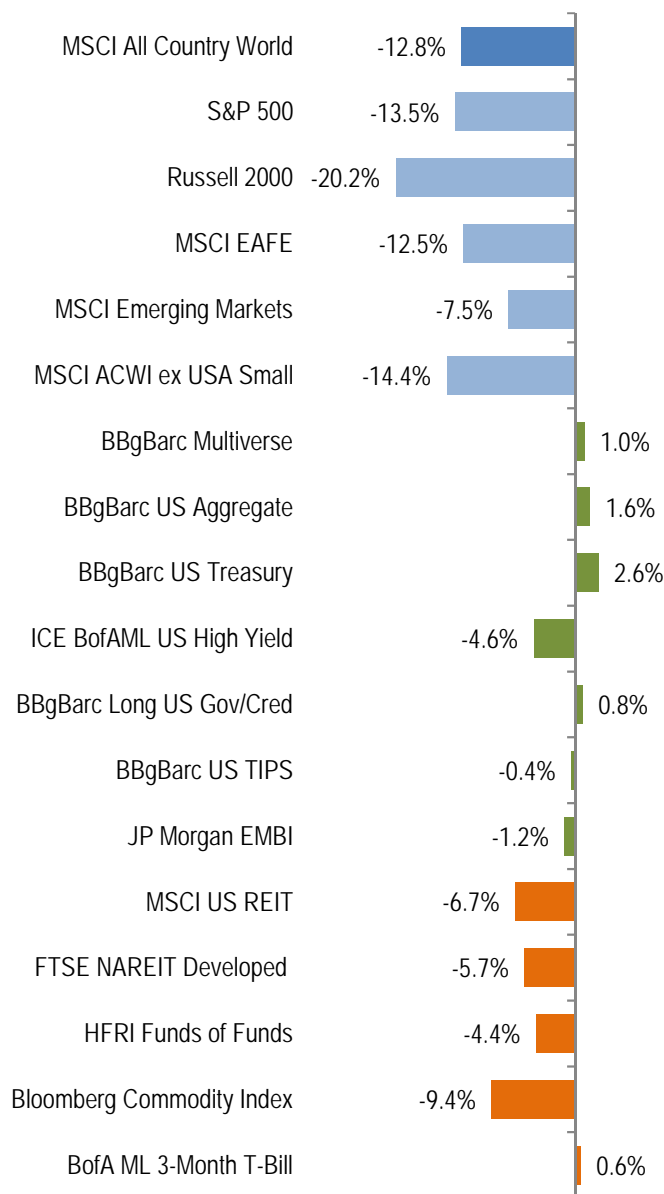


Fourth Quarter 2018



Fourth Quarter 2018: The Bull Gets Trampled

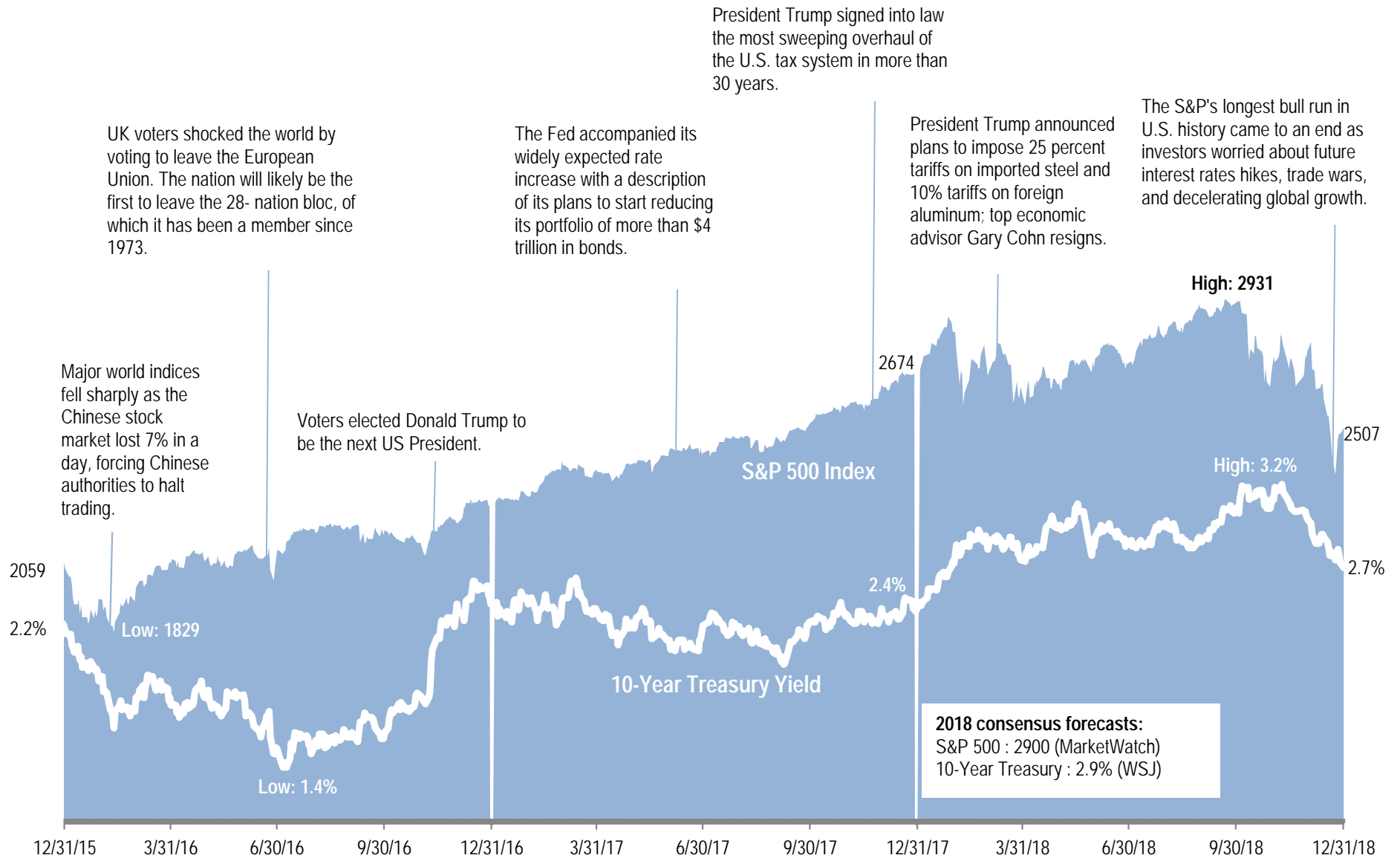
The bull market that began in early 2009 finally lost its legs in the fourth quarter. The S&P 500 fell nearly 20% from September highs, finishing the full year in the red for the first time since 2008. Misery loves company, and markets in 46 out of the 47 countries classified as developed or emerging by MSCI declined in the year. The average country posted a 15% decline while the one outlier, Qatar, posted a 25% gain. While the magnitude of equity market drawdowns is significant, it is important to note that it comes on the back of broad market advances. Even after the correction, the S&P 500 is back to where it was just 15 months earlier in September 2017.

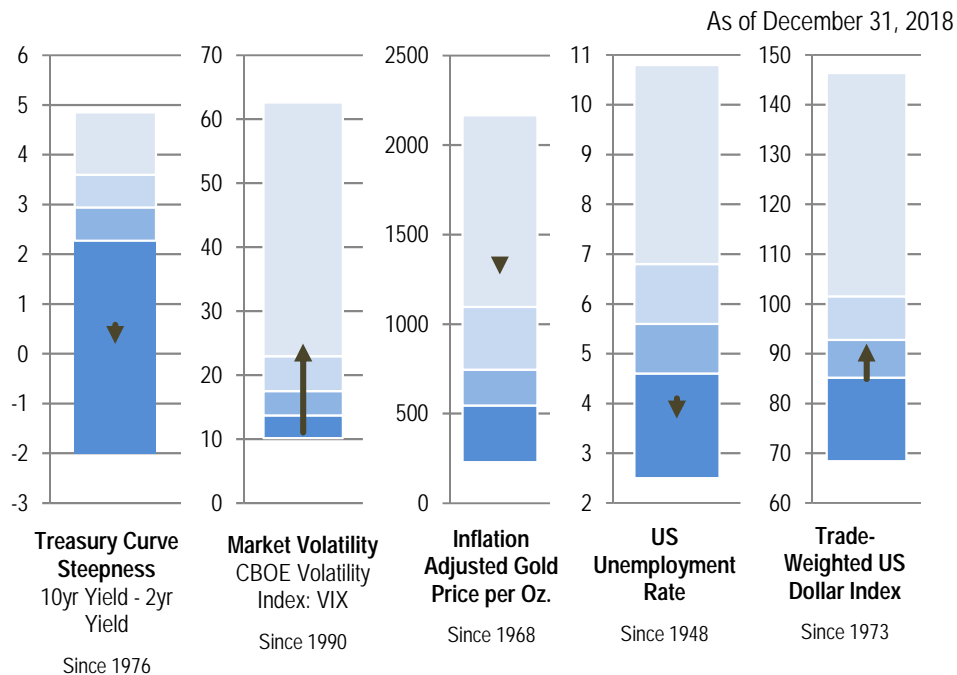
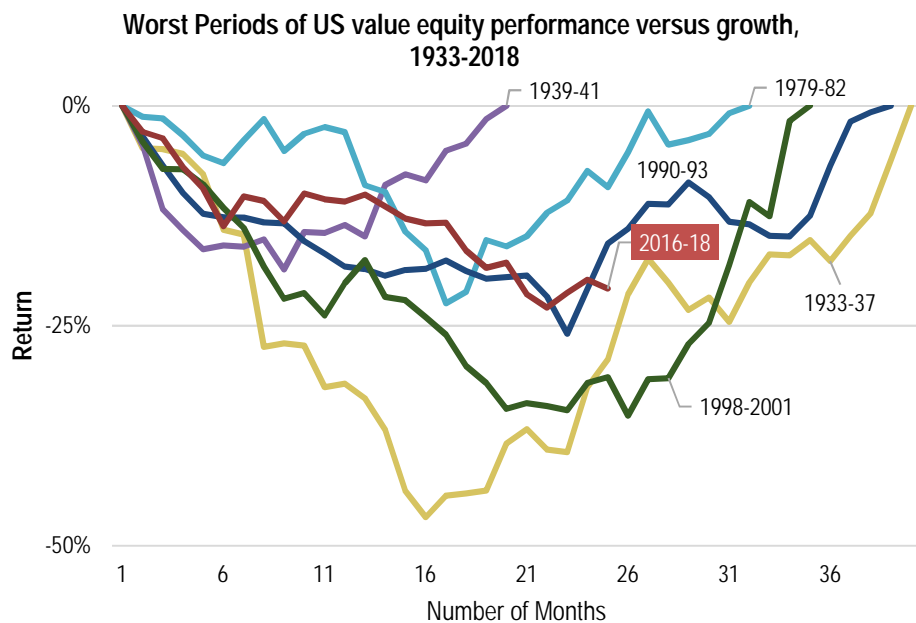
The Federal Reserve hiked rates four times in 2018, lifting the top range of the federal funds rate to 2.5%, and official projections show two to three rate hikes in the coming year. The markets, however, are skeptical and have priced in only a 10% chance that the FOMC hikes rates again in this cycle. Fed Chair Powell, like his predecessor Janet Yellen, is learning on the job about how best to communicate the rationale for future rate decisions, a job further complicated by President Trump's public criticism of the latest tightening. The confusion over future rates and political uncertainty pushed long-term Treasury yields lower in the fourth quarter, flattening the yield curve. 10-year Treasuries offer only 30 basis points of incremental yield compared to 2-year bonds.

Traditional diversifying assets didn't provide much relief for investors for the year as commodities and global real estate declined on growing global growth and trade war concerns. Oil dropped significantly as crude prices once again dipped below \$50 a barrel. The decline in commodity prices has helped to drag market-based inflation expectations and inflation-protected Treasuries lower as well.

	QTD	YTD	1 Year	3 Years	5 Years	15 Years
S&P 500	(13.5%)	(4.4%)	(4.4%)	9.3%	8.5%	7.8%
S&P 500 Value	(12.0%)	(9.0%)	(9.0%)	7.2%	6.1%	6.7%
S&P 500 Growth	(14.7%)	(0.0%)	(0.0%)	10.9%	10.6%	8.5%
Russell 2000	(20.2%)	(11.0%)	(11.0%)	7.4%	4.4%	7.5%
Russell 2000 Value	(18.7%)	(12.9%)	(12.9%)	7.4%	3.6%	6.9%
Russell 2000 Growth	(21.7%)	(9.3%)	(9.3%)	7.2%	5.1%	8.0%
MSCI EAFE (USD)	(12.5%)	(13.8%)	(13.8%)	2.9%	0.5%	4.7%
MSCI EAFE (Local)	(12.2%)	(11.0%)	(11.0%)	2.6%	3.8%	5.3%
MSCI Emerging Markets (USD)	(7.5%)	(14.6%)	(14.6%)	9.2%	1.6%	7.9%
MSCI Emerging Markets (Local)	(7.4%)	(10.1%)	(10.1%)	8.8%	5.0%	9.0%
BBgBarc US Aggregate	1.6%	0.0%	0.0%	2.1%	2.5%	3.9%
FTSE NAREIT Developed	(5.7%)	(5.6%)	(5.6%)	2.7%	4.3%	6.9%
HFRI Fund of Funds	(4.4%)	(3.5%)	(3.5%)	1.5%	1.5%	2.8%
BofA ML 3-Month T-Bill	0.6%	1.9%	1.9%	1.0%	0.6%	1.3%

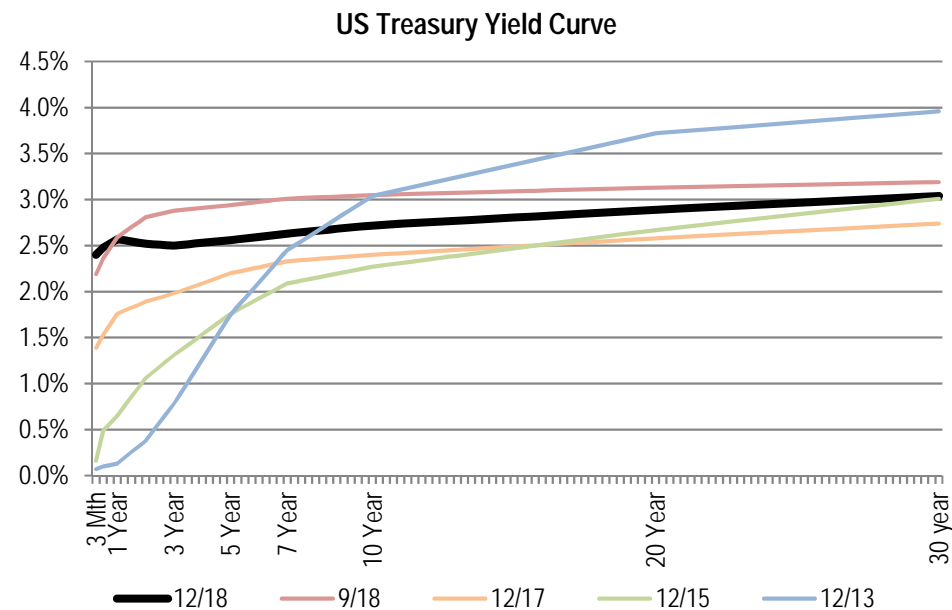
Returns for periods longer than 1 year are annualized.



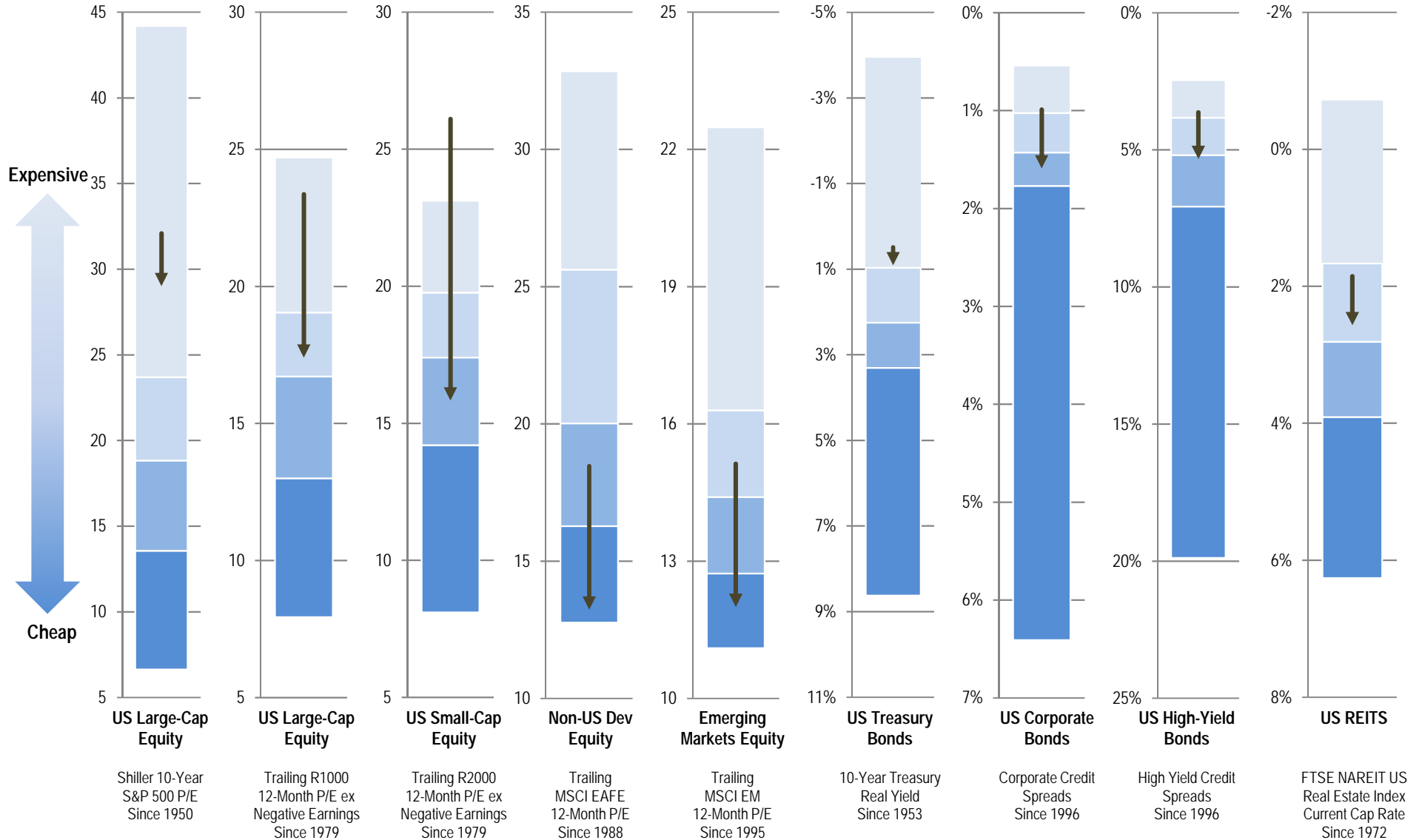


	<u>12/2018</u>	<u>9/2018</u>	<u>12/2017</u>	<u>12/2015</u>	<u>12/2013</u>
Market Inflation Expectations					
5 Year	1.5	2.0	1.9	1.3	1.7
10 Year	1.7	2.1	2.0	1.5	2.2
20 Year	1.8	2.2	2.0	1.6	2.4
CPI Year-over-Year	---	2.3	2.1	0.7	1.5
West Texas Crude Oil	44.5	73.2	60.5	37.1	98.2
Consumer Sentiment Index	98.3	100.1	95.9	92.6	82.5
US Corp Profits (% of GDP)	---	10%	9%	9%	11%
Real GDP Growth YoY	---	3.4	2.3	0.4	3.2
Federal Funds Rate	2.40	1.95	1.30	0.24	0.09

Arrows represent year on year change.



As of December 31, 2018

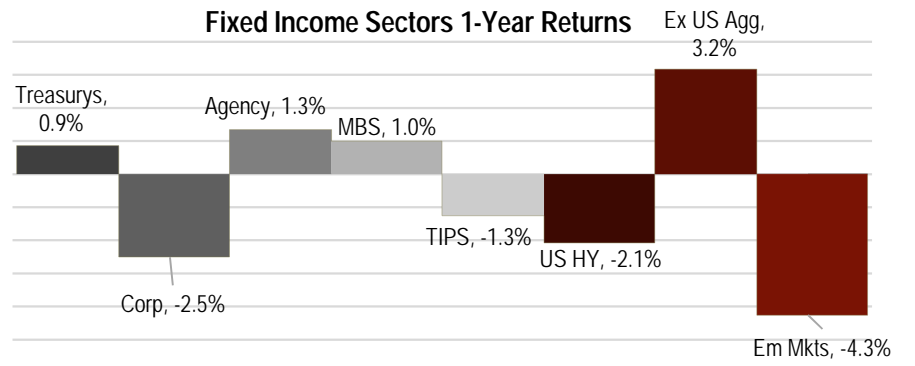
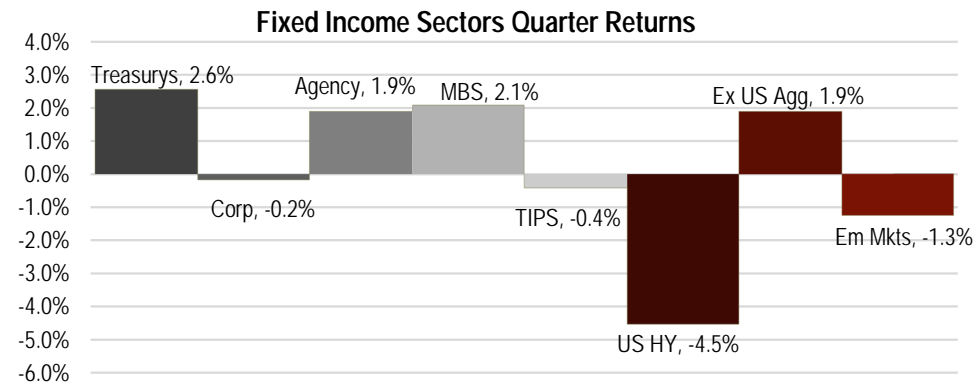
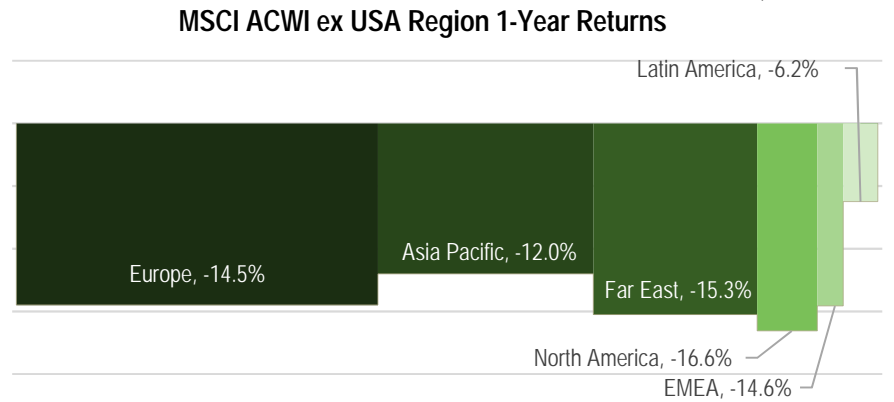
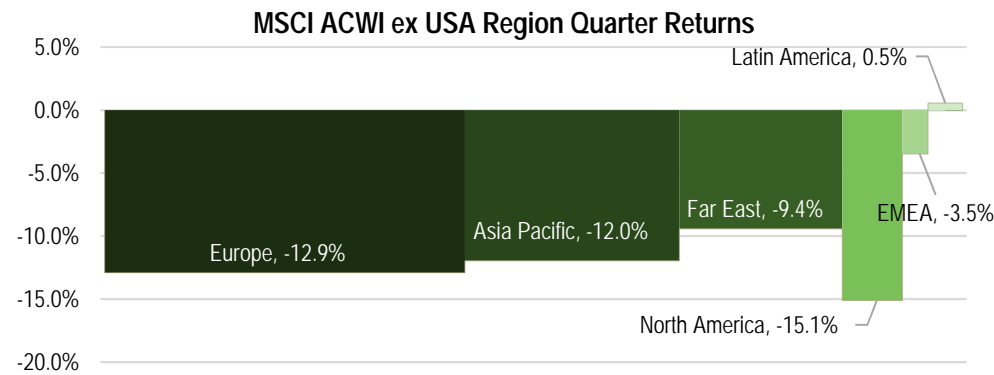
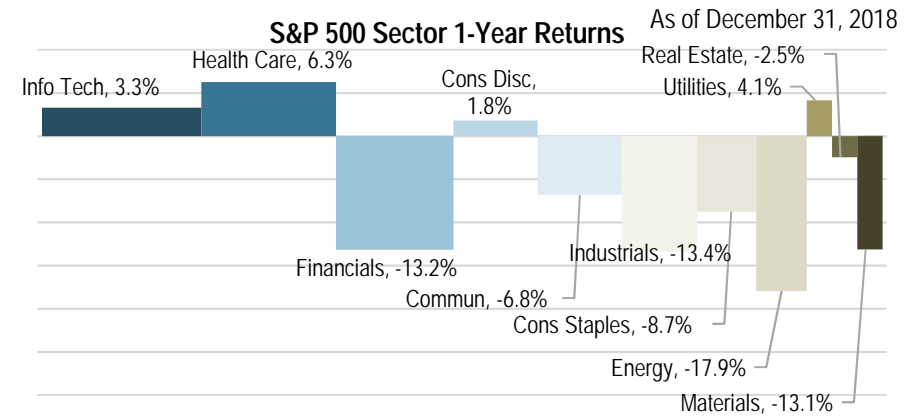
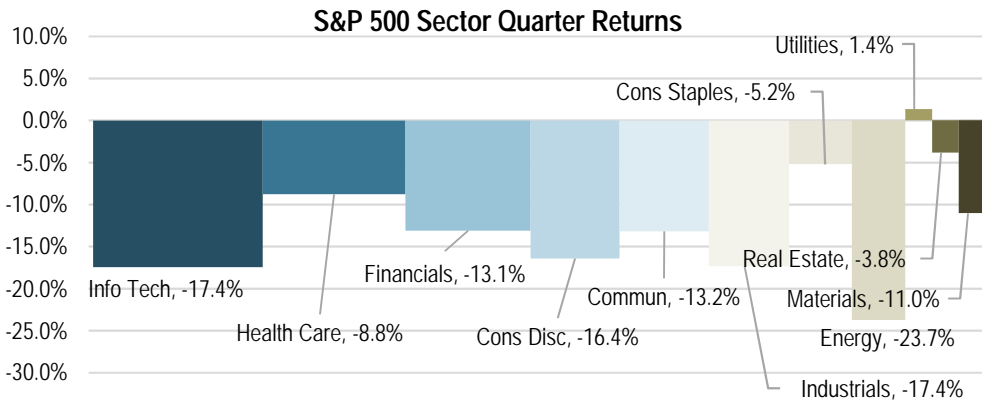


Trailing 12 month P/E and cap rate metrics exclude the top and bottom 5%.

10-Year Treasury real yields are based on the constant maturity TIPS yields calculated by the Federal Reserve. Prior to 2003, real yields are calculated by adjusting the nominal yield with the prior 12-month change in core CPI-U.

Real cap rates are inflation adjusted using the applicable 10-year TIPS breakeven inflation rate. Prior to 2003, real cap rates are calculated by adjusting the cap rate with the prior 12-month change in the core CPI-U.

P/E metrics calculated by InvestorForce use different methodology.



The equity bar widths depict end of the quarter region and sector weights. Fixed income bar widths do not depict specific sector weights.

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	1/1/2009 - 12/31/2018	Legend
79%	27%	22%	29%	39%	19%	14%	21%	37%	2%	9%	MSCI All Country World
58%	20%	15%	19%	32%	15%	1%	17%	25%	1%	13%	S&P 500
38%	19%	14%	18%	23%	14%	1%	12%	24%	0%	12%	Russell 2000
35%	17%	10%	17%	23%	11%	1%	12%	22%	-1%	6%	MSCI EAFE
32%	15%	8%	16%	13%	6%	1%	11%	15%	-1%	8%	MSCI Emerging Markets
28%	15%	8%	16%	9%	6%	0%	10%	11%	-2%	3%	BBgBarc Multiverse
27%	15%	6%	16%	7%	5%	0%	8%	10%	-3%	3%	BBgBarc US Aggregate
26%	13%	4%	16%	4%	5%	-1%	8%	9%	-4%	2%	BBgBarc US Treasury
19%	12%	2%	10%	0%	4%	-1%	7%	8%	-5%	11%	BofA ML US High Yield II
11%	10%	0%	9%	-2%	4%	-2%	5%	8%	-5%	6%	BBgBarc Long US Gov/Credit
11%	8%	-4%	7%	-2%	3%	-3%	4%	7%	-6%	4%	BBgBarc US TIPS
8%	7%	-6%	5%	-3%	3%	-3%	3%	7%	-9%	8%	JP Morgan EMBI
6%	6%	-6%	5%	-3%	0%	-4%	3%	4%	-11%	---	NCREIF-ODCE
2%	6%	-7%	4%	-7%	0%	-4%	1%	3%	-11%	10%	FTSE NAREIT Developed
0%	6%	-12%	2%	-9%	-2%	-5%	1%	2%	-14%	3%	HFRI Funds of Funds
-4%	6%	-13%	0%	-9%	-5%	-15%	0%	2%	-15%	-4%	Bloomberg Commodity Index
-30%	0%	-18%	-1%	-10%	-17%	-25%	0%	1%	---	0%	BofA ML 91-Day T-Bill

Returns for the period from 1/1/2009 - 12/31/2018 are annualized.

Returns the NCREIF-ODCE are not currently available.