



PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



PERIOD ENDING: JUNE 30, 2019

Investment Performance Review for

Stanislaus County Employees' Retirement Association

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Investment Landscape

TAB I

Investment Performance
Review

TAB II



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

3RD QUARTER 2019
Investment Landscape

Recent Verus research

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Annual outlooks

REAL ASSETS OUTLOOK

Inflation fears have been subdued in the market over the past year. Both core CPI and headline CPI have been declining over the past nine months and came in at 2.0% and 1.9%, respectively, in March. Over the past twelve months, core CPI has ranged between 2.0 and 2.3%, near the Fed's inflation target. At this stage of the market cycle, we view the risk of deflation from an economic slowdown to be of greater concern than unanticipated inflation.

Topics of interest

A PRACTICAL UNDERSTANDING OF LDI

For corporate pension plans, LDI can be an effective way to reduce the range of outcomes in funded status, which has particular appeal given the asymmetric trade-off associated with a declining funded status relative to a stronger funded status.

Our Topics of Interest paper aims to provide a practical introduction into these issues to assist plan sponsors in evaluating whether LDI makes sense for their organization.

LDI GLIDE PATH CREATION

Our latest Topics of Interest paper on LDI glide path creation seeks to explain the methodology and considerations of building a glide path for a pension plan. It addresses the following points:

- How much of the plan's allocation should be deployed in an LDI strategy?
- How do we align a glide path with the plan's objectives and financial constraints?
- How does the risk of our glide path differ based on changing objectives and financial constraints?

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2nd quarter summary

THE ECONOMIC CLIMATE

- U.S. real GDP expanded 3.2% YoY in Q1 (3.1% quarterly annualized rate). Year-over-year growth was the strongest since the second quarter of 2015. The U.S. Congressional Budget Office expects the U.S. economy to slow to a 2.1% pace in 2020, near the growth rate of other developed markets. [p. 7](#)
- Effective May 10th, U.S. tariff rates on \$200 billion in Chinese imports were hiked from 10% to 25%, and the Chinese responded with commensurate tariff rate hikes. In June, Presidents Trump and Xi met on the sidelines of the G20 summit in Osaka. The meeting yielded a “trade truce” in which both countries agreed to pause any additional tariffs. [p. 14](#)

PORTFOLIO IMPACTS

- Equity performance in Q2 appears to have been largely driven by higher prices, rather than improved earnings expectations. Estimated Q2 S&P 500 earnings worsened from -0.5% to -2.6% during this time. [p. 25](#)
- U.S. inflation remained stable at 2.1% YoY in June, excluding food & energy. Headline inflation rose 1.6% YoY, dragged down by falling energy prices. Core inflation has been range-bound over the past five years, fluctuating between 1.7% and 2.3%. Investors and consumers expect this trend to continue. [p. 9](#)

THE INVESTMENT CLIMATE

- The Federal Open Market Committee left the range for its benchmark interest rate unchanged at 2.25%-2.50% and reiterated that it would continue to act appropriately to sustain the expansion. Markets interpreted the press conference as confirmation of a 0.25% rate cut in July. [p. 18 & 19](#)
- European Central Bank President Mario Draghi issued dovish forward guidance, announcing that “additional stimulus” was on the table should the economic backdrop worsen, and inflation remain subdued. European and international developed sovereign yields have fallen along with U.S. yields. German 10-year bunds closed the month at new lows of -0.33%. [p. 18 & 19](#)

ASSET ALLOCATION ISSUES

- Risk assets delivered strong returns over the quarter. Global Equities gained +3.6% and U.S. high yield gained +2.5%. Longer duration exposures generally outperformed as interest rates fell. [p. 41](#)
- U.S. equity prices have continued to rise on expectations of nearly three interest rate cuts in 2019 and perhaps an assumption that U.S. earnings exceptionalism will extend into the future. If domestic conditions converge with other developed economies and these expectations turn out to be overly optimistic, we believe U.S. equities may possess greater downside risk. [p. 26](#)

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

What drove the market in Q2?

"US-China trade truce leaves markets with big questions"

U.S. SOYBEAN EXPORTS TO CHINA (METRIC TONS) (000s)

Jan	Feb	Mar	Apr	May	Jun
133	3,217	1,256	719	1,219	1,670

Article Source: CNN, July 1st, 2019

"Bond-Yield Plunge Confounds the World's Economy"

VALUE OF GLOBAL NEGATIVE-YIELDING DEBT (USD TRILLIONS)

Jan	Feb	Mar	Apr	May	Jun
8.85	8.81	10.40	10.03	11.27	12.92

Article Source: Wall Street Journal, June 23rd, 2019

"Fed holds rates steady, but opens the door for a rate cut in the future"

FUTURES IMPLIED PROBABILITY (%) OF CUTTING RATES BY JULY

Jan	Feb	Mar	Apr	May	Jun
7.1	5.4	23.6	31.9	47.8	100.0

Article Source: CNBC, June 19th, 2019

"Draghi Sees Prospect of More ECB Stimulus Amid Weak Inflation"

EUROZONE CONSUMER PRICE INFLATION (YoY %)

Jan	Feb	Mar	Apr	May	Jun
1.4	1.5	1.4	1.7	1.2	1.3

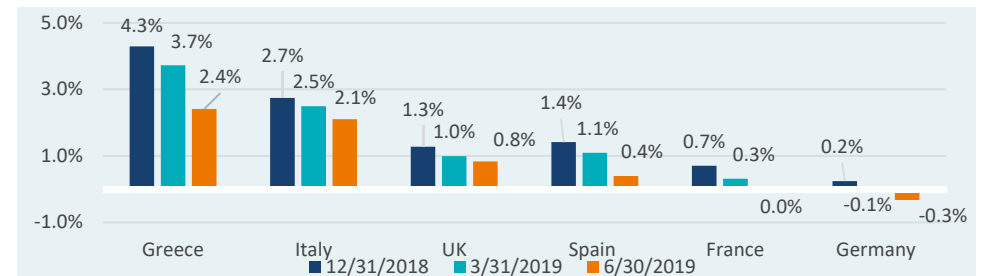
Article Source: Bloomberg, June 18th, 2019

RELATIVE EQUITY MARKET PERFORMANCE (CHINA VS. U.S.)



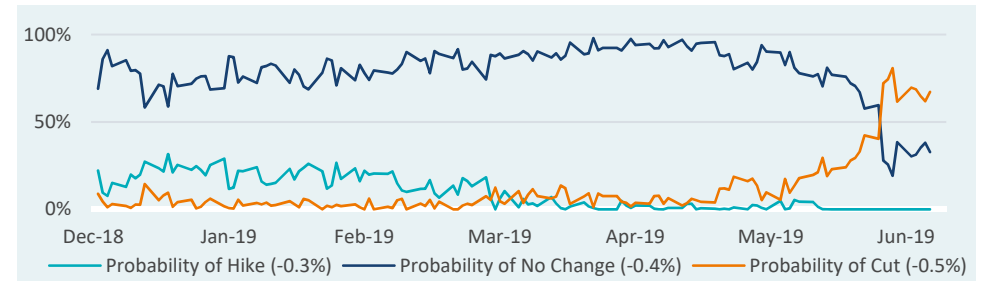
Source: Bloomberg, as of 6/30/19

TEN-YEAR EUROPEAN SOVEREIGN YIELDS



Source: Bloomberg, as of 6/30/19

PROBABILITY OF THE ECB CUTTING ITS MAIN RATE BY SEPTEMBER



Source: Bloomberg, as of 6/30/19

Economic environment

U.S. economics summary

- U.S. real GDP expanded 3.2% YoY in Q1 (3.1% quarterly annualized rate). Year-over-year growth was the strongest since the second quarter of 2015.
- The U.S. economy is expected to slow to a 2.1% pace in 2020, near the growth rate of other developed markets, as indicated by the U.S. Congressional Budget Office.
- U.S.-China trade remained central to headlines over the quarter. Effective May 10th, U.S. tariff rates on \$200 billion in Chinese imports were hiked from 10% to 25%, and the Chinese responded with commensurate tariff increases. In June, Presidents Trump and Xi met on the sidelines of the G20 summit in Osaka. The meeting yielded a “trade truce” in which both countries agreed to pause any additional tariff rate hikes.
- Headline CPI inflation fell from a YoY rate of 1.9% in March to 1.6% in June. PCE inflation, the Fed’s preferred inflation gauge, ticked up from a YoY rate of 1.5% at the end of the 1st quarter to 1.6% in May.
- Average hourly earnings grew 3.1% YoY in June, below expectations of 3.2%. The average non-farm private workweek fell slightly from 34.5 hours per week to 34.4.
- The labor market continued to show strength in Q2. The U-3 unemployment rate touched 50-year lows at 3.6% in May and ended the quarter in June at 3.7%.
- The Federal Open Market Committee messaged that it would continue to “act as appropriate to sustain the expansion”, which markets viewed as dovish. Over the quarter, expectations for additional 2019 rate cuts moved from a 64% chance of a 0.25% cut to a 61% chance of 0.75% in cuts.

	Most Recent	12 Months Prior
GDP (YoY)	3.2% 3/31/19	2.6% 3/31/18
Inflation (CPI YoY, Core)	2.1% 6/30/19	2.2% 6/30/18
Expected Inflation (5yr-5yr forward)	1.9% 6/30/19	2.2% 6/30/18
Fed Funds Target Range	2.25 – 2.50% 6/30/19	1.75 – 2.00% 6/30/18
10 Year Rate	2.0% 6/30/19	2.9% 6/30/18
U-3 Unemployment	3.7% 6/30/19	4.0% 6/30/18
U-6 Unemployment	7.2% 6/30/19	7.8% 6/30/18

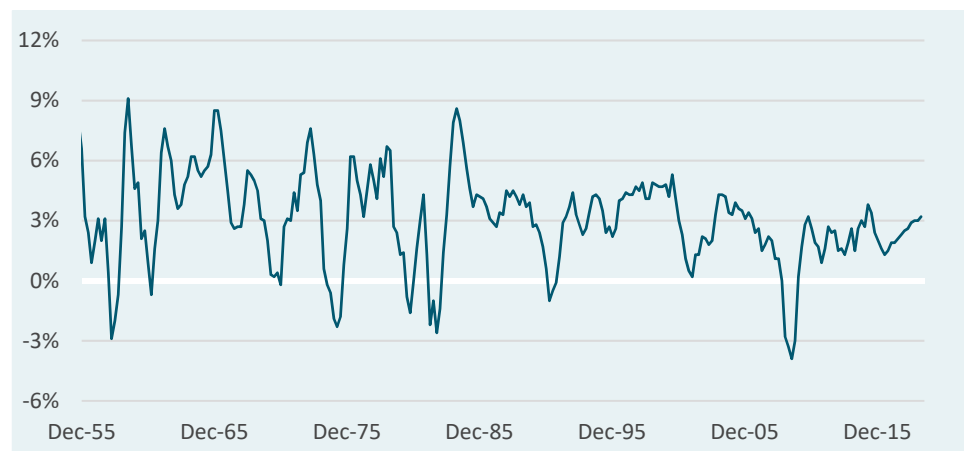
GDP growth

Real GDP grew at an annualized quarterly rate of 3.1% in the first quarter, ahead of analysts' estimates for a 2.3% expansion. Inventory builds and net exports, which tend to be more volatile components of GDP, contributed 1.7% to the print, their most significant addition since 2013. Corporate inventory builds added 0.6% to the overall 3.1% GDP print, a contribution which ranked in the 74th percentile over the past five years. Looking ahead, trade balance volatility may persist as firms around the globe adjust to evolving international trade policies.

U.S. economic growth appears to face many of the same headwinds. The lack of a definitive trade resolution between the U.S. and China, supply chain disruptions caused by new tariff impositions, and the upside limitations of an unemployment rate near 50-year lows may dampen growth prospects for the second quarter. On June 28th, the Federal Reserve Bank of Atlanta GDPNow forecast indicated annualized quarterly GDP growth of 1.5% in the second quarter. This forecast suggests consumer expenditures will provide the greatest contribution of 2.5% to overall growth.

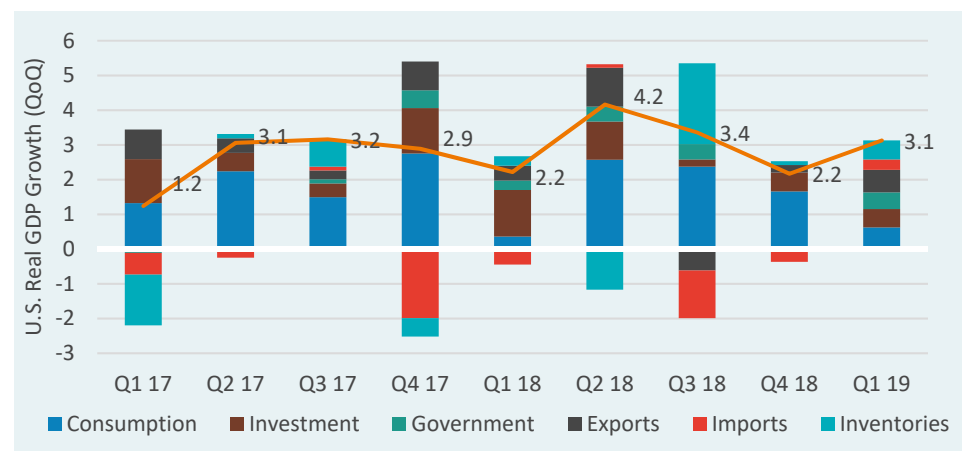
The U.S. economy is expected to slow to 2.1% in 2020, near the growth rate of the developed world

U.S. REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 3/31/19

U.S. GDP GROWTH ATTRIBUTION



Source: BEA, annualized quarterly rate, as of 3/31/19

Inflation

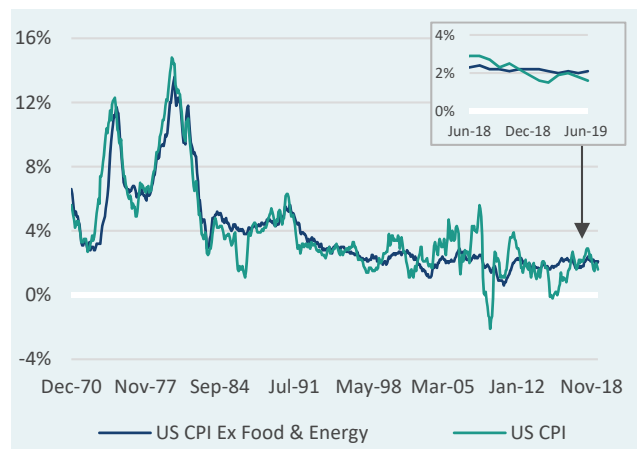
U.S. core inflation (ex-food & energy) remained stable at 2.1% YoY in June. Headline inflation rose 1.6% YoY, dragged down by falling energy prices year-over-year. Core inflation has been range-bound over the past five years, fluctuating between 1.7% and 2.3%. Investors and consumers generally expect this trend to continue, as indicated by market pricing and consumer surveys.

The market is pricing inflation to fall over the next five years (as indicated by U.S. TIPS 5-year breakeven rate of 1.5%) and

is pricing inflation to stay lower for longer (U.S. TIPS 10-year breakeven rate of 1.7%).

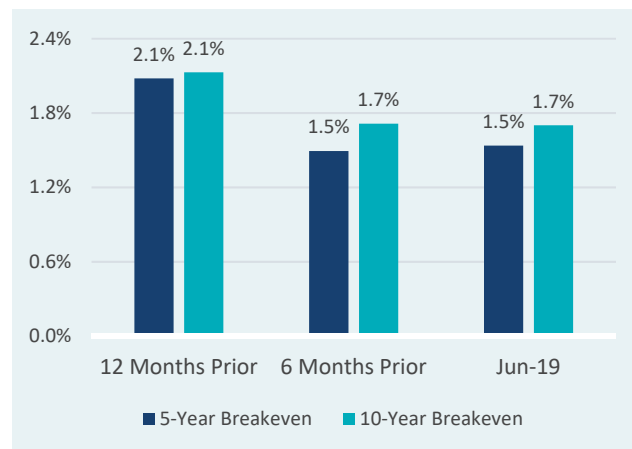
We believe subdued inflation of around 2% has been, and will be, a key influence on Federal Reserve policy. Lower inflation provides the Fed with more legroom for easier positioning to support economic growth and strong employment. If the inflation trend were to shift in either direction, this may put Fed officials in a more tenuous position. We will be watching inflation trends closely.

U.S. CPI (YOY)



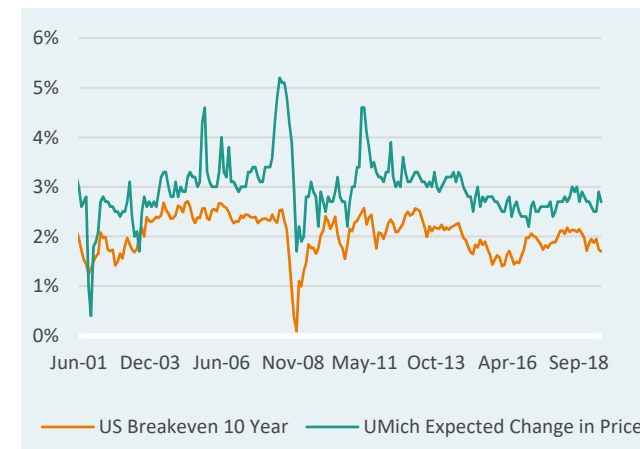
Source: Bloomberg, as of 6/30/19

U.S. BREAKEVEN INFLATION RATES



Source: FRED, as of 6/30/19

INFLATION EXPECTATIONS



Source: Bloomberg, as of 6/30/19

Labor market

The U.S. labor market remains tight. Unemployment during the quarter reached a level of strength not seen since 1969. Nonfarm payrolls expanded by 224,000 in June, well above the consensus estimate of 160,000. The number of U.S. job openings now exceed the number of jobs available.

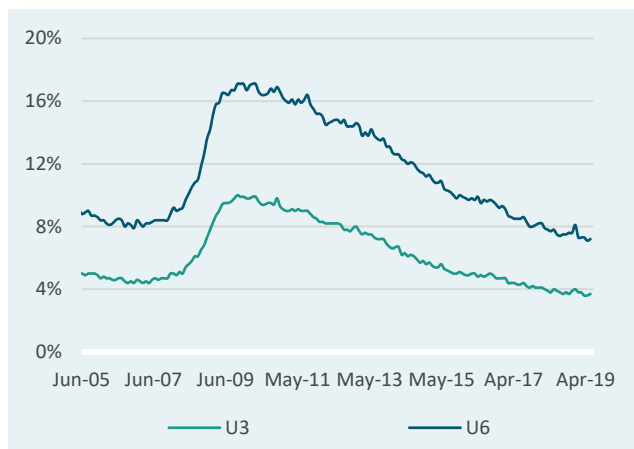
The U.S. unemployment rate was 3.7% in June, according to the narrower U-3 measure which only encompasses those workers seeking a job. The broader U-6 unemployment rate was 7.2%, which also includes discouraged and part-time workers who seek full-time employment.

Given the relatively limited number of unemployed persons and the high percentage of companies reporting that jobs are hard to fill, we believe it may be difficult for job growth to continue at its recent pace.

Wages have grown modestly but have slowed year-to-date. Weak wage growth limits the spending power of consumers, but also reduces the risk of corporate margin deterioration and may limit general price inflation. In June, average hourly earnings rose 3.1% year-over-year.

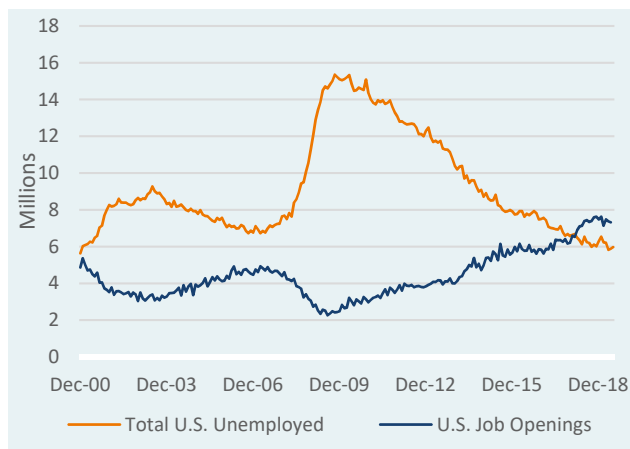
U.S. labor market remains strong, though further upside may be limited

U.S. UNEMPLOYMENT



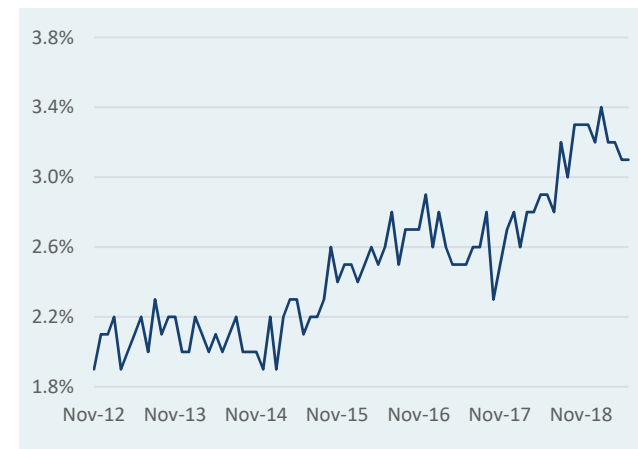
Source: FRED, as of 6/30/19

U.S. JOB OPENINGS VS. UNEMPLOYED



Source: Bloomberg, as 6/30/19

U.S. WAGE GROWTH



Source: FRED, as of 6/30/19

The consumer

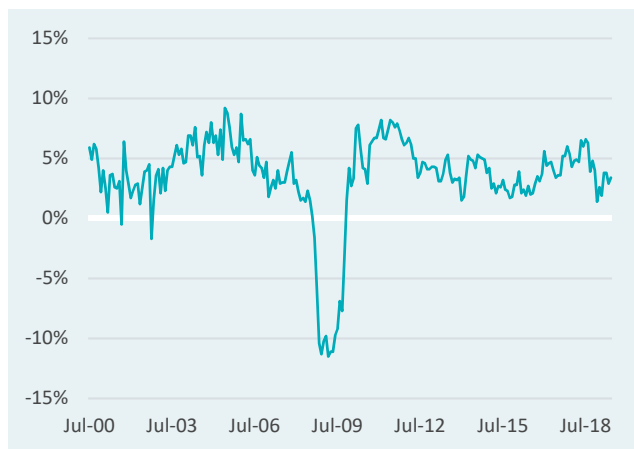
Headline retail sales grew 3.4% from the prior year in June. Core retail sales, which exclude spending on automobiles, gasoline, building materials, and food services, grew at a strong pace of 4.6% from the prior year. Typically, core retail sales correspond most closely with the consumer expenditures component of the quarterly GDP calculation.

U.S. personal incomes grew at a YoY rate of 4.1% in May, up from 3.5% at the end of the first quarter. Personal consumption expenditures grew at a YoY rate of 4.2% in May, slightly lower than the pace of 4.4% at the end of Q1. Benign

inflation, improving real wages, and consumers' perceptions of a strong labor market have all likely played a key role in the resilience of consumer spending patterns as of late.

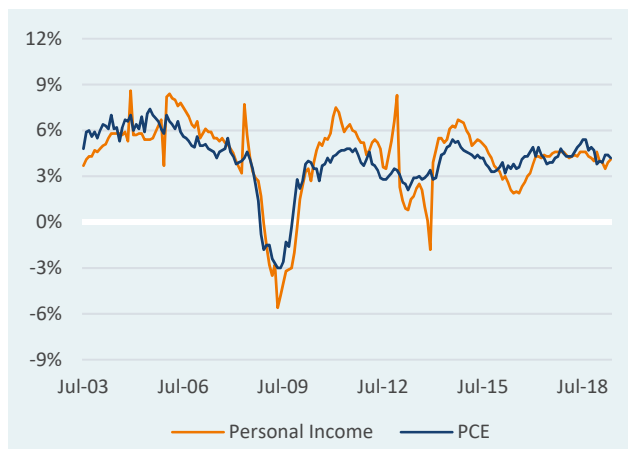
Consumer credit growth has remained tempered over the expansion, but the composition of that credit has shifted. Over the past ten years, student loans have increased their share while mortgage debt has decreased its share.

REAL RETAIL SALES GROWTH (YOY)



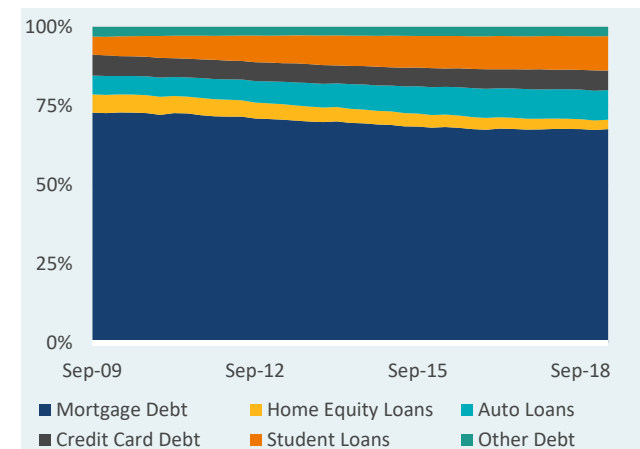
Source: Bloomberg, as of 6/30/19

PERSONAL INCOME AND NOMINAL PERSONAL CONSUMPTION EXPENDITURES (YOY)



Source: Bloomberg, as of 5/31/19

SHARE OF CONSUMER CREDIT OUTSTANDING



Source: Federal Reserve Bank of NY, Bloomberg as of 6/30/19

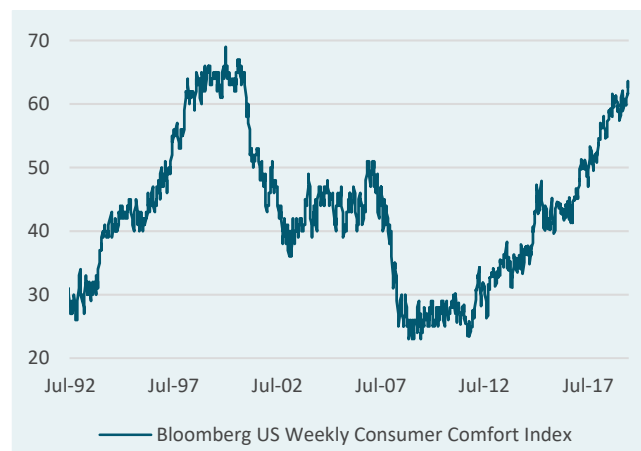
Sentiment

Consumer sentiment indicators were mixed over the quarter but remain very strong relative to history. In May, the University of Michigan Consumer Sentiment Index registered its highest reading since September 2018 at 100.0 but ended the quarter at 98.2, slightly below its March reading. According to the University of Michigan, consumers were concerned about the impact of ongoing trade tensions on the economic outlook and a moderating job market.

The Bloomberg Consumer Comfort Index rose from 58.9 to 62.6 over the quarter, remaining at cycle highs.

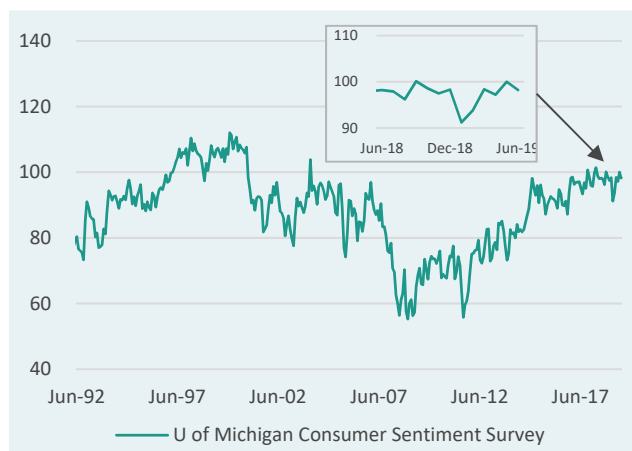
The Conference Board's Consumer Confidence Index advanced in April and May before falling at quarter-end. In June, the indicator fell from 131.3 to 121.5, below expectations for a slight dip to 131.0. While the index remained at a high level, consumers were less optimistic about the current economic climate and the near-term future. The percentage of consumers expecting business conditions to improve in the next six months fell from 21.4% to 18.1% and the percentage expecting conditions to worsen rose from 8.8% to 13.1%.

CONSUMER COMFORT INDEX



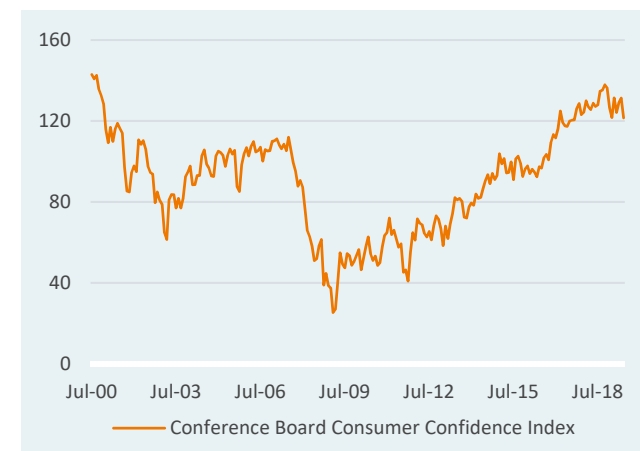
Source: Bloomberg, as of 6/30/19 (see Appendix)

CONSUMER SENTIMENT



Source: University of Michigan, as of 6/30/19 (see Appendix)

CONSUMER CONFIDENCE



Source: Conference Board, as of 6/30/19 (see Appendix)

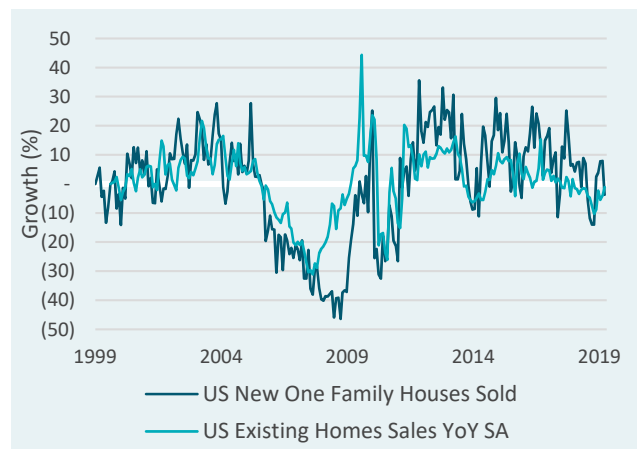
Housing

Some weakness has appeared in the U.S. housing market. U.S. home sales appear to have peaked in late 2017 and have continued to fall, declining -1.1% YoY in May. Higher prices have damaged affordability, and rising interest rates through the end of 2018 likely contributed to weaker purchase activity. On the other hand, the notable shift of the Federal Reserve from rate hikes to rate cuts, and the subsequent drop in interest rates and therefore mortgage rates, may help reignite buying activity.

Housing starts in May were down -4.7% from one year prior, while building permits fell -0.5%. Slowing home construction activity may reflect affordability issues and/or falling homebuilder optimism.

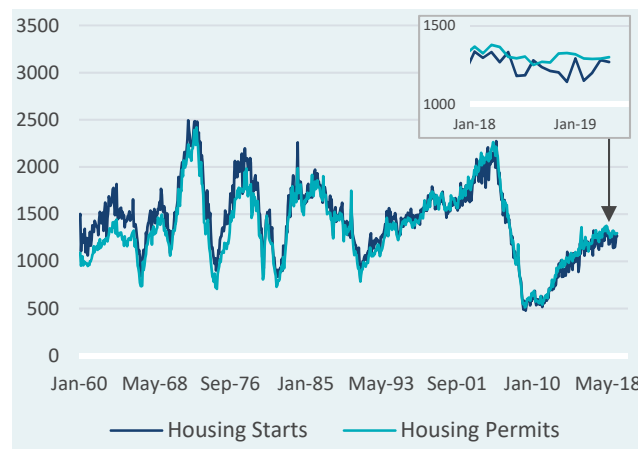
Home prices have fallen slightly. The median U.S. home sale price was down -3% year-over-year as of May. Home price trends can vary significantly by location, which means national statistics are sometimes difficult to interpret at a local level.

U.S. HOME SALES (YOY)



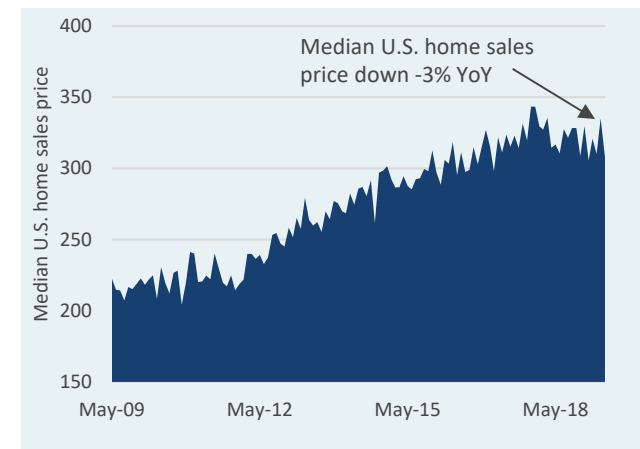
Source: FRED, as of 5/31/19

HOUSING STARTS & PERMITS



Source: Bloomberg, NAHB, as of 5/31/19 (see appendix)

MEDIAN U.S. HOME SALES PRICE



Source: FRED, as of 5/31/19

International economics summary

- U.S.-China trade remained central to headlines over the quarter. Effective May 10th, U.S. tariff rates on \$200 billion in Chinese imports were hiked from 10% to 25%, and the Chinese responded with commensurate tariff rate hikes. In June, Presidents Trump and Xi met on the sidelines of the G20 summit in Osaka. The meeting yielded a “trade truce” in which both countries agreed to pause any additional tariff rate hikes.
- The U.K. Prime Minister Theresa May announced her resignation effective June 7th. In July, Boris Johnson defeated Jeremy Hunt and will replace Theresa May as Britain’s next prime minister. Mr. Johnson has taken a harder line on Brexit than Mr. Hunt, and his election likely increases the probability that the U.K. exits the E.U. without a deal.
- President Trump called off prospective 5% tariffs on Mexican imports after the two countries signed an immigration deal aimed at reducing illegal border crossings. The deal expanded the Migrant Protection Protocols program, which requires asylum-seekers to wait on the Mexican side of the border while their cases are reviewed.
- Chinese GDP growth slowed 0.2% to 6.2% YoY in the second quarter, its slowest rate in 27 years. On a brighter note, YoY growth in industrial production and retail sales both surprised to the upside, supporting the view that Beijing’s countercyclical easing measures have proven effective.
- The Citi Global Economic Surprise Index fell from -18.8 to -27.7 in June, registering its 15th consecutive month in negative territory.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	3.2% 3/31/19	1.6% 6/30/19	3.7% 6/30/19
Eurozone	1.2% 3/31/19	1.1% 5/31/19	7.5% 5/31/19
Japan	0.9% 3/31/19	0.7% 5/31/19	2.4% 5/31/19
BRICS Nations	5.2% 3/31/19	2.4% 3/31/19	5.2% 3/31/19
Brazil	1.4% 3/31/19	3.4% 6/30/19	12.4% 6/30/19
Russia	2.7% 12/31/18	4.7% 6/30/19	4.5% 5/31/19
India	7.2% 12/31/18	3.2% 6/30/19	8.5% 12/31/17
China	6.4% 3/31/19	2.7% 6/30/19	3.7% 3/31/19

International economics

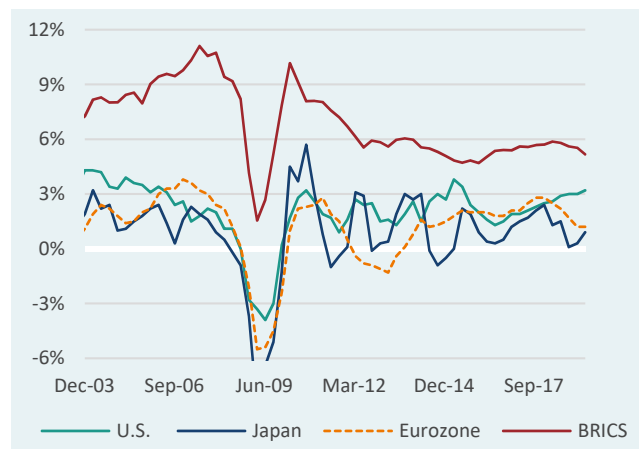
Developed countries are generally exhibiting growth rates between 1-2% YoY. The U.S. remains an exception, at a 3.2% pace, though the domestic economy is forecast to slow to around 2.1% in 2020 as government stimulus fades. Economists expect global growth of 3.3% in both 2019 and 2020, according to Bloomberg.

Inflation remains stable and subdued in developed economies, at or below 2%. Emerging economies have also exhibited lower than average inflation – a 2.4% rate across the BRICS nations. Employment continues to improve in most

markets, though the rate of job gains in some economies appears to be slowing.

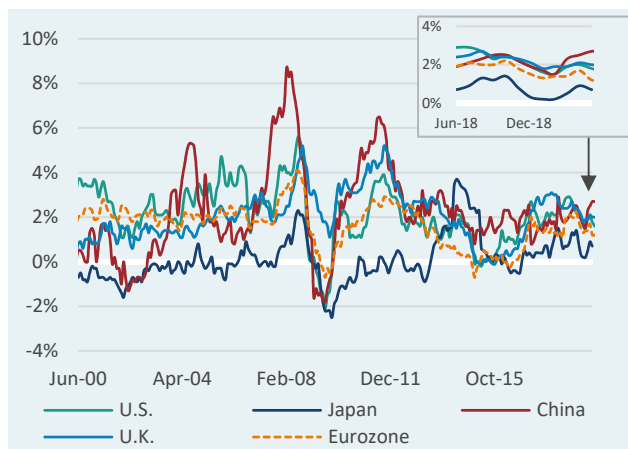
The U.K. Prime Minister Theresa May announced her resignation effective June 7th. In July, Boris Johnson defeated Jeremy Hunt and will replace Theresa May as Britain's next prime minister. Mr. Johnson has taken a harder line on Brexit than Mr. Hunt, and his election likely increases the probability that the U.K. exits the E.U. without a deal.

REAL GDP GROWTH (YOY)



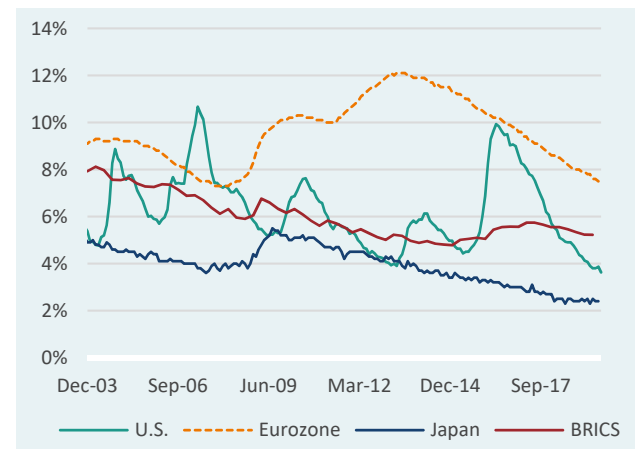
Source: Bloomberg, as of 3/31/19

INFLATION (CPI YOY)



Source: Bloomberg, as of 6/30/19

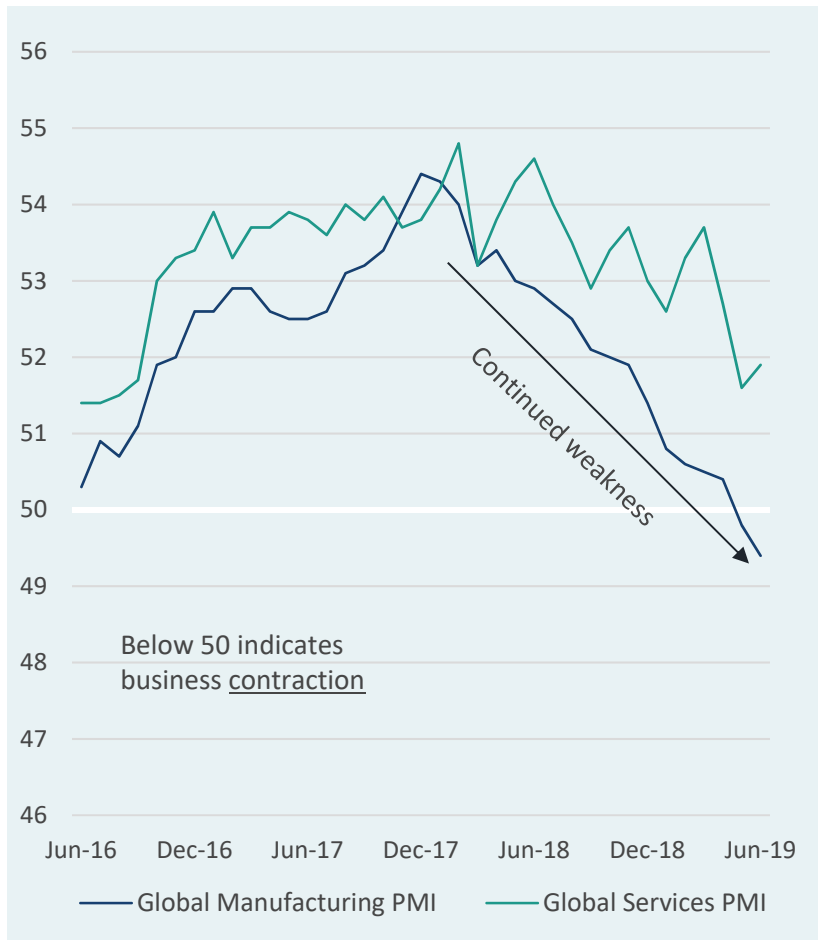
UNEMPLOYMENT RATE



Source: Bloomberg, as of 6/30/19 or most recent release

Global PMI

GLOBAL PMI



Source: JPMorgan, as of 6/30/19

- The PMI business surveys attempt to gauge business sentiment and conditions around the world.
- Surveys have indicated weakening since late 2017 and resumed their decline in the second quarter.
- The Global Manufacturing PMI fell from 50.5 in March to 49.4 in June, below the neutral level of 50.0 that separates expansion from contraction. The stickier Services PMI, which is less cyclical in nature than the Manufacturing PMI, fell from 53.7 to 51.9 over Q2.
- Developed economy Manufacturing PMI readings (48.9) have weakened materially over the past year and are now below emerging economy readings (49.9). Services PMI readings remain similar for developed and emerging economies at 52.0 and 51.5, respectively.
- Surveys remain above levels that might indicate recession.

Fixed income rates & credit

Interest rate environment

— The Federal Open Market Committee left the range for its benchmark interest rate unchanged at 2.25%-2.50% and reiterated that it would continue to act appropriately to sustain the expansion. Markets viewed the Fed's press conference as successful in setting expectations for a 0.25% rate cut in July.

— The fed funds futures market now implies 2 or even 3 rate cuts (0.50% to 0.75% total cuts) as likely by the end of 2019. The market's expectation of three rate cuts seems aggressive, and we worry about possible downside to risk markets if the Fed does not deliver on these expectations.

— U.S. Treasury yields continued to push lower following the messaging from the Federal Reserve. The 10-year U.S. Treasury yield finished the quarter at 2.00%, down from 3.14% in Q4 2018.

— European Central Bank President

Mario Draghi announced "additional stimulus" was on the table should the economic backdrop worsen and inflation remain subdued. Over the month, the likelihood that the ECB would cut its main deposit rate from -0.40% to -0.50% by its September meeting rose from 18% to 67%, as indicated by market pricing.

— European and international developed sovereign yields have fallen along with U.S. yields. German 10-year bunds closed the month at new lows of -0.33%.

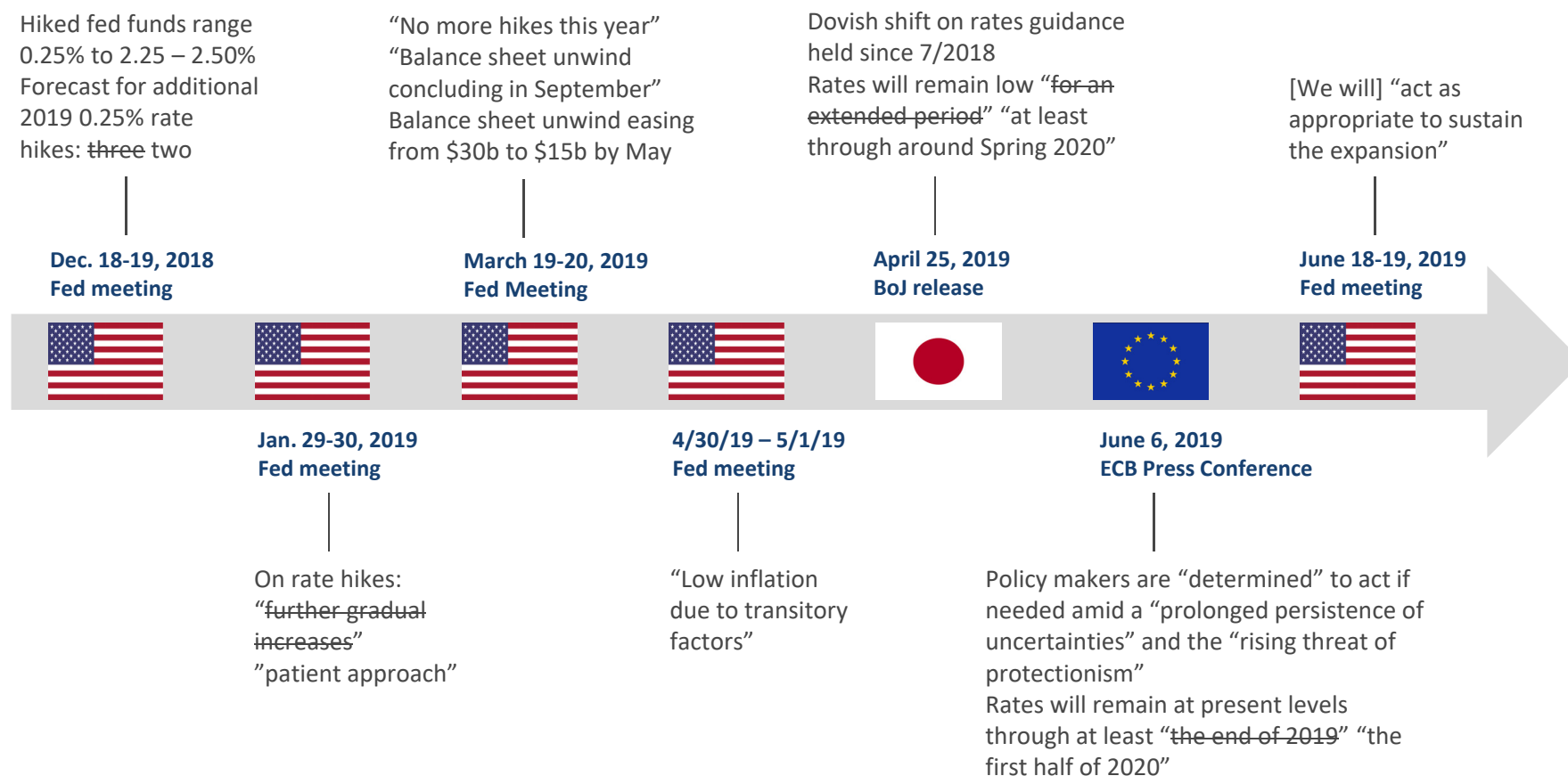
— High yield bond spreads tightened alongside equities as the asset class was positively impacted by Federal Reserve dovishness. Anticipation of easier interest rate policies, which could potentially lengthen the credit cycle, has strengthened sentiment for risk assets.

— Emerging market bonds delivered outsized returns in Q2. The JPM GBI-EM Index returned +5.6% and the JPM EMBI Index returned +4.1%.

Area	Short Term (3M)	10-Year
United States	2.09%	2.00%
Germany	(0.57%)	(0.33%)
France	(0.55%)	(0.01%)
Spain	(0.47%)	0.39%
Italy	(0.14%)	2.10%
Greece	0.99%	2.41%
U.K.	0.78%	0.83%
Japan	(0.08%)	(0.17%)
Australia	1.43%	1.32%
China	2.25%	3.21%
Brazil	6.24%	7.44%
Russia	8.03%	8.26%

Source: Bloomberg, as of 6/30/19

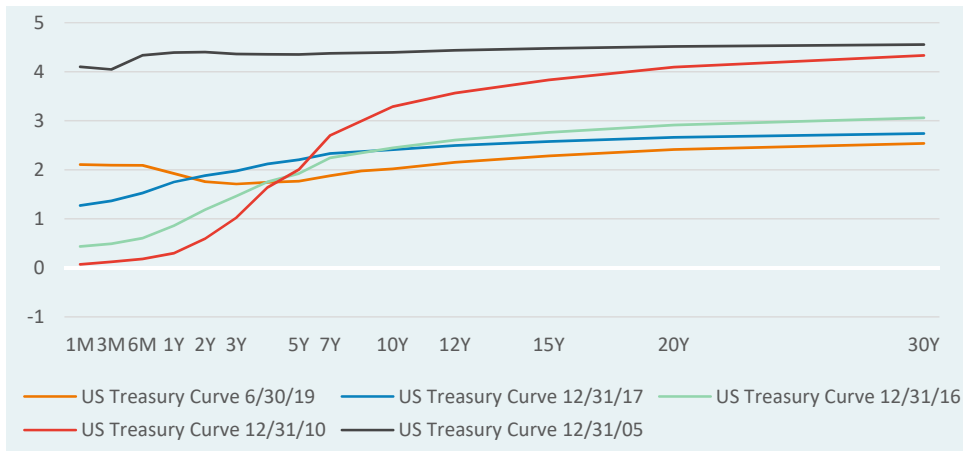
Central bank reversal



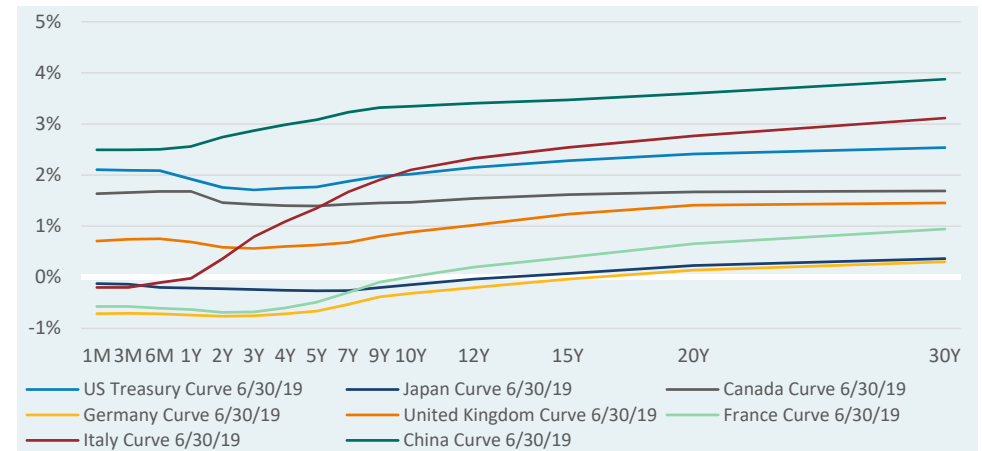
Source: Wikimedia Commons

Yield environment

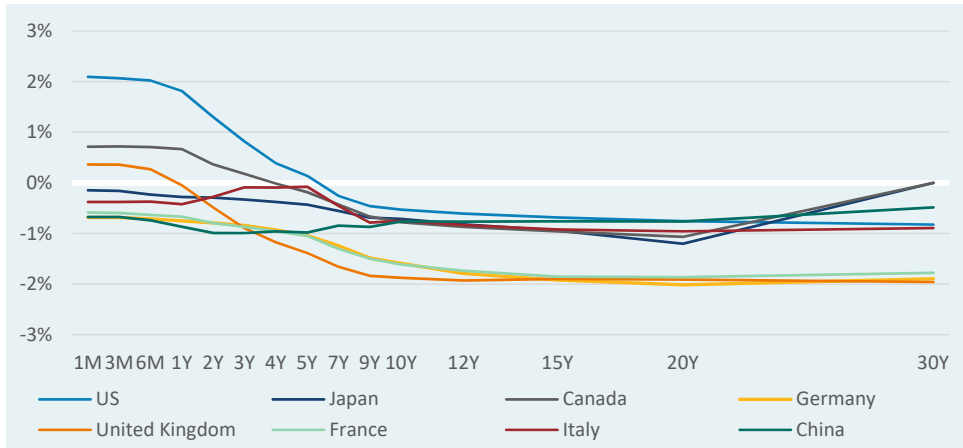
U.S. YIELD CURVE



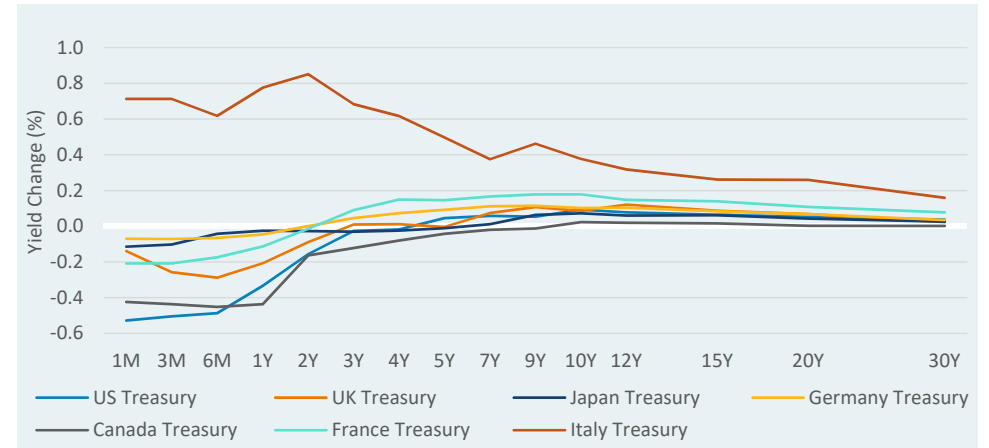
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



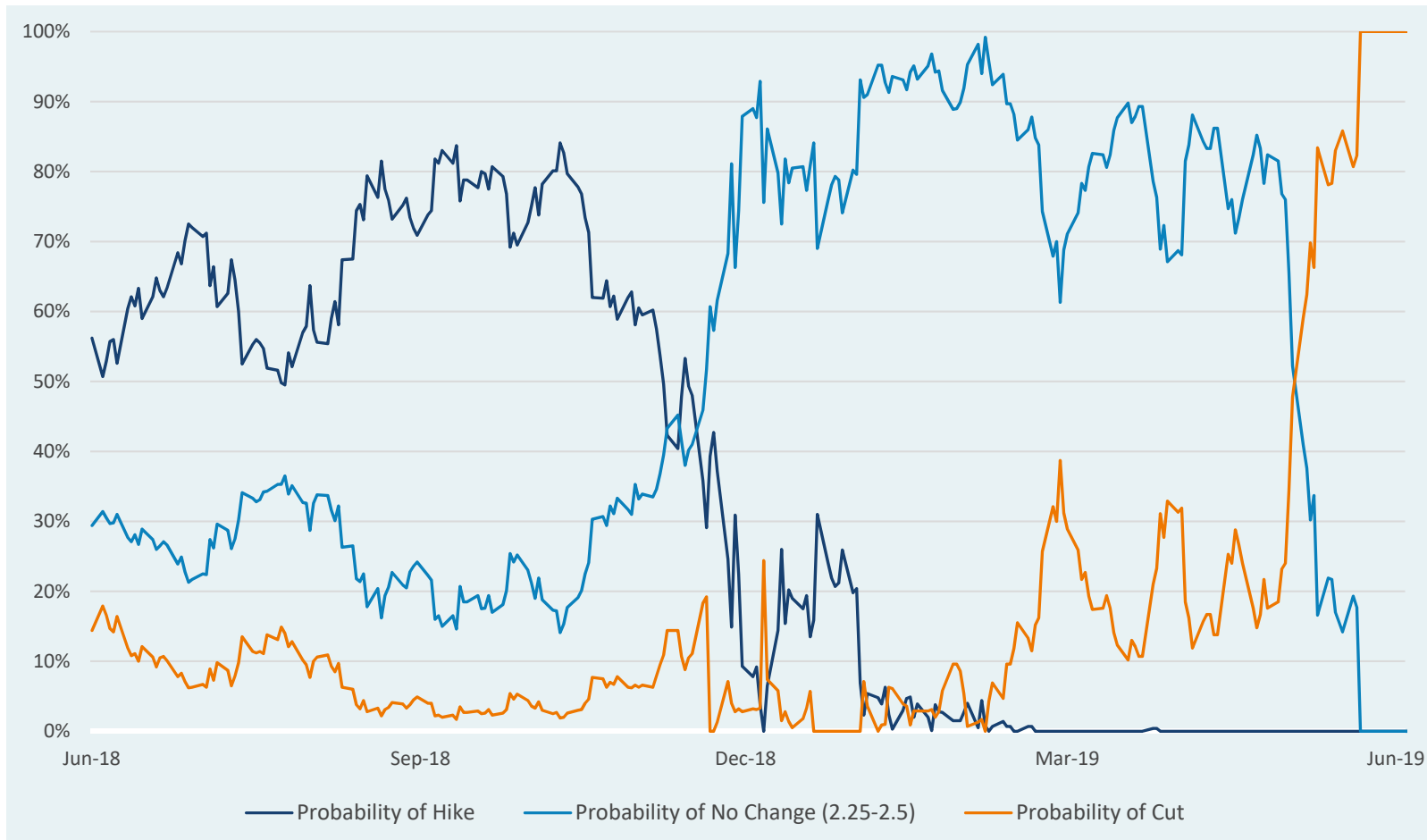
IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 6/30/19

July Fed meeting

FUTURES IMPLIED PROBABILITIES FOR JULY FED RATE DECISION



In April and May, dovish guidance from global central banks made its way into fed funds futures pricing

In June, the Fed pledged to “act appropriately to sustain the expansion” and a 0.25% cut became 100% priced in July

Source: Bloomberg, as of 6/30/19

Credit environment

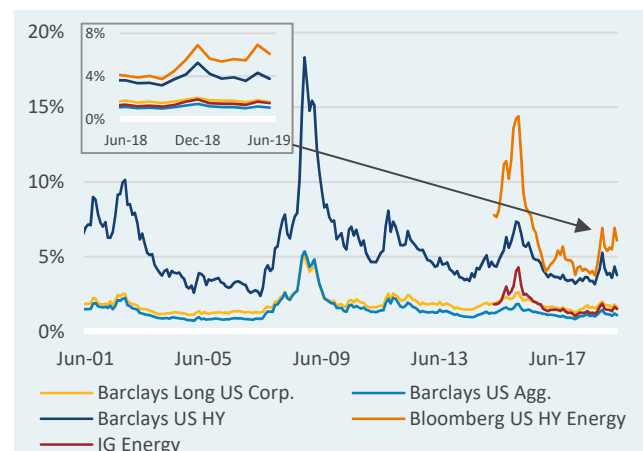
High yield bond spreads tightened alongside equities as the asset class was positively impacted by Federal Reserve dovishness. Anticipation of easier interest rate policies, which could potentially lengthen the credit cycle, has strengthened sentiment for risk assets. BB-rated bonds outperformed both CCC- and B-rated bonds in the second quarter. High yield bonds have returned +9.9% YTD, outperforming investment grade credit (+9.4%) and bank loans (+5.7%).

Bank loan prices continued to decline as demand for the asset class was impacted by a pause in the Fed's hiking cycle and uncertainty surrounding future moves from the Fed. Loan funds

have reported their ninth consecutive monthly outflow in June, totaling over \$40 billion in total. Bank loans have returned +0.3% YTD, underperforming both high yield and investment grade bonds.

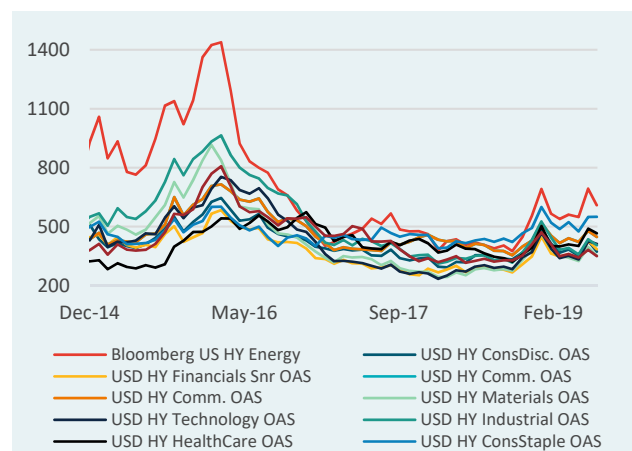
Based on concerns over late-cycle behavior in credit markets, we do not believe investors are being adequately compensated for credit risk. Late-cycle volatility tends to coincide with a jump in credit spreads and steep credit losses. An underweight to U.S. investment grade, high yield credit, and bank loans may be warranted. Within credit, higher quality and more liquid assets appear most attractive.

SPREADS



Source: Barclays, Bloomberg, as of 6/30/19

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 6/30/19

Market	Credit Spread (OAS)	
	6/30/19	6/30/18
Long U.S. Corp	1.6%	1.8%
U.S. Agg Corp	1.1%	1.2%
U.S. High Yield	3.8%	3.6%
U.S. Bank Loans*	4.4%	3.9%

Source: Barclays, Credit Suisse, Bloomberg, as of 6/30/19

*Discount margin (4-year life)

Default & issuance

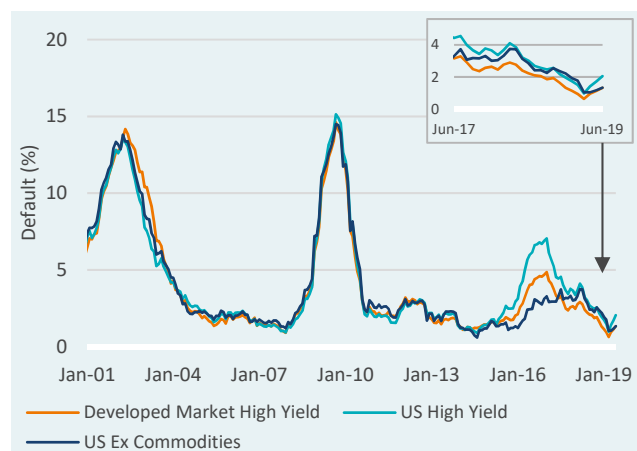
Default activity has been low and stable in the U.S. credit market, despite price volatility. The par-weighted default rate for high yield increased to 1.5% but remains below its long-term average range of 3.0-3.5%. For loans, the par-weighted default rate at the end of the second quarter was 1.3% and remains below the long-term average of 3.1%, according to data from J.P. Morgan. Consumer, retail, telecom, and utilities sectors have been more prone to defaults.

Senior loan and high yield markets have essentially recovered from a wave of defaults seen in 2015-2016 that were

generated by energy and metals/mining sectors. High yield bond recovery rates have improved significantly since that time.

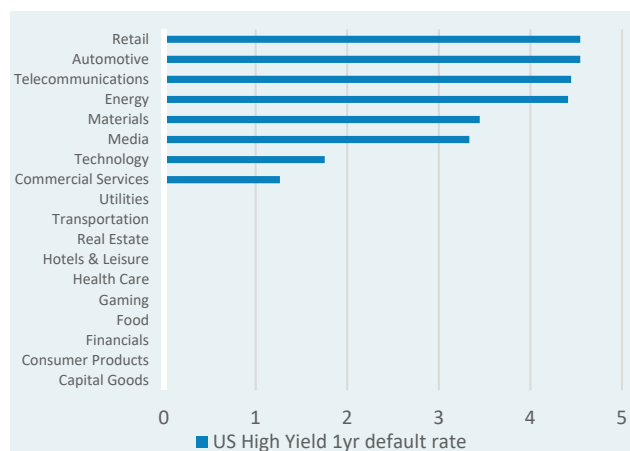
Gross high yield issue activity increased in June as investors took advantage of a dip in yields. Loan market issuance is significantly behind last year's pace, likely influenced by lower demand for floating rate securities now that the Federal Reserve has paused monetary tightening.

HY DEFAULT RATE (ROLLING 1-YEAR)



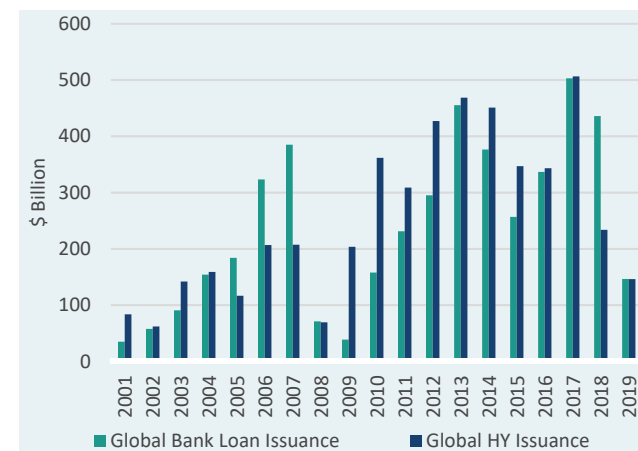
Source: BofA Merrill Lynch, as of 6/30/19

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



Source: BofA Merrill Lynch, as of 6/30/19 – par weighted

GLOBAL ISSUANCE (\$ BILLIONS)



Source: Bloomberg, BofA Merrill Lynch, as of 6/30/19

Equity

Equity environment

- The Russell 1000 Index slightly outperformed international developed equities in Q2, gaining +4.2% while the MSCI EAFE Index gained +3.7%. Perceptions of an accommodative Federal Reserve and views that U.S.-China relations are on a productive track likely impacted price movement.
- Equity performance in Q2 appears to have been largely driven by higher prices, rather than improved earnings expectations. The valuation expansion of equity markets (U.S., international developed, emerging markets) aligned with performance over the quarter.
- According to FactSet, estimated Q2 S&P 500 YoY earnings worsened from -0.5% to -2.6% in Q2. Nine of eleven sectors saw downward revisions to EPS estimates. Further negative revisions will likely act as a headwind to equity performance.
- Currency movement had a material positive impact on unhedged exposure to the U.K. (+3.1%) and Japan (+2.3%) over the quarter, though currency movement had a negligible impact on overall international equity performance (MSCI EAFE). Unhedged currency movement on a 1-year basis has had a substantially negative effect on investors' performance.
- The J.P. Morgan Emerging Market Currency Index gained +0.5% in the second quarter, stabilizing after a downward trend since 2018.
- Size and value factors continued to underperform. Small-cap equities lagged large-cap by -2.1% during the quarter and -13.3% over the past year (Russell 2000 vs. Russell 1000). Value equities underperformed growth by -0.8% over the quarter and by -3.1% over the past year (Russell 1000 Value vs Russell 1000 Growth).

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	4.2%		10.0%	
US Small Cap (Russell 2000)	2.1%		(3.3%)	
US Large Value (Russell 1000 Value)	3.8%		8.5%	
US Large Growth (Russell 1000 Growth)	4.6%		11.6%	
International Large (MSCI EAFE)	3.7%	3.5%	1.1%	4.8%
Eurozone (Euro Stoxx 50)	6.2%	6.4%	0.4%	8.6%
U.K. (FTSE 100)	4.0%	0.9%	(2.3%)	3.7%
Japan (NIKKEI 225)	3.1%	0.8%	0.1%	(2.6%)
Emerging Markets (MSCI Emerging Markets)	0.6%	0.1%	1.2%	1.7%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 6/30/19

Domestic equity

U.S. equities outperformed in the second quarter following a strong rebound in the first quarter. The S&P 500 Index delivered a total return of 4.3%, bringing its first-half return to 18.5%. Perceptions of an accommodative Federal Reserve and views that U.S-China relations were on a productive track likely impacted price movement.

Over the last decade, U.S. equities have led global equity indices, which is not typically the case. In prior periods, U.S. equities have ranked from slightly below average to slightly above average among regional indices. Furthermore, a

portion of U.S. equity outperformance has been due to a move towards high prices, which will most likely negatively impact future performance.

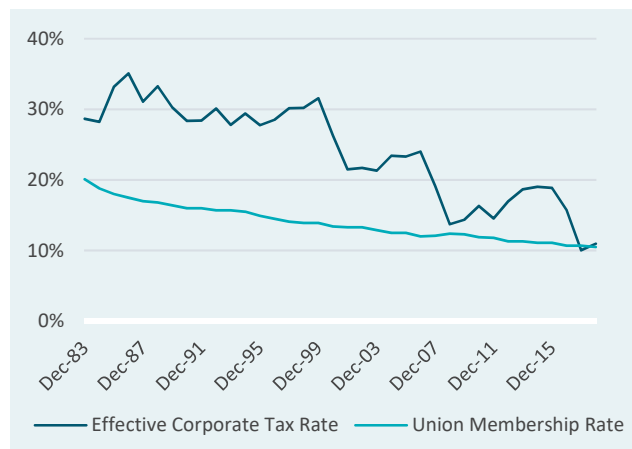
A number of secular trends have helped create a supportive environment for U.S. stocks. Technological advances, falling interest rates and therefore costs of corporate borrowing, and lower corporate tax rates have all helped to boost profit margins to all-time-highs. As expectations moderate, these margins may be increasingly scrutinized by investors.

U.S. EQUITIES



Source: Standard & Poors, as of 6/30/19

SECULAR TRENDS SUPPORTING MARGINS



Source: FRED, BLS, Bloomberg, Verus, as of 6/30/19

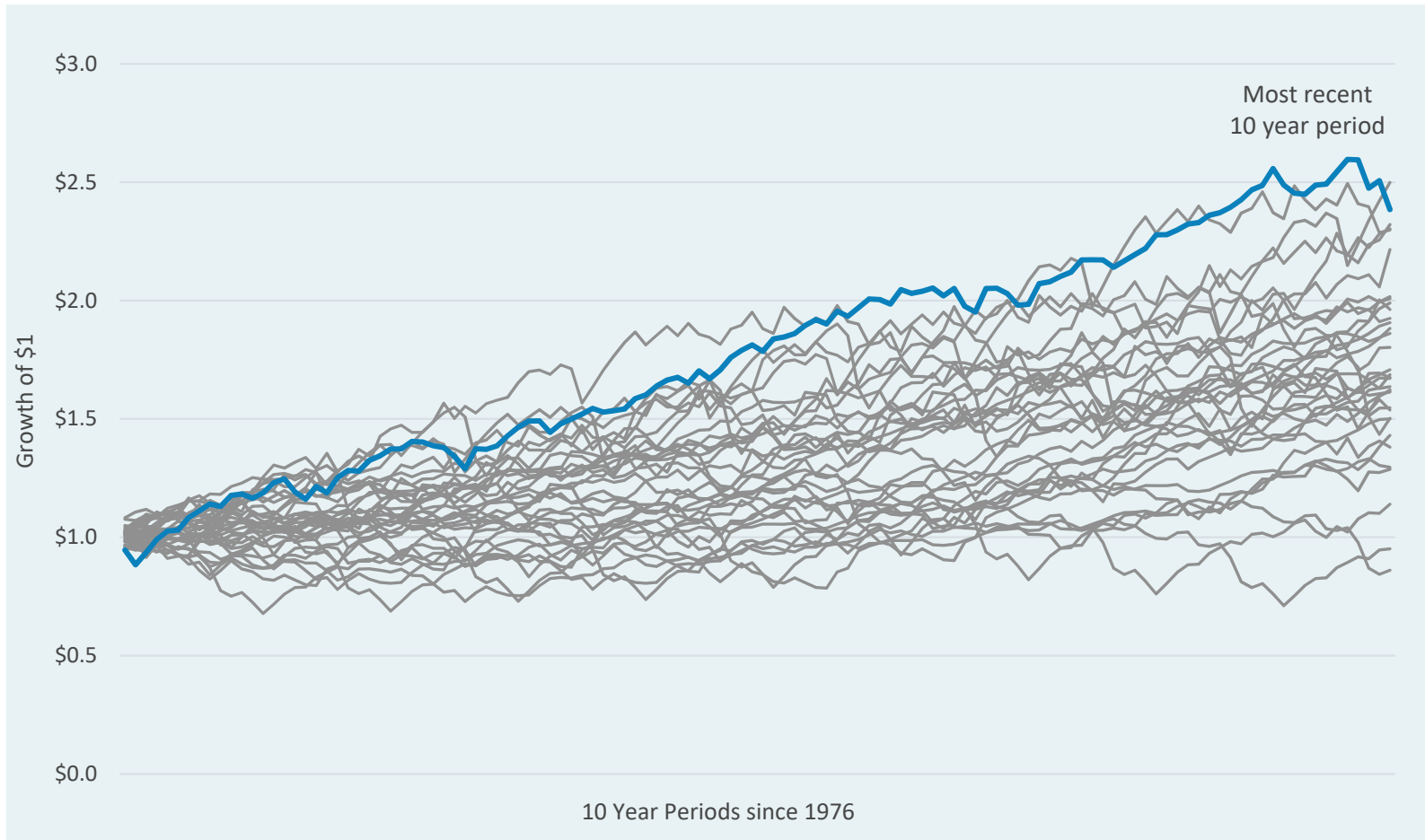
U.S. RELATIVE PERFORMANCE - HISTORICAL

	2014-2019	2009-2014	2004-2009	1999-2004	1994-1999
Best ↑	United States	United States	China	Australia	Sweden
	Australia	Sweden	India	India	Spain
	France	Japan	Spain	Canada	France
	India	Germany	Australia	United States	United States
	UK	Switzerland	Sweden	Spain	Germany
	Italy	India	Canada	Switzerland	Switzerland
	Japan	Australia	Germany	UK	UK
	Sweden	UK	UK	Italy	Canada
	Canada	Canada	Switzerland	France	Australia
	Switzerland	France	France	Sweden	India
	Germany	Spain	United States	Japan	Japan
	China	China	Japan	Germany	
Worst ↓	Spain	Italy	Italy		

Source: Verus, as of 6/30/19

Domestic equity

DOMESTIC 60/40 EXCESS RETURNS



U.S. asset performance over the past 10 years has been unusually strong

Investors should not necessarily expect U.S. outperformance to continue

Source: Verus, 60/40 (S&P 500 / BBgBarc US Aggregate Bond), excess return over T-bills since 1973

Domestic equity size & style

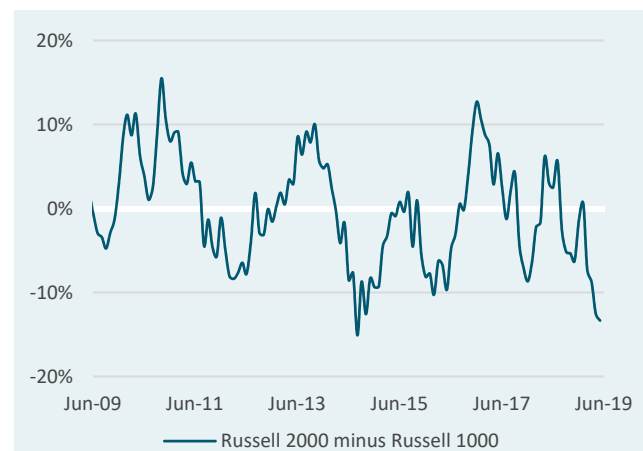
Size and value factors continued to underperform. Small-cap equities lagged large-cap by -2.1% during the quarter and -13.3% over the past year (Russell 2000 vs. Russell 1000). Value equities underperformed growth by -0.8% over the quarter and by -3.1% over the past year (Russell 1000 Value vs Russell 1000 Growth).

Similar to Q1, the impact of sector performance on the value premium was more nuanced in the second quarter. Financials (+8.0%) and Materials (+6.3%) outperformed the overall index (S&P 500 +13.6%), but Energy (-2.8%)

underperformed. Information Technology performed better than the overall index (+6.1%) which acted as a headwind for value stocks.

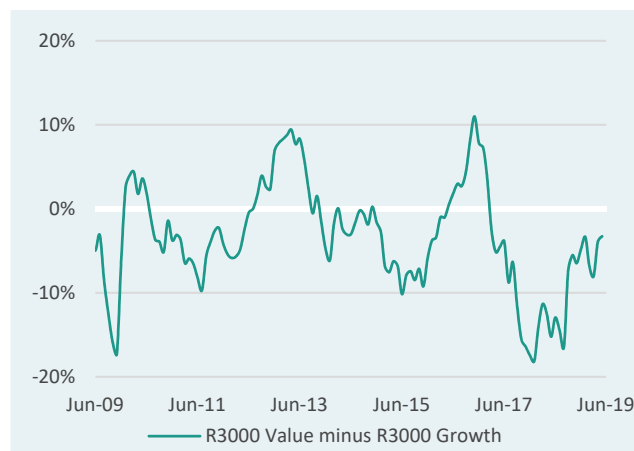
Both small cap and value premia have exhibited underperformance for an extended period of time. Longer periods of underperformance do not necessarily indicate an investment opportunity if value stocks and small cap stocks remain fairly-priced. This appears to be the case today, as neither value stocks nor small cap stocks are particularly cheap by traditional measures.

SMALL CAP VS LARGE CAP (YOY)



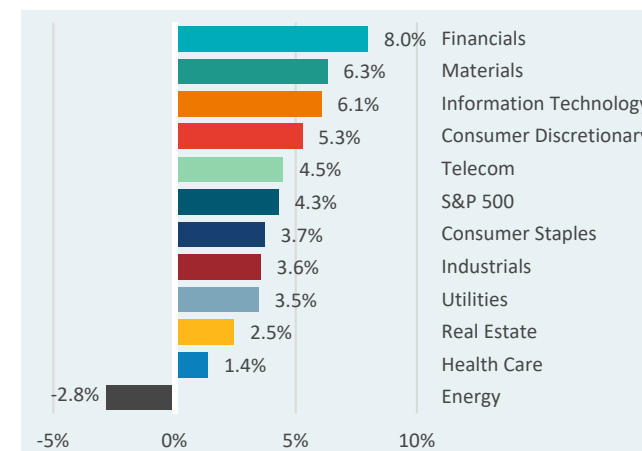
Source: FTSE, as of 6/30/19

VALUE VS GROWTH (YOY)



Source: FTSE, as of 6/30/19

Q2 S&P 500 SECTOR RETURNS



Source: Morningstar, as of 6/30/19

International developed equity

International developed equities posted a second consecutive quarter of solid performance. The MSCI EAFE Index returned +3.9% for the quarter (+14.5% YTD). On a currency hedged basis, the MSCI EAFE Index returned +3.5% for the quarter (+15.2% YTD), indicating that unhedged U.S. investors in EAFE equities benefited from non-dollar exposure over the quarter, but not in the year-to-date.

Japanese equities, which represent about 24% of the MSCI EAFE Index, underperformed, and gained only +0.5% in Q2. Japan's exposure China's economy, which in Q2 grew at its slowest pace in 27 years, likely weighed on performance.

U.K. equities underperformed the international developed equities on an unhedged basis, with the FTSE 100 Index delivering a +3.3% return for the quarter. In U.S. dollar terms, the FTSE 100 Index returned +4.0% in Q2, indicating that the weakness in the British Pound relative to the dollar presented headwinds for unhedged U.S. investors.

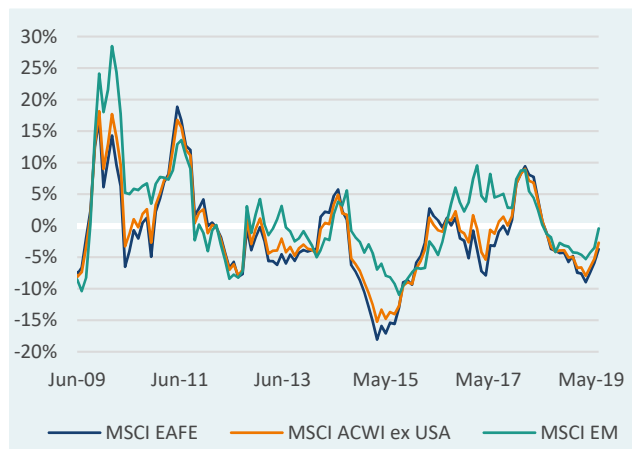
Wage gains and employment have been strong in the U.K., which would typically prompt higher rates and a stronger currency, but the uncertainty surrounding Brexit has likely had a significant impact on the British Pound.

INTERNATIONAL DEVELOPED EQUITIES



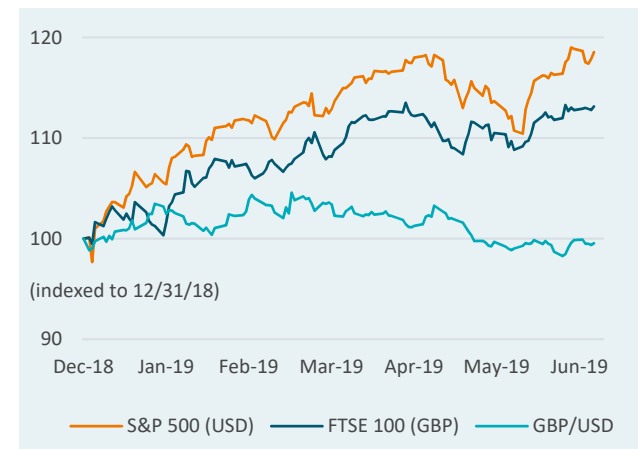
Source: MSCI, as of 6/30/19

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 6/30/19

YTD CUMULATIVE PERFORMANCE (U.S. VS. U.K.)



Source: Bloomberg, as of 6/30/19

Emerging market equity

Emerging market equity performance (MSCI Emerging Markets +0.6%) lagged developed markets (MSCI EAFE +3.7%) over the quarter, while U.S. equities outperformed (Russell 1000 +4.2%). Economists expect emerging market economies to accelerate modestly in 2020 and expect developed economies to slow. This divergence may provide a tailwind to emerging market equity performance. Recent central bank dovishness may also boost returns, as easing conditions have often had an outsized positive impact on the emerging markets.

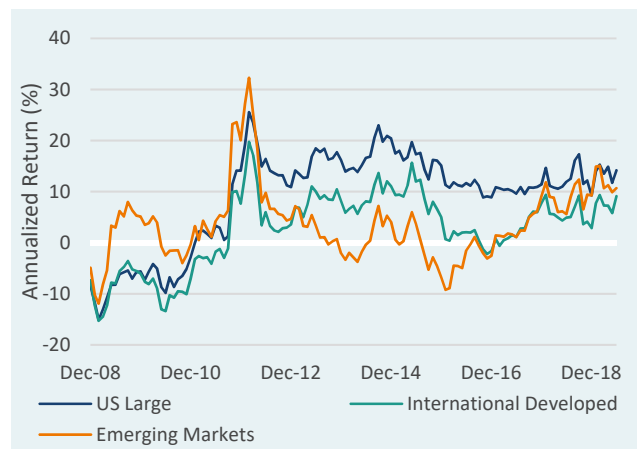
Equity multiples expanded in the second quarter but have

kept near their long-term average - the U.S. being an exception. The divide between U.S. equity valuations and the rest of the world remains wide.

Decelerating global growth and a rising probability of recession presents unique risks to emerging markets, as these markets typically exhibit a higher beta during market downside and upside moves. However, a recession does not appear to be on the immediate horizon, and we believe recent central bank easing may lead to emerging market outperformance in the interim.

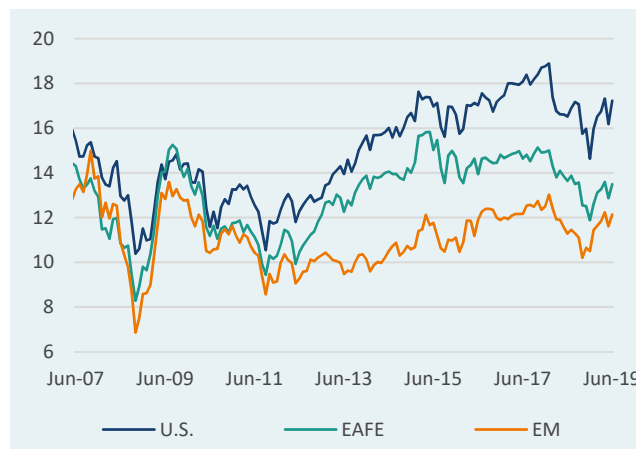
Moderate growth and central bank easing may boost emerging market equities

EQUITY PERFORMANCE (3-YR ROLLING)



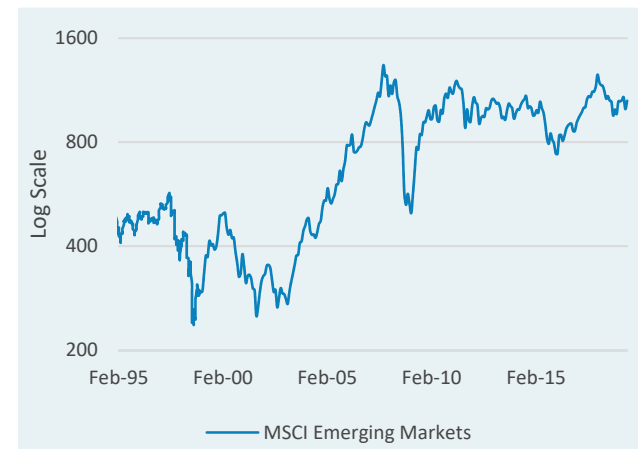
Source: Standard & Poor's, MSCI, as of 6/30/19

FORWARD P/E



Source: MSCI, as of 6/30/19

EMERGING MARKET PERFORMANCE



Source: MSCI, as of 6/30/19

Equity valuations

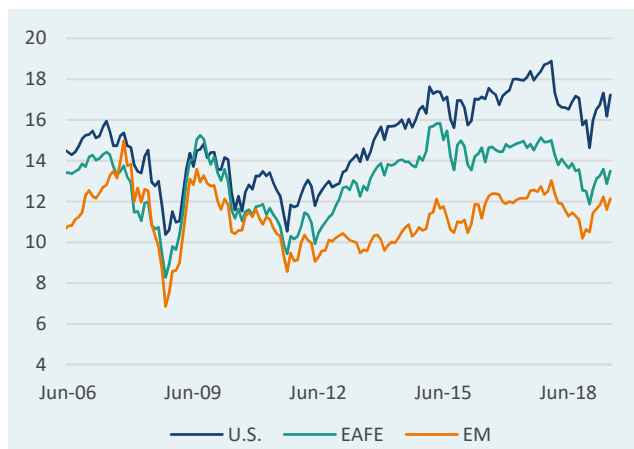
Equity performance in Q2 appears to have been largely driven by higher prices, rather than improved earnings expectations. Valuation expansion of equity markets (U.S., international developed, emerging markets) aligned with performance over the quarter.

The U.S. equity forward P/E multiple sits at 17.2x, with international equities at 13.5x and emerging markets at 12.1x. International and emerging equity valuations remain near their long-term average, while U.S. equities appear expensive relative to history. U.S. equities currently trade at a 27%

forward premium to EAFE equities, and a 42% premium over emerging.

We believe there are reasons that EAFE equity markets warrant cheap valuations, particularly in Europe, but it is difficult to know whether the current valuation gap is justified. As U.S. corporate earnings expectations, business conditions, and economic growth seem to be converging somewhat with the rest of the developed world, investors may begin to question whether such elevated U.S. valuations are appropriate.

FORWARD P/E RATIOS



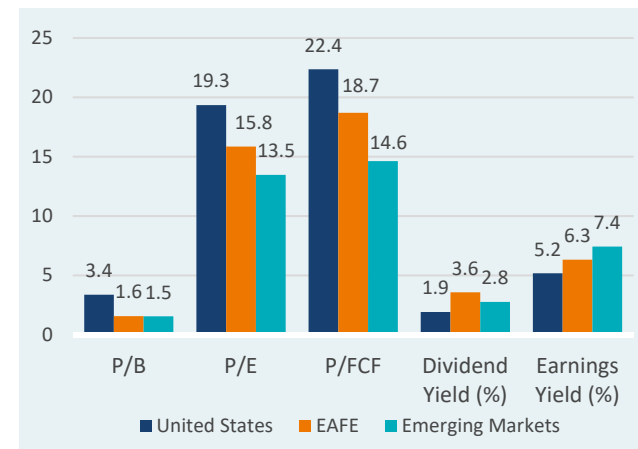
Source: MSCI, as of 6/30/19

U.S. CORPORATE EARNINGS GROWTH (YOY)



Source: Standard & Poor's, as of 6/30/19

VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI as of 6/30/19 - trailing P/E

Equity volatility

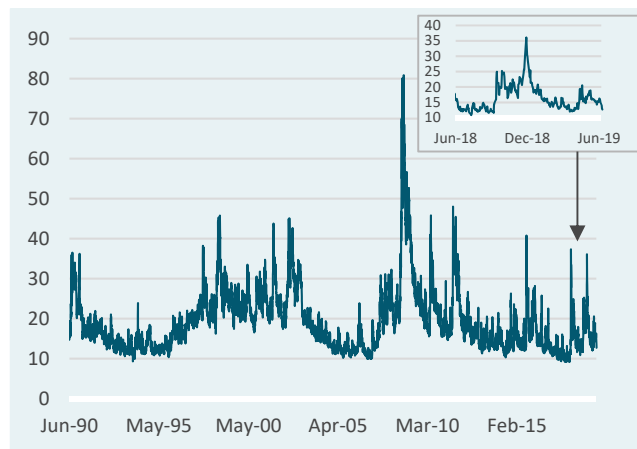
Implied volatility remained depressed over the quarter, as indicated by the VIX Index. Though the implied volatility measure reached as high as 20.6 in the days following the Trump administration's decision to hike tariff rates on Chinese imports, the VIX Index traded mostly below its long-term average. Out of sixty-three trading days in the second quarter, the VIX Index closed above its historical daily average of 19.2 only three times.

The rolling realized 90-day volatility of the S&P 500 Index retreated from 19.5% to 11.4% over the second quarter. At

quarter-end, the 30-day forward implied volatility of the S&P 500 Index exceeded that of the Euro Stoxx 50 Index. Historically, the VIX has traded at a discount to the V2X, the proxy for expected European equity volatility.

Some pundits have expressed concerns about the low levels of realized volatility despite geopolitical and trade conflict. Other investors have argued that a healthy, less-leveraged financial system is the major driver of a low-vol environment, and that the impacts of geopolitics may be overblown.

U.S. IMPLIED VOLATILITY (VIX)



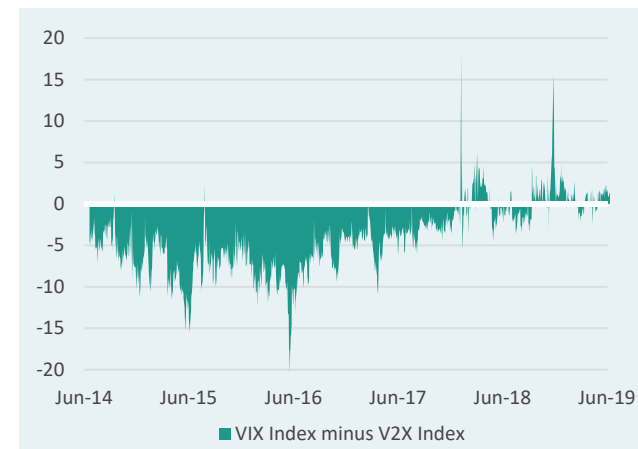
Source: CBOE, as of 6/30/19

REALIZED 90-DAY VOLATILITY



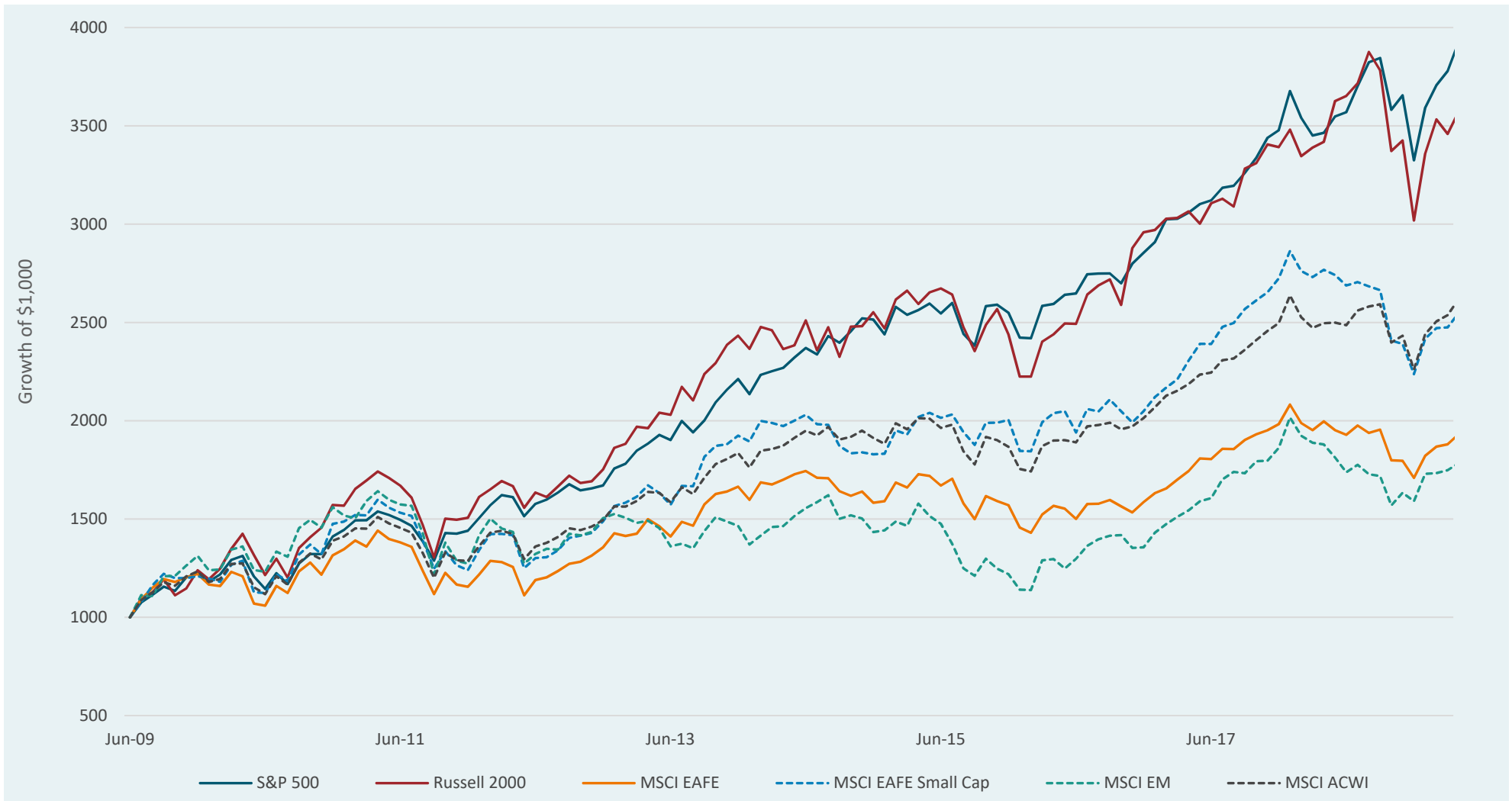
Source: Bloomberg, as of 6/30/19

U.S. IMPLIED VOLATILITY VS. EUROPEAN IMPLIED VOLATILITY



Source: Bloomberg, as of 6/30/19

Long-term equity performance



Source: Morningstar, as of 6/30/19

Other assets

Currency

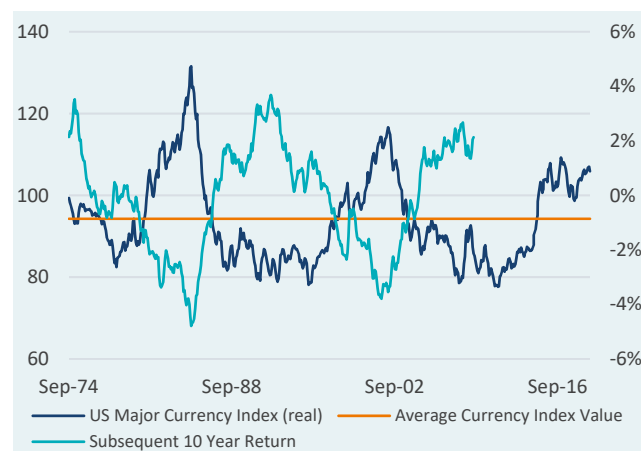
The U.S. dollar depreciated -0.2% in Q2 relative to a trade-weighted basket of currencies. After a period of strength in April and May, the dollar weakened significantly vs. developed currency pairs in June as the Federal Reserve issued dovish guidance. By the end of the quarter, markets were pricing between 0.50% and 0.75% in cuts to the federal funds range in 2019. In Europe, investors were pricing between 0.1% and 0.2% in cuts to the ECB's main deposit rate, which was already in negative territory at -0.40%.

Some analysts attributed the dollar's weakness relative to the euro as a byproduct of converging interest rate differentials driven by the Fed's ability to cut rates more significantly than the ECB.

Emerging market currencies rose in the second quarter, with the JPM Emerging Markets Currency Index gaining 0.5%. The South African Rand led the complex higher.

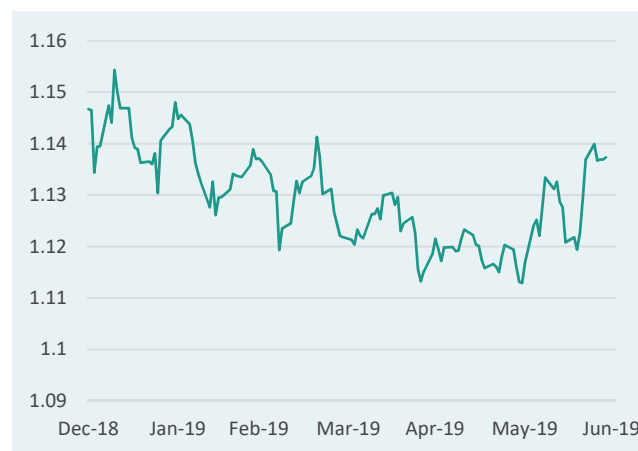
Surprise central bank dovishness has likely contributed to currency movement

U.S. DOLLAR TRADE WEIGHTED INDEX



Source: Federal Reserve, Verus, as of 6/30/19

EUR/USD



Source: Bloomberg, as of 6/30/19

JPM EMERGING MARKET CURRENCY INDEX



Source: Bloomberg, JPMorgan, as of 6/30/19

Hedge funds

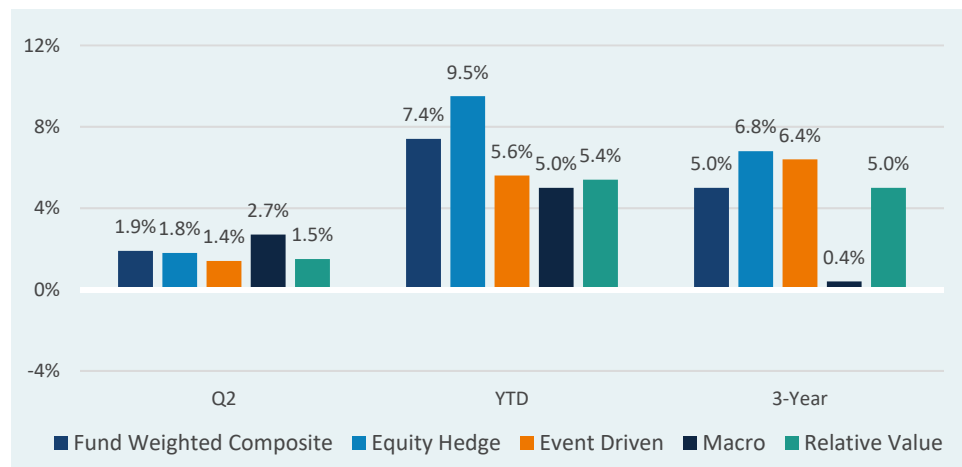
Hedge fund performance was generally positive across strategy types during the second quarter (HFRI Hedge Fund Weighted Composite +1.9% in Q2, +7.4% YTD). This marked the best first half of the year since 2009. Quantitative macro strategies, including CTAs, were the best performing sub strategy group in 2019 Q2 (+2.7%).

Within equities, technology focused funds stood out as top performers (+2.9%) for the quarter. As a group, value-oriented managers (+2.3%) outperformed growth-oriented

peers (+1.6%). Most other strategy types were modestly positive. Healthcare focused strategies (-0.1%) lagged peers due in part to fears of a changing regulatory environment.

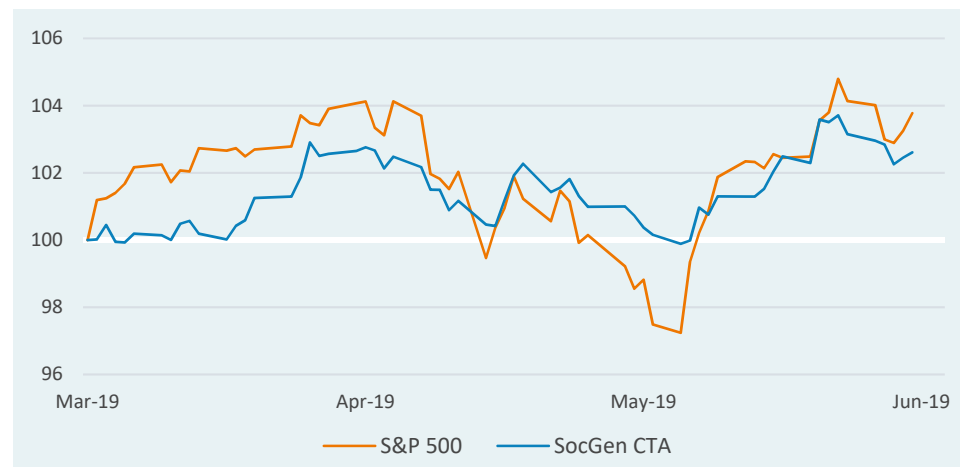
Within the fixed income-oriented strategy set, managers trading corporate bonds (+2.5%) and credit arbitrage (+2.2%) strategies were the best performers during the quarter. Managers trading convertibles (+1.7%), asset backed (+1.4%) and distress (+1.3%) posted more muted gains.

HFRI HEDGE FUND STYLE PERFORMANCE



Source: HFRI, as of 6/30/19

Q2 2019 CUMULATIVE PERFORMANCE (INDEXED TO 3/31/19)



Source: Standard & Poor's, Société Générale, as of 6/30/19

Appendix

Periodic table of returns

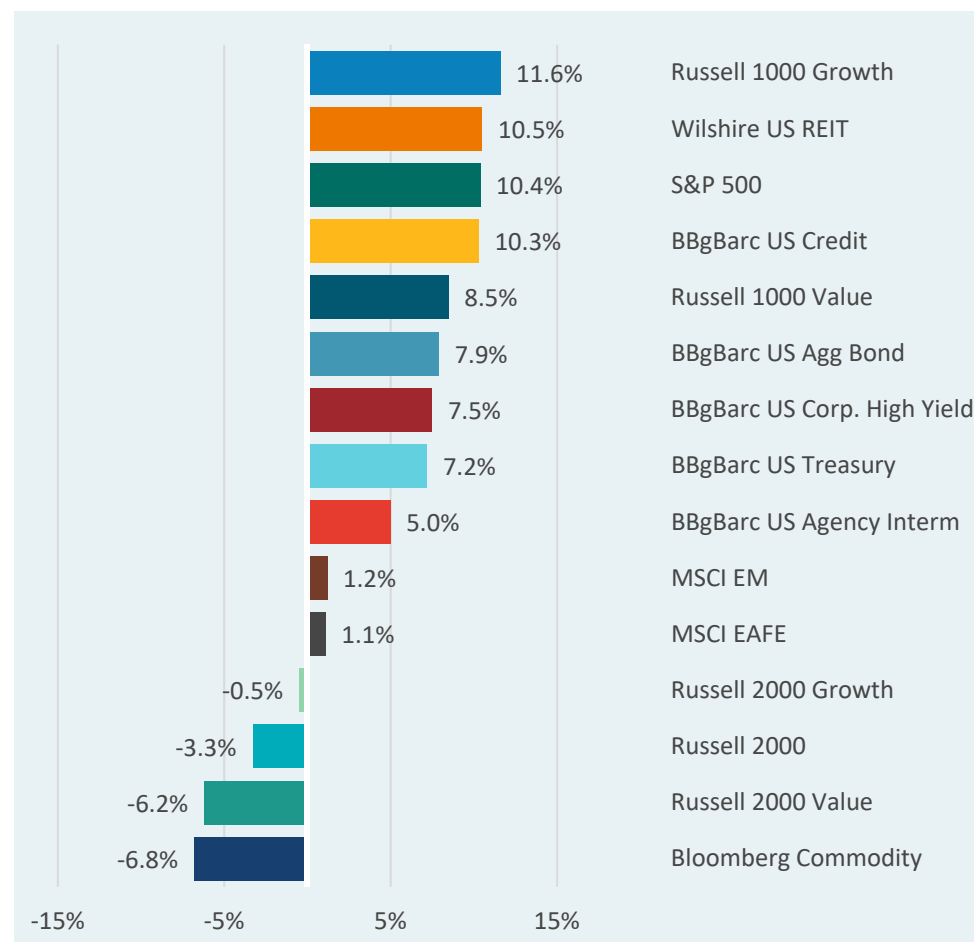
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD	5-Year	10-Year
Large Cap Growth	38.7	66.4	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	21.5	13.4	16.3
Small Cap Growth	27.0	43.1	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	20.4	10.5	14.8
Large Cap Equity	20.3	33.2	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	18.8	8.6	14.4
Small Cap Equity	19.3	27.3	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	17.0	8.5	13.4
Large Cap Value	16.2	26.5	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	16.2	7.5	13.2
International Equity	15.6	24.3	6.0	2.5	-5.9	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	-4.8	14.0	7.1	12.4
Small Cap Value	8.7	21.3	4.1	-2.4	-6.0	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	-6.0	13.5	5.4	9.1
60/40 Global Portfolio	4.9	20.9	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	12.0	4.3	7.4
Emerging Markets Equity	1.2	13.2	-7.3	-9.1	-15.5	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	10.6	2.9	6.9
Hedge Funds of Funds	-2.5	11.4	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	6.3	2.5	5.8
US Bonds	-5.1	7.3	-14.0	-12.4	-20.5	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	6.1	2.2	3.9
Commodities	-6.5	4.8	-22.4	-19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	5.1	2.2	3.2
Real Estate	-25.3	-0.8	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	1.8	0.9	0.5
Cash	-27.0	-1.5	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	1.2	-9.1	-3.7

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

Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 3/31/19.

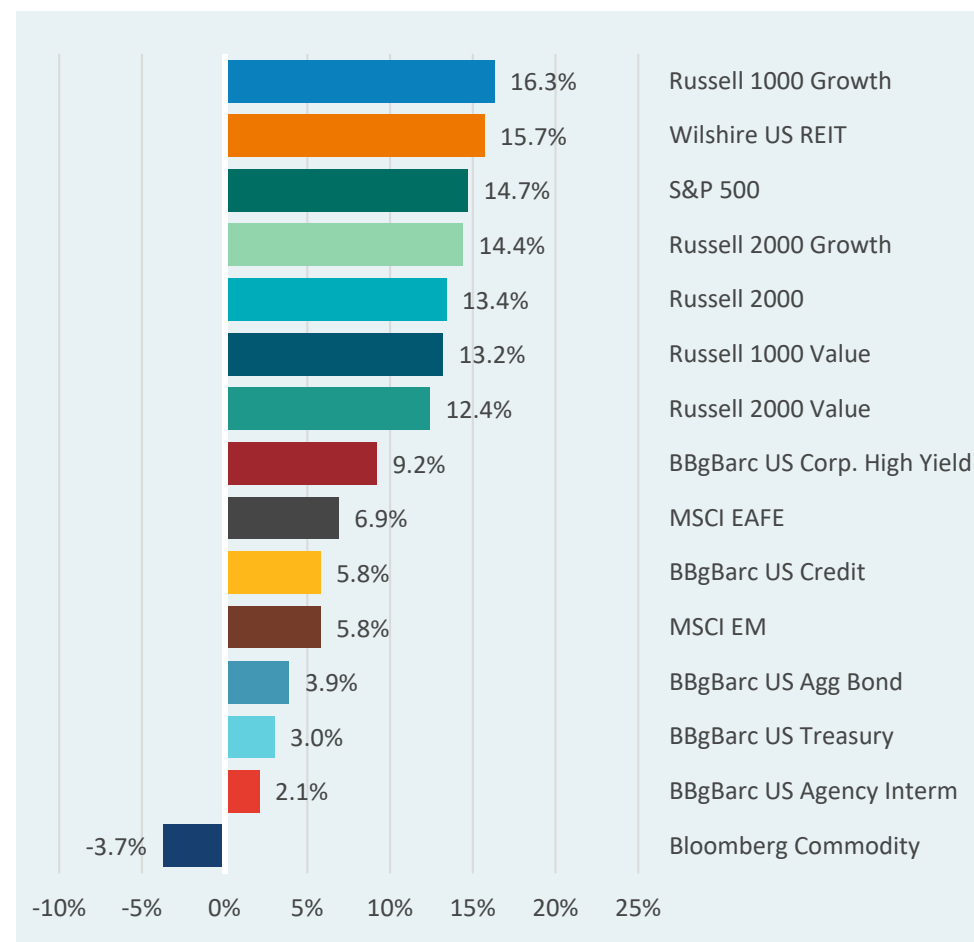
Major asset class returns

ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/19

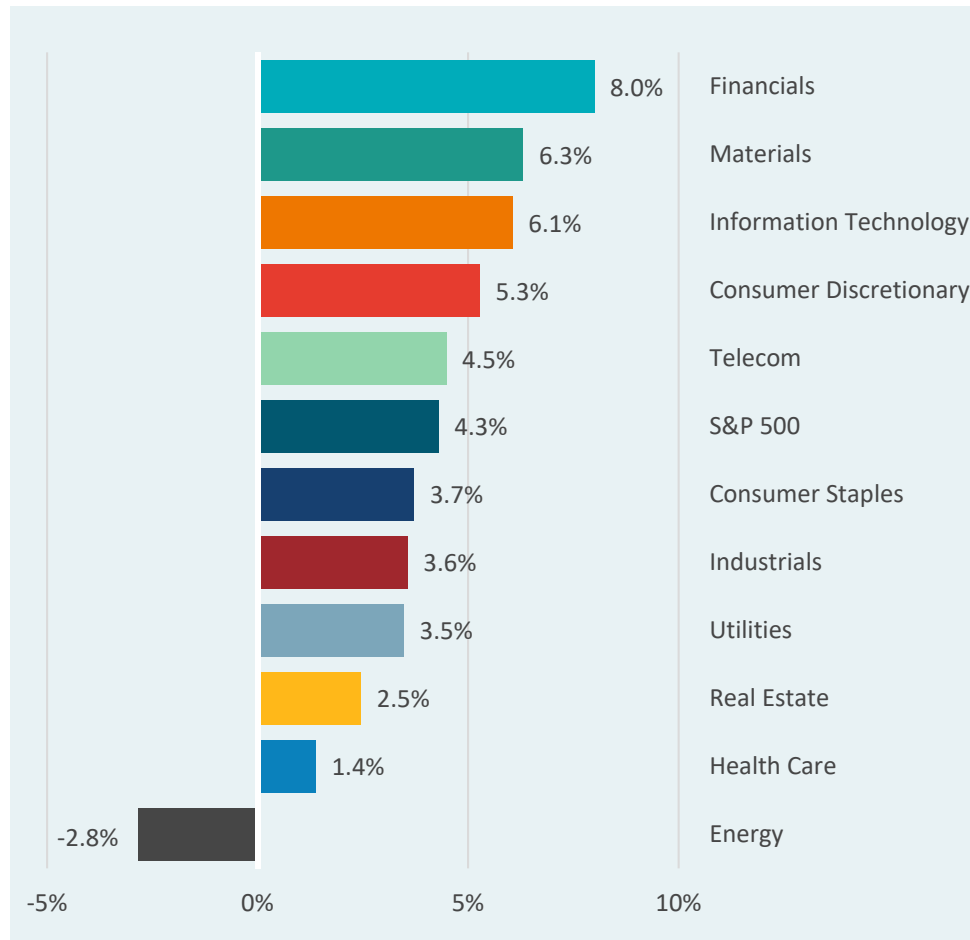
TEN YEARS ENDING JUNE



Source: Morningstar, as of 6/30/19

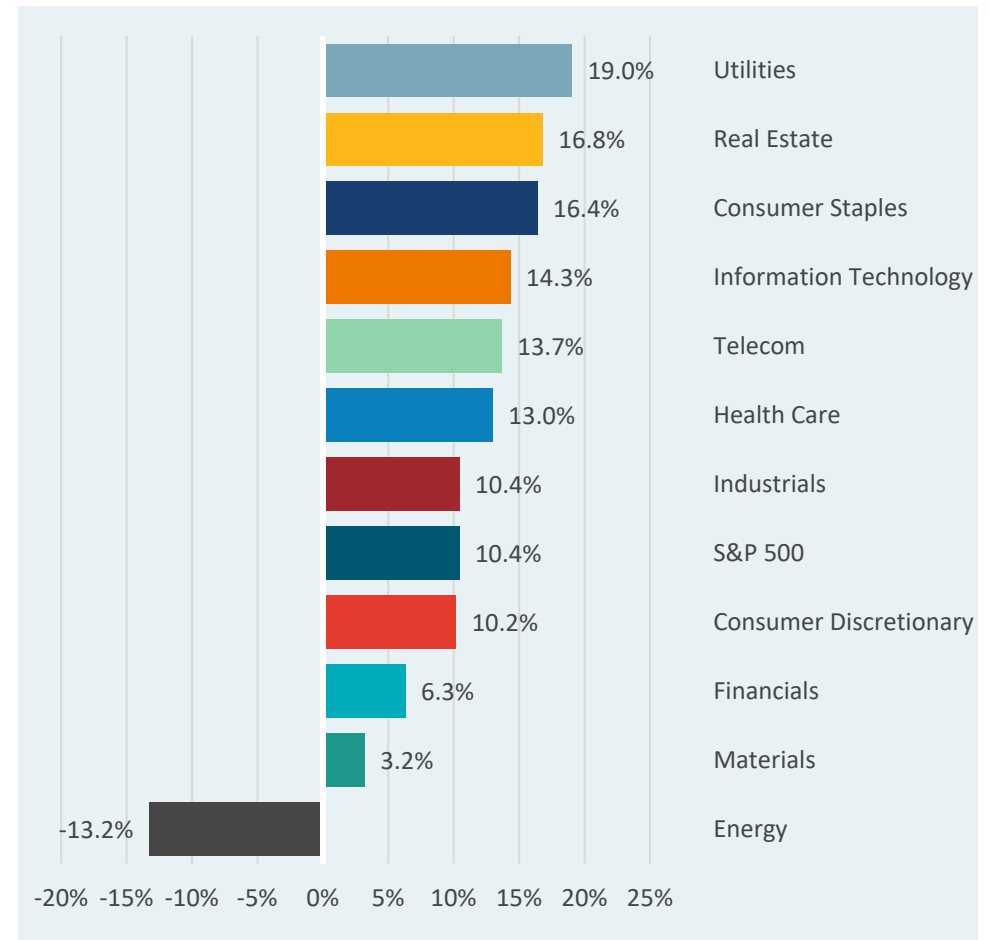
S&P 500 sector returns

Q2



Source: Morningstar, as of 6/30/19

ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/19

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	7.0	4.3	18.5	10.4	14.2	10.7	14.7
S&P 500 Equal Weighted	7.5	3.7	19.2	8.2	12.4	9.1	15.6
DJ Industrial Average	7.3	3.2	15.4	12.2	16.8	12.3	15.0
Russell Top 200	7.1	4.3	17.9	10.9	14.9	11.2	14.6
Russell 1000	7.0	4.2	18.8	10.0	14.1	10.5	14.8
Russell 2000	7.1	2.1	17.0	(3.3)	12.3	7.1	13.4
Russell 3000	7.0	4.1	18.7	9.0	14.0	10.2	14.7
Russell Mid Cap	6.9	4.1	21.3	7.8	12.2	8.6	15.2
Style Index							
Russell 1000 Growth	6.9	4.6	21.5	11.6	18.1	13.4	16.3
Russell 1000 Value	7.2	3.8	16.2	8.5	10.2	7.5	13.2
Russell 2000 Growth	7.7	2.7	20.4	(0.5)	14.7	8.6	14.4
Russell 2000 Value	6.4	1.4	13.5	(6.2)	9.8	5.4	12.4

INTERNATIONAL EQUITY

Broad Index							
MSCI ACWI	6.5	3.6	16.2	5.7	11.6	6.2	10.1
MSCI ACWI ex US	6.0	3.0	13.6	1.3	9.4	2.2	6.5
MSCI EAFE	5.9	3.7	14.0	1.1	9.1	2.2	6.9
MSCI EM	6.2	0.6	10.6	1.2	10.7	2.5	5.8
MSCI EAFE Small Cap	4.2	1.7	12.5	(6.3)	9.1	4.4	9.7
Style Index							
MSCI EAFE Growth	6.5	5.7	18.5	4.2	9.7	4.4	8.2
MSCI EAFE Value	5.3	1.5	9.6	(2.1)	8.5	0.1	5.5
Regional Index							
MSCI UK	5.0	0.9	12.9	(2.0)	6.9	(0.3)	6.8
MSCI Japan	3.7	1.0	7.7	(4.2)	8.1	4.5	5.8
MSCI Euro	7.6	5.9	16.2	0.5	10.4	1.1	5.6
MSCI EM Asia	6.4	(1.2)	9.7	(2.3)	11.2	4.5	7.5
MSCI EM Latin American	6.2	4.4	12.6	18.4	10.8	(0.8)	2.3

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
BBgBarc US TIPS	0.9	2.9	6.2	4.8	2.1	1.8	3.6
BBgBarc US Treasury Bills	0.2	0.7	1.3	2.4	1.4	0.9	0.5
BBgBarc US Agg Bond	1.3	3.1	6.1	7.9	2.3	2.9	3.9
Duration							
BBgBarc US Treasury 1-3 Yr	0.5	1.5	2.5	4.0	1.3	1.2	1.2
BBgBarc US Treasury Long	1.3	6.0	11.0	12.3	1.3	5.7	6.5
BBgBarc US Treasury	0.9	3.0	5.2	7.2	1.3	2.5	3.0
Issuer							
BBgBarc US MBS	0.7	2.0	4.2	6.2	2.1	2.6	3.2
BBgBarc US Corp. High Yield	2.3	2.5	9.9	7.5	7.5	4.7	9.2
BBgBarc US Agency Interm	0.6	1.7	3.1	5.0	1.6	1.8	2.1
BBgBarc US Credit	2.3	4.3	9.4	10.3	3.7	3.9	5.8

OTHER

Index							
Bloomberg Commodity	2.7	(1.2)	5.1	(6.8)	(2.2)	(9.1)	(3.7)
Wilshire US REIT	1.4	1.6	17.9	10.5	4.1	7.8	15.7
CS Leveraged Loans	0.2	1.6	5.4	4.1	5.4	3.9	6.3
Alerian MLP	2.6	0.3	17.8	5.5	(0.4)	(6.5)	9.1
Regional Index							
JPM EMBI Global Div	3.4	4.1	11.3	12.4	5.5	5.3	7.8
JPM GBI-EM Global Div	5.5	5.6	8.7	9.0	4.2	(0.5)	3.4
Hedge Funds							
HFRI Composite	2.6	2.0	7.6	1.6	5.1	3.0	4.7
HFRI FOF Composite	1.7	1.6	6.3	1.3	4.3	2.2	3.2
Currency (Spot)							
Euro	2.2	1.4	(0.4)	(2.5)	0.8	(3.6)	(2.1)
Pound	1.0	(2.3)	(0.1)	(3.6)	(1.6)	(5.7)	(2.5)
Yen	0.8	2.7	1.8	2.8	(1.6)	(1.2)	(1.1)

Source: Morningstar, HFR, as of 6/30/19

Definitions

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

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

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

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Stanislaus County Employees' Retirement Association

Investment Performance Review

Period Ending: June 30, 2019



VERUSINVESTMENTS.COM

SEATTLE 206-622-3700

LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

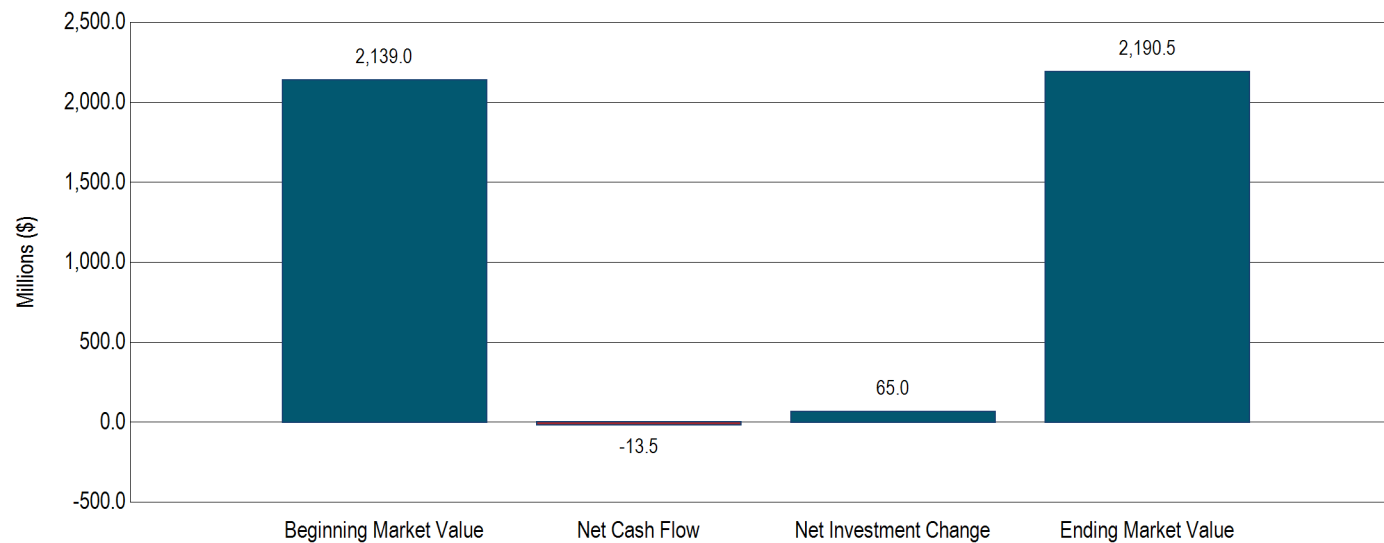
Total Fund Portfolio Reconciliation

Period Ending: June 30, 2019

Portfolio Reconciliation

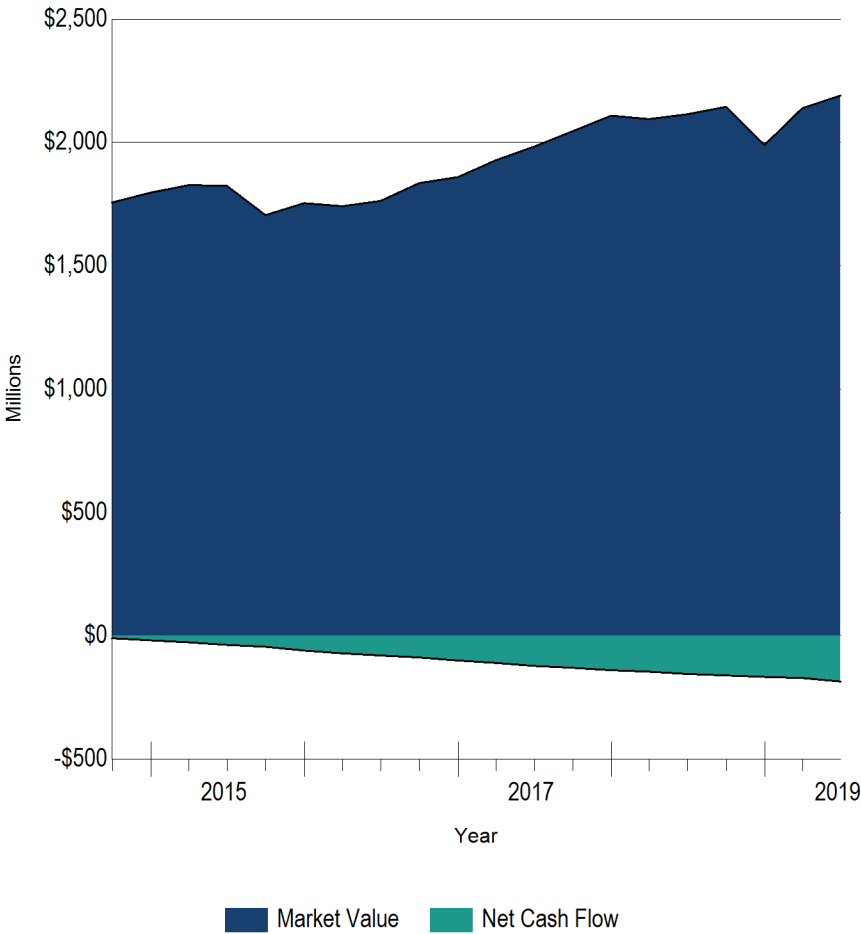
	Last Three Months	Fiscal Year-To-Date	Year-To-Date
Beginning Market Value	\$2,139,018,637	\$2,114,397,932	\$1,989,872,398
Net Cash Flow	-\$13,535,521	-\$27,571,828	-\$17,225,867
Net Investment Change	\$64,973,285	\$103,630,298	\$217,809,870
Ending Market Value	\$2,190,456,401	\$2,190,456,401	\$2,190,456,401

Change in Market Value Last Three Months

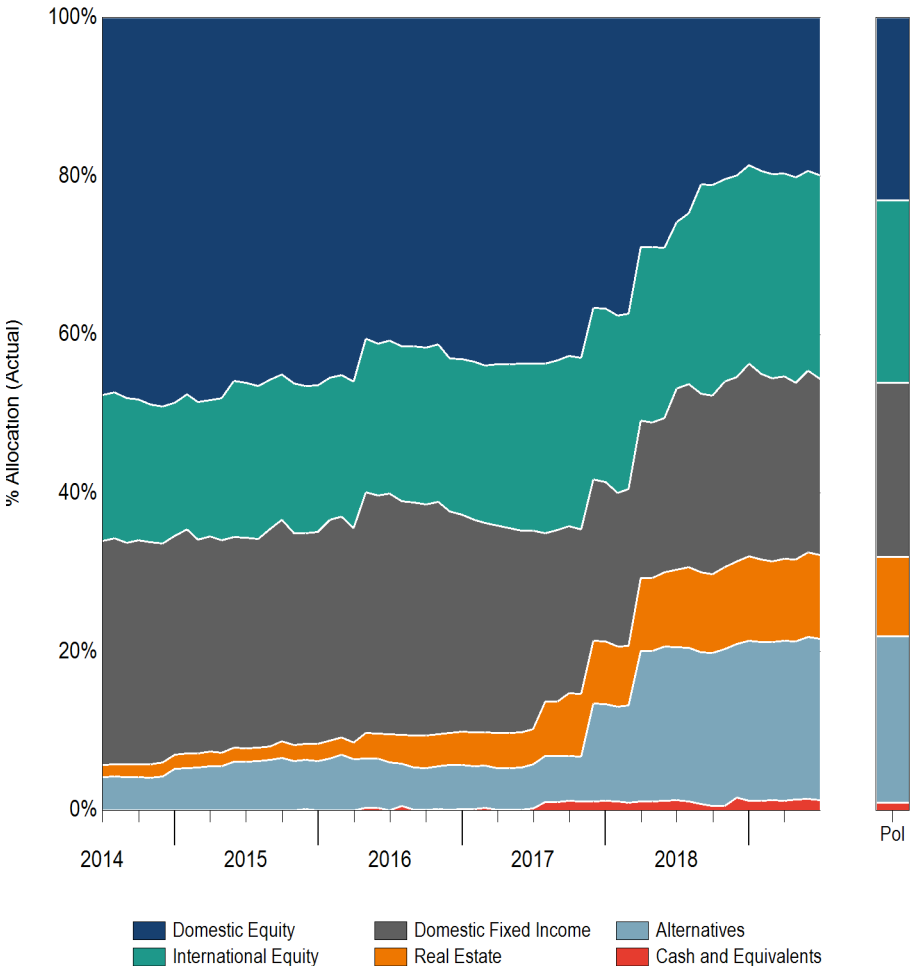


Contributions and withdrawals may include intra-account transfers between managers/funds.

Market Value History
Cumulative Cash Flows

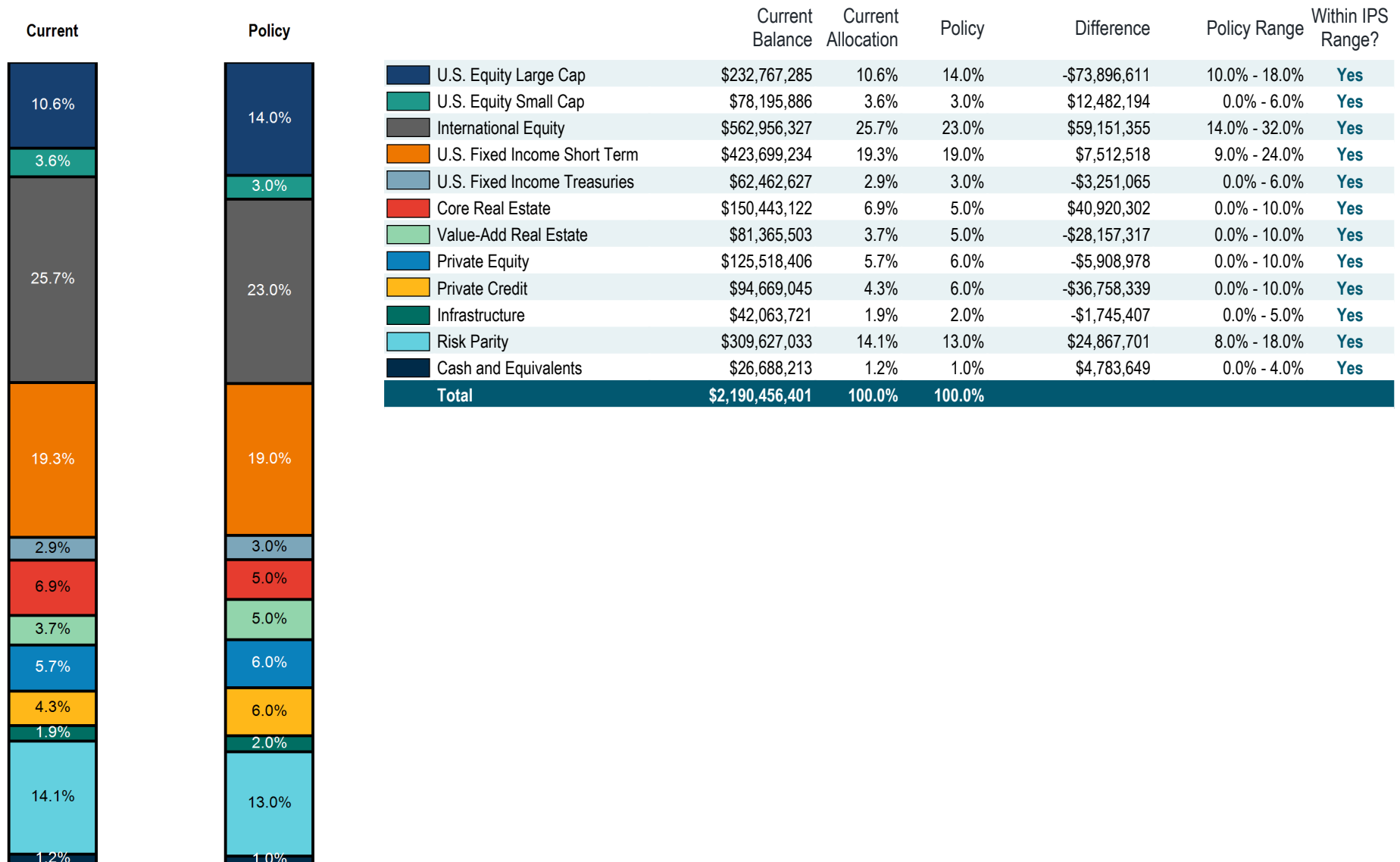


Asset Allocation History



Total Fund Asset Allocation vs. Policy

Period Ending: June 30, 2019



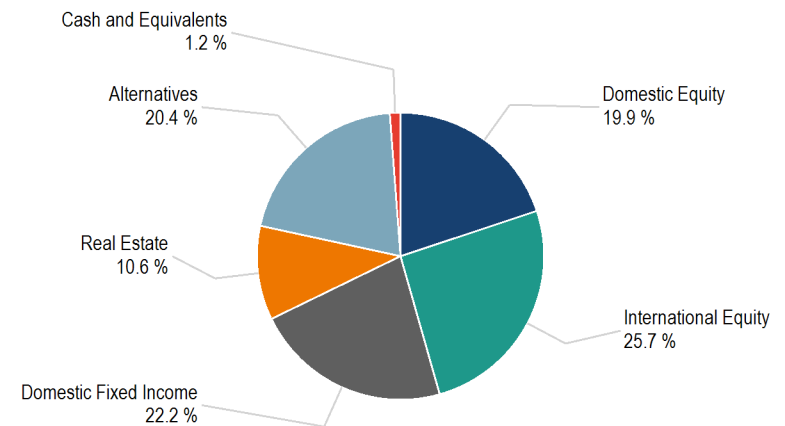
Cash Account includes cash held at Northern Trust for all closed end funds. Russell 3000 Index serving as proxy for Private Equity while capital is being called. International Equity policy target consists of 21% international developed and 6% emerging markets.

Total Fund Executive Summary (Gross of Fees)

Period Ending: June 30, 2019

	QTD	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	3.1	11.0	5.4	5.4	9.5	6.2	10.1
Policy Index	2.9	10.5	5.9	5.9	8.3	6.0	9.4
InvMetrics Public DB Gross Rank	58	68	72	72	22	38	11
US Equity	3.8	18.0	7.8	7.8	14.5	9.6	14.7
US Equity Blended	3.8	18.5	7.3	7.3	13.8	9.8	14.6
Russell 3000	4.1	18.7	9.0	9.0	14.0	10.2	14.7
InvMetrics All DB US Eq Gross Rank	71	71	53	53	26	56	30
International Equity	2.9	13.1	-0.4	-0.4	9.6	2.8	7.8
MSCI ACWI ex USA Gross	3.2	14.0	1.8	1.8	9.9	2.6	7.0
InvMetrics All DB ex-US Eq Gross Rank	51	71	65	65	41	50	34
US Fixed Income	2.3	4.9	6.6	6.6	3.3	3.4	5.2
BBgBarc US Aggregate TR	3.1	6.1	7.9	7.9	2.3	2.9	3.9
InvMetrics All DB US Fix Inc Gross Rank	82	81	77	77	49	45	49
Real Estate	1.5	5.8	7.3	7.3	6.6	9.5	10.5
DJ US Select RESI	0.8	16.7	9.8	9.8	3.7	7.6	12.2
Private Credit	1.5	3.7	4.3	4.3	3.8	4.9	--
S&P/LSTA Leveraged Loan Index+2%	2.2	6.8	6.0	6.0	7.3	5.7	--
Risk Parity	5.3	16.7	9.7	9.7	--	--	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate	3.6	12.0	6.1	6.1	--	--	--
Infrastructure	3.9	7.5	12.4	12.4	13.6	--	--
CPI + 5%	2.0	4.5	6.7	6.7	7.1	--	--

Current Allocation



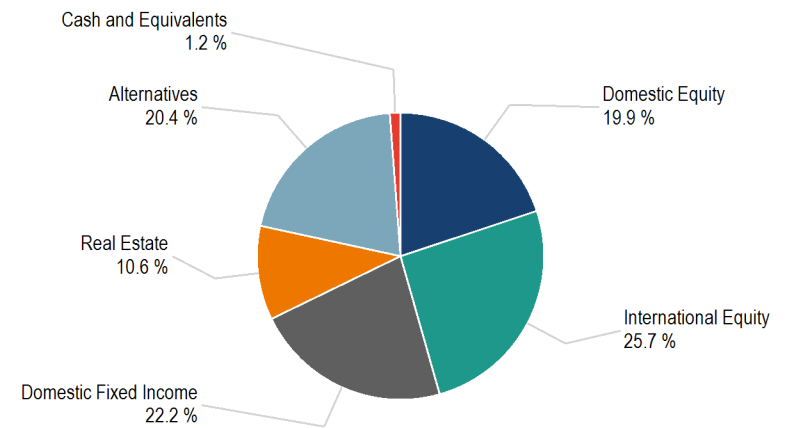
Policy Index (5/31/2019): 14% Russell 1000, 3% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 19% BBgBarc US Gov't / Credit 1-3 Yr, 3% BBgBarc US Treasury 7-10 Yr, 5% NCREIF Property, 5% NCREIF Property +2%, 2% CPI +5%, 6% S&P / LSTA Leveraged Loan Index + 2%, 13% 60% MSCI ACWI / 40% BBgBarc Global Aggregate, 1% Citi 1 Month T-Bills. US Equity Blended: 60% Russell 1000, 15% Russell 2000, 25% Russell 3000 + 3%.

Total Fund Executive Summary (Net of Fees)

Period Ending: June 30, 2019

	QTD	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	3.0	10.9	5.1	5.1	9.1	5.8	9.8
<i>Policy Index</i>	2.9	10.5	5.9	5.9	8.3	6.0	9.4
US Equity	3.8	17.9	7.6	7.6	14.3	9.3	14.4
<i>US Equity Blended</i>	3.8	18.5	7.3	7.3	13.8	9.8	14.6
<i>Russell 3000</i>	4.1	18.7	9.0	9.0	14.0	10.2	14.7
International Equity	2.8	12.9	-0.8	-0.8	9.2	2.4	7.3
<i>MSCI ACWI ex USA Gross</i>	3.2	14.0	1.8	1.8	9.9	2.6	7.0
US Fixed Income	2.3	4.8	6.5	6.5	3.2	3.3	5.0
<i>BBgBarc US Aggregate TR</i>	3.1	6.1	7.9	7.9	2.3	2.9	3.9
Real Estate	1.3	5.4	6.6	6.6	5.9	8.5	9.5
<i>DJ US Select RESI</i>	0.8	16.7	9.8	9.8	3.7	7.6	12.2
Private Credit	1.4	3.5	3.7	3.7	3.0	3.5	--
<i>S&P/LSTA Leveraged Loan Index+2%</i>	2.2	6.8	6.0	6.0	7.3	5.7	--
Risk Parity	5.2	16.5	9.3	9.3	--	--	--
<i>60% MSCI ACWI Net/40% BBgBarc Global Aggregate</i>	3.6	12.0	6.1	6.1	--	--	--
Infrastructure	3.9	7.5	12.4	12.4	11.9	--	--
<i>CPI + 5%</i>	2.0	4.5	6.7	6.7	7.1	--	--

Current Allocation



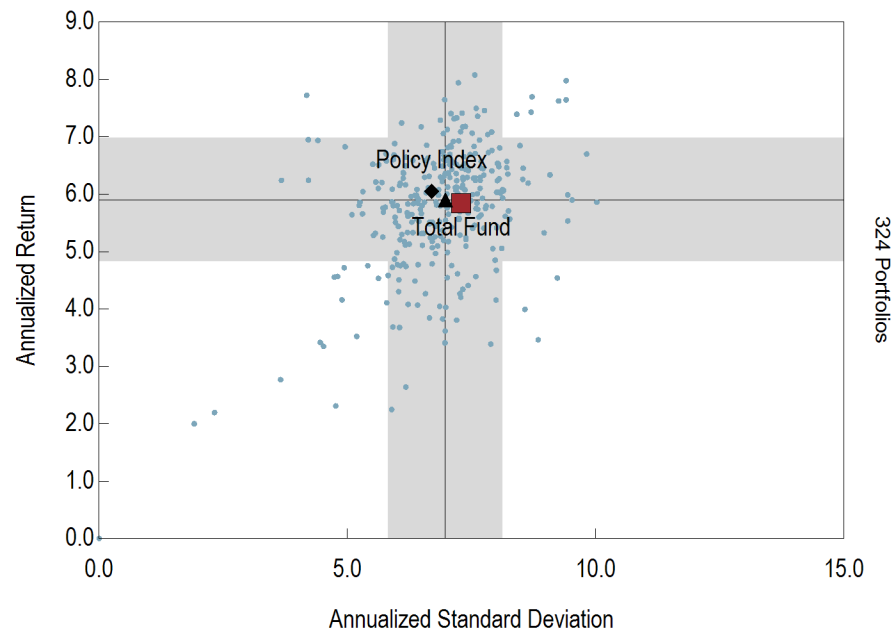
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Total Fund Risk Analysis - 5 Years (Net of Fees)

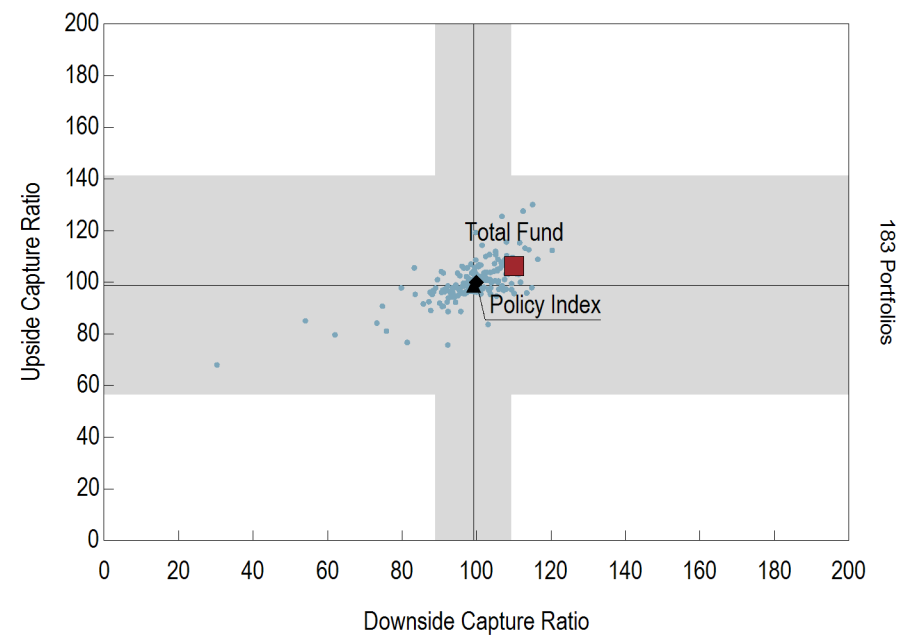
Period Ending: June 30, 2019

	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	5.85%	-0.20%	7.29%	-0.63%	1.07	1.37%	0.97	0.68	-0.15	106.26%	110.06%
Policy Index	6.05%	0.00%	6.70%	0.00%	1.00	0.00%	1.00	0.77	--	100.00%	100.00%

Risk vs. Return



Up Markets vs. Down Markets



Total Fund Performance Summary (Gross of Fees)

Period Ending: June 30, 2019

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014	Inception	Inception Date
Total Fund	2,190,456,401	100.0	3.1	11.0	5.4	5.4	9.5	6.2	10.1	-4.1	15.7	8.3	-0.2	6.9	9.2	Dec-94
Policy Index			2.9	10.5	5.9	5.9	8.3	6.0	9.4	-3.7	14.3	8.5	0.2	7.5	8.0	Dec-94
InvMetrics Public DB Gross Rank			58	68	72	72	22	38	11	53	43	29	60	23		
US Equity	436,481,577	19.9	3.8	18.0	7.8	7.8	14.5	9.6	14.7	-5.0	19.7	12.4	-0.2	10.9	7.6	Jun-01
US Equity Blended			3.8	18.5	7.3	7.3	13.8	9.8	14.6	-6.0	20.3	13.9	-0.1	11.6	7.5	Jun-01
Russell 3000			4.1	18.7	9.0	9.0	14.0	10.2	14.7	-5.2	21.1	12.7	0.5	12.6	7.4	Jun-01
InvMetrics All DB US Eq Gross Rank			71	71	53	53	26	56	30	25	72	58	63	54		
Northern Trust Russell 3000	125,518,406	5.7	4.1	18.7	--	--	--	--	--	--	--	--	--	--	18.7	Dec-18
Russell 3000			4.1	18.7	--	--	--	--	--	--	--	--	--	--	18.7	Dec-18
eV US Large Cap Equity Gross Rank			53	44	--	--	--	--	--	--	--	--	--	--		
BlackRock Russell 1000 Growth	126,125,814	5.8	4.6	21.5	11.6	11.6	18.1	13.4	--	-1.5	30.2	7.2	5.7	13.1	16.6	Jun-10
Russell 1000 Growth			4.6	21.5	11.6	11.6	18.1	13.4	--	-1.5	30.2	7.1	5.7	13.0	16.6	Jun-10
eV US Large Cap Growth Equity Gross Rank			62	53	54	54	49	39	--	57	42	26	42	37		
BlackRock Russell 1000 Value	28,601,000	1.3	3.8	16.3	8.6	8.6	10.3	7.6	--	-8.1	13.8	17.3	-3.6	13.5	12.6	Jul-09
Russell 1000 Value			3.8	16.2	8.5	8.5	10.2	7.5	--	-8.3	13.7	17.3	-3.8	13.5	12.4	Jul-09
eV US Large Cap Value Equity Gross Rank			49	40	33	33	70	58	--	46	86	26	62	31		
Dodge & Cox-Equity	78,040,471	3.6	2.6	12.7	4.3	4.3	14.1	8.4	14.2	-6.3	17.1	21.4	-3.9	10.9	12.0	Dec-94
Russell 1000 Value			3.8	16.2	8.5	8.5	10.2	7.5	13.2	-8.3	13.7	17.3	-3.8	13.5	9.9	Dec-94
eV US Large Cap Value Equity Gross Rank			76	89	71	71	7	39	26	29	52	6	64	72		
Capital Prospects	78,195,886	3.6	3.4	17.6	-5.0	-5.0	11.7	6.5	14.1	-16.1	15.5	28.1	-7.0	5.8	13.9	Dec-08
Russell 2000 Value			1.4	13.5	-6.2	-6.2	9.8	5.4	12.4	-12.9	7.8	31.7	-7.5	4.2	11.2	Dec-08
eV US Small Cap Value Equity Gross Rank			27	25	52	52	25	38	45	71	18	40	72	51		
International Equity	562,956,327	25.7	2.9	13.1	-0.4	-0.4	9.6	2.8	7.8	-15.5	27.9	6.0	-3.5	-4.2	5.8	Jun-01
MSCI ACWI ex USA Gross			3.2	14.0	1.8	1.8	9.9	2.6	7.0	-13.8	27.8	5.0	-5.3	-3.4	6.1	Jun-01
InvMetrics All DB ex-US Eq Gross Rank			51	71	65	65	41	50	34	63	61	21	50	70		
LSV Asset Mgt	275,362,843	12.6	1.9	10.9	-2.2	-2.2	9.9	2.1	7.7	-16.4	28.2	8.8	-5.1	-4.0	6.6	Aug-04
MSCI ACWI ex USA Gross			3.2	14.0	1.8	1.8	9.9	2.6	7.0	-13.8	27.8	5.0	-5.3	-3.4	6.6	Aug-04
eV ACWI ex-US Equity Unhedged Gross Rank			76	85	75	75	53	77	75	67	67	10	86	65		
Fidelity	287,593,484	13.1	3.9	15.4	1.3	1.3	9.2	3.3	7.8	-14.5	27.3	2.4	-2.0	-4.5	4.1	Apr-06
MSCI ACWI ex USA Gross			3.2	14.0	1.8	1.8	9.9	2.6	7.0	-13.8	27.8	5.0	-5.3	-3.4	3.6	Apr-06
eV ACWI ex-US Equity Unhedged Gross Rank			43	47	41	41	67	60	73	45	74	46	66	70		

Northern Trust Russell 3000 replaced Northern Trust Russell 1000 on 12/13/18. Individual closed end funds and cash account are not shown in performance summary table.

Total Fund Performance Summary (Gross of Fees)

Period Ending: June 30, 2019

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014	Inception	Inception Date
US Fixed Income	486,161,861	22.2	2.3	4.9	6.6	6.6	3.3	3.4	5.2	1.1	3.9	5.4	0.3	6.2	5.6	Jun-01
BBgBarc US Aggregate TR			3.1	6.1	7.9	7.9	2.3	2.9	3.9	0.0	3.5	2.6	0.6	6.0	4.6	Jun-01
InvMetrics All DB US Fix Inc Gross Rank			82	81	77	77	49	45	49	18	68	47	42	42		
Insight	234,079,318	10.7	2.7	5.8	7.3	7.3	--	--	--	0.7	--	--	--	--	3.6	Jun-17
BBgBarc US Govt/Credit 1-3 Yr. TR			1.5	2.7	4.3	4.3	--	--	--	1.6	--	--	--	--	2.2	Jun-17
eV US Short Duration Fixed Inc Gross Rank			1	1	1	1	--	--	--	99	--	--	--	--		
DFA	189,619,916	8.7	1.6	3.7	5.6	5.6	--	--	--	1.3	--	--	--	--	2.6	Jul-17
BBgBarc US Govt/Credit 1-3 Yr. TR			1.5	2.7	4.3	4.3	--	--	--	1.6	--	--	--	--	2.2	Jul-17
eV US Short Duration Fixed Inc Gross Rank			39	17	13	13	--	--	--	88	--	--	--	--		
Northern Trust Intermediate Gov't Bond	45,938,526	2.1	2.4	4.0	6.2	6.2	--	--	--	1.5	--	--	--	--	2.6	Jul-17
BBgBarc US Govt Int TR			2.3	4.0	6.2	6.2	--	--	--	1.4	--	--	--	--	2.6	Jul-17
eV US Government Fixed Inc Gross Rank			64	84	73	73	--	--	--	44	--	--	--	--		
Northern Trust Long Term Gov't Bond	16,524,101	0.8	6.0	10.9	12.3	12.3	--	--	--	-1.7	--	--	--	--	6.6	Jul-17
BBgBarc US Govt Long TR			6.0	10.9	12.3	12.3	--	--	--	-1.8	--	--	--	--	6.5	Jul-17
US Long Duration Fixed Income Rank			67	71	71	71	--	--	--	24	--	--	--	--		
Real Estate	231,808,625	10.6	1.5	5.8	7.3	7.3	6.6	9.5	10.5	4.8	8.2	7.6	12.1	28.3	4.6	Feb-08
DJ US Select RESI			0.8	16.7	9.8	9.8	3.7	7.6	12.2	-4.2	3.8	6.6	4.5	31.9	5.6	Feb-08
Prime Property Fund	57,246,950	2.6	2.1	3.7	8.4	8.4	9.4	--	--	9.1	9.9	10.4	--	--	9.8	Sep-15
NCREIF-ODCE			1.0	2.4	6.4	6.4	7.6	--	--	8.3	7.6	8.8	--	--	8.2	Sep-15
American Strategic Value Realty	51,666,921	2.4	1.9	4.6	8.5	8.5	10.7	--	--	10.2	11.5	13.1	21.4	--	13.4	Dec-14
NCREIF Property Index			1.5	3.3	6.5	6.5	6.9	--	--	6.7	7.0	8.0	13.3	--	8.5	Dec-14
BlackRock US Real Estate	37,095,763	1.7	0.8	16.7	9.8	9.8	3.8	7.6	--	-4.1	3.8	6.6	4.4	31.9	8.8	Sep-12
DJ US Select RESI TR USD			0.8	16.7	9.8	9.8	3.7	7.6	--	-4.2	3.8	6.6	4.5	31.9	8.8	Sep-12
eV US REIT Gross Rank			87	89	86	86	83	80	--	41	90	68	58	39		
Risk Parity	309,627,033	14.1	5.3	16.7	9.7	9.7	--	--	--	-6.6	--	--	--	--	6.4	Nov-17
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			3.6	12.0	6.1	6.1	--	--	--	-6.0	--	--	--	--	4.0	Nov-17
AQR Global Risk Premium - EL	155,849,402	7.1	5.2	15.8	8.8	8.8	--	--	--	--	--	--	--	--	8.8	Mar-18
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			3.6	12.0	6.1	6.1	--	--	--	--	--	--	--	--	3.8	Mar-18
PanAgora Risk Parity Multi Asset	153,777,631	7.0	5.5	17.7	10.7	10.7	--	--	--	-7.3	--	--	--	--	6.5	Nov-17
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			3.6	12.0	6.1	6.1	--	--	--	-6.0	--	--	--	--	4.0	Nov-17

Individual closed end funds and cash account are not shown in performance summary table.

Total Fund Performance Summary (Net of Fees)

Period Ending: June 30, 2019

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014	Inception	Inception Date
Total Fund	2,190,456,401	100.0	3.0	10.9	5.1	5.1	9.1	5.8	9.8	-4.4	15.3	7.8	-0.6	6.5	9.0	Dec-94
<i>Policy Index</i>			2.9	10.5	5.9	5.9	8.3	6.0	9.4	-3.7	14.3	8.5	0.2	7.5	8.0	Dec-94
US Equity	436,481,577	19.9	3.8	17.9	7.6	7.6	14.3	9.3	14.4	-5.2	19.4	12.1	-0.4	10.7	7.3	Jun-01
<i>US Equity Blended</i>			3.8	18.5	7.3	7.3	13.8	9.8	14.6	-6.0	20.3	13.9	-0.1	11.6	7.5	Jun-01
<i>Russell 3000</i>			4.1	18.7	9.0	9.0	14.0	10.2	14.7	-5.2	21.1	12.7	0.5	12.6	7.4	Jun-01
Northern Trust Russell 3000	125,518,406	5.7	4.1	18.7	--	--	--	--	--	--	--	--	--	--	18.7	Dec-18
<i>Russell 3000</i>			4.1	18.7	--	--	--	--	--	--	--	--	--	--	18.7	Dec-18
BlackRock Russell 1000 Growth	126,125,814	5.8	4.6	21.5	11.6	11.6	18.1	13.4	--	-1.5	30.2	7.2	5.7	13.1	16.6	Jun-10
<i>Russell 1000 Growth</i>			4.6	21.5	11.6	11.6	18.1	13.4	--	-1.5	30.2	7.1	5.7	13.0	16.6	Jun-10
BlackRock Russell 1000 Value	28,601,000	1.3	3.8	16.3	8.6	8.6	10.3	7.6	--	-8.2	13.8	17.3	-3.6	13.5	12.5	Jul-09
<i>Russell 1000 Value</i>			3.8	16.2	8.5	8.5	10.2	7.5	--	-8.3	13.7	17.3	-3.8	13.5	12.4	Jul-09
Dodge & Cox-Equity	78,040,471	3.6	2.5	12.6	4.0	4.0	13.9	8.2	14.0	-6.5	16.9	21.2	-4.0	10.7	11.8	Dec-94
<i>Russell 1000 Value</i>			3.8	16.2	8.5	8.5	10.2	7.5	13.2	-8.3	13.7	17.3	-3.8	13.5	9.9	Dec-94
Capital Prospects	78,195,886	3.6	3.2	17.2	-5.7	-5.7	10.8	5.8	13.4	-16.8	14.7	27.1	-7.5	5.2	13.1	Dec-08
<i>Russell 2000 Value</i>			1.4	13.5	-6.2	-6.2	9.8	5.4	12.4	-12.9	7.8	31.7	-7.5	4.2	11.2	Dec-08
International Equity	562,956,327	25.7	2.8	12.9	-0.8	-0.8	9.2	2.4	7.3	-15.8	27.4	5.3	-3.8	-4.5	5.3	Jun-01
<i>MSCI ACWI ex USA Gross</i>			3.2	14.0	1.8	1.8	9.9	2.6	7.0	-13.8	27.8	5.0	-5.3	-3.4	6.1	Jun-01
LSV Asset Mgt	275,362,843	12.6	1.8	10.6	-2.8	-2.8	9.3	1.7	7.1	-16.9	27.5	8.2	-5.4	-4.2	6.1	Aug-04
<i>MSCI ACWI ex USA Gross</i>			3.2	14.0	1.8	1.8	9.9	2.6	7.0	-13.8	27.8	5.0	-5.3	-3.4	6.6	Aug-04
Fidelity	287,593,484	13.1	3.9	15.3	1.1	1.1	8.9	2.9	7.4	-14.7	27.0	1.8	-2.3	-4.9	3.7	Apr-06
<i>MSCI ACWI ex USA Gross</i>			3.2	14.0	1.8	1.8	9.9	2.6	7.0	-13.8	27.8	5.0	-5.3	-3.4	3.6	Apr-06
US Fixed Income	486,161,861	22.2	2.3	4.8	6.5	6.5	3.2	3.3	5.0	0.9	3.8	5.2	0.2	6.1	5.4	Jun-01
<i>BBgBarc US Aggregate TR</i>			3.1	6.1	7.9	7.9	2.3	2.9	3.9	0.0	3.5	2.6	0.6	6.0	4.6	Jun-01
Insight	234,079,318	10.7	2.6	5.7	7.2	7.2	--	--	--	0.6	--	--	--	--	3.5	Jun-17
<i>BBgBarc US Govt/Credit 1-3 Yr. TR</i>			1.5	2.7	4.3	4.3	--	--	--	1.6	--	--	--	--	2.2	Jun-17
DFA	189,619,916	8.7	1.6	3.7	5.4	5.4	--	--	--	1.2	--	--	--	--	2.5	Jul-17
<i>BBgBarc US Govt/Credit 1-3 Yr. TR</i>			1.5	2.7	4.3	4.3	--	--	--	1.6	--	--	--	--	2.2	Jul-17
Northern Trust Intermediate Gov't Bond	45,938,526	2.1	2.3	4.0	6.2	6.2	--	--	--	1.4	--	--	--	--	2.6	Jul-17
<i>BBgBarc US Govt Int TR</i>			2.3	4.0	6.2	6.2	--	--	--	1.4	--	--	--	--	2.6	Jul-17
Northern Trust Long Term Gov't Bond	16,524,101	0.8	6.0	10.9	12.3	12.3	--	--	--	-1.7	--	--	--	--	6.5	Jul-17
<i>BBgBarc US Govt Long TR</i>			6.0	10.9	12.3	12.3	--	--	--	-1.8	--	--	--	--	6.5	Jul-17

Northern Trust Russell 3000 replaced Northern Trust Russell 1000 on 12/13/18. Individual closed end funds and cash account are not shown in performance summary table.

Total Fund Performance Summary (Net of Fees)

Period Ending: June 30, 2019

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014	Inception	Inception Date
Real Estate	231,808,625	10.6	1.3	5.4	6.6	6.6	5.9	8.5	9.5	4.3	7.5	6.6	10.5	27.4	3.7	Feb-08
DJ US Select RESI			0.8	16.7	9.8	9.8	3.7	7.6	12.2	-4.2	3.8	6.6	4.5	31.9	5.6	Feb-08
Prime Property Fund	57,246,950	2.6	1.8	3.1	7.2	7.2	8.2	--	--	8.0	8.8	9.2	--	--	8.6	Sep-15
NCREIF-ODCE			1.0	2.4	6.4	6.4	7.6	--	--	8.3	7.6	8.8	--	--	8.2	Sep-15
American Strategic Value Realty	51,666,921	2.4	1.7	4.1	7.8	7.8	9.6	--	--	9.2	10.1	11.7	18.3	--	11.8	Dec-14
NCREIF Property Index			1.5	3.3	6.5	6.5	6.9	--	--	6.7	7.0	8.0	13.3	--	8.5	Dec-14
BlackRock US Real Estate	37,095,763	1.7	0.8	16.6	9.7	9.7	3.7	7.5	--	-4.2	3.7	6.6	4.4	31.9	8.7	Sep-12
DJ US Select RESI TR USD			0.8	16.7	9.8	9.8	3.7	7.6	--	-4.2	3.8	6.6	4.5	31.9	8.8	Sep-12
Risk Parity	309,627,033	14.1	5.2	16.5	9.3	9.3	--	--	--	-7.0	--	--	--	--	6.0	Nov-17
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			3.6	12.0	6.1	6.1	--	--	--	-6.0	--	--	--	--	4.0	Nov-17
AQR Global Risk Premium - EL	155,849,402	7.1	5.1	15.6	8.4	8.4	--	--	--	--	--	--	--	--	8.4	Mar-18
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			3.6	12.0	6.1	6.1	--	--	--	--	--	--	--	--	3.8	Mar-18
PanAgora Risk Parity Multi Asset	153,777,631	7.0	5.4	17.5	10.3	10.3	--	--	--	-7.6	--	--	--	--	6.1	Nov-17
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			3.6	12.0	6.1	6.1	--	--	--	-6.0	--	--	--	--	4.0	Nov-17

Individual closed end funds and cash account are not shown in performance summary table.

Total Fund Closed End Funds - Investment Summary

Period Ending: June 30, 2019

			Verus Internal Analysis								
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 6/30/2019 ³	Total Commitment	Capital Called	% Called	Remaining Commitment	Total Distributions	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Latest Valuation	
Real Estate											
7/31/2014	Greenfield Gap VII	\$10,570,338	\$15,000,000	\$14,335,328	96%	\$664,672	\$10,173,791	71.0%	144.7%	3/31/2019	
6/30/2018	Greenfield Gap VIII	\$19,128,244	\$40,000,000	\$17,835,852	45%	\$22,164,148	\$0	N/A	107.2%	3/31/2019	
9/30/2018	PGIM Real Estate US Debt Fund	\$56,100,410	\$54,000,000	\$54,000,000	100%	\$0	\$0	N/A	103.9%	6/30/2019	
Total Real Estate		\$85,798,992	\$109,000,000	\$86,171,180	79%	\$22,828,820	\$10,173,791	11.8%	111.4%		
% of Portfolio (Market Value)		3.9%									
Direct Lending											
5/31/2013	Medley Capital	\$13,536,138	\$30,000,000	\$29,000,453	97%	\$999,547	\$22,943,895	79.1%	125.8%	3/31/2019	
5/31/2013	Raven Capital	\$13,875,008	\$40,000,000	\$34,505,763	86%	\$5,494,237	\$23,560,780	68.3%	108.5%	3/31/2019	
7/31/2015	Raven Opportunity III	\$41,847,510	\$50,000,000	\$41,719,265	83%	\$8,280,735	\$3,740,992	9.0%	109.3%	3/31/2019	
8/31/2013	White Oak Pinnacle	\$25,410,389	\$40,000,000	\$40,000,000 ⁴	100%	\$0	\$43,420,858	108.6%	172.1%	3/31/2019	
Total Direct Lending		\$94,669,045	\$160,000,000	\$145,225,481	91%	\$14,774,519	\$93,666,525	64.5%	129.7%		
% of Portfolio (Market Value)		4.3%									
Infrastructure											
5/31/2015	MS Infrastructure Partners II	\$42,063,721	\$50,000,000	\$50,130,435	100%	-\$130,435	\$17,266,588	34.4%	118.4%	3/31/2019	
Total Infrastructure		\$42,063,721	\$50,000,000	\$50,130,435	100%	-\$130,435	\$17,266,588	34.4%	118.4%		
% of Portfolio (Market Value)		1.9%									

1 (DPI) is equal to (capital returned / capital called)

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

3 Last known market value + capital calls - distributions

4 Includes redeemed contributions, which are amounts withheld from distributions and applied to fulfill capital calls.

Total Fund
Closed End Funds - IRR Summary

Period Ending: June 30, 2019

Real Estate	Inception	Fund Level (G)	StanCERA (G)	Fund Level (N)	StanCERA (N)	IRR Date
Greenfield Gap VII	7/31/2014	17.1%	17.6%	13.3%	13.2%	3/31/2019
Direct Lending						
Medley Capital	5/31/2013	5.4%	4.1%	3.6%	1.9%	3/31/2019
Raven Capital	5/31/2013	6.1%	6.1%	2.5%	2.5%	3/31/2019
Raven Opportunity III	7/31/2015	11.4%	11.4%	5.8%	5.8%	3/31/2019
White Oak Pinnacle	8/31/2013	10.5%	10.5%	7.4%	7.4%	3/31/2019
Infrastructure						
MS Infrastructure Partners II	5/31/2015	21.6%	21.6%	14.1%	12.2%	3/31/2019

IRR information provided by managers.

Total Fund

Performance Analysis - 3 and 5 Years (Net of Fees)

Period Ending: June 30, 2019

3 Years

	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
BlackRock Russell 1000 Growth	18.08%	0.02%	13.39%	0.03%	1.00	0.04%	1.00	1.25	0.42	100.02%	99.93%
BlackRock Russell 1000 Value	10.28%	0.09%	12.09%	0.11%	1.00	0.05%	1.00	0.73	1.65	100.28%	99.70%
Dodge & Cox-Equity	13.91%	3.72%	13.36%	3.17%	1.05	4.00%	0.91	0.94	0.93	119.61%	96.70%
Capital Prospects	10.83%	1.02%	17.23%	1.24%	0.98	3.21%	0.97	0.55	0.32	95.84%	92.48%
LSV Asset Mgt	9.27%	-0.64%	12.20%	-1.06%	1.04	2.84%	0.95	0.65	-0.22	101.22%	105.48%
Fidelity	8.90%	-1.01%	11.06%	-0.55%	0.95	2.10%	0.97	0.68	-0.48	91.47%	96.81%
Prime Property Fund	8.23%	0.66%	3.36%	0.25%	1.05	0.68%	0.96	2.03	0.97	109.41%	--
American Strategic Value Realty	9.63%	2.74%	3.84%	0.55%	1.32	1.41%	0.92	2.14	1.94	138.12%	--
BlackRock US Real Estate	3.69%	-0.04%	13.14%	-0.03%	1.00	0.05%	1.00	0.17	-0.82	99.68%	99.95%

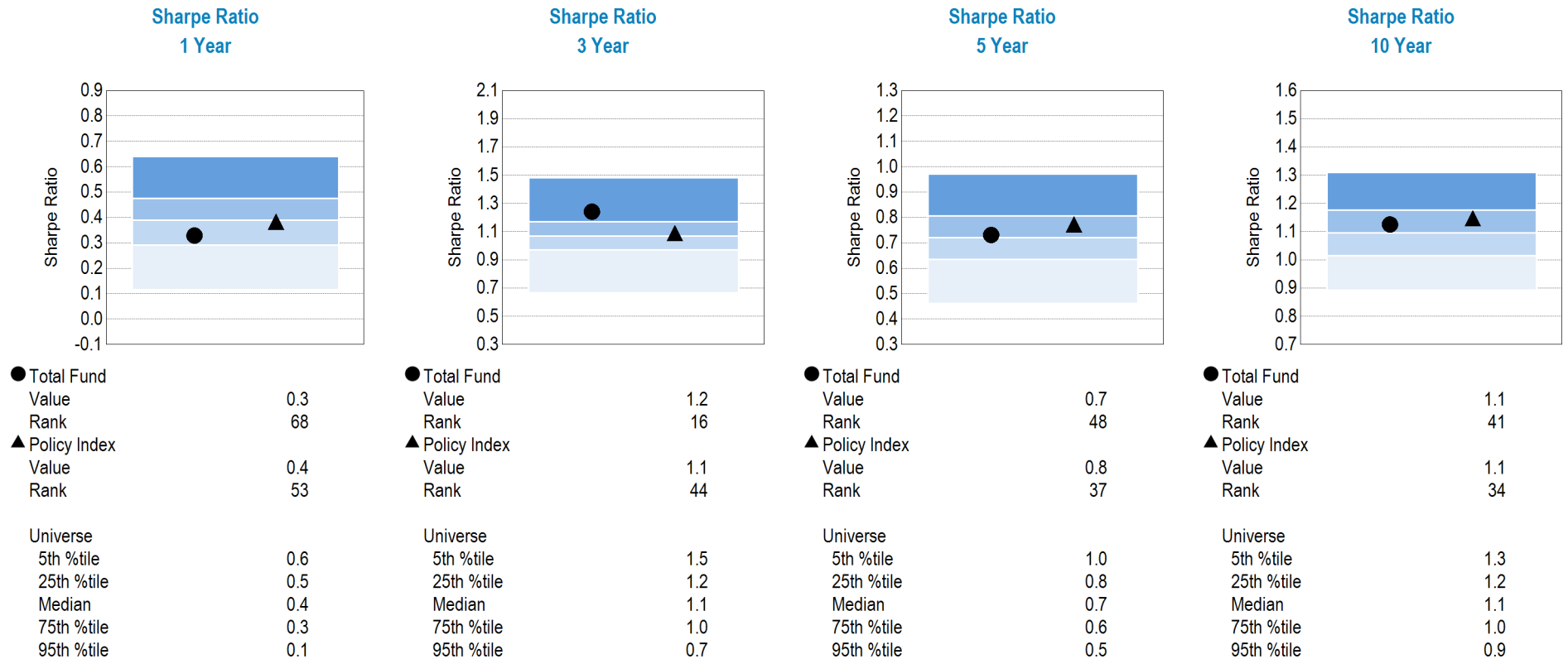
5 Years

	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
BlackRock Russell 1000 Growth	13.42%	0.03%	13.03%	0.03%	1.00	0.04%	1.00	0.96	0.67	100.16%	99.98%
BlackRock Russell 1000 Value	7.55%	0.09%	11.92%	0.10%	1.00	0.06%	1.00	0.56	1.57	100.33%	99.73%
Dodge & Cox-Equity	8.19%	0.73%	13.34%	0.23%	1.07	4.08%	0.91	0.55	0.18	110.11%	103.16%
Capital Prospects	5.80%	0.41%	16.26%	0.55%	0.97	2.98%	0.97	0.30	0.14	93.53%	95.80%
LSV Asset Mgt	1.66%	-0.99%	13.60%	-1.16%	1.06	2.72%	0.96	0.06	-0.36	105.97%	106.62%
Fidelity	2.91%	0.27%	11.84%	0.45%	0.93	2.18%	0.97	0.17	0.12	90.15%	93.64%
BlackRock US Real Estate	7.53%	-0.06%	14.66%	-0.05%	1.00	0.05%	1.00	0.45	-1.36	99.54%	99.97%

Performance Analysis excludes closed end funds and those funds without 3 and 5 years of performance.

Total Fund Sharpe Ratio Ranking (Gross of Fees)

Period Ending: June 30, 2019



Total Fund Investment Fund Fee Analysis

Period Ending: June 30, 2019

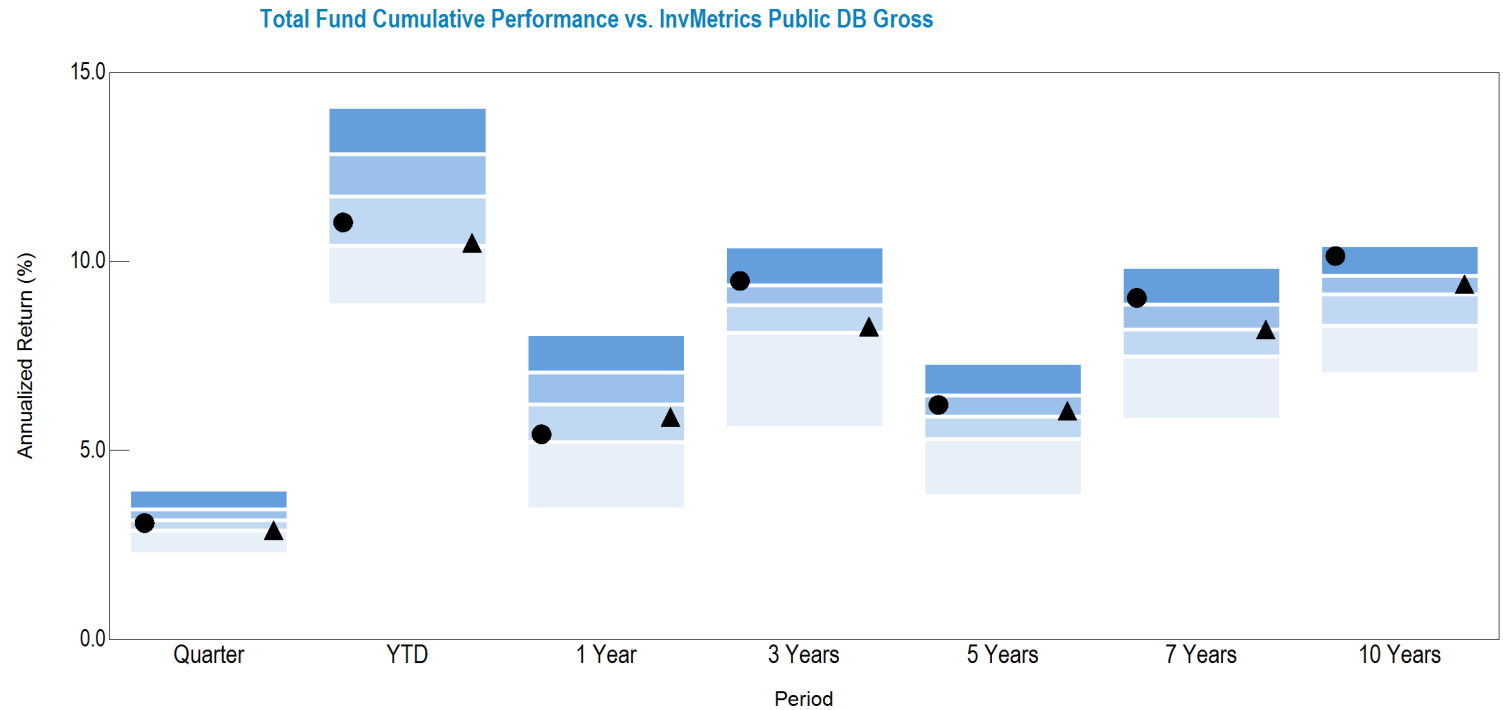
Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Northern Trust Russell 3000	Domestic Equity	0.02% of Assets	\$125,518,406	\$25,104	0.02%
BlackRock Russell 1000 Growth	Domestic Equity	0.02% of Assets	\$126,125,814	\$25,225	0.02%
BlackRock Russell 1000 Value	Domestic Equity	0.02% of Assets	\$28,601,000	\$5,720	0.02%
Dodge & Cox-Equity	Domestic Equity	0.40% of First 10.0 Mil, 0.20% of Next 90.0 Mil, 0.15% Thereafter	\$78,040,471	\$176,081	0.23%
Capital Prospects	Domestic Equity	0.75% of Assets	\$78,195,886	\$586,469	0.75%
LSV Asset Mgt	International Equity	0.75% of First 25.0 Mil, 0.65% of Next 25.0 Mil, 0.55% of Next 50.0 Mil, 0.45% Thereafter	\$275,362,843	\$1,414,133	0.51%
Fidelity	International Equity	0.25% of Assets	\$287,593,484	\$718,984	0.25%
Insight	Domestic Fixed Income	0.12% of Assets	\$234,079,318	\$280,895	0.12%
DFA	Domestic Fixed Income	0.20% of First 25.0 Mil, 0.10% Thereafter	\$189,619,916	\$214,620	0.11%
Northern Trust Intermediate Gov't Bond	Domestic Fixed Income	0.05% of First 25.0 Mil, 0.04% Thereafter	\$45,938,526	\$20,875	0.05%
Northern Trust Long Term Gov't Bond	Domestic Fixed Income	0.05% of First 25.0 Mil, 0.04% Thereafter	\$16,524,101	\$8,262	0.05%
Prime Property Fund	Real Estate	0.84% of Assets	\$57,246,950	\$480,874	0.84%
American Strategic Value Realty	Real Estate	1.25% of First 10.0 Mil, 1.20% of Next 15.0 Mil, 1.10% of Next 25.0 Mil, 1.00% Thereafter	\$51,666,921	\$596,669	1.15%
BlackRock US Real Estate	Real Estate	0.09% of First 100.0 Mil, 0.07% Thereafter	\$37,095,763	\$33,386	0.09%
AQR Global Risk Premium - EL	Alternatives	0.38% of Assets	\$155,849,402	\$592,228	0.38%
PanAgora Risk Parity Multi Asset	Alternatives	0.35% of Assets	\$153,777,631	\$538,222	0.35%
Cash Account	Cash and Equivalents	0.10% of Assets	\$26,688,213	\$26,688	0.10%
Total			\$1,889,728,758	\$5,157,966	0.27%

Closed end funds excluded from fee analysis. Fidelity has performance based fees which are not included in the analysis above; fee shown is the annual base fee only. Northern Trust aggregates StanCERA's Northern Trust Bond Funds.

Total Fund

Peer Universe Comparison: Cumulative Performance (Gross of Fees)

Period Ending: June 30, 2019



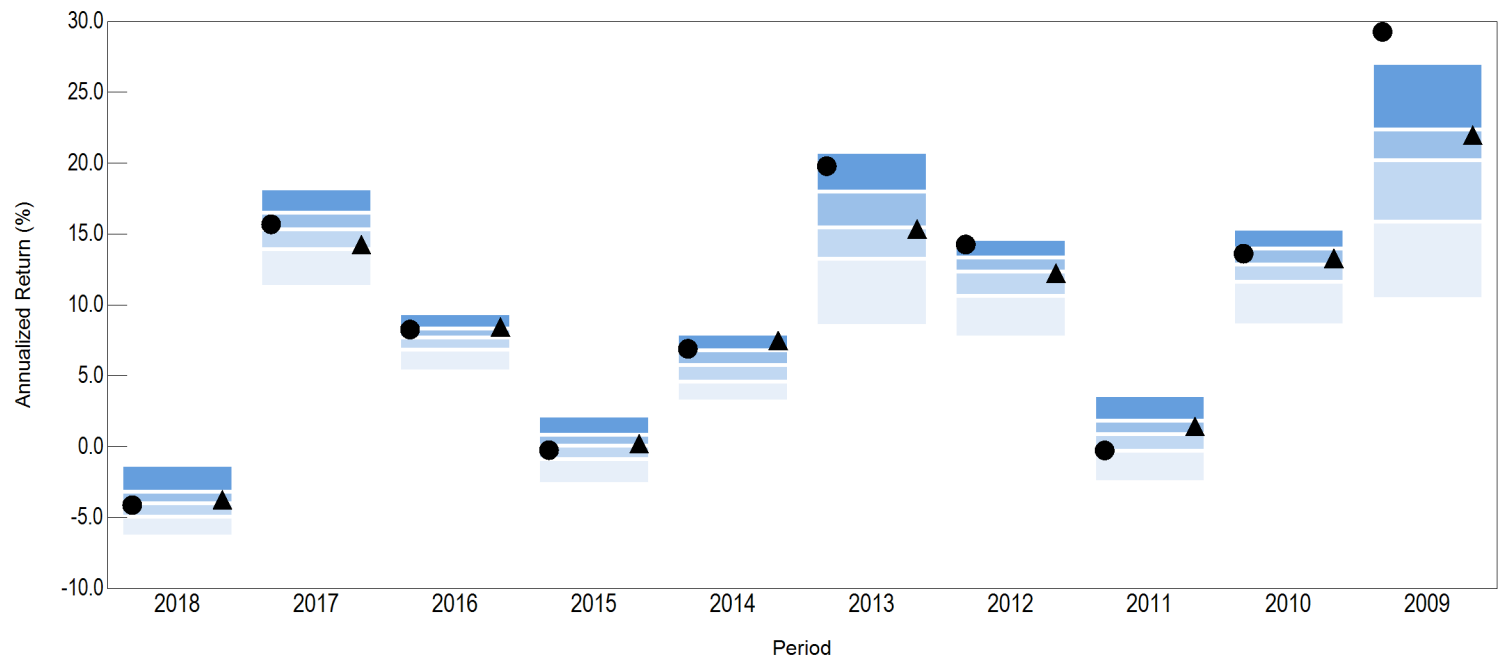
	Return (Rank)													
	Quarter	YTD	1 Year	3 Years	5 Years	7 Years	10 Years							
5th Percentile	4.0	14.1	8.1	10.4	7.3	9.8	10.4							
25th Percentile	3.4	12.8	7.1	9.4	6.5	8.9	9.6							
Median	3.2	11.7	6.2	8.9	5.9	8.2	9.1							
75th Percentile	2.9	10.4	5.2	8.1	5.3	7.5	8.3							
95th Percentile	2.3	8.9	3.4	5.6	3.8	5.8	7.0							
# of Portfolios	355	354	349	340	324	309	279							
● Total Fund	3.1 (58)	11.0 (68)	5.4 (72)	9.5 (22)	6.2 (38)	9.0 (17)	10.1 (11)							
▲ Policy Index	2.9 (75)	10.5 (74)	5.9 (61)	8.3 (73)	6.0 (45)	8.2 (51)	9.4 (37)							

Total Fund

Peer Universe Comparison: Consecutive Periods (Gross of Fees)

Period Ending: June 30, 2019

Total Fund Consecutive Periods vs. InvMetrics Public DB Gross



	Return (Rank)									
5th Percentile	-1.3	18.2	9.4	2.2	8.0	20.8	14.6	3.6	15.4	27.0
25th Percentile	-3.1	16.5	8.4	0.9	6.8	18.0	13.4	1.9	14.0	22.4
Median	-4.0	15.3	7.7	0.1	5.8	15.5	12.4	0.9	12.9	20.2
75th Percentile	-4.9	14.0	6.9	-0.9	4.6	13.3	10.7	-0.3	11.7	15.9
95th Percentile	-6.3	11.3	5.3	-2.6	3.2	8.5	7.8	-2.5	8.6	10.5
# of Portfolios	319	304	305	316	248	231	236	206	188	184
● Total Fund	-4.1 (53)	15.7 (43)	8.3 (29)	-0.2 (60)	6.9 (23)	19.8 (12)	14.3 (10)	-0.3 (75)	13.6 (35)	29.3 (1)
▲ Policy Index	-3.7 (43)	14.3 (71)	8.5 (23)	0.2 (46)	7.5 (12)	15.4 (52)	12.3 (53)	1.4 (35)	13.3 (42)	22.0 (29)

Domestic Equity Managers

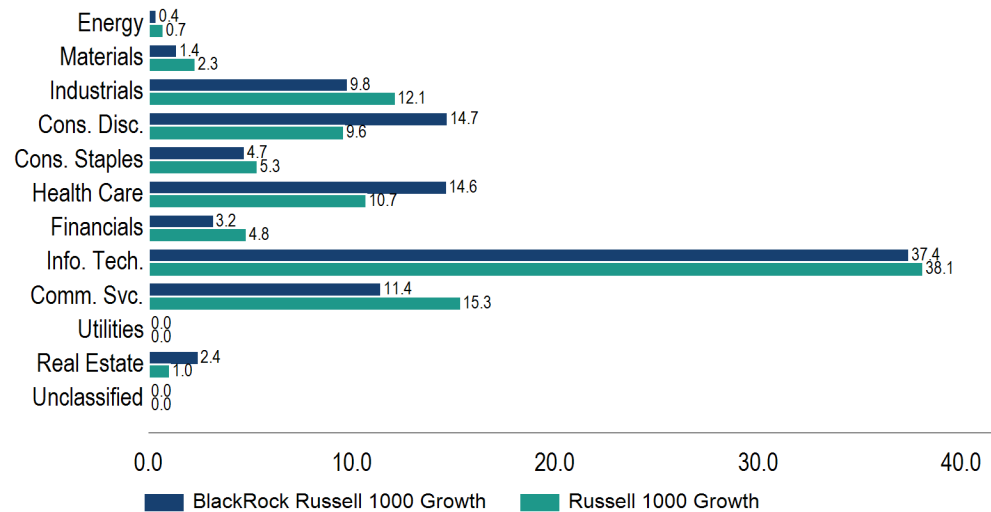
BlackRock Russell 1000 Growth Manager Portfolio Overview

Period Ending: June 30, 2019

Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	529	546
Weighted Avg. Market Cap. (\$B)	289.82	283.38
Median Market Cap. (\$B)	12.65	12.11
Price To Earnings	26.92	24.92
Price To Book	8.06	7.20
Price To Sales	3.11	2.87
Return on Equity (%)	35.77	37.58
Yield (%)	1.22	1.26
Beta	1.00	1.00

Sector Allocation (%) vs Russell 1000 Growth



Largest Holdings

	End Weight	Return
MICROSOFT	7.31	14.00
APPLE	6.58	4.60
AMAZON.COM	5.65	6.34
FACEBOOK CLASS A	3.33	15.78
ALPHABET 'C'	2.37	-7.88
ALPHABET A	2.34	-7.99
VISA 'A'	2.18	11.28
CISCO SYSTEMS	1.74	2.01
MASTERCARD	1.71	12.51
UNITEDHEALTH GROUP	1.66	-0.88

Top Contributors

	Avg Wgt	Return	Contribution
MICROSOFT	2.12	14.00	0.30
FACEBOOK CLASS A	0.99	15.78	0.16
AMAZON.COM	1.83	6.34	0.12
APPLE	2.25	4.60	0.10
VISA 'A'	0.69	11.28	0.08
WALT DISNEY	0.30	25.77	0.08
MASTERCARD	0.53	12.51	0.07
HOME DEPOT	0.54	9.13	0.05
LOCKHEED MARTIN	0.17	21.90	0.04
ADOBE (NAS)	0.33	10.57	0.03

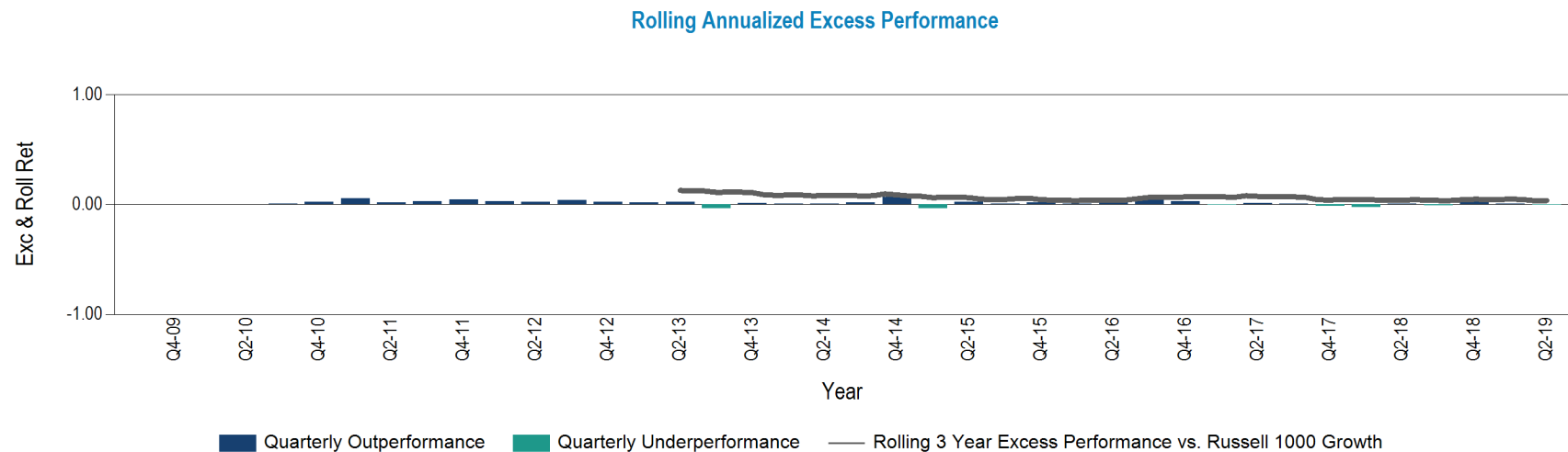
Bottom Contributors

	Avg Wgt	Return	Contribution
ALPHABET 'C'	0.89	-7.88	-0.07
ALPHABET A	0.88	-7.99	-0.07
ALTRIA GROUP	0.27	-16.26	-0.04
3M	0.24	-15.85	-0.04
ABBVIE	0.31	-8.57	-0.03
ELI LILLY	0.18	-14.15	-0.03
NVIDIA	0.26	-8.43	-0.02
BOEING	0.51	-4.01	-0.02
REGENERON PHARMS.	0.08	-23.77	-0.02
TESLA	0.10	-20.15	-0.02

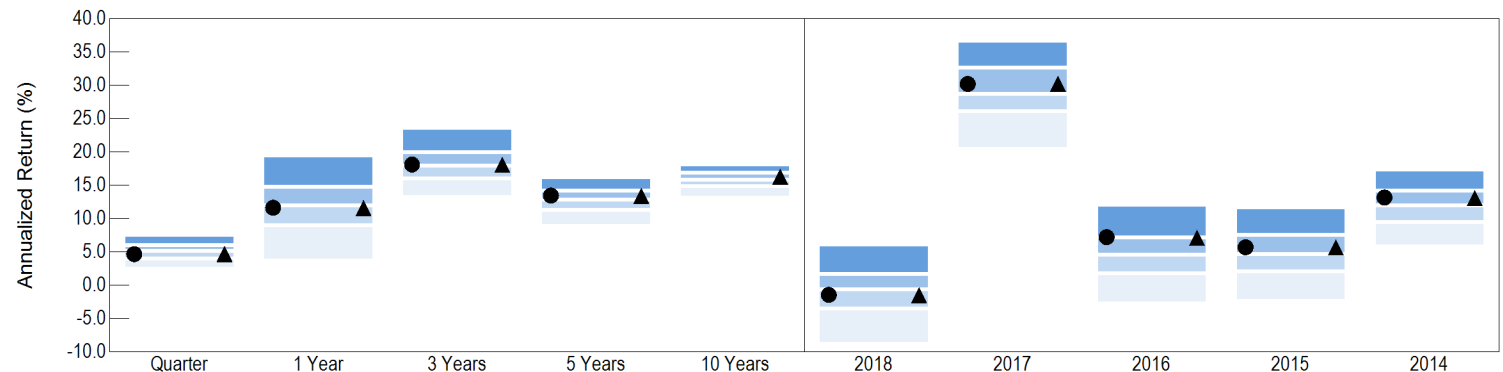
Unclassified sector allocation includes cash allocations.

BlackRock Russell 1000 Growth Manager Performance Comparisons (Gross of Fees)

Period Ending: June 30, 2019



BlackRock Russell 1000 Growth vs. eV US Large Cap Growth Equity Gross Universe

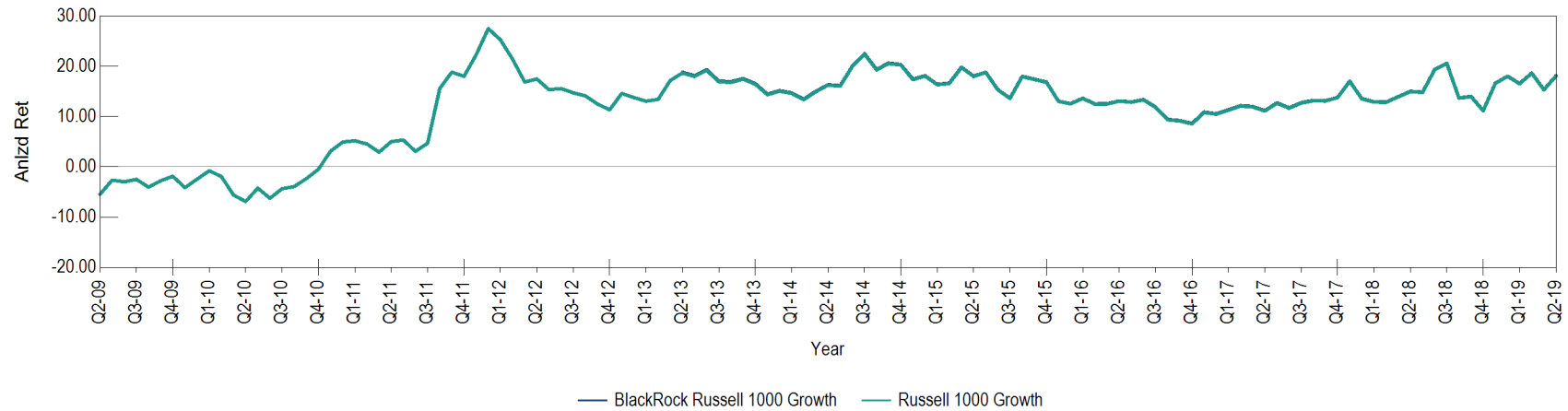


		Return (Rank)																	
5th Percentile		7.5	19.5	23.6	16.1	18.1	6.1	36.7	12.0	11.6	17.3								
25th Percentile		6.0	14.8	20.0	14.3	16.9	1.7	32.7	7.3	7.6	14.3								
Median		5.2	12.0	18.0	12.9	15.9	-0.6	28.8	4.6	4.7	12.0								
75th Percentile		4.0	9.0	16.1	11.3	14.9	-3.5	26.2	1.8	2.1	9.5								
95th Percentile		2.5	3.8	13.3	9.0	13.2	-8.8	20.5	-2.7	-2.4	5.8								
# of Portfolios		256	256	248	243	218	255	265	282	270	291								
●	BlackRock Russell 1000 Growth	4.6 (62)	11.6 (54)	18.1 (49)	13.4 (39)	-- (--)	-1.5 (57)	30.2 (42)	7.2 (26)	5.7 (42)	13.1 (37)								
▲	Russell 1000 Growth	4.6 (62)	11.6 (55)	18.1 (49)	13.4 (41)	16.3 (39)	-1.5 (57)	30.2 (42)	7.1 (26)	5.7 (42)	13.0 (38)								

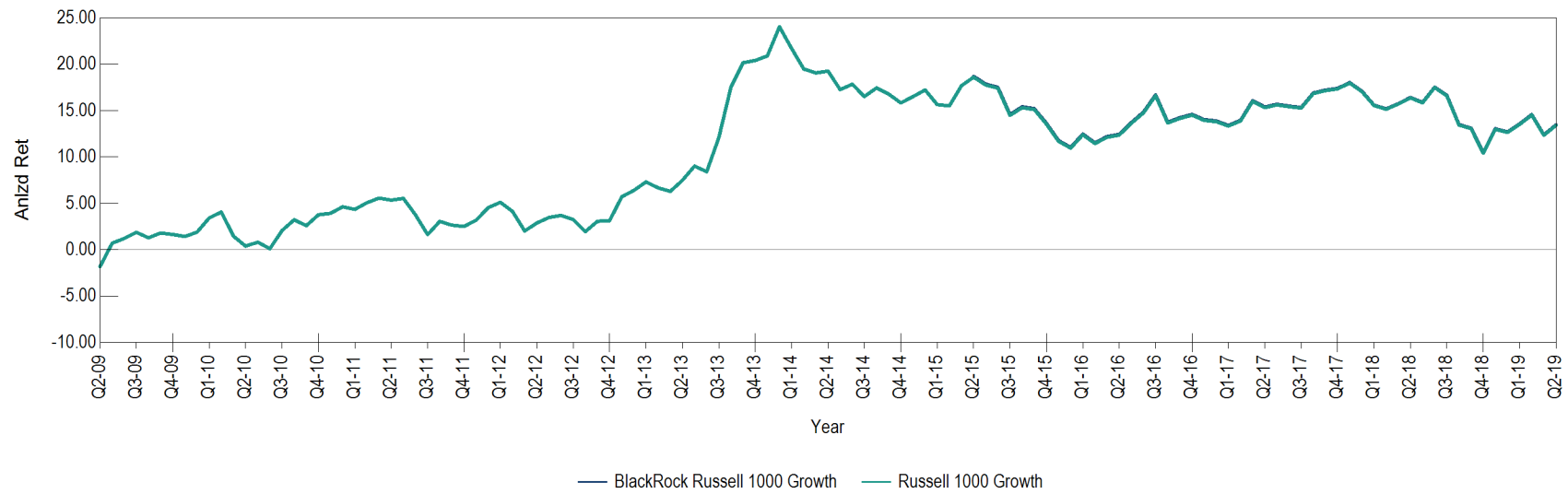
BlackRock Russell 1000 Growth Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: June 30, 2019

Rolling 3 Year Annualized Return (%)



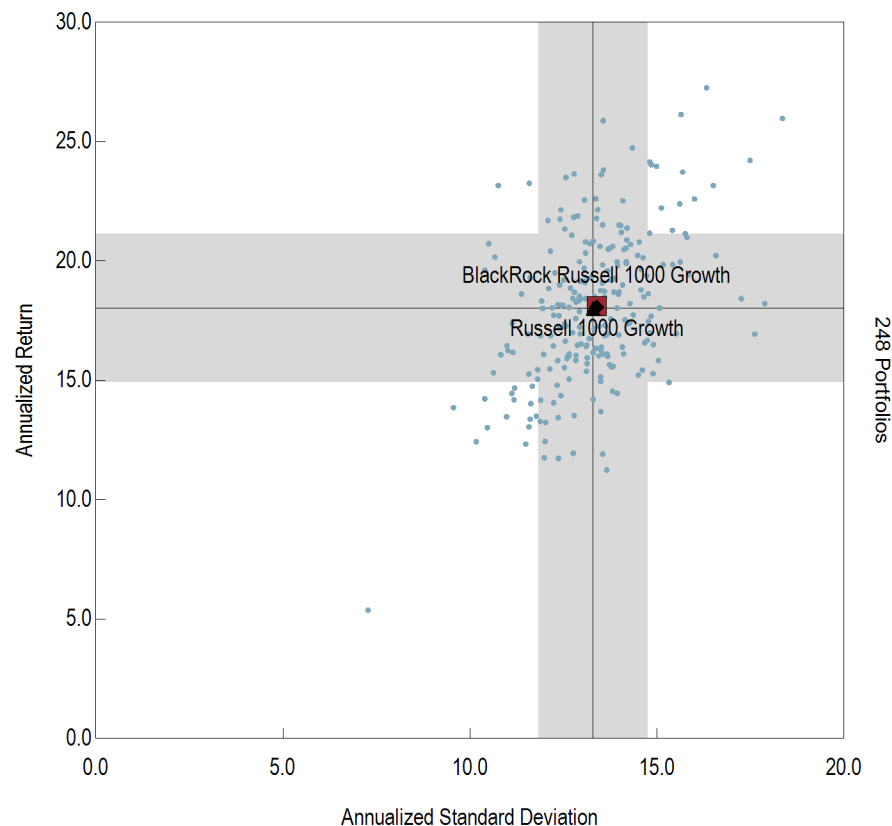
Rolling 5 Year Annualized Return (%)



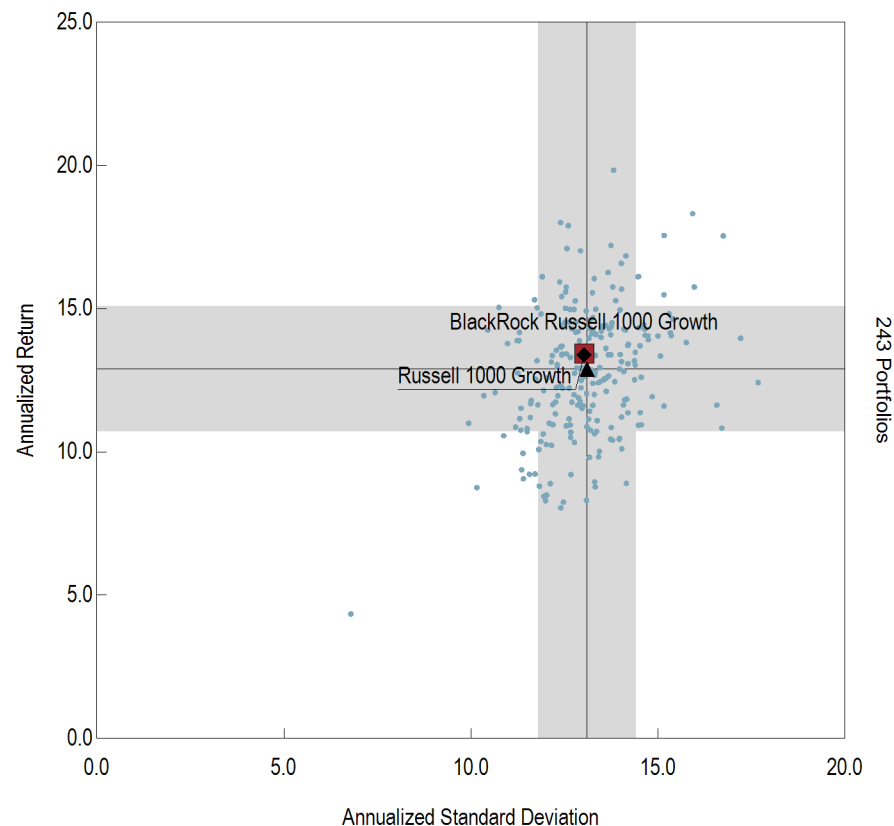
BlackRock Russell 1000 Growth Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: June 30, 2019

3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
BlackRock Russell 1000 Growth	18.10%	13.39%	1.25
Russell 1000 Growth	18.07%	13.40%	1.24
eV US Large Cap Growth Equity Gross Median	18.03%	13.30%	1.25

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
BlackRock Russell 1000 Growth	13.4%	13.0%	1.0
Russell 1000 Growth	13.4%	13.0%	1.0
eV US Large Cap Growth Equity Gross Median	12.9%	13.1%	0.9

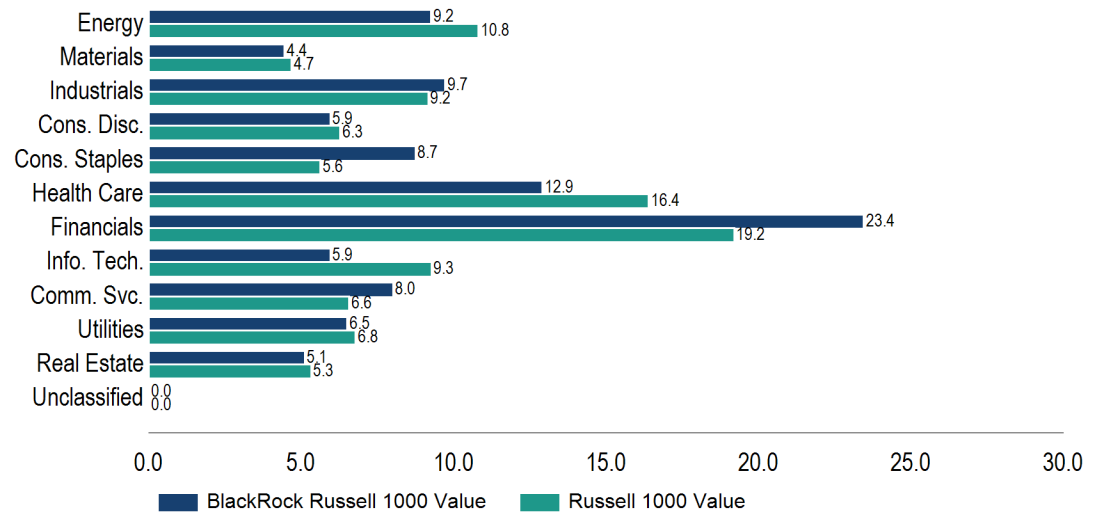
BlackRock Russell 1000 Value Manager Portfolio Overview

Period Ending: June 30, 2019

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	759	722
Weighted Avg. Market Cap. (\$B)	113.39	123.11
Median Market Cap. (\$B)	9.06	9.18
Price To Earnings	16.76	17.41
Price To Book	2.21	2.28
Price To Sales	1.49	1.54
Return on Equity (%)	15.69	14.42
Yield (%)	2.58	2.58
Beta	1.00	1.00

Sector Allocation (%) vs Russell 1000 Value



Largest Holdings

	End Weight	Return
BERKSHIRE HATHAWAY 'B'	3.09	6.11
JP MORGAN CHASE & CO.	2.67	11.28
EXXON MOBIL	2.40	-4.08
JOHNSON & JOHNSON	2.33	0.32
PROCTER & GAMBLE	1.89	6.12
BANK OF AMERICA	1.85	5.68
AT&T	1.81	8.57
WALT DISNEY	1.80	25.77
PFIZER	1.78	2.90
CHEVRON	1.76	2.02

Top Contributors

	Avg Wgt	Return	Contribution
JP MORGAN CHASE & CO.	0.86	11.28	0.10
QUALCOMM	0.18	34.62	0.06
BERKSHIRE HATHAWAY 'B'	0.87	6.11	0.05
CITIGROUP	0.38	13.27	0.05
AT&T	0.58	8.57	0.05
WALT DISNEY	0.19	25.77	0.05
WALMART	0.35	13.89	0.05
PROCTER & GAMBLE	0.66	6.12	0.04
BANK OF AMERICA	0.64	5.68	0.04
MCDONALDS	0.30	9.99	0.03

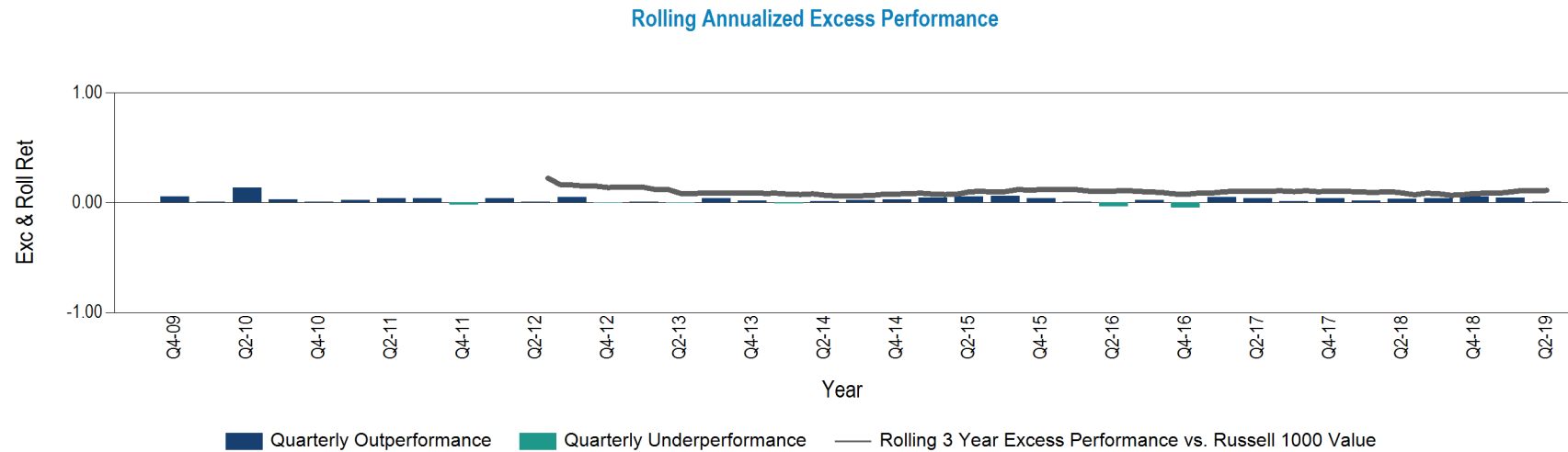
Bottom Contributors

	Avg Wgt	Return	Contribution
INTEL	0.62	-10.31	-0.06
EXXON MOBIL	0.88	-4.08	-0.04
PHILIP MORRIS INTL.	0.35	-9.84	-0.03
OCCIDENTAL PTL.	0.13	-22.81	-0.03
WALGREENS BOOTS ALLIANCE	0.13	-12.87	-0.02
ELI LILLY	0.11	-14.15	-0.02
CONOCOPHILLIPS	0.19	-8.15	-0.02
VERIZON COMMUNICATIONS	0.63	-2.39	-0.01
BANK OF NEW YORK MELLON	0.11	-11.95	-0.01
MYLAN	0.04	-32.82	-0.01

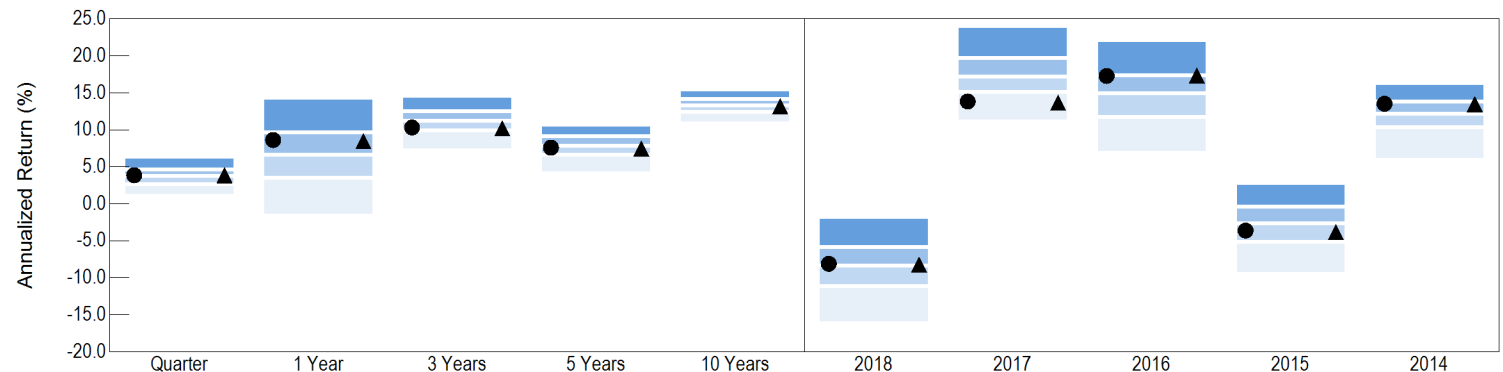
Unclassified sector allocation includes cash allocations.

BlackRock Russell 1000 Value Manager Performance Comparisons (Gross of Fees)

Period Ending: June 30, 2019



BlackRock Russell 1000 Value vs. eV US Large Cap Value Equity Gross Universe

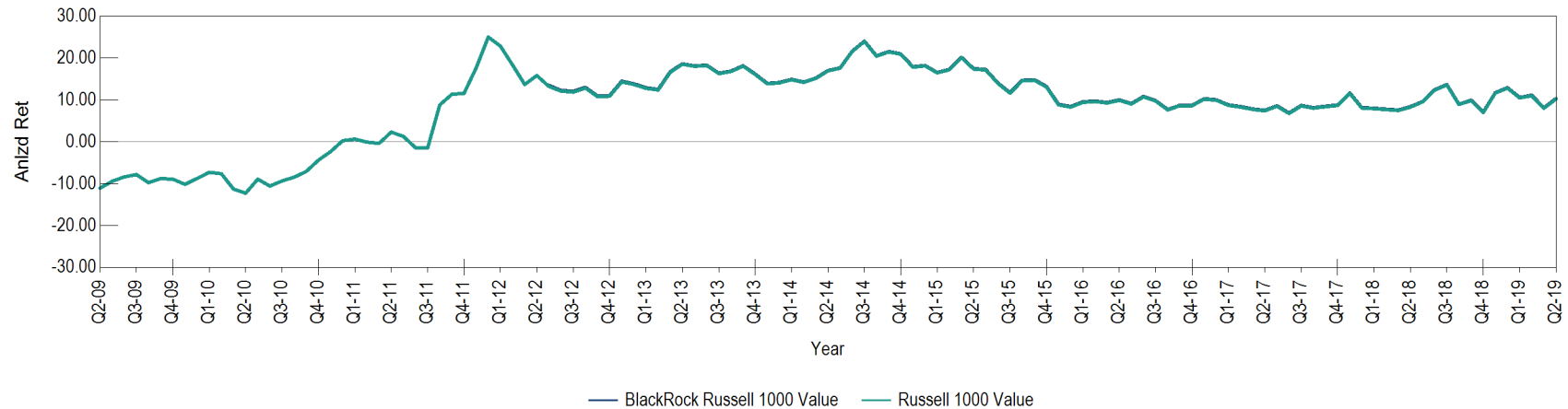


	Return (Rank)		1 Year		3 Years		5 Years		10 Years		2018		2017		2016		2015		2014	
5th Percentile	6.4	(49)	14.3	(33)	14.6	(70)	10.7	(58)	15.4	(57)	-1.8	(46)	24.0	(86)	22.1	(26)	2.8	(62)	16.3	(31)
25th Percentile	4.7	(49)	9.7	(34)	12.6	(71)	9.1	(60)	14.2	(57)	-5.8	(50)	19.8	(87)	17.4	(26)	-0.4	(64)	13.9	(33)
Median	3.8	(49)	6.7	(34)	11.2	(71)	7.9	(60)	13.4	(57)	-8.3	(50)	17.2	(87)	15.0	(26)	-2.6	(64)	12.2	(33)
75th Percentile	2.6	(49)	3.5	(34)	10.0	(71)	6.7	(60)	12.5	(57)	-11.1	(50)	15.1	(87)	11.8	(26)	-5.1	(64)	10.4	(31)
95th Percentile	1.1	(49)	-1.5	(34)	7.3	(71)	4.2	(60)	10.9	(57)	-16.1	(50)	11.2	(87)	7.0	(26)	-9.4	(64)	5.9	(31)
# of Portfolios	333		333		329		322		273		336		342		346		312		307	
● BlackRock Russell 1000 Value	3.8	(49)	8.6	(33)	10.3	(70)	7.6	(58)	--	(--)	-8.1	(46)	13.8	(86)	17.3	(26)	-3.6	(62)	13.5	(31)
▲ Russell 1000 Value	3.8	(49)	8.5	(34)	10.2	(71)	7.5	(60)	13.2	(57)	-8.3	(50)	13.7	(87)	17.3	(26)	-3.8	(64)	13.5	(33)

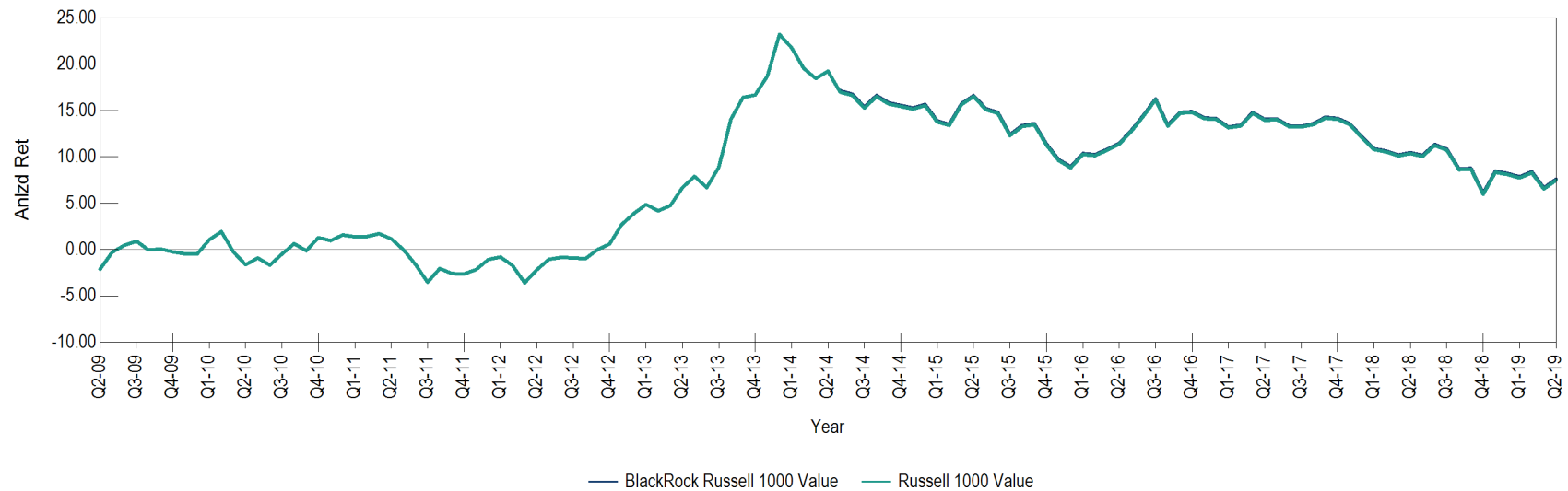
BlackRock Russell 1000 Value Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: June 30, 2019

Rolling 3 Year Annualized Return (%)



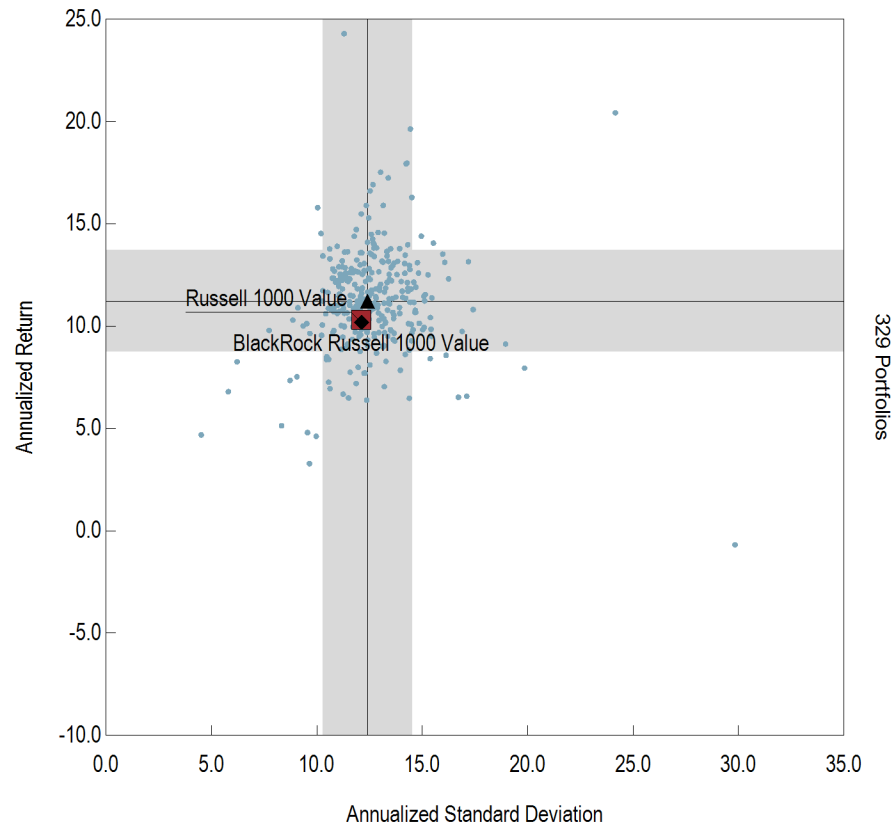
Rolling 5 Year Annualized Return (%)



BlackRock Russell 1000 Value Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: June 30, 2019

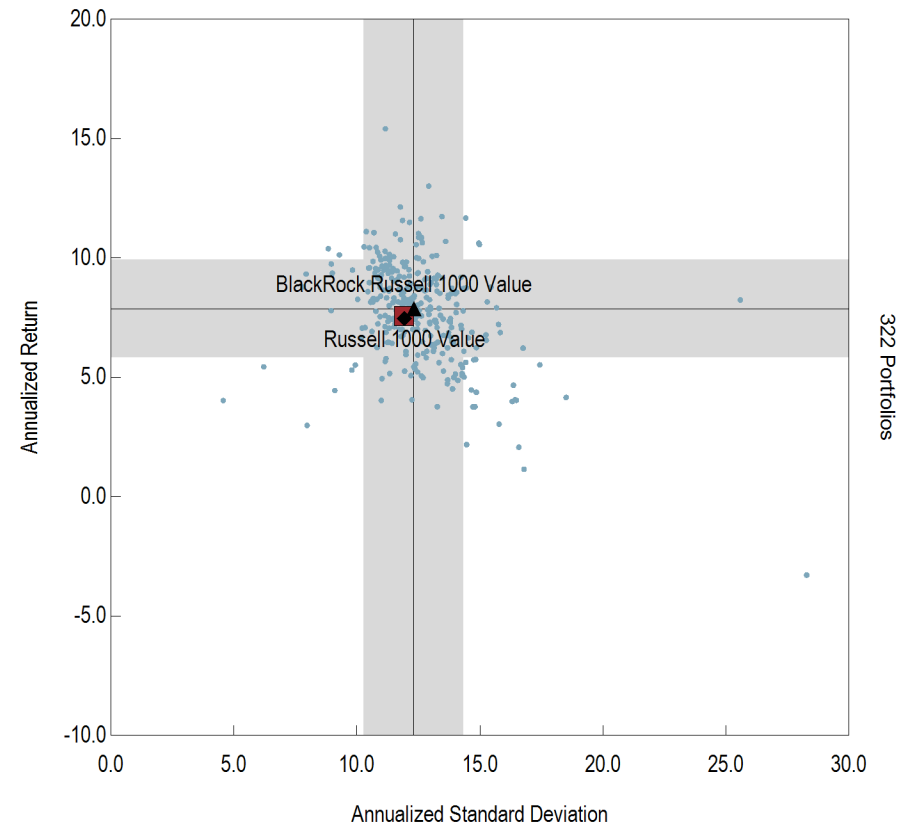
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
BlackRock Russell 1000 Value	10.3%	12.1%	0.7
Russell 1000 Value	10.2%	12.1%	0.7
eV US Large Cap Value Equity Gross Median	11.2%	12.4%	0.8

5 Years



5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
BlackRock Russell 1000 Value	7.6%	11.9%	0.6
Russell 1000 Value	7.5%	11.9%	0.6
eV US Large Cap Value Equity Gross Median	7.9%	12.3%	0.6

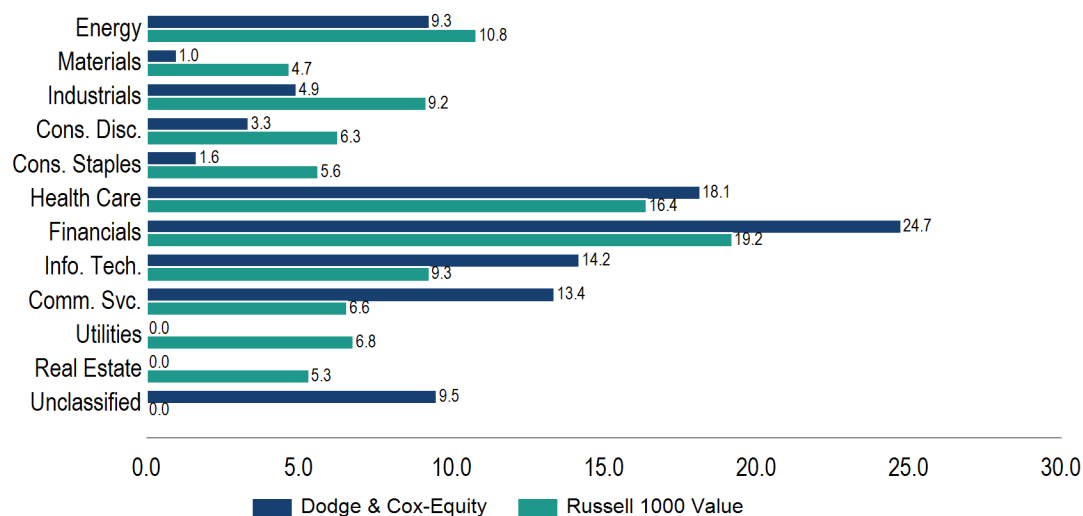
Dodge & Cox-Equity Manager Portfolio Overview

Period Ending: June 30, 2019

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	68	722
Weighted Avg. Market Cap. (\$B)	104.09	123.11
Median Market Cap. (\$B)	36.85	9.18
Price To Earnings	16.43	17.41
Price To Book	2.21	2.28
Price To Sales	1.45	1.54
Return on Equity (%)	14.97	14.42
Yield (%)	2.29	2.58
Beta	1.04	1.00

Sector Allocation (%) vs Russell 1000 Value



Largest Holdings

	End Weight	Return
CHARTER COMMS.CL.A	3.96	13.91
WELLS FARGO & CO	3.39	-1.13
COMCAST A	3.37	6.31
CAPITAL ONE FINL.	3.10	11.57
FEDEX	3.06	-9.14
CHARLES SCHWAB	2.99	-5.65
BANK OF AMERICA	2.88	5.68
ALPHABET 'C'	2.84	-7.88
SANOFI ADR 2:1 (XSC)	2.80	1.81
JP MORGAN CHASE & CO.	2.61	11.28

Top Contributors

	Avg Wgt	Return	Contribution
ANADARKO PETROLEUM	2.44	55.81	1.36
CHARTER COMMS.CL.A	3.68	13.91	0.51
CAPITAL ONE FINL.	2.94	11.57	0.34
TE CONNECTIVITY	1.56	19.24	0.30
COMCAST A	4.62	6.31	0.29
JP MORGAN CHASE & CO.	2.52	11.28	0.28
AMERICAN EXPRESS	2.10	13.34	0.28
METLIFE	1.25	17.76	0.22
MICRO FOCUS	0.81	23.13	0.19
INTL.SPN.ADR 1:1			
JOHNSON CONTROLS INTL.	1.48	12.56	0.19

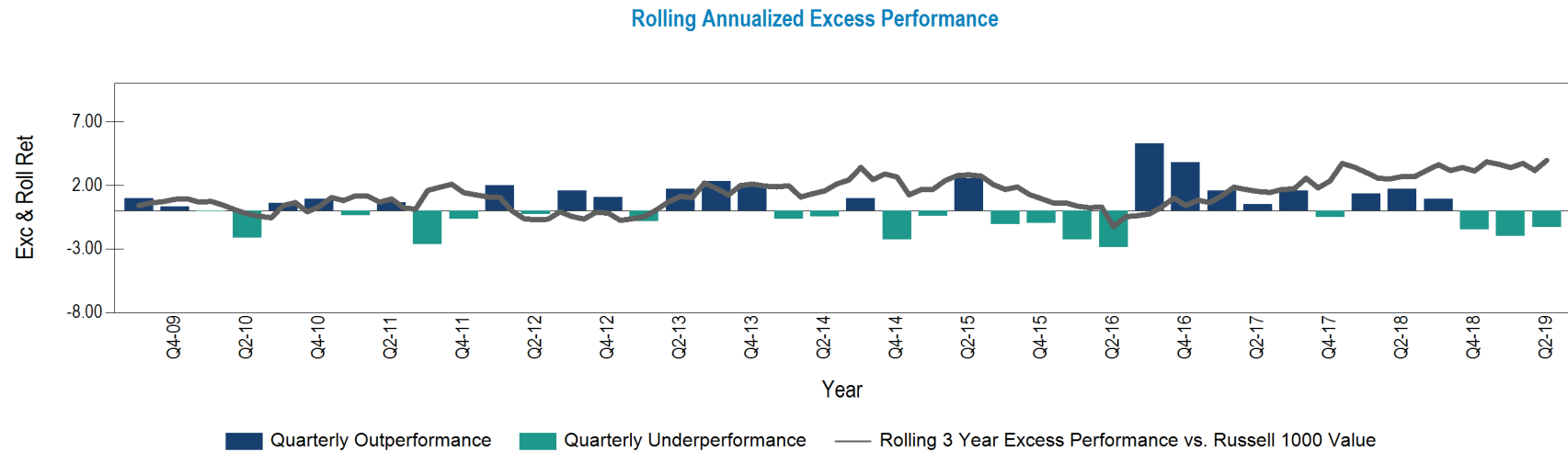
Bottom Contributors

	Avg Wgt	Return	Contribution
OCCIDENTAL PTL.	1.46	-22.81	-0.33
FEDEX	3.08	-9.14	-0.28
BANK OF NEW YORK MELLON	2.02	-11.95	-0.24
ALPHABET 'C'	3.04	-7.88	-0.24
APACHE	1.29	-15.83	-0.20
ELI LILLY	1.35	-14.15	-0.19
CHARLES SCHWAB	3.12	-5.65	-0.18
QURATE RETAIL SERIES A	0.72	-22.47	-0.16
HALLIBURTON	0.67	-21.75	-0.15
BAKER HUGHES A	1.29	-10.46	-0.14

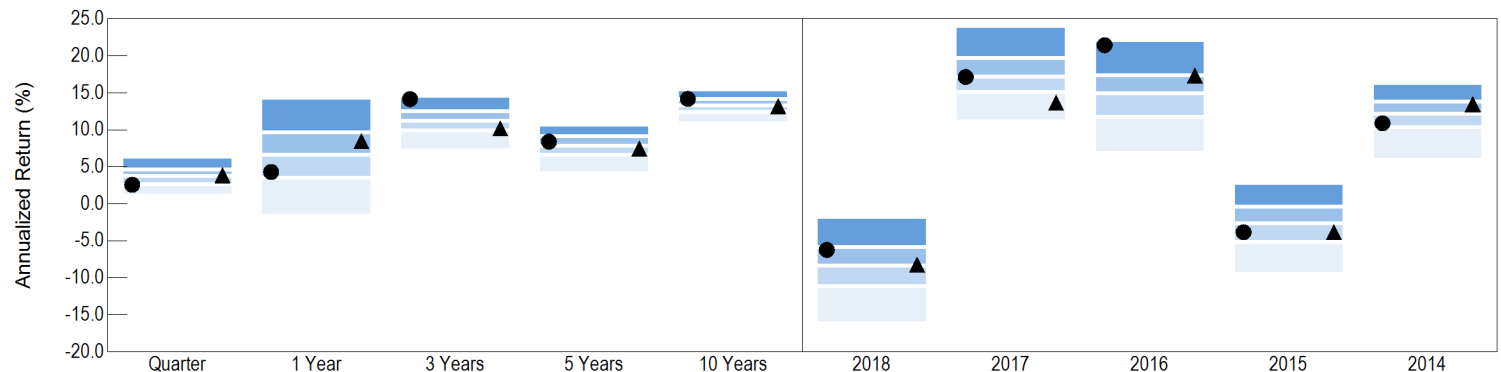
Unclassified sector allocation includes cash allocations.

Dodge & Cox-Equity Manager Performance Comparisons (Gross of Fees)

Period Ending: June 30, 2019

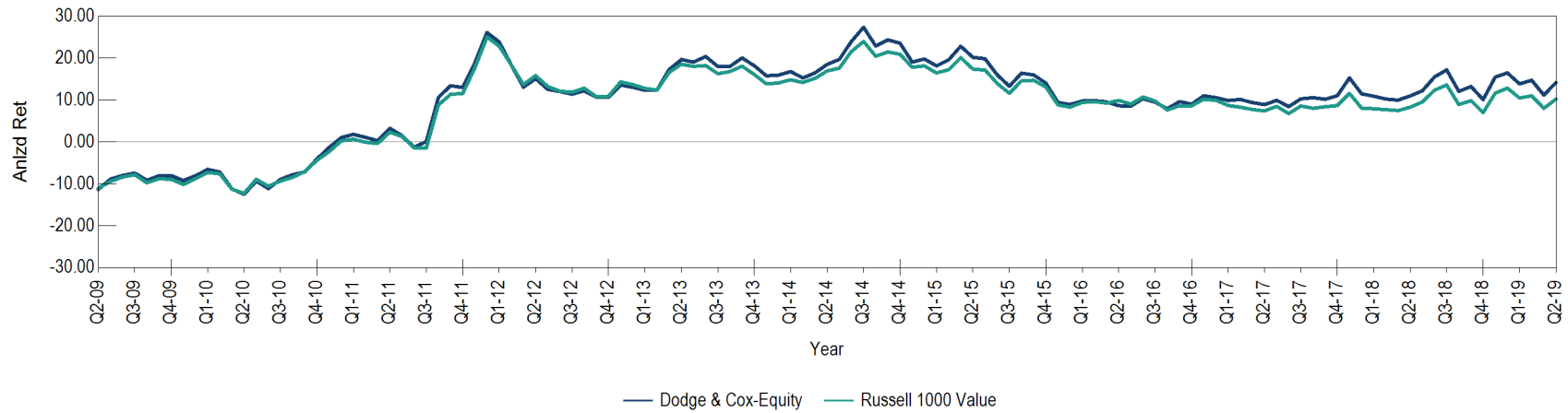


Dodge & Cox-Equity vs. eV US Large Cap Value Equity Gross Universe

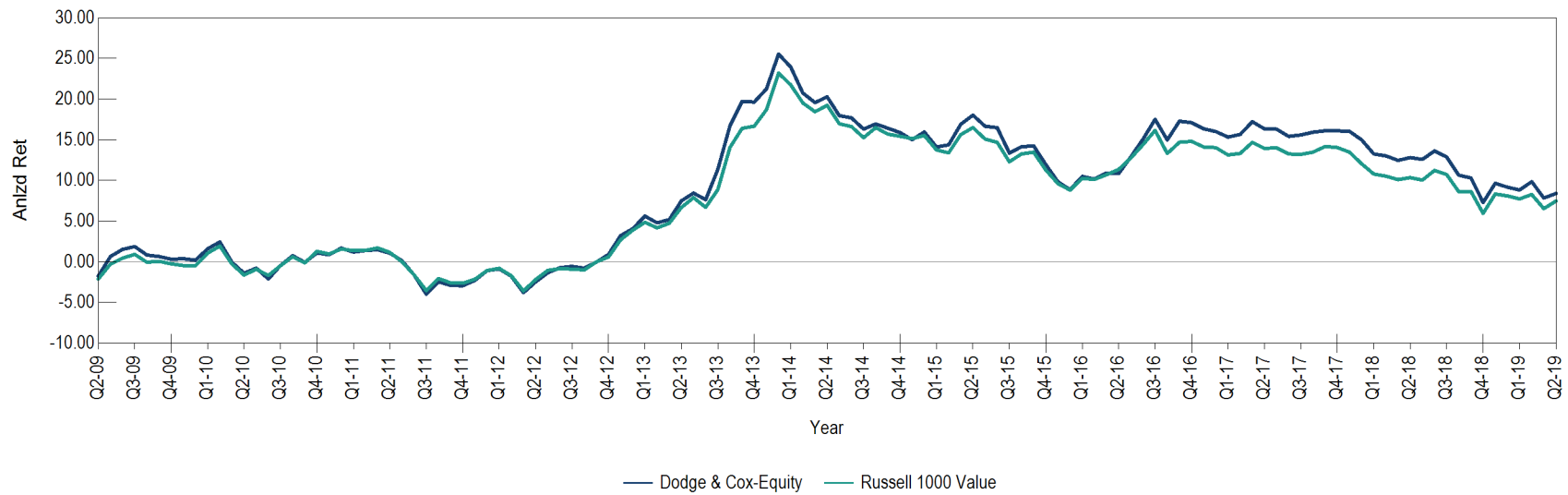


		Return (Rank)																			
5th Percentile		6.4	14.3	14.6	10.7	15.4	-1.8	24.0	22.1	2.8	16.3										
25th Percentile		4.7	9.7	12.6	9.1	14.2	-5.8	19.8	17.4	-0.4	13.9										
Median		3.8	6.7	11.2	7.9	13.4	-8.3	17.2	15.0	-2.6	12.2										
75th Percentile		2.6	3.5	10.0	6.7	12.5	-11.1	15.1	11.8	-5.1	10.4										
95th Percentile		1.1	-1.5	7.3	4.2	10.9	-16.1	11.2	7.0	-9.4	5.9										
# of Portfolios		333	333	329	322	273	336	342	346	312	307										
●	Dodge & Cox-Equity	2.6	(76)	4.3	(71)	14.1	(7)	8.4	(39)	14.2	(26)	-6.3	(29)	17.1	(52)	21.4	(6)	-3.9	(64)	10.9	(72)
▲	Russell 1000 Value	3.8	(49)	8.5	(34)	10.2	(71)	7.5	(60)	13.2	(57)	-8.3	(50)	13.7	(87)	17.3	(26)	-3.8	(64)	13.5	(33)

Rolling 3 Year Annualized Return (%)

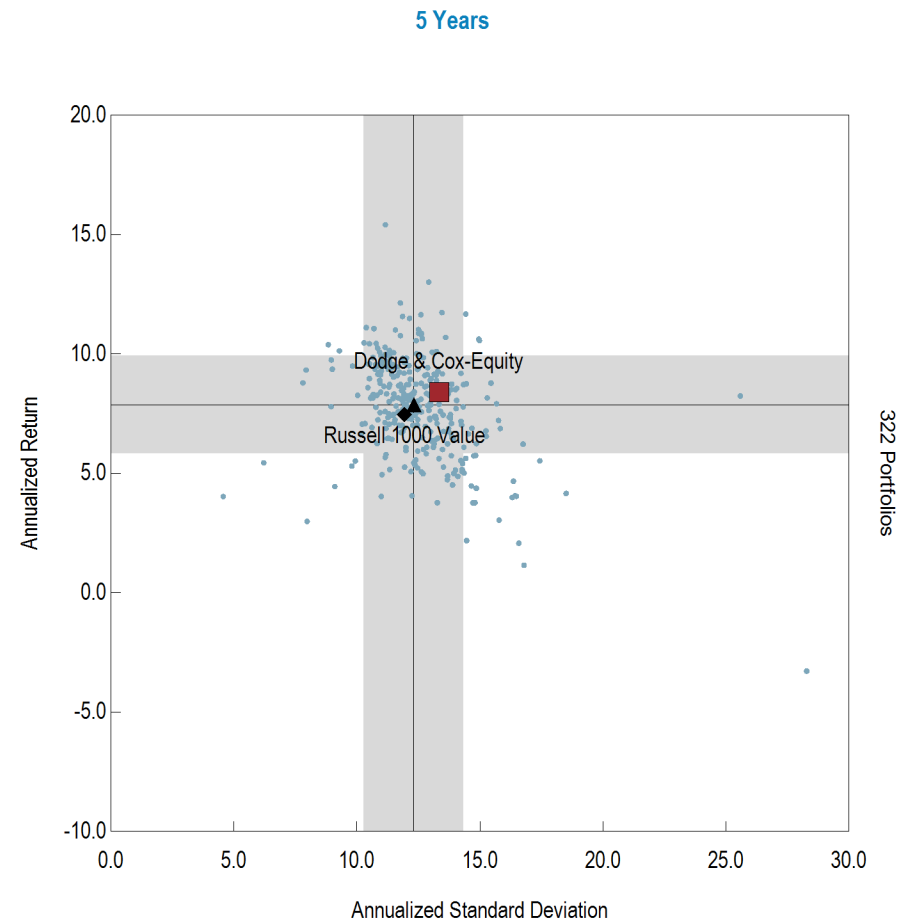
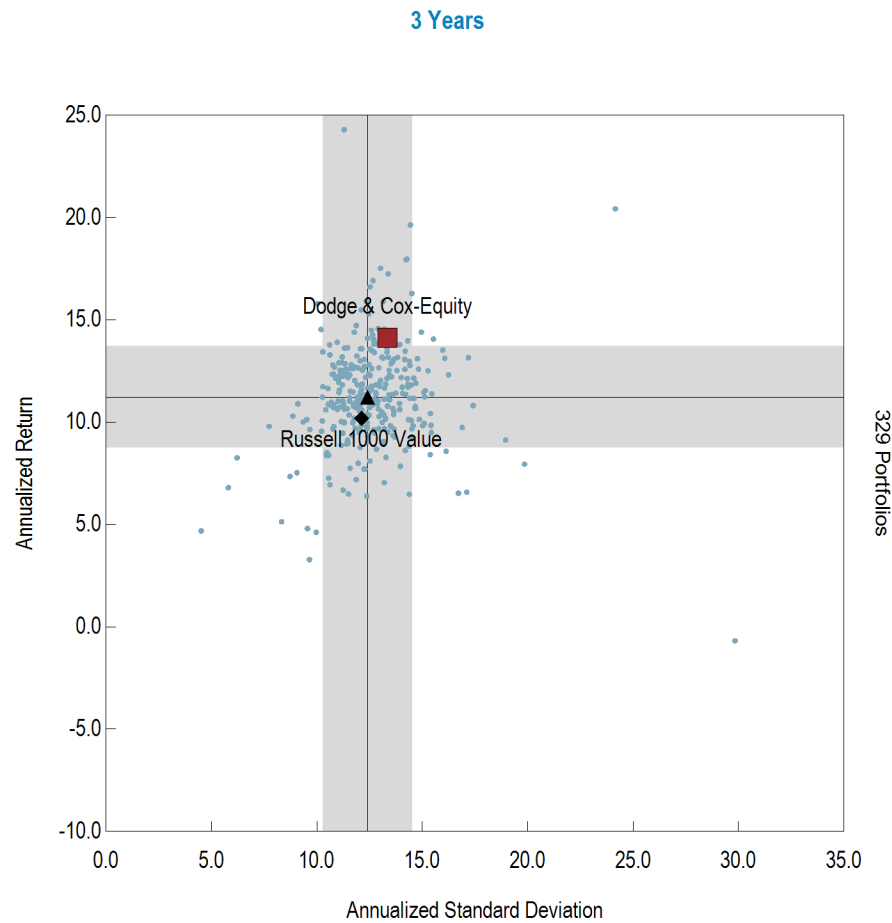


Rolling 5 Year Annualized Return (%)



Dodge & Cox-Equity Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: June 30, 2019



	3 Years		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Dodge & Cox-Equity	14.1%	13.4%	1.0
Russell 1000 Value	10.2%	12.1%	0.7
eV US Large Cap Value Equity Gross Median	11.2%	12.4%	0.8

	5 Years		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Dodge & Cox-Equity	8.4%	13.3%	0.6
Russell 1000 Value	7.5%	11.9%	0.6
eV US Large Cap Value Equity Gross Median	7.9%	12.3%	0.6

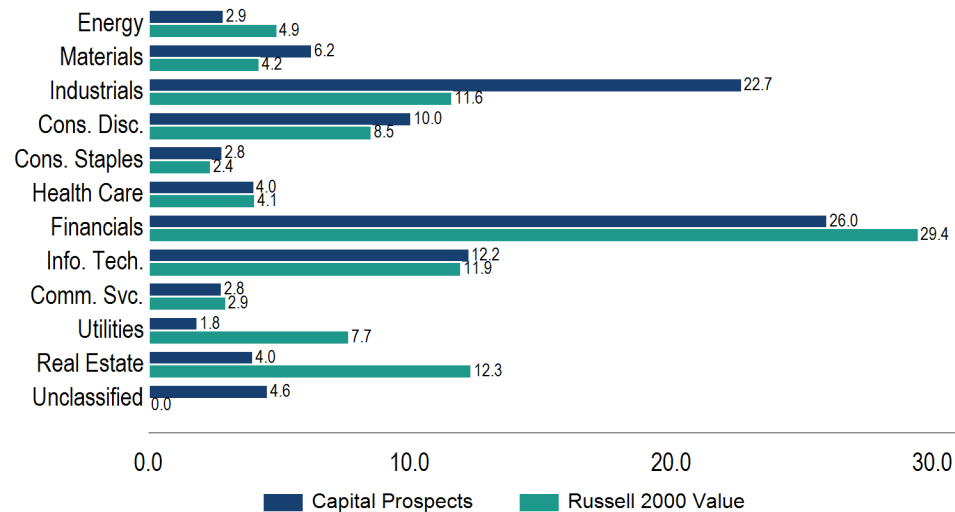
Capital Prospects Manager Portfolio Overview

Period Ending: June 30, 2019

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	288	1,347
Weighted Avg. Market Cap. (\$B)	2.46	2.18
Median Market Cap. (\$B)	1.27	0.67
Price To Earnings	16.44	16.21
Price To Book	1.95	1.68
Price To Sales	0.92	0.94
Return on Equity (%)	10.94	5.99
Yield (%)	1.77	2.23
Beta	1.03	1.00

Sector Allocation (%) vs Russell 2000 Value



Largest Holdings

	End Weight	Return
ARCONIC	1.57	35.24
OFG BANCORP	1.33	20.47
AIR LEASE	1.21	20.75
CROWN HDG.	1.14	11.97
HOSTESS BRANDS CL.A	1.06	15.52
VERSO 'A'	1.05	-11.06
LITTELFUSE	1.01	-2.81
MEREDITH	0.88	0.71
HILLENBRAND	0.86	-4.21
CATALENT	0.82	33.56

Top Contributors

	Avg Wgt	Return	Contribution
ARCONIC	1.31	35.24	0.46
OFG BANCORP	1.13	20.47	0.23
CATALENT	0.68	33.56	0.23
AIR LEASE	1.10	20.75	0.23
HOSTESS BRANDS CL.A	1.00	15.52	0.15
ULTRA CLEAN HOLDINGS	0.44	34.49	0.15
OCH-ZIFF	0.35	42.84	0.15
CAP.MAN.GP.CL.A	0.39	35.49	0.14
GENERAC HOLDINGS	0.78	17.28	0.13
PAC.PREMIER BANC.	0.09	149.09	0.13

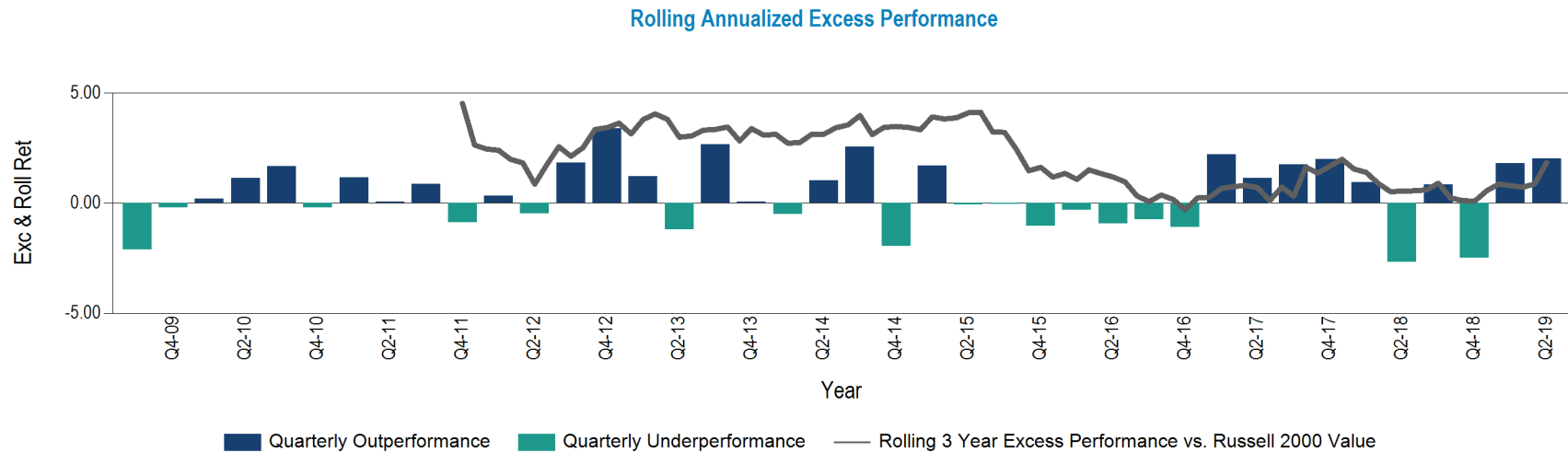
Bottom Contributors

	Avg Wgt	Return	Contribution
RANGE RES.	0.49	-37.72	-0.19
VERSO 'A'	1.15	-11.06	-0.13
SHUTTERSTOCK	0.70	-15.96	-0.11
G-III APPAREL GROUP	0.40	-26.38	-0.11
MICHAELS COMPANIES	0.44	-23.82	-0.11
TREEHOUSE FOODS	0.57	-16.19	-0.09
CLOUDERA	0.17	-51.92	-0.09
VERINT SYSTEMS	0.79	-10.16	-0.08
ZAGG	0.34	-23.26	-0.08
INVACARE	0.20	-37.89	-0.08

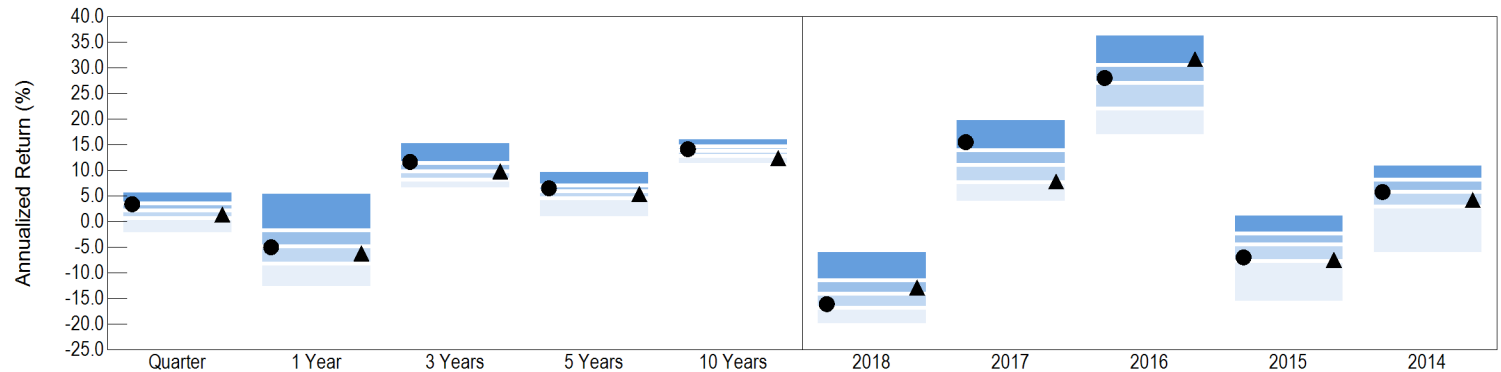
Unclassified sector allocation includes cash allocations.

Capital Prospects Manager Performance Comparisons (Gross of Fees)

Period Ending: June 30, 2019



Capital Prospects vs. eV US Small Cap Value Equity Gross Universe



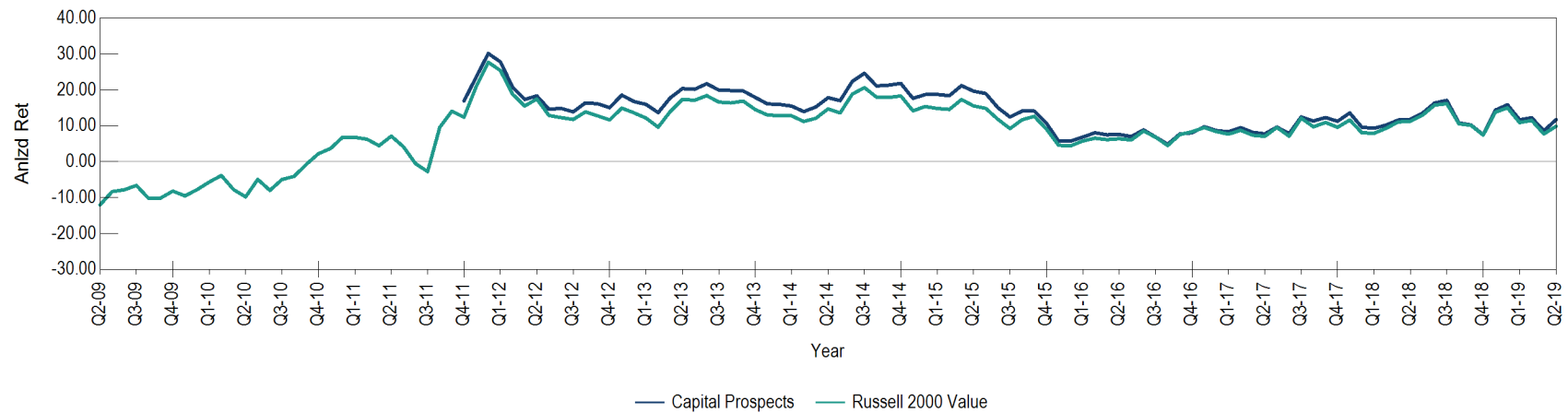
	Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)	
5th Percentile	6.1	(27)	5.8	(52)	15.7	(25)	10.1	(38)	16.4	(45)	-5.7	(71)	20.2	(18)	36.7	(40)	1.5	(72)
25th Percentile	3.6	(68)	-1.6	(61)	11.5	(51)	7.1	(63)	14.8	(84)	-11.4	(39)	14.1	(75)	30.7	(17)	-2.2	(74)
Median	2.2		-4.8		9.9		6.0		13.9		-14.0		11.1		27.2		-4.3	
75th Percentile	0.7		-8.2		8.3		4.6		12.9		-16.7		7.8		22.2		-7.7	
95th Percentile	-2.4		-12.9		6.4		0.8		11.1		-20.2		3.7		16.8		-15.8	
# of Portfolios	221		221		216		206		183		220		224		222		212	
● Capital Prospects	3.4	(27)	-5.0	(52)	11.7	(25)	6.5	(38)	14.1	(45)	-16.1	(71)	15.5	(18)	28.1	(40)	-7.0	(72)
▲ Russell 2000 Value	1.4	(68)	-6.2	(61)	9.8	(51)	5.4	(63)	12.4	(84)	-12.9	(39)	7.8	(75)	31.7	(17)	-7.5	(74)

Capital Prospects

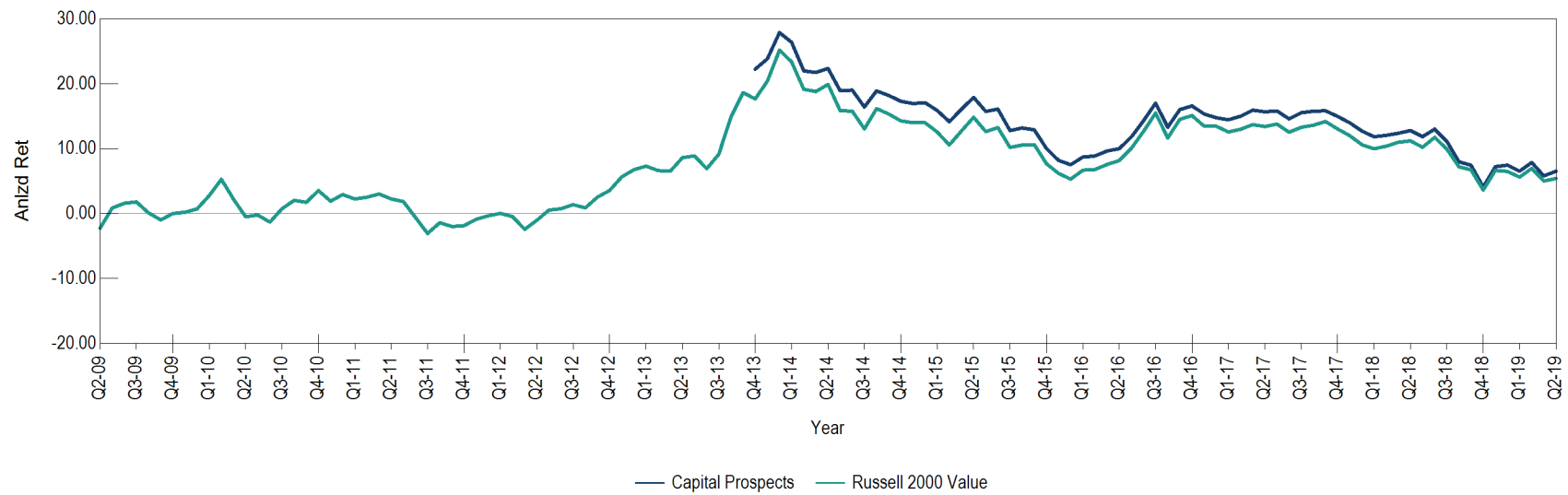
Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: June 30, 2019

Rolling 3 Year Annualized Return (%)



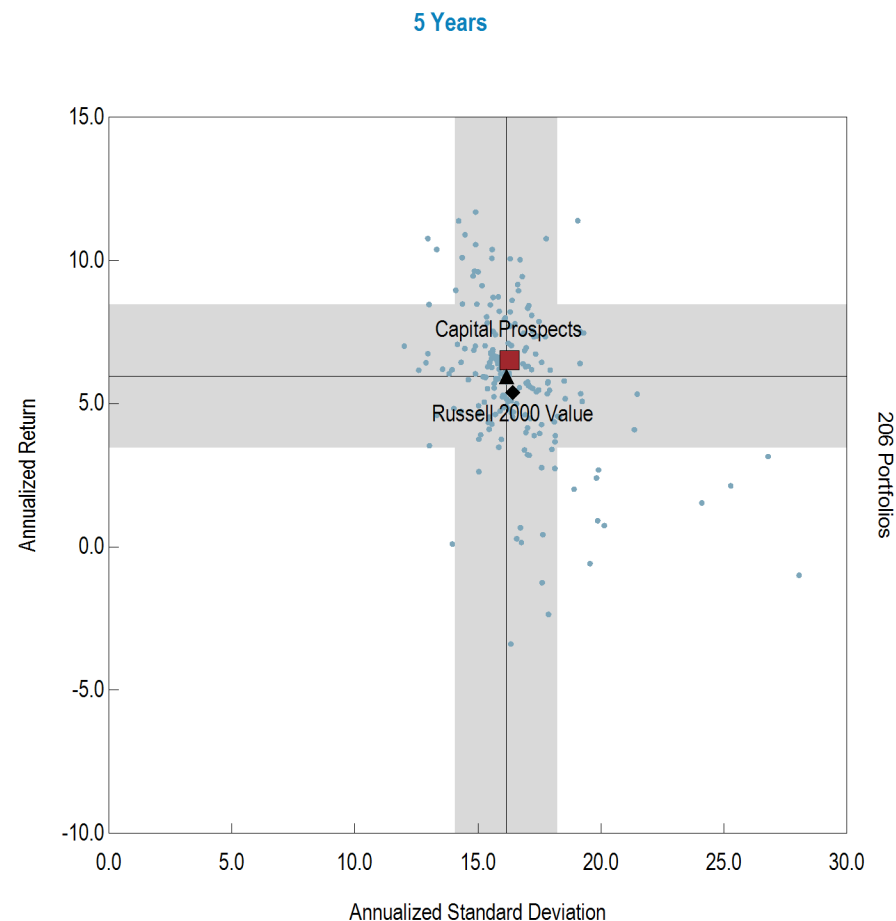
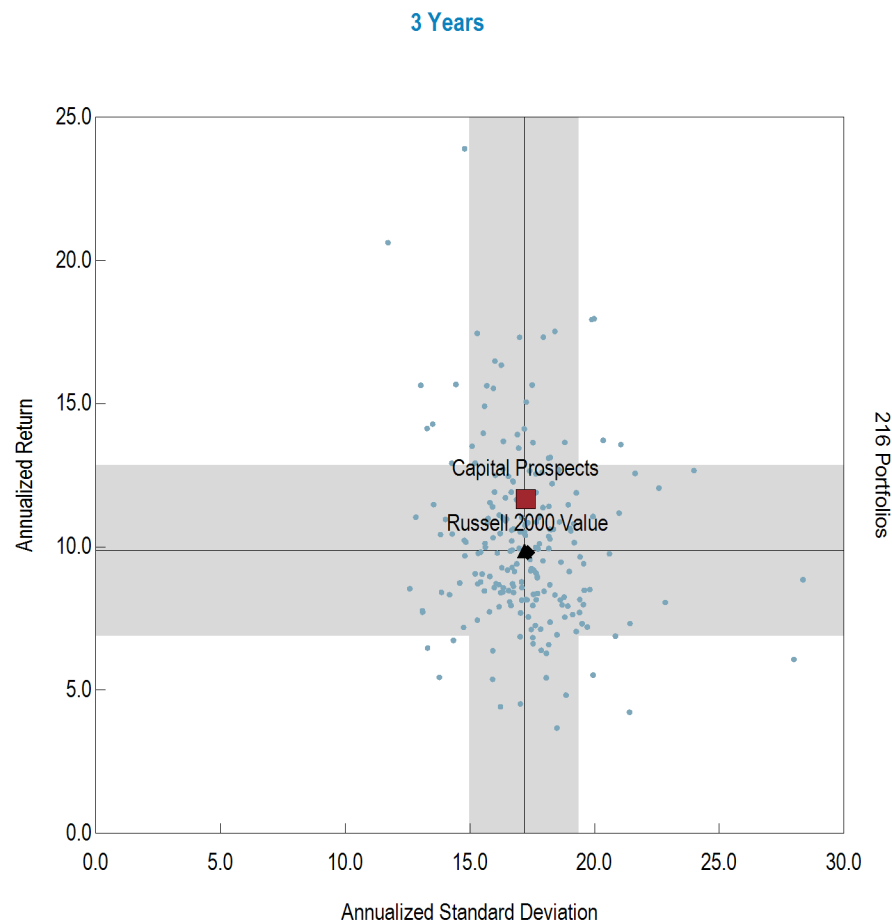
Rolling 5 Year Annualized Return (%)



Capital Prospects

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

Period Ending: June 30, 2019



	3 Years		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Capital Prospects	11.7%	17.2%	0.6
Russell 2000 Value	9.8%	17.3%	0.5
eV US Small Cap Value Equity Gross Median	9.9%	17.2%	0.5

	5 Years		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Capital Prospects	6.5%	16.3%	0.3
Russell 2000 Value	5.4%	16.4%	0.3
eV US Small Cap Value Equity Gross Median	6.0%	16.2%	0.3

International Equity Managers

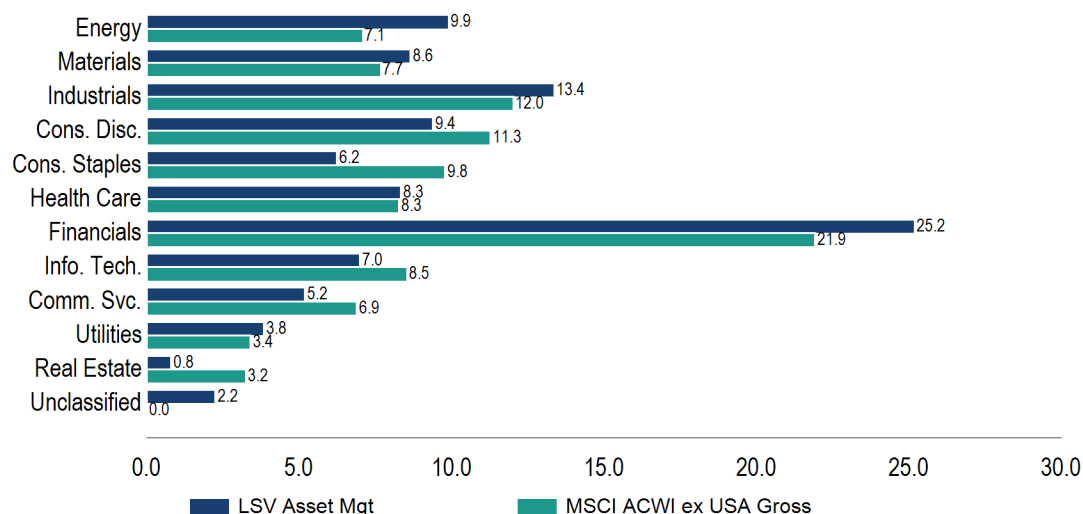
LSV Asset Mgt Manager Portfolio Overview

Period Ending: June 30, 2019

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	270	2,204
Weighted Avg. Market Cap. (\$B)	36.49	65.43
Median Market Cap. (\$B)	6.15	7.58
Price To Earnings	9.89	15.00
Price To Book	1.55	2.31
Price To Sales	0.60	1.17
Return on Equity (%)	13.83	15.32
Yield (%)	4.50	3.20
Beta	1.02	1.00

Sector Allocation (%) vs MSCI ACWI ex USA Gross



Largest Holdings

	End Weight	Return
ROCHE HOLDING	2.52	2.25
ROYAL DUTCH SHELL B	1.98	5.33
SANOFI	1.79	1.87
SAMSUNG ELECTRONICS	1.74	3.48
ENEL	1.52	9.18
TOTAL	1.42	2.26
NIPPON TELG. & TEL.	1.28	9.59
GLAXOSMITHKLINE	1.25	-2.38
SWISS LIFE HOLDING	1.24	16.70
KDDI	1.24	18.18

Top Contributors

	Avg Wgt	Return	Contribution
PJSC GAZPROM ADR CDI 1:2	0.40	62.30	0.25
CIA PARANAENSE DE ENERGIA COPEL PN	0.64	36.82	0.23
SWISS LIFE HOLDING	1.34	16.70	0.22
KDDI	1.19	18.18	0.22
QUALICORP ON	0.32	54.45	0.18
WESTJET AIRLINES	0.26	62.50	0.16
MRV ENGENHARIA E PARTICIPACOES ON	0.35	45.06	0.16
ALLIANZ	1.16	12.69	0.15
ENEL	1.37	9.18	0.13
JBS ON	0.35	35.36	0.12

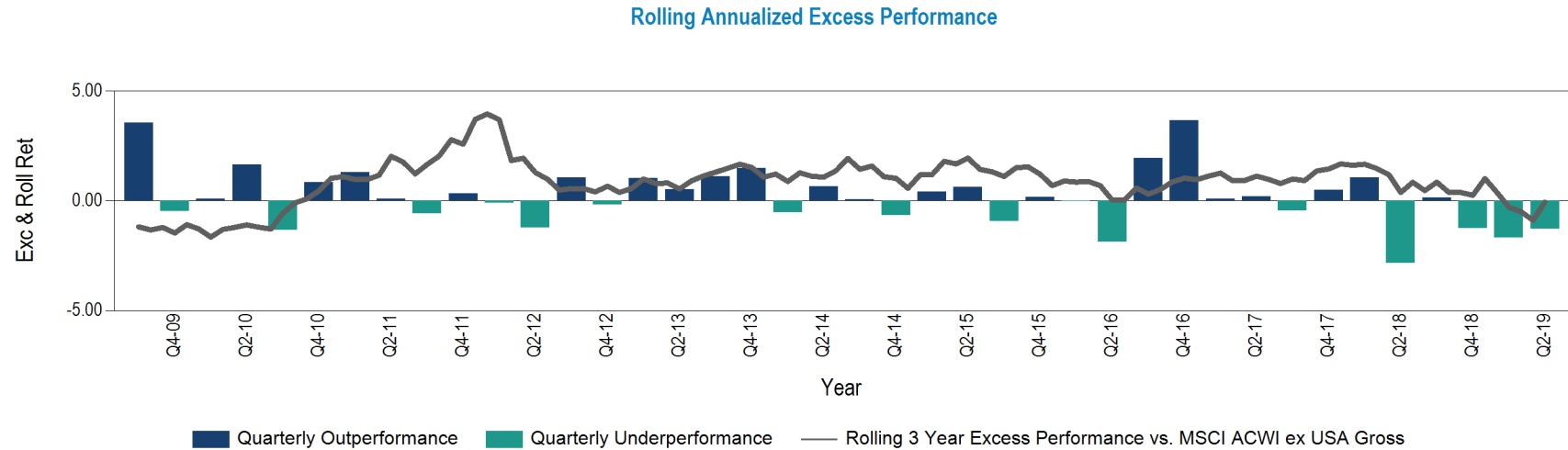
Bottom Contributors

	Avg Wgt	Return	Contribution
IMPERIAL BRANDS	0.66	-30.23	-0.20
KONINKLIJKE AHOLD	1.24	-12.75	-0.16
DELHAIZE	0.64	-18.65	-0.12
SINOTRUK (HONG KONG)	0.10	-85.21	-0.09
PSK HOLDINGS	0.44	-16.68	-0.07
AIR CHINA 'H'	0.49	-13.26	-0.06
AGILE GROUP HDG.	0.33	-18.52	-0.06
DEUTSCHE LUFTHANSA	0.46	-13.31	-0.06
ISUZU MOTORS	0.34	-17.72	-0.06
FUKUOKA FINANCIAL GP.	0.43	-13.45	-0.06
JFE HOLDINGS			

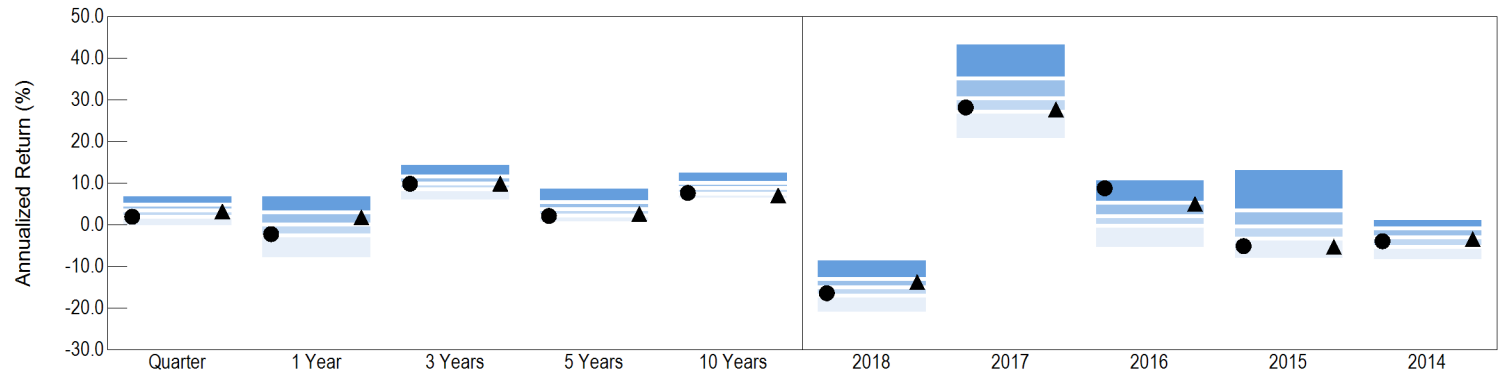
Unclassified sector allocation includes cash allocations.

LSV Asset Mgt Manager Performance Comparisons

Period Ending: June 30, 2019

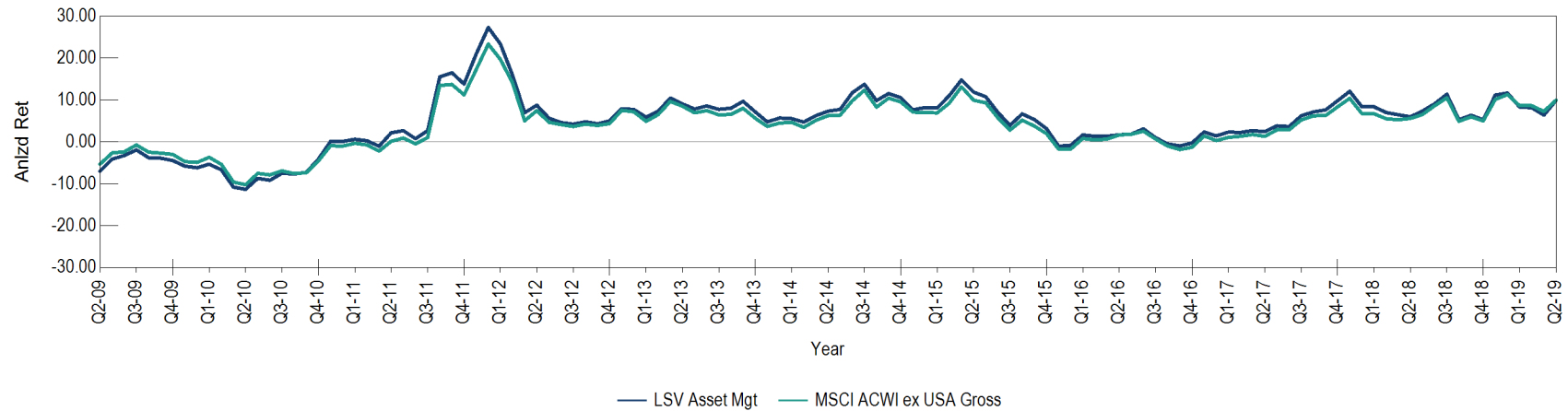


LSV Asset Mgt vs. eV ACWI ex-US Equity Unhedged Gross Universe

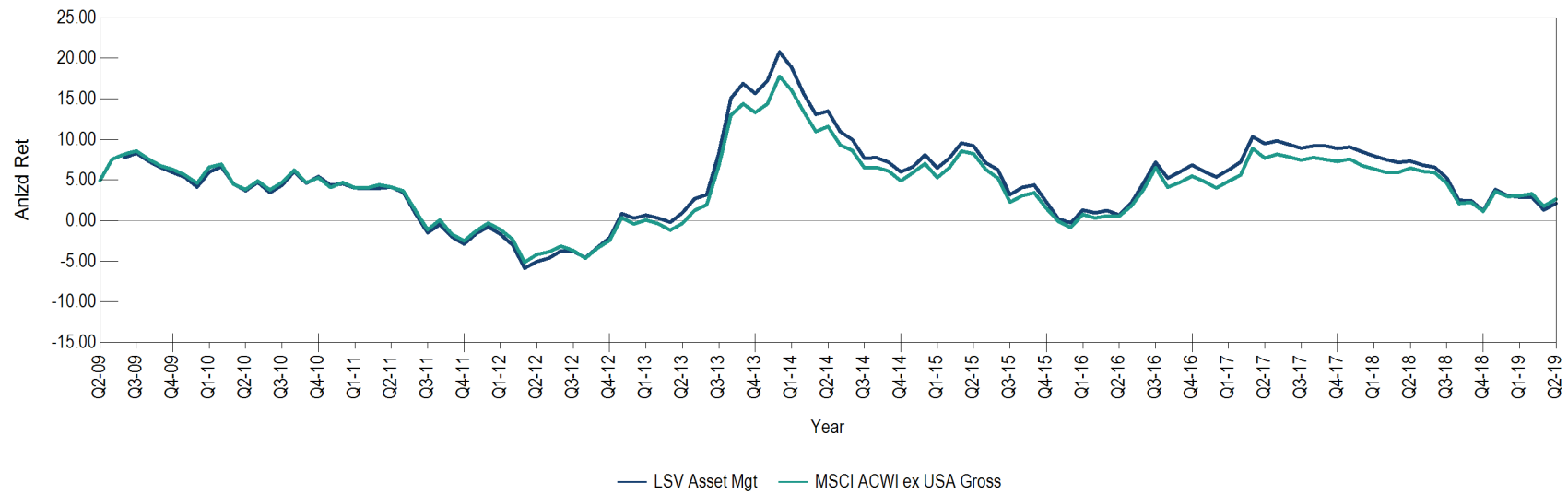


	Return (Rank)													
5th Percentile	7.2	(76)	7.3	(75)	14.7	(53)	9.0	(77)	12.9	(75)	-8.1	(67)	43.8	(67)
25th Percentile	4.9	(57)	3.0	(36)	11.6	(51)	5.5	(69)	10.2	(83)	-12.9	(35)	35.2	(71)
Median	3.5		0.2		10.0		3.8		8.9		-15.0		30.6	
75th Percentile	2.0		-2.5		8.6		2.4		7.6		-17.0		27.2	
95th Percentile	-0.5		-8.1		5.6		0.5		6.1		-21.3		20.5	
# of Portfolios	264		264		255		221		144		258		254	
LSV Asset Mgt	1.9	(76)	-2.2	(75)	9.9	(53)	2.1	(77)	7.7	(75)	-16.4	(67)	28.2	(67)
MSCI ACWI ex USA Gross	3.2	(57)	1.8	(36)	9.9	(51)	2.6	(69)	7.0	(83)	-13.8	(35)	27.8	(71)
													5.0	(27)
													-5.1	(86)
													-5.3	(87)
													-4.0	(65)
													-3.4	(58)

Rolling 3 Year Annualized Return (%)



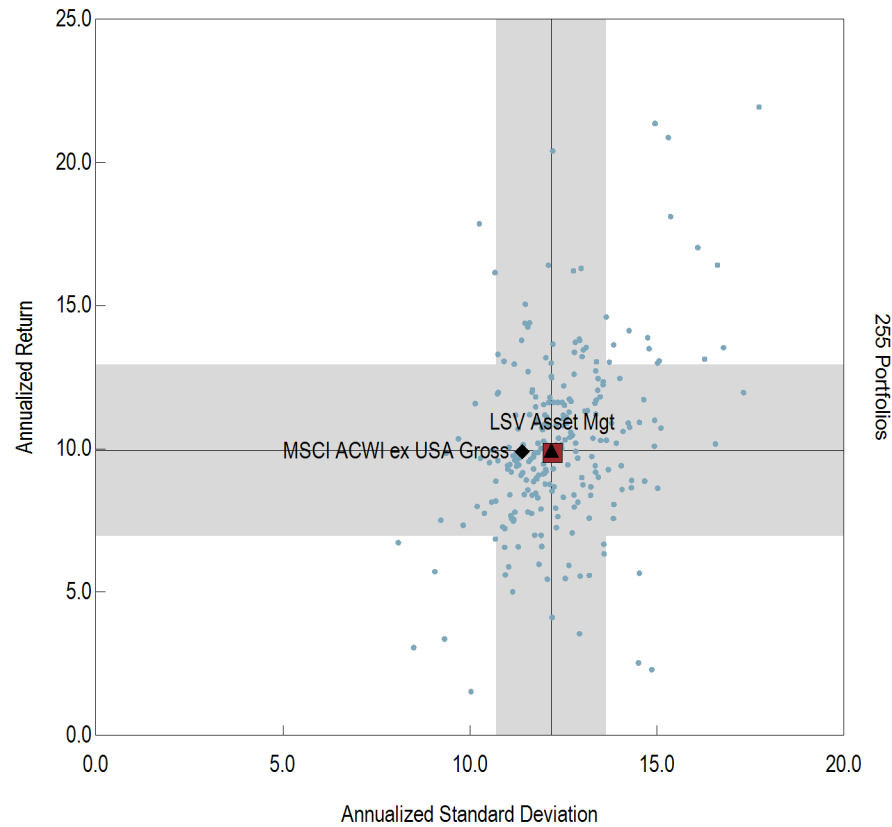
Rolling 5 Year Annualized Return (%)



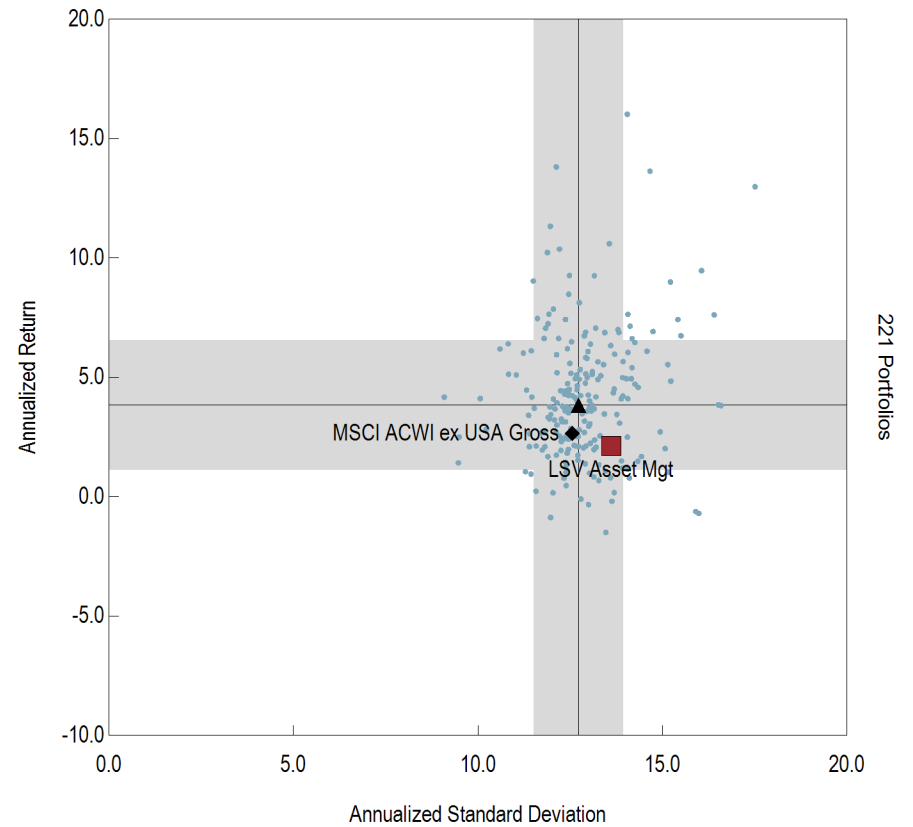
LSV Asset Mgt
Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: June 30, 2019

3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
LSV Asset Mgt	9.9%	12.2%	0.7
MSCI ACWI ex USA Gross	9.9%	11.4%	0.7
eV ACWI ex-US Equity Unhedged Gross Median	10.0%	12.2%	0.7

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
LSV Asset Mgt	2.1%	13.6%	0.1
MSCI ACWI ex USA Gross	2.6%	12.6%	0.1
eV ACWI ex-US Equity Unhedged Gross Median	3.8%	12.7%	0.2

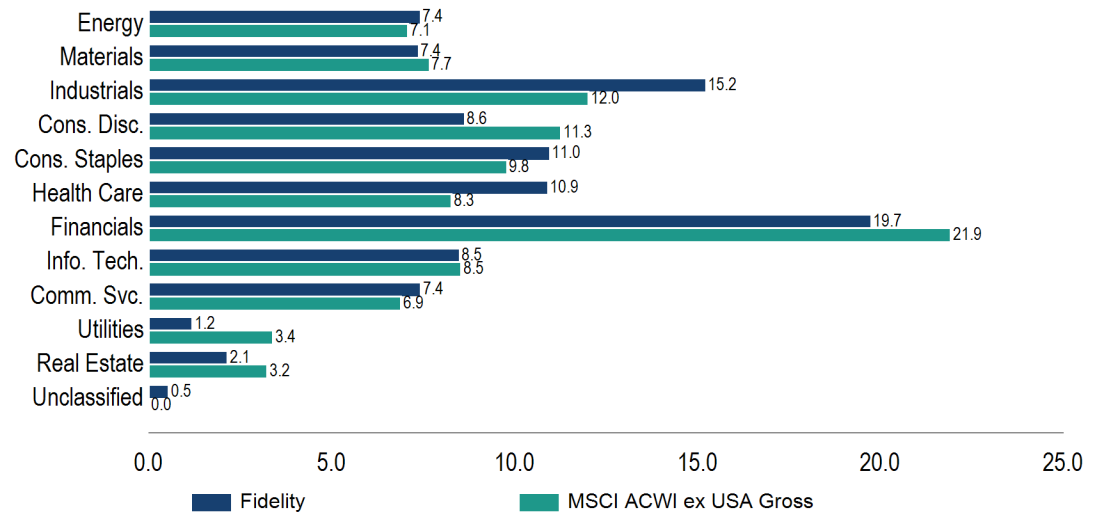
Fidelity Manager Portfolio Overview

Period Ending: June 30, 2019

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	221	2,204
Weighted Avg. Market Cap. (\$B)	65.77	65.43
Median Market Cap. (\$B)	14.86	7.58
Price To Earnings	17.32	15.00
Price To Book	2.64	2.31
Price To Sales	1.31	1.17
Return on Equity (%)	16.96	15.32
Yield (%)	2.66	3.20
Beta	1.02	1.00

Sector Allocation (%) vs MSCI ACWI ex USA Gross



Largest Holdings

	End Weight	Return
AIA GROUP	2.35	9.68
TENCENT HOLDINGS	2.13	-1.58
NESTLE 'R'	1.94	11.60
SAP	1.86	20.27
ROCHE HOLDING	1.58	2.25
ROYAL DUTCH SHELL A	1.56	5.59
TECHTRONIC INDS.	1.42	15.04
TAIWAN SEMICON.MNFG.	1.19	-0.19
BP	1.16	-2.62
SANOFI	1.16	1.87

Top Contributors

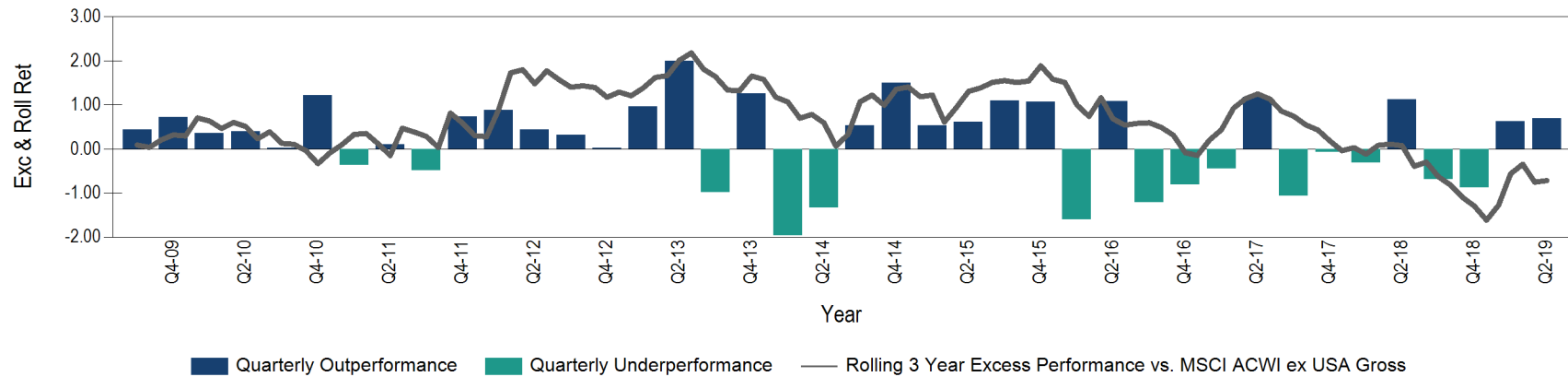
	Avg Wgt	Return	Contribution
SAP	1.70	20.27	0.35
NESTLE 'R'	1.85	11.60	0.21
ADIDAS	0.76	28.14	0.21
TECHTRONIC INDS.	1.29	15.04	0.19
AIA GROUP	1.82	9.68	0.18
TAIYO NIPPON SAN SO	0.36	39.42	0.14
HOYA	0.85	16.02	0.14
LVMH	0.76	17.11	0.13
ALLIANZ	0.92	12.69	0.12
GETINGE B	0.32	36.15	0.11

Bottom Contributors

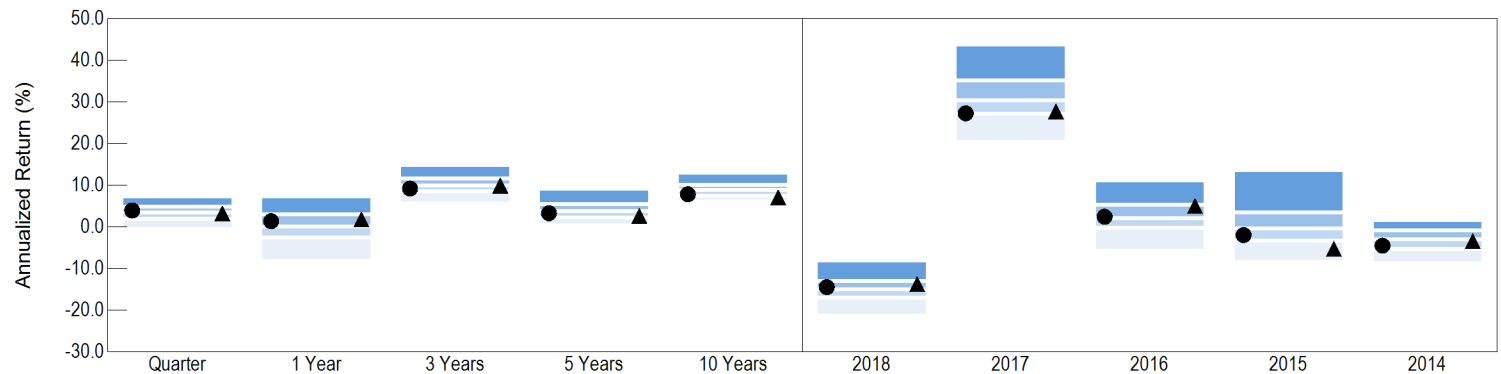
	Avg Wgt	Return	Contribution
GLENCORE	0.79	-14.01	-0.11
BRITISH AMERICAN TOBACCO	0.76	-14.39	-0.11
TAKEDA PHARMACEUTICAL	0.48	-13.13	-0.06
CHALLENGER	0.28	-20.78	-0.06
HYUNDAI MARINE & FIRE IN.	0.21	-26.21	-0.06
TATA COMMUNICATIONS	0.25	-20.57	-0.05
UNI CHARM	0.51	-8.62	-0.04
SHIMADZU	0.28	-15.18	-0.04
LLOYDS BANKING GROUP	0.52	-8.01	-0.04
ARCELORMITTAL	0.39	-10.58	-0.04

Unclassified sector allocation includes cash allocations.

Rolling Annualized Excess Performance

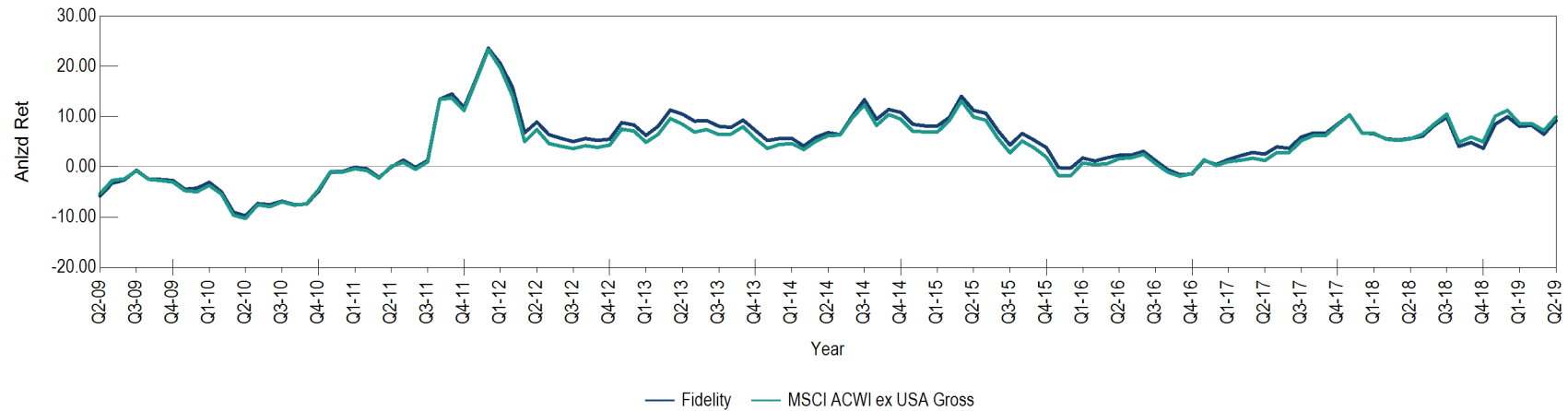


Fidelity vs. eV ACWI ex-US Equity Unhedged Gross Universe

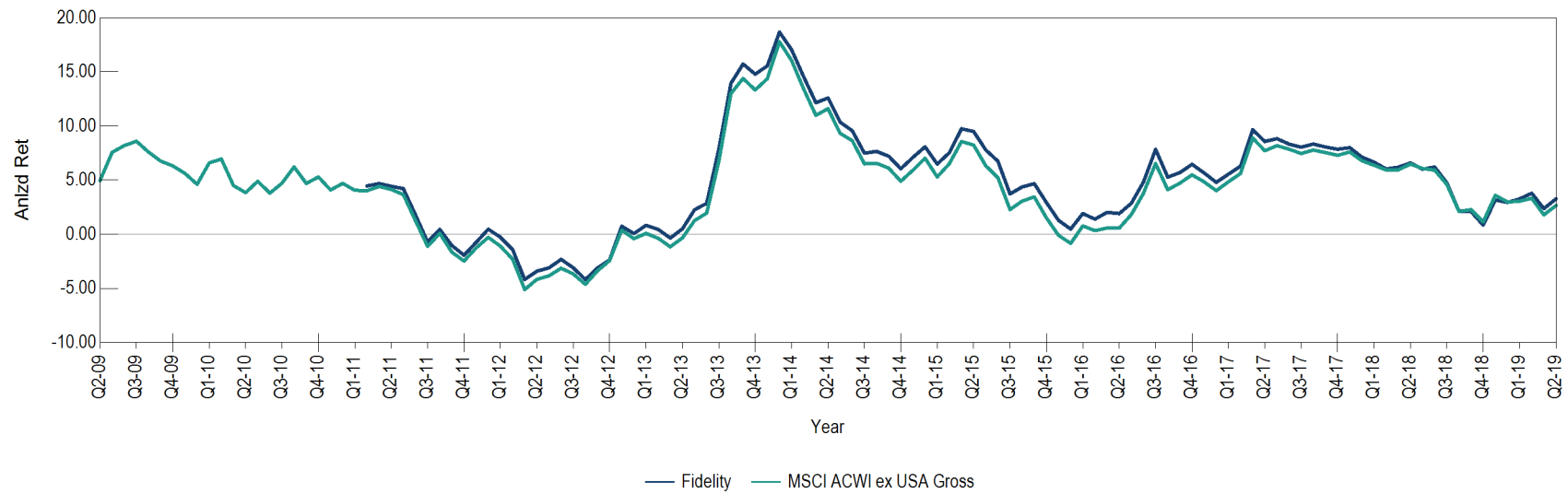


	Return (Rank)															
5th Percentile	7.2		7.3		14.7		9.0		12.9		-8.1		43.8		11.1	
25th Percentile	4.9		3.0		11.6		5.5		10.2		-12.9		35.2		5.3	
Median	3.5		0.2		10.0		3.8		8.9		-15.0		30.6		2.1	
75th Percentile	2.0		-2.5		8.6		2.4		7.6		-17.0		27.2		-0.2	
95th Percentile	-0.5		-8.1		5.6		0.5		6.1		-21.3		20.5		-5.8	
# of Portfolios	264		264		255		221		144		258		254		238	
● Fidelity	3.9	(43)	1.3	(41)	9.2	(67)	3.3	(60)	7.8	(73)	-14.5	(45)	27.3	(74)	2.4	(46)
▲ MSCI ACWI ex USA Gross	3.2	(57)	1.8	(36)	9.9	(51)	2.6	(69)	7.0	(83)	-13.8	(35)	27.8	(71)	5.0	(27)
															-2.0	(66)
															-5.3	(87)
															-4.5	(70)
															-3.4	(58)

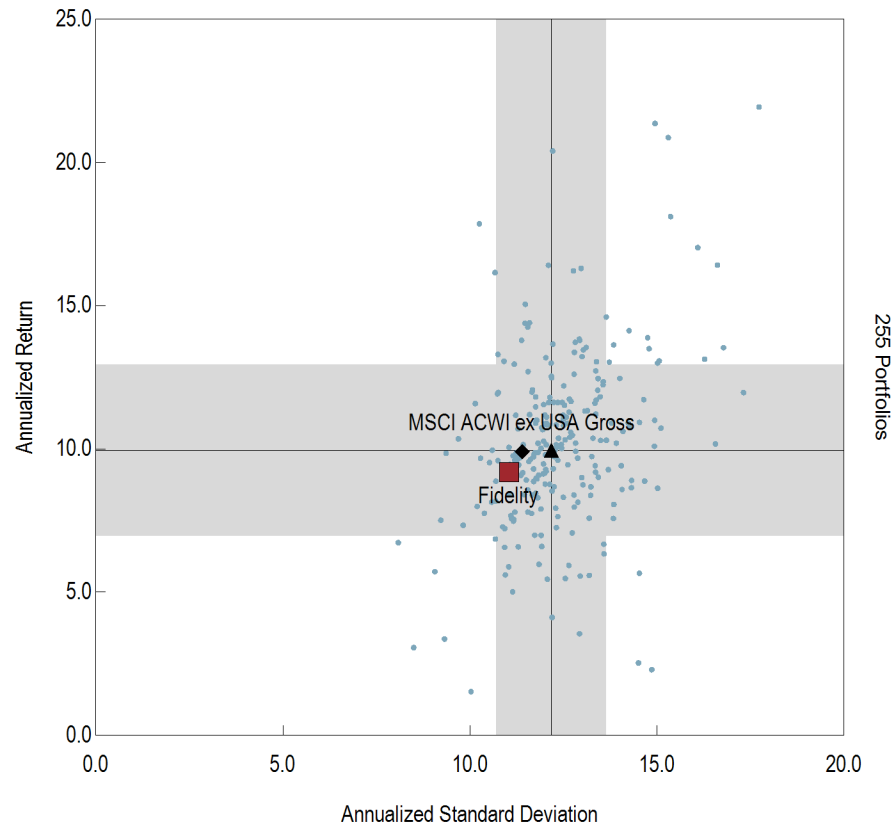
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)



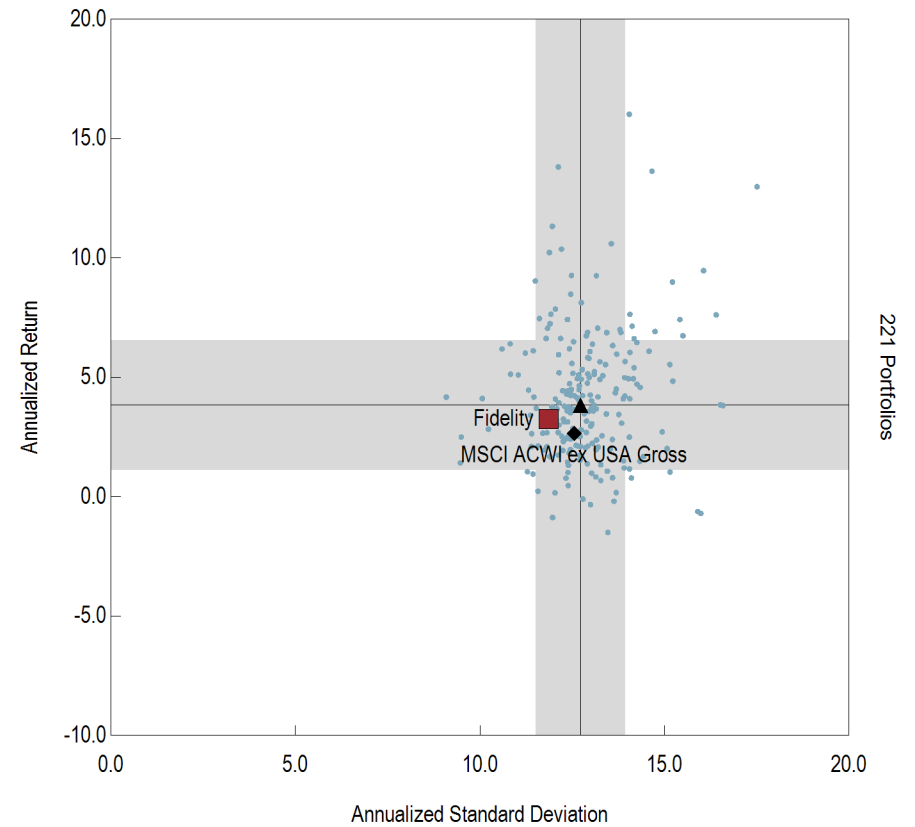
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Fidelity	9.2%	11.0%	0.7
MSCI ACWI ex USA Gross	9.9%	11.4%	0.7
eV ACWI ex-US Equity Unhedged Gross Median	10.0%	12.2%	0.7

5 Years



5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Fidelity	3.3%	11.9%	0.2
MSCI ACWI ex USA Gross	2.6%	12.6%	0.1
eV ACWI ex-US Equity Unhedged Gross Median	3.8%	12.7%	0.2

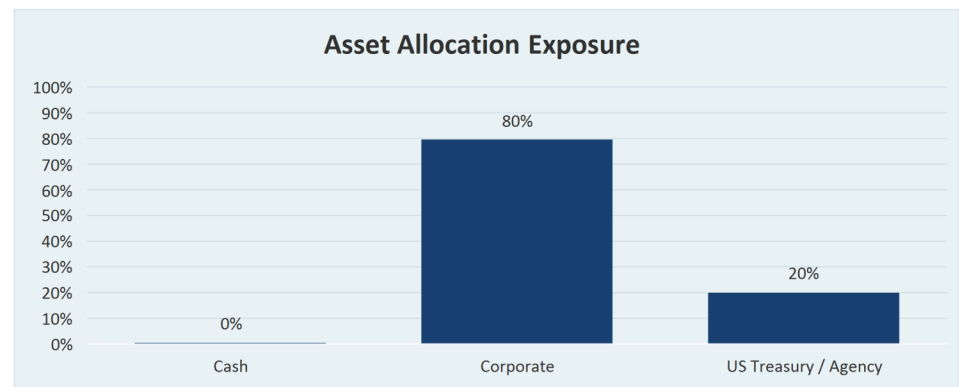
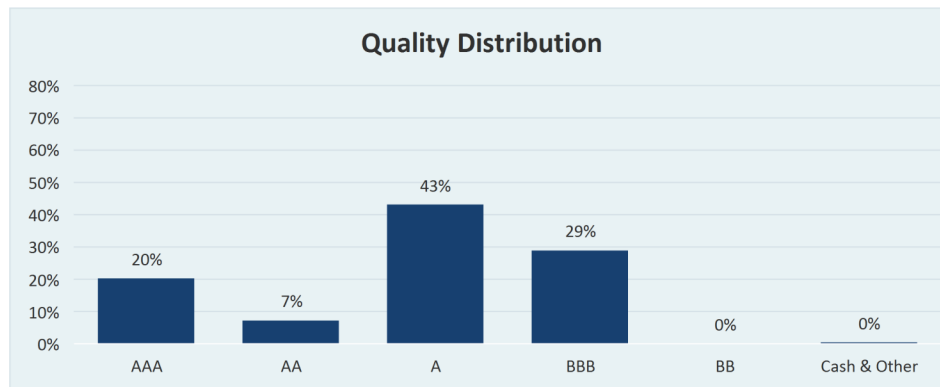
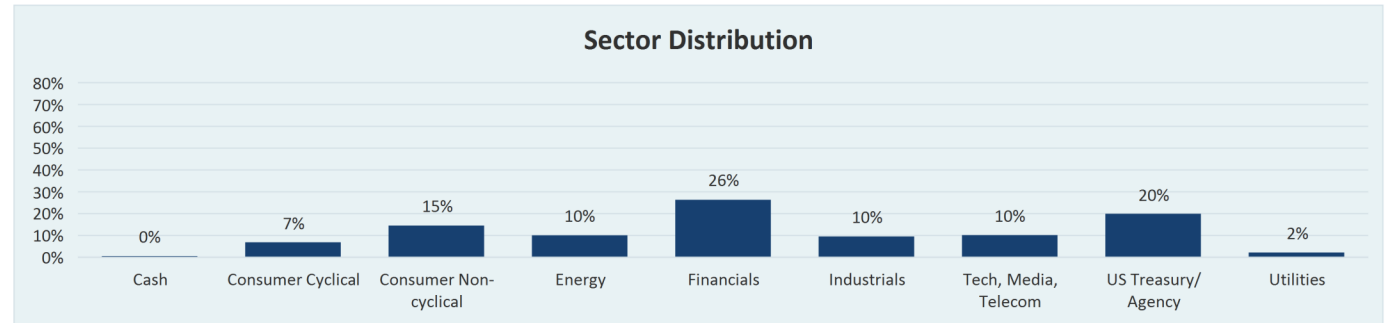
Domestic Fixed Income Managers

Insight

Manager Portfolio Overview

Period Ending: June 30, 2019

Summary	Portfolio
Average Quality	A
Effective duration (years)	4.39
Average Coupon	3.39%
Yield to Worst	2.52%

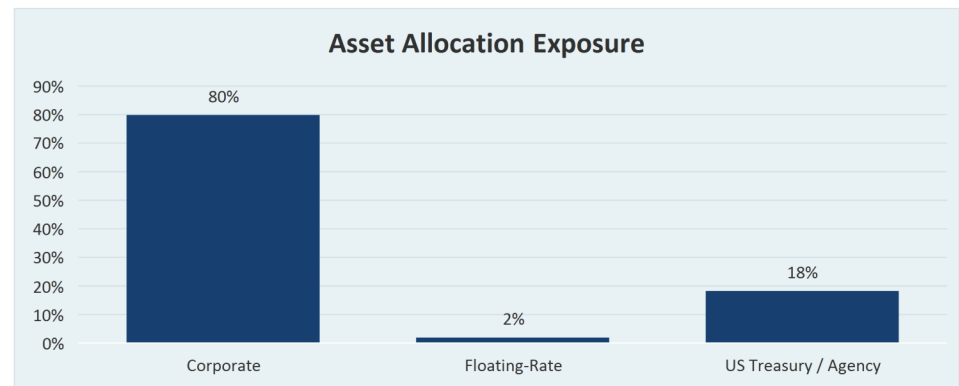
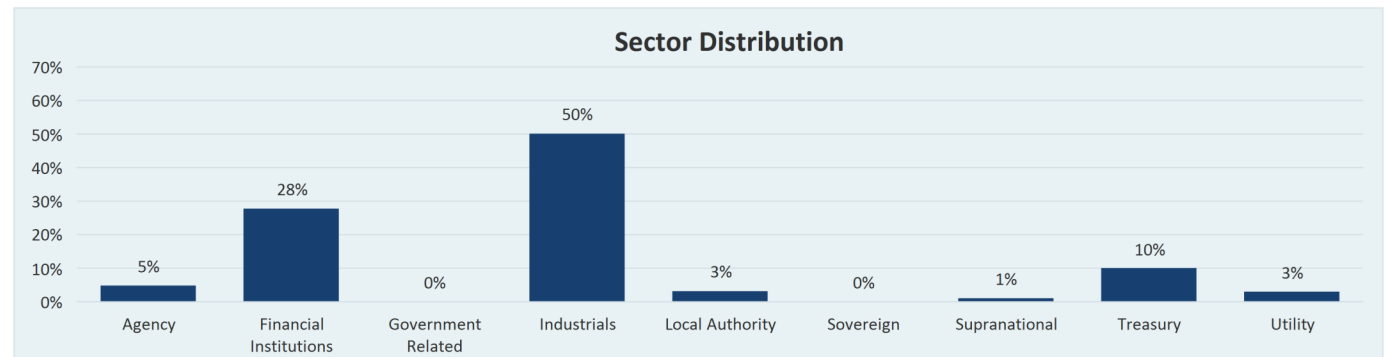


DFA

Manager Portfolio Overview

Period Ending: June 30, 2019

Summary	Portfolio
Average Quality	A
Effective duration (years)	1.74
Average Coupon	2.90%
Yield to Worst	2.39%



Performance Return Calculations

Performance is calculated using 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

<u>Manager</u>	<u>Fund Incepted</u>	<u>Data Source</u>	<u>Manager</u>	<u>Fund Incepted</u>	<u>Data Source</u>
Northern Trust Russell 3000	12/31/2018	Northern Trust	Prime Property Fund	9/30/2015	Prime Property
BlackRock Russell 1000 Growth	6/30/2010	BlackRock	American Strategic Value Realty	12/31/2014	American Realty
BlackRock Russell 1000 Value	7/31/2009	BlackRock	BlackRock US Real Estate	9/30/2012	BlackRock
Dodge & Cox - Equity	12/31/1994	Northern Trust	Greenfield Gap	7/31/2014	Greenfield
Capital Prospects	12/31/2008	Northern Trust	Medley Capital	5/31/2013	Medley Capital
LSV Asset Mgt	8/31/2004	Northern Trust	Raven Capital	5/31/2013	Raven Capital
Fidelity	4/30/2006	Northern Trust	Raven Opportunity III	7/31/2015	Raven Capital
Insight	6/29/2017	Northern Trust	White Oak Pinnacle	8/31/2013	White Oak
DFA	7/31/2017	Northern Trust	PanAgora Risk Parity Multi Asset	11/30/2017	PanAgora
Northern Trust Intermediate Gov't Bond	7/31/2017	Northern Trust	AQR Global Risk Premium - EL	3/5/2018	AQR
Northern Trust Long Term Gov't Bond	7/31/2017	Northern Trust	MS Infrastructure	5/31/2015	Morgan Stanley
			PGIM Real Estate US Debt Fund	9/28/2018	Prudential

Policy & Custom Index Composition

Policy Index (5/31/2019):	14% Russell 1000, 3% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 19% BBgBarc US Gov't/Credit 1-3 Yr, 3% BBgBarc US Treasury 7-10 Yr, 5% NCREIF Property, 5% NCREIF Property +2%, 2% CPI +5%, 6% S&P/LSTA Leveraged Loan Index + 2%, 13% 60% MSCI ACWI / 40% BBgBarc Global Aggregate, 1% Citi 1 Month T-Bills.
US Equity Blended:	60% Russell 1000, 15% Russell 2000, 25% Russell 3000 + 3%.
Prior Policy Index:	10% Russell 1000, 3% Russell 2000, 6% Russell 3000 + 3%, 27% MSCI ACWI ex-USA, 20% BBgBarc US Gov't/Credit 1-3 Yr, 3% BBgBarc US Treasury 7-10 Yr, 5% NCREIF Property, 5% NCREIF Property +2%, 1% CPI +5%, 6% S&P/LSTA Leveraged Loan Index + 2%, 13% 60% MSCI ACWI / 40% BBgBarc Global Aggregate, 1% Citi 1 Month T-Bills.

Other Disclosures

Fiscal Year End: 6/30

Cash Account includes cash held at Northern Trust for all closed end funds and cash held by BlackRock.

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.

All data prior to 6/30/2015 provided by the 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: $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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