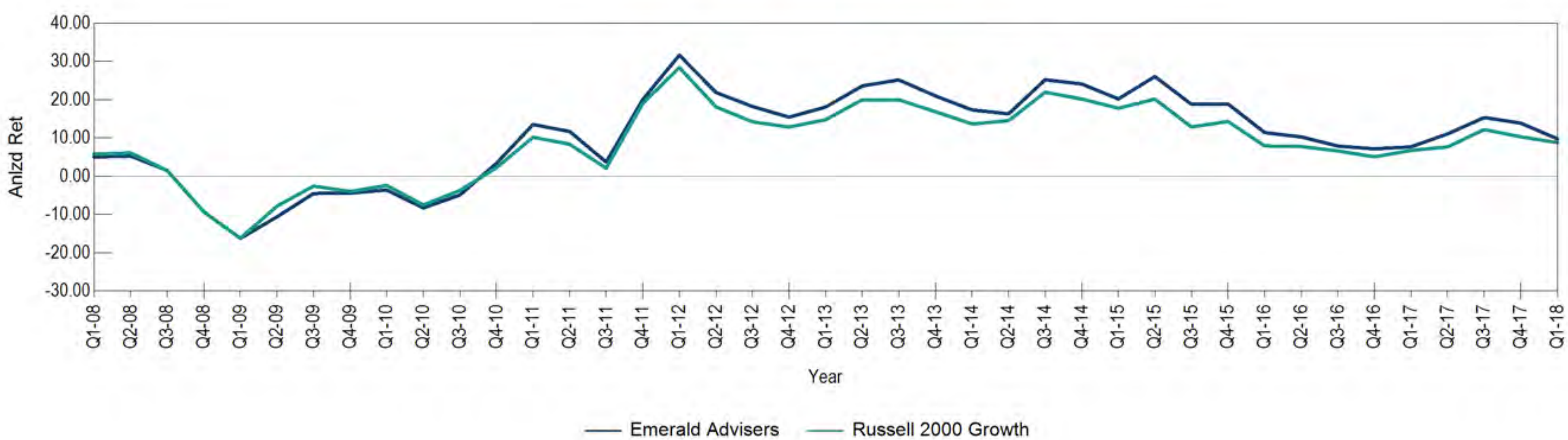
	Avg Wgt	Return	Contribution
NUTRISYSTEM	1.28	-48.37	-0.62
US CONCRETE	1.38	-27.79	-0.38
DERMIRA	0.51	-71.27	-0.36
PUMA BIOTECHNOLOGY	1.15	-31.16	-0.36
PORTOLA PHARMACEUTICALS	1.03	-32.91	-0.34
INSTALLED BUILDING PRDS.	1.35	-20.93	-0.28
KENNAMETAL	1.69	-16.65	-0.28
REV GROUP	0.73	-36.08	-0.26
ADAMAS PHARMACEUTICALS	0.84	-29.48	-0.25
INSMED	0.89	-27.77	-0.25

Unclassified sector allocation includes cash allocations.

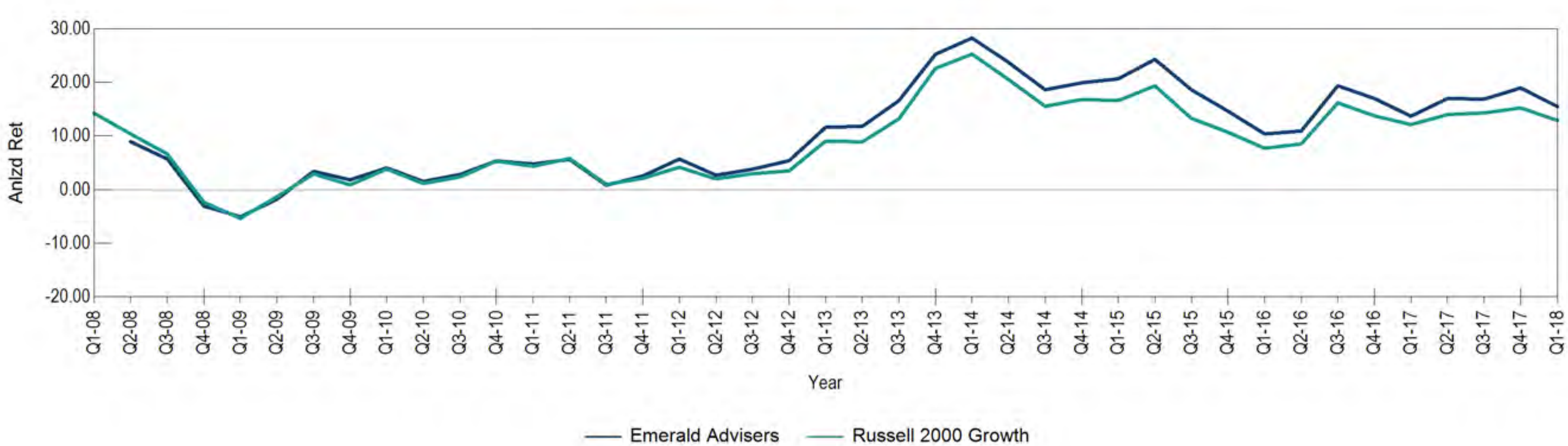


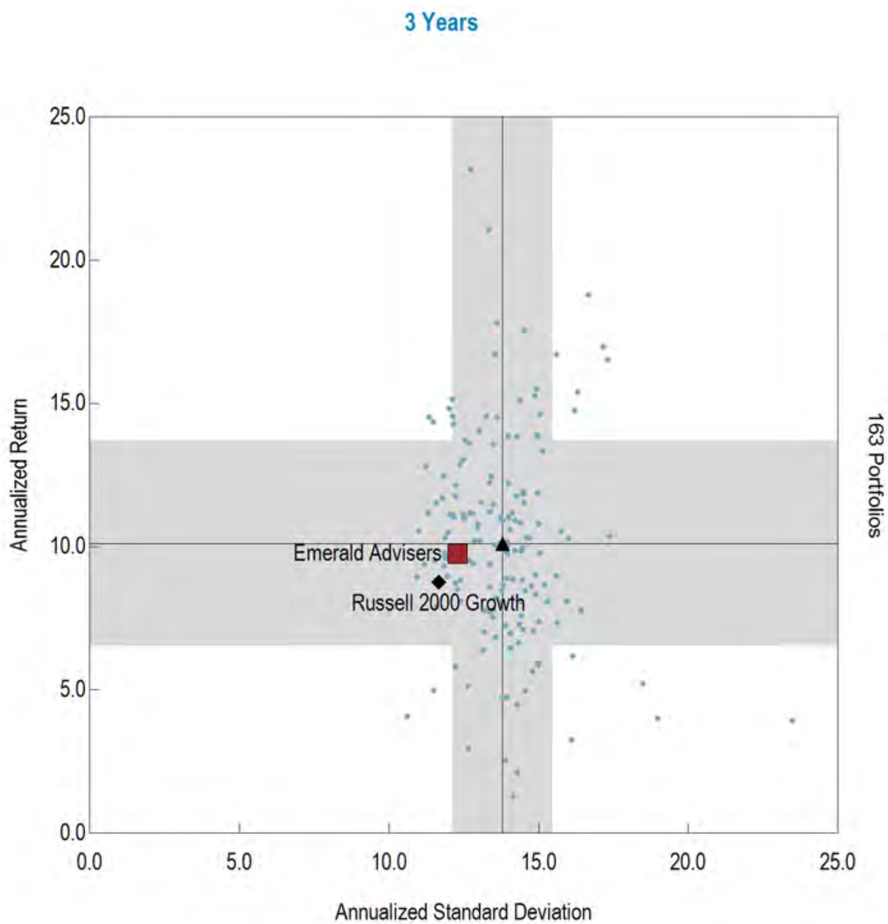
Return (Rank)	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	7.9		34.8		16.4		18.6		15.9		39.2		22.2		7.1		11.3		58.2	
25th Percentile	4.9		25.3		11.9		15.2		13.2		28.9		15.5		2.5		6.7		50.6	
Median	3.0		20.8		10.1		13.8		12.0		24.6		10.6		-0.6		3.9		45.6	
75th Percentile	0.7		15.7		8.1		12.1		10.5		19.8		7.1		-3.5		-0.1		42.6	
95th Percentile	-1.8		10.7		4.5		9.6		8.4		12.1		0.2		-8.7		-7.6		35.6	
# of Portfolios	169		169		163		155		139		174		170		154		161		160	
● Emerald Advisers	-1.6	(93)	20.8	(51)	9.7	(57)	15.5	(20)	13.5	(22)	28.8	(26)	10.1	(54)	4.1	(19)	7.3	(21)	50.3	(27)
▲ Russell 2000 Growth	2.3	(60)	18.6	(60)	8.8	(68)	12.9	(66)	11.0	(69)	22.2	(62)	11.3	(49)	-1.4	(59)	5.6	(32)	43.3	(70)

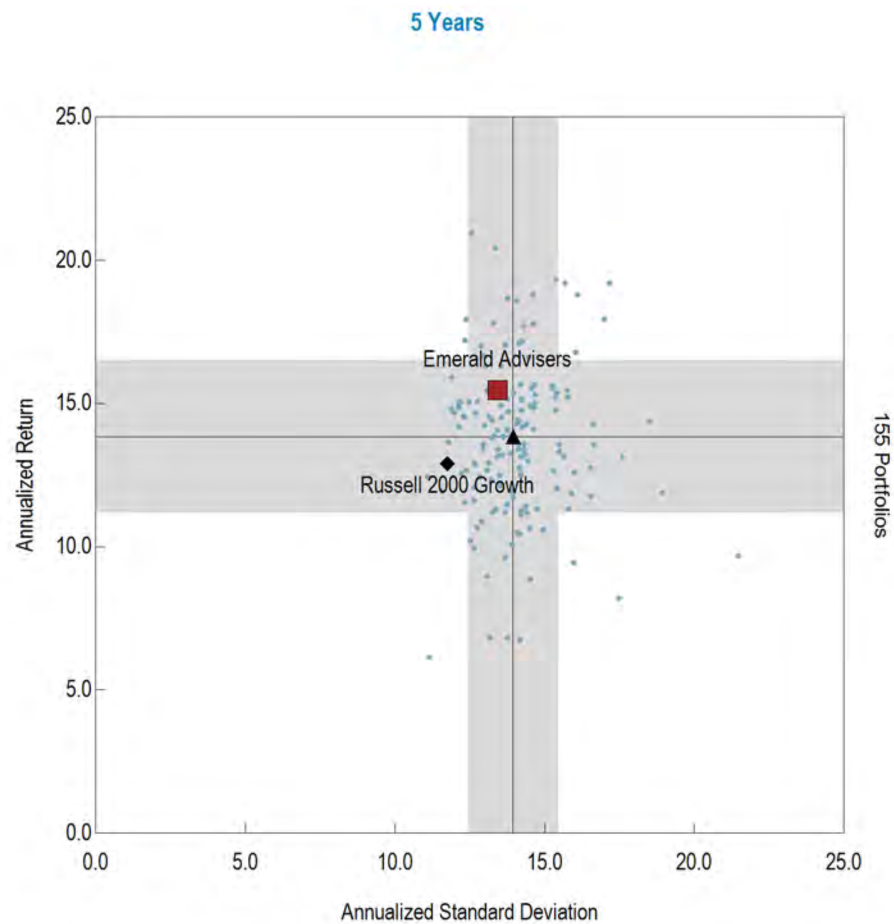
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)







3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Emerald Advisers	9.7%	12.3%	0.7
Russell 2000 Growth	8.8%	11.7%	0.7
eV US Small Cap Growth Equity Gross Median	10.1%	13.8%	0.7

5 Years

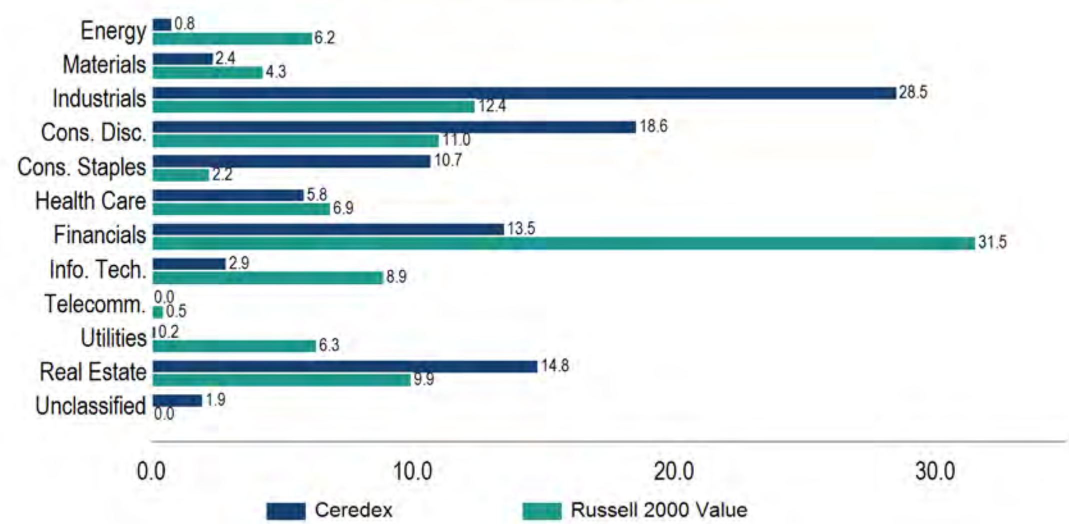
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Emerald Advisers	15.5%	13.4%	1.1
Russell 2000 Growth	12.9%	11.8%	1.1
eV US Small Cap Growth Equity Gross Median	13.8%	13.9%	1.0

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

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	81	1,398
Weighted Avg. Market Cap. ($B)	2.32	2.02
Median Market Cap. ($B)	1.74	0.72
Price To Earnings	20.64	16.01
Price To Book	2.94	1.75
Price To Sales	2.30	2.66
Return on Equity (%)	16.47	6.23
Yield (%)	2.72	1.68
Beta	0.62	1.00

Sector Allocation (%) vs Russell 2000 Value



Largest Holdings

	End Weight	Return
ENERGIZER HOLDINGS	4.96	24.85
MEREDITH	4.59	-17.78
HILL-ROM HOLDINGS	3.92	3.46
B & G FOODS	3.30	-31.28
TETRA TECH	2.96	1.88
PHYSICIANS REALTY TST.	2.92	-12.33
EVERCORE A	2.84	-2.70
TANGER FAC.OUTLET CNTRS.	2.72	-15.86
KEMPER	2.61	-16.93
EDUCATION REAL.TST.	2.61	-5.09

Top Contributors

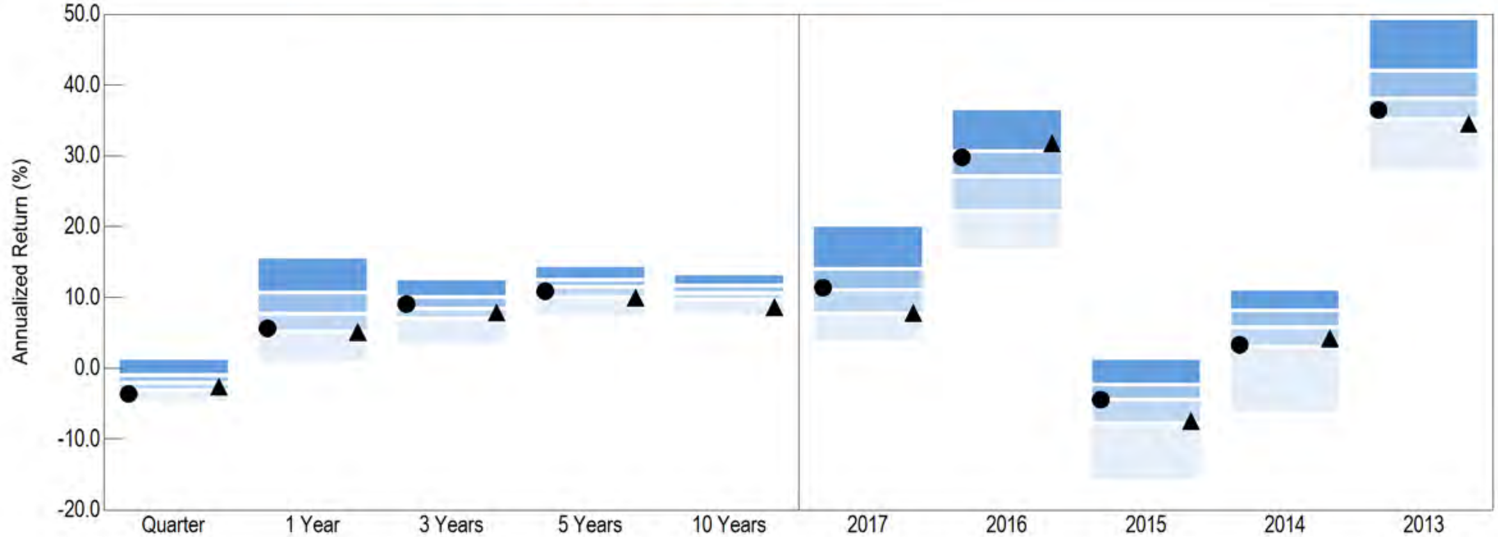
	Avg Wgt	Return	Contribution
ENERGIZER HOLDINGS	4.28	24.85	1.06
PLANTRONICS	1.87	20.15	0.38
BLOOMIN' BRANDS	2.45	14.21	0.35
KORN FERRY INTERNATIONAL	1.28	24.93	0.32
GUESS	1.32	22.87	0.30
PHIBRO ANIMAL HLTH.CL.A	1.60	18.81	0.30
CUBIC	2.23	8.13	0.18
HANOVER INSURANCE GROUP	1.64	9.59	0.16
AMER.EAG.OUTFITTERS	2.32	6.01	0.14
KELLY SERVICES 'A'	2.05	6.76	0.14

Bottom Contributors

	Avg Wgt	Return	Contribution
B & G FOODS	3.01	-31.28	-0.94
HERMAN MILLER	2.60	-19.83	-0.52
TANGER FAC.OUTLET CNTRS.	2.90	-15.86	-0.46
MEREDITH	2.12	-17.78	-0.38
OUTFRONT MEDIA	1.95	-17.70	-0.34
COVANTA HOLDING	2.61	-12.71	-0.33
ENTRAVISION COMMS.'A'	0.97	-33.63	-0.33
LITHIA MOTORS 'A'	2.45	-11.28	-0.28
KNOLL	1.61	-11.77	-0.19
ALEXANDER & BALDWIN	1.06	-16.62	-0.18

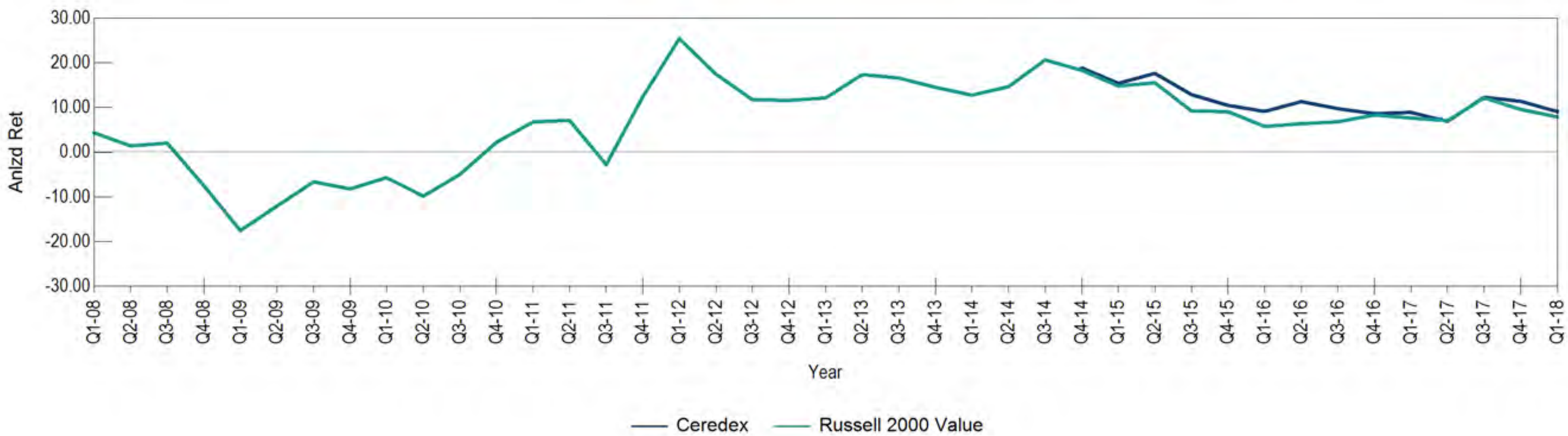
Unclassified sector allocation includes cash allocations.

Ceredex vs. eV US Small Cap Value Equity Gross Universe

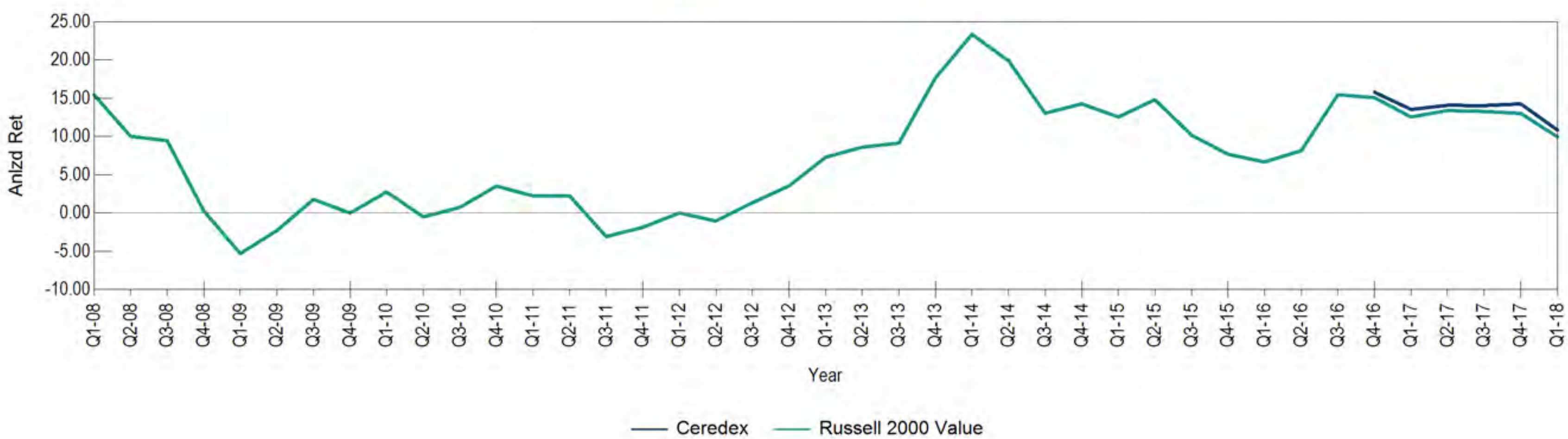


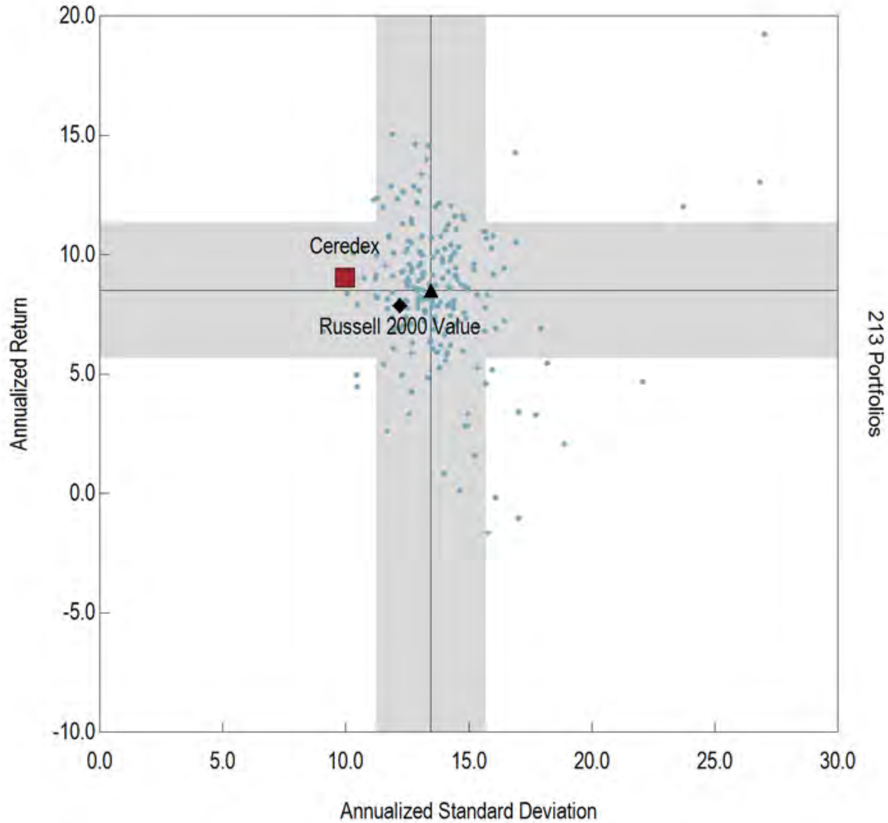
Return (Rank)	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	1.4		15.7		12.7		14.6		13.4		20.2		36.7		1.5		11.2		49.4	
25th Percentile	-0.9		10.7		10.1		12.5		11.7		14.1		30.7		-2.2		8.2		42.1	
Median	-2.0		7.7		8.5		11.5		10.6		11.1		27.2		-4.3		5.8		38.1	
75th Percentile	-3.1		5.2		7.1		10.1		9.7		7.8		22.2		-7.7		3.1		35.2	
95th Percentile	-4.8		1.0		3.3		7.3		7.5		3.7		16.8		-15.8		-6.3		27.8	
# of Portfolios	224		224		213		206		177		224		222		212		206		199	
● Ceredex	-3.6	(82)	5.6	(71)	9.1	(41)	10.9	(65)	--	(--)	11.4	(48)	29.8	(32)	-4.4	(52)	3.3	(74)	36.5	(66)
▲ Russell 2000 Value	-2.6	(64)	5.1	(76)	7.9	(65)	10.0	(77)	8.6	(89)	7.8	(75)	31.7	(17)	-7.5	(74)	4.2	(68)	34.5	(78)

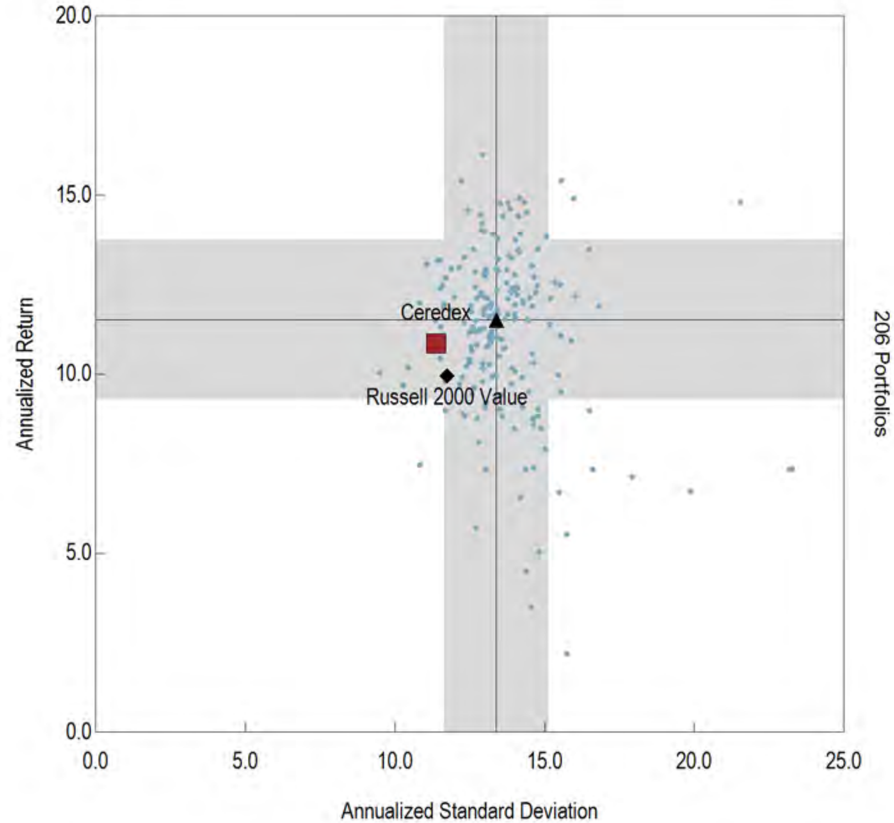
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)







3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Ceredex	9.1%	10.0%	0.9
Russell 2000 Value	7.9%	12.2%	0.6
eV US Small Cap Value Equity Gross Median	8.5%	13.5%	0.6

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Ceredex	10.9%	11.4%	0.9
Russell 2000 Value	10.0%	11.7%	0.8
eV US Small Cap Value Equity Gross Median	11.5%	13.4%	0.8

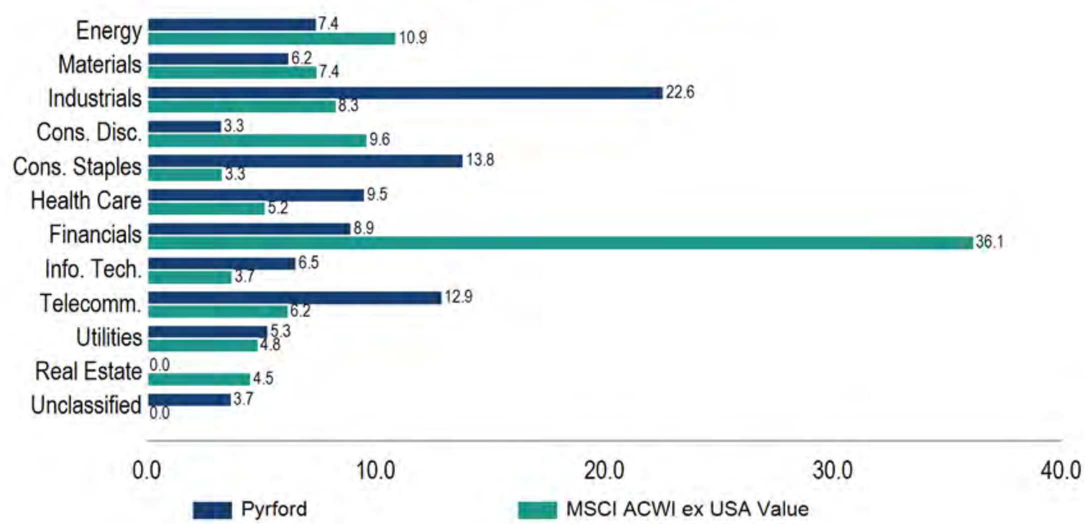
International Equity Managers

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

Characteristics

	Portfolio	MSCI ACWI ex USA Value
Number of Holdings	67	1,075
Weighted Avg. Market Cap. ($B)	58.47	57.00
Median Market Cap. ($B)	21.02	7.53
Price To Earnings	20.64	13.82
Price To Book	3.38	1.53
Price To Sales	2.38	1.63
Return on Equity (%)	18.95	11.99
Yield (%)	3.56	3.99
Beta	0.63	1.00

Sector Allocation (%) vs MSCI ACWI ex USA Value



Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	88.7%	74.4%
Emerging*	7.7%	25.6%
Cash	3.7%	
Top 10 Largest Countries		
Switzerland	14.3%	4.8%
Japan	12.3%	16.7%
Australia	11.2%	4.3%
France	8.8%	7.3%
Germany	7.1%	6.2%
United Kingdom	6.9%	13.7%
Netherlands	6.5%	1.4%
Sweden	5.4%	1.1%
Singapore	5.2%	0.9%
Taiwan*	4.4%	3.0%
Total-Top 10 Largest Countries	**82.1%**	**59.4%**

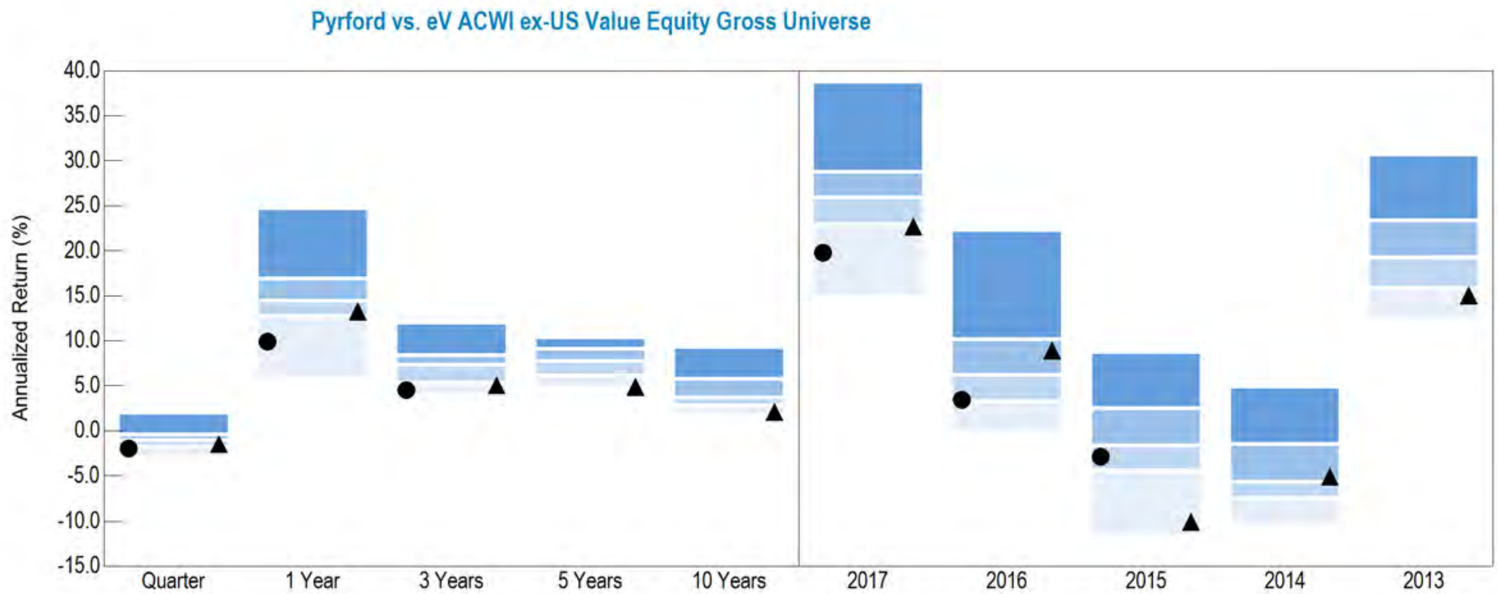
Top Contributors

	Avg Wgt	Return	Contribution
NIHON KOHDEN	1.48	20.67	0.31
MALAYAN BANKING	1.63	13.17	0.21
VOPAK	1.46	11.61	0.17
TAIWAN SEMICON.MNFG.	1.59	9.40	0.15
ABC-MART	0.91	15.77	0.14
SINGAPORE TECHS.ENGR.	1.15	12.23	0.14
CHUNGHWA TELECOM	1.44	8.80	0.13
ZURICH INSURANCE GROUP	1.58	7.53	0.12
TELENOR	2.33	4.83	0.11
COMPUTERSHARE	1.91	5.25	0.10

Bottom Contributors

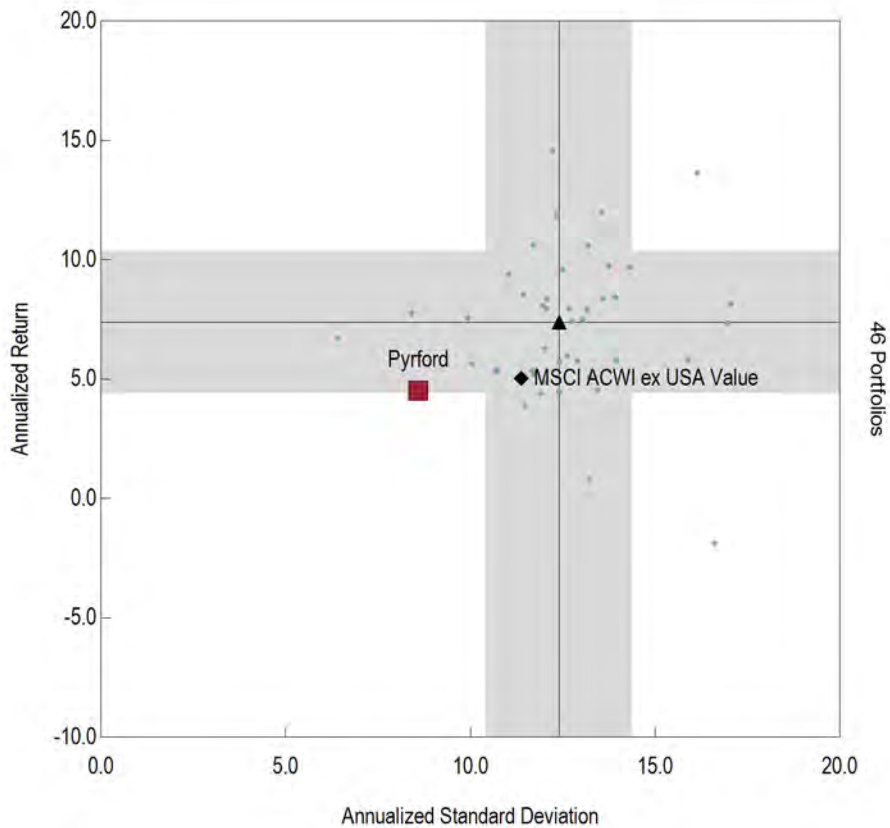
	Avg Wgt	Return	Contribution
NESTLE 'R'	3.57	-8.17	-0.29
VODAFONE GROUP	1.96	-14.30	-0.28
BEZEQ THE ISRAELI TELECM CORP.LTD.	1.64	-16.24	-0.27
ROCHE HOLDING	3.71	-6.15	-0.23
JAPAN TOBACCO	2.06	-10.56	-0.22
WOODSIDE PETROLEUM	2.07	-10.23	-0.21
PANALPINA WELTTRANSPORT	0.95	-18.78	-0.18
QBE INSURANCE GROUP	1.56	-11.21	-0.18
TOYOTA TSUSHO	1.15	-14.73	-0.17
NEWCREST MINING	1.04	-15.52	-0.16

Unclassified sector allocation includes cash allocations.



Return (Rank)	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	2.0		24.7		12.0		10.3		9.3		38.8		22.3		8.7		4.9		30.7	
25th Percentile	-0.4		16.9		8.4		9.2		5.8		28.8		10.2		2.5		-1.4		23.4	
Median	-1.0		14.5		7.4		7.8		3.8		26.0		6.2		-1.6		-5.7		19.3	
75th Percentile	-1.7		12.8		5.4		6.2		2.9		23.0		3.3		-4.3		-7.4		15.9	
95th Percentile	-2.9		5.9		4.0		4.8		1.7		15.0		-0.1		-11.6		-10.4		12.4	
# of Portfolios	50		50		46		39		26		56		55		45		37		34	
● Pyrford	-2.0	(80)	9.9	(84)	4.5	(89)	--	(--)	--	(--)	19.8	(84)	3.4	(74)	-2.9	(59)	--	(--)	--	(--)
▲ MSCI ACWI ex USA Value	-1.5	(70)	13.3	(65)	5.0	(83)	4.9	(95)	2.1	(88)	22.7	(77)	8.9	(35)	-10.1	(93)	-5.1	(49)	15.0	(83)

3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Pyrford	4.5%	8.6%	0.5
MSCI ACWI ex USA Value	5.0%	11.4%	0.4
eV ACWI ex-US Value Equity Gross Median	7.4%	12.4%	0.5

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

Characteristics

	Portfolio	MSCI ACWI ex USA Growth
Number of Holdings	206	1,003
Weighted Avg. Market Cap. ($B)	57.55	72.82
Median Market Cap. ($B)	9.60	9.43
Price To Earnings	25.08	23.31
Price To Book	5.00	3.89
Price To Sales	4.04	3.12
Return on Equity (%)	24.10	19.42
Yield (%)	1.88	1.94
Beta	0.91	1.00

Sector Allocation (%) vs MSCI ACWI ex USA Growth

Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	77.8%	74.7%
Emerging*	20.2%	25.3%
Frontier**	0.2%	0.0%
Top 10 Largest Countries		
Japan	18.8%	16.8%
France	11.9%	7.7%
United Kingdom	10.7%	10.1%
Hong Kong	6.8%	2.5%
Germany	5.5%	7.0%
China*	5.4%	7.7%
Canada	4.0%	6.1%
India*	3.9%	2.1%
Denmark	3.6%	2.1%
Sweden	3.1%	2.5%
Total-Top 10 Largest Countries	**73.7%**	**64.5%**

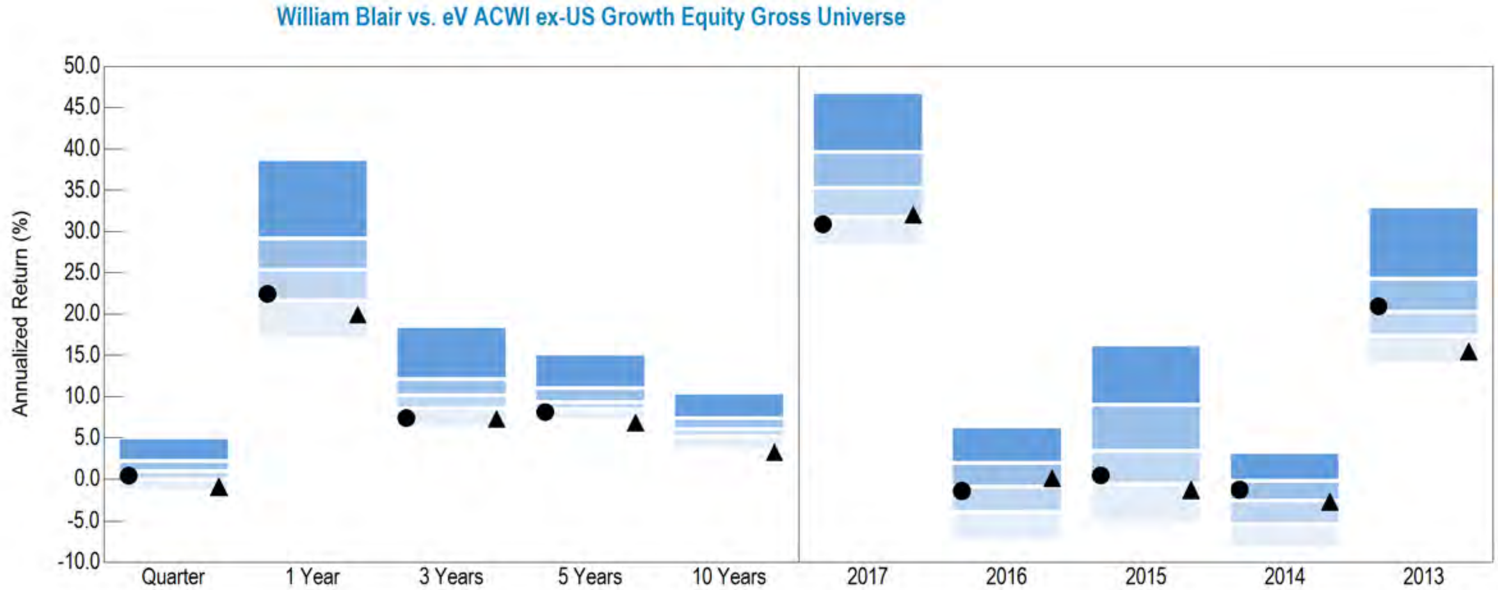
Top Contributors

	Avg Wgt	Return	Contribution
ITAU UNIBANCO HOLDING PN	1.22	25.69	0.31
NINTENDO	1.09	21.51	0.24
GALAXY ENTERTAINMENT GP.	1.11	13.85	0.15
ADIDAS	0.75	20.26	0.15
TAIWAN SEMICON.SPN.ADR 1:5	1.19	10.37	0.12
NIHON M&A CENTER	0.26	44.73	0.12
NITORI HOLDINGS	0.47	24.31	0.12
ORSTED	0.54	21.17	0.11
KOSE	0.31	34.50	0.11
CSPC PHARMACEUTICAL GP.	0.32	31.61	0.10

Bottom Contributors

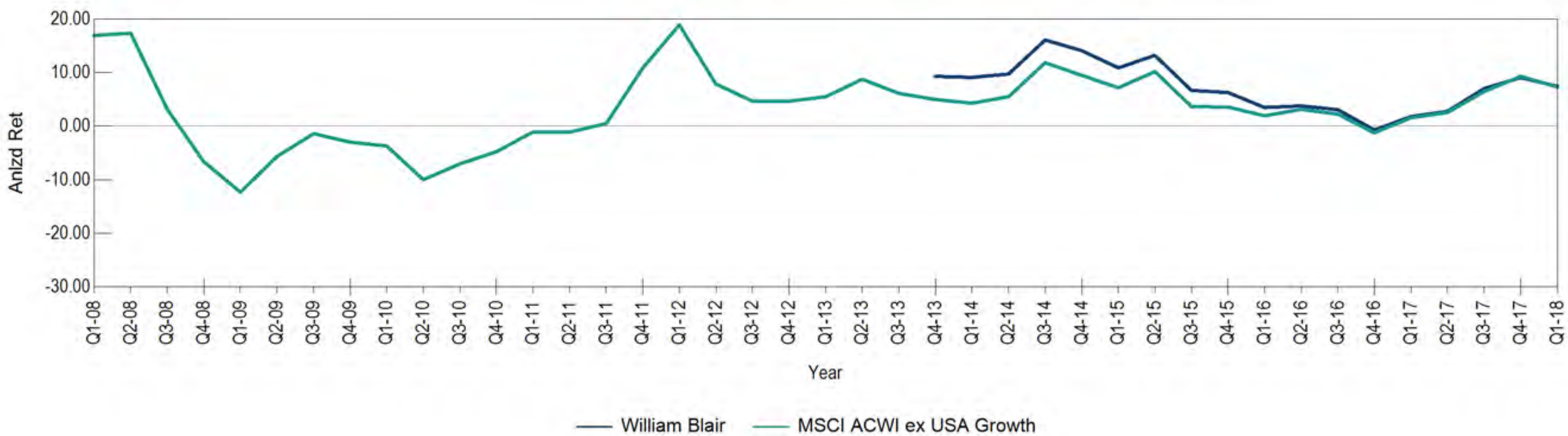
	Avg Wgt	Return	Contribution
MICRO FOCUS INTL.	0.30	-58.97	-0.18
MITSUBISHI UFJ FINL.GP.	1.82	-9.52	-0.17
LONZA GROUP	1.24	-12.96	-0.16
CANADIAN NATIONAL RY.	1.35	-11.29	-0.15
VODAFONE GROUP	1.00	-14.30	-0.14
NOVO NORDISK 'B'	1.82	-7.52	-0.14
KROTON EDUCACIONAL ON	0.41	-25.74	-0.11
VALEO	0.87	-11.77	-0.10
GLENCORE	1.57	-5.93	-0.09
ROGERS COMMS.'B'	0.73	-11.98	-0.09

Unclassified sector allocation includes cash allocations.

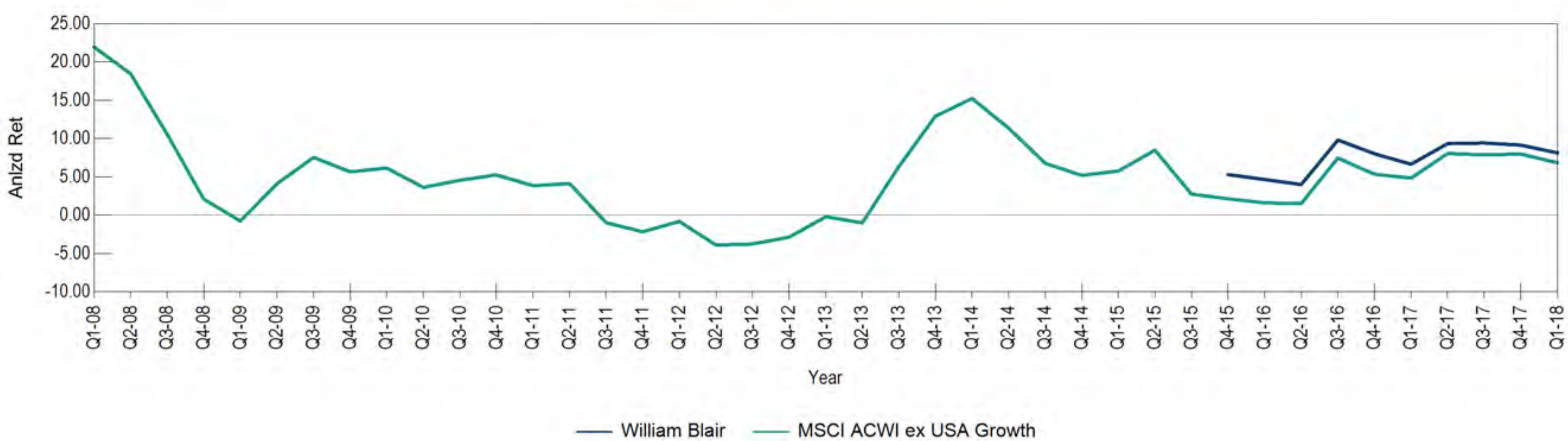


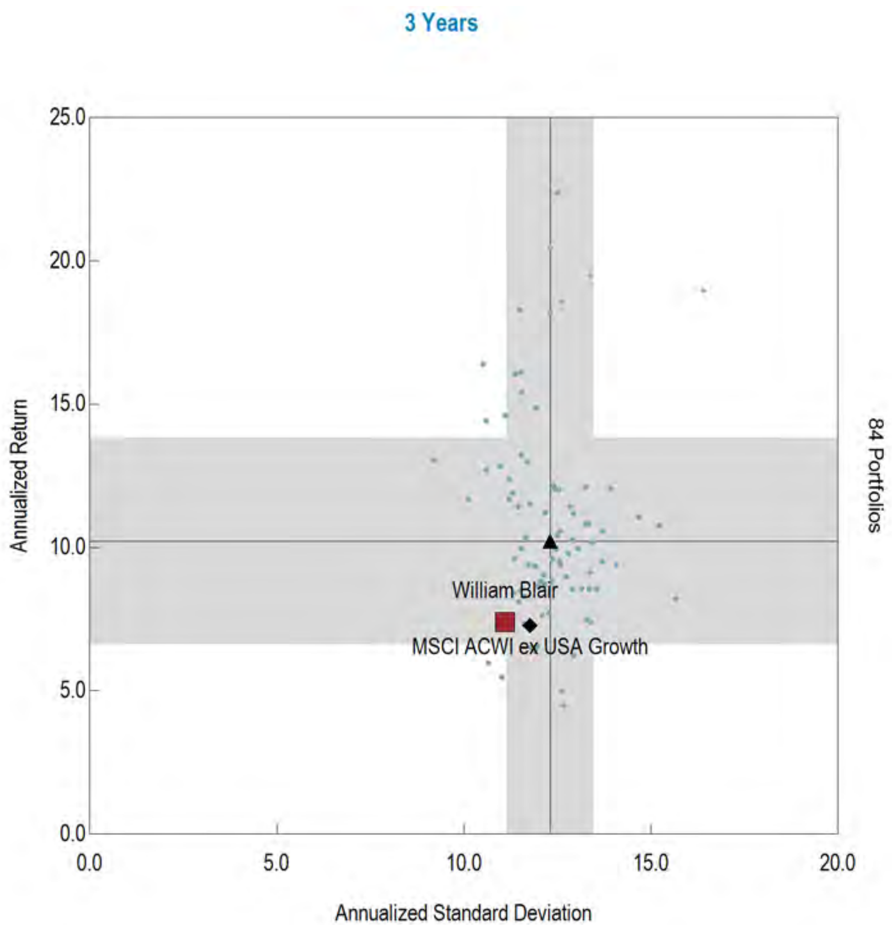
Return (Rank)	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	5.1		38.7		18.5		15.2		10.4		46.8		6.3		16.3		3.2		33.0	
25th Percentile	2.3		29.2		12.1		11.0		7.5		39.6		2.0		9.0		-0.1		24.3	
Median	1.0		25.4		10.2		9.4		6.1		35.3		-0.9		3.5		-2.5		20.3	
75th Percentile	0.0		21.7		8.6		8.5		5.3		31.8		-3.9		-0.5		-5.3		17.5	
95th Percentile	-1.3		16.9		6.3		7.3		3.5		28.3		-7.4		-5.4		-8.2		14.0	
# of Portfolios	88		88		84		72		56		94		90		70		50		46	
● William Blair	0.4	(67)	22.4	(70)	7.4	(89)	8.1	(88)	--	(--)	30.9	(81)	-1.4	(55)	0.5	(69)	-1.2	(37)	20.9	(44)
▲ MSCI ACWI ex USA Growth	-0.9	(91)	19.9	(86)	7.3	(91)	6.8	(97)	3.3	(97)	32.0	(75)	0.1	(45)	-1.3	(83)	-2.6	(53)	15.5	(87)

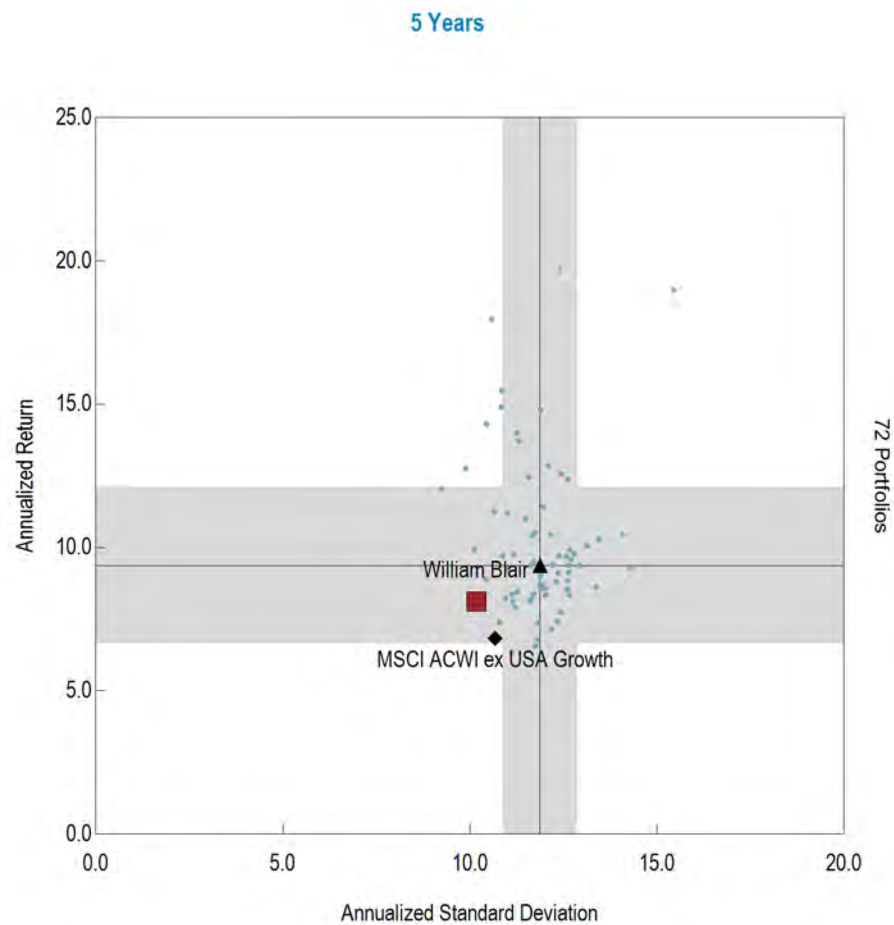
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)







3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
William Blair	7.4%	11.1%	0.6
MSCI ACWI ex USA Growth	7.3%	11.8%	0.6
eV ACWI ex-US Growth Equity Gross Median	10.2%	12.3%	0.8

5 Years

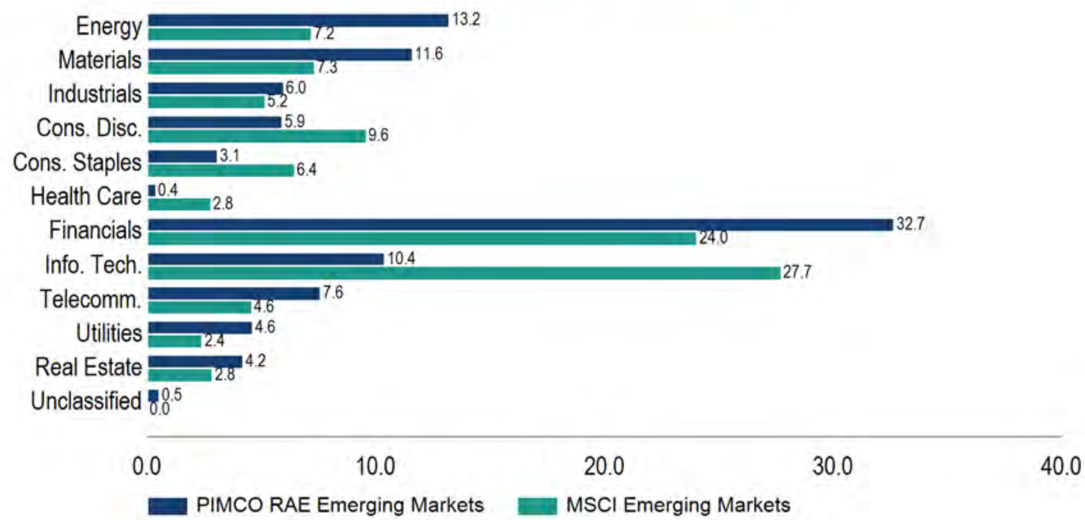
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
William Blair	8.1%	10.2%	0.8
MSCI ACWI ex USA Growth	6.8%	10.7%	0.6
eV ACWI ex-US Growth Equity Gross Median	9.4%	11.9%	0.7

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

Characteristics

	Portfolio	MSCI Emerging Markets
Number of Holdings	605	847
Weighted Avg. Market Cap. ($B)	41.53	91.91
Median Market Cap. ($B)	3.96	5.87
Price To Earnings	12.55	20.27
Price To Book	1.41	2.65
Price To Sales	1.19	2.46
Return on Equity (%)	12.44	19.03
Yield (%)	3.31	2.30
Beta		1.00

Sector Allocation (%) vs MSCI Emerging Markets



Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	10.6%	0.0%
Emerging*	88.9%	100.0%
Top 10 Largest Countries		
Korea*	19.5%	15.0%
China*	18.5%	30.0%
Hong Kong	10.1%	0.0%
Russia*	9.3%	3.6%
Taiwan*	8.8%	11.8%
Brazil*	8.3%	7.4%
South Africa*	5.4%	6.8%
India*	4.7%	8.1%
Thailand*	2.8%	2.5%
Turkey*	2.7%	1.0%
Total-Top 10 Largest Countries	**90.0%**	**86.1%**

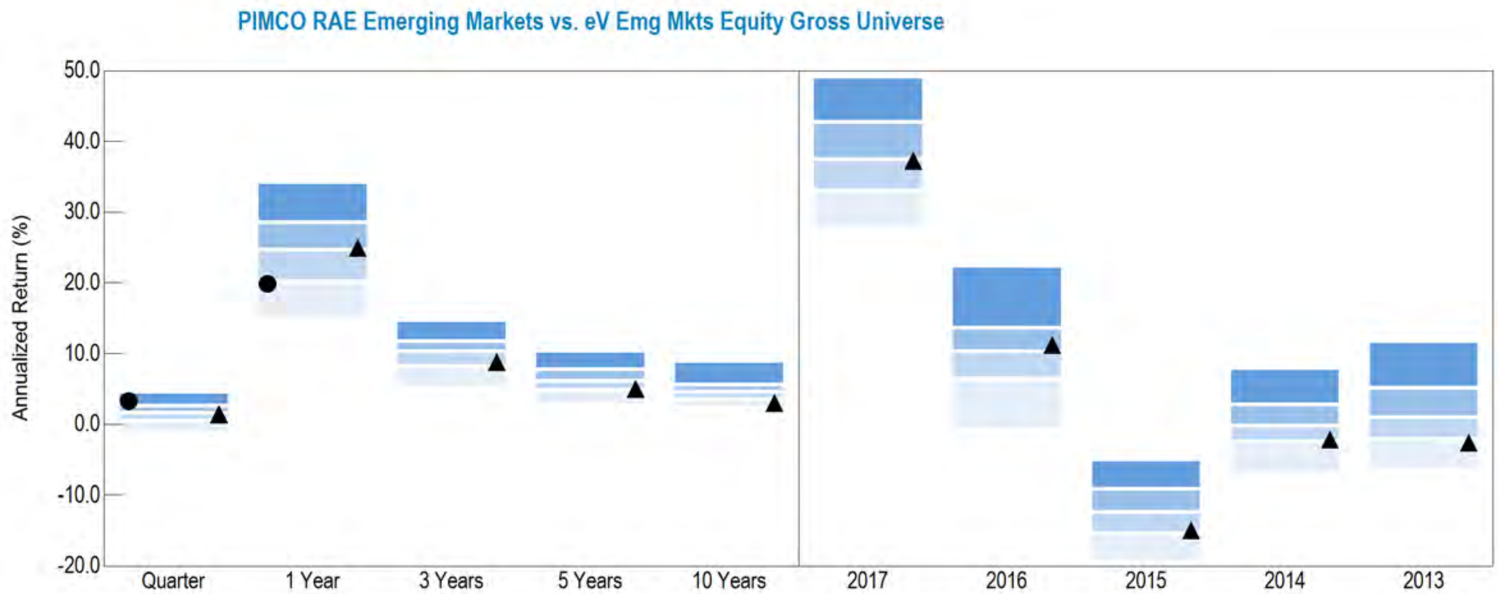
Top Contributors

	End Weight	Return	Contribution
CHINA CON.BANK 'H'	4.16	11.50	0.48
PJSC LUKOIL SPON (LON) ADR	1.68	20.41	0.34
PETROLEO BRASILEIRO ADR 1:2	0.87	37.41	0.33
PJSC GAZPROM ADR (LON)	2.79	10.34	0.29
BANCO DO BRASIL ON	0.94	29.69	0.28
AGRICULTURAL BK.OF CHIN. 'H'	1.01	22.04	0.22
CHINA NATIONAL BUILDING MATERIAL 'H'	0.98	21.41	0.21
BANK OF CHINA 'H'	2.13	9.46	0.20
PTT FB	0.55	34.68	0.19

Bottom Contributors

	End Weight	Return	Contribution
SAMSUNG ELECTRONICS	3.40	-2.99	-0.10
KT ADR 2:1	0.78	-12.24	-0.10
JAIPRAKASH ASSOCIATES	0.33	-28.86	-0.10
TATA STEEL	0.46	-19.91	-0.09
HYUNDAI MOTOR	1.18	-7.61	-0.09
RELIANCE COMMUNICATIONS	0.20	-41.12	-0.08
CHINA MOBILE	0.86	-9.57	-0.08
KOREA ELECTRIC POWER	0.57	-13.52	-0.08
SK TELECOM SPN.ADR 9:1	0.50	-13.40	-0.07
KUMBA IRON ORE	0.35	-18.40	-0.06

Unclassified sector allocation includes cash allocations.



Return (Rank)

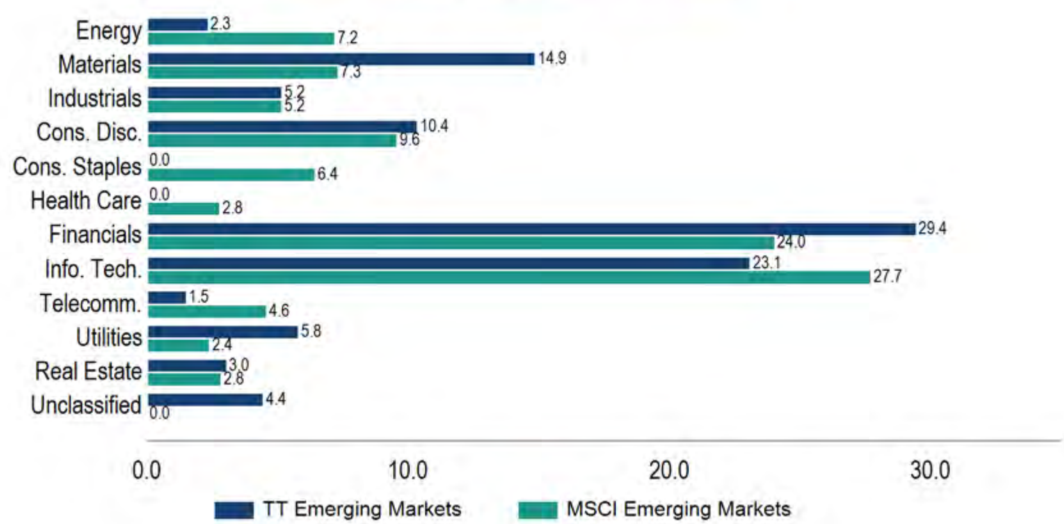
	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	4.6		34.2		14.7		10.4		8.9		49.2		22.4		-5.0		8.0		11.7	
25th Percentile	2.6		28.7		11.9		7.8		5.7		42.8		13.7		-9.0		2.9		5.2	
Median	1.7		24.8		10.3		6.2		4.7		37.6		10.4		-12.2		-0.1		1.0	
75th Percentile	0.6		20.3		8.3		5.0		3.6		33.2		6.6		-15.3		-2.4		-2.0	
95th Percentile	-1.1		15.1		5.3		2.8		2.4		27.8		-0.6		-19.2		-7.0		-6.3	
# of Portfolios	341		340		317		271		135		343		337		273		251		198	
● PIMCO RAE Emerging Markets	3.3	(14)	19.9	(79)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)
▲ MSCI Emerging Markets	1.4	(58)	24.9	(49)	8.8	(69)	5.0	(75)	3.0	(89)	37.3	(53)	11.2	(45)	-14.9	(70)	-2.2	(74)	-2.6	(80)

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

Characteristics

	Portfolio	MSCI Emerging Markets
Number of Holdings	58	847
Weighted Avg. Market Cap. ($B)	80.74	91.91
Median Market Cap. ($B)	6.41	5.87
Price To Earnings	20.37	20.27
Price To Book	3.40	2.65
Price To Sales	3.16	2.46
Return on Equity (%)	17.92	19.03
Yield (%)	2.19	2.30
Beta		1.00

Sector Allocation (%) vs MSCI Emerging Markets



Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	19.0%	0.0%
Emerging*	74.1%	100.0%
Frontier**	3.8%	0.0%
Top 10 Largest Countries		
China*	17.4%	30.0%
Korea*	14.6%	15.0%
India*	10.4%	8.1%
Taiwan*	8.5%	11.8%
South Africa*	7.9%	6.8%
Hong Kong	6.3%	0.0%
United Kingdom	6.0%	0.0%
Brazil*	5.8%	7.4%
Argentina**	3.8%	0.0%
Russia*	3.6%	3.6%
Total-Top 10 Largest Countries	**84.3%**	**82.6%**

Top Contributors

	End Weight	Return	Contribution
CHINA CON.BANK 'H'	4.89	11.50	0.56
BANCO DO BRASIL ON	1.88	29.69	0.56
CIA ENERGETICA DE MINAS GERAIS PN	1.49	24.36	0.36
LONGFOR PROPERTIES	1.27	22.09	0.28
TAIWAN SEMICON.MNFG.	2.91	9.40	0.27
ALIBABA GROUP HLDG.SPN. ADR 1:1	4.03	6.44	0.26
NEDBANK GROUP	1.54	16.49	0.25
ADVANCED SEMICON.ENGR. SUSP - SUSP.17/04/18	1.98	12.23	0.24
PAO NOVATEK GDR	1.66	13.98	0.23
TELKOM SA SOC	1.50	14.95	0.22

Bottom Contributors

	End Weight	Return	Contribution
NASPERS	4.81	-12.45	-0.60
EDELWEISS FNSR.	1.96	-21.20	-0.42
TATA STEEL	1.88	-19.91	-0.37
CHINA PACIFIC INSURANCE (GROUP) 'H'	4.77	-6.76	-0.32
ARVIND	1.73	-16.87	-0.29
HANA FINANCIAL GROUP	3.06	-7.73	-0.24
PAMPA ENERGIA ADR 1:25	1.84	-11.41	-0.21
GODREJ INDUSTRIES	1.79	-11.26	-0.20
NETEASE ADR 1:25	1.03	-18.64	-0.19
DALMIA BHARAT	1.28	-12.32	-0.16

Unclassified sector allocation includes cash allocations.

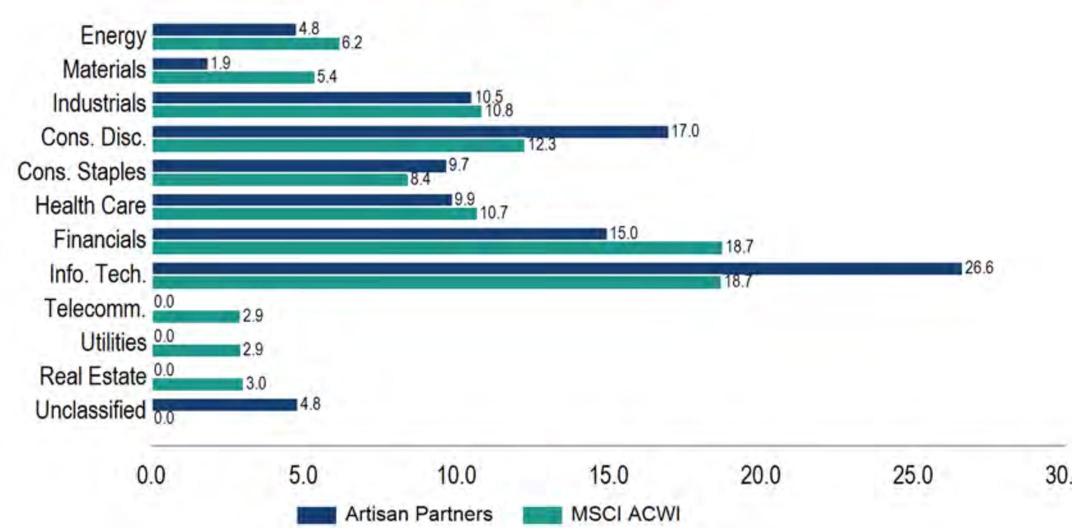
Global Equity Managers

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

Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	47	2,495
Weighted Avg. Market Cap. ($B)	78.33	121.31
Median Market Cap. ($B)	32.92	10.49
Price To Earnings	38.89	21.44
Price To Book	6.05	3.49
Price To Sales	6.32	3.08
Return on Equity (%)	18.15	17.43
Yield (%)	1.19	2.41
Beta	1.11	1.00

Sector Allocation (%) vs MSCI ACWI



Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	89.1%	87.8%
Emerging*	6.1%	12.2%
Top 10 Largest Countries		
United States	44.4%	52.0%
Japan	8.7%	8.0%
Hong Kong	7.0%	1.2%
United Kingdom	5.3%	5.7%
Netherlands	5.0%	1.2%
Cash	4.8%	0.0%
Australia	4.7%	2.2%
Denmark	3.5%	0.6%
Germany	3.4%	3.2%
Switzerland	3.1%	2.6%
Total-Top 10 Largest Countries	**89.9%**	**76.6%**

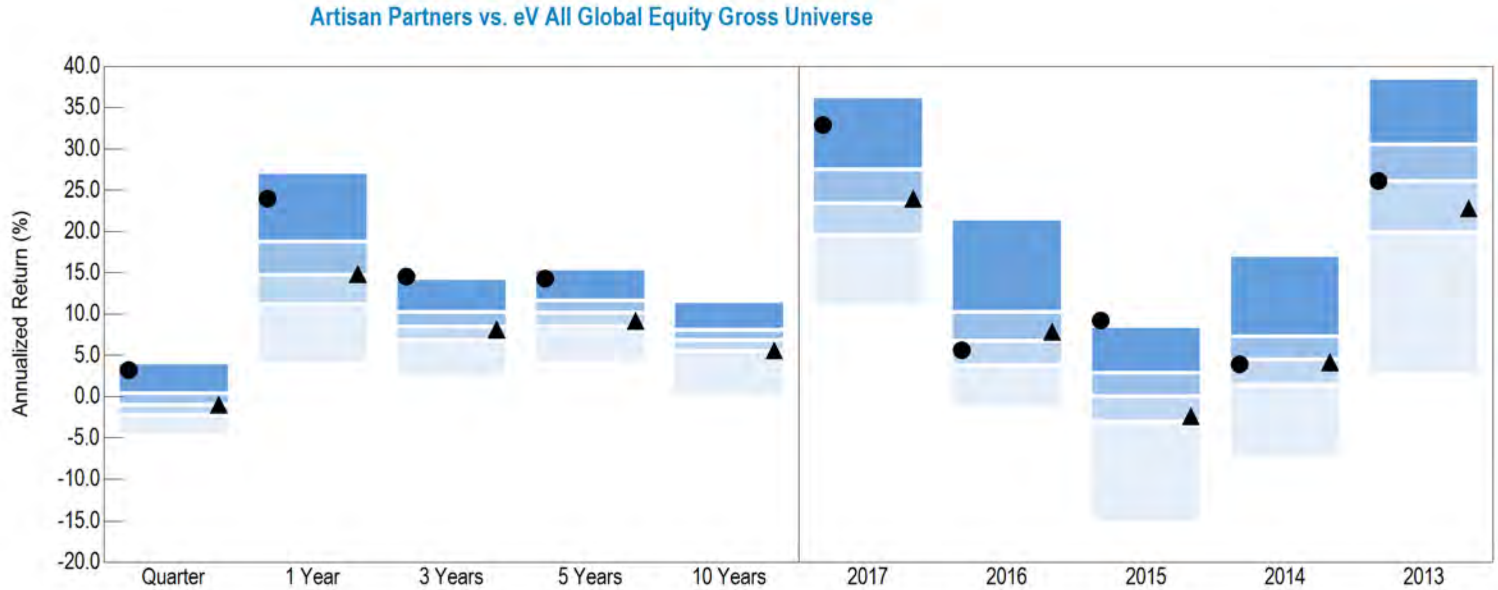
Top Contributors

	Avg Wgt	Return	Contribution
SHISEIDO	2.85	32.51	0.93
GENMAB	2.73	29.04	0.79
NINTENDO	2.29	21.51	0.49
IHS MARKIT	6.33	6.84	0.43
S&P GLOBAL	3.17	13.08	0.41
ASML HLDG.ADR 1:1	2.60	14.23	0.37
FEVERTREE DRINKS	1.77	19.87	0.35
VISA 'A'	5.89	5.09	0.30
BOSTON SCIENTIFIC	2.51	10.21	0.26
BOOKING HOLDINGS	1.26	19.72	0.25

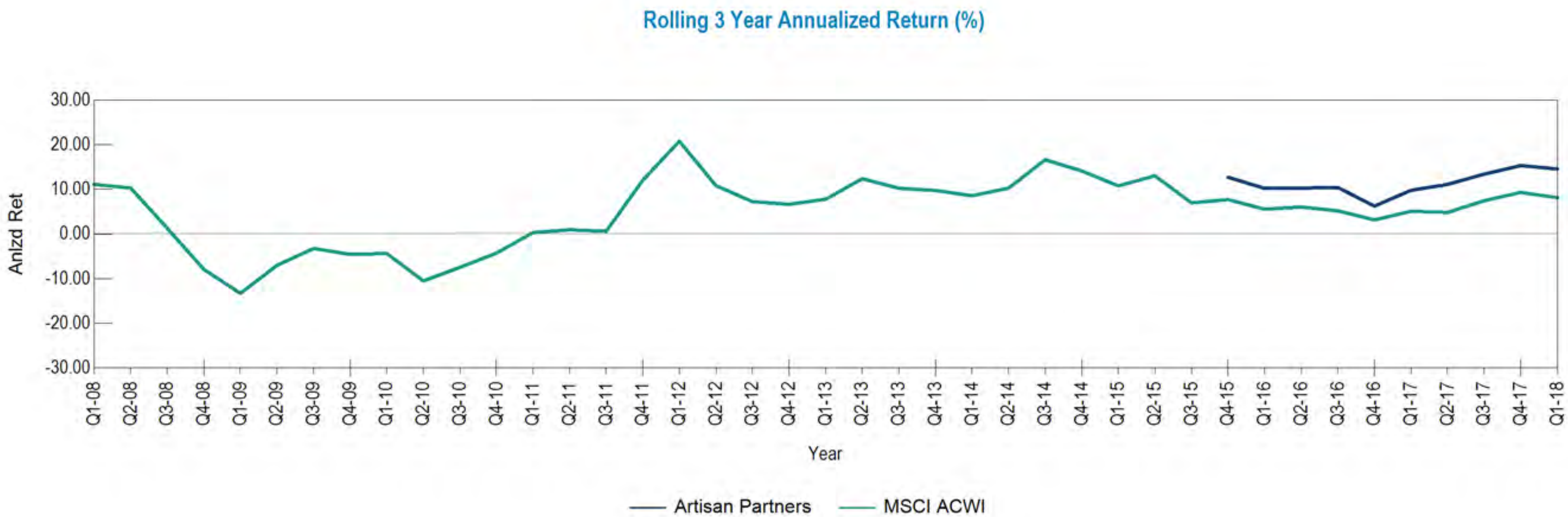
Bottom Contributors

	Avg Wgt	Return	Contribution
FACEBOOK CLASS A	3.57	-9.45	-0.34
LKQ	3.07	-6.69	-0.21
BID CORPORATION	2.14	-9.56	-0.20
ING GROEP	2.34	-8.44	-0.20
TECHTRONIC INDS.	1.68	-10.56	-0.18
INTERTEK GROUP	2.54	-6.89	-0.17
EUROFINS SCIENTIFIC	1.26	-13.44	-0.17
REGENERON PHARMS.	1.96	-8.41	-0.16
SAP	1.90	-6.83	-0.13
TEMENOS GROUP	1.81	-6.87	-0.12

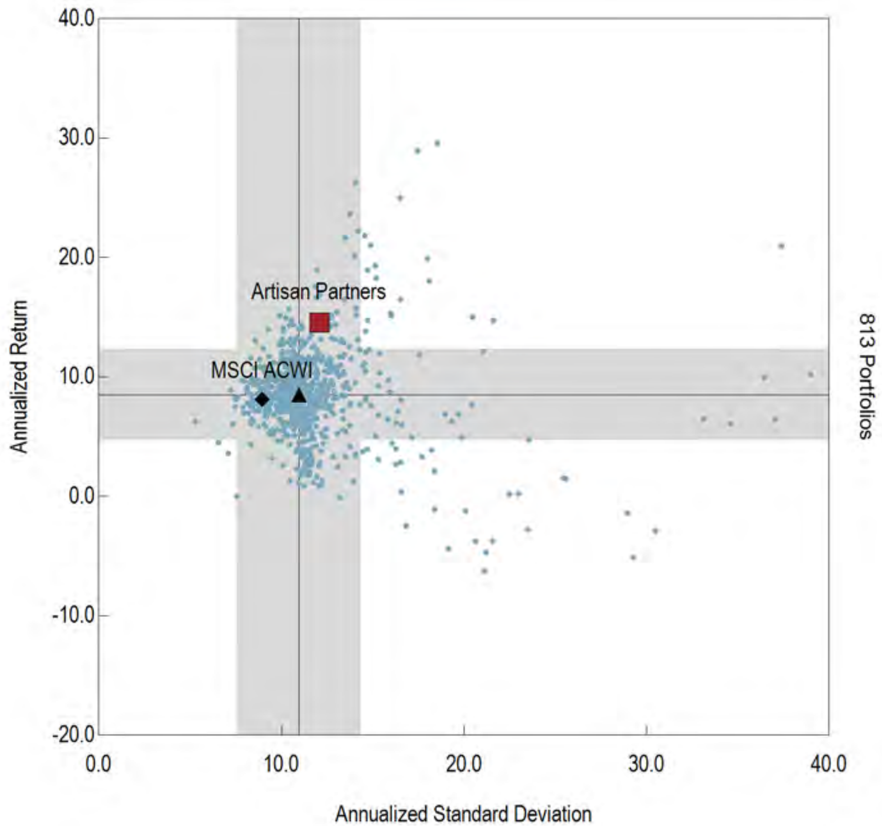
Unclassified sector allocation includes cash allocations.



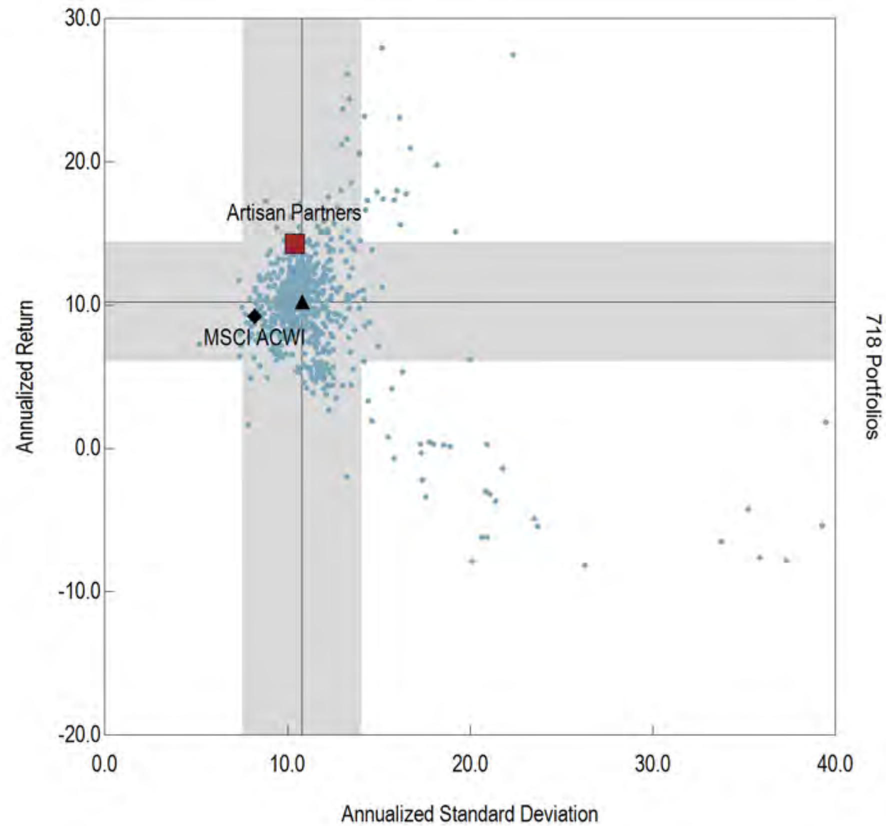
Return (Rank)	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	4.1		27.2		14.3		15.5		11.5		36.3		21.5		8.5		17.1		38.6	
25th Percentile	0.4		18.8		10.3		11.7		8.2		27.6		10.3		3.0		7.4		30.6	
Median	-0.9		14.8		8.5		10.2		6.9		23.5		6.8		0.1		4.6		26.2	
75th Percentile	-2.2		11.2		6.9		8.6		5.6		19.6		3.9		-2.9		1.5		20.0	
95th Percentile	-4.5		4.0		2.3		4.2		0.1		11.0		-1.4		-15.1		-7.4		2.7	
# of Portfolios	883		881		813		718		434		880		842		692		609		552	
● Artisan Partners	3.2	(7)	24.0	(10)	14.5	(5)	14.3	(8)	--	(--)	32.9	(11)	5.6	(61)	9.2	(4)	3.9	(56)	26.1	(51)
▲ MSCI ACWI	-1.0	(52)	14.8	(50)	8.1	(58)	9.2	(69)	5.6	(76)	24.0	(47)	7.9	(42)	-2.4	(73)	4.2	(54)	22.8	(66)


Rolling 3 Year Annualized Return (%)
Anlzd Ret
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
Q1-08 Q2-08 Q3-08 Q4-08 Q1-09 Q2-09 Q3-09 Q4-09 Q1-10 Q2-10 Q3-10 Q4-10 Q1-11 Q2-11 Q3-11 Q4-11 Q1-12 Q2-12 Q3-12 Q4-12 Q1-13 Q2-13 Q3-13 Q4-13 Q1-14 Q2-14 Q3-14 Q4-14 Q1-15 Q2-15 Q3-15 Q4-15 Q1-16 Q2-16 Q3-16 Q4-16 Q1-17 Q2-17 Q3-17 Q4-17 Q1-18
Year
Artisan Partners
MSCI ACWI

3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Artisan Partners	14.5%	12.1%	1.2
MSCI ACWI	8.1%	9.0%	0.8
eV All Global Equity Gross Median	8.5%	11.0%	0.7

5 Years

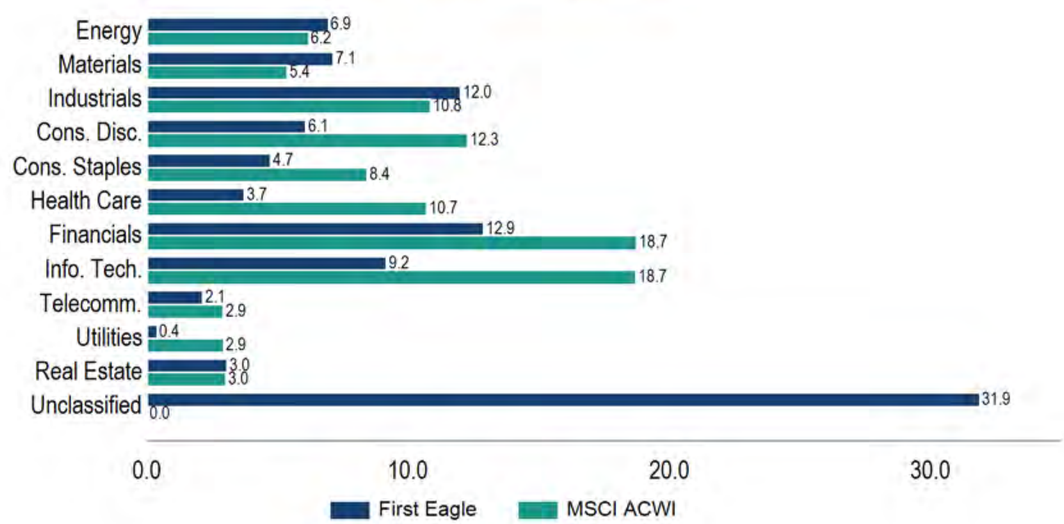
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Artisan Partners	14.3%	10.4%	1.3
MSCI ACWI	9.2%	8.2%	1.1
eV All Global Equity Gross Median	10.2%	10.8%	0.9

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

Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	172	2,495
Weighted Avg. Market Cap. ($B)	71.79	121.31
Median Market Cap. ($B)	18.42	10.49
Price To Earnings	22.33	21.44
Price To Book	3.24	3.49
Price To Sales	3.37	3.08
Return on Equity (%)	15.42	17.43
Yield (%)	2.19	2.41
Beta	0.70	1.00

Sector Allocation (%) vs MSCI ACWI



Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	77.4%	87.8%
Emerging*	3.4%	12.2%
Cash	19.2%	
Top 10 Largest Countries		
United States	46.6%	52.0%
Cash	19.2%	0.0%
Japan	11.7%	8.0%
France	5.4%	3.6%
United Kingdom	3.3%	5.7%
Canada	3.0%	2.9%
Korea*	1.5%	1.8%
Switzerland	1.4%	2.6%
Germany	1.3%	3.2%
Belgium	1.1%	0.4%
Total-Top 10 Largest Countries	**94.4%**	**80.2%**

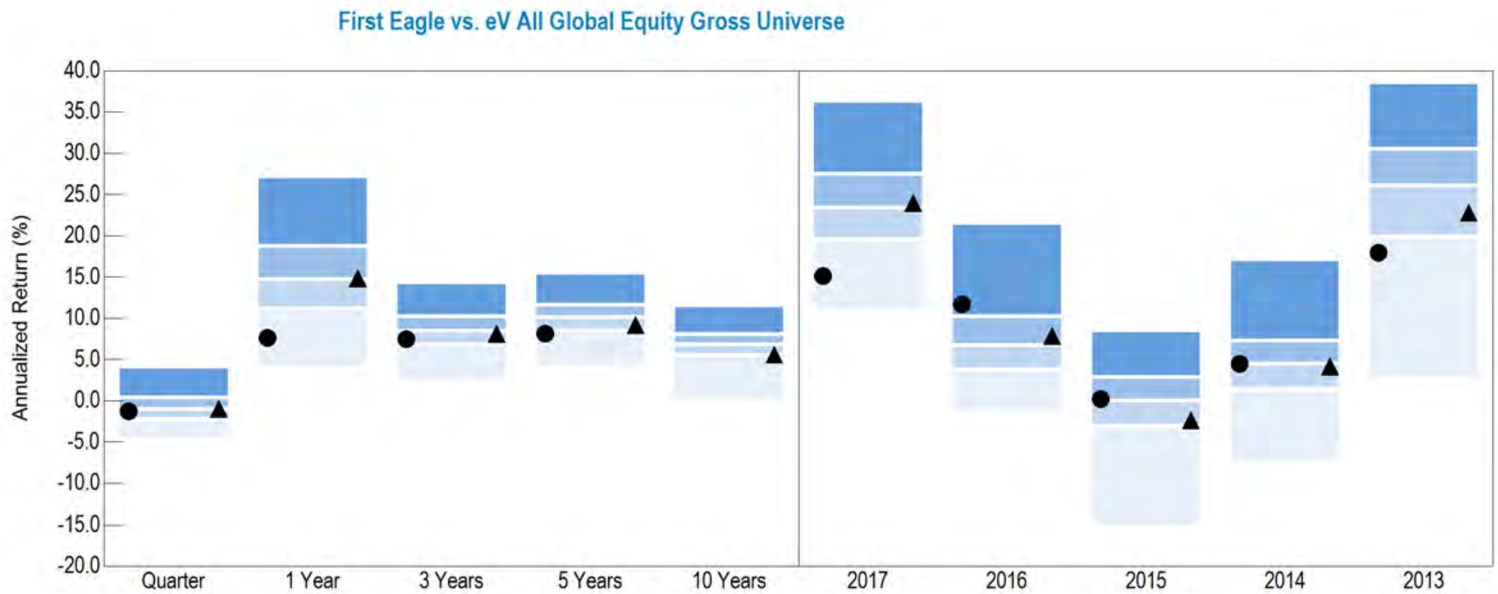
Top Contributors

	Avg Wgt	Return	Contribution
MICROSOFT	2.02	7.19	0.15
KEYENCE	1.00	10.91	0.11
FANUC	1.86	5.53	0.10
ASTELLAS PHARMA	0.36	20.32	0.07
VARIAN MEDICAL SYSTEMS	0.64	10.35	0.07
NTT DOCOMO INC	0.61	10.15	0.06
SOMPO HOLDINGS	1.16	5.30	0.06
CONOCOPHILLIPS	0.70	8.61	0.06
GBL NEW	1.06	5.62	0.06
KDDI	1.35	4.33	0.06

Bottom Contributors

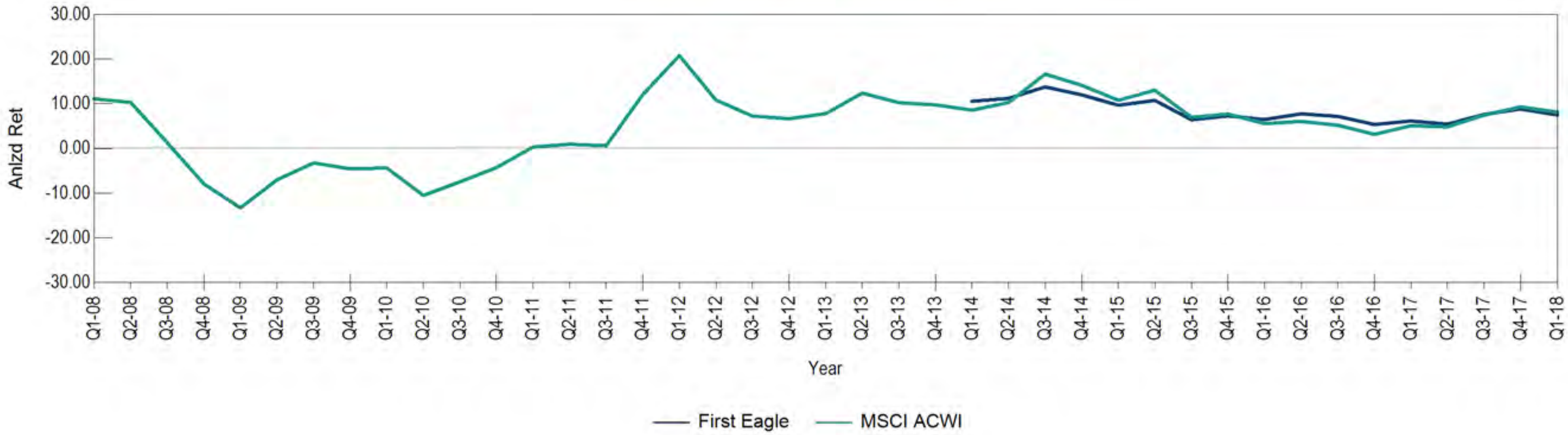
	Avg Wgt	Return	Contribution
COMCAST 'A'	1.46	-14.35	-0.21
EXXON MOBIL	1.20	-9.89	-0.12
NEWCREST MINING	0.67	-15.52	-0.10
HEIDELBERGCEMENT	1.06	-9.78	-0.10
SODEXO	0.43	-23.11	-0.10
SYNCHRONY FINANCIAL	0.72	-12.82	-0.09
KT & G	0.63	-13.04	-0.08
AMERICAN EXPRESS	1.43	-5.75	-0.08
BRITISH AMERICAN TOBACCO	0.53	-13.56	-0.07
3M	1.14	-6.19	-0.07

Unclassified sector allocation includes cash allocations and Gold allocations (7.2% as of 3/31/2018).

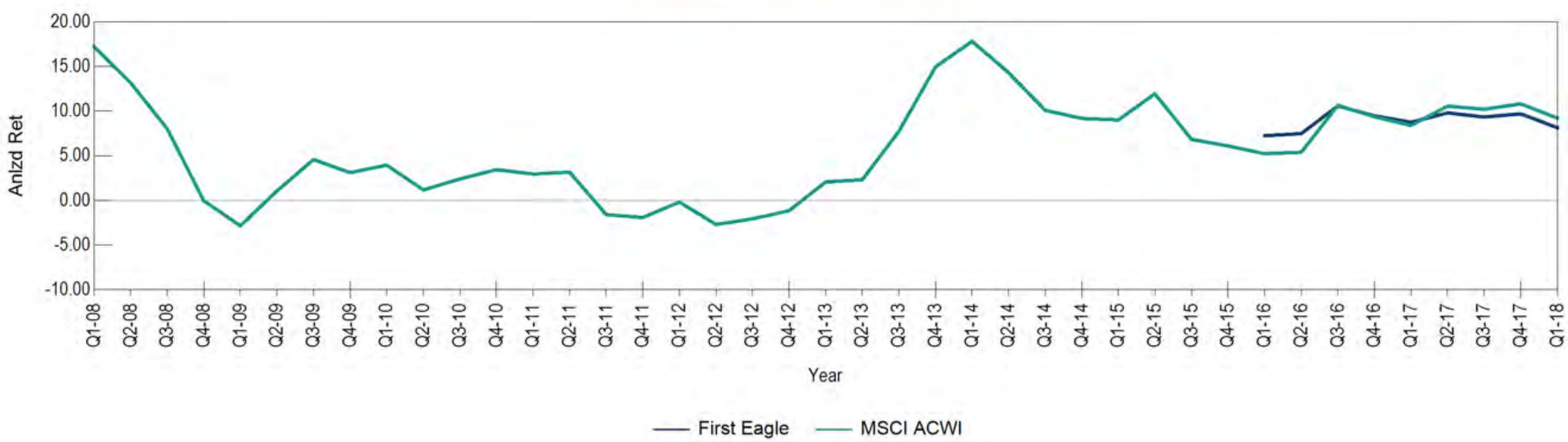


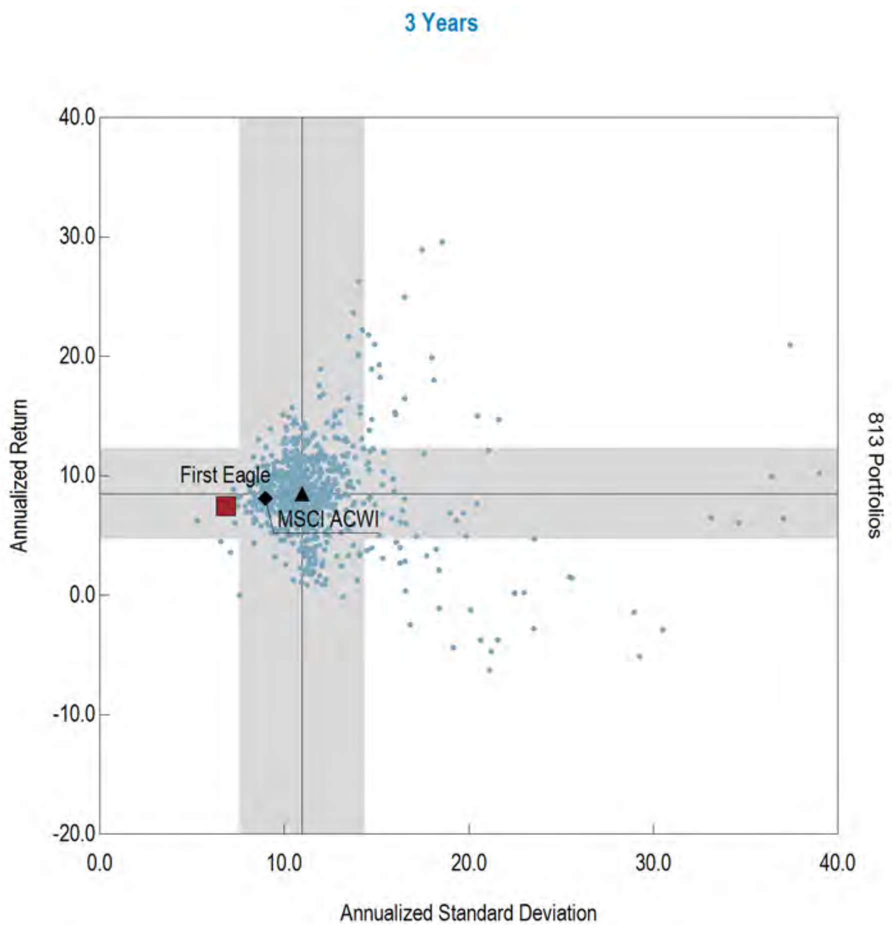
Return (Rank)	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	4.1		27.2		14.3		15.5		11.5		36.3		21.5		8.5		17.1		38.6	
25th Percentile	0.4		18.8		10.3		11.7		8.2		27.6		10.3		3.0		7.4		30.6	
Median	-0.9		14.8		8.5		10.2		6.9		23.5		6.8		0.1		4.6		26.2	
75th Percentile	-2.2		11.2		6.9		8.6		5.6		19.6		3.9		-2.9		1.5		20.0	
95th Percentile	-4.5		4.0		2.3		4.2		0.1		11.0		-1.4		-15.1		-7.4		2.7	
# of Portfolios	883		881		813		718		434		880		842		692		609		552	
● First Eagle	-1.3	(59)	7.6	(89)	7.5	(68)	8.1	(79)	--	(--)	15.1	(89)	11.7	(19)	0.2	(49)	4.5	(51)	17.9	(80)
▲ MSCI ACWI	-1.0	(52)	14.8	(50)	8.1	(58)	9.2	(69)	5.6	(76)	24.0	(47)	7.9	(42)	-2.4	(73)	4.2	(54)	22.8	(66)

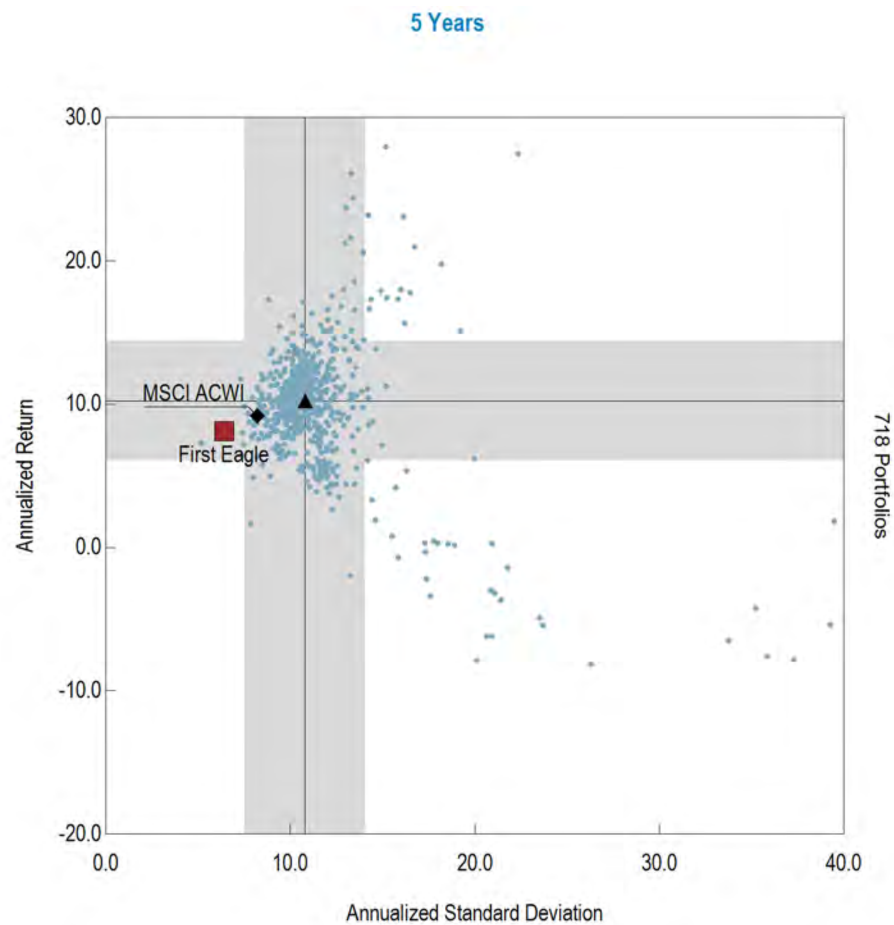
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)







3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
First Eagle	7.5%	6.8%	1.0
MSCI ACWI	8.1%	9.0%	0.8
eV All Global Equity Gross Median	8.5%	11.0%	0.7

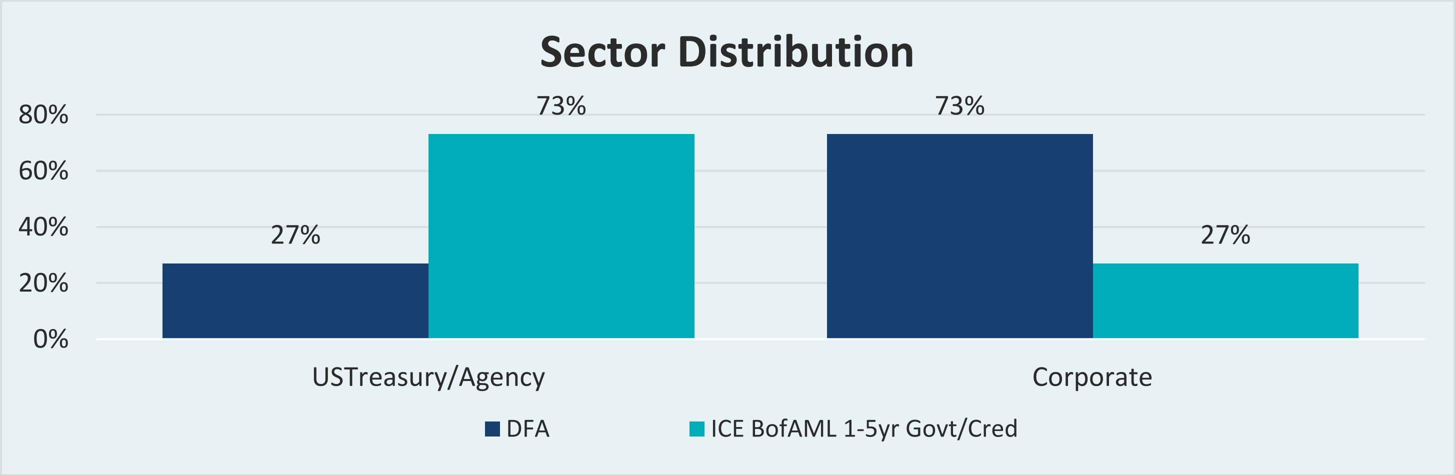
5 Years

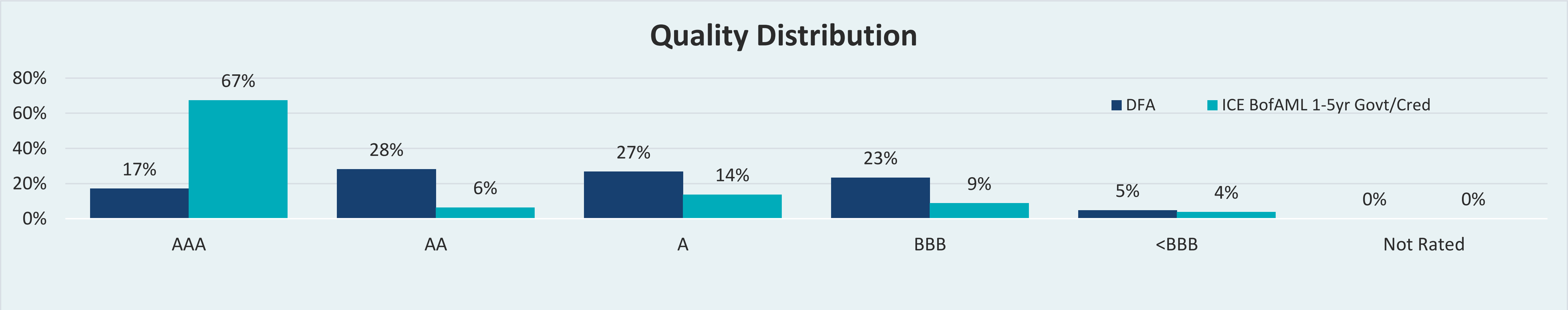
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
First Eagle	8.1%	6.4%	1.2
MSCI ACWI	9.2%	8.2%	1.1
eV All Global Equity Gross Median	10.2%	10.8%	0.9

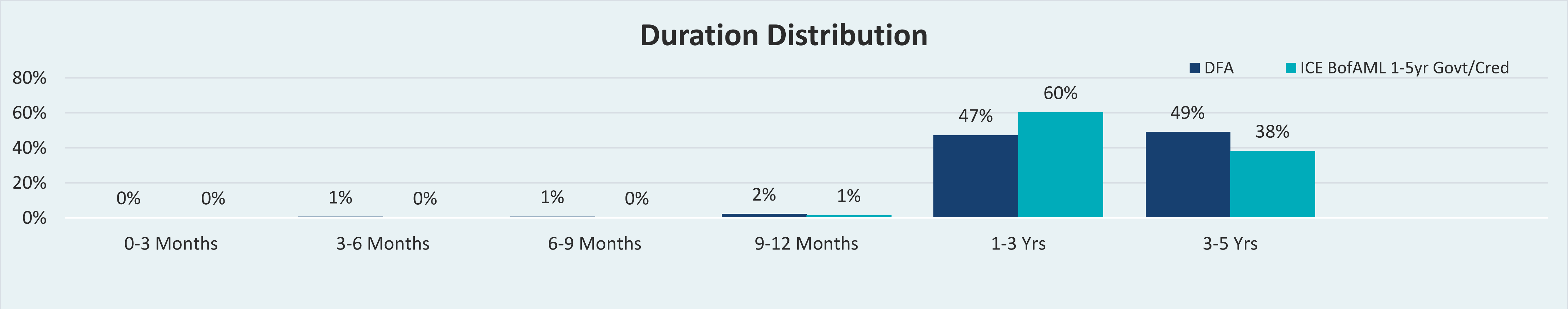
Domestic Fixed Income Managers

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

	DFA	ICE BofAML 1-5yr Gov/Credit
Effective Duration	2.85	2.68
Yield to Maturity	3.01	2.65
Average Quality	A+	Aa1
Average Coupon	2.79%	2.47%

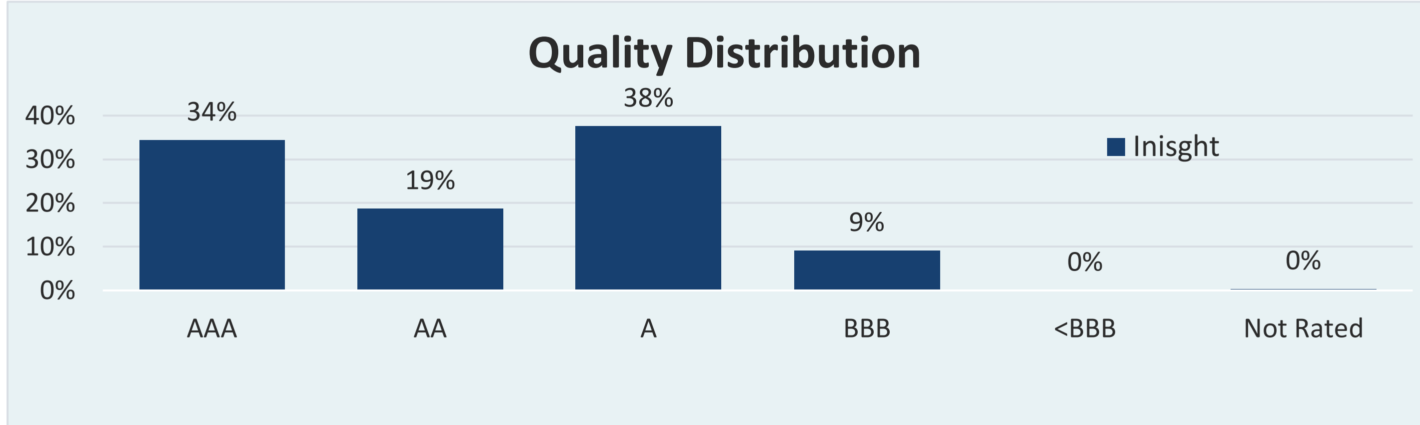


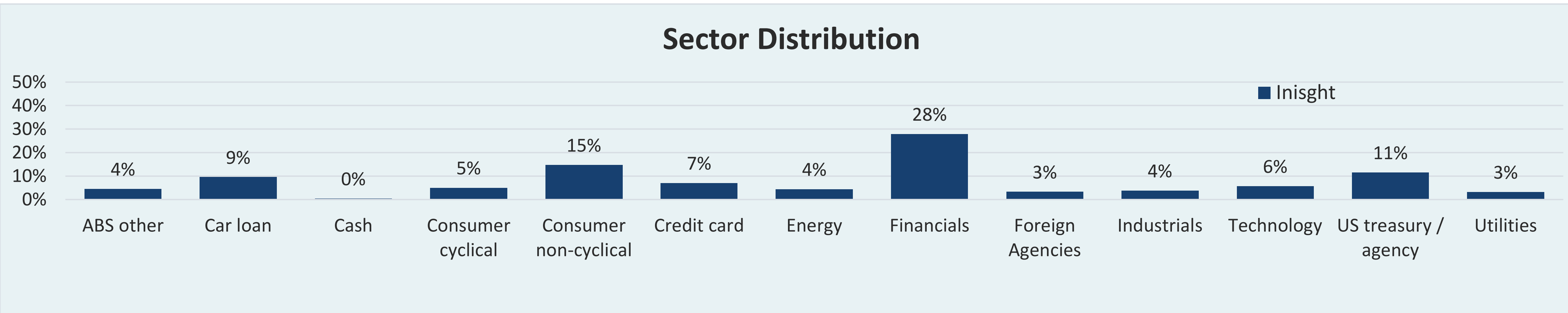




High quality, short duration multi-sector fixed income portfolio comprised of Treasuries, Agencies, investment grade corporates, and ABS designed specifically to meet CCCERA's liabilities. Key personnel include Gerard Berrigan and Jesse Fogarty.

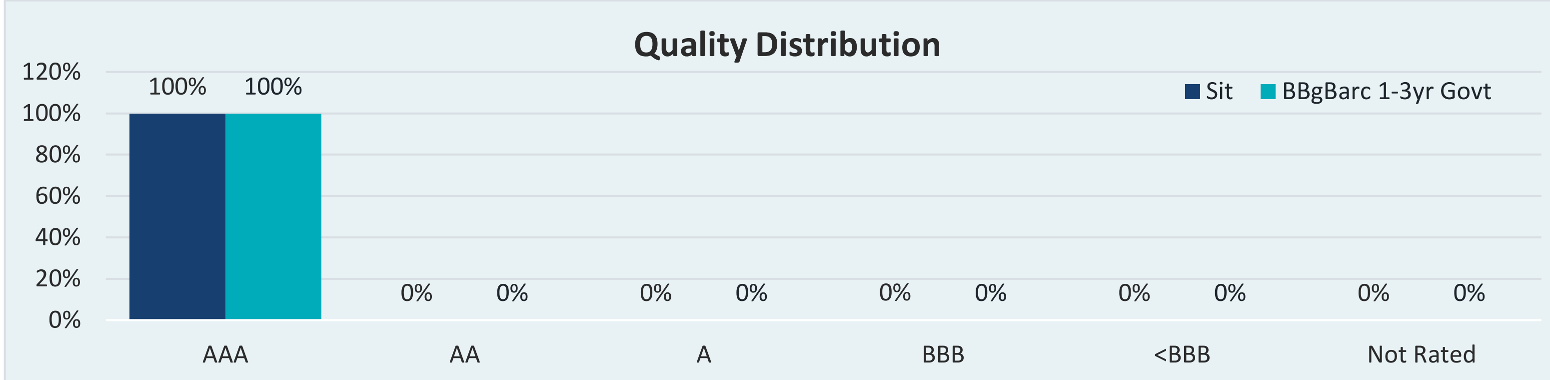
	Inisight	BBgBarc 1-3yr Govt
Effective Duration	1.28	2.06
Yield to Maturity	2.69	1.99
Average Quality	AA-	AAA
Average Coupon	2.5%	1.8%

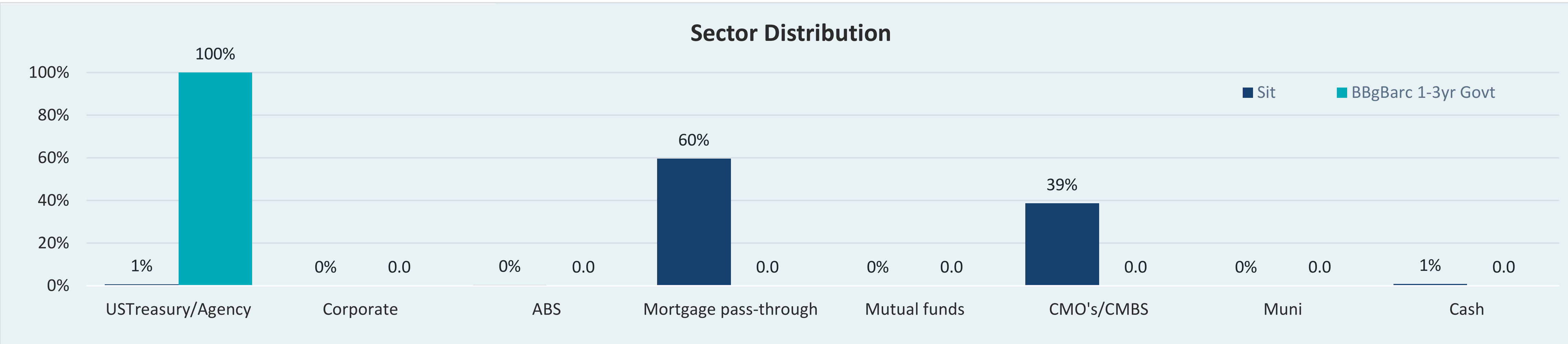


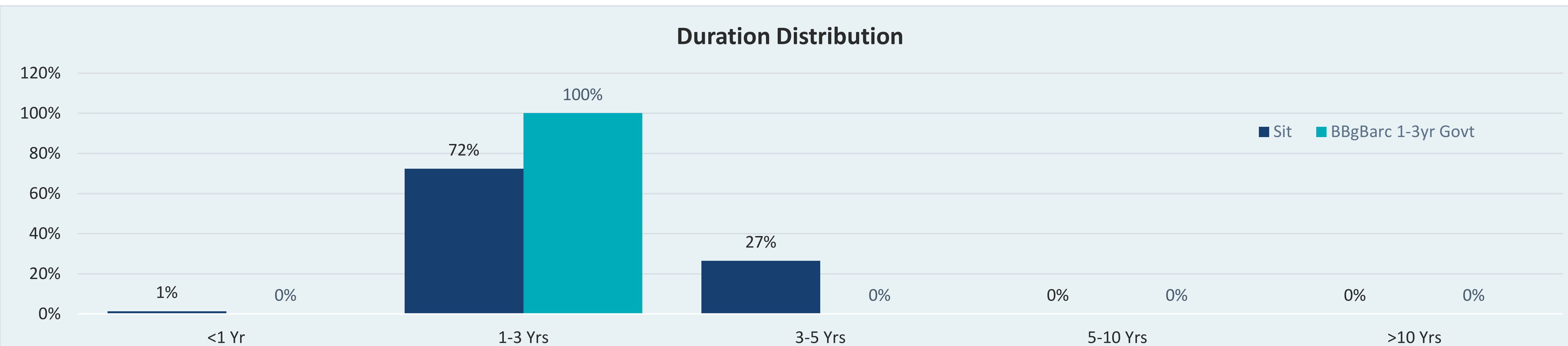


Short duration fixed income portfolio with a focus on earning high levels of interest income. Primary personnel include Bryce Doty, Paul Jungquist and Michael Brilley.

	Sit	BBgBarc 1-3yr Govt
Adjusted Duration	2.50	2.06
Yield to Maturity	2.70	1.99
Average Quality	AAA	AAA
Average Coupon	6.5%	1.8%



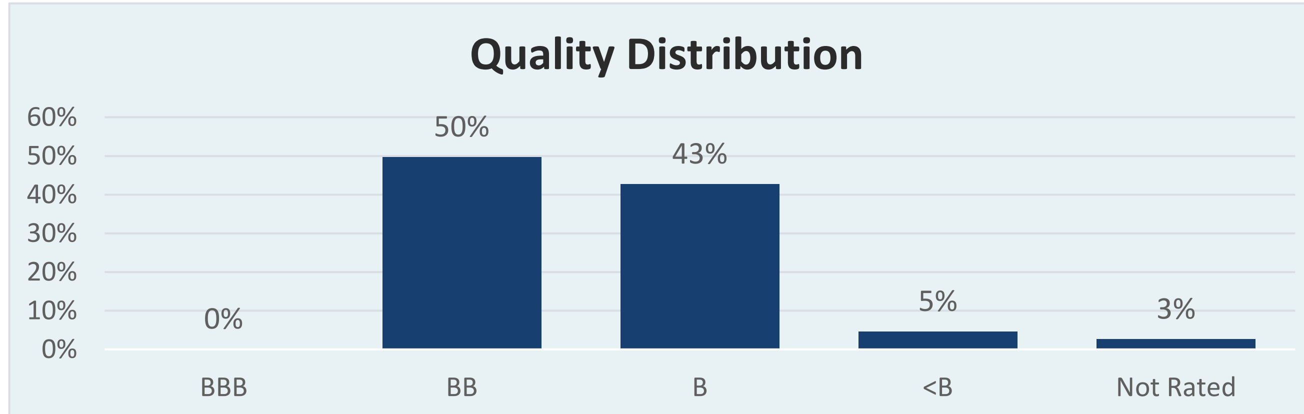


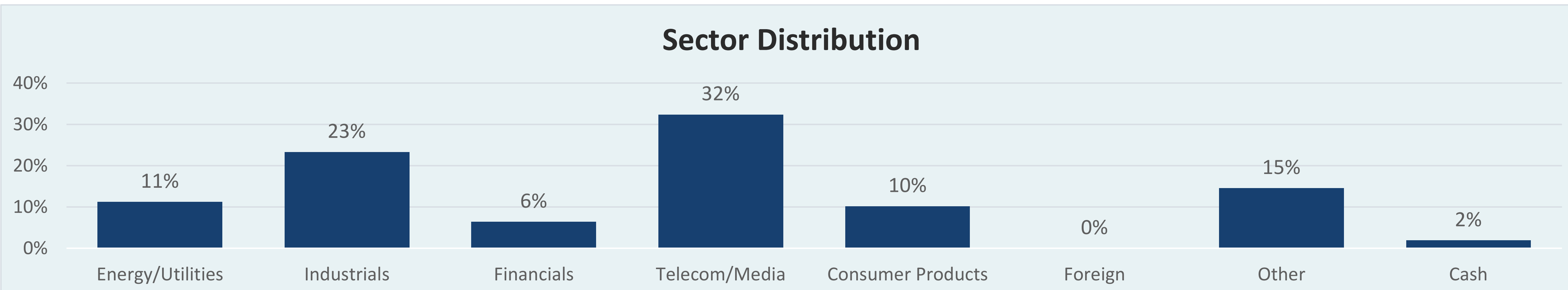


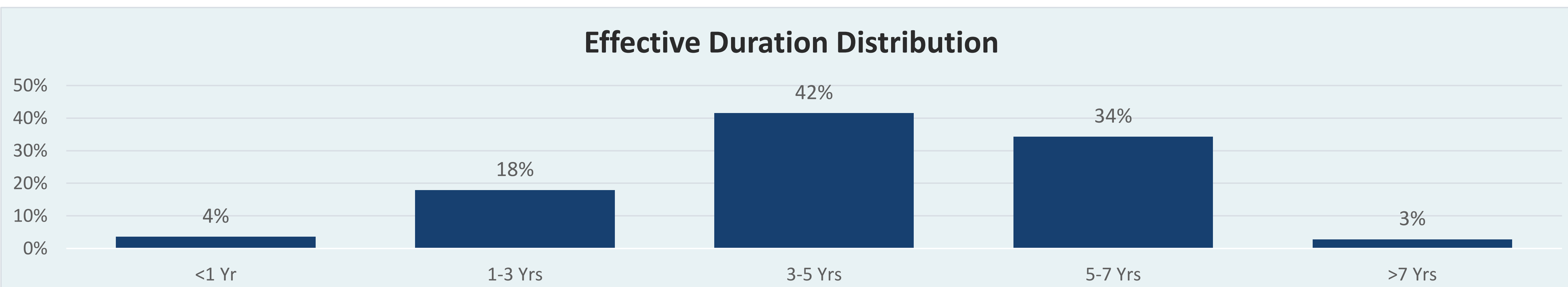
High Yield Managers

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

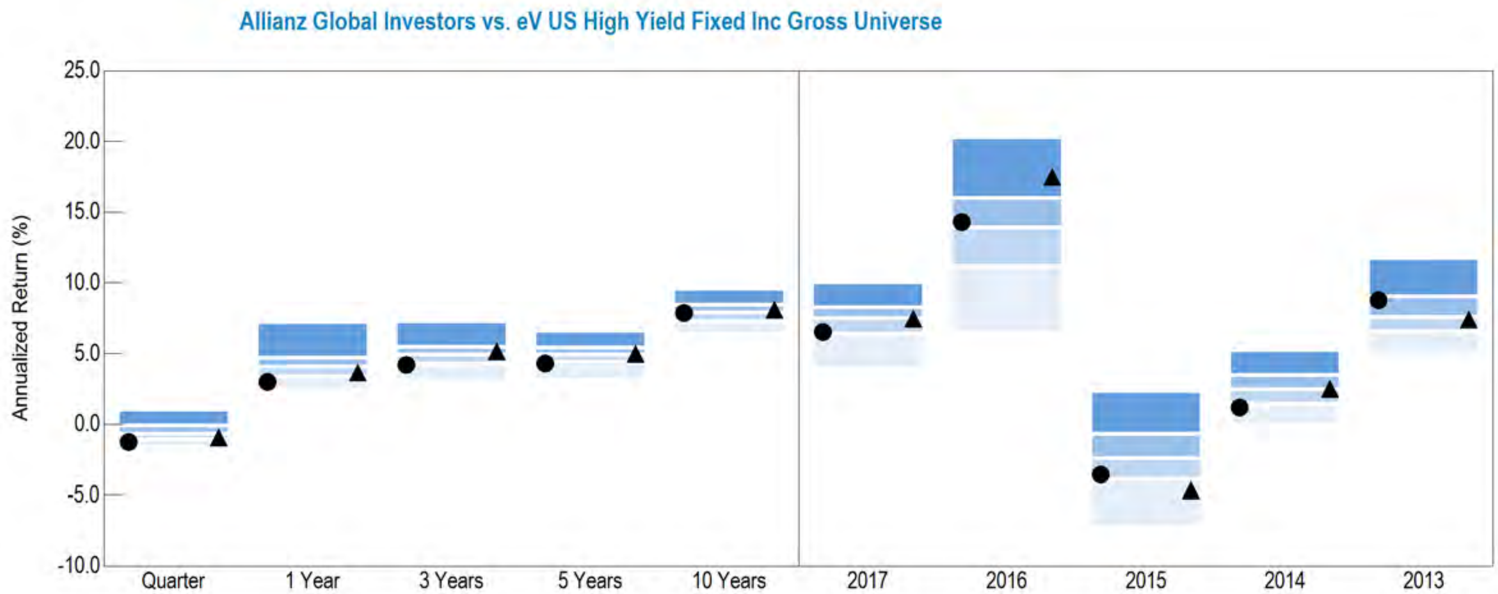
	Allianz	ICE BofAML HY Master II
Effective Duration	4.30	4.20
Yield to Maturity	6.30	6.60
Average Quality	B1	B1
Average Coupon	6.3%	6.3%





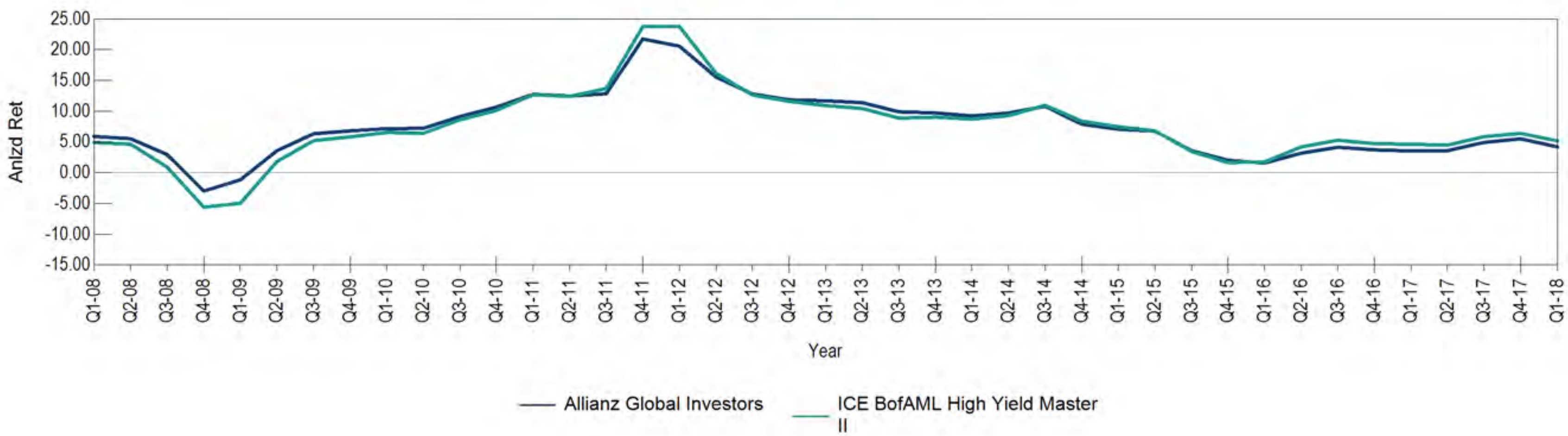


Quality distribution excludes cash.

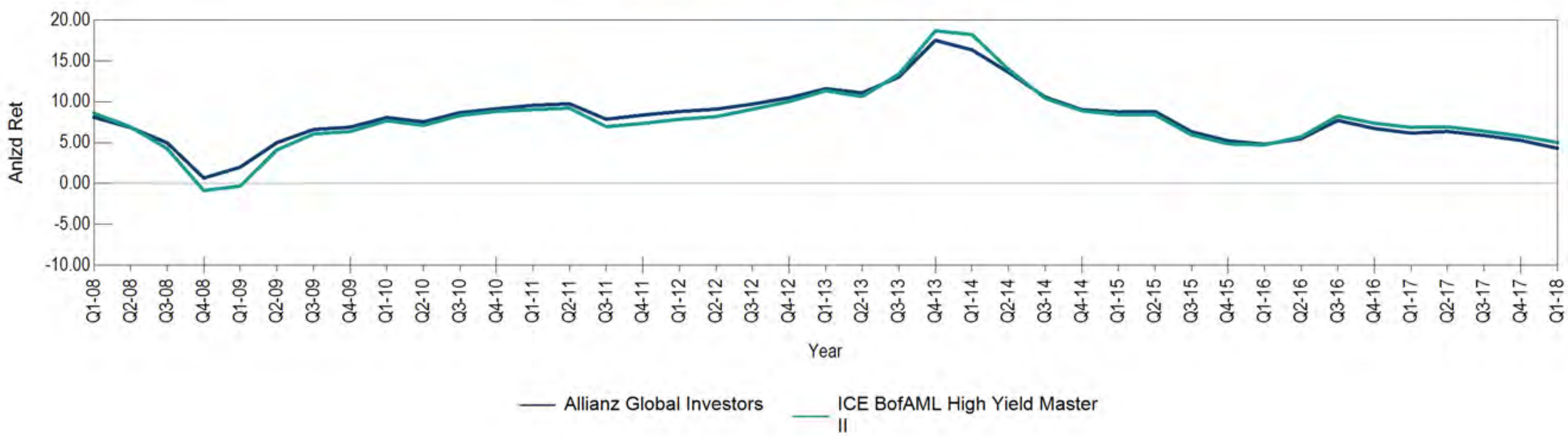


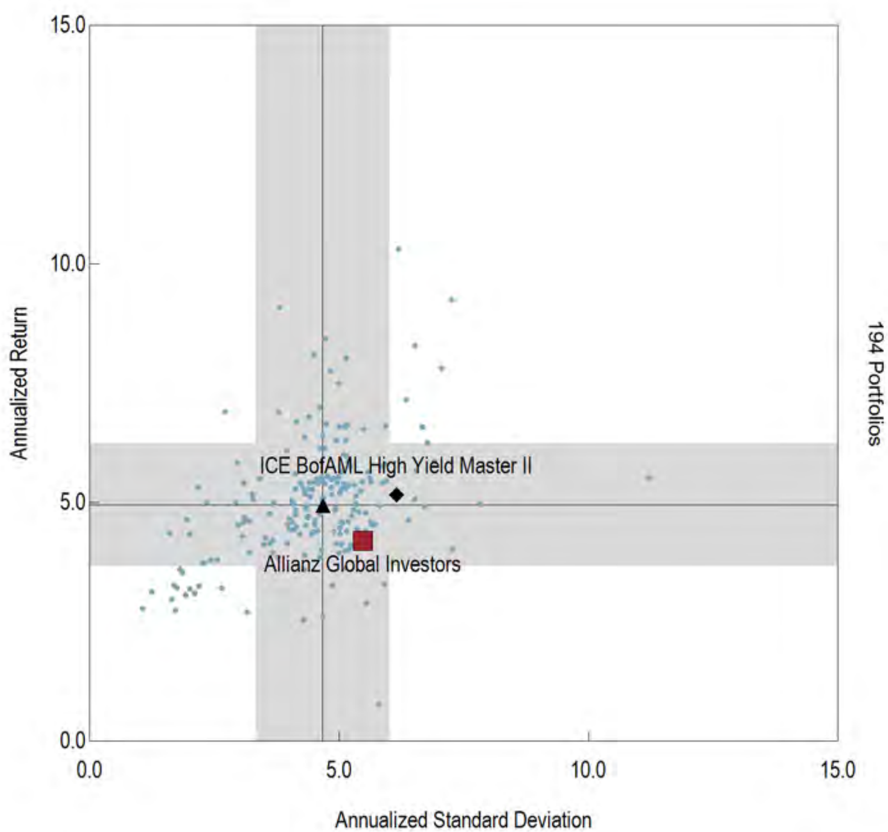
	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
Return (Rank)																				
5th Percentile	1.0		7.2		7.3		6.6		9.6		10.0		20.3		2.3		5.2		11.7	
25th Percentile	-0.1		4.7		5.5		5.4		8.5		8.3		16.0		-0.7		3.5		9.1	
Median	-0.7		4.1		4.9		5.0		7.9		7.5		14.0		-2.4		2.5		7.6	
75th Percentile	-1.0		3.4		4.3		4.4		7.3		6.5		11.3		-3.8		1.5		6.6	
95th Percentile	-1.6		2.5		3.1		3.2		6.4		4.0		6.6		-7.2		0.0		5.0	
# of Portfolios	198		198		194		172		121		198		183		155		141		130	
● Allianz Global Investors	-1.3	(82)	3.0	(85)	4.2	(78)	4.3	(80)	7.9	(54)	6.5	(74)	14.3	(47)	-3.5	(68)	1.2	(83)	8.8	(28)
▲ ICE BofAML High Yield Master II	-0.9	(66)	3.7	(70)	5.2	(42)	5.0	(49)	8.1	(42)	7.5	(53)	17.5	(14)	-4.6	(83)	2.5	(50)	7.4	(55)

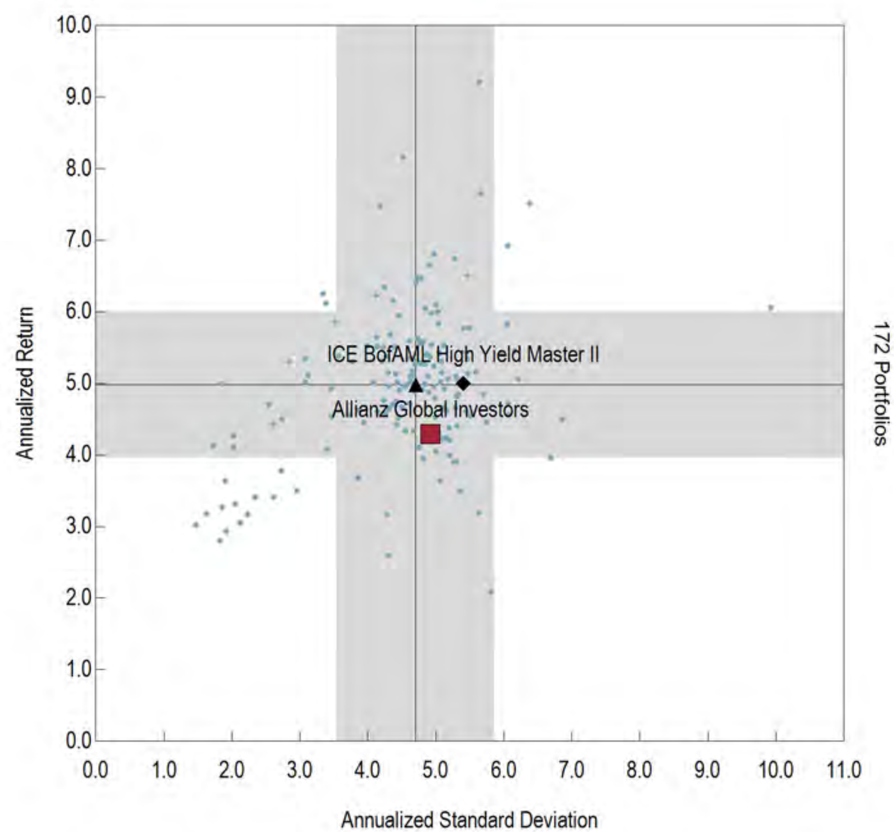
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)







3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Allianz Global Investors	4.2%	5.5%	0.7
ICE BofAML High Yield Master II	5.2%	6.1%	0.8
eV US High Yield Fixed Inc Gross Median	4.9%	4.7%	1.0

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Allianz Global Investors	4.3%	4.9%	0.8
ICE BofAML High Yield Master II	5.0%	5.4%	0.9
eV US High Yield Fixed Inc Gross Median	5.0%	4.7%	1.0

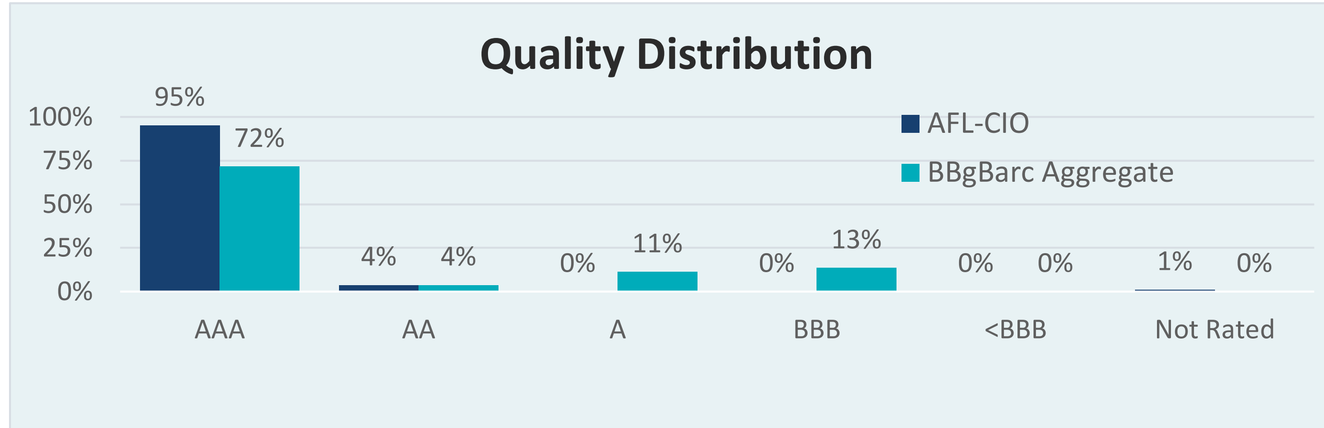
Diversifying Fixed Income Managers

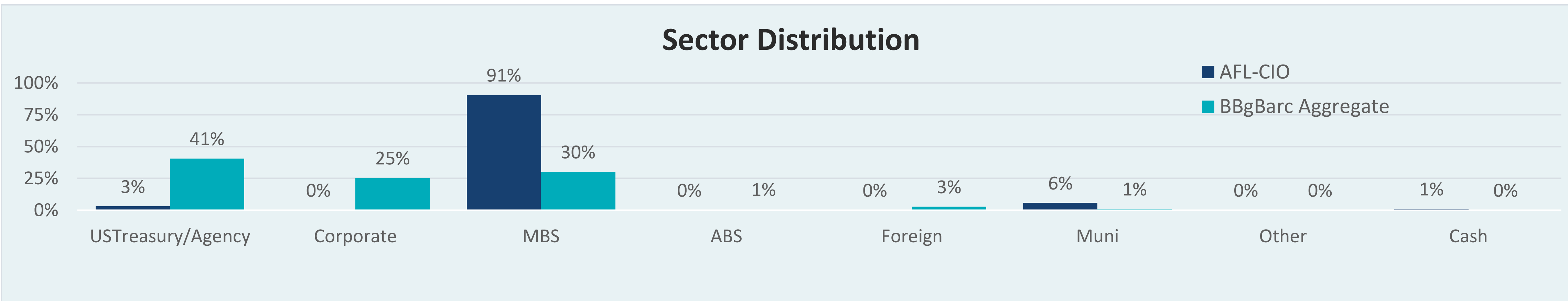
AFL-CIO
Manager Portfolio Overview

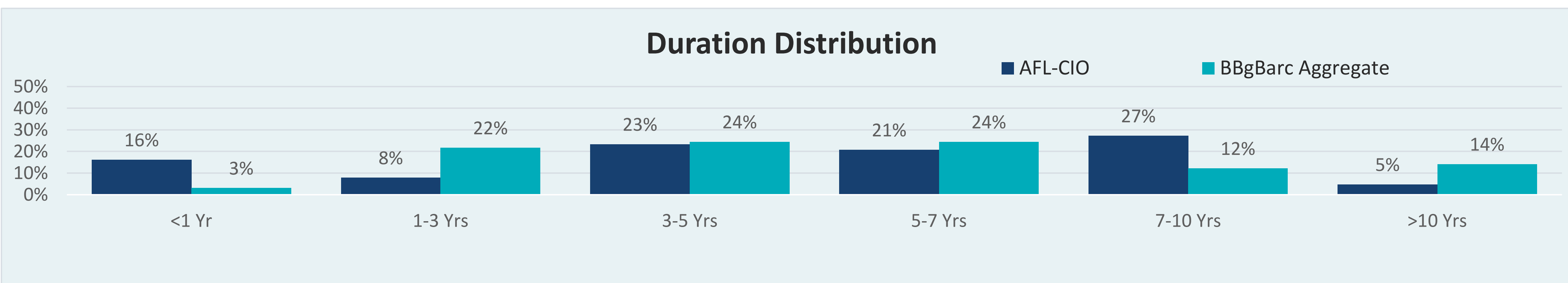
Period Ending: March 31, 2018

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

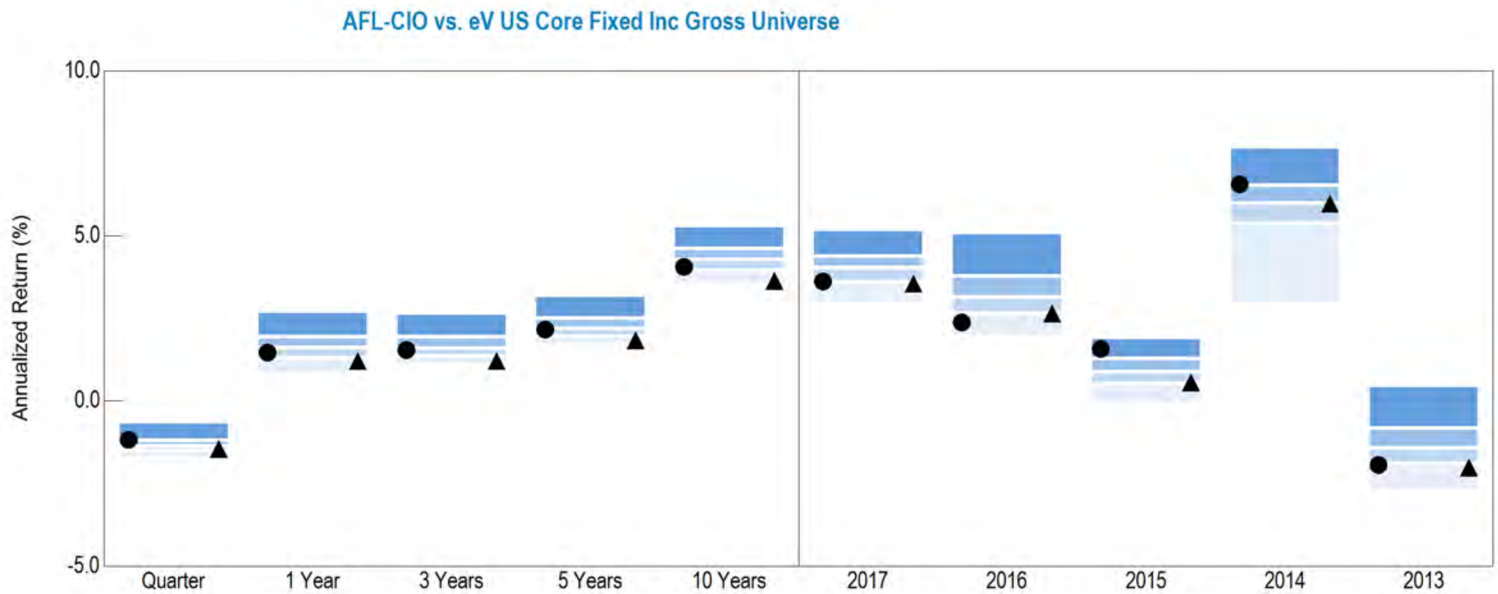
	AFL-CIO	BBgBarc Aggregate
Effective Duration	5.45	5.98
Yield to Maturity	3.30	3.05
Average Quality	AAA	AA
Average Coupon	3.3%	3.2%





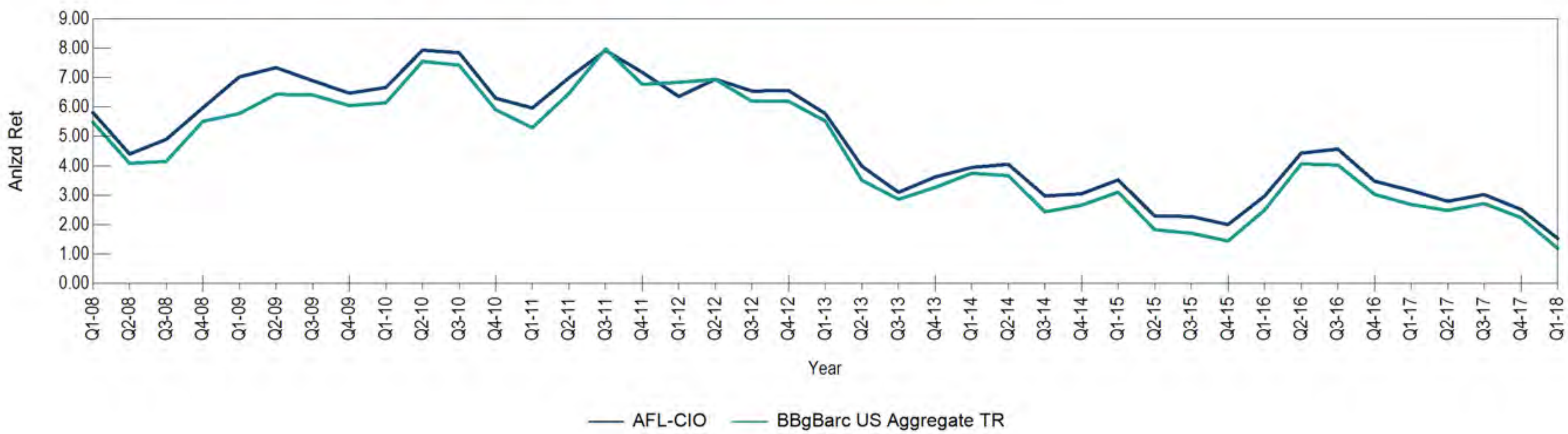


Duration and Quality distributions exclude cash.

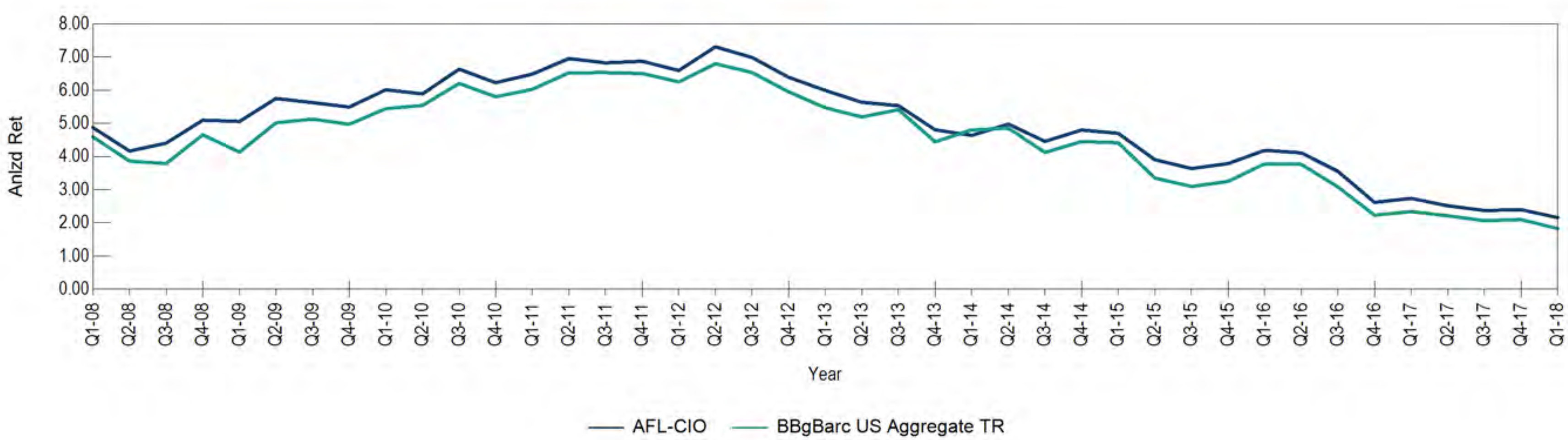


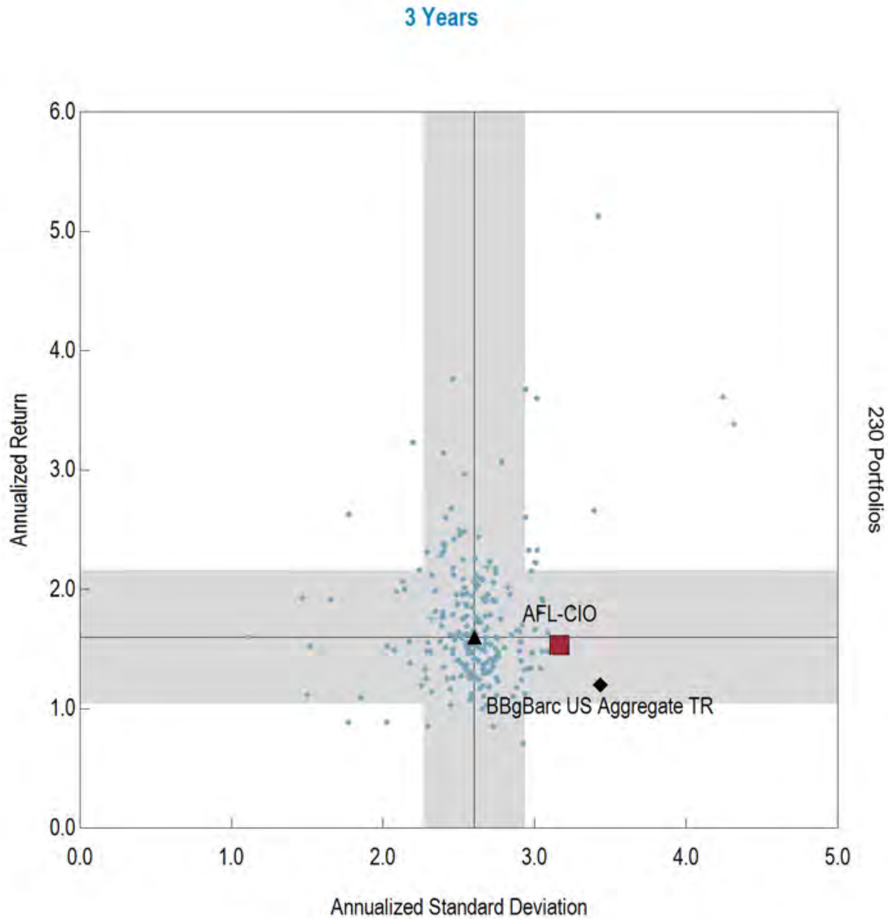
Return (Rank)	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	-0.6		2.7		2.6		3.2		5.3		5.2		5.1		1.9		7.7		0.5	
25th Percentile	-1.2		2.0		2.0		2.5		4.6		4.4		3.8		1.3		6.5		-0.8	
Median	-1.4		1.6		1.6		2.2		4.3		4.0		3.2		0.9		6.0		-1.4	
75th Percentile	-1.5		1.3		1.4		2.0		4.0		3.6		2.7		0.5		5.4		-1.9	
95th Percentile	-1.7		0.8		1.1		1.7		3.5		2.9		2.0		-0.1		2.9		-2.7	
# of Portfolios	234		234		230		227		204		233		223		196		213		209	
● AFL-CIO	-1.2	(25)	1.5	(64)	1.5	(57)	2.2	(54)	4.1	(69)	3.6	(76)	2.4	(87)	1.6	(15)	6.6	(25)	-1.9	(78)
▲ BBgBarc US Aggregate TR	-1.5	(67)	1.2	(82)	1.2	(90)	1.8	(87)	3.6	(93)	3.5	(79)	2.6	(77)	0.6	(75)	6.0	(52)	-2.0	(82)

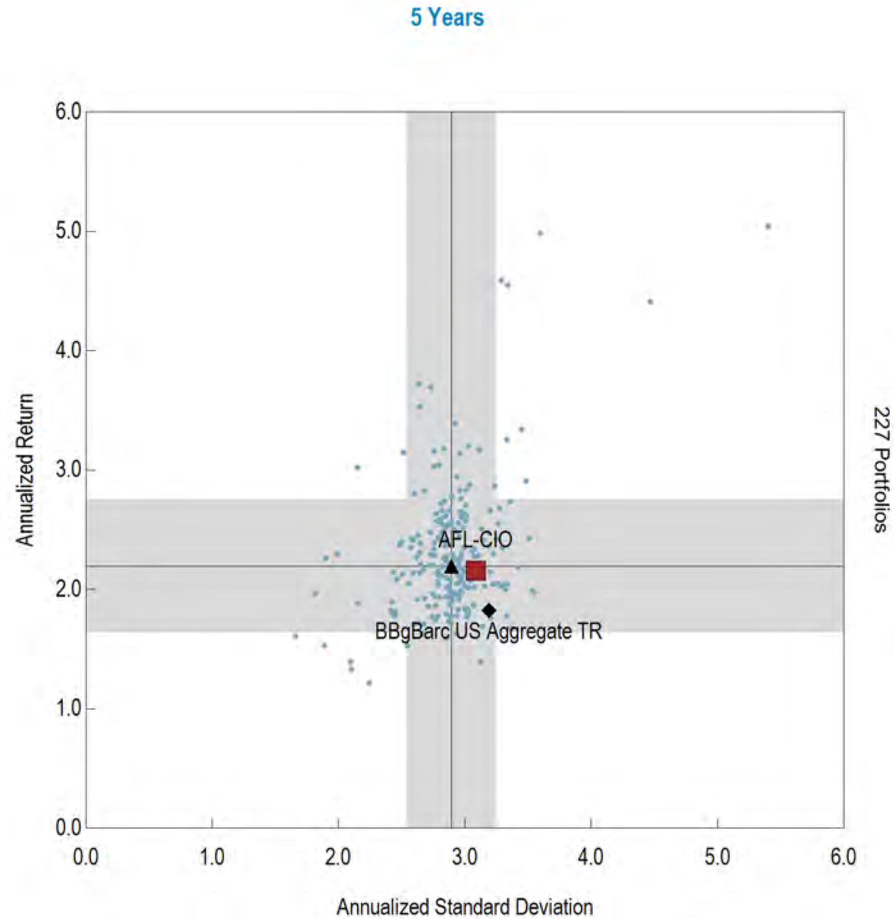
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)







3 Years

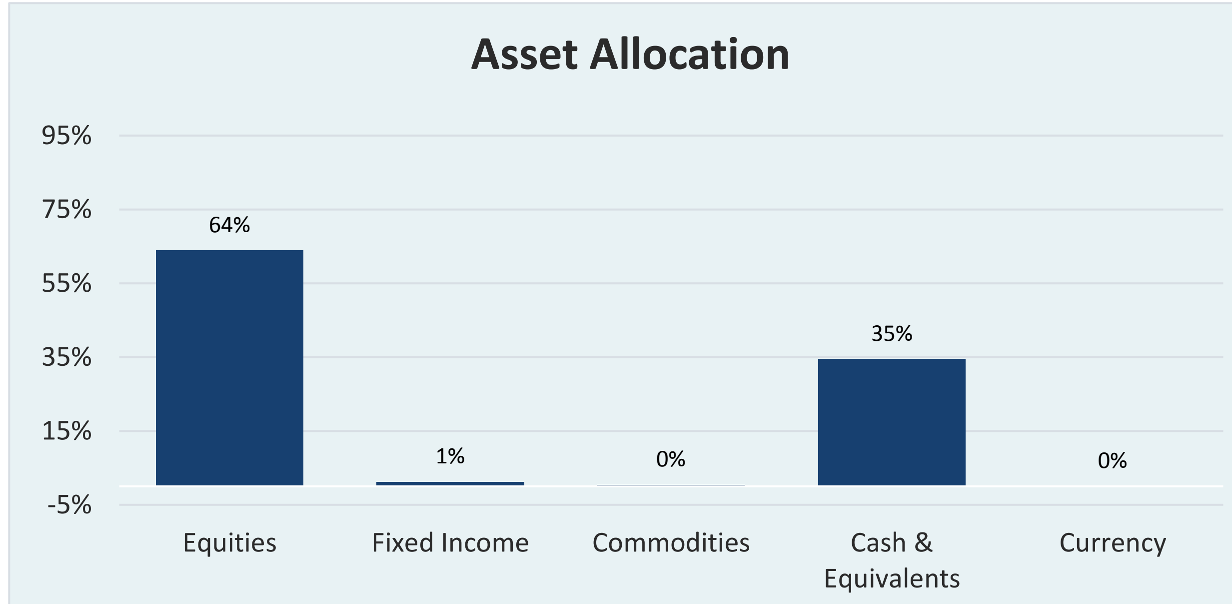
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
AFL-CIO	1.5%	3.2%	0.3
BBgBarc US Aggregate TR	1.2%	3.4%	0.2
eV US Core Fixed Inc Gross Median	1.6%	2.6%	0.4

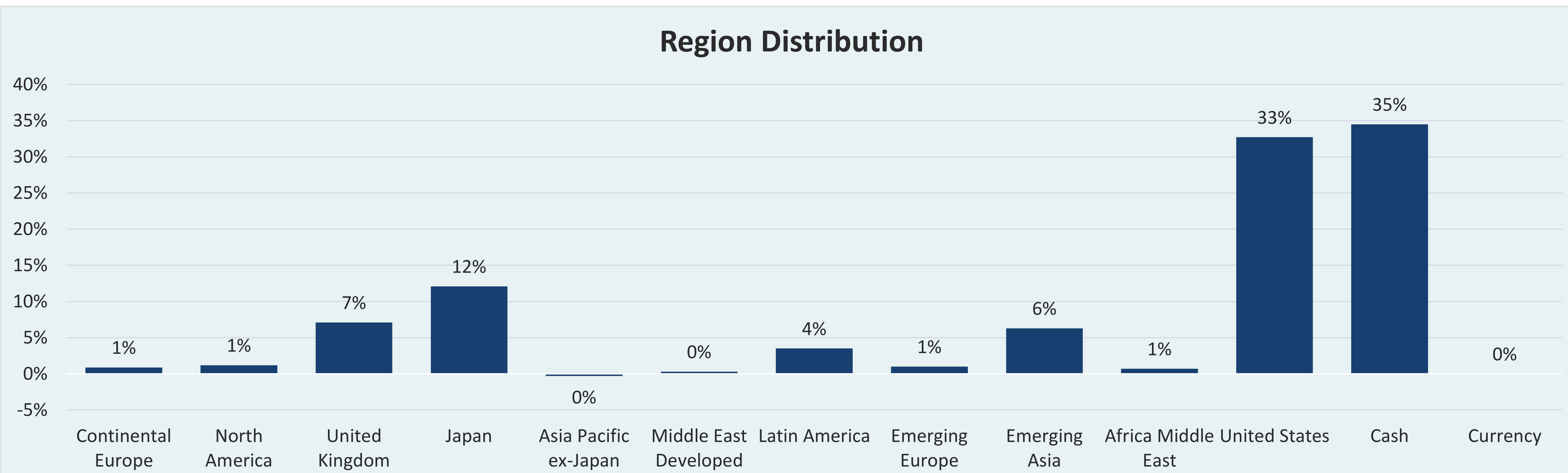
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
AFL-CIO	2.2%	3.1%	0.6
BBgBarc US Aggregate TR	1.8%	3.2%	0.5
eV US Core Fixed Inc Gross Median	2.2%	2.9%	0.6

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

	Wellington Total Return
Number of Equity Holdings	973
Number of Commodity Holdings	177
Effective Duration (Years)	2.30
Average Quality	D



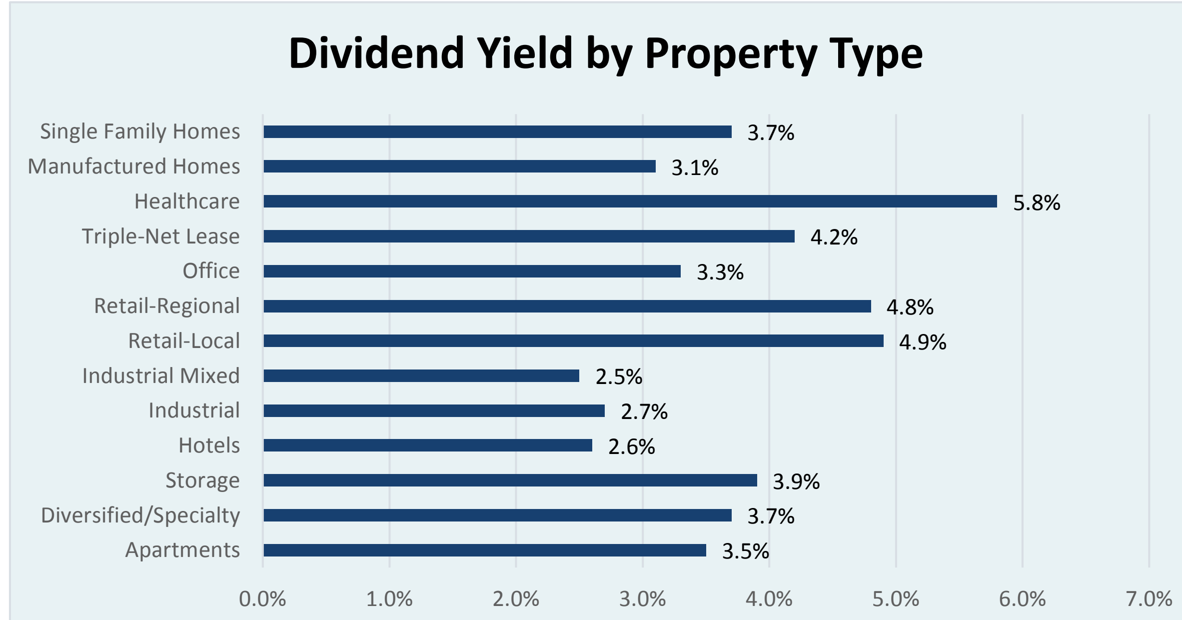


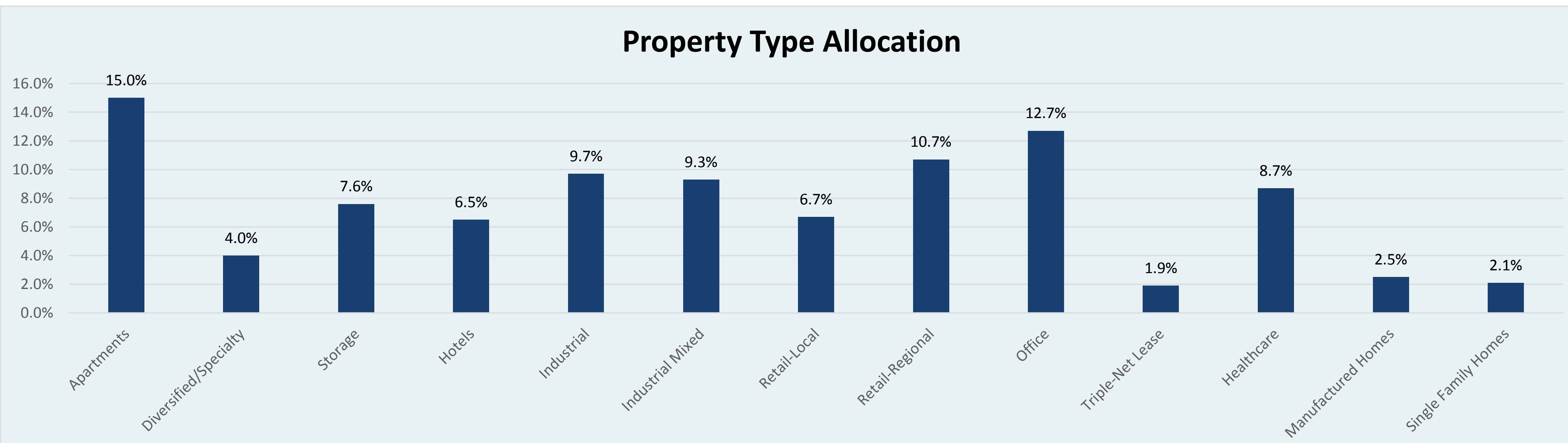
Real Estate Managers

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

Top Five Holdings

Company	Property Type	Allocation
Simon Property Group	Retail-Regional	8.6%
Welltower Inc.	Healthcare	6.0%
Equity Residential	Apartments	5.8%
Equinix Inc	Industrial Mixed	5.6%
ProLogis Inc.	Industrial	4.6%





2.6% is allocated to Cash and Cash Equivalents.

Performance Return Calculations

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

Data Source

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

Illiquid Alternatives

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

Manager Line Up

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

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

Policy & Custom Index Composition

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

Other Disclosures

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

Glossary

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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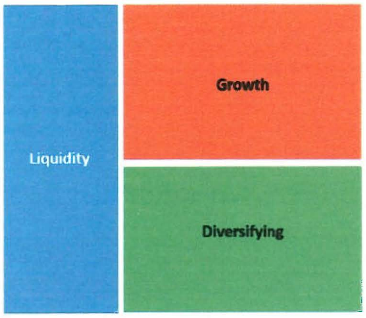
Verus receives universe data from InvestorForce, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.



CCCERA Total Fund Overview
Q1 2018

Meeting Date
5/23/18
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#3b.

Objective	Measurement	Status
Immunize near term benefit payments	Cash flow and quality of liquidity program	Liquidity program is operating within expected parameters. Staff tailored model fit to reduce excess cash raise for 2018 and has been successful.
Grow capital for future benefit payments	Sharpe ratio of growth portfolio Growth portfolio performance vs benchmark	Most managers in growth portfolio are meeting expectations. Exceptions are noted in manager review appendix.
Preserve capital in market downturns	Correlation of risk diversifying portfolio to growth portfolio	Risk diversifying mandate is providing sufficient liquidity and diversification. This program will continue to be built out through 2018.
Invest portfolio assets efficiently	Total Fund performance versus a simple policy index	5 Year Return: 8.6 Simple Policy Index: 5.2 5 Year Sharpe: 1.6 Simple Policy Index: 0.8

**The simple policy index is currently made up of 63% MSCI ACWI, 25% Bloomberg 1-3 Year Gov Credit, and 12% 3-Month Treasury Bill*

Staff Notes:

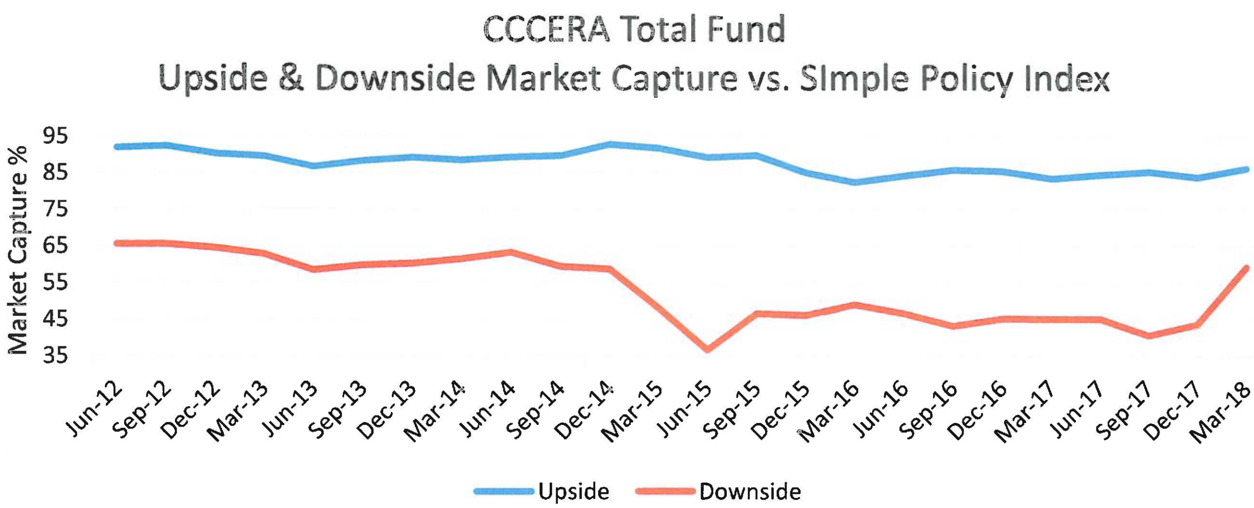
The combination of the total fund objectives should produce a low volatility, moderate return profile for CCCERA's total fund. As shown in the Total Fund appendix data, CCCERA's Total Fund has produced a high return with lower volatility relative to public fund peers over the past three, five, and ten year trailing periods. Additionally, CCCERA has been rewarded for engaging in diversification with outperformance versus investing passively in the market.

CCCERA Total Fund Overview
Q1 2018

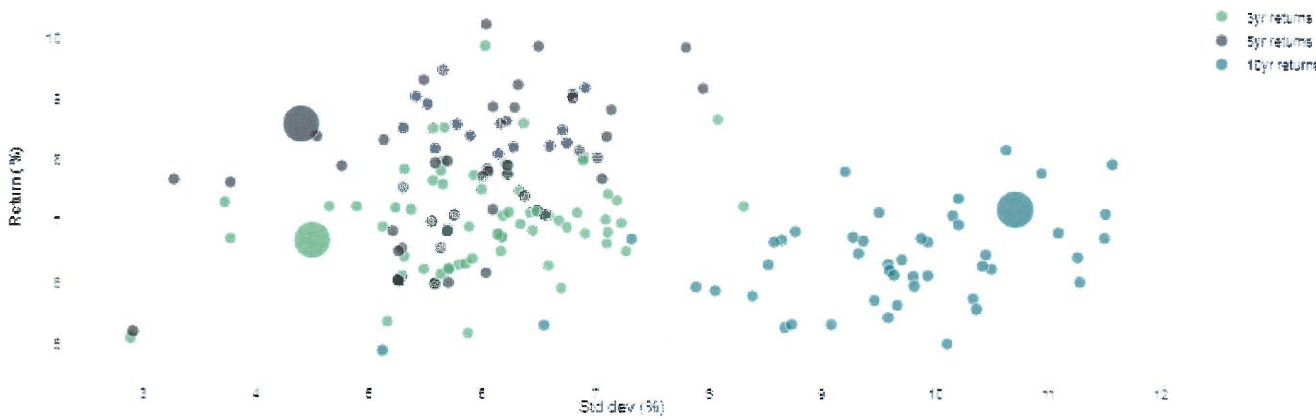
Total Fund Quarterly Attribution:

	CCCERA Total Fund			Simple Policy Index			Analysis		
	Allocation	Return	Return Contribution	Allocation	Return	Return Contribution	Allocation Difference	Return Difference	Total Effect
Liquidity	21%	-0.2%	0.0%	27%	-0.2%	-0.1%	-7%	0.0%	0.0%
Growth	70%	0.3%	0.2%	61%	-1.0%	-0.6%	9%	1.3%	0.8%
Risk Diversifying	9%	-0.6%	-0.1%	12%	0.4%	0.0%	-3%	-1.0%	-0.1%
Total Fund	100%		0.1%	100%		-0.6%	0%		0.7%

Rolling 3-Year Total Fund Upside/Downside Market Capture:



Total Fund Long Term Risk/Reward vs Peers:



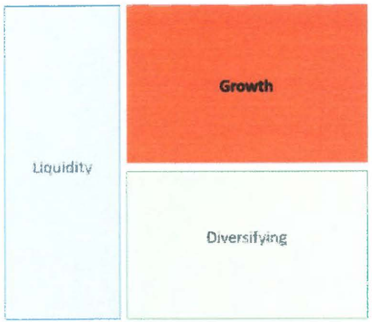
Liquidity Portfolio
Q1 2018

Objective	Measurement	Status
Match 4 years of benefit payments with high certainty	Program size vs liabilities Quality ratings Duration	Liquidity Program: $1.62bn Liabilities: $2.05bn *Note that the liquidity program is refreshed annually, and drawn down over the course of the year Avg Liquidity Quality: AA Benchmark Quality: AA Avg. Liquidity Duration: 2.0 Benchmark Duration: 1.9
Produce cash flow to match monthly benefit payment	Portfolio cash flow (monthly)	Avg, Monthly Cash Flow vs. Benefit Payment: 102%

The benchmark index is the Bloomberg 1-3 Year Gov Credit

Staff Notes:

CCCERA's liquidity program consists of stable, high quality fixed income securities which in aggregate maintain a short duration posture. CCCERA Investment Staff adjusted the cash-flow model in the beginning of 2018 to better fit benefit needs without producing excess cash. This has resulted in a better model fit, with average cash flow to benefit needs of 102%, compared to approximately 105% for 2017.



Growth Portfolio
Q1 2018

Objective	Measurement	Status
Growth of plan assets for future (years 5+) benefit payments	Absolute returns Benchmark relative returns	CCCERA Investment Staff and Verus are continuing to work on a historical growth composite. Additional details on the growth portfolio are available in the appendix.
High risk adjusted returns	Sharpe Ratios	
Avoid permanent impairment of capital		

The benchmark index is the MSCI ACWI

Staff Notes:

Due to very strong public equity markets, CCCERA's private equity allocation has not added material return premiums over the trailing one- and five-year periods. CCCERA's private equity allocation is transitioning from a structure fund of funds to direct funds, which should increase absolute returns.

Staff has conducted on-sites with Allianz, Jackson Square, INVESCO, and Siguler Guff in 2018.

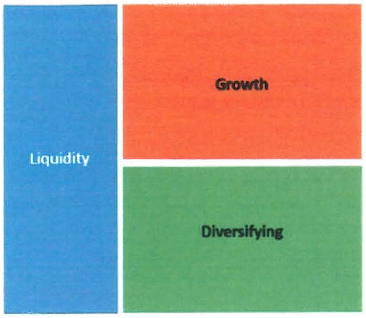
Risk Diversifying
Q1 2018

Objective	Measurement	Status
Offset volatility in growth portfolio	Low correlation to ACWI *MSCI ACWI used as a proxy for broad market growth*	CCCERA Investment Staff and Verus are continuing to work on a historical risk diversifying composite. Additional details on the risk diversifying portfolio are available in the appendix.
Positive returns in non-stressed markets	Positive real returns	
Provide liquidity for opportunistic re-balancing in market stress events	High liquidity	

The benchmark index is the 3-month Treasury Bill.

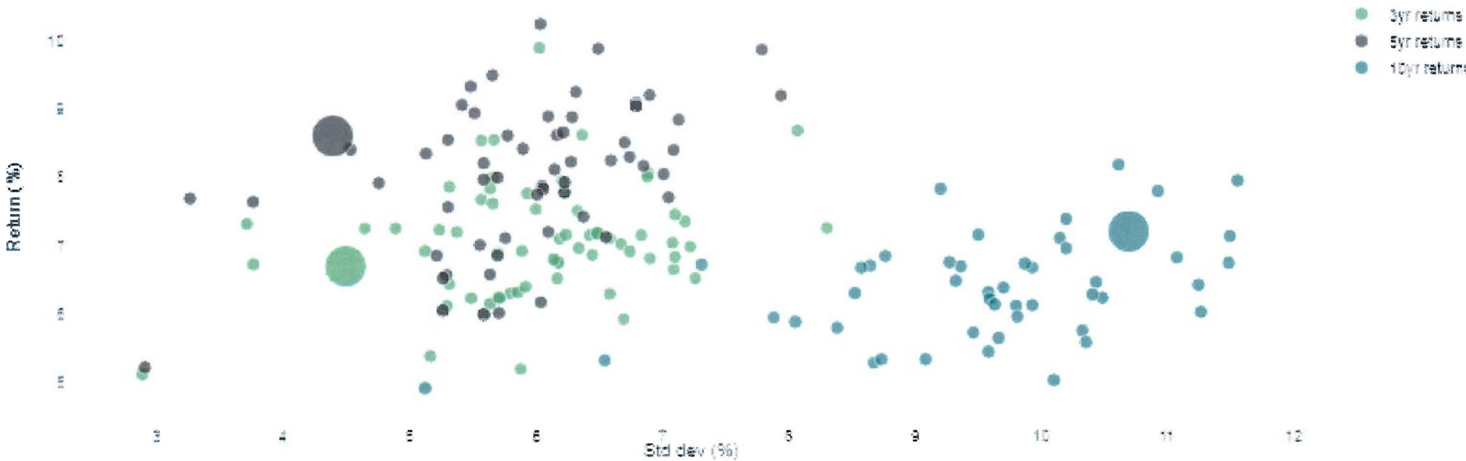
Staff Notes:

The Wellington Real Total Return and AFL-CIO Housing Investment Trust Products have recent correlations to growth markets in line with expectations. The Risk Diversifying mandate is in the process of adding a third manager, Parametric Defensive Equity, at a $200mm allocation which the Board approved on February 28, 2018.



CCCERA Total Fund
Appendix Data

CCCERA Total Fund Risk Reward vs. Peers



CCCERA Total Fund Performance vs Simple Policy Index

	One Year		Three Years		Five Years		Ten Years	
	CCCERA	SPI	CCCERA	SPI	CCCERA	SPI	CCCERA	SPI
Return	10.3	9.1	6.7	5.1	8.6	6.3	7.2	4.6
Volatility	4.4	5.2	5.2	7.3	5.2	7.2	9.0	12.2
Sharpe	**2.1**	**1.5**	**1.2**	**0.6**	**1.6**	**0.8**	**0.6**	**0.4**

The simple policy index is made up of 63% MSCI ACWI, 25% Bloomberg 1-3 Year Gov Credit, and 12% 3-Month Treasury Bill. This purpose of this index is to examine whether or not CCCERA is being rewarded for pursuing a more nuanced portfolio versus a very simple representative index.

CCCERA's Total Fund has produced high risk adjusted returns over most trailing periods. Additionally, the CCCERA Portfolio has exceeded the simple policy index over all trailing periods. This would indicate that CCCERA has been rewarded for engaging in more complex investments which target outperformance versus investing passively in the market.

The Sharpe ratio is a measure of risk adjusted returns which shows the amount of return a portfolio earns per unit of volatility. Over all trailing periods, the Total Fund has produced a high Sharpe ratio relative to the simple policy index, indicating that CCCERA is being favorably rewarded for the risk in the portfolio.

*The composition of Simple Policy Benchmark has mirrored changes in CCCERA's Total Fund over time: from 2008 to 2012 the benchmark was 74% MSCI ACWI, 23% Bloomberg 1-3 Year Gov/Credit, and 4% 3-Month Treasury Bills. From 2012 to 2016 the composition was 74% MSCI ACWI, 18% Bloomberg 1-3 Year Gov/Credit, and 9% 3-Month Treasury Bills. From 2016 to 2017 the composition was 63% MSCI ACWI, 25% Bloomberg 1-3 Year Gov/Credit, and 12% 3-Month Treasury Bills, and from 2017 to present the composition is 61% MSCI ACWI, 27% Bloomberg 1-3 Year Gov/Credit, and 12% 3-Month Treasury Bills.

Liquidity Portfolio
Appendix Data

Manager Reviews:

Organizational Stability

	Portfolio Management Assessment	1 Year Product Asset Growth	1 Year Firm Asset Growth	Regulatory Action in Last Year?
Insight	Good	--	20%	N
Sit	Good	9%	0%	N
DFA	Good	19%	18%	N

Performance

	Portfolio Average Credit Quality	Portfolio Average Duration	Portfolio Average Coupon	1 Year Total Return
Insight	AA-	1.3	2.5	0.8%
Sit	AAA	2.5	6.5	1.0%
DFA	A+	2.9	2.8	0.4%

Manager Notes:

Sit:

Mike Brilley, head of fixed income, will be retiring at the end of 2018. No expected impact as Mike played no role on CCCERA's account and will not be replaced.

Manager Theses:

The Liquidity Portfolio is a combination of three managers which work together to match four years of CCCERA's liabilities. The portfolio is refreshed every year during the annual funding plan.

Insight: Insight plays a completion role in the liquidity program, matching out liabilities with short duration government and corporate fixed income securities.

DFA: Dimensional Fund Advisors runs a strategy that focuses on obtaining fixed income exposures via the most liquid securities available. DFA contributes to the Liquidity Program by selling securities at regular intervals to pay a portion of CCCERA's monthly benefit payment.

Sit: Sit invests in high yielding government backed mortgages. The cash flow from these securities is harvested monthly to make up a portion of CCCERA's monthly benefit payment.

Growth Portfolio
Appendix Data

Manager Reviews:

Organizational Stability

	Portfolio Management Assessment	1 Year Product Asset Growth	1 Year Firm Asset Growth	Regulatory Action in Last Year?
Boston Partners	Good	2%	7%	N
Jackson Square	Good	4%	-2%	N
BlackRock Index Fund	Good	11%	17%	N
Emerald Advisors	Good	10%	9%	N
Ceredex	Good	-7%	-13%	N
Pyrford (BMO)	Good	22%	9%	N
William Blair	Satisfactory	9%	-6%	N
First Eagle	Good	7%	6%	N
Artisan Global	Good	35%	11%	N
PIMCO/RAE EM	Good	38%	17%	N
TT EM	Good	280%	36%	N
Adelante	Good	-9%	-7%	N
Allianz	Good	4%	8%	N
Private Equity	Good	--	--	N
Private Credit	Good	--	--	N
Real Estate	Good	--	--	N

Performance

	Trailing 1 Year Return	Trailing 5 Year Return	Performance in Line with Expectations?
Boston Partners	14%	12%	Y
Jackson Square	22%	13%	Y
BlackRock Index Fund	14%	13%	Y
Emerald Advisors	20%	16%	Y
Ceredex	6%	11%	Y
Pyrford (BMO)	10%	6%	Y
William Blair	23%	8%	Y
First Eagle	7%	8%	Y
Artisan Global	24%	14%	Y
PIMCO/RAE EM	20%	6%	Y
TT EM	31%	10%	Y
Adelante	0%	8%	Y
Allianz	3%	4%	Y
	1Yr Premium	5 Year Premium	
Private Equity	-5.2%	2.3%	N
Private Credit	6%	--	Y
Real Estate	14.3%	4.4%	Y

Growth Portfolio
Appendix Data

Manager Notes:

William Blair:
On August 8, 2017, Michelle Seitz, head of Investment Management, resigned from the firm and accepted a position with another firm. Ms. Seitz had been with William Blair for 22 years at the time of her departure. Stephanie Braming, who was previously a portfolio manager for CCCERA's International Growth portfolio was named head of William Blair Investment Management on October 16, 2017. Stephanie's responsibilities on the International Growth portfolio have been transferred to Ken McAtamney. Ken joined William Blair in 2005 and previously served as co-director of research, as well as mid-large cap Industrials and Healthcare analyst. In February of 2018, Jeff Urbina stepped away from his portfolio management responsibilities for the International Growth product. This was part of a long planned for transition, and Jeff Urbina will remain a part of William Blair's Executive Committee and Investment Leadership Team.

LaSalle Real Estate:
Jim Hutchison will retire from portfolio manager role at the end of 2019, handing the reigns to Joe Munoz. Jim and Joe have worked as a team for years, so little direct impact is expected on existing investments. CCCERA Investment Staff will reevaluate Jim's contributions to sourcing when and if we look at follow on funds.

PIMCO:
Stephanie King (client service) resigned from the firm. Sasha Talcott will continue to cover CCCERA and will be joined by Chris Tarui.

Manager Theses:

The growth portfolio includes all managers in public and private equity, real estate, and private credit. These managers grow CCCERA's assets for future benefit payments (beyond the four years already covered by the Liquidity program).

Boston Partners: Large cap domestic equity which follows a value discipline. Boston Partners will buy out of favor companies and sell them when their intrinsic values are reflected in the market. Expected to outperform in flat to falling markets.

Jackson Square: Domestic equity large cap growth portfolio concentrated in companies with sustainable long-term growth characteristics. This portfolio should outperform in rapidly rising markets.

BlackRock Index Fund: Large cap domestic equity portfolio which should follow the Russell 1000 Index.

Emerald Advisors: Small cap growth equity seeking companies with high growth rates. Expected to produce strong returns in rising markets, and weak returns in falling markets.

Ceredex: Domestic equity small cap value portfolio of companies with dividend yields and low valuations. This portfolio should outperform flat markets.

Growth Portfolio
Appendix Data

Manager Theses (continued):

Pyrford (BMO): International equity value portfolio of non-US companies with low valuations at the country and stock level. This portfolio should outperform in flat markets.

William Blair: International equity growth portfolio of non-US companies with high growth rates constructed from the security level. This portfolio should outperform in rapidly rising markets.

First Eagle: Global equity portfolio that is benchmark agnostic comprised of companies with low valuations.

Artisan Global Opportunities: Global equity portfolio of companies that is benchmark agnostic with accelerating profit cycles and a focus on capital allocation.

PIMCO/RAE Emerging Markets: Quantitative equity with a value orientation. This portfolio follows the fundamental indexing approach (ranking companies by metrics other than market capitalization), resulting in a diversified, low turnover portfolio. This portfolio underperforms in momentum driven markets.

TT International Emerging Markets: Concentrated, growth oriented manager which invests in small and mid-cap emerging market companies. TT employs both a top-down and a bottom-up research approach, and seeks to outperform by identifying companies that have a catalyst to drive future growth.

Private Equity: CCCERA invests in private equity to generate returns above those available in the public equity markets.

Private Credit: CCCERA invests in private credit to generate cash flow streams above those available in the public debt markets.

Real Estate: CCCERA invests in value-add, distressed, and opportunistic real estate to generate returns from the capital appreciation and cash flow associated with commercial real estate investment.

Adelante: Diversified portfolio of U.S. REITs with a focus on the underlying real estate assets. Adelante is a public market proxy of the core real estate market.

Allianz High Yield Fixed Income: Domestic high yield fixed income portfolio with a focus on security selection. Allianz will focus on the higher quality segment of the high yield universe. Allianz should provide a steady income stream, and provide downside protection in falling markets.

Risk Diversifying
Appendix Data

Manager Reviews:

Organizational Stability

	Portfolio Management Assessment	1 Year Product Asset Growth	1 Year Firm Asset Growth	Regulatory Action in Last Year?
AFL-CIO	Good	5%	5%	N
Wellington	Satisfactory	33%	6%	Y

Performance

	Trailing 1 Year Correlation to Growth	Trailing 3 Year Correlation to Growth	1 Year Return	5 Year Return	% of Portfolio Liquid in 30 Days
AFL-CIO	-0.17	-0.10	2%	2%	100%
Wellington	-0.02	0.38	1%	-2%	100%

Manager Notes:

Wellington:

On May 12, 2017, the US Securities and Exchange Commission notified Wellington that it was opening an investigation into some aspects of Wellington's private company investment activities. The investigation appears to be focused on private equity investments and associated valuation practices and is not related to the CCCERA Real Total Return portfolio.

Manager Theses:

Managers in the risk diversifying allocation seek to have a low correlation with the growth portfolio, positive returns in flat and falling equity markets, and a high degree of liquidity. These managers work together to offset some of the risks in the growth portfolio.

AFL-CIO: Portfolio of domestic, high quality fixed income securities which are backed by commercial and residential mortgages.

Wellington: Multiple asset fund which tactically rotates between assets to produce returns.

Meeting Date
5/23/18
Agenda Item
#4

CONTRA COSTA COUNTY CCCERA Employees' Retirement Association

Liquidity Sub-Portfolio Review

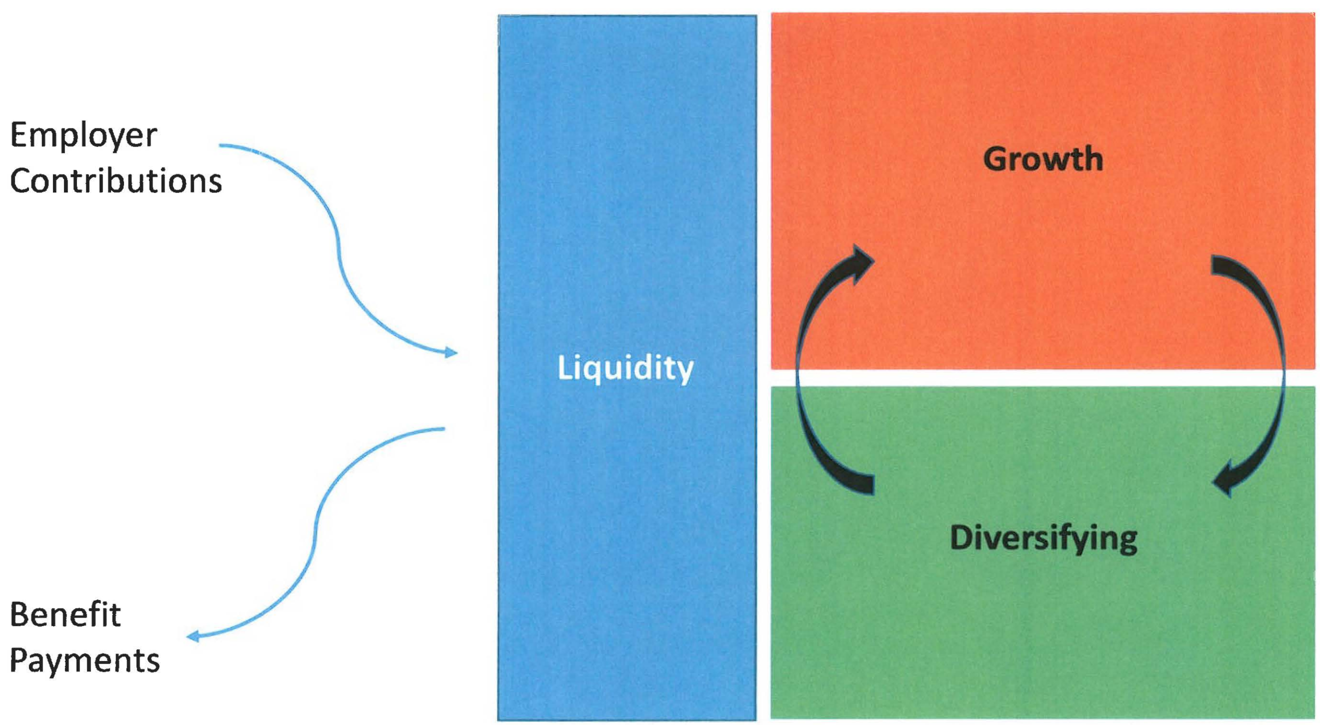
Timothy Price, CFA

Chief Investment Officer

CONTRA COSTA COUNTY CCCERA Employees' Retirement Association

Liquidity Program Review

1) Role in FFP framework
2) Composition of program and role of each manager
3) Cash flow profile
4) Annual Funding Plan
5) Strategic Decisions


Employer
Contributions
Benefit
Payments
Liquidity
Growth
Diversifying

Liquidity

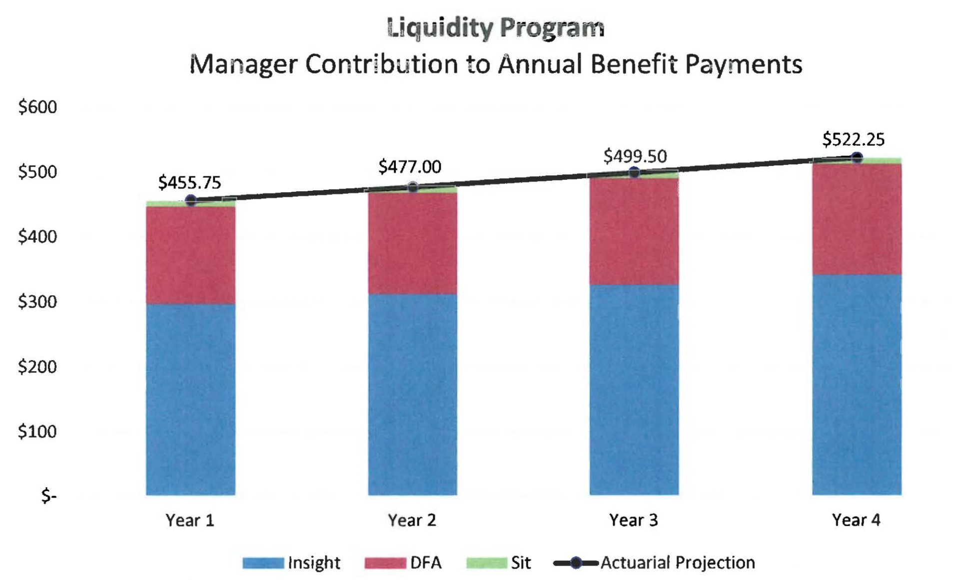
- The Liquidity sub-portfolio is the cornerstone of the FFP framework
- Using actuarial projections, we model each month's projected benefit payment
- The benefit payment cash flow model is then used to build the investment program
- Through contractual income, trading and maturing bond, the Liquidity sub-portfolio provides the necessary monthly cash flow to make benefit payments

Objectives
Match 4 years of benefit payments with high certainty
Produce cash flow to match monthly benefit payment

Manager Structure

- Utilizes a multi-manager approach to produce unique income and liquidity profile

- Manager Roles
  - Sit Fixed Income: ~25% allocation when fully funded. Income stream harvested monthly
  - DFA: ~25% allocation when fully funded. Pre-determined withdrawal made monthly, trading at DFA discretion
  - Insight: ~50% allocation when fully funded. Invests in a "buy and maintain" portfolio designed to complete the needed CCCERA cash flows monthly. Insights builds and maintains the CCCERA cash flow profile based upon actuarial projections.



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Liquidity Managers: Relevant Statistics

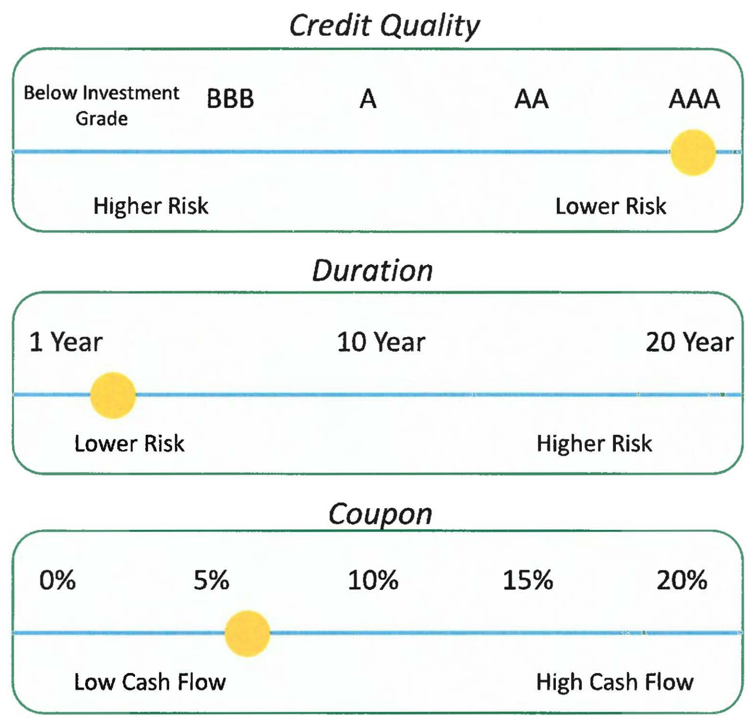
Metric	Description
Credit Quality	Credit quality informs investors of a bond or bond portfolio's credit worthiness or risk of default. Private independent rating services such as Standard & Poor's, Moody's Investors Service and Fitch Ratings Inc. provide evaluations of a bond issuer's financial strength, or its ability to pay a bond's principal and interest in a timely fashion.
Duration	Duration is a measure of the sensitivity of the price of a fixed-income investment to a change in interest rates. Duration is expressed as a number of years.
Coupon	A coupon is the annual interest rate paid on a bond, expressed as a percentage of the face value.

Characteristics			
	Sit	**Insight**	**DFA**
Credit Quality	AAA	AA-	A+
Duration	2.5	1.3	2.9
Coupon	6.5	2.5	2.8

Sit

Summary	
Liquidity Program Role	Sit invests in high yielding government backed mortgages. The cash flow from these securities is harvested monthly to make up a portion of CCCERA's monthly benefit payment.
Key Personnel	Bryce Doty, Senior Portfolio Manager Mark Book, Portfolio Manager Chris Rasmussen, Portfolio Manager
Fee Structure	Estimated Annual Fee: 15 basis points
CCCERA AUM as of March 31, 2018	$486mm
Trailing 12-Month Cash Flow	$10mm
Projected Next 12-Month Cash Flow	$12mm
Most Recent On-Site	February 2018 (Annual client meeting)

Characteristics



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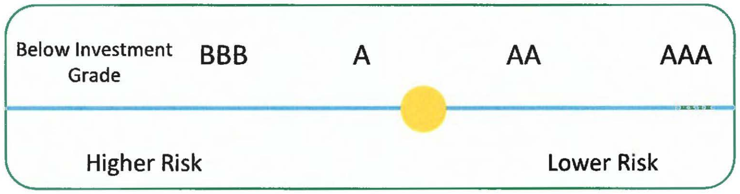
DFA

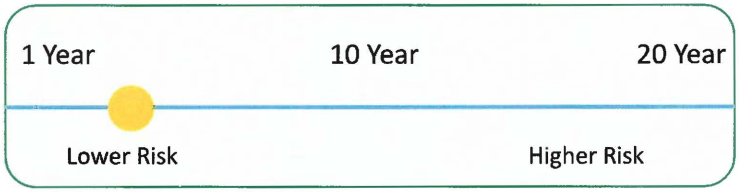
Summary	
Liquidity Program Role	Dimensional Fund Advisors runs a strategy that focuses on obtaining fixed income exposures via the most liquid securities available. DFA contributes to the Liquidity Program by selling securities at regular intervals to pay a portion of CCCERA's monthly benefit payment.
Key Personnel	Joseph Kolerich, Senior Portfolio Manager David Plecha, Global Head of Fixed Income
Fee Structure	Estimated Annual Fee: 11 basis points
CCCERA AUM as of March 31, 2018	$367mm
Trailing 12-Month Cash Flow	$151mm
Projected Next 12-Month Cash Flow	$158mm
Most Recent On-Site	April 2018 (Austin, TX)

Characteristics

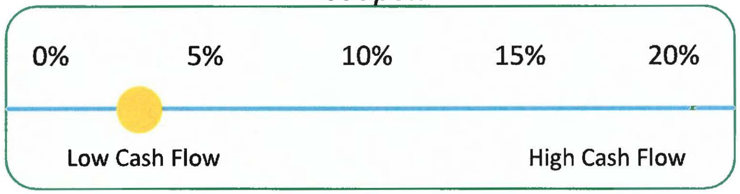
Credit Quality



Duration



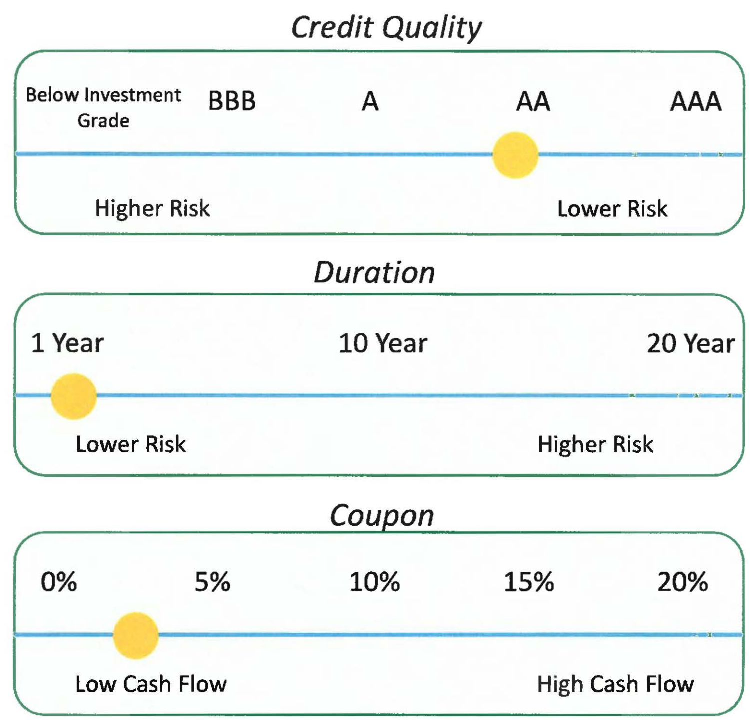
Coupon



Insight

Summary	
Liquidity Program Role	Insight plays a completion role in the liquidity program, matching out liabilities with short duration government and corporate fixed income securities.
Key Personnel	Jesse Fogarty, Senior Portfolio Manager Jason Celente, Senior Portfolio Manager Kevin Loescher, Asset Liability Solutions Peter Bentley, Head of Global Credit
Fee Structure	Estimated Annual Fee: 6 basis points
CCCERA AUM as of March 31, 2018	$765mm
Trailing 12-Month Cash Flow	$300mm
Projected Next 12-Month Cash Flow	$292mm
Most Recent On-Site	March 2018 (NYC Offices)

Characteristics



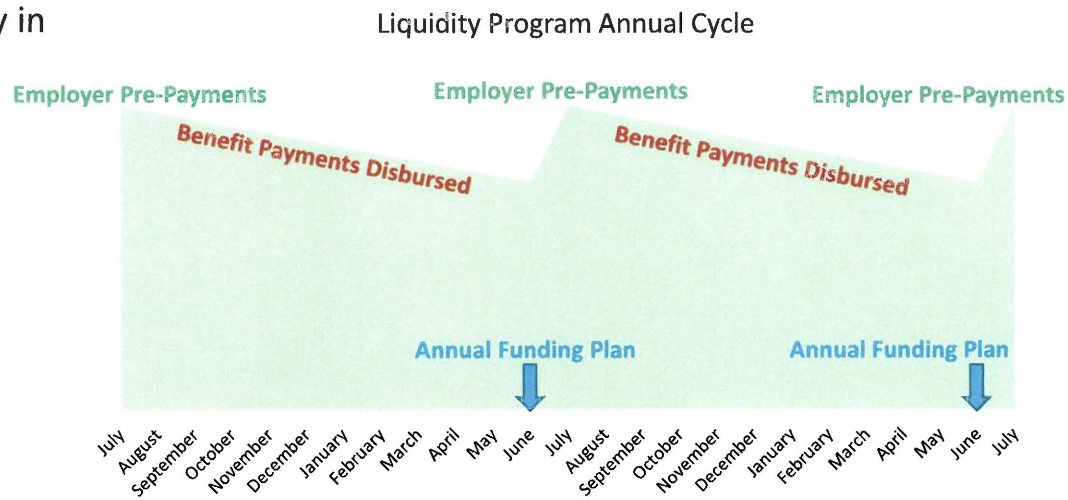
Providing Benefit Payments

- Benefit payments are accounted for over the year, and follow a process of dollar value estimation which flows to liquidity program sizing and the annual funding plan through to the accounting function of disbursement

Annual	Semi-Annual	Monthly
CCCERA receives updates to benefit projections from actuaries Updated benefit projections are reviewed by Insight, which seeks to match out each discrete benefit payment CCCERA Investment Staff "tops up" the liquidity program during the Annual Funding Process	CCCERA Investment Staff reviews tracking of actual benefit payment sizing versus initial estimate, and adjusts subsequent six months of liquidity program cash flows accordingly Six-months of benefit payments are scheduled at bank	Benefit payments are disbursed from bank

Refreshing the Program

- The Liquidity sub-portfolio is topped up annually in July in conjunction with the employer pre-payments
- The sub-portfolio when operates in a drawdown mode for the next 11 months before the process starts again
- The game plan for how to refresh the Liquidity sub-portfolio is communicated to the Board in the **Annual Funding Plan** which is presented each June



Strategic Decisions

- The Board's input is needed for two critical aspects of the liquidity sub-portfolio

1. Duration of benefit payments to be matched. This will be reviewed every 3-5 years.

2. Decision to up to one year of benefit payments for rebalancing in extraordinary market environments. This is referred to in the Investment Policy Statement as "Zone 2" rebalancing.

Board Decisions
Board chose to match 4 years of benefit payments
Zone 2 rebalancing has not been utilized to date

Conclusion

- Liquidity sub-portfolio matches benefit payments to reduce liquidity needs of the rest of the portfolio

- Multi-manager structure provides diversification of process while keeping all managers focused on unique CCCERA goals

- Annual refreshing of the program and periodic reviews of the duration of benefits to be funded allow for tweaks in the program as needed

Meeting Date
5/23/18
Agenda Item
#4

Contra Costa County Employees Retirement Association

May 2018

Part of BNY MELLON

Insight INVESTMENT

Contents

- Firm update
- Cashflow driven investing
- Portfolio summary and report
- US macroeconomic outlook
- Appendix

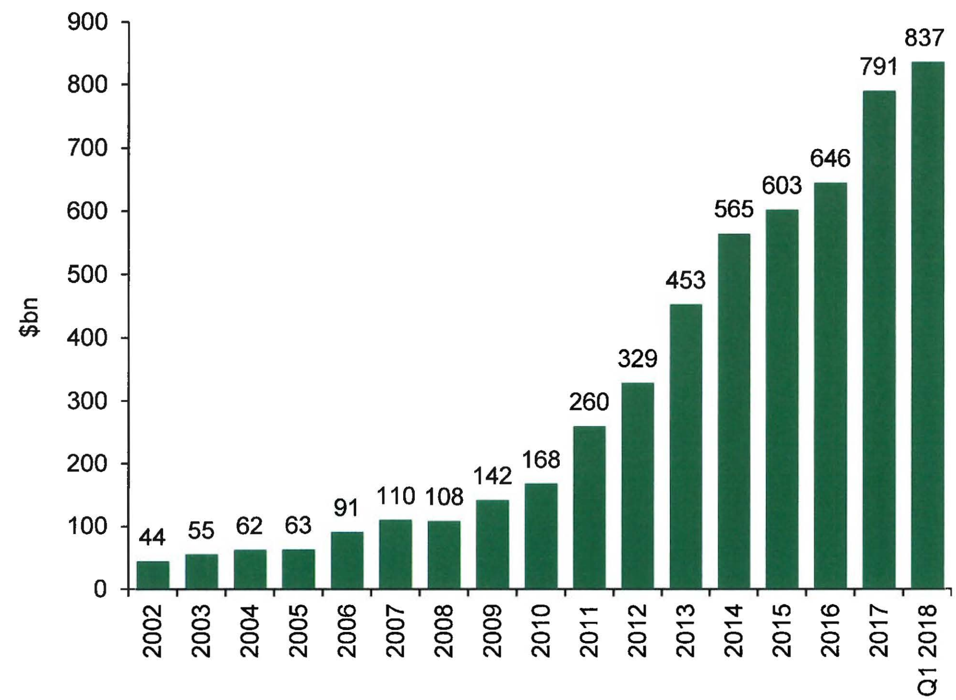
Insight INVESTMENT

Firm update

Our credentials

- Asset manager owned by BNY Mellon:
  - based in New York, London, Sydney and Tokyo
  - over $830bn[1] in assets under management
  - 226 investment professionals, 778 total staff
  - 39 investment professionals and 100 staff in the US
- Key ingredients of our success:
  - differentiated investment proposition
  - focusing on our strengths
  - partnering with our clients
  - a culture of ownership
- Key areas of specialization:
  - fixed income
  - absolute return
  - risk management solutions

Assets under management[2]

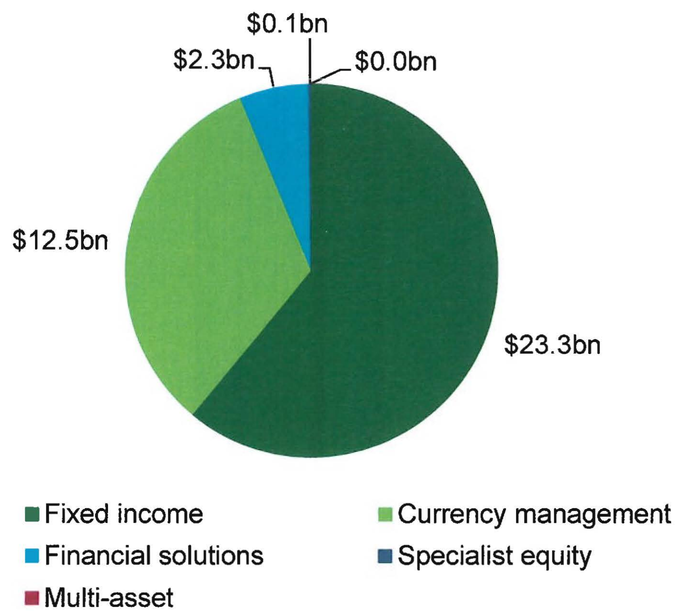


As of March 31, 2018. [1] Insight's assets under management (AUM) are represented by the value of cash securities and other economic exposures, and are calculated on a gross notional basis. Insight North America (INA) is part of "Insight" or "Insight Investment", the corporate brand for certain asset management companies operated by Insight Investment Management Limited including, among others, Insight Investment Management (Global) Limited, Insight Investment International Limited, Cutwater Asset Management Corp., and Cutwater Investor Services Corp. Advisory services referenced herein are available in the US only through INA. Figures shown in USD. FX rates as per WM Reuters 4pm spot rates. [2] Excludes previous parent introduced assets prior to 2009.

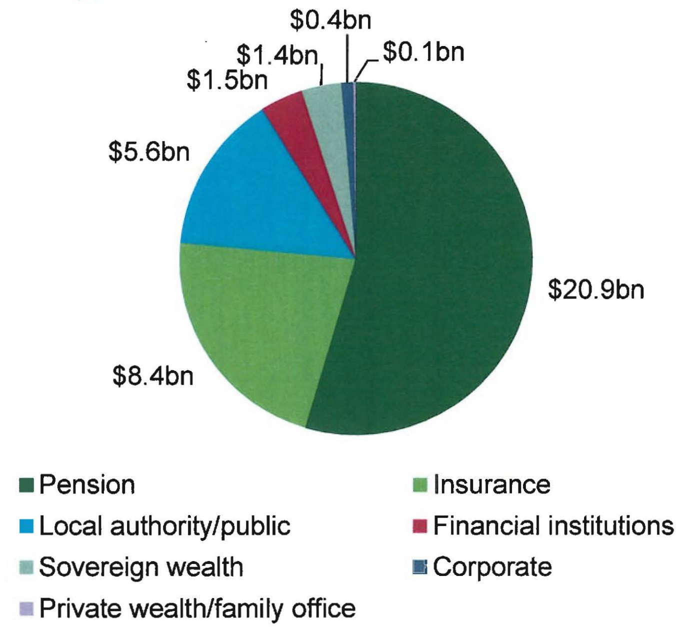
North America assets under management

North America assets: $38.3bn[1]

By investment area



By client type



- $11.5bn liability risk management, including insurance
- $20.9bn pension assets, including $3.2bn in custom risk management mandates

As of March 31, 2018. [1] Insight's assets under management (AUM) are represented by the value of cash securities and other economic exposures, and are calculated on a gross notional basis. Insight North America (INA) is part of "Insight" or "Insight Investment", the corporate brand for certain asset management companies operated by Insight Investment Management Limited including, among others, Insight Investment Management (Global) Limited, Insight Investment International Limited, Cutwater Asset Management Corp., and Cutwater Investor Services Corp. Advisory services referenced herein are available in the US only through INA. Figures shown in USD. FX rates as per WM Reuters 4pm spot rates.

North America update
Expanding our team and client base

Insight INVESTMENT

North America team expansion

- Liability risk management
- Insurance and pension risk transfer
- Credit research
- Client service and relationship management
- Business management

Fund launches[1]

- Global alternative credit
- Ultrashort duration fixed income (securitized)
- Insight broad opportunities (global multi-asset growth)
- Global senior loans

New business awards total $17 billion in AUM 2016 – YTD 2018[2] ($mm)

	Corporate pension	Public and Taft Hartley pension	International organization	Delegated/ sub-advisory/ Insurance
US credit	Long $3,600	Custom $950		$700
US gov't/ credit	Long $2,600	Long $2,000		
Derivative overlay	$2,000			
Global fixed		$250	$1,350	
US core plus		$220		$550
Securitized	$250			$100
Currency management	$170 Passive hedge	Custom $1,000		Alpha $1,100

[1] This is not an offer to sell a security and is provided for information purposes only. Please request further details from MBSC. [2] As of May 2018. Insight's assets under management (AUM) are represented by the value of cash securities and other economic exposures, and are calculated on a gross notional basis. Insight North America (INA) is part of "Insight" or "Insight Investment", the corporate brand for certain asset management companies operated by Insight Investment Management Limited including, among others, Insight Investment Management (Global) Limited, Insight Investment International Limited, Cutwater Asset Management Corp., and Cutwater Investor Services Corp. Advisory services referenced herein are available in the US only through INA. Figures shown in USD. FX rates as per WM Reuters 4pm spot rates. The recent growth of new business awards includes mandates that have been awarded but not funded, and does not reflect any terminated accounts that have occurred during the same period.

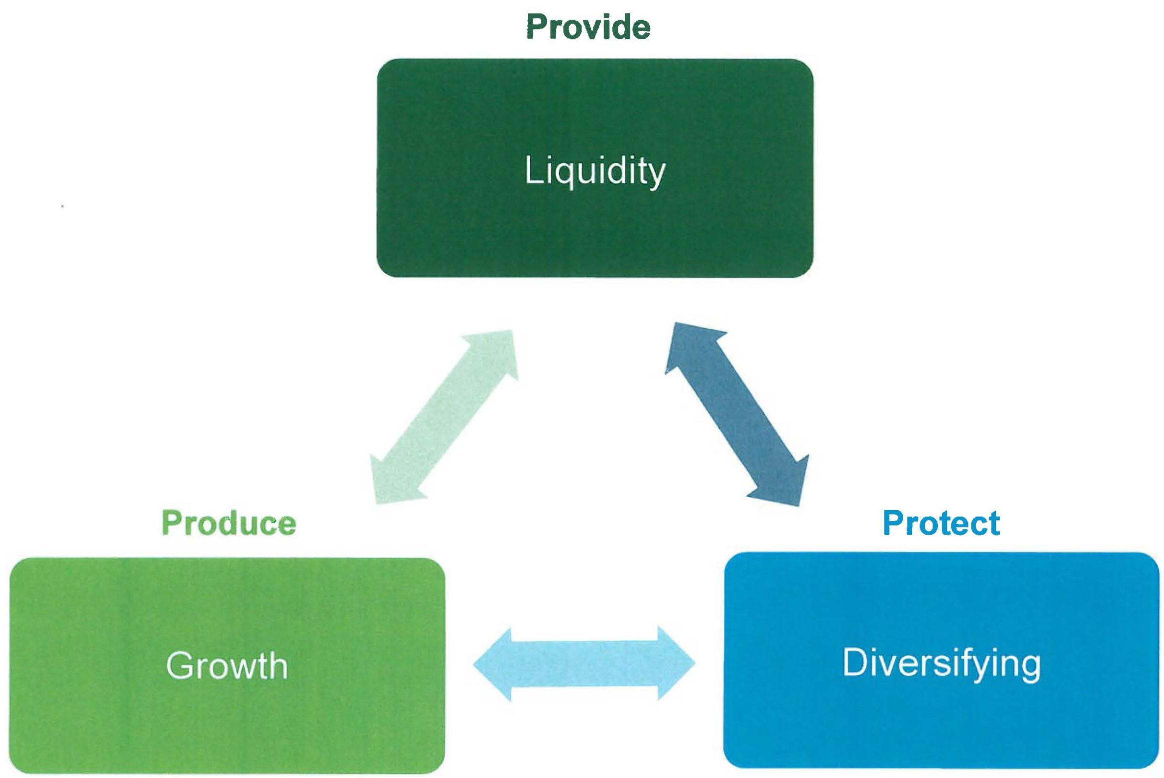
Insight INVESTMENT

Cashflow driven investing

Part of BNY MELLON

CCCERA Functionally Focused Portfolio

Pension portfolio assets need to address three basic interrelated requirements



Portfolio construction
Cashflow driven investing

Investment universe (Buy and Maintain strategy)

Fixed Income Group
- Expertise used to filter available assets into an investible universe based on assessment on credit risk, liquidity, etc.
- Incorporate any restrictions proposed by the client

Financial Solutions Group
- Incorporate investible universe, liability profile and appropriate investment constraints into modeling tool to derive cashflow matching bond portfolio

Initial portfolio

Fixed Income Group
- Review portfolio to ensure adequate diversification
- Review opportunities for further value to be added

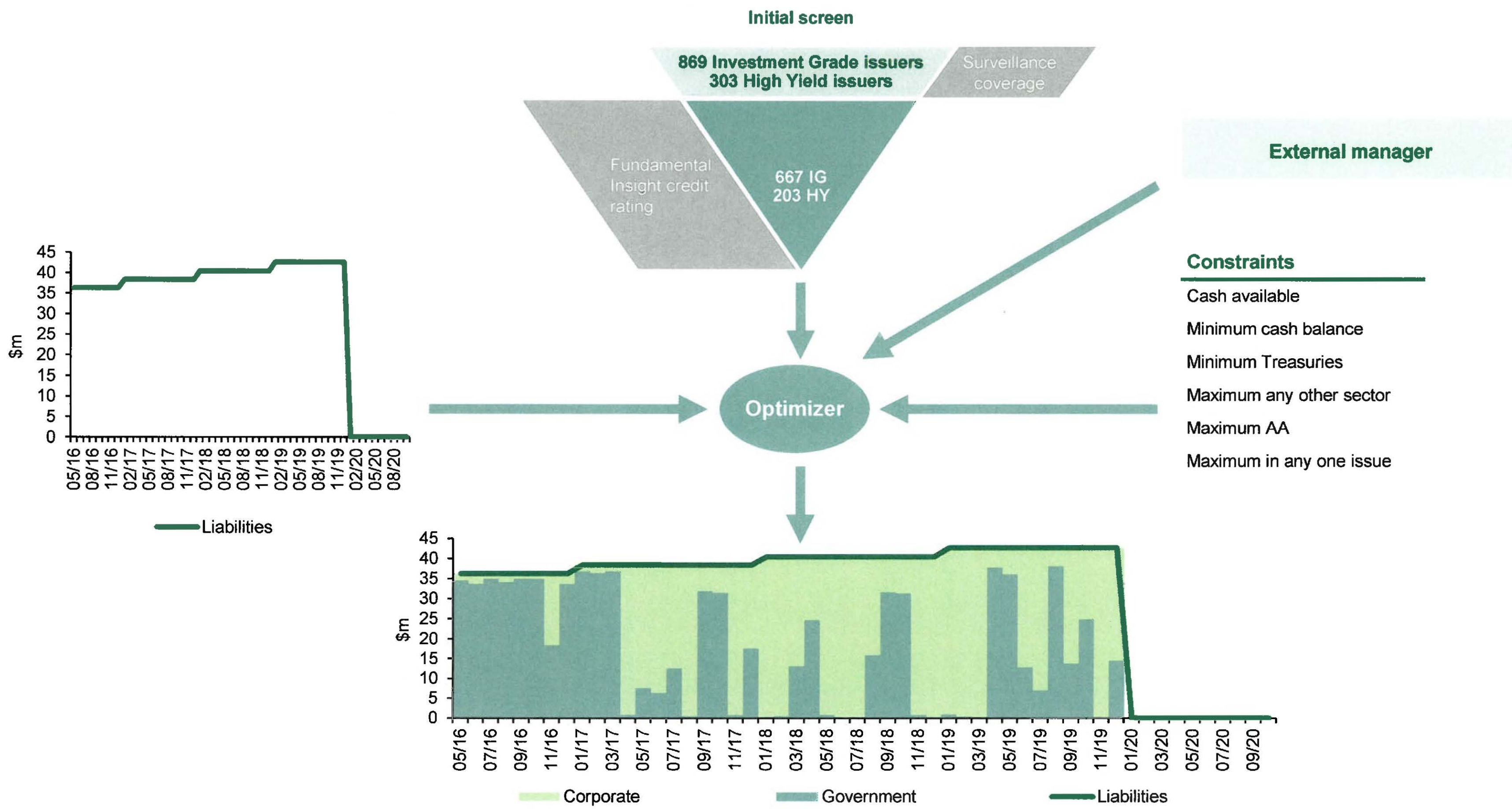
Financial Solutions Group
- Scenario analysis to understand key sensitivities
- Review cashflow match profile

Final portfolio

Ongoing: continuation of credit monitoring and recasting of the solution at agreed intervals

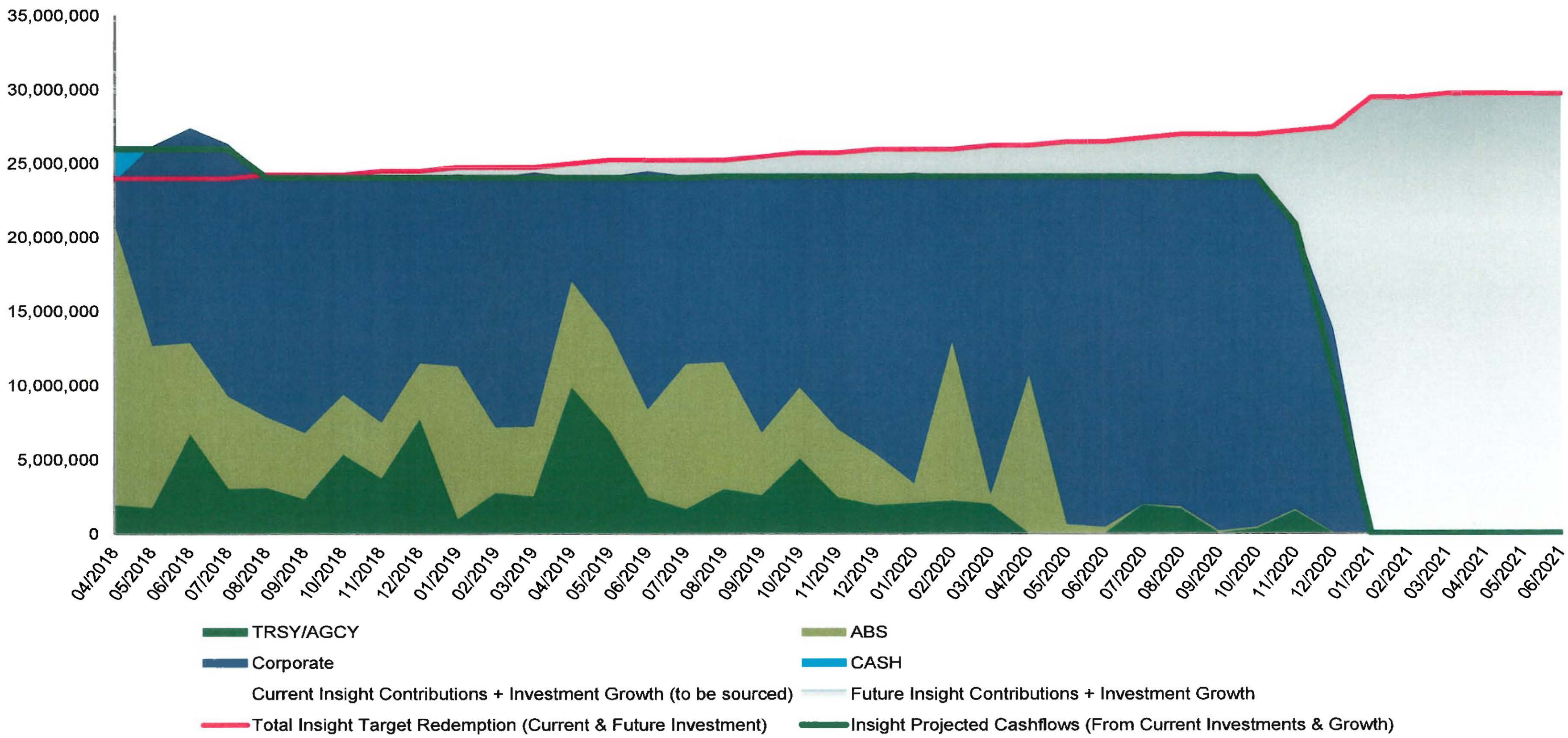
For illustrative purposes only.

Portfolio construction diagram
Cashflow driven investing



For illustrative purposes only.

Contra Costa County Employees Retirement Association
Asset allocation for benefit payments as of March 31, 2018



Source: Insight Investment as of March 31, 2018.

Insight INVESTMENT

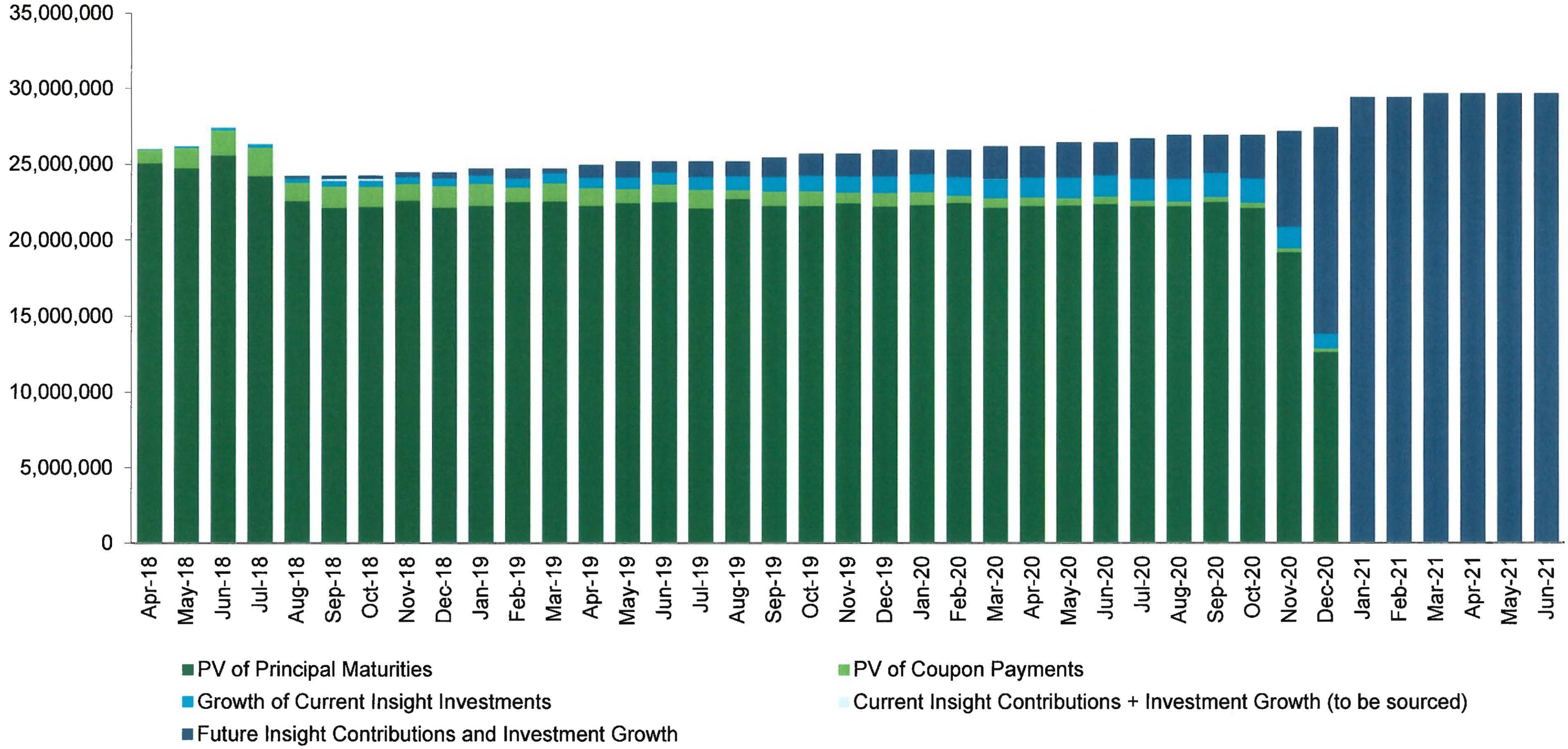
Portfolio summary and report

Part of BNY MELLON

Contra Costa County Employees Retirement Association

Source of benefit payments as of March 31, 2018

Dollar investment by cashflow period - current & future investments



Source: Insight Investment as of March 31, 2018.

Contra Costa County Employees Retirement Association
Portfolio attributes as of March 31, 2018

Summary	Portfolio
Yield to worst (%)	2.69
OAS (bp)	53
Effective duration (years)	1.28
Spread duration (years)	1.31
Number of issuers	234
Average rating	AA-

Rating (%)	Portfolio
AAA	34.36
AA	18.67
A	37.55
BBB	9.09
BB	-
Cash & other	0.33
Total	**100.00**

Asset allocation exposure (%)	Portfolio
ABS	20.88
Cash	0.33
Corporate	67.36
US treasury / agency	11.43
Total	**100.00**

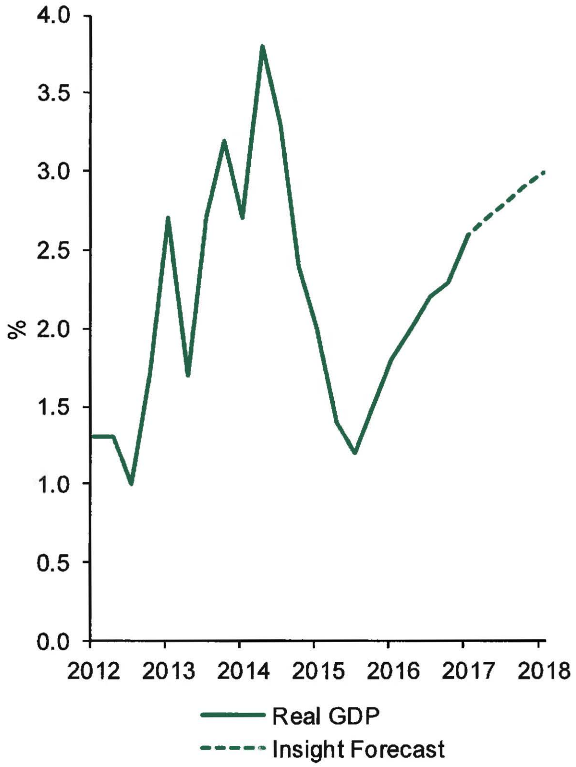
Subsector exposure (%)	Portfolio
ABS other	4.45
Car loan	9.45
Cash	0.33
Consumer cyclical	4.95
Consumer non-cyclical	14.63
Credit card	6.98
Energy	4.35
Financials	27.81
Foreign Agencies	3.19
Industrials	3.70
Technology, media, telecom	5.61
US treasury / agency	11.43
Utilities	3.12
Total	**100.00**

Approach used for credit rating: Optimistic

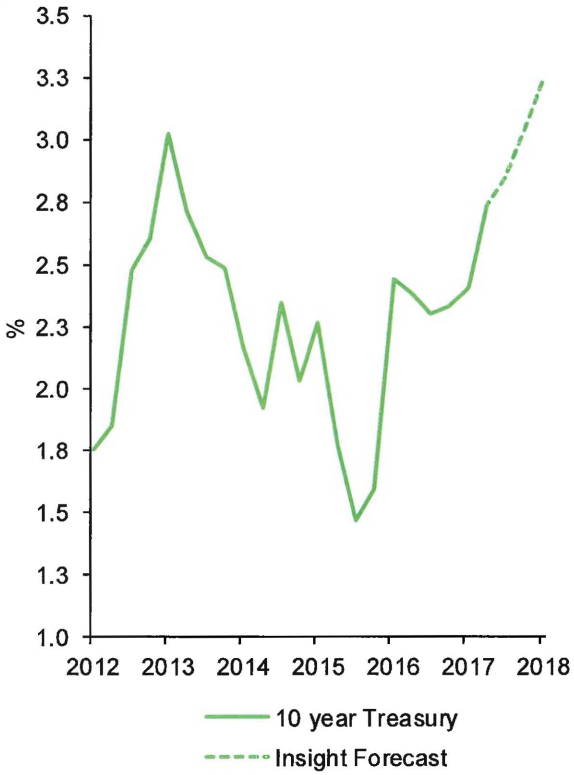
US macroeconomic outlook

The 2018 trifecta!

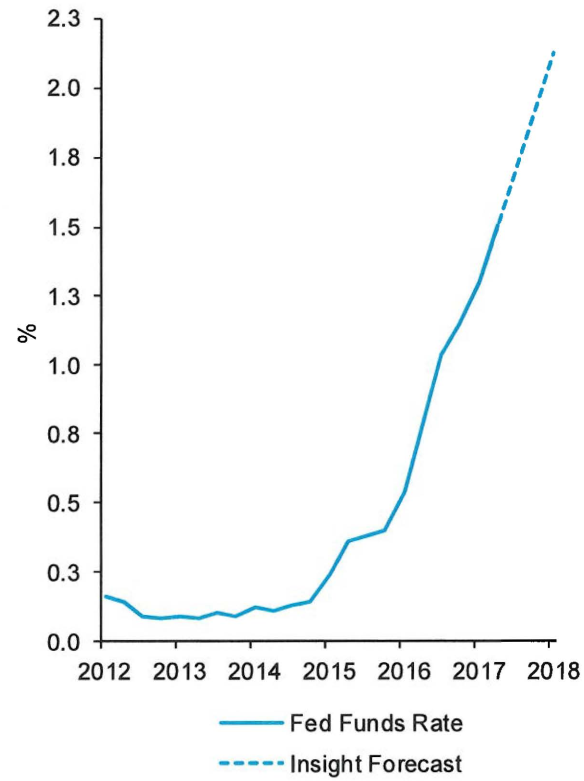
3% GDP growth



3% 10 Yr. Treasury



3 Fed hikes



With trend growth firming and the benefits of the 2017 tax cut, we expect broad indicators of US growth to rise

Source: Insight forecast, Bureau of Economic Analysis, Bloomberg, as of March 31, 2018. Opinions expressed herein are subject to change without notice. Please see important disclosures for additional information.

Insight's 2018 US outlook

- Our economic outlook should support corporate fundamentals and permit moderate outperformance in spread markets
- We are forecasting roughly 2.8% GDP* growth, which will support corporate credit fundamentals as anticipated profit growth of 17-20% will help companies grow into their capital structure
- We expect the Fed to raise rates two more times in 2018, with the 10-year US Treasury Note ending the year around 3.25%**. While rates may go higher, we are not forecasting an extreme sell-off, as structural headwinds and demand for duration from insurers, pension funds and international investors should keep US Treasuries well-bid, offset partially by increased treasury supply
- We continue to expect the 2017 corporate and personal income tax cuts to support business investment and personal consumption in 2018
- At this time, the market does not seem particularly concerned with the Fed's ongoing balance sheet reduction, which will continue to increase incrementally in 2018
- Chairman Powell has emphasized a continuation of the gradual hikes seen under Janet Yellen, which could continue for some time
- Looking through month to month volatility, the dollar will likely remain under some pressure amid synchronized global growth, concerns over the impact of an expanding US budget deficit, a deterioration of external accounts and tightening monetary policy by foreign central banks

Source: Bloomberg, March 31, 2018. * Gross domestic product. ** The forecast is based on a 12 month time horizon. Any projections or forecasts contained herein are based upon certain assumptions considered reasonable. Projections are speculative in nature and some or all of the assumptions underlying the projections may not materialize or vary significantly from the actual results. Accordingly, the projections are only an estimate. Opinions expressed herein are as of March 31, 2018, and are subject to change without notice. Insight assumes no responsibility to update such information or to notify a client of any changes. Please see important disclosures for additional information.

Appendix

Fixed income
Specialist teams

Insight INVESTMENT

Adrian Grey
CIO ACTIVE MANAGEMENT
HEAD OF FIXED INCOME

Andrew Wickham
GLOBAL RATES

Harvey Bradley
Gareth Colesmith
Isobel Lee

INFLATION LINKED

David Hooker

Chris Brown
MONEY MARKETS

Kevin Coney
Jamie Freshwater
Patrick Goodall
James McKerrow

IMPLEMENTATION AND OPERATIONS

Rory Anderson
Matthew Bodo (NY)
Carl Burdett
Shreena Dasani
Peter Joslin
Kevin Loescher (NY)
Alison Shine

Peter Bentley
GLOBAL CREDIT

Shaun Casey
Jesse Fogarty (NY)
Jonathan Hurst
Toby Kung
Adam Mossakowski
Scott Ruesterholz (NY)
Adam Whiteley
Lucy Zhu

April LaRusse
PRODUCT SPECIALISTS

Andy Burgess
Monique Carter
Emma du Haney
Serena Galestian
Carl Mastroianni (NY)
Isabelle Meyer

Lucy Speake
EUROPEAN CREDIT

Bonnie Abdul Aziz
Lutz Engberding
Pierre-Louis Fulhaber
Damien Hill
Robert Sawbridge

Gerard Berrigan (NY)
US CORE

Craig Armstrong (NY)
Jason Celente (NY)
James DiChiaro (NY)
Mary Donovan (CO)

David Averre
CREDIT ANALYSIS

LONDON

Aaiza Ali
Charles-Henri Boivin
Cathy Braganza
Solena Gloaguen
Giles Haworth
David Herrington
Toby Hunston
Teo Lasarte
Nikolay Menteshashvili
Alex Moss
Lionel Trigalou

NEW YORK

Jeff Bernstein
Brian Carlson
Robert Claiborne
Drago Dimitrov
Tim Doherty
Christopher Hagens
David Hamilton
Mark Kim
Rachel Plevinsky
Oliver Thompson
Catherine Welfer

RESPONSIBLE INVESTMENT

Joshua Kendall
Rory Sullivan*

Alex Veroude (NY)
HEAD OF CREDIT

HIGH YIELD

Uli Gerhard
Gautam Khanna (NY)

Joseph Nelson (NY)
BANK LOANS

John Bluemke

Shaheer Guirguis (NY)
SECURED FINANCE

Alok Bedekar
Jason Cameron
Thomas Curry
Jeremy Deacon
Lenny Kushnirsky (NY)
Justyna Kochanska
Ranbir Singh Lakhpuri
Clement Larrue
Joseph Lawson (NY)
Melissa Niu (NY)
Pritesh Solanki
Seema Sopal
Lorraine Speck★ter
Richard Talmadge (NY)
Tristan Teoh
Patrick Wacker (NY)
Duncan Westbrook

Colm McDonagh
EMD

Simon Cooke
Rodica Glavan
Darren Louis
Thibaut Nocella
Robert Simpson
Oliver Williams

Paul Lambert
CURRENCY

Richard Nibloe
Max Wahl

Paul Rochester
Jamie Anderson (NY)
TRADING

Angie Hart
Joe Hazelwood
Jon Lake
Paul Sharp
Thomas VanDermark (NY)

As of April 2018. * Strategic advisor. Located in: (NY) New York; (CO) Denver, Colorado. NY and CO includes employees of our affiliates Insight North America LLC (INA), Cutwater Asset Management Corp. (CAMC) and Cutwater Investor Services Corp. (CISC), each of which provides asset management services as part of Insight, the corporate brand for certain companies operated by Insight Investment Management Limited (IIML).

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All performance numbers used in the analysis are gross returns. The performance reflects the reinvestment of all dividends and income. INA charges management fees on all portfolios that they manage and these fees will reduce the returns on the portfolios. For example, assume that $30 million is invested in an account with INA, and this account achieves a 5.0% annual return compounded monthly, gross of fees, for a period of five years. At the end of five years that account would have grown to $38,500,760 before the deduction of management fees. Assuming management fees of 0.25% per year are deducted monthly from the account, the value at the end of the five year period would be $38,022,447. Actual fees for new accounts are dependent on size and subject to negotiation. INA's investment advisory fees are discussed in Part 2A of its Form ADV. A full description of INA's advisory fees are described in Part 2A of Form ADV available from INA at www.adviserinfo.sec.gov.

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CONTRA COSTA COUNTY CCCERA Employees' Retirement Association

Meeting Date
5/23/18
Agenda Item
#5

MEMORANDUM

Date: May 23, 2018

To: CCCERA Board of Retirement

From: Gail Strohl, Chief Executive Officer

Subject: Consider and take possible action to adopt Board of Retirement Resolution 2018-1 to increase the salary ranges by 3% for all unrepresented classifications effective July 1, 2018, with the exception of the Chief Executive Officer

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Background

At the end of 2015, classification and compensation studies were completed for the unrepresented classifications. The results of the studies were adopted and implemented effective February 1, 2016 for the unrepresented classifications. The recommendations from the studies included title changes, salary changes, and changes to the overtime exemption category for some classifications.

A 3% increase to the salary ranges of the unrepresented classifications effective July 1, 2018, will allow CCCERA to maintain a strong salary structure with the overall labor market. The Chief Executive Officer classification is governed by an employment contract therefore it should not be included in the change of the salary ranges.

Recommendation

Consider and take possible action to adopt Board of Retirement Resolution 2018-1 to increase the salary ranges by 3% for all unrepresented classifications effective July 1, 2018, with the exception of the Chief Executive Officer.

BOR Reso. No. 2018-1

RESOLUTION OF THE BOARD OF RETIREMENT
CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

CCCERA RESOLUTION FOR SALARY AND BENEFITS
FOR UNREPRESENTED EMPLOYEES

EFFECTIVE FEBRUARY 1, 2016
AMENDED MAY 25, 2016
AMENDED JUNE 22, 2016
AMENDED JUNE 14, 2017
AMENDED AUGUST 23, 2017
AMENDED MAY 23, 2018

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WHEREAS, the Contra Costa County Employees' Retirement Association ("CCCERA") is a public agency established by virtue of, and governed by the County Employees' Retirement Law of 1937, Government Code sections 31450, *et seq.*, ("CERL") and Article XVI, section 17 of the California Constitution.

WHEREAS, CCCERA administers a retirement system for the County of Contra Costa and for other participating employers located within the County, including CCCERA, by and through its Board of Retirement ("Board"), and as the Board delegates to its employees who are appointed by CCCERA pursuant to CERL section 31529.9 ("CCCERA Employees.")

WHEREAS, the Board wishes to provide salary and benefits to the unrepresented employees of CCCERA, effective from January 1, 2015 until further notice;

NOW THEREFORE IT IS HEREBY RESOLVED that effective January 1, 2015 and until further notice employees of CCCERA in the job classifications identified on Attachment A hereto shall receive the following salary and benefits:

1. Paid Holidays:

CCCERA observes the following paid holidays during the term covered by this Resolution:

New Year's Day	Labor Day
Martin Luther King Jr. Day	Veterans' Day
Presidents' Day	Thanksgiving Day
Memorial Day	Day after Thanksgiving
Independence Day	Christmas Day

Any paid holiday observed by CCCERA that falls on a Saturday is observed on the preceding Friday and any paid holiday that falls on a Sunday is observed on the following Monday.

Eligibility for Paid Holidays: Regular full-time employees are entitled to a paid day off in recognition of the holiday without a reduction in monthly base pay for CCCERA-observed holidays listed above.

If a holiday falls on an employee's regularly scheduled day off due to an alternative work schedule, the employee is entitled to take the day off, without a reduction in pay in recognition of the holiday. The employee is entitled to receive 8 hours of flexible compensation hours or pay at the rate of one times the employees' base rate of pay.

Part-time employees [*who are regularly scheduled to work a minimum of 20 hours per week*] are entitled to the listed paid holidays on a pro rata basis. For example, a part time employee whose position hours are 24 per week is entitled to 4.8 hours off work on a holiday (24/40 x 8 = 4.8).

When a paid holiday falls on a part-time employee's normally scheduled work day and the part-time paid holiday hours are more than the normally scheduled work hours the employee is entitled to receive flexible compensation hours or pay at the rate of one times the employees' base rate of pay for the difference between the employee's normally scheduled work hours and the paid part-time holiday hours.

When a paid holiday falls on a part-time employee's normally scheduled work day and the part-time paid holiday hours are less than the normally scheduled work hours the employee must use non-sick leave accruals for the difference between the employee's normally scheduled work hours and the part-time paid holiday hours. If the employee does not have any non-sick leave accrual balances, leave without pay will be authorized.

Flexible Compensation: Flexible Compensation may not be accumulated in excess of 288 hours. After 288 hours are accrued by an employee, the employee will receive flexible pay at the rate of 1.0 times the employee's base rate of pay. Flexible compensation may be taken on those dates and times determined by mutual agreement of the employee and their supervisor.

2. **Personal Holidays:**

Regular employees subject to this Resolution are entitled to accrue up to two hours of personal holiday credit each month.

Part-time employees [*who are regularly scheduled to work a minimum of 20 hours per week*] accrue personal holiday hours on a pro rata basis.

No employee may accrue more than forty hours of personal holiday credit at any time. Once the employee reaches forty hours of personal holiday, the employee will cease accruing such paid time off until he/she uses sufficient such time to reduce his/her bank below the forty-hour maximum, after at which time the employee may begin to accrue additional hours up to the forty-hour maximum.

On separation from CCCERA service, employees shall be paid for any accrued and unused personal holiday hours at the employee's then-current rate of pay.

3. **Vacation:**

Regular full-time employees subject to this Resolution are entitled to accrue paid vacation as follows:

Length of Service*	Monthly Accrual Hours	Maximum Cumulative Hours
Fewer than 11 years	10	240

Length of Service*	Monthly Accrual Hours	Maximum Cumulative Hours
11 years	10-2/3	256
12 years	11-1/3	272
13 years	12	288
14 years	12-2/3	304
15 through 19 years	13-1/3	320
20 through 24 years	16-2/3	400
25 through 29 years	20	480
30 years and up	23-1/3	560

* Includes County service if employed at CCCERA before January 1, 2015.

Part-time employees [*who are regularly scheduled to work a minimum of 20 hours per week*] are entitled to the listed paid vacation on a pro rata basis.

Employees may accrue paid vacation time up to a maximum of twice their annual vacation accrual. That is, for a full-time employee with 8 years of service, the employee may accrue up to a maximum of 240 hours (120 hours maximum annual accrual x 2 = 240 hours). Once the employee reaches this maximum cumulative hours, she/he will cease accruing paid vacation time until he/she uses sufficient vacation to drop below the maximum cumulative hours after which time the employee may begin to accrue additional hours up to the maximum cumulative hours.

On separation from CCCERA service, employees shall be paid for any accrued and unused vacation hours at the employee's then-current rate of pay.

Vacation Buy Back:

A. With the exception of the Chief Executive Officer, employees may elect payment of up to one-third (1/3) of their annual vacation accrual, subject to the following conditions:
   (1) the choice can be made only once every thirteen (13) months and there must be at least twelve (12) full months between each election;
   (2) payment is based on an hourly rate determined by dividing the employee's current monthly salary by 173.33; and
   (3) the maximum number of vacation hours that may be paid in any one sale is one-third (1/3) of the annual accrual.

B. The Chief Executive Officer may elect payment of up to one-third (1/3) of their annual vacation accrual, subject to the following conditions:

(1) the choice can be made only once in each calendar year;

(2) payment is based on an hourly rate determined by dividing the employee's current monthly salary by 173.33; and

(3) the maximum number of vacation hours that may be paid in any one sale is one-third (1/3) of the annual accrual.

NOTE: Where a lump-sum payment is made to employees as a retroactive general salary adjustment for a portion of a calendar year that is subsequent to the exercise by an employee of the vacation buy-back provision herein, that employee's vacation buy-back will be adjusted to reflect the percentage difference in base pay rates upon which the lump-sum payment was computed, provided that the period covered by the lump-sum payment includes the effective date of the vacation buy-back. *For example: In May a salary increase is approved with an effective date of January 1st and the employee completed a vacation buy-back in March, a lump sum payment for the difference in base pay of the vacation buy-back would be calculated.*

4. <u>Sick Leave:</u>

Regular full-time employees subject to this Resolution shall earn paid sick leave benefits at the rate of eight (8) hours per month. Regular part-time employees [*who are regularly scheduled to work a minimum of 20 hours per week*] are entitled to sick leave benefits on a pro rata basis.

Unused sick leave hours accumulate from year to year. When an employee is separated, other than through retirement, accumulated sick leave hours shall be cancelled, unless the separation results from layoff, in which case the accumulated hours shall be restored if reemployed in a regular position within the period of layoff eligibility. At retirement, employees are credited, at the rate of one day for each one day earned, with sick leave accumulated as of the day of retirement and that sick leave credit counts as additional retirement service credit.

For more information on sick leave benefits please refer to the CCCERA Personnel Policies.

5. <u>Sick Leave Incentive Plan:</u>

Employees may be eligible for a payoff of a part of unused sick leave accruals at separation. The sick leave incentive plan is an incentive for employees to safeguard sick leave accruals as protection against wage loss due to time lost for injury or illness. Payoff must be approved by the Chief Executive Officer, and is subject to the following conditions:

- The employee must have resigned in good standing
- Payout is not available if the employee is eligible to retire

- The balance of sick leave at resignation must be at least 70% of accruals earned in the preceding continuous period of employment excluding any sick leave use covered by the Family and Medical Leave Act (FMLA), the California Family Rights Act (CFRA) or the California Pregnancy Disability Act (PDL).
- Payout is by the following schedule:

Years of Payment Continuous Service	Payment of Unused Sick Leave Payable
3 – 5 years	30%
5 – 7 years	40%
7 plus years	50%

- No payoff will be made pursuant to this section unless CCCERA certifies that an employee requesting as sick leave payoff has terminated membership in, and has withdrawn their contributions from CCCERA.
- It is the intent of the Board of Retirement that payments made pursuant to this section are in lieu of CCCERA retirement benefits resulting from employment with any of the employers in the CCCERA retirement plan.

6. <u>Management Administrative Leave</u>

Management Administrative Leave is authorized time away from the job for any personal activities and needs which are not charged to sick leave or vacation hours. Unrepresented employees who are exempt from the payment of overtime are eligible for this benefit.

Use of Management Administrative Leave may be requested whenever desired by the employee; however; approval of request shall be subject to the same department process as used for vacation requests.

All unused Management Administrative Leave will be cancelled at 11:59 p.m. on December 31st of each year.

A. On January 1st of each year, all full-time management employees in paid status, except for the Chief Executive Officer, will be credited with ninety four (94) hours of paid Management Administrative Leave. The Chief Executive Officer will be credited with seventy (70) hours of paid Management Administrative Leave. All Management Administrative Leave is non-accruable and all balances will be zeroed out on December 31st of each year.

B. Regular part-time employees [*who are regularly scheduled to work a minimum of 20 hours per week*] are eligible for Management Administrative Leave on a prorated basis, based upon their position hours.

C. Employees appointed (hired or promoted) to a management position are eligible for

Management Administrative Leave on the first day of the month following their appointment date and will receive Management Administrative Leave on a prorated basis for that first year.

7. **Other Unpaid Leaves:**

CCCERA provides leaves of absence to eligible employees in a variety of circumstances. In all cases, CCCERA intends to comply with applicable federal and state laws. For additional information on unpaid leaves please refer to the CCCERA Personnel Policies.

- Pregnancy disability leave may be requested by any employee at any time.
- Workers' compensation leave is provided to any employee as needed.
- Leave as a reasonable accommodation of an employee's disability is provided to any employee as needed.

Request for Leave: As soon as an employee learns of the need for a leave of absence, the employee should submit a request for leave to the Administrative/HR Manager. Request forms are available from Human Resources. Any leave request must state the purpose of the leave being requested. If approved, the leave must be used for that purpose.

A. Medical/Family Illness/Child Care Leave (FMLA/CFRA LEAVE)

Eligible employees may request an unpaid Family Medical Leave Act ("FMLA") of up to 18 workweeks in a rolling 12-month period (measured backwards from the date the leave begins) for any of the following reasons:

- Birth of the employee's child and to care for the child within the first year of birth;
- The care of an adopted or foster child which the first year of placement with the employee;
- Care for the employee's child, spouse or domestic partner, or parent with a serious health condition;
- Serious health condition of the employee;
- A qualifying exigency arising out of an eligible family member's call to military duty; or
- To care for a covered military service member who is the employee's eligible family member/next-of-kin.

For purposes of this Resolution, an eligible employee is one who has completed one year of continuous employment with CCCERA and worked a minimum of 1,250 hours during the preceding 12 months.

Medical certification is required for leaves necessitated by the serious health condition of the employee or of a family member, but an employee or his/her health care provider need not, and should not, disclose the employee's underlying condition. medical history, results of tests, or any genetic information. A "serious health condition" means an illness, injury, impairment, or physical or mental condition that involves any of the following:

- Time or treatment in connection with inpatient care;
- Period of incapacity of more than three consecutive days that involves treatment by a health care provider; or
- Any period of incapacity or treatment that is permanent or long term.

Employees will continue to be covered by CCCERA health insurance benefits under pre-leave conditions during the entire approved FMLA leave.

FMLA leave is unpaid, except that employees [*may elect* to use any accrued vacation, sick, personal holiday or management administrative leave time.

Intermittent leave or a reduced work schedule may be approved with medical certification for an employee's Serious Health Condition, for the employee to care for a child, parent, spouse, or domestic partner (under the CFRA only) with a serious health condition.

Medical certification that the employee is released to return to work is required before the employee will be permitted to return.

If an employee needs to extend his or her leave, he/she must request an extension for FMLA/CFRA leave as soon as practicable after he/she has knowledge of the need for additional leave time. Recertification by a treating health care provider may be required every 30 calendar days in connection with an employee's absence where appropriate.

B. Pregnancy Disability Leave

Pregnancy Disability Leave (PDL) is a leave due to pregnancy, childbirth, or related reasons preventing the employee from performing her job functions. PDL includes leave needed for prenatal care and prenatal complications.

Employees may take up to a maximum of four months of PDL per pregnancy. Medical certification of the need for the leave is required, and the length of PDL will depend on the medical necessity for the leave. Medical certification that the employee is released to return to work is required before the employee will be permitted to return.

Employees will continue to be covered by CCCERA health insurance benefits under pre-leave conditions during the entire approved PDL.

Leave for pregnancy disability is unpaid, except that employees may elect to use any accrued vacation, sick, personal holiday or management administrative leave time.

C. Military Leave

Federal and state mandated-military leaves of absence are granted without pay to members of the United States Uniformed Services, the California National Guard, or the reserves. To be eligible, an employee must submit written verification from the appropriate military authority. Such leaves will be granted in accordance with state and federal law.

When an employee goes on Military Leave for more than 30 days, any applicable group insurance (existing provisions will apply) continues for 90 days following the commencement of unpaid Military Leave. Beyond the 90 days, the employee may elect to continue the same group health care coverage, including dependent coverage, if applicable, for up to 24 months at his/her own expense.

An employee may elect to use accrued personal holidays, vacation, and/or management administrative leave at the beginning of unpaid military service or may retain earned and accrued vacation for use upon return from the leave. The employee must provide this request/election in writing to Administrative/HR Manager prior to the start of the military leave.

At the conclusion of military service, an employee will be reinstated upon giving notice of his/her intent to return to work by either (1) reporting to work or (2) submitting a timely oral or written request to CCCERA for reinstatement within 90 days of days after their release from active duty or any extended period required by law. The Military Leave will expire upon the employee's failure to request reinstatement or return to work in a timely manner after conclusion of service.

8. <u>Health, Dental, and Related Benefits</u>

Regular full-time and part-time employees [*who are regularly scheduled to work a minimum of 20 hours per week*] and their eligible dependents may be entitled to receive medical and dental insurance coverage through CCCERA Plans. Attached hereto as Attachment B, is the monthly premium subsidy for unrepresented employees.

Effective January 1, 2016, CCCERA shall offer an Internal Revenue Code Section 125 Flexible Benefits Plan that offers (i) CalPERS health plan coverages for each eligible employee and the employee's eligible family members and (ii) at least one other nontaxable benefit. CCCERA shall make monthly contributions under the plan for each eligible employee and their dependents (if applicable) up to the relevant amount set forth in Attachment B. Such contributions shall consist of (i) the Minimum Employer Contribution (MEC) established by the Public Employees' Medical and Hospital Care Act, and designated by CCCERA as the MEC, and (ii) the additional amount of such contributions in excess of the MEC.

Any eligible employee who enrolls in health coverage with a higher total premium than CCCERA's contributions with respect to the eligible employee, as stated in Attachment B, will pay the difference via pre-tax payroll deductions under the plan to the extent permitted by Internal Revenue Code Section 125.

Dual Coverage: Each employee, eligible dependent and retiree may be covered by only a single CCCERA health or dental plan.

Please refer any questions about medical/dental benefits to Human Resources.

Health and Dental Coverage Upon Retirement

1. Any CCCERA retiree or their eligible dependent who becomes age 65 on or after January 1, 2009 and who is eligible for Medicare must immediately enroll in Medicare Parts A and B.

2. Employees hired by Contra Costa County or CCCERA on or after January 1, 2009 and their eligible dependents, are eligible for retiree health/dental coverage upon completion of fifteen (15) years of service of which five (5) of those years must be as an active employee of CCCERA with no monthly premium subsidy paid by CCCERA for any health or dental plan after they separate from CCCERA employment. However, any such eligible employee who retires from CCCERA may retain continuous coverage of a CCCERA health and/or dental plan provided that:

    (i) he or she begins to receive a monthly retirement allowance from CCCERA within 120 days of separation from CCCERA employment and
    (ii) he or she pays the difference between the Public Employees' Medical and Hospital Care Act (PEMHCA) minimum contribution and the premium cost of the dental plan without any CCCERA premium subsidy.

3. Employees hired by Contra Costa County on January 1, 2007 to December 31, 2008 and their eligible dependents, are eligible for retiree health/dental coverage premium subsidy upon completion of fifteen (15) years of service of which five (5) of those years must be as an active employee of CCCERA. For purposes of retiree health eligibility, one year of service is defined as one thousand (1,000) hours worked within one anniversary year.

4. Employees hired by Contra Costa County on or before December 31, 2006 and their eligible dependents, may remain in their CCCERA health/dental plan, but without CCCERA-paid life insurance coverage, if immediately before their proposed retirement the employees and dependents are either active subscribers to one of the CCCERA contracted health/dental plans or if while on authorized leave of absence without pay, they have retained continuous coverage during the leave period. CCCERA will pay the health/dental plan monthly premium established by the Board of Retirement for eligible retirees and their eligible dependents.

5. All periods of benefit eligible employment will be included in the fifteen (15) years of service calculation for purposes of health and dental coverage upon retirement.

6. Employees, who resign and file for a deferred retirement and their eligible

dependents, may continue in their CCCERA group health and/or dental plan under the following conditions and limitations:

(i) Health and dental coverage during the deferred retirement period is totally at the expense of the employee, without any CCCERA contributions.

(ii) Life insurance coverage is not included.

(iii) To continue health and dental coverage, the employee must:

a. be qualified for a deferred retirement under the 1937 Retirement Act provisions;
b. be an active member of a CCCERA group health and/or dental plan at the time of filing their deferred retirement application and elect to continue plan benefits;
c. be eligible for a monthly allowance from the Retirement System and direct receipt of a monthly allowance within one hundred twenty (120) days of application for deferred retirement; and
d. file an election to defer retirement and to continue health benefits hereunder with the CCCERA within thirty (30) days before separation from CCCERA service.

(iv) Deferred retirees who elect continued health benefits hereunder and their eligible dependents may maintain continuous membership in their CCCERA health and/or dental plan group during the period of deferred retirement by paying the full premium for health and dental coverage on or before the 10^{th} of each month, to the CCCERA. When the deferred retirees begin to receive retirement benefits, they will qualify for the same health and/or dental coverage pursuant to section 7 above, as similarly situated retirees who did not defer retirement.

(v) Deferred retirees may elect retiree health benefits hereunder without electing to maintain participation in their CCCERA health and/or dental plan during their deferred retirement period. When they begin to receive retirement benefits, they will qualify for the same health and/or dental coverage pursuant to section 7 above, as similarly situated retirees who did not defer retirement.

(vi) Employees who elect deferred retirement will not be eligible in any event for CCCERA health and/or dental plan subvention unless the member draws a monthly retirement allowance within one hundred twenty (120) days after separation from CCCERA employment.

(vii) Deferred retirees and their eligible family members are required to meet the same eligibility provisions for retiree health/dental coverage as similarly situated retirees who did not defer retirement.

For employees who retire and are eligible to receive a medical premium subsidy that is greater than the PEMHCA minimum contribution, each month during which such retiree medical coverage continues, CCCERA will provide each such retiree with a medical expense reimbursement plan (MERP), also known as a health reimbursement arrangement (HRA), subject to Internal Revenue Code Section 105, with a monthly credit equal to the excess of (i) the relevant medical coverage monthly premium subsidy set forth in Section 17.2 for such eligible retiree and his or her eligible family members over (ii) the then current MEC.

9. Long-Term and Short-Term Disability Insurance

CCCERA will provide Long-Term and Short-Term Disability Insurance.

10. State Disability Insurance

Unrepresented employees do not contribute towards State Disability Insurance.

11. Life Insurance

For employees who are enrolled in the County's program of medical or dental coverage as either the primary or the dependent, term life insurance in the amount of ten thousand dollars ($10,000) will be provided by CCCERA.

Management employees, with the exception of the Chief Executive Officer will also receive fifty-seven thousand dollars ($57,000) in addition to the life insurance provided above. The Chief Executive Officer will receive an additional sixty thousand dollars ($60,000) in addition to the ten thousand dollars ($10,000) insurance provided above.

In addition to the life insurance benefits provided by CCCERA, employees may subscribe voluntarily and at their own expense for supplemental life insurance. Please refer to Human Resources for additional information.

12. Workers Compensation Insurance

1. For all accepted workers' compensation claims filed with CCCERA employees will receive seventy five percent (75%) of their regular monthly salary during any period of compensable temporary disability not to exceed one (1) year. If workers' compensation benefits become taxable income, CCCERA will restore the former benefit level, one hundred percent (100%) of regular monthly salary.

2. Waiting Period: There is a three (3) calendar day waiting period before workers' compensation benefits commence. If the injured worker loses any time on the date of injury, that day counts as day one (1) of the waiting period. If the injured worker does not lose time on the date of the injury, the waiting period is the first three (3) days following the date of the injury. The time the employee is scheduled to work during this waiting period will be charged to the employee's sick leave and/or vacation

accruals. In order to qualify for workers' compensation the employee must be under the care of a physician. Temporary compensation is payable on the first three (3) days of disability when the injury necessitates hospitalization, or when the disability exceeds fourteen (14) days.

3. Continuing Pay: A regular employee will receive the applicable percentage of regular monthly salary in lieu of workers' compensation during any period of compensable temporary disability not to exceed one year. "Compensable temporary disability absence" for the purpose of this Section, is any absence due to work-connected disability which qualifies for temporary disability compensation under workers' compensation law set forth in Division 4 of the California Labor Code. When any disability becomes medically permanent and stationary, the salary provided by this Section will terminate. No charge will be made against sick leave or vacation for these salary payments. Sick leave and vacation rights do not accrue for those periods during which continuing pay is received. Employees are entitled to a maximum of one (1) year of continuing pay benefits for any one injury or illness.

   Continuing pay begins at the same time that temporary workers' compensation benefits commence and continues until either the member is declared medically permanent/stationary, or until one (1) year of continuing pay, whichever comes first, provided the employee remains in an active employed status. Continuing pay is automatically terminated on the date an employee is separated from CCCERA by resignation, retirement, layoff, or the employee is no longer employed by CCCERA. In these instances, employees will be paid workers' compensation benefits as prescribed by workers' compensation laws. All continuing pay must be cleared through CCCERA.

4. Physician Visits: Whenever an employee who has been injured on the job and has returned to work is required by an attending physician to leave work for treatment during working hours, the employee is allowed time off, up to three (3) hours for such treatment, without loss of pay or benefits. Said visits are to be scheduled contiguous to either the beginning or end of the scheduled workday whenever possible. This provision applies only to injuries/illnesses that have been accepted by CCCERA as work related.

5. Labor Code §4850 Exclusion: The foregoing provisions for workers' compensation and continuing pay are inapplicable in the case of employees entitled to benefits under Labor Code Section 4850.

13. Health Care Spending Account

After six (6) months of regular employment, full time and part time (20/40 or greater) employees may elect to participate in a Health Care Spending Account (HCSA) Program designated to qualify for tax savings under Section 125 of the Internal Revenue Code, but such savings are not guaranteed. The HCSA Program allows employees to set aside a predetermined amount of money from their pay, before taxes, for health care expenses not reimbursed by any other health benefit plans. HCSA dollars may be expended on any eligible medical expenses allowed by Internal Revenue Code Section 125. According to IRS regulations, any unused balance is forfeited and may not be recovered by the employee. Please refer to Human Resources for more information on the HCSA Program.

14. Dependent Care Assistance Program

Full time and part time (20/40 or greater) employees may elect to participate in a Dependent Care Assistance Program (DCAP) designed to qualify for tax savings under Section 129 of the Internal Revenue Code, but such savings are not guaranteed. The program allows employees to set aside up to five thousand ($5,000) of annual salary (before taxes) per calendar year to pay for eligible dependent care (child and elder care) expenses. According to IRS regulations, any unused balance is forfeited and may not be recovered by the employee. Please refer to Human Resources for more information on DCAP.

15. Premium Conversion Plan

CCCERA offers the Premium Conversion Plan (PCP) designed to qualify for tax savings under Section 125 of the Internal Revenue Code, but tax savings are not guaranteed. The program allows employees to use pre-tax salary to pay health and dental premiums. Please refer to Human Resources for more information on the PCP.

16. Computer Vision Care (CVC)

CCCERA will pay 100% of the employee only premium for EyeMed Option 2 vision coverage and up to two hours of CCCERA paid time for exam and to obtain glasses. Employees may obtain spouse and dependent coverage at their own cost.

17. Retirement:

CCCERA Membership:

Contributions: Employees are responsible for the payment of one hundred percent of the employees' basic retirement benefit contributions determined annually by the Board. Employees are also responsible for the payment of the employee's contributions to the retirement cost-of-living program as determined annually by the Board. CCCERA is responsible for payment of one hundred percent of the employer's retirement contributions as determined annually by the Board.

A. Employees who are not classified as new members under PEPRA will be enrolled in Retirement Tier 1 enhanced. For more information on retirement tiers please refer to the CCCERA member handbooks.
B. Employees who are classified as new members under PEPRA will be enrolled in Retirement IV (3% COLA). For more information on retirement tiers please refer to

the CCCERA member handbooks.

C. CCCERA will implement Section 414(h) (2) of the Internal Revenue Code which allows CCCERA to reduce the gross monthly pay of employees by an amount equal to the employee's total contribution to the CCCERA Retirement Plan before Federal and State income taxes are withheld, and forward that amount to the CCCERA Retirement Plan. This program of deferred retirement contribution will be universal and non-voluntary as required by statute.

<u>Deferred Compensation:</u>

A. CCCERA will contribute eighty-five dollars ($85) per month to each employee who participates in CCCERA's Deferred Compensation Plan. To be eligible for this Deferred Compensation Incentive, the employee must contribute to the deferred compensation plan as indicated below:

Employees with Current Monthly Salary of:	Qualifying Base Contribution Amount	Monthly Contribution Required to Maintain Incentive Program Eligibility
$2,500 and below	$250	$50
$2,501 – 3,334	$500	$50
$3,335 – 4,167	$750	$50
$4,168 – 5,000	$1,000	$50
$5,001 – 5,834	$1,500	$100
$5,835 – 6,667	$2,000	$100
$6,668 and above	$2,500	$100

Employees who discontinue contributions or who contribute less than the required amount per month for a period of one (1) month or more will no longer be eligible for the eighty-five dollars ($85) Deferred Compensation Incentive. To reestablish eligibility, employees must again make a Base Contribution Amounts as set forth above based on current monthly salary. Employees with a break in deferred compensation contributions either because of an approved medical leave or an approved financial hardship withdrawal will not be required to reestablish eligibility. Further, employees who lose eligibility due to displacement by layoff, but maintain contributions at the required level and are later employed in an eligible position, will not be required to reestablish eligibility.

B. Regular employees hired on and after January 1, 2009 will receive one hundred and fifty dollars ($150) per month to an employee's account in the Contra Costa County Deferred Compensation Plan or other tax-qualified savings program designated by CCCERA, for employees who meet all of the following conditions:

1. The employee must be hired by CCCERA on or after January 1, 2009.
2. The employee is not eligible for a monthly premium subsidy for health and/or dental

upon retirement as set forth in Section 8.

3. The employee must be appointed to a regular position. The position may be either full time or part time (designated at a minimum of 20 hours per week).
4. The employee must have been employed by CCCERA or Contra Costa County for at least 90 calendar days.
5. The employee must contribute a minimum of twenty-five dollars ($25) per month to the Contra Costa County Deferred Compensation Plan, or other tax-qualified savings program designated by CCCERA.
6. The employee must complete and sign the required enrollment form(s) for his/her deferred compensation account and submit those forms to the Benefits Services Unit of Contra Costa County.
7. The employee may not exceed the annual maximum contribution amount allowable by the United States Internal Revenue Code.
8. Employees are eligible to apply for loans from the Contra Costa County Deferred Compensation Plan loan program. For more information on the loan program refer to Human Resources.

18. General Training

CCCERA periodically provides training to employees on its harassment prevention and equal opportunity/discrimination policies. The purpose of these training sessions is to inform and remind employees of CCCERA's policies on these matters. These training sessions are mandatory.

Employees also receive safety training as part of CCCERA's Injury and Illness Prevention program.

19. Other Job-Related Training

Employees may request to attend training sessions on topics that are directly related to the employee's current job and that are likely to improve the employee's job knowledge and skills. Requests to attend training must be submitted to the employee's department manager. It is within the sole discretion of CCCERA whether or not to grant a training request.

20. Professional Development Reimbursement

To encourage personal and professional growth which is beneficial to both CCCERA and the employee, CCCERA reimburses for certain expenses incurred by employees which are related to an employee's current work assignment.

Expenses that may be eligible for reimbursement include certification programs and courses offered through accredited colleges, universities and technical schools.

Guidelines: Prior to registering for a course, the employee must provide appropriate information to Human Resources to begin the approval process.

If granted, reimbursement may be used to defray actual costs of tuition, registration, testing materials, testing fees and books only and is limited to $2,000 per year.

Course attendance, study, class assignments and exams must be accomplished outside of the employee's regular working hours.

Reimbursement: Reimbursement will only be provided for course work in which the employee achieves a grade of C or better. Reimbursement will be provided only to employees who are employed by CCCERA at the time CCCERA receives evidence of satisfactory completion of the course or certification exam.

If the employee does not successfully complete the course or certification exam, no reimbursement will be provided.

Exceptions: For classifications which require a certification or technical license, CCCERA will reimburse the entire cost of certification fees and membership dues without reducing the maximum annual Professional Development Reimbursement amount.

21. Salary

Attached hereto as Attachment A, is the salary schedule for all classifications of unrepresented employees.

22. Overtime

Unrepresented employees who are exempt from the payment of overtime are not entitled to receive overtime pay, holiday pay, holiday compensatory, or overtime compensatory time. Unrepresented employees who are non-exempt from the payment of overtime will receive overtime for hours worked in excess of 40 hours in the workweek and paid at a rate of time and one-half their hourly rate of pay.

23. Differential Pay

A. Longevity

Ten Years of Service:

Employees who have completed ten (10) years of service for Contra Costa County and/or CCCERA are eligible to receive a two and one-half percent (2.5%) longevity differential effective on the first day of the month following the month in which the employee qualifies for the ten (10) year service award.

Fifteen Years of Service:

Employees who have completed fifteen (15) years of service for Contra Costa County and/or CCCERA are eligible to receive an additional two and one-half percent (2.5%) longevity differential effective on the first day of the month following the month in which the employee qualifies for the fifteen (15) year service award.

Twenty Years of Service:

Employees in the Retirement General Counsel classification who have completed twenty (20) years of service for Contra Costa County and/or CCCERA will receive an additional two percent (2%) longevity differential effective on the first day of the month following the month in which the employee qualifies for the twenty (20) year service award.

B. Certificate Differentials

NOTE: No employee may receive more than one certificate differential at one time, regardless of the number of certificates held by that employee.

- Accounting Certificate Differential

Incumbents of unrepresented professional accounting, auditing or fiscal officer positions who possess one of the following active certifications will receive a differential of five percent (5%) of base monthly salary:

(1) a Certified Public Accountant (CPA) license issued by the State of California, Department of Consumer Affairs, Board of Accountancy;

(2) a Certified Internal Auditor (CIA) certification issued by the Institute of Internal Auditors;

(3) a Certified Management Accountant (CMA) certification issued by the Institute of Management Accountants; or

(4) a Certified Government Financial Manager (CGFM) certification issued by the Association of Government Accountants.

- Associate of the Society of Actuaries (ASA)

Employees who possess an active ASA certification will receive a differential of five percent (5%) of base monthly salary. Verification of eligibility for any such differential must be provided to Human Resources.

Resolution of the Board of Retirement
Contra Costa County Employees' Retirement Association

CCCERA Resolution for Salary and Benefits for Unrepresented Employees
(BOR Reso. No. 2018-1)

Attachment A

Effective July 1, 2018

Class Title		Salary Range				
		Step 1	**Step 2**	**Step 3**	**Step 4**	**Step 5**
Accountant	Exempt (Monthly)	$5,581	$5,861	$6,154	$6,461	$6,784
Accounting Manager	Exempt (Monthly)	$9,546	$10,024	$10,525	$11,051	$11,604
Accounting Supervisor	Exempt (Monthly)	$7,124	$7,480	$7,854	$8,246	$8,659
Administrative/HR Manager	Exempt (Monthly)	$9,319	$9,785	$10,274	$10,788	$11,327
Administrative/HR Supervisor	Exempt (Monthly)	$7,124	$7,480	$7,854	$8,246	$8,659
Communications Coordinator	Exempt (Monthly)	$6,623	$6,954	$7,302	$7,667	$8,050
Compliance Business Analyst	Exempt (Monthly)	$7,302	$7,667	$8,050	$8,453	$8,875
Deputy General Counsel	Exempt (Monthly)	$13,433	$14,104	$14,809	$15,550	$16,327
Executive Assistant	Non-Exempt (Hourly)	$33.81	$35.50	$37.28	$39.14	$41.10
Information System Programmer/Analyst	Exempt (Monthly)	$6,784	$7,124	$7,480	$7,854	$8,246
Information Technology Coordinator	Non-Exempt (Hourly)	$35.50	$37.28	$39.14	$41.10	$43.15
Information Technology Manager	Exempt (Monthly)	$11,327	$11,894	$12,488	$13,113	$13,768
Investment Analyst	Exempt (Monthly)	$9,785	$10,274	$10,788	$11,327	$11,894
Investment Officer	Exempt (Monthly)	$13,768	$14,457	$15,180	$15,939	$16,735
Member Services Manager	Exempt (Monthly)	$9,319	$9,785	$10,274	$10,788	$11,327
Member Services Supervisor	Non-Exempt (Hourly)	$41.10	$43.15	$45.31	$47.58	$49.95
Retirement Services Manager	Exempt (Monthly)	$9,319	$9,785	$10,274	$10,788	$11,327
Retirement Services Supervisor	Non-Exempt (Hourly)	$41.10	$43.15	$45.31	$47.58	$49.95

Executive Class Title	Monthly Salary Range
Chief Executive Officer	$20,064
Chief Investment Officer	$18,383 - $23,898
Compliance Officer	$9,501 - $12,351
Deputy Chief Executive Officer	$14,738 - $19,159
General Counsel	$16,248 - $21,122

Attachment B

Health and Dental Coverage Monthly Premium Subsidy

Effective: January 1, 2016
Revised: January 1, 2018

Health Plans:

- CalPERS

  Employee Only: $746.47
  Employee + 1: $1,492.94
  Employee + Family: $1,940.82

- Delta Dental

  Employee Only: $46.21
  Employee and Spouse: $103.72
  Employee and Children: $103.41
  Family: $169.38

Effective January 1, 2018, if there is an increase in the monthly premium charged by a CalPERS medical plan, CCCERA and the employee will each pay fifty percent (50%) of the monthly increase that is above the amount of the 2017 plan premium. The fifty percent (50%) share of the monthly medical plan increase paid by CCCERA is in addition to the amounts paid by CCCERA listed above for plan year 2017.

Effective January 1, 2016, CCCERA shall offer an Internal Revenue Code Section 125 Flexible Benefits Plan that offers (i) CalPERS health plan coverages for each eligible employee and the employee's eligible family members and (ii) at least one other nontaxable benefit. CCCERA shall make monthly contributions under the plan for each eligible employee and their dependents (if applicable) up to the relevant amount set forth above. Such contributions shall consist of (i) the Minimum Employer Contribution (MEC) established by the Public Employees' Medical and Hospital Care Act, and designated by CCCERA as the MEC, and (ii) the additional amount of such contributions in excess of the MEC.

CCCERA Position Pay Schedules - Effective 7/1/18

Revision Dates: 7/1/18, 1/1/18, 7/1/17, 4/16/17, 7/1/16, 2/1/16, 9/1/15, 1/1/15

Meeting Date
5/23/18
Agenda Item
#6

Positions represented by AFSCME, Local 2700:

Hourly (Non-Exempt)

Classification Title	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Eligible for Differential 10 year Longevity 2.50%
Retirement Office Specialist	$20.87	$21.91	$23.00	$24.15	$25.37	$26.63	$27.97	$29.36	Yes
Retirement Member Services Technician	$20.87	$21.91	$23.00	$24.15	$25.37	$26.63	$27.97	$29.36	Yes
Retirement Accounting Specialist I	$22.85	$23.98	$25.18	$26.45	$27.76	$28.47	$29.17		Yes
Retirement Counselor I	$22.85	$23.98	$25.18	$26.45	$27.76	$28.47	$29.17		Yes
Retirement Accounting Technician	$25.11	$26.37	$27.68	$29.07	$30.53	$32.05			Yes
Retirement Accounting Specialist II	$26.37	$27.67	$29.06	$30.52	$32.05	$33.65			Yes
Retirement Counselor II	$26.37	$27.67	$29.06	$30.52	$32.05	$33.65			Yes
Retirement Member Services Data Specialist	$26.37	$27.67	$29.06	$30.52	$32.05	$33.65			Yes
Retirement Administrative Assistant	$26.82	$28.14	$29.57	$31.04	$32.59				Yes
Retirement Accounting Specialist III	$30.40	$31.92	$33.51	$35.19	$36.95	$38.80			Yes
Retirement Counselor III	$30.40	$31.92	$33.51	$35.19	$36.95	$38.80			Yes
Retirement Senior Member Services Data Specialist	$30.40	$31.92	$33.51	$35.19	$36.95	$38.80			Yes
Disability Specialist	$35.69	$37.47	$39.35	$41.31	$43.37				Yes

Unrepresented positions:

Classification Title	Step 1	Step 2	Step 3	Step 4	Step 5	Eligible for Differential*: 10 year Longevity	15 year Longevity	20 year Longevity	CPA, CGFM, CIA, CMA	ASA
						2.50%	2.50%	2.00%	5%	5%
Hourly (Non-Exempt)										
Executive Assistant	$33.81	$35.50	$37.28	$39.14	$41.10	Yes	Yes	No	No	Yes
Information Technology Coordinator	$35.50	$37.28	$39.14	$41.10	$43.15	Yes	Yes	No	No	Yes
Member Services Supervisor	$41.10	$43.15	$45.31	$47.58	$49.95	Yes	Yes	No	No	Yes
Retirement Services Supervisor	$41.10	$43.15	$45.31	$47.58	$49.95	Yes	Yes	No	No	Yes
Monthly (Exempt)										
Accountant	$5,581	$5,861	$6,154	$6,461	$6,784	Yes	Yes	No	Yes	Yes
Accounting Manager	$9,546	$10,024	$10,525	$11,051	$11,604	Yes	Yes	No	Yes	Yes
Accounting Supervisor	$7,124	$7,480	$7,854	$8,246	$8,659	Yes	Yes	No	Yes	Yes
Administrative/HR Manager	$9,319	$9,785	$10,274	$10,788	$11,327	Yes	Yes	No	No	Yes
Administrative/HR Supervisor	$7,124	$7,480	$7,854	$8,246	$8,659	Yes	Yes	No	No	Yes
Communications Coordinator	$6,623	$6,954	$7,302	$7,667	$8,050	Yes	Yes	No	No	Yes
Compliance Business Analyst	$7,302	$7,667	$8,050	$8,453	$8,875	Yes	Yes	No	No	Yes
Deputy General Counsel	$13,433	$14,104	$14,809	$15,550	$16,327	Yes	Yes	No	No	Yes
Information System Programmer/Analyst	$6,784	$7,124	$7,480	$7,854	$8,246	Yes	Yes	No	No	Yes
Information Technology Manager	$11,327	$11,894	$12,488	$13,113	$13,768	Yes	Yes	No	No	Yes
Investment Analyst	$9,785	$10,274	$10,788	$11,327	$11,894	Yes	Yes	No	No	Yes
Investment Officer	$13,768	$14,457	$15,180	$15,939	$16,735	Yes	Yes	No	No	Yes
Member Services Manager	$9,319	$9,785	$10,274	$10,788	$11,327	Yes	Yes	No	No	Yes
Retirement Services Manager	$9,319	$9,785	$10,274	$10,788	$11,327	Yes	Yes	No	No	Yes
Monthly Salary Range (Exempt)										
Chief Executive Officer	$20,064					Yes	Yes	No	No	Yes
Chief Investment Officer	$18,383 - $23,898					Yes	Yes	No	No	Yes
Compliance Officer	$9,501 - $12,351					Yes	Yes	No	No	Yes
Deputy Chief Executive Officer	$14,738 - $19,159					Yes	Yes	No	No	Yes
General Counsel	$16,248 - $21,122					Yes	Yes	Yes	No	Yes

*NOTE: Certificate Differentials cannot be combined with other certificate differentials

Meeting Date
5/23/18
Agenda Item
#7a.

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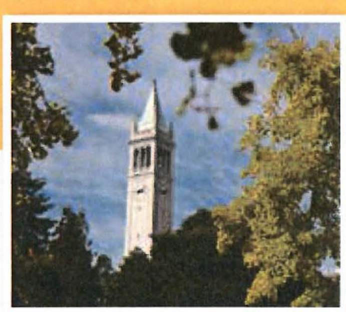

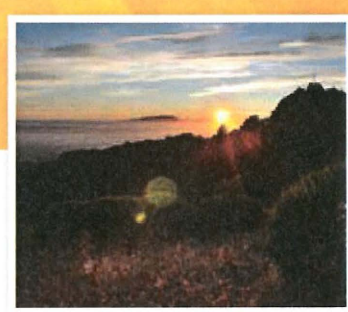

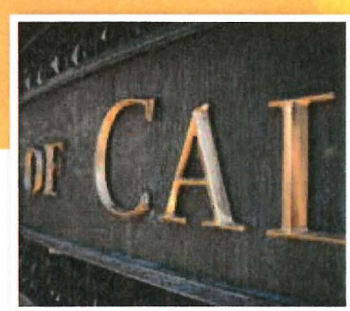

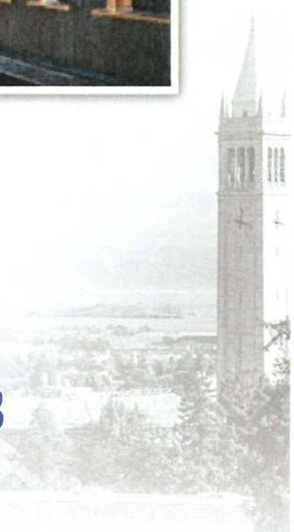

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July 15-18, 2018

Program Schedule*

Much has changed in finance in the last 50 years; this four-day program will bring you to the frontier of current investment theory and practice. The program is presented on the beautiful and dynamic campus of UC Berkeley and is taught by the world renowned Finance faculty from UC Berkeley's Haas School of Business.

SUNDAY **July 15, 2018** **INVESTING FUNDAMENTALS FOR NEW TRUSTEES**	MONDAY **July 16, 2018** **MATCHING LIABILITIES**	TUESDAY **July 17, 2018** **PORTFOLIO RISK AND THE FUTURE OF INVESTMENT**	WEDNESDAY **July 18, 2018** **PENSION FUND LEADERSHIP**
Registration & Breakfast Claremont Hotel 7:15am – 8:15am	**Breakfast** Claremont Hotel 7:00am – 8:00am	**Breakfast** Claremont Hotel 7:00am – 8:00am	**Breakfast** Claremont Hotel 7:00am – 8:00am
Claremont Hotel	8:00 am **Depart Hotel** Haas, S400 Classroom	8:00 am **Depart Hotel** Haas, S400 Classroom	8:00 am **Depart Hotel** Haas, S400 Classroom
Program Welcome SACRS/John O'Brien 8:30 – 8:45am	**Financial Economics for Pensions Forecasting Assets Cook County Case** Gregory LaBlanc 8:30 – 10:15am	**Disruptive Technologies: *Transforming the Future of Investment*** Gregory LaBlanc 8:30 – 9:45am	**ESG Case Discussion Norway SWF and WalMart Case** Gregory LaBlanc 8:30 – 9:45am
Program Overview & Goals Gregory LaBlanc 8:45 – 9:00am		9:45am **Break**	
Pension Fund and Investment Basics Thomas Gilbert 9:00 – 10:30am		**Keynote Speaker** Robert Reich 10:00 – 11:00am	
10:30am **Break**	10:15am **Break, Group Photo**	11:00am **Break**	9:45am **Break**
Return, Risk and Diversification Thomas Gilbert 11:00 – 12:30pm	**Forecasting Liabilities: Actuarial Science** Thomas Gilbert and Graham Schmidt 10:45 – 12:15pm	**Real Assets** Robert Edelstein 11:30 – 1:00pm	**Pension Fund Governance Panel** Gregory LaBlanc, Moderator Jennifer Urdan, Cambridge Associates, Harvey Leiderman, Reed Smith Janine Guilot, SASB 10:15 – 12:00pm
12:30 – 1:30pm **Lunch**	12:15 – 1:30pm **Lunch**	1:00 – 2:00pm **Lunch**	12:00 – 1:15pm **Lunch & Berkeley Technology Tour**
Practical Mean-Variance Analysis Thomas Gilbert 1:30 – 3:00pm	**Portfolio Management and Performance Measurement** Thomas Gilbert 1:30 – 3:00pm	**Alternative Investment Strategies: *PE Case Discussion*** Gregory LaBlanc 2:00 – 3:15pm	**Behavioral Finance: *Overconfidence and Expertise*** Gregory LaBlanc 1:15 – 3:15pm
3:00pm **Break**	3:00pm **Break**	3:15pm **Break**	3:15pm **Break**
CAPM and Luck vs. Skill Thomas Gilbert 3:30 – 5:00pm	**Systematic Risk and Luck vs. Skill: *DFA Case Discussion*** Thomas Gilbert 3:30 – 5:00pm	**Alternative Investment Strategies: Hedge Funds** Gregory LaBlanc 3:30 – 5:00pm	**Leadership and the Role of the Trustee** Arina Isaacson 3:30 – 5:00pm
Daily Synthesis & Adjourn 5:00 – 5:15pm	**Daily Synthesis & Adjourn** 5:00 – 5:15pm	**Daily Synthesis & Adjourn** 5:00 – 5:15pm	**Final Evaluations/ Certificates**
Reception at Claremont Hotel 5:30 – 6:30pm	**Reception at Claremont Hotel** 5:30 – 6:30pm	**Reception at Claremont Hotel** 5:30 – 6:30pm	**Adjourn**

* AGENDA SUBJECT TO CHANGE


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The SACRS Public Pension Investment Management Program blends the expertise of the University of California, Berkeley-Haas School of Business's distinguished faculty with a network of industry experts to teach the fundamentals of public pension management. As the spotlight on public pensions grows hotter, trustees and staff are increasingly challenged to grapple with alternative investments, policy and governance changes, cost pressures, and much more. After completing this program, attendees will understand the larger context and history of public pension funds and will have enhanced skills and knowledge to improve decision-making.

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Located in one of the most stimulating business environments in the world, the Berkeley campus is at the intersection of business and academia. Berkeley-Haas is renowned for developing innovative business leaders—individuals who redefine the business landscape by putting new ideas into action in all areas of their organizations.

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We urge you to consider participating.

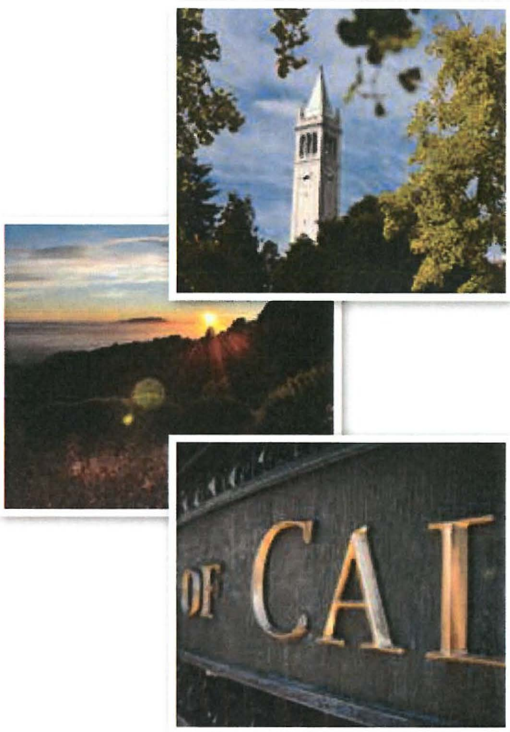
Sincerely,

Dan McAllister

Dan McAllister
SACRS President, San Diego County Treasurer-Tax Collector and San Diego County Employees Retirement Association Trustee

Sulema H. Peterson

Sulema H. Peterson
SACRS Administrator



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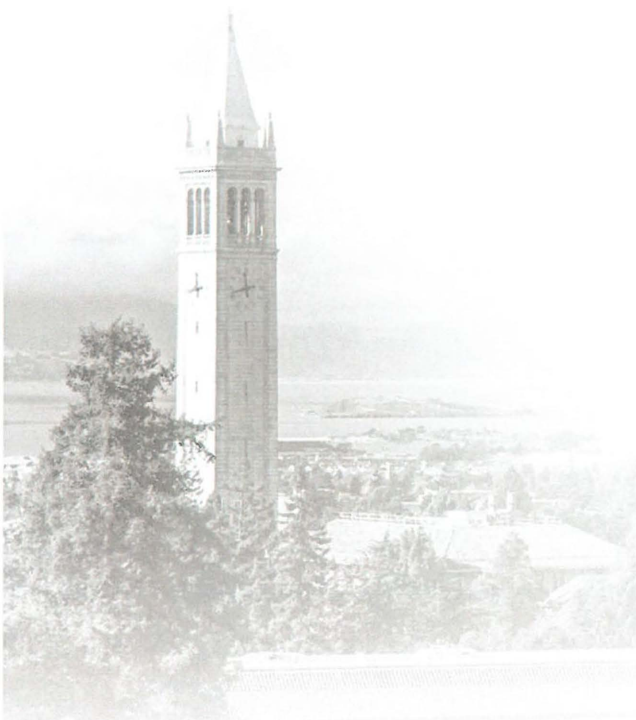
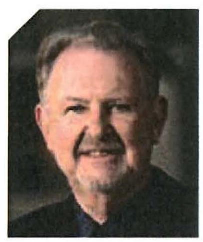


GREGORY LABLANC

GREGORY LABLANC has been a lecturer at UC Berkeley since 2004, teaching courses in Finance, Accounting, Law, and Strategy in the Haas School, the Law School (Boalt Hall) and the department of Economics. Prior to joining the Berkeley faculty, he studied Economics, Business, and Law at the Wharton School of the University of Pennsylvania, George Mason University Law School, Duke Law School, and Berkeley Law (Boalt Hall). He has previously taught Finance, Management, Law and Economics at the Wharton School, Duke University and the University of Virginia and has been a consultant in the fields of IP litigation and competitive intelligence. His research focuses on the impact of tax policy on organizational design, capital formation, and innovation. He has received several teaching awards and has previously been involved in executive education programs at the Wharton School and Darden School.

JOHN O'BRIEN



JOHN O'BRIEN is Adjunct Professor and Academic Advisor to the Master's in Financial Engineering (MFE) program at the Haas School of Business. Prior to joining Haas in 2000, Mr. O'Brien was Managing Director at Credit Suisse Asset Management responsible for the performance measurement and risk management functions.

Prior to Credit Suisse, Mr. O'Brien was co-founder, Chairman and CEO of Leland O'Brien Rubinstein (LOR) Associates, and Chairman of the Capital Market Fund, and the S&P 500 SuperTrust – the first exchange traded fund (ETF). Prior to LOR, Mr. O'Brien co-founded Wilshire Associates (originally operated as O'Brien Associates), and co-developed the Wilshire 5000 common stock index (originally named and published as the O'Brien 5000 Index).

Mr. O'Brien has received various awards, including the Financial Analyst's Graham and Dodd Scroll Award, the Matthew R. McArthur Award from the Investment Management Consultants Association for lifetime contributions to investment consulting. Mr. O'Brien was named among Fortune Magazine's ten Businessmen of the Year in 1987. Mr. O'Brien holds a S.B. in economics from MIT, and an M.S. in operations research from UCLA. He served as a Lieutenant in the United States Air Force.

THOMAS GILBERT

THOMAS GILBERT graduated from the Finance Ph.D. Program at the Haas School of Business in May 2008. Thomas is currently an Assistant Professor of Finance and Business Economics at the Michael G. Foster School of Business, University of Washington. His research lies in the area of information aggregation and the role of macroeconomic announcements on stock prices. Since 2003, he has taught parts of the Certified Investment Management Analyst program (CIMA®) and the Berkeley Finance Series within the Finance Executive Programs at the Haas School of Business. He has also taught in the Undergraduate, Full-Time MBA, and Evening & Weekend MBA programs at Haas, for which he won the Best Graduate Student Instructor Award in 2005, 2006, and 2007. He holds a Masters in Finance from U.C. Berkeley and a Masters in Physics from Imperial College (United Kingdom).

GRAHAM SCHMIDT,
Cheiron

GRAHAM SCHMIDT (Associate- SOA, Member-AAA, Fellow-CCA) served as the Senior Vice President of EFI Actuaries for ten years before joining Cheiron as a consulting actuary upon the merger of EFI and Cheiron in 2013. Graham is a frequent speaker at public employer conferences, on topics including actuarial funding policies, asset-liability management and GASB-related issues. In recent years, he has spoken at national meetings sponsored by NCPERS, the Society of Actuaries, the Academy of Actuaries and other regional organizations, such as SACRS and CALAPRS.

Graham is the SACRS-appointed representative to the California Actuarial Advisory Panel (CAAP), and is also a member of the Academy of Actuaries Public Plans Subcommittee and the Conference of Consulting Actuaries Public Plans Committee, the primary actuarial committees dealing with public sector retirement issues in the US.

BENJAMIN LAZARUS,
Parametric

MR. LAZARUS joined the firm in 2004*. He is responsible for developing, coordinating, and executing the business development and client services plan for Parametric unique family of products with emphasis on the Western region of the United States and Canada. In addition, Ben works on developing and managing new partnerships for Parametric and has presented on the use of derivatives at different industry events. From 2015 to 2016, he was the Senior Vice President of US Sales at Nuveen Investments in Minneapolis, Minnesota. Ben earned a B.A. in Psychology from the University of California, San Diego and an MBA in Marketing and Strategic Management from the University of Minnesota. He is a CFA® charterholder and a member of the CFA Society of Minnesota. **Reflects the year employee was hired by The Clifton Group, which was acquired by Parametric Portfolio Associates® LLC on December 31, 2012.*

TERI NOBLE,
Pathway

MS. NOBLE joined Pathway in 2017 and is a senior vice president in the California office. She is responsible for client servicing and business development in the United States.

Prior to joining Pathway, Ms. Noble served as senior vice president, client portfolio manager, for American Realty Advisors, and before that, she served as senior vice president at BNY ConvergEx. At both firms, she focused on managing and cultivating consultant and institutional relationships. Ms. Noble earned a BA from the University of California, Davis, and an MBA from St. Mary's College of California and holds Financial Industry Regulatory Authority (FINRA) Series 7, 63, and 65 licenses. She is involved in several national and regional organizations and serves as an affiliate committee member of the State Association of County Retirement Systems (SACRS) and as a committee member of Women in Institutional Investments Network (WIIIN).

DELIA M. ROGES,
Invesco

DELIA M. ROGES, Invesco is a member of the Invesco US Institutional Sales and Service Team. As managing director, she is responsible for relationship management and new business generation for institutional investors in public funds in the western United States. Ms. Roges has been in the institutional investment management business since 1991.

Prior to joining Invesco in 2011, she was a senior member of a boutique investment banking and private placement firm focused on securing capital for private equity and real estate general partnerships. She served previously as a Senior Vice President at Trust Company of the West where she was responsible for advising institutional clients and developing product solutions for new business development. Ms. Roges serves on the Board of Regents to Loyola Marymount University and on the Board of Visitors at the School of Education at LMU. She earned an MBA at the University of Southern California and a Bachelors in Business Administration from Loyola Marymount University.

KRISTIN V. SHOFNER,
Fidelity Institutional Asset Mgmt.

KRISTIN SHOFNER is Senior Vice President, Business Development at Fidelity Institutional Asset Mgmt. In this role, she leads the development of relationships with public pension plans.

Prior to joining Fidelity in 2013, Kristin was a Director of Institutional Sales and Marketing at Lord Abbett & Co, Inc since June 2003. Her previous positions include serving as a manager of Institutional Sales and Client Services from 2000 to 2003 and as a manager research associate from 1998 to 2000 at Asset Strategy Consulting/InvestorForce, Inc. She has been in the industry since 1998. Kristin earned her bachelor of arts degree in history and sociology from the University of California at Santa Barbara.

EDWARD J. HOFFMAN,
Verus

MR. HOFFMAN brings over 20 years of experience to his clients, providing strategic investment advice to ensure that clients meet their long-term investment objectives. He serves as lead consultant to both public and Taft-Hartley benefits plans.

Before joining Verus (previously known as Wurts & Associates) in 2011, Mr. Hoffman served institutional clients at Legg Mason and Prudential. In addition to his client service responsibilities at Legg Mason, he served on the asset management division operating committee and Legg Mason Funds valuation committee, led corporate development initiatives including several related to the 2005 acquisition of Citigroup's asset management division, and managed a variety of product development initiatives. Today, his work in risk-based advisory services provides an additional and valuable perspective to his non-discretionary clients.

Mr. Hoffman earned a bachelor of science (BS) in industrial management with college and university honors from Carnegie Mellon University, where he earned membership into Beta Gamma Sigma and Mortar Board honor societies. He earned a master's degree in business administration (MBA) from the Harvard Business School. He has earned the Chartered Financial Analyst (CFA) designation and is certified as a Financial Risk Manager (FRM). He is also a member of the CFA Society of Los Angeles and the Global Association of Risk Professionals (GARP).

"Yes, I feel that all staff and board members should take advantage of this course. This course has been a refresher and update on many of the concepts used at board meeting level."

— Sharon Naramore,
Contra Costa County Employees Retirement Association

ROBERT B. REICH

ROBERT B. REICH is one of the world's leading thinkers about work and the economy. Now Chancellor's professor of Public Policy at the University of California at Berkeley, he has served under three national administrations, most recently as Secretary of Labor under Bill Clinton. He also served on President Barack Obama's economic transition advisory board. In 2008, *TIME* magazine named him one of the ten most successful cabinet secretaries of the past century.

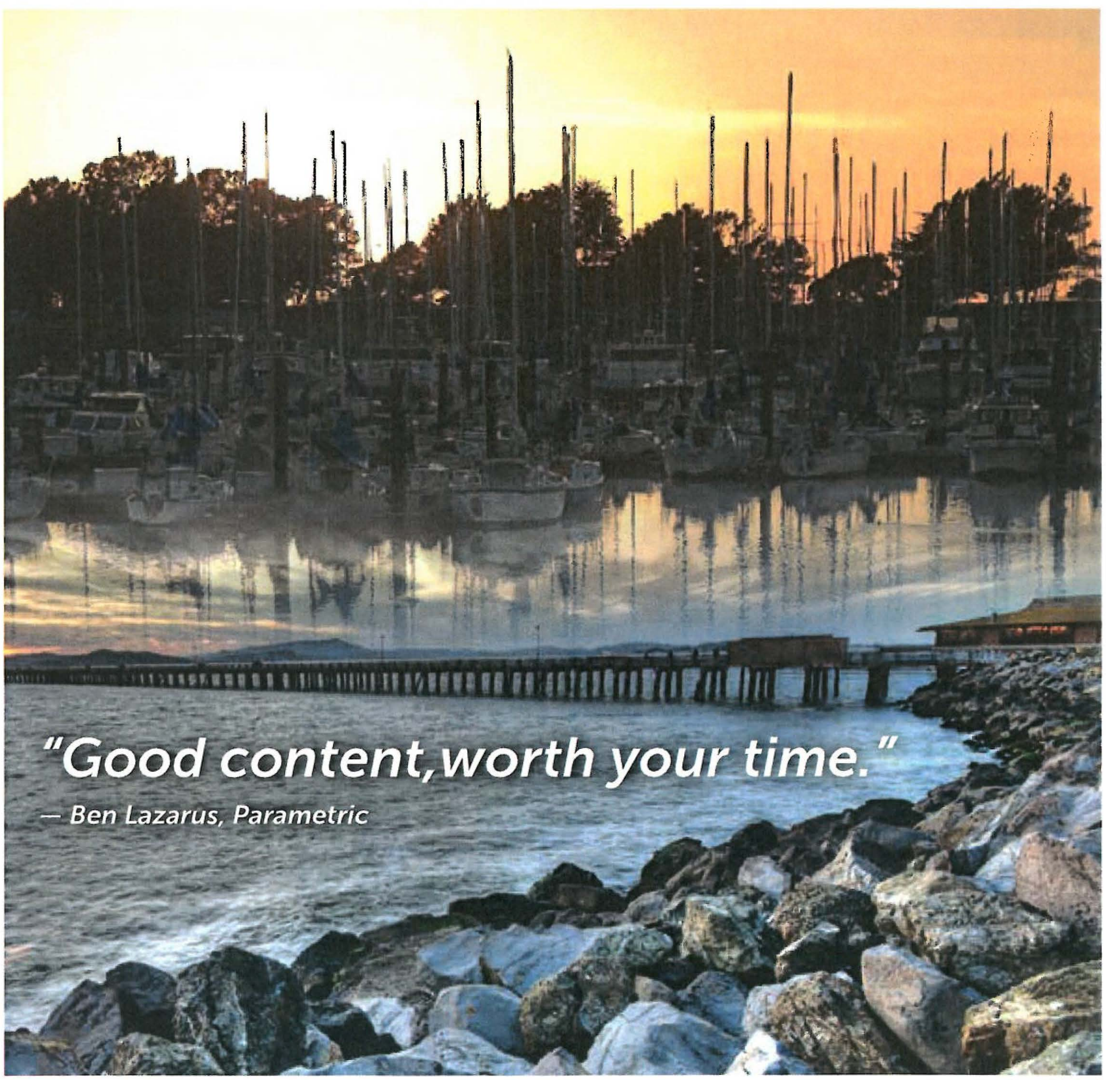
Reich is the author of 15 books including *The Work of Nations*, which has been translated into 22 languages, and several other national best sellers. He has a reputation for seeing where politics and the economy are going before they get there. For example, in his 2007 best seller, *Supercapitalism*, he warned of the perils of an under-regulated and over-leveraged financial system. In his 2010 best seller, *Aftershock: The Next Economy and America's Future*, he predicted a tepid recovery that would last for years, with volatile political consequences.

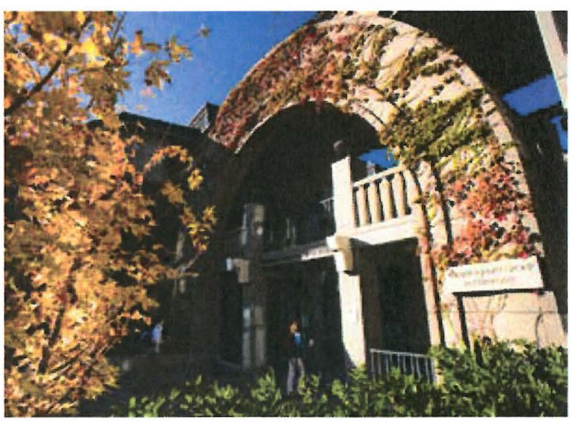
In his most recent book, also a national best seller, *Saving Capitalism*, he foresees a widening political divide not between Democrats and Republicans but between establishment elites and anti-establishment populists in both parties.

Reich is the co-creator and host of the widely acclaimed 2013 documentary, *Inequality for All*, in which he explains the underlying forces that are shaping our economy and lays out pragmatic solutions for a broader prosperity.

Reich has a nationally-syndicated column and he also writes frequently for *The Wall Street Journal, The New York Times* and *The Financial Times*. He is a contributor to CNBC, and a frequent panelist on ABC's *This Week* and other television programs.

In late 2003, Reich was awarded the prestigious Vaclev Havel prize, in Prague, for his original contributions to economic thinking. *The Wall Street Journal* has named him one of the nation's top ten thought leaders.





"Successful Retirement Plan Managers recognize innovation as an opportunity to maximize the creation of value."

The strength of the Berkeley-Haas School of Business is expressed in its motto, "Leading through Innovation." Successful Retirement Plan Managers recognize innovation as an opportunity to maximize the creation of value. This program focuses on individual, team, and organizational levels of innovative potential.

The Public Pension Investment Management Program is carefully designed to give participants the tools, knowledge and networks they need to master their particular challenges. Bringing perspective from their own Retirement Plans to the program, and exposed to that of their peers, participants have the opportunity to further define and develop their knowledge and objectives under the guidance of the same faculty who teach in Berkeley-Haas's renowned Masters of Financial Engineering program, including top finance experts John O'Brien, Thomas Gilbert and Greg LeBlanc.

ATTENDEE INFORMATION

PLEASE COMPLETE ONE REGISTRATION PER ATTENDEE AND RETURN TO SACRS.

Name: ______________________________
(Print exactly for name badge)

Organization: ______________ Position Title: ______________

Address (No P.O. Boxes Please): ______________________________

City/State/Zip: ______________________________

Business Telephone: ______________ Fax: ______________

Home Telephone: ______________Email address: ______________

List any special needs you may require during your stay:

(Dietary, Handicap Accessible, etc.) ______________________________

Emergency Contact Name: ______________ Emergency Phone:______________

HOTEL ACCOMMODATIONS

Arrival Date:______________ Departure Date: ______________

☐ KING ☐ DOUBLE BED

BILLING INFORMATION

☐ CREDIT CARD ☐ BILL ME

☐ SEND INVOICE TO THE FOLLOWING INDIVIDUAL

Name: ______________________________

Address (No P.O. Boxes Please): ______________________________

City/State/Zip: ______________________________

Telephone: ______________ Fax: ______________

MEMBERSHIP INFORMATION

Type of Member: ______________ Name of County or Organization: ______________

Principal Activity of the Organization (e.g. Retirement, Marketing, Consulting, Non-Profit): ______________

Organization Type: Other Government Non-Profit Public Private

Program Registration

Registration online at sacrs.org
JULY 15–18, 2018

All program activities will take place on the campus of **UC Berkeley Center for Executive Education.** The host hotel is the **Claremont Club & Spa, a Fairmont Hotel**. Price for the SACRS Investment Management Program is $2500 per person. Registration fees cover registration, training materials, meals (breakfast, lunch and light receptions) and daily transportation to and from the Hotel Claremont Club & Spa/UC Berkeley. Hotel accommodations are separate (see page 11).

PROGRAM LOCATION

UC Berkeley Center for Executive Education
2220 Piedmont Ave., Berkeley, CA 94720-1900

In order to receive a refund, you must cancel your registration in writing by July 1, 2018. After July 1, 2018, no refunds will be permitted.

PARTICIPATION IS LIMITED.

Register early by visiting sacrs.org. To submit your registration, complete the enclosed form and:

MAIL TO: **SACRS**
C/O Sulema Peterson
1415 L Street, Suite 1000
Sacramento, CA 95814

OR E-MAIL TO: sulema@sacrs.org

OR VISIT: sacrs.org and submit online

Hotel Accommodations

Claremont Club & Spa, a Fairmont Hotel
41 Tunnel Road
Berkeley, CA 94705
Tel: (510) 843-3000

Accommodations will be made for confirmed attendees at the **Claremont Club & Spa, a Fairmont Hotel** located just minutes away from UC Berkeley in the beautiful Berkeley Hills. Shuttle service between the hotel and UC Berkeley will be provided. **SACRS room rate is $239 per room (not including tax)**. Overnight parking is available at $20.00 per day per vehicle. Additionally, the hotel charges guests a $15.00 (plus tax) resort fee per room/per day. This fee is to cover use of the computers and internet in the business center, high speed internet access in guest room, access to the private club & fitness center and all fitness classes, local calls, newspaper delivery and in-room coffee.

Cancellation with no penalties is 72 hours prior to arrival. **All hotel reservations will be made through SACRS. Please do not call the hotel directly to make reservations.** To reserve your hotel accommodations, contact Sulema H. Peterson, SACRS Administrator at the following:

sulema@sacrs.org or (916) 441-1850.

An informal and collegial atmosphere develops at the SACRS UC Berkeley Program. Program faculty and participants enjoy lunchtime meals together, when topics from daily discussions are often reinforced, vetted and simplified. During the evening, participants share dinner together as a group, taking in Berkeley's local restaurants within walking distance from the hotel.



July 15-18, 2018

UC Berkeley Center for Executive Education

STATE ASSOCIATION *of* COUNTY RETIREMENT SYSTEMS

1415 L STREET, SUITE 1000
SACRAMENTO, CA 95814
(916) 441-1850
SACRS.ORG

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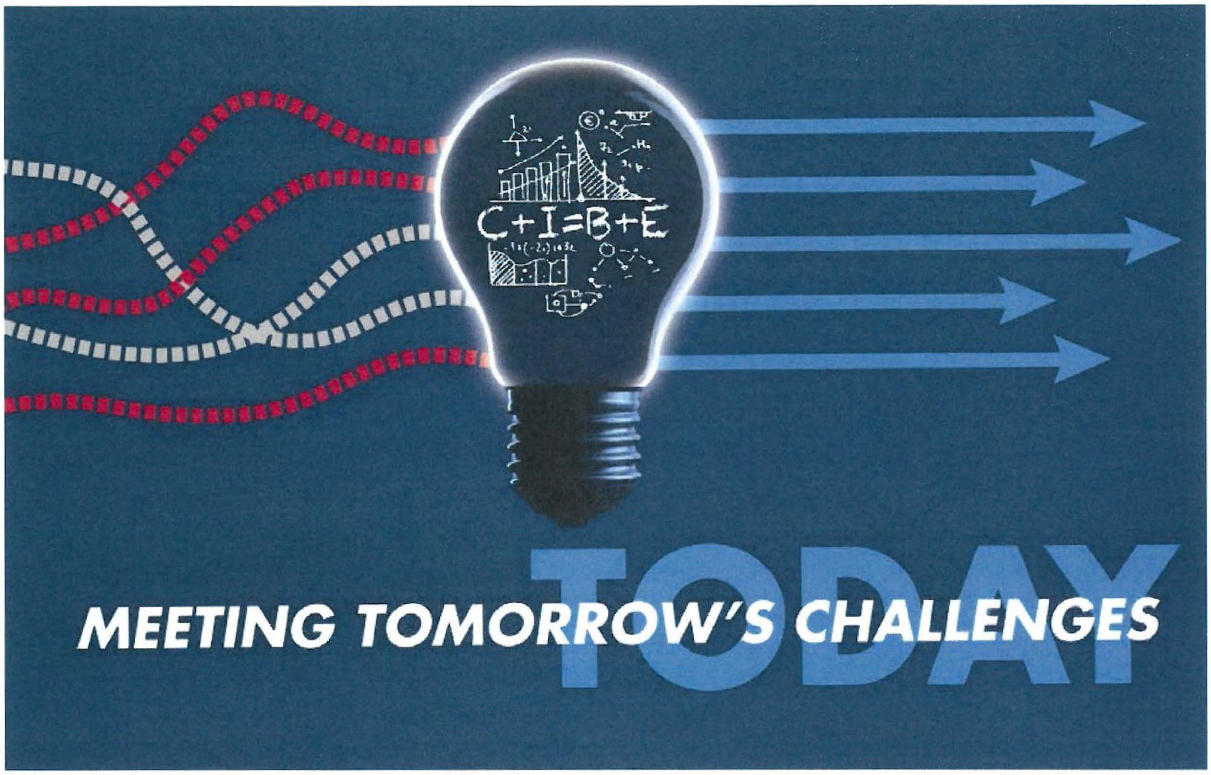
SACRAMENTO, CA

Meeting Date
5/23/18
Agenda Item
#7b.



MEETING TOMORROW'S CHALLENGES TODAY! Moving forward effectively to serve our stakeholders—the 14 million working and 9 million retired employees of state and local government, the thousands of public employers, and the millions who rely on the services they provide—requires a focused approach, attention to detail and a dedication to management that is second to none.

Join us for the 64th NASRA Annual Conference in San Diego, California to learn, share, and network -- meeting tomorrow's challenges today to make a difference in the public retirement community.

Please be sure to read through all instructions when registering. For any questions, contact Mary Hiatte via e-mail or call 202.624.1418.

Saturday, August 4

8:00 am-5:00 pm **Registration**
10:00 am **Past Presidents' Committee Meeting**
11:00 am **Directors' Workshop Part 1** - Information risk, cybersecurity and data protection **(for system and education alliance directors).**
11:00 am **Senior Staff Workshop** - Targeted time for retirement system staff members to network and learn from each other about topics in administration and operations.(concludes 4:00 pm)
12:00 pm **Leadership Lunch** - for system directors, all system senior staff, education alliance members and staff, and premium associate members
1:00 pm **Directors' Workshop Part 2** - Messaging and media interactions, hands on session with media professionals taking us through various media management and interview tools. ***(For system and education alliance directors - concludes as 4:00 pm.)***
5:30 pm **Welcome reception** for all conference attendees and registered guests *(dinner on your own, 6:30 pm)*

Sunday, August 5

7:30 am-5:00 pm **Registration**
10:00 am-2:00 pm **Camp NASRA** *(For children of attendees ages 5-12 - Must be registered in advance.)*
7:30 am **Breakfast** - Table discussions on hybrid plans for interested attendees
8:30 am-4:15 pm **Opening Ceremonies and First General Session** includes NASRA Staff Reports, a CIO Panel, and Roll Call of the States
4:15 pm **Regions, Education Alliance and Associates** concurrent meetings
6:00 pm **Reception and dinner** *(Open to all conference attendees and registered guests.)*

Monday, August 6

7:30 am-12:00 pm **Registration**
7:30 am **Breakfast** - Table discussions on cybersecurity and system projects/enhancements for interested attendees
8:30 am-12:00 pm **Second General Session** - Political keynote - David Sanger, three time Pulitzer Prize winner and National Security correspondent for the New York Times - looking to midterms, a panel on risk mitigation-investment and operations-learn what others are doing, and hot topics.
12:00 pm **Optional networking activities**- *(information coming soon)*
5:30 pm **Presidents' reception** *(open to all registered attendees and guests - dinner on your own, 6:30 pm)*

Tuesday, August 7
7:30 am-3:00 pm **Registration**
10:00 am-2:00 pm **Camp NASRA** - *For children of attendees ages 5-12 - Must be registered in advance.*
7:30 am **Breakfast** - Table discussions on succession planning and talent management for interested attendees
8:30 am-4:00 pm **Third General Session** - Economics keynote speaker, Rob Kapito, President of BlackRock, panel on pension reporting, CIO panel, and Roll Call of the States, Part 2
4:00 pm **Annual business meeting** *(open to all system, premium associate, and associate members)*
7:00pm **Reception and dinner on the beach** - walking distance from the hotel *(Open to all conference attendees and registered guests.)*

Wednesday, August 8
7:30 am **Breakfast** - One last chance to share with colleagues before saying, "See you next year at the beautiful Kingsmill Resort near colonial Williamsburg, Virginia!"

Registration Pricing

System Members and Education Alliance Members: $1225 (Early Bird registration through June 30, 2018: $1130)

Associates and Premium Associates: $2550 (Early Bird registration through June 30, 2018: $2270)

Meeting Date
5/23/18
Agenda Item
#7c.

PRINCIPLES OF PENSION MANAGEMENT

A COURSE FOR TRUSTEES

The Crane, An Age-Old Symbol Of Long Life

Sponsored By

CALAPRS
EDUCATION • COMMUNICATION • NETWORKING
California Association of Public Retirement Systems

to be held at the

Pepperdine University

Villa Graziadio Executive Center

August 27-30, 2018

PRINCIPLES OF PENSION MANAGEMENT

A Course For Trustees

A COURSE FOR TRUSTEES

CALAPRS' MISSION

"CALAPRS sponsors educational forums for sharing information and exchanging ideas among Trustees and staff to enhance their ability to administer public pension benefits and manage investments consistent with their fiduciary duty."

ABOUT THE COURSE

Public Pension Fund Trustees bear a heavy fiduciary burden. On a cumulative basis, California's Constitution holds our members' **350** Trustees accountable for the stewardship of more than **$450** Billion in retirement fund assets. **40** California public pension systems belong to CALAPRS. Over the past ten years, Trustees of our member retirement systems have participated in this unique training program presented exclusively for California public retirement system board members. This training focuses on the practical aspects of our Trustees' duties.

Now in its second year at the Pepperdine University Executive Center, adjacent to Pepperdine's graduate schools, CALAPRS continues to offer the same high-caliber coursework and faculty it has offered for the past twenty years on the Stanford University campus.

WHO SHOULD ATTEND?

The course is for Trustees. Attendance is recommended within the first year after assuming office. Experienced Trustees will use the program as a comprehensive refresher course.

For more experienced Trustees, the Advanced Principles of Pension Management course at UCLA is suggested. This course is a pre-requisite for admission to the UCLA course.

WHY ATTEND?

- To gain insight into public pension policy issues
- To discuss alternative solutions to common problems
- To understand the complexities involved in administering public pension plans
- To appreciate the differences and similarities among California public pension plans
- To network with other Trustees and pension professionals
- To increase familiarity with pension terminology and concepts
- To receive the ethics training required for new Trustees

FACULTY

The Course will be taught by public pension practitioners, including Trustees, Consultants, Actuaries, Investment Managers, Attorneys & Administrators.

THE CURRICULUM COMMITTEE

Principles of Pension Management is managed by CALAPRS' Curriculum Committee led by the course Dean:
David Kehler, Retirement Administrator, Tulare County Employees' Retirement Association.

LOGISTICS

California Association of Public Retirement Systems:
Kerry Parker, Administrator
Alison Corley, Administrator
Chezka Solon, Meeting Manager

CALIFORNIA ASSOCIATION OF PUBLIC RETIREMENT SYSTEMS'

PRINCIPLES OF PENSION MANAGEMENT

A Course For Trustees

THE CURRICULUM

Each participant must attend the full 3 days of intensive training. Sessions combine team teaching, case studies and mock board problem solving. All course materials are based on actual California public pension fund law, policies, practices and problems.

The *Wednesday Evening Case Study* will provide practical experience in a disability hearing. The *Thursday Evening Session* will consist of a 90-minute **TEAM CASE STUDY** to resolve significant Board of Retirement issues.

MONDAY – AUGUST 27

6:00 PM	*Reception & Dinner*
7:30 PM	**Pensions & Trustees - What, Who, How, Why?**

TUESDAY – AUGUST 28

8:00 AM	**What's the Big Deal About Being A Fiduciary?** **How Should a Board Function?** **What Benefits Do We Provide and What is the Board's Role?** **What are the Key Issues in Disability Retirement?**
5:30 PM	*Reception & Dinner*
6:30 PM	**Case Study: Disability Hearing**

WEDNESDAY – AUGUST 29

8:00 AM	**How Should We Manage Our Pension Liabilities?** **Investment Policy Basics** **How Should We Manage Our Investment Program?**
5:45 PM	*Networking Dinner*
6:30PM	**Case Study: Who Are Our Stakeholders and What Are Our Roles?**

THURSDAY – AUGUST 30

8:00 AM	**AB1234 Ethics Training for Public Fund Trustees** **Course Summary**
11:30 AM	*Certificate Luncheon* and **Final Course Evaluation**

CERTIFICATE OF COMPLETION

Participants who successfully complete the course will receive a Certificate of Completion as well as a Certificate for completion of the AB1234 Ethics in Public Service. Trustees must attend all sessions to receive a completion certificate, at the discretion of the course faculty, and attendees who do not complete the course may return the following year to make up missed sessions at no additional charge.

LOCATION & LODGING

The program and lodging will be located at Villa Graziadio Executive Center, Pepperdine University, 24255 Pacific Coast Highway, Malibu, CA 90263. Lodging will be provided on campus for the nights of August 27, 28, and 29 and will be arranged by CALAPRS as part of the course for all participants. Meals will also be provided beginning with dinner on August 27 and ending with lunch on August 30.

ENROLLMENT

Minimum 20, Maximum 34 Trustees.

APPLICATION & TUITION

All applications must be received no later than **JUNE 15, 2018**. Unsigned applications will be returned to the sender for signature. Accepted applicants will be notified via email the week of **JUNE 18, 2018**. Tuition of $3,000 (includes lodging, meals and materials) must be paid no later than **AUGUST 1, 2018.**

CALAPRS

EDUCATION · COMMUNICATION · NETWORKING

CALIFORNIA ASSOCIATION OF PUBLIC RETIREMENT SYSTEMS'

PRINCIPLES OF PENSION MANAGEMENT

A Course For Trustees

APPLICATION FOR ENROLLMENT 2018

APPLICATIONS <u>WITH BOTH REQUIRED SIGNATURES</u> MUST BE RECEIVED BY JUNE 15, 2018.

Applicants must be trustees of a California public employee pension system. Attendance is recommended within the first year after assuming office. Experienced trustees will use the program as a comprehensive refresher course. Each system may enroll one Trustee as a "Delegate" and designate one additional Trustee as "1st Alternate" with the remainder as "2nd Alternate". Delegates will be admitted first. If vacancies remain, 1st Alternates will be admitted in the order received, followed by 2nd Alternates. All applicants will be notified the week of June 18.

Applicant Information

Trustee's Name (*for certificate/name badge*):______________________________

Retirement System:______________________________

Trustee Type: ☐ Elected ☐ Appointed ☐ Ex-Officio Date Became a Trustee:__________ Date Term Expires:__________

Trustee's Mailing Address:______________________________

Trustee's Phone:__________________Trustees' Email:__________________

Administrative Contact (*name, email*):______________________________

Emergency Contact (*name, phone*):______________________________

Dietary Restrictions (*if any*):______________________________

BIOGRAPHY: Email Trustee's biography (≤150 words) to register@calaprs.org for printing in the attendee binder.

Applicant Agreement

If admitted, I agree to attend the program in full and acknowledge that missing one or more sessions may result in forfeiture of my Certificate of Completion, as determined by the Faculty.

Trustee Signature *(required)*______________________________Date:__________

Administrator Approval

Applicant Designation: ☐ Delegate ☐ 1st Alternate ☐ 2nd Alternate

Administrator Name:______________________________Email:__________________

Administrator Signature *(required)*:______________________________

Tuition Payment

Tuition of $3,000 must be paid in full by August 1, 2018 and includes all meals, materials, and lodging. Payable by check only (no credit cards) to "CALAPRS". <u>This application form serves as an invoice.</u> No additional invoice will be sent. Cancellation refunds may be provided to the extent that costs are not incurred by CALAPRS.

On campus lodging is mandatory for all participants. CALAPRS will make the reservations and payment for the nights of August 27, 28, and 29 at the Villa Graziadio Executive Center on the Pepperdine campus.

RETURN COMPLETED APPLICATION BY JUNE 15, 2018

Mail, email or fax form and payment to
CALAPRS
575 Market Street, Suite 2125
San Francisco, CA 94105
Phone: 415-764-4860 Fax: 415-764-4915
register@calaprs.org www.calaprs.org

If, due to a disability, you have any special needs, call 415-764-4860 to let us know. We will do our best to accommodate them.