



PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

OCTOBER 2019
Capital Markets Update

Market commentary

U.S. ECONOMICS

- U.S. GDP expanded at an annualized quarterly rate of 1.9% (exp. +1.6%) in Q3 2019, the lowest level since Q4 2018. Personal consumption continued to drive growth and contributed 1.9% to the overall print. A 1.5% contraction in gross private domestic investment weighed on growth.
- Nonfarm payrolls grew by 128,000 over the month, well above expectations for an increase of 80,000. Net payrolls additions were revised 51,000 higher in August and 44,000 higher in September, bringing the three-month average payroll growth to 176,000. The Leisure and Hospitality (+61,000) and Education and Health Care (+39,000) sectors led job gains for the period.
- Consumer confidence ticked up in October. The University of Michigan's Consumer Sentiment Index rose from 93.2 to 95.5 (exp. 96.0) while the Conference Board's Consumer Confidence Index rose from 125.1 to 125.9 (exp. 128.0)

U.S. EQUITIES

- The S&P 500 Index continued to climb in October, gaining 2.2% over the period. Views that U.S. – Chinese relations were on a productive track likely helped to push the index to fresh all-time highs.
- The CBOE VIX Index of implied volatility fell from 16.2 to 13.2 over the month, its lowest level since July. The trailing 30-day realized volatility of the S&P 500 Index remained subdued and fell slightly to 12.5.
- Per FactSet, the number of companies beating Q3 earnings estimates (76%) is above the 5-year average of 72% but by notably smaller margins. In aggregate, companies are reporting earnings that are 3.8% above expectations, below the 5-year average of 4.9%.

U.S. FIXED INCOME

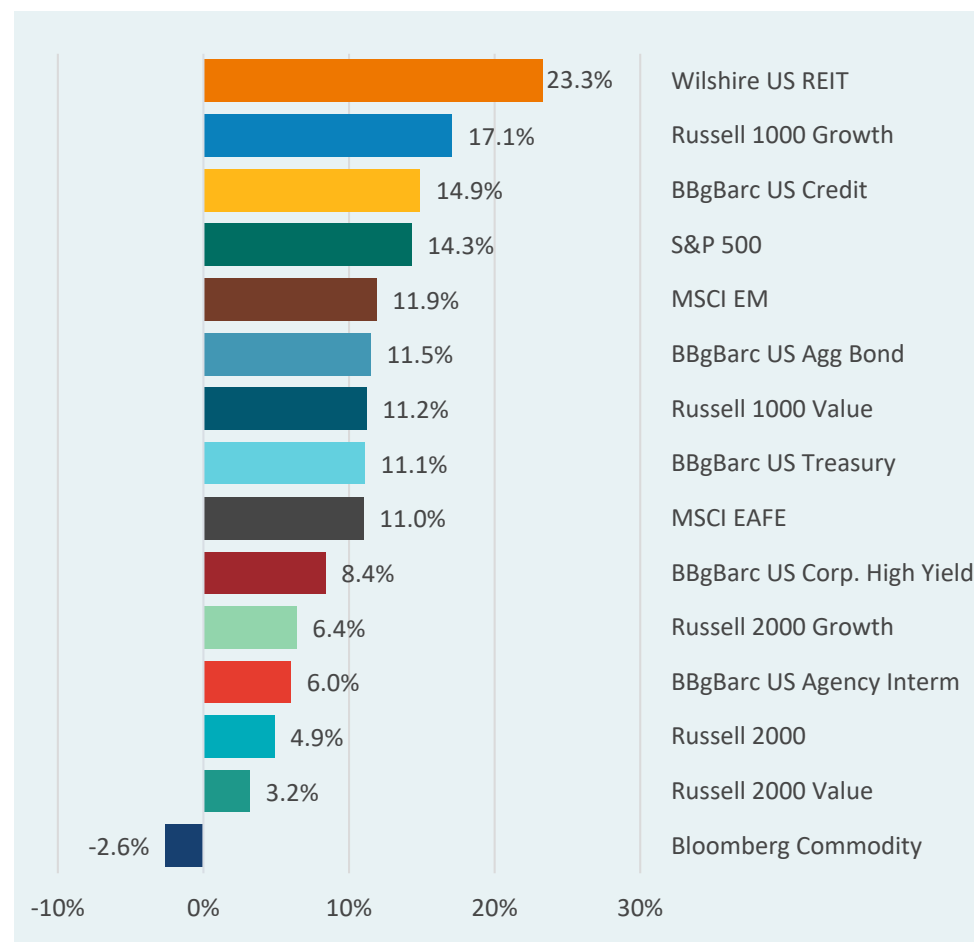
- The Federal Open Market Committee cut its range for the fed funds rate by 0.25% to 1.50% -1.75%, in line with expectations. Fed Chairman Jerome Powell signaled that moves to ease policy would likely be paused until conditions change materially.
- At the end of the period, the futures implied probability of the fed funds range being cut by at least 0.25% by the end of the year was 27%. There was a 38% probability of at least 0.25% in cuts by the end of Q1 2020.
- Ten-year Treasury yields ticked up from 1.67% to 1.69% and touched intra-month highs of 1.84%.

INTERNATIONAL MARKETS

- For the second straight month global equities outperformed U.S. equities. International developed (MSCI EAFE Index 3.6%) and emerging market (MSCI EM Index 4.2%) equities outpaced the U.S. S&P 500 Index which rose 2.2%.
- The U.K. Prime Minister, Boris Johnson, reached an agreement with the E.U. to extend the deadline for the U.K. to leave the E.U. by three months, from October 31st to January 31st. The U.K. Parliament then voted in favor of holding a snap election in December, where Johnson's Conservative Party will attempt to gain a majority with hopes of clearing a path toward "Brexit".
- According to a preliminary report from Eurostat, economic growth in Europe remained subdued. Eurozone GDP grew 1.1% year-over-year in the third quarter, its slowest pace since Q4 2013. Year-over-year growth was slightly more robust in France (+1.3%), and significantly worse in Italy (+0.3%).

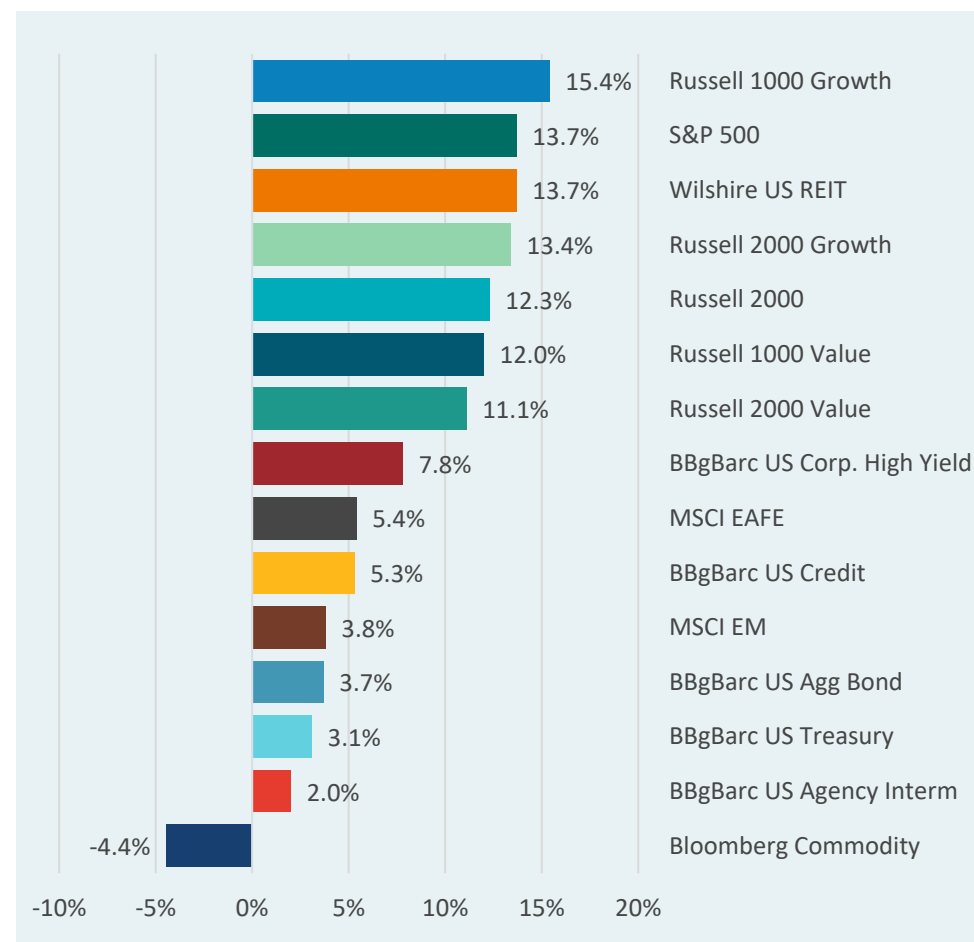
Major asset class returns

ONE YEAR ENDING OCTOBER



Source: Morningstar, as of 10/31/19

TEN YEARS ENDING OCTOBER



Source: Morningstar, as of 10/31/19

U.S. large cap equities

- The S&P 500 Index gained 2.2% over the period. The Health Care (+5.1%), Information Technology (+3.9%), and Communication Services (+3.0%) were the top performing sectors while the Energy (-2.3%) and Utilities sectors (-0.8%) lagged.
- The Energy (-2.3%) sector was the worst performing sector over the month. Weaker-than-expected economic data coming out of China stoked concerns over crude oil demand, which likely contributed to a sell-off in Energy-related stocks.
- At month-end, the forward one-year P/E ratio of the S&P 500 Index was 17.3, which exceeded both its 5- and 10-year averages of 16.6 and 14.9, respectively. Per FactSet, the Consumer Discretionary (21.6) and Financials (12.5) sectors have the highest and lowest forward one-year P/E ratios, respectively.
- Net futures positioning indicated a market expectation for lower short-term implied volatility. Per the CFTC, non-commercial investors were short 188,000 VIX futures contracts as of October 29th, a new all-time low.

S&P 500 PRICE INDEX



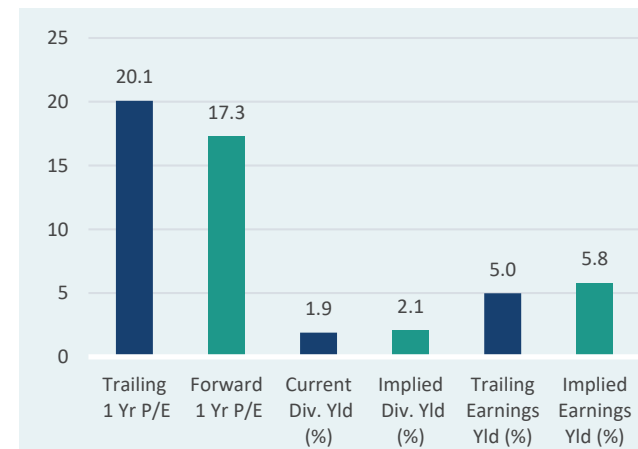
Source: Bloomberg, as of 10/31/19

IMPLIED VOLATILITY (VIX INDEX)



Source: CBOE, as of 10/31/19

S&P 500 VALUATION SNAPSHOT

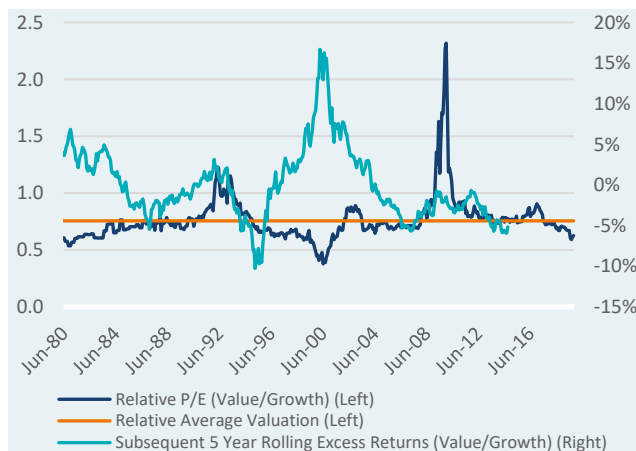


Source: Bloomberg, as of 10/31/19

Domestic equity size and style

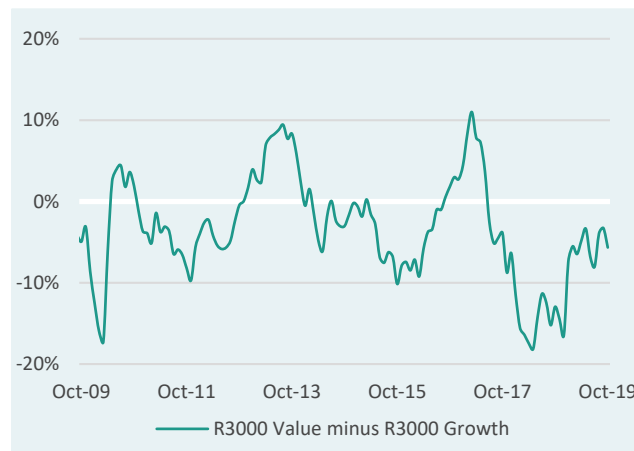
- Small-cap equities extended their recent outperformance of large-cap equities. The Russell 2000 Index returned 2.6% while the Russell 1000 Index gained 2.1% Year-to-date, small-cap equities (+17.2%) have underperformed large-cap equities (+23.1%) by 5.9%.
- The iShares Edge MSCI USA Quality Factor ETF, which seeks to track the performance of high quality large and mid-cap stocks based on ROE, earnings variability, and leverage, rose 2.1%, roughly in line with the S&P 500 Index.
- Growth outperformed value over the period, across both large-and small-cap universes. The Russell 3000 Growth Index advanced 2.8% and has fared better than the Russell 3000 Value Index (+1.5%) for eight out of ten months this year.
- Growth outperformance was largely attributed to its larger exposure to the Information Technology and Health Care sectors which at month-end held a combined weight of 52% in the Russell 3000 Growth Index and an 18% weight in the Russell 3000 Value Index.

VALUE VS. GROWTH RELATIVE VALUATIONS



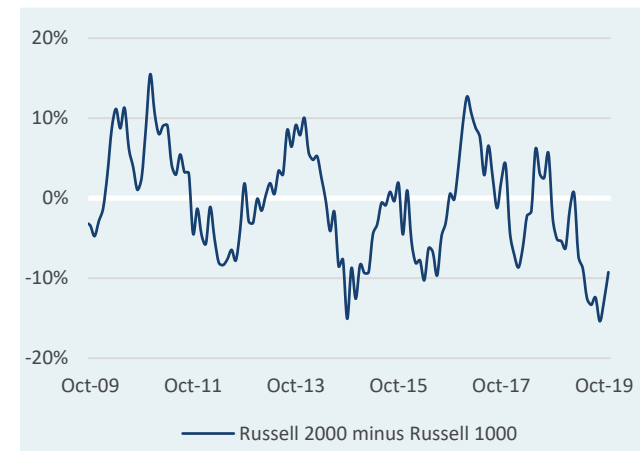
Source: Russell, Bloomberg, as of 10/31/19

VALUE VS. GROWTH 1-YR ROLLING RELATIVE PERFORMANCE



Source: FTSE, Bloomberg, as of 10/31/19

SMALL VS. LARGE 1-YR ROLLING RELATIVE PERFORMANCE

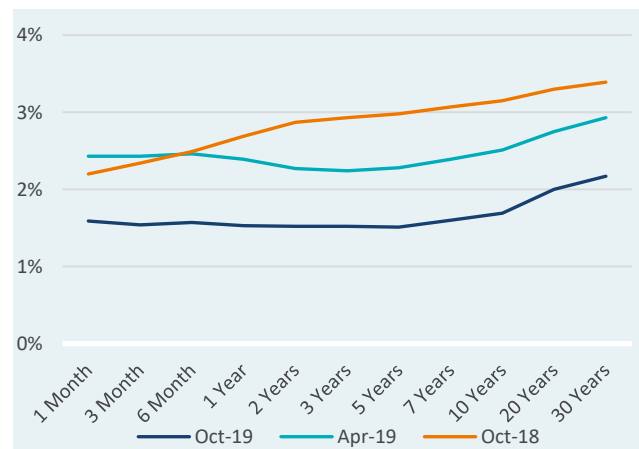


Source: FTSE, Bloomberg, as of 10/31/19

Fixed income

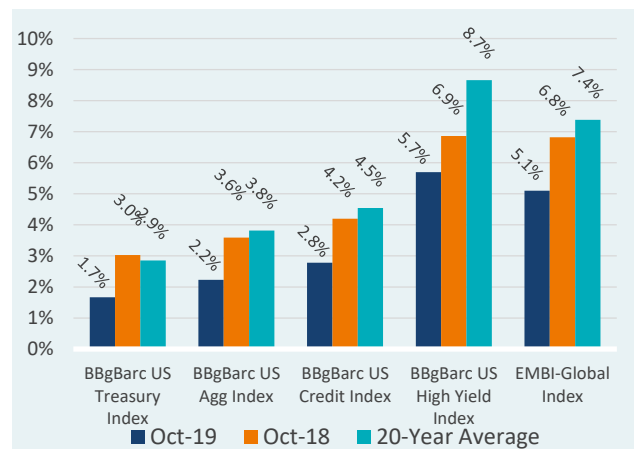
- The JPM GBI-EM Global Diversified Index rose 2.9% in October while the JPM EMBI Global Diversified Index rose 0.4%. Emerging market currency appreciation likely presented tailwinds for unhedged U.S. investors in emerging market debt.
- Expectations for future inflation ticked up, due in part to the Federal Reserve's accommodative forward guidance on interest rates. Five- and ten-year breakeven inflation rates rose from 1.3% to 1.4% and from 1.5% to 1.6% respectively, over the period.
- Italy raised \$7 billion in its first issuance of U.S. dollar denominated bonds since 2010. Strong demand resulted in over \$18 billion in orders, a sign that investors wanted exposure to dollar-denominated Italian debt.
- Ten-year Japanese government bond yields rose from -0.22% to -0.15%, returning to the Bank of Japan's stated preferred range of -0.20% to +0.20%. In its October meeting, the BoJ decided to leave policy unchanged, but tweaked its forward guidance to communicate a "downward bias on policy rates".

U.S. TREASURY YIELD CURVE



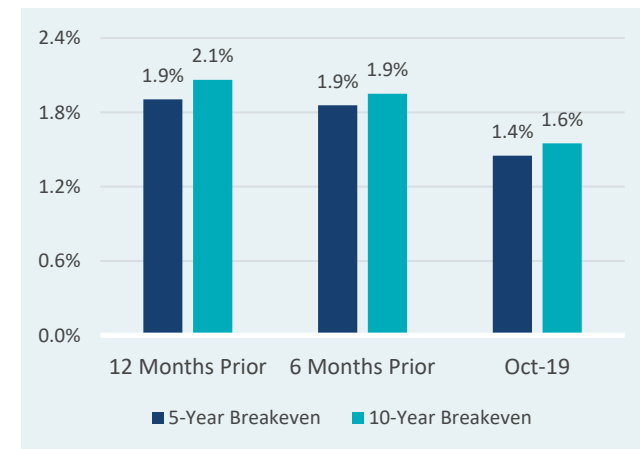
Source: Bloomberg, as of 10/31/19

NOMINAL YIELDS



Source: Morningstar, as of 10/31/19

BREAKEVEN INFLATION RATES

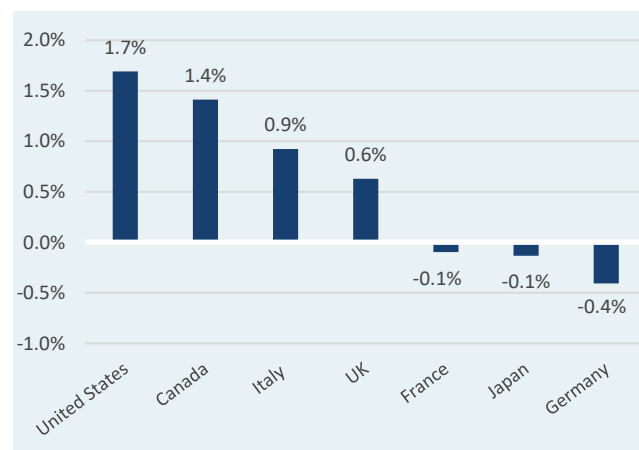


Source: Bloomberg, as of 10/31/19

Global markets

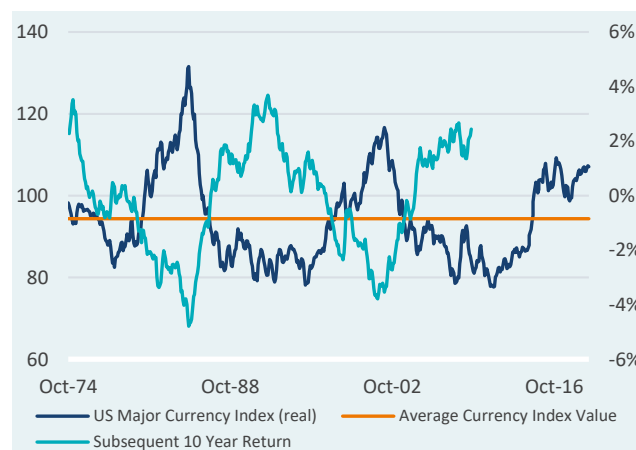
- Optimism regarding U.S.-Chinese relations built as negotiators continued to work towards a “phase one” agreement. China stated that it had agreed with Washington in principle and that currently in place tariffs may be removed in phases. Disagreements on the location to sign have helped to push the expected meeting date into December.
- The U.S. dollar depreciated materially versus trade-weighted pairs. The Bloomberg Dollar Spot Index fell 1.9%, bringing its year-to-date return to 0.0%.
- Emerging market currency exposure provided a tailwind to emerging market equity performance in October. The MSCI EM Index gained 4.2% in U.S. dollar terms and only 3.0% in local terms.
- The dividend yields of the MSCI EAFE and MSCI Emerging Market indices were relatively flat over the month but remained elevated compared to the MSCI USA Index. The trailing 12-month gross dividend yield of the MSCI EAFE Index ended the month 1.6% higher than the trailing dividend yield of the MSCI USA Index.

GLOBAL SOVEREIGN 10-YEAR YIELDS



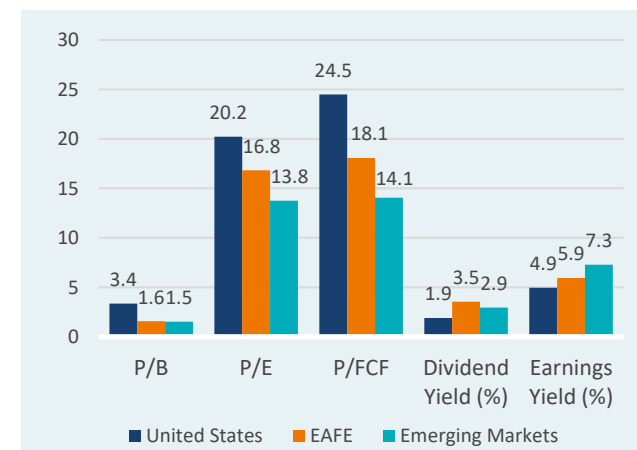
Source: Bloomberg, as of 10/31/19

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Federal Reserve, as of 10/31/19

MSCI VALUATION METRICS (3-MONTH AVG)



Source: Bloomberg, as of 10/31/19

Commodities

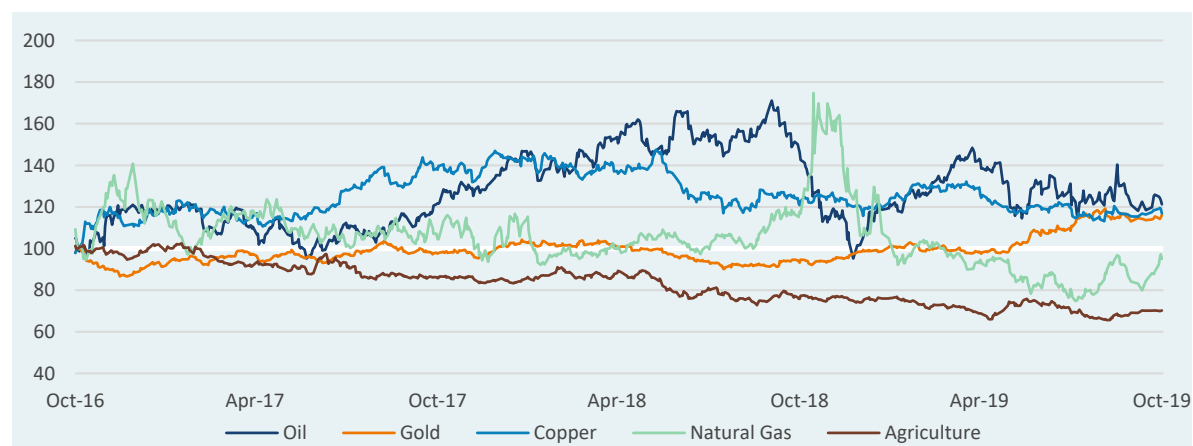
- The Bloomberg Commodity Index advanced 2.0% over the period bringing its year-to-date performance to 5.2%. Every sector posted positive returns and the Precious Metals (+3.8%), Industrial Metals (+1.8%) and Agriculture (+1.7%) sectors posted the best performance.
- The Agriculture component of the commodities basket saw positive returns of 1.7% as optimism for a “phase one” deal with China continued to build. China pledged to buy more U.S. soybeans, but purchases remain below levels seen prior to the beginning of the trade war.
- The Precious Metals Sub-Index rebounded and gained 3.8% in October. Easier monetary policy from the Fed likely contributed to the strong performance of gold (+3.0%) and silver (+6.4%) as falling interest rates lower the opportunity cost of holding non-yielding assets.
- Saudi Aramco, perhaps the world’s most valuable company, announced its intention to price its IPO on December 5th. Analysts expect a valuation around \$1.5 trillion, while the Saudi Arabian Crown Prince has stated a valuation between \$1.5-2 trillion would be reasonable.

INDEX AND SECTOR PERFORMANCE

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg Commodity	2.0	2.0	5.2	(2.6)	(0.7)	(6.7)	(4.4)
Bloomberg Agriculture	1.7	1.7	(3.4)	(5.3)	(10.0)	(8.5)	(3.7)
Bloomberg Energy	1.6	1.6	7.3	(15.7)	0.6	(15.0)	(12.1)
Bloomberg Grains	1.4	1.4	(3.2)	(2.4)	(7.7)	(8.9)	(4.2)
Bloomberg Industrial Metals	1.8	1.8	9.2	5.5	6.0	(1.6)	(2.2)
Bloomberg Livestock	0.7	0.7	(5.5)	(4.1)	4.3	(6.2)	(1.8)
Bloomberg Petroleum	1.4	1.4	19.6	(14.0)	6.0	(12.6)	(7.0)
Bloomberg Precious Metals	3.8	3.8	17.1	24.1	3.7	3.7	2.6
Bloomberg Softs	0.8	0.8	(7.7)	(16.5)	(18.2)	(11.0)	(5.9)

Source: Morningstar, as of 10/31/19

COMMODITY PERFORMANCE



Source: Bloomberg, as of 10/31/19

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	26.8	13.4	15.4
Large Cap Equity	27.0	43.1	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	23.1	10.5	13.7
Large Cap Value	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	19.5	8.6	13.4
Small Cap Growth	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	18.6	8.4	12.3
Small Cap Equity	16.2	26.5	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	17.2	7.6	12.0
International Equity	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	16.9	7.4	11.1
Small Cap Value	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	15.5	6.2	9.8
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	14.5	5.3	6.4
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	10.4	4.3	5.4
US Bonds	-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	8.8	3.2	3.8
Hedge Funds of Funds	-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	5.8	2.9	3.7
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	5.2	2.2	2.7
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	4.8	1.0	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	1.8	-6.7	-4.4

Large Cap Equity

Large Cap Value

Large Cap Growth

Small Cap Equity

Small Cap Value

Small Cap Growth

International Equity

Emerging Markets Equity

US Bonds

Cash

Commodities

Real Estate

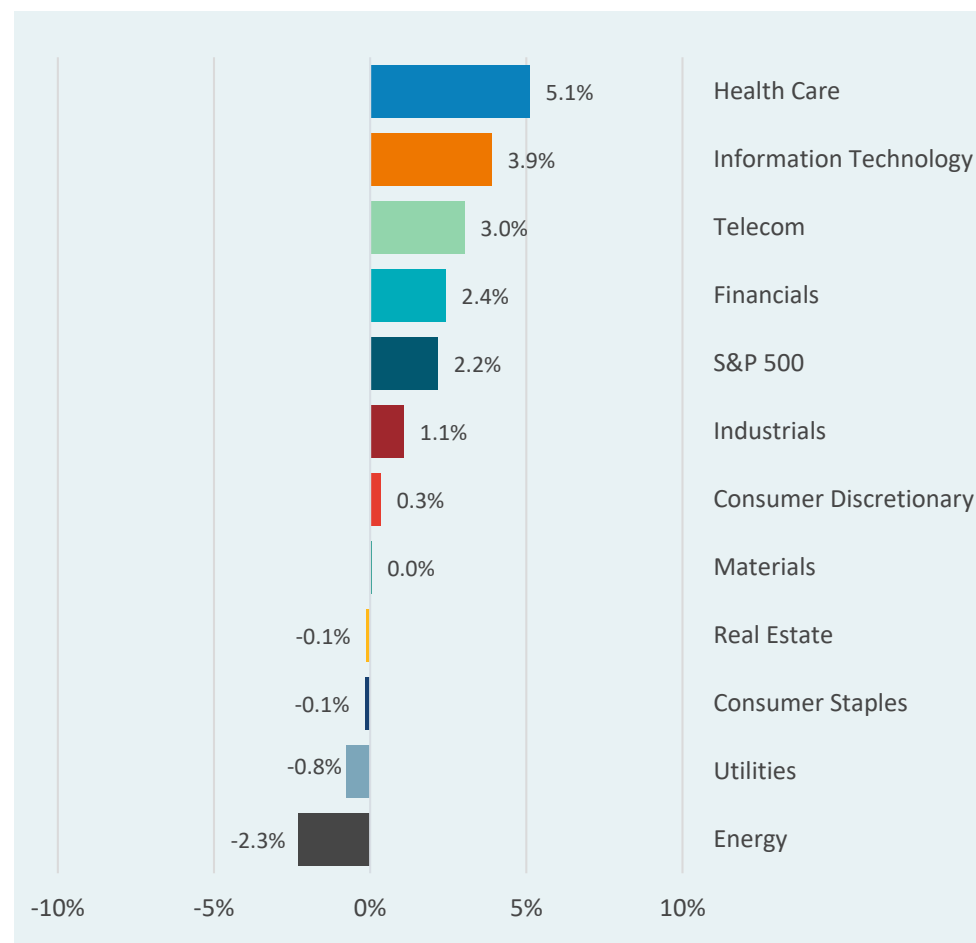
Hedge Funds of Funds

60 MSCI ACWI/40% BBgBarc Global Bond

Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 9/30/19.

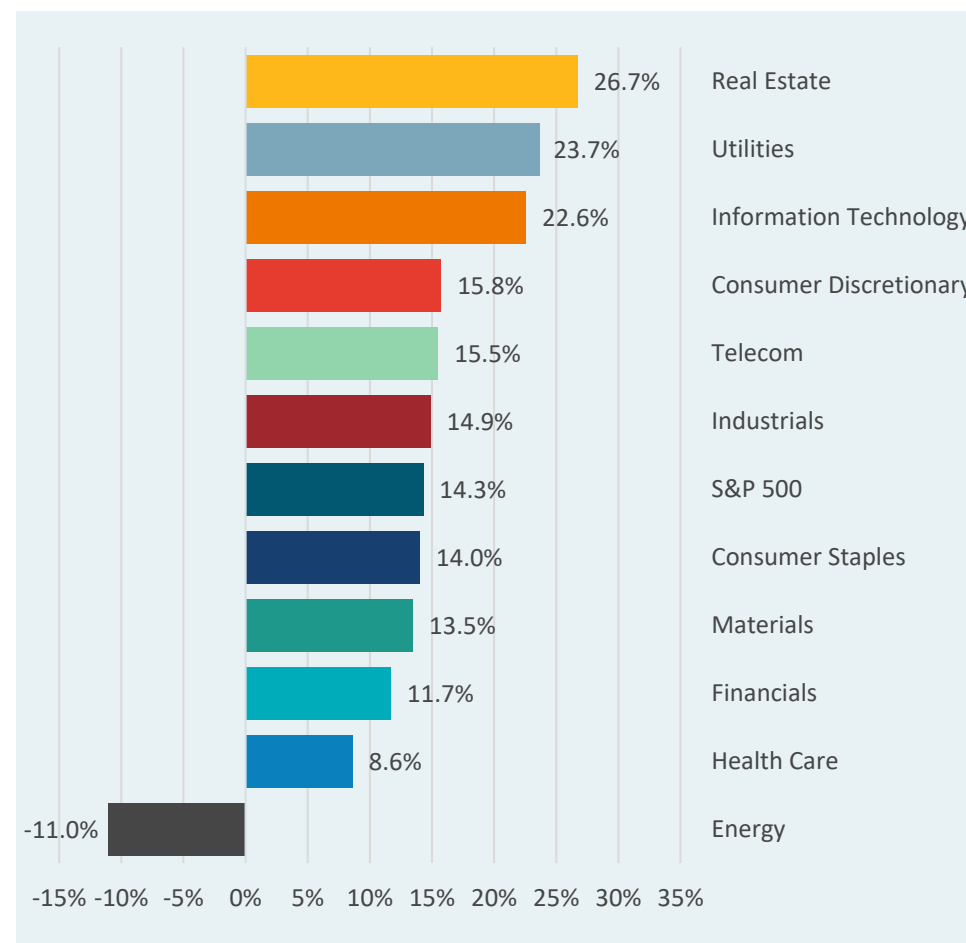
S&P 500 sector returns

QTD



Source: Morningstar, as of 10/31/19

ONE YEAR ENDING OCTOBER



Source: Morningstar, as of 10/31/19

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	2.2	2.2	23.2	14.3	14.9	10.8	13.7
S&P 500 Equal Weighted	1.3	1.3	21.6	12.8	12.4	9.1	14.0
DJ Industrial Average	0.6	0.6	18.2	10.3	17.0	11.9	13.6
Russell Top 200	2.5	2.5	23.0	14.3	15.7	11.3	13.7
Russell 1000	2.1	2.1	23.1	14.2	14.7	10.5	13.7
Russell 2000	2.6	2.6	17.2	4.9	11.0	7.4	12.3
Russell 3000	2.2	2.2	22.7	13.5	14.5	10.3	13.6
Russell Mid Cap	1.1	1.1	23.2	13.7	12.3	8.7	13.7
Style Index							
Russell 1000 Growth	2.8	2.8	26.8	17.1	18.9	13.4	15.4
Russell 1000 Value	1.4	1.4	19.5	11.2	10.5	7.6	12.0
Russell 2000 Growth	2.8	2.8	18.6	6.4	13.2	8.4	13.4
Russell 2000 Value	2.4	2.4	15.5	3.2	8.6	6.2	11.1

INTERNATIONAL EQUITY

Broad Index							
MSCI ACWI	2.7	2.7	19.4	12.6	11.3	7.1	8.8
MSCI ACWI ex US	3.5	3.5	15.5	11.3	8.1	3.8	4.9
MSCI EAFE	3.6	3.6	16.9	11.0	8.5	4.3	5.4
MSCI EM	4.2	4.2	10.4	11.9	7.4	2.9	3.8
MSCI EAFE Small Cap	4.5	4.5	17.1	8.8	8.6	7.4	8.1
Style Index							
MSCI EAFE Growth	3.6	3.6	22.2	16.6	10.6	6.4	6.9
MSCI EAFE Value	3.6	3.6	11.6	5.5	6.3	2.1	3.8
Regional Index							
MSCI UK	2.8	2.8	13.2	7.1	7.5	1.5	4.9
MSCI Japan	4.9	4.9	16.5	9.2	7.4	6.9	6.3
MSCI Euro	3.4	3.4	17.8	11.6	8.6	3.8	3.8
MSCI EM Asia	4.5	4.5	10.7	12.8	8.4	4.7	5.8
MSCI EM Latin American	4.5	4.5	11.1	7.7	5.0	0.1	(0.2)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
BBgBarc US TIPS	0.3	0.3	7.9	9.0	2.4	2.3	3.4
BBgBarc US Treasury Bills	0.2	0.2	2.1	2.5	1.6	1.0	0.6
BBgBarc US Agg Bond	0.3	0.3	8.8	11.5	3.3	3.2	3.7
Duration							
BBgBarc US Treasury 1-3 Yr	0.3	0.3	3.4	4.6	1.7	1.3	1.2
BBgBarc US Treasury Long	(0.9)	(0.9)	18.7	27.6	5.2	6.0	6.9
BBgBarc US Treasury	0.1	0.1	7.8	11.1	2.6	2.7	3.1
Issuer							
BBgBarc US MBS	0.4	0.4	6.0	8.9	2.5	2.7	3.1
BBgBarc US Corp. High Yield	0.3	0.3	11.7	8.4	6.0	5.2	7.8
BBgBarc US Agency Interim	0.3	0.3	4.4	6.0	2.1	1.9	2.0
BBgBarc US Credit	0.6	0.6	13.3	14.9	4.8	4.4	5.3

OTHER

Index							
Bloomberg Commodity	2.0	2.0	5.2	(2.6)	(0.7)	(6.7)	(4.4)
Wilshire US REIT	1.0	1.0	28.5	23.3	9.7	8.2	13.7
CS Leveraged Loans	(0.5)	(0.5)	5.9	2.6	4.2	4.0	5.3
Alerian MLP	(6.6)	(6.6)	4.4	(4.8)	(3.6)	(8.7)	5.9
Regional Index							
JPM EMBI Global Div	0.3	0.3	13.3	14.3	5.1	5.4	6.9
JPM GBI-EM Global Div	2.9	2.9	11.0	15.6	4.3	0.8	2.7
Hedge Funds							
HFRI Composite	0.4	0.4	7.2	4.1	4.1	3.1	4.0
HFRI FOF Composite	0.5	0.5	5.8	3.6	3.4	2.2	2.7
Currency (Spot)							
Euro	2.3	2.3	(2.4)	(1.5)	0.6	(2.3)	(2.8)
Pound	5.0	5.0	1.6	1.3	2.0	(4.2)	(2.4)
Yen	(0.0)	(0.0)	1.5	4.4	(0.9)	0.7	(1.8)

Source: Morningstar, HFR, as of 10/31/19

Notices & disclosures

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