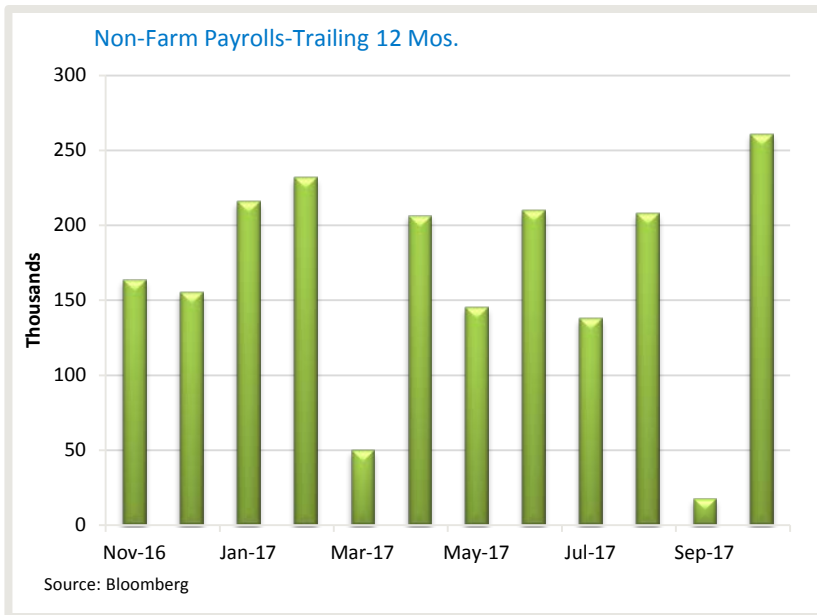


Weekly Market Review

November 10, 2017

Chart of the Week



Weekly Highlights

- **The NASDAQ Composite Index**, which is heavily weighted to information technology stocks, has had an especially strong year, returning over 30% as of Thursday, November 9. The NASDAQ has experienced 64 all-time closings highs this year, more than any other year on record.
- **Bitcoin**, a highly volatile cryptocurrency, was down more than 5% on Friday, falling over \$1,000 since Wednesday's highs. The currency now trades below \$7,000.
- **After gold's decline in last week's trading**, gold prices gained more than 1% on the week, its largest weekly gain in more than a month. Concerns over delays for US tax reform and the likelihood of a December Federal Reserve rate hike helped to fuel the increase.

Talking Points

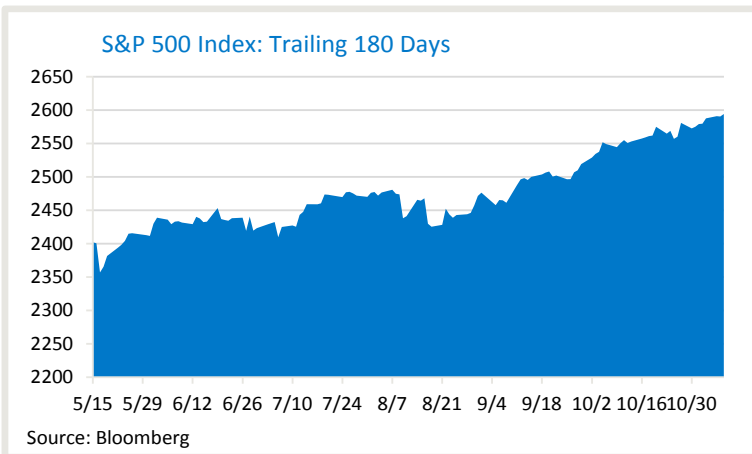
- **Domestic equity large cap stocks outperformed small caps**, while growth-oriented stocks outperformed value. US equities outperformed international developed markets, while emerging markets was left relatively unchanged.
- **Treasury yields were up slightly from last week**. The yield on the 10-Year Treasury Note hovers around 2.4%.
- **Commodities ended up from last week**, with West Texas Intermediate Crude Oil prices rising approximately 3%.
- **The dollar index was down slightly**. The dollar ended lower against a basket of major currencies.
- **Among other economic data**, the four-week moving average for seasonally adjusted initial unemployment claims decreased to 231,250. This represents the lowest level for this average since 1973. Unemployment remains around 4.1%, considered by economists to represent full employment.

Market Dashboard

	Last Price	Change	% Chg.	YTD %
S&P 500	2,582.30	-5.54	-0.21%	15.3%
Dow Industrials	23,422.21	-116.98	-0.50%	18.5%
Nasdaq	6,750.94	-13.50	-0.20%	25.4%
Russell 2000	1,475.28	-19.64	-1.31%	8.7%
Euro Stoxx Index	388.69	-7.37	-1.86%	7.5%
Shanghai Composite	3,432.67	60.93	1.81%	10.6%
Russell Global	2,078.66	-3.29	-0.16%	17.9%

Source: Bloomberg; Index % change is based on price.

	Last Price	Change	% Chg.	YTD %
Russell Global EM	3,547.63	18.36	0.52%	29.9%
10-Year US Treas.	2.40	6 bps	NM	NM
DJ UBS Comm. Idx.	87.28	0.40	0.46%	-0.3%
Gold	\$1,276.21	\$6.44	0.51%	11.2%
Crude Oil	\$56.85	\$1.19	2.14%	-0.4%
Dollar Index	94.39	-0.56	-0.59%	-7.7%
VIX Index	11.29	2.15	23.52%	-19.6%



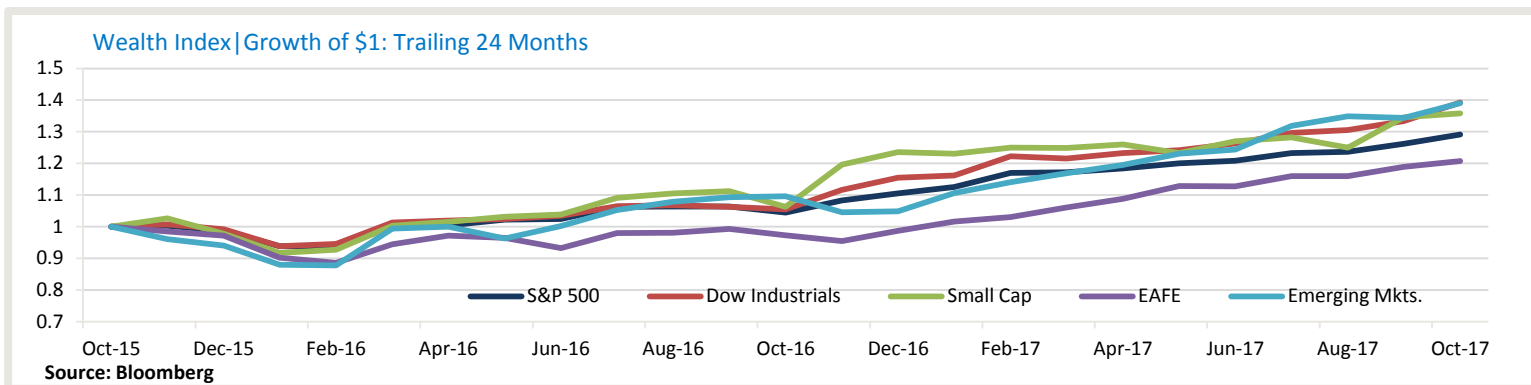
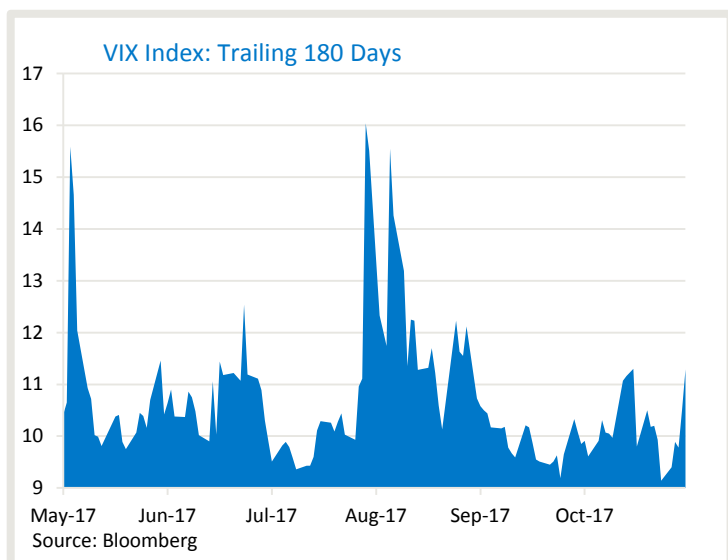
	One Week			YTD		
	Value	Growth		Value	Growth	
L	-0.73%	-0.26%	0.16%	6.32%	16.48%	26.55%
	-0.08%	-0.17%	-0.28%	6.52%	12.06%	19.37%
S	-1.49%	-1.31%	-1.14%	2.13%	8.71%	16.01%

Source: Bloomberg

Sector Performance:
S&P/Global Industry Classification Sectors (GICS)

	% Wgt in S&P 500	Week % Chg.	YTD % Chg.
Consumer Discretionary	11.9	0.74%	13.4%
Consumer Staples	8.1	2.06%	5.0%
Energy	6.0	1.09%	-7.4%
Financials	14.4	-2.65%	11.8%
Health Care	14.0	-0.54%	17.8%
Industrials	9.9	-1.09%	11.7%
Information Technology	24.7	0.00%	37.1%
Materials	3.0	-1.25%	16.6%
Real Estate	3.0	3.21%	9.6%
Telecom Services	1.8	-1.35%	-18.5%
Utilities	3.2	0.44%	13.9%

Source: Bloomberg



The Economy and Markets

A Macro View – Rise of the machines and the opportunity they bring

Facial recognition in phones, driverless cars, and drones once may have been perceived as a wave of the future, but since the 1980s, computers and digitalization have revolutionized the way we live. Our day-to-day lives and jobs depend on technology in many ways. And while it certainly has made our overall lives easier, many fear we are entering the age of the robots—that artificial intelligence (AI) will replace the need for humans in a number of professions.

Automation and AI often get confused and used interchangeably, but they differ greatly. Automation is defined as a technique, method, or system of operating or controlling a process through electronic means, reducing human intervention to a minimum. AI, on the other hand, is a machine's capability of imitating intelligent human behavior. As opposed to being programmed to complete monotonous or repetitive tasks, AI imitates cognitive functions to learn and adapt after analyzing data.

Both have implications for the job landscape, as technology innovators such as Elon Musk and Jack Ma have cautioned. With sweeping technological developments towards automation and AI, some jobs and industries will likely disappear, while others could morph into new opportunities. But jobs have long been under threat from automation. Employers continuously invest in new technology solutions to cut costs, and thousands of jobs have already been replaced by computers or robots. Manufacturing has been one of the hardest-hit sectors, losing approximately 5 million jobs since the year 2000, 88% of which are attributed to automation¹. Additionally, the retail and restaurant industries are shifting away from cashiers to digital kiosks and mobile ordering. McDonald's is one example: it recently announced that almost 6,000 cashiers will be replaced by 2018. These industries often represent entry level and blue-collar jobs, which require little education. However, AI has the potential to eliminate even some of the higher-paying professions that require a college degree, broadening the scope of the number of people who may be affected. One study by PwC suggests that with the rise in automation and AI, 38% of US jobs could be at risk within 15 years².

But the news is not all dim and grim. AI has the potential to create new job opportunities, boost productivity, and solve major world problems. Coding and programming have already become two of the top coveted skills sought by employers. A recent study from Burning Glass Technologies found that in 2015, 7 million job postings requested coding skills, and estimated that these types of jobs are growing 12% faster than the market average³. Additionally, some even think that AI technology could increase productivity by 40% in less than two decades, leading to a large economic boost⁴.

It's true—change is scary. But technology has improved how we communicate, educate, and interact with one another. And it has had a daily impact on our lives—we already are using AI without realizing it. Netflix, for example, uses proprietary technology to gauge our interests and intelligently recommend new shows or movies. Its AI software has been a primary driver of its success in creating original content. Netflix collects data on the actors, directors, plots, and show concepts that the majority of consumers prefer, giving it an edge in predicting what shows or movies will be widely accepted. Although machines and robots may pose a threat to some industries and jobs, we should not fear progress. AI undoubtedly has transformative power—and creative and skilled thinkers should stand to benefit from it.

Ali Caffery
Portfolio Manager

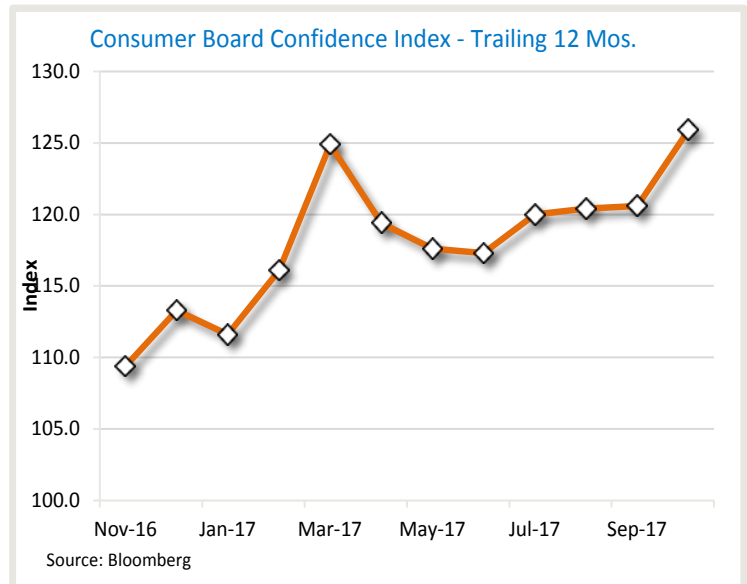
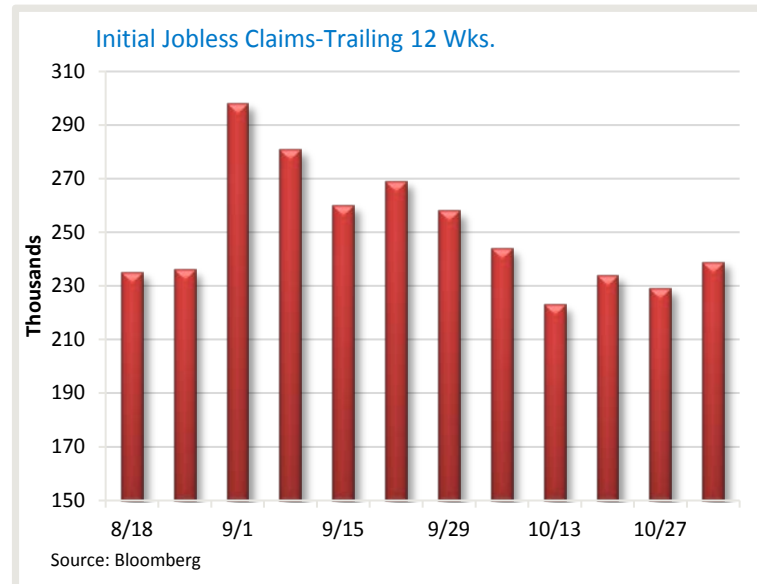
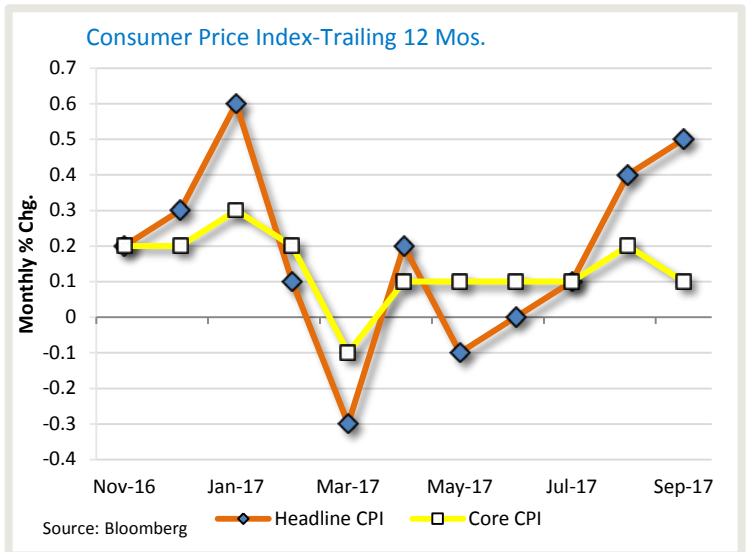
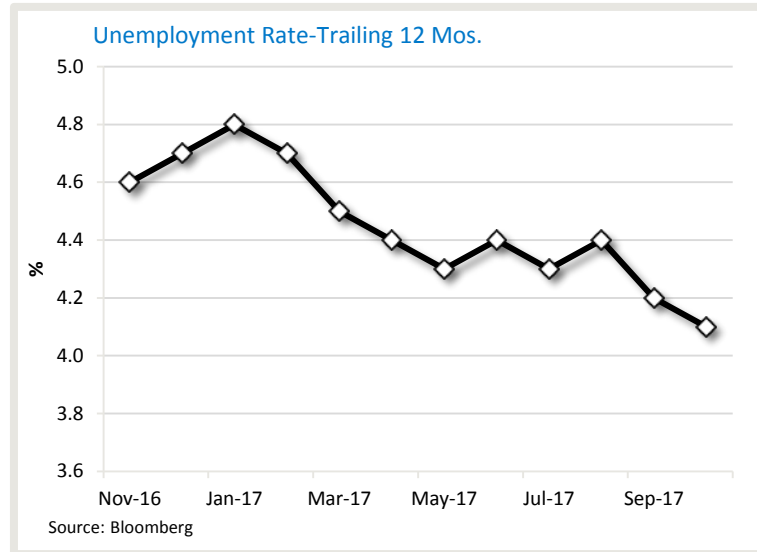
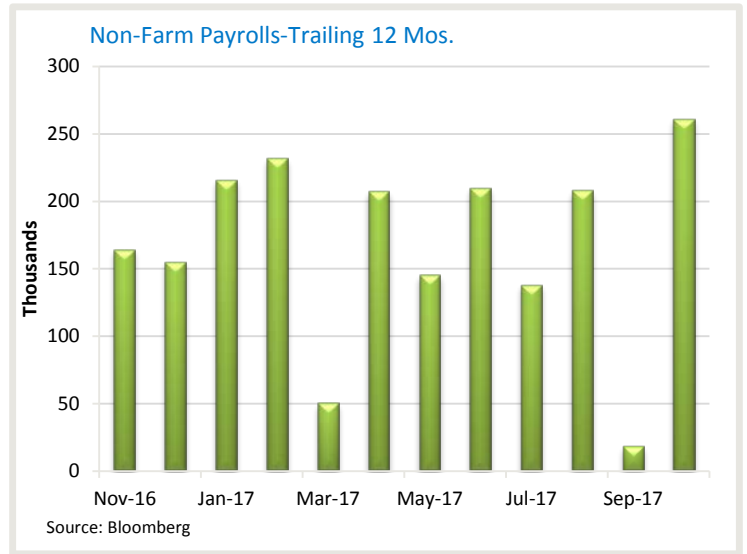
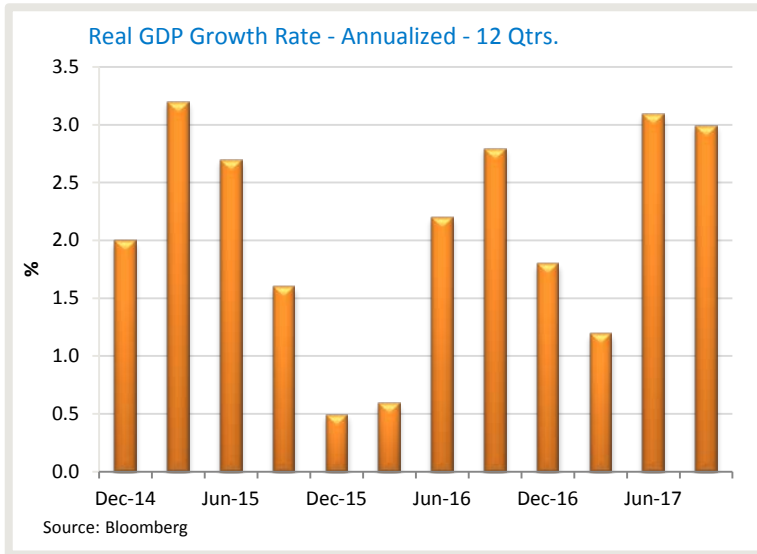
¹ <http://fortune.com/2016/11/08/china-automation-jobs/>

² <https://www.pwc.co.uk/economic-services/ukey/pwcukey-section-4-automation-march-2017-v2.pdf>

³ http://burning-glass.com/wp-content/uploads/Beyond_Point_Click_final.pdf

⁴ https://www.accenture.com/us-en/_acnmedia/36DC7F76EAB444CAB6A7F44017CC3997.ashx?la=en

Economic Data



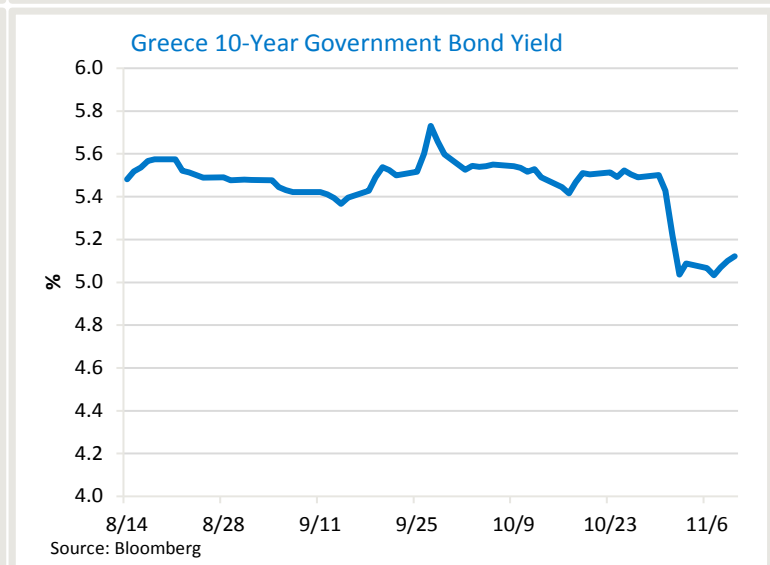
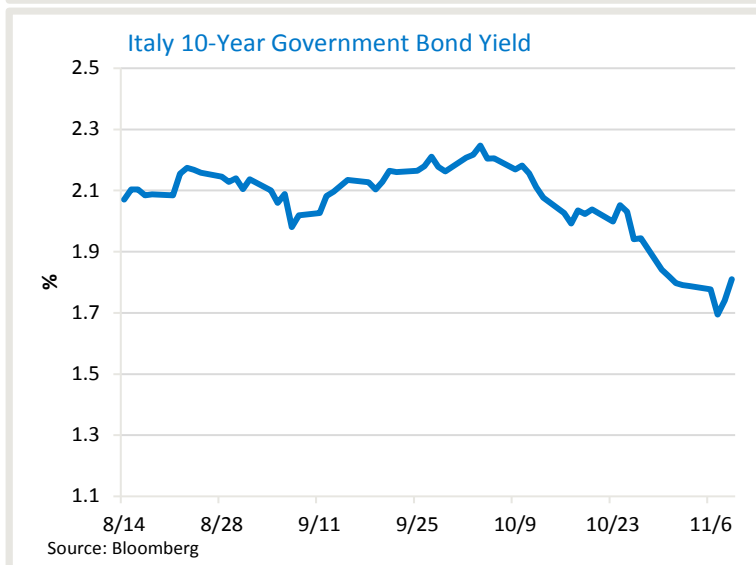
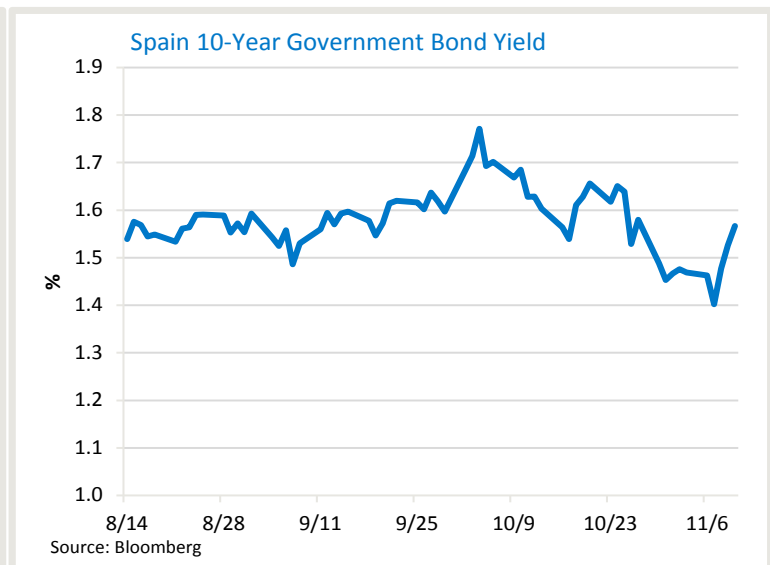
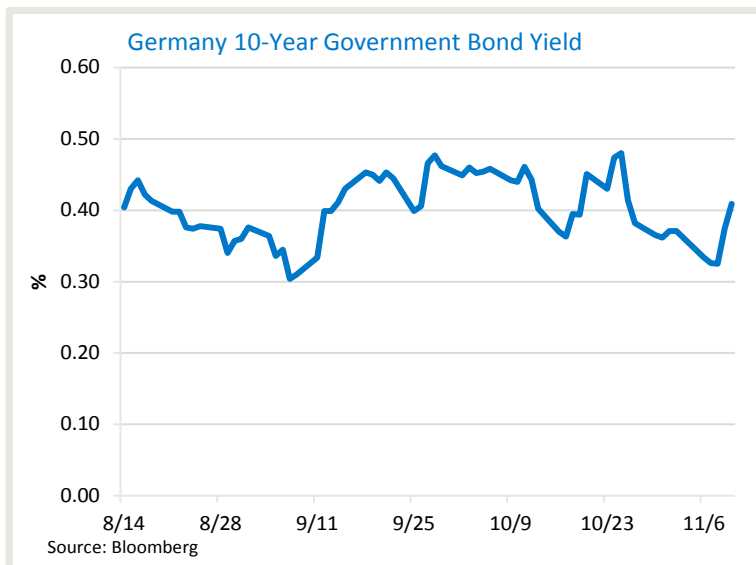
Eurozone

SELECTED EUROPEAN SOVEREIGN YIELD PERFORMANCE

	Last	Change	% Chg.	YTD %
Germany 10-Yr. Govt.	0.41	-5 bps	NM	NM
Greece 10-Yr. Govt.	5.12	-2 bps	NM	NM
Italy 10-Yr. Govt.	1.84	-5 bps	NM	NM
Spain 10-Yr. Govt.	1.57	-9 bps	NM	NM
Belgium 10-Yr. Govt.	0.64	-3 bps	NM	NM

Source: Bloomberg
Basis points (bps)

	Last	Change	% Chg.	YTD %
France 10-Yr. Govt.	0.78	-3 bps	NM	NM
Ireland 10-Yr. Govt.	0.64	-5 bps	NM	NM
Portugal 10-Yr. Govt.	2.05	0 bps	NM	NM
Netherlands 10-Yr. Govt.	0.51	-4 bps	NM	NM
U.K. 10-Yr. Govt.	1.34	-9 bps	NM	NM

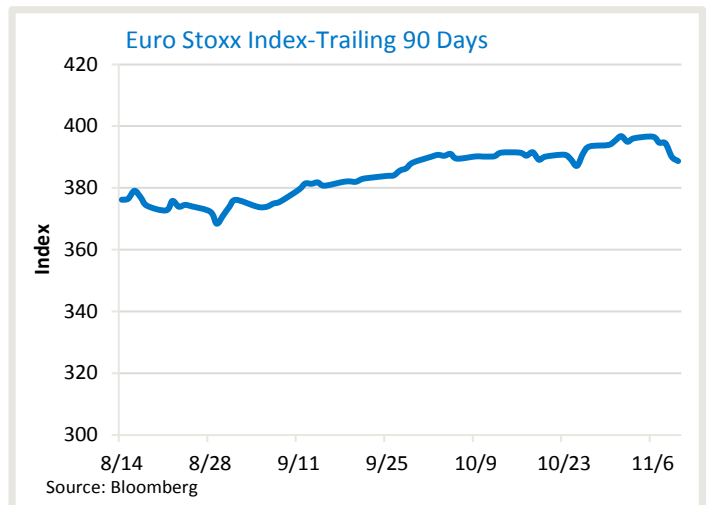
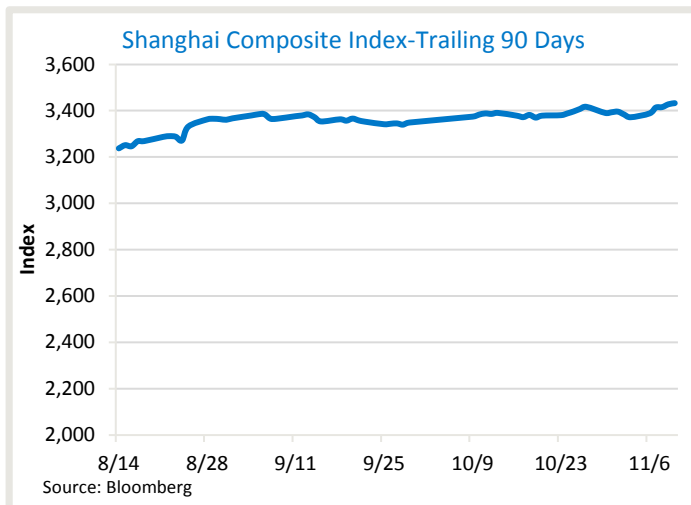
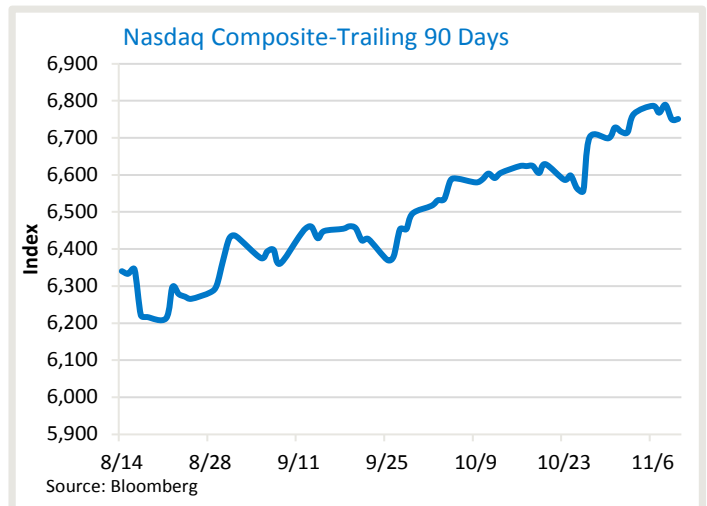
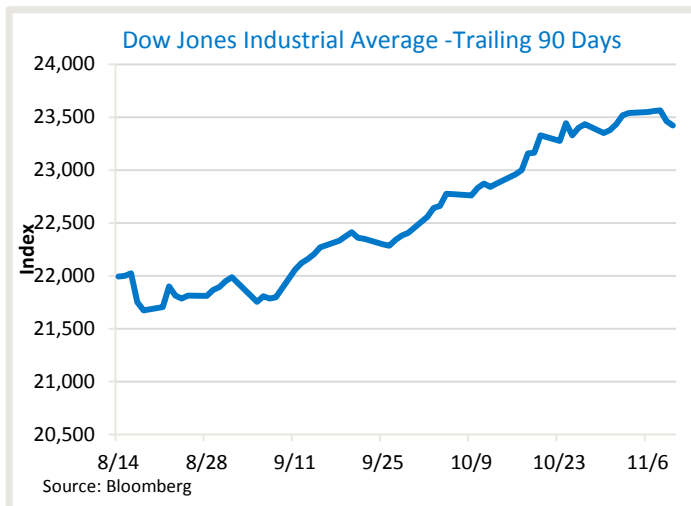


Equities

WORLD MARKET PERFORMANCE

	Last	Change	% Chg.	YTD %		Last	Change	% Chg.	YTD %
S&P 500	2,582.30	-5.54	-0.21%	15.34%	Swiss Market Index	9,134.16	-187.89	-2.02%	11.12%
Dow Industrials	23,422.21	-116.98	-0.50%	18.52%	CAC 40 Index (France)	5,380.72	-137.25	-2.49%	10.66%
Nasdaq Composite	6,750.94	-13.50	-0.20%	25.41%	DAX Index (Germany)	13,127.47	-351.39	-2.61%	14.34%
Russell Global	2,078.66	-3.29	-0.16%	17.9%	Irish Overall Index	6,877.14	-107.16	-1.53%	5.52%
Russell Global EM	3,547.63	18.36	0.52%	29.9%	Nikkei 225	22,681.42	142.30	0.63%	18.66%
S&P/TSX (Canada)	16,039.26	19.10	0.12%	4.92%	Hang Seng Index	29,120.92	517.31	1.81%	32.36%
Mexico IPC	48,028.30	-525.12	-1.08%	5.19%	Shanghai Composite	3,432.67	60.93	1.81%	10.60%
Brazil Bovespa	72,165.64	-1749.78	-2.37%	19.82%	Kospi Index (S. Korea)	2,542.95	-15.02	-0.59%	25.49%
Euro Stoxx 600	388.69	-7.37	-1.86%	7.55%	Taiwan Taiex Index	10,732.67	-68.10	-0.63%	15.98%
FTSE 100	7,432.99	-127.36	-1.68%	4.06%	Tel Aviv 25 Index	1,417.35	-10.27	-0.72%	-3.63%
IBEX 35 (Spain)	10,092.70	-265.10	-2.56%	7.92%	MICEX Index (Russia)	2,169.26	88.11	4.23%	-2.84%

Source: Bloomberg; Index % change is based on price.



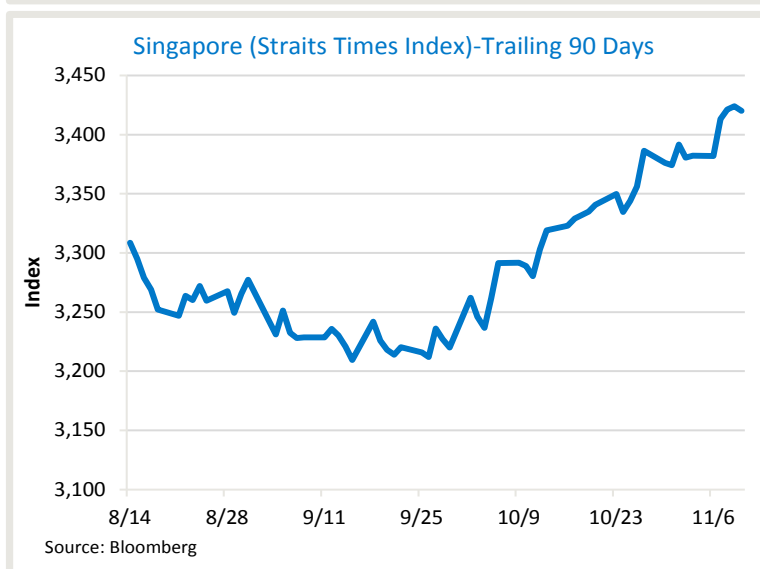
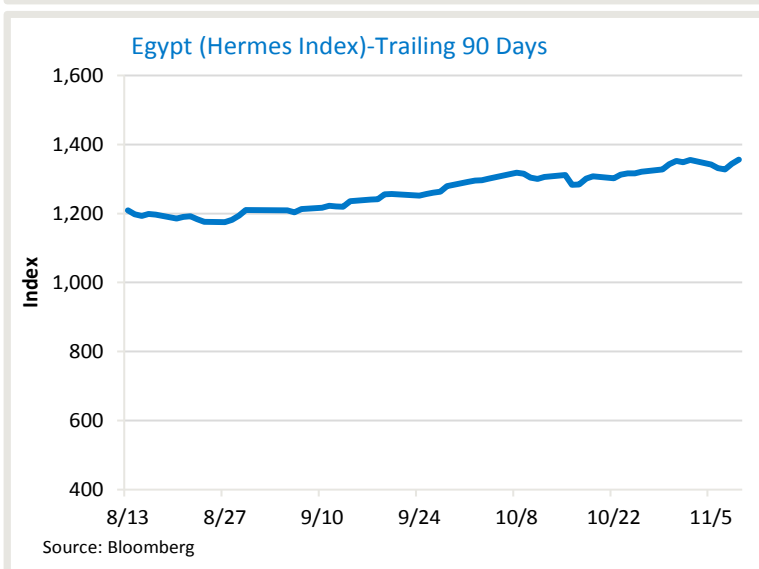
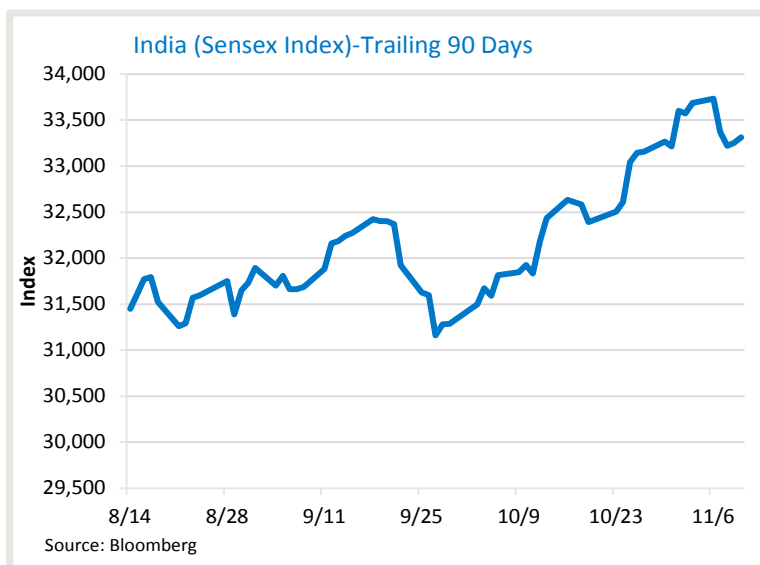
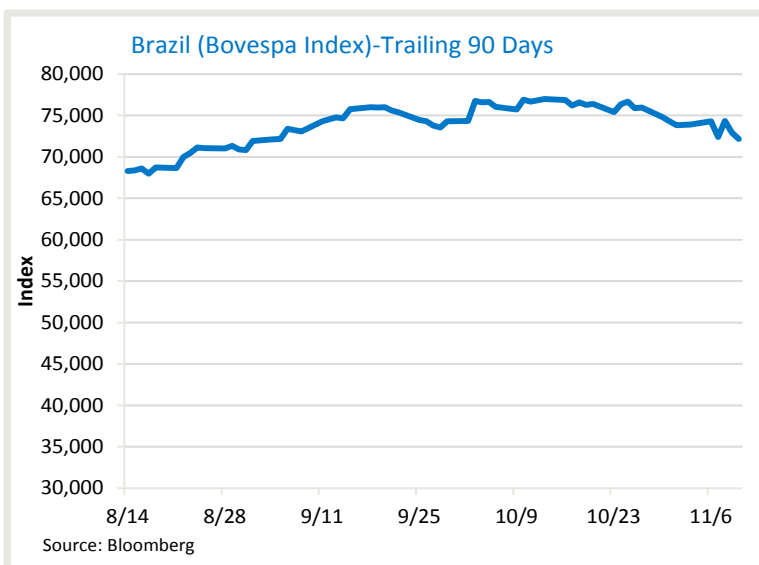
Equities – Emerging and Frontier Markets

EMERGING AND FRONTIER MARKET PERFORMANCE

	Last	Change	% Chg.	YTD %
Mexico IPC	48,028.30	-525.12	-1.1%	5.2%
Brazil (Bovespa Index)	72,165.64	-1749.78	-2.4%	19.8%
MICEX Index (Russia)	2,169.26	88.11	4.2%	-2.8%
Czech Republic (Prague)	1,063.70	12.10	1.2%	15.4%
Turkey (Istanbul)	108,949.35	-2343.40	-2.1%	39.4%
Egypt (Hermes Index)	1,356.08	1.07	0.1%	24.5%
Kenya (Nairobi 20 Index)	3,752.15	-48.28	-1.3%	17.8%
Saudi Arabia (TASI Index)	6,954.38	-2.13	0.0%	-3.6%
Lebanon (Beirut BLOM Index)	1,130.09	-36.17	-3.1%	-6.7%
Palestine	566.18	-3.67	-0.6%	6.8%

Source: Bloomberg; Index % change is based on price.

	Last	Change	% Chg.	YTD %
Hang Seng Index	29,120.92	517.31	1.8%	32.4%
India (Sensex 30)	33,314.56	-371.00	-1.1%	25.1%
Malaysia (KLCI Index)	1,742.28	1.35	0.1%	6.1%
Singapore (Straits Times Index)	3,420.10	37.79	1.1%	18.7%
Thailand (SET Index)	1,689.28	-12.19	-0.7%	9.5%
Indonesia (Jakarta)	6,021.83	-17.71	-0.3%	13.7%
Pakistan (Karachi KSE 100)	41,435.70	371.70	0.9%	-13.3%
Vietnam (Ho Chi Minh)	868.21	24.48	2.9%	30.6%
Sri Lanka (Colombo)	6,552.59	-68.88	-1.0%	5.2%
Cambodia (Laos)	1,041.00	-2.56	-0.2%	2.6%

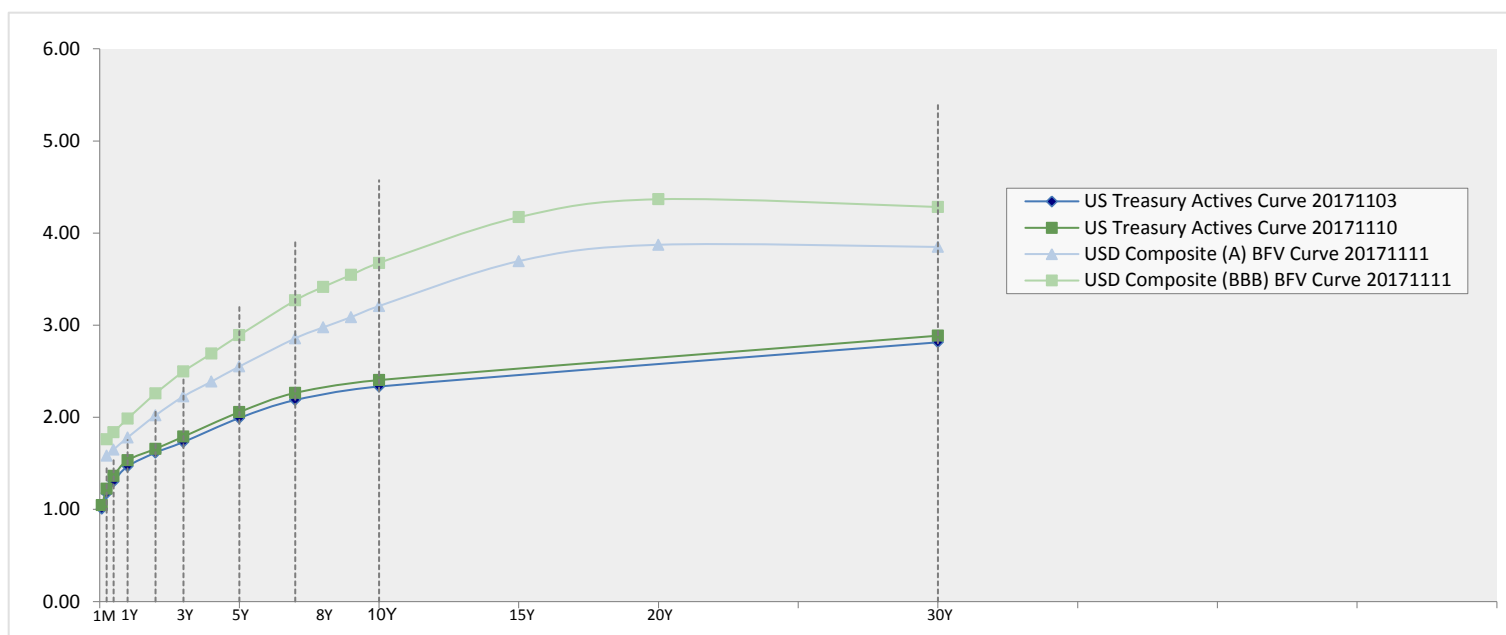


Interest Rates

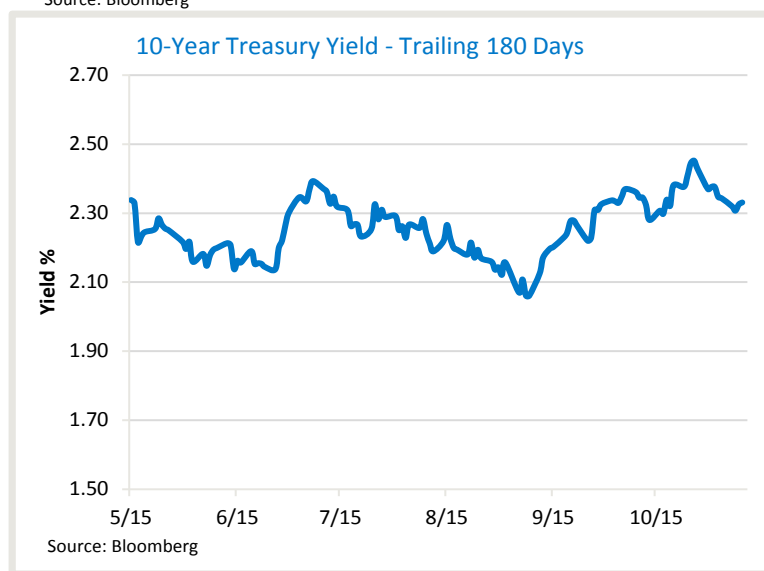
SELECTED INTEREST RATES

	Last	Change	% Chg.	YTD %		Last	Change	% Chg.	YTD %
2-Yr. U.S. Treasury	1.66%	-1 bps	NM	NM	Prime Rate	4.25%	0.00	NM	NM
5-Yr. U.S. Treasury	2.06%	5 bps	NM	NM	Fed Funds Rate	1.25%	0.00	NM	NM
10-Yr. U.S. Treasury	2.40%	6 bps	NM	NM	Discount Rate	1.75%	0.00	NM	NM
30-Yr. U.S. Treasury	2.88%	6 bps	NM	NM	LIBOR (3 Mo.)	1.41%	2 bps	NM	NM
German 10-Yr. Govt.	0.41%	-5 bps	NM	NM	Bond Buyer 40 Muni	3.33%	-11 bps	NM	NM
France 10-Yr.	0.78%	-3 bps	NM	NM	Bond Buyer 40 G.O.	3.49%	NA	NM	NM
Italy 10-Yr.	1.84%	-5 bps	NM	NM	Bond Buyer 40 Rev.	3.86%	NA	NM	NM
Fed 5-Yr Fwd BE Inf.	1.77%	-5 bps	NM	NM					

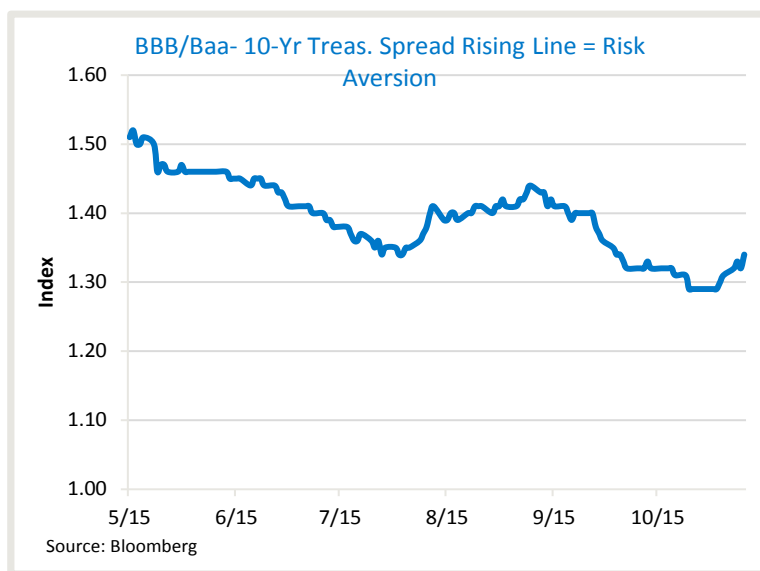
Source: Bloomberg



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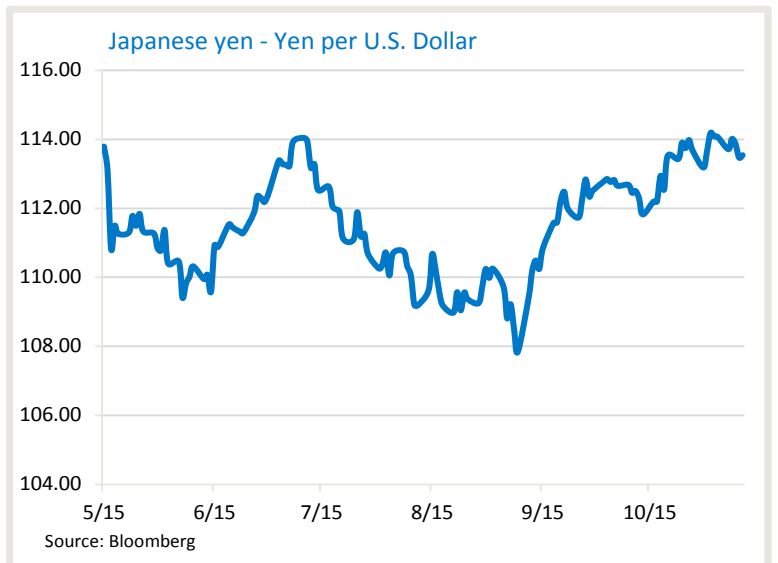
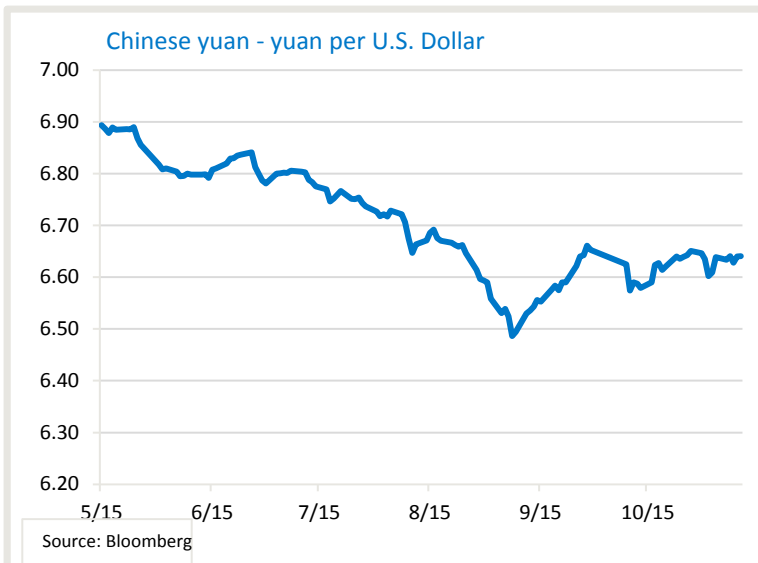
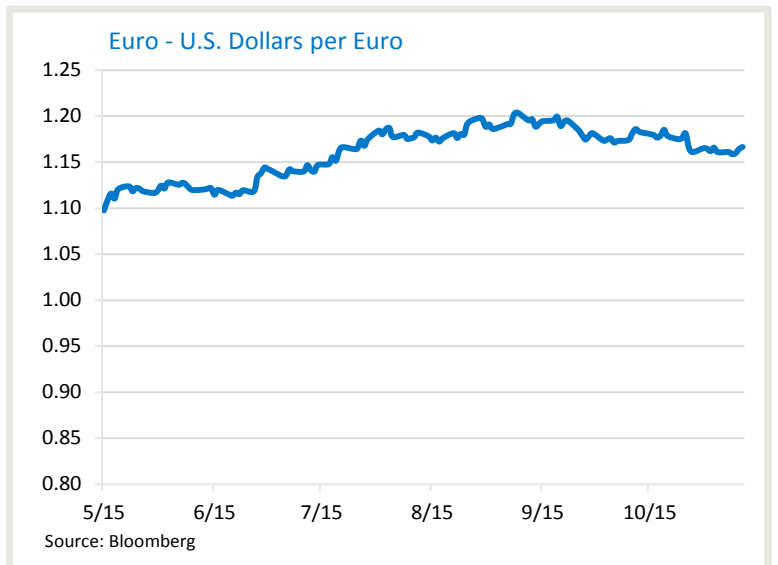
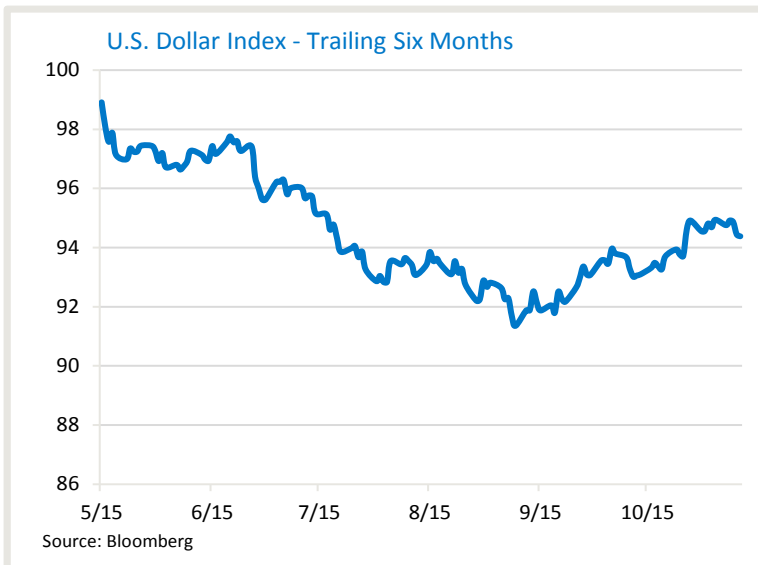
Currencies

SELECTED CURRENCY PERFORMANCE

	Last	Change	% Chg.	YTD %
Dollar Index	94.39	-0.559	-0.59%	-7.66%
Euro	1.17	0.006	0.49%	10.92%
Japanese Yen	113.51	-0.530	0.47%	3.01%
British Pound	1.32	0.012	0.89%	6.91%
Canadian Dollar	1.27	-0.008	0.65%	5.99%

	Last	Change	% Chg.	YTD %
Chinese Yuan	6.64	0.002	-0.03%	4.58%
Swiss Franc	1.00	-0.005	0.49%	2.33%
New Zealand Dollar	0.69	0.002	0.30%	-0.09%
Brazilian Real	3.28	-0.030	0.92%	-1.03%
Mexican Peso	19.10	-0.110	0.58%	8.56%

Source: Bloomberg

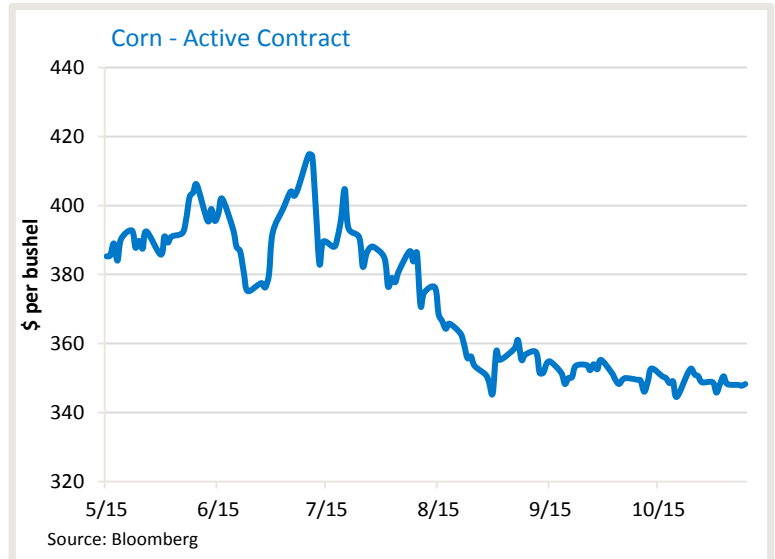
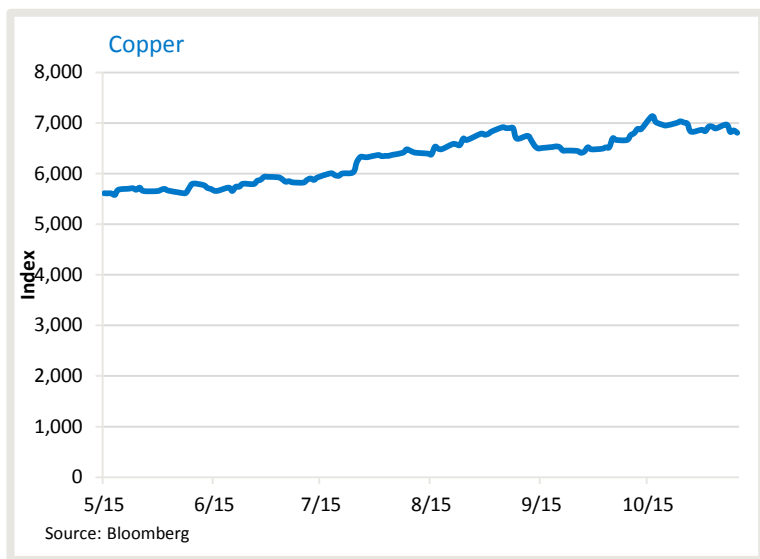
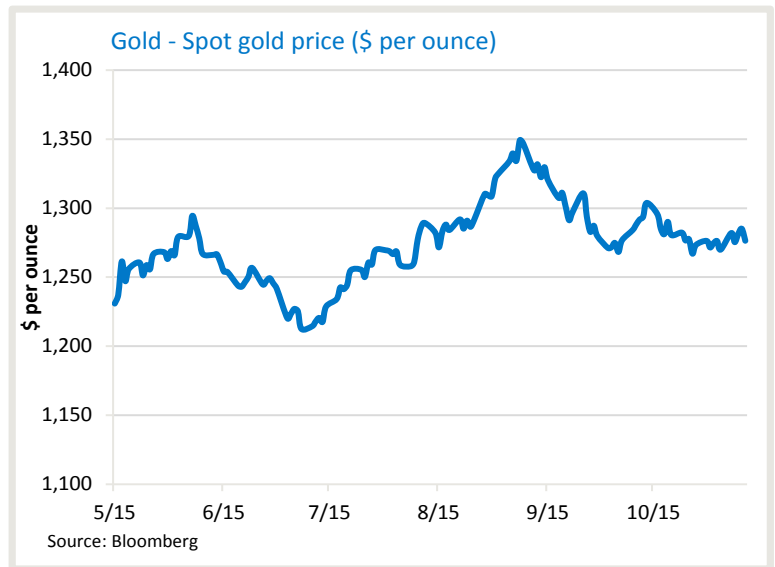
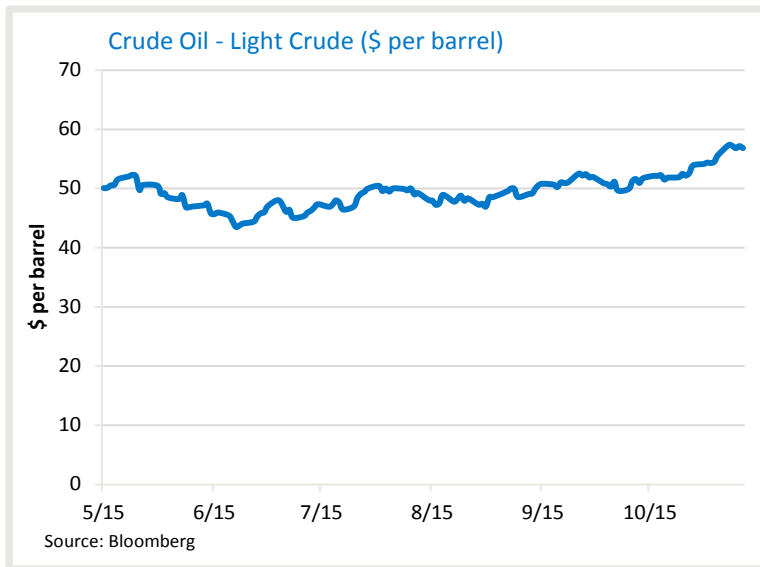


Commodities

SELECTED COMMODITY MARKET PERFORMANCE

	Last	Change	% Chg.	YTD %		Last	Change	% Chg.	YTD %
Bloomberg Comm. Idx.	87.28	0.40	0.46%	-0.27%	Platinum Spot	\$929.34	\$7.89	0.86%	2.88%
Crude Oil	\$56.86	\$1.19	2.14%	-0.40%	Corn	343.50	-4.75	-1.36%	-9.61%
Natural Gas	\$3.22	\$0.23	7.71%	-13.21%	Wheat	431.50	5.75	1.35%	-7.20%
Gasoline (\$/Gal.)	\$2.56	\$0.04	1.47%	9.63%	Soybeans	987.00	0.25	0.03%	-0.60%
Heating Oil	193.96	5.05	2.68%	7.80%	Sugar	14.96	0.58	4.03%	-19.48%
Gold Spot	\$1,276.21	\$6.44	0.51%	11.23%	Orange Juice	162.60	6.00	3.83%	-12.72%
Silver Spot	\$16.90	\$0.07	0.40%	6.17%	Aluminum	2,093.00	-92.00	-4.21%	23.63%
					Copper	6,808.00	-87.00	-1.26%	22.99%

Source: Bloomberg; % change is based on price.

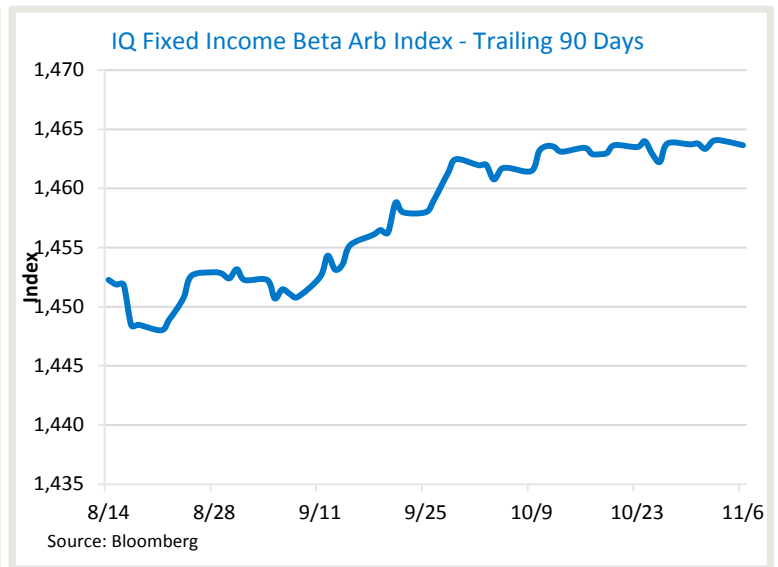
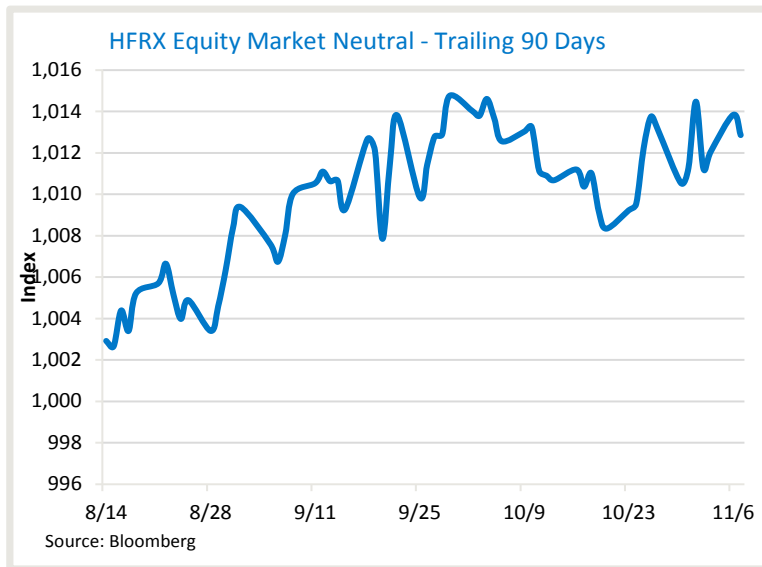
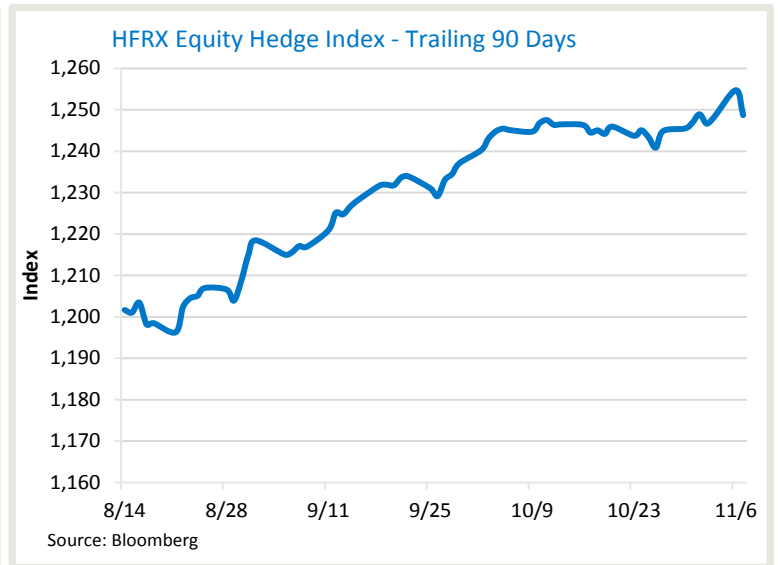
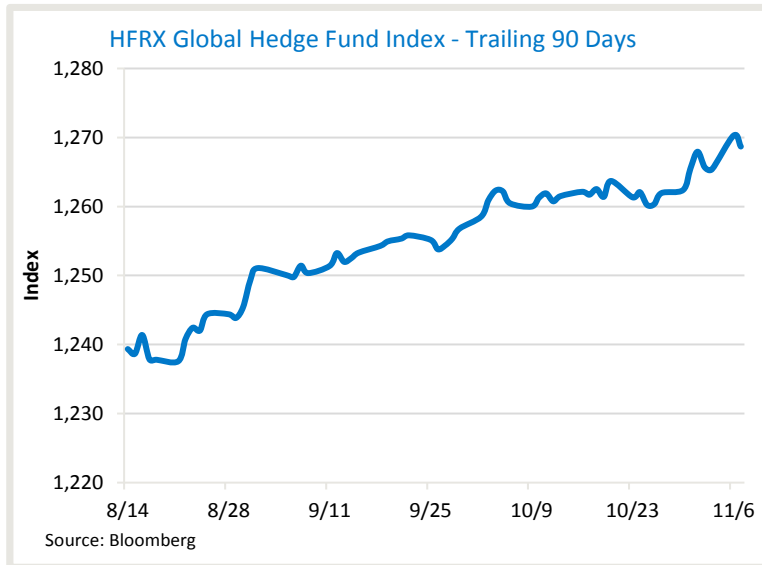


Alternative Investments

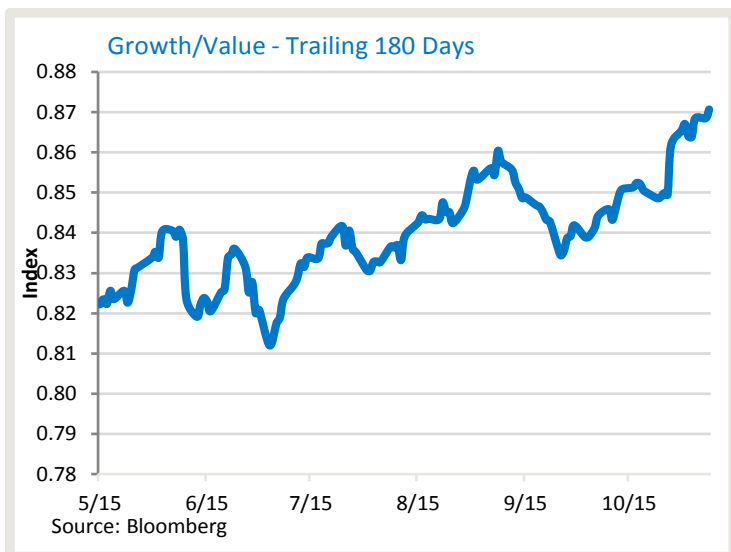
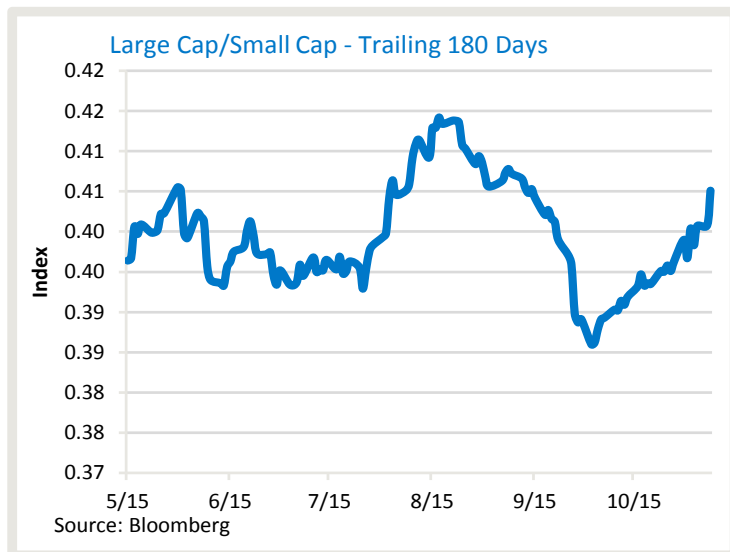
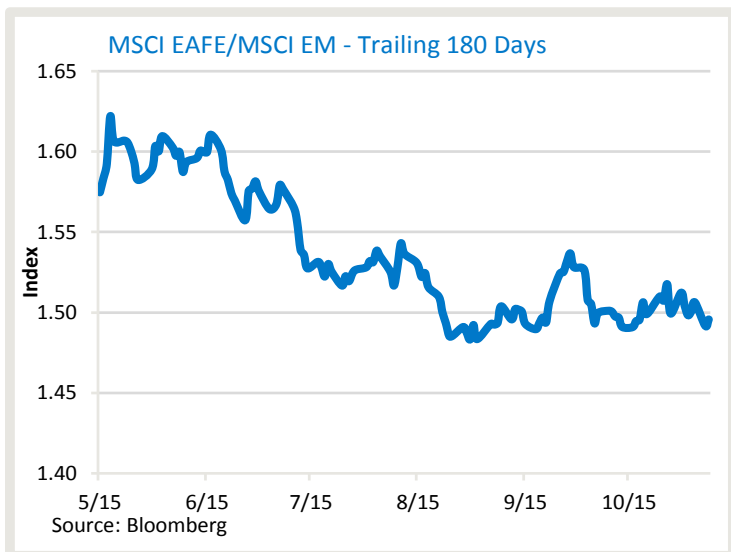
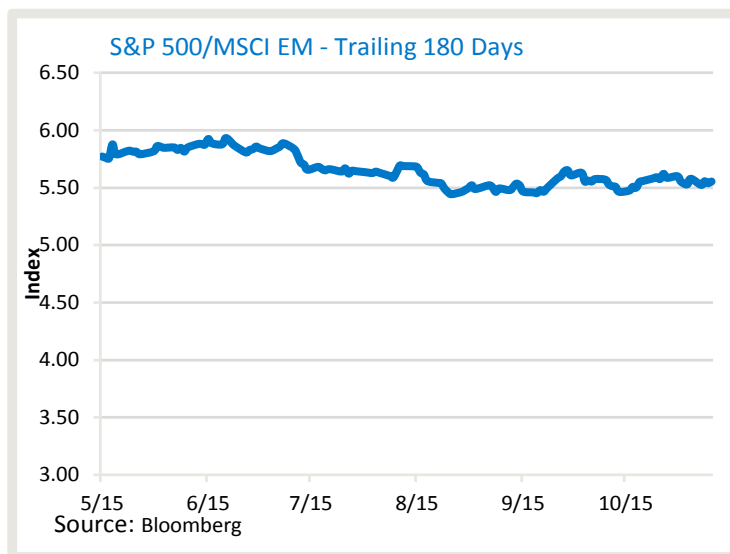
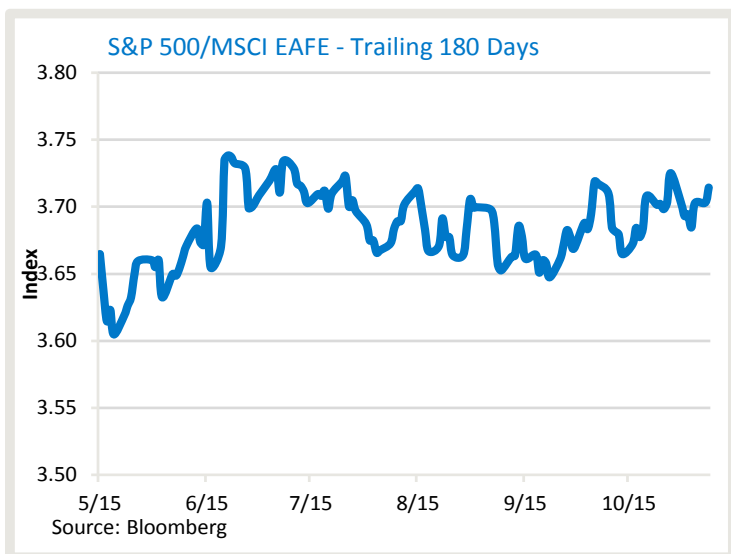
SELECTED ALTERNATIVE INVESTMENT INDEX PERFORMANCE

	Last	Change	% Chg.	YTD %		Last	Change	% Chg.	YTD %
HFRX Global Hedge Fund Index	1261.12	-0.24	-0.02%	5.13%	HFRX Distressed Index	1090.66	1.62	0.15%	2.17%
HFRX Equity Market Neutral	1008.62	1.01	0.10%	2.61%	HFRX Merger Arbitrage Index	1845.38	1.31	0.07%	1.92%
HFRX Equity Hedge Index	1242.86	-1.36	-0.11%	7.91%	HFRX Convertible Arbitrage Index	790.70	3.10	0.39%	6.49%
HFRX Event-Driven Index	1646.73	-2.57	-0.16%	5.78%	HFRX Macro CTA Index	1163.22	5.16	0.44%	2.67%
HFRX Absolute Return Index	1063.65	-0.93	-0.09%	3.65%	IQ Fixed Income Beta Arb Index	1459.63	-4.44	-0.30%	2.79%

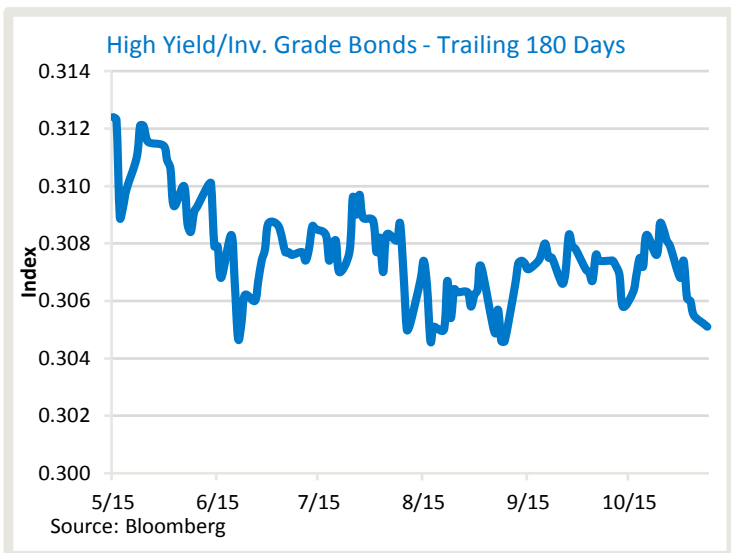
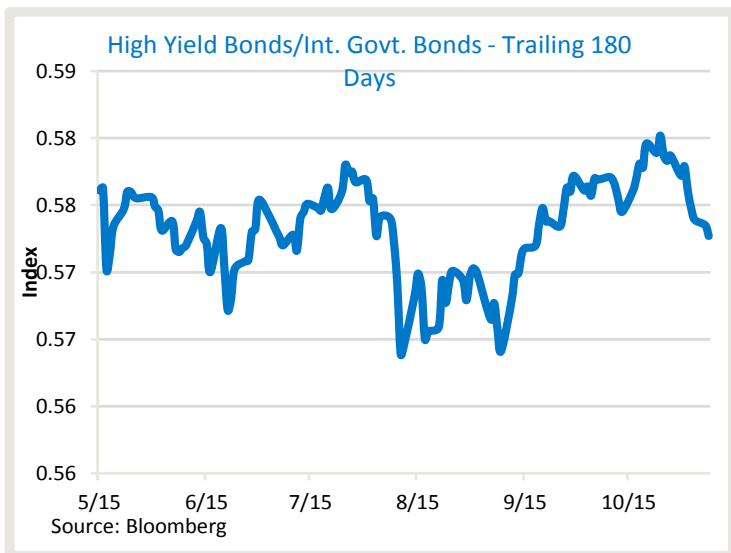
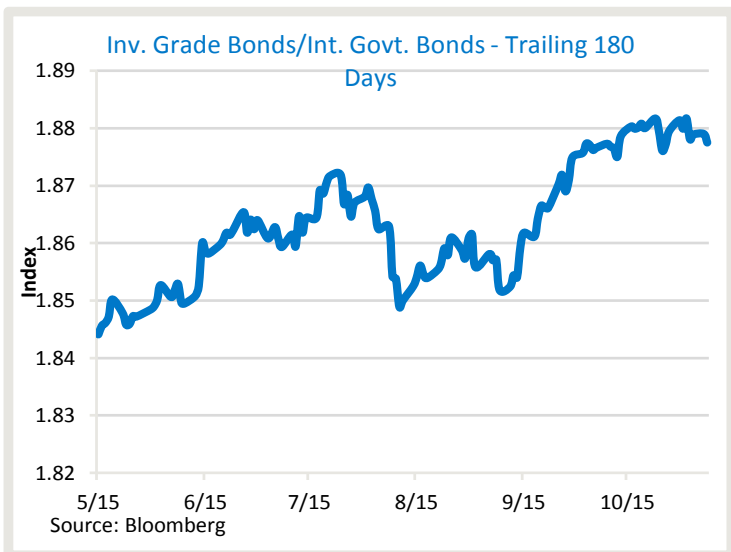
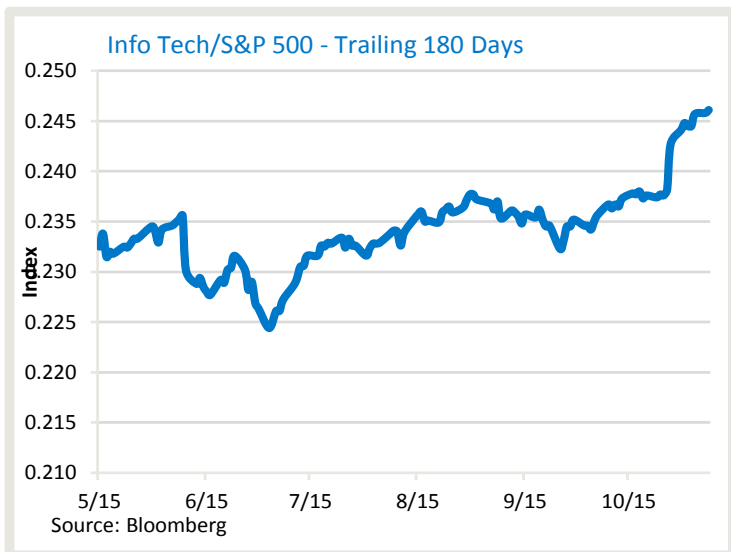
Source: Bloomberg; Index % change is based on price.



Portfolio Construction



Portfolio Construction (continued)



WEEKLY ASSET CLASS PERFORMANCE (Prior 12 weeks ending Thursday)

			8/24	8/31	9/7	9/14	9/21	9/28	10/5	10/12	10/19	10/26	11/2	11/9
Equity	Domestic Equity	Large Cap (R200)	0.35%	1.41%	-0.30%	1.22%	0.26%	0.22%	1.69%	-0.06%	0.47%	-0.08%	0.96%	0.20%
		Small Cap (R2000)	1.10%	2.29%	-0.47%	1.88%	1.34%	3.09%	1.57%	-0.46%	-0.21%	-0.31%	-0.06%	-1.44%
	Int'l. Equity	MSCI EAFE	-0.35%	0.59%	0.94%	0.52%	0.52%	-0.30%	0.52%	1.11%	0.52%	-0.69%	1.09%	-0.56%
		MSCI Em. Mkts.	1.80%	0.49%	0.22%	0.90%	0.75%	-3.23%	2.83%	1.71%	-0.42%	-0.78%	1.73%	0.57%
Fixed Income	BarCap Agg. (AGG)	0.52%	-1.20%	12.35%	-4.80%	0.81%	-5.32%	2.39%	8.49%	-8.59%	-0.67%	2.36%	-3.63%	
	High Yield (JNK)	0.73%	0.57%	-0.59%	0.32%	-0.03%	0.38%	-0.16%	-0.19%	0.35%	-0.40%	-0.32%	-1.38%	
Commodities	Bloomberg Commodity Index	1.01%	1.37%	1.19%	-0.66%	-0.37%	-0.17%	-0.06%	0.64%	0.31%	0.61%	0.90%	0.88%	
Alternatives	Hedge Funds (HFRX Global)	0.34%	0.59%	0.17%	0.09%	0.23%	0.00%	0.55%	-0.11%	0.05%	-0.08%	0.42%	-0.36%	
Asset Allocation	60/40*	0.47%	0.37%	4.31%	-0.99%	0.61%	-1.67%	1.71%	3.15%	-2.81%	-0.45%	1.34%	-1.48%	
	48/32/20 (w/Alts.)**	0.44%	0.41%	3.48%	-0.77%	0.53%	-1.34%	1.48%	2.50%	-2.24%	-0.38%	1.16%	-1.25%	

Source: Bloomberg; *60/40 portfolio = 30% Large Cap/10% Small Cap/15% EAFE/5% Emerging Markets/35% BarCap Agg./5% High Yield.

**48/32/20 portfolio = 24% Large Cap/8% Small Cap/12% EAFE/4% Emerging Markets/28% BarCap Agg./4% High Yield/20% HFRX Global Index.

RELATIVE STRENGTH MATRIX (BASED ON 30-DAY RSI)

	Large Cap Core	Large Cap Growth	Large Cap Value	Mid Cap Core	Mid Cap Growth	Mid Cap Value	Small Cap Core	Small Cap Growth	Small Cap Value	Int'l. Developed	Emerging Markets	REITs	Comm.	Int. Bond	High Yield
Large Cap Core	1.00	0.93	1.22	1.12	1.09	1.17	1.27	1.21	1.34	1.11	1.04	1.06	1.07	1.46	1.96
Large Cap Growth	1.08	1.00	1.31	1.21	1.18	1.26	1.37	1.31	1.44	1.20	1.12	1.14	1.15	1.57	2.11
Large Cap Value	0.82	0.76	1.00	0.92	0.90	0.97	1.04	1.00	1.10	0.92	0.86	0.87	0.88	1.20	1.61
Mid Cap Core	0.89	0.83	1.08	1.00	0.97	1.04	1.13	1.08	1.19	0.99	0.93	0.94	0.95	1.30	1.74
Mid Cap Growth	0.92	0.85	1.11	1.03	1.00	1.07	1.16	1.11	1.22	1.02	0.96	0.97	0.98	1.33	1.79
Mid Cap Value	0.85	0.79	1.04	0.96	0.93	1.00	1.08	1.03	1.14	0.95	0.89	0.90	0.91	1.24	1.67
Small Cap Core	0.79	0.73	0.96	0.89	0.86	0.92	1.00	0.96	1.05	0.88	0.82	0.84	0.84	1.15	1.54
Small Cap Growth	0.82	0.76	1.00	0.93	0.90	0.97	1.05	1.00	1.10	0.92	0.86	0.87	0.88	1.20	1.61
Small Cap Value	0.75	0.70	0.91	0.84	0.82	0.88	0.95	0.91	1.00	0.83	0.78	0.80	0.80	1.09	1.47
Int'l. Developed	0.90	0.83	1.09	1.01	0.98	1.05	1.14	1.09	1.20	1.00	0.94	0.95	0.96	1.31	1.76
Emerging Markets	0.96	0.89	1.16	1.08	1.05	1.12	1.22	1.16	1.28	1.07	1.00	1.02	1.03	1.40	1.88
REITs	0.94	0.87	1.14	1.06	1.03	1.11	1.20	1.14	1.26	1.05	0.98	1.00	1.01	1.37	1.84
Commodities	0.93	0.87	1.13	1.05	1.02	1.10	1.19	1.13	1.25	1.04	0.97	0.99	1.00	1.36	1.83
Int. Bond	0.69	0.64	0.83	0.77	0.75	0.81	0.87	0.83	0.92	0.77	0.72	0.73	0.74	1.00	1.34
High Yield	0.51	0.47	0.62	0.57	0.56	0.60	0.65	0.62	0.68	0.57	0.53	0.54	0.55	0.74	1.00

Source: Bloomberg

The Relative Strength Matrix provides an indication of how the various asset classes have performed relative to one another over the past 30 days. A number greater than 1.0 indicates that the asset class in the far left column has outperformed the corresponding asset class in the top row over the past 30 days. A number below 1.0 means the asset class on the left has underperformed the asset class at the top. The green shading indicates outperformance, and the red shading indicates underperformance.

Index Overview & Key Definitions

Fed, The Fed or FED refers to the Federal Reserve System, the central bank of the United States. The **Federal Open Market Committee (FOMC)** is the monetary policymaking body of the Federal Reserve System. **Fed Funds Rate**, the interest rate at which a depository institution lends funds maintained at the Federal Reserve to another depository institution overnight. The **European Central Bank (ECB)** is the central bank for Europe's single currency, the euro. The ECB's main task is to maintain the euro's purchasing power and thus price stability in the euro area. The euro area comprises the 19 European Union countries that have introduced the euro since 1999. The **Gross Domestic Product (GDP)** rate is a measurement of the output of goods and services produced by labor and property located in the United States. **Basis Point(s)** is a unit that is equal to 1/100th of 1%, and is used to denote the change in a financial instrument. The basis point is commonly used for calculating changes in interest rates, equity indexes and the yield of a fixed-income security. A **separately managed account (SMA)** is an individual managed investment account offered typically by a brokerage firm through one of their brokers or financial consultants and managed by independent investment management firms (often called money managers for short) and have varying fee structures. The **Consumer Price Index (CPI)** measures the change in the cost of a fixed basket of products and services. The **Producer Price Index (PPI)** program measures the average change over time in the selling prices received by domestic producers for their output. The prices included in the PPI are from the first commercial transaction for many products and some services. **Core CPI** is an additional CPI Index, excludes energy and food item price changes, and measures the "core" or "underlying" rate of inflation. The **PCE (Personal Consumption Expenditure) Index of Prices** is a US--wide indicator of the average increase in prices for all domestic personal consumption. Using a variety of data including U.S. Consumer Price Index and Producer Price Index prices, it is derived from personal consumption expenditures; essentially a measure of goods and services targeted towards individuals and consumed by individuals. The **Purchasing Managers' Index (PMI)** is an indicator of the economic health of the manufacturing sector. The **PMI** is based on five major indicators: new orders, inventory levels, production, supplier deliveries and the employment environment. **Brexit** is a commonly used term for the United Kingdom's withdrawal from the European Union. The **Kansas City Fed Manufacturing Survey** monitors manufacturing plants selected according to geographic distribution, industry mix and size in the Tenth Federal Reserve District.

The **Dow Jones Industrial Average (DOW or DJIA)** is an unmanaged index of 30 common stocks comprised of 30 actively traded blue chip stocks, primarily industrials and assumes reinvestment of dividends. The **S&P 500 Index** is an unmanaged index comprised of 500 widely held securities considered to be representative of the stock market in general. The **S&P/Case-Shiller Home Price Indices** measure the residential housing market, tracking changes in the value of the residential real estate market in 20 metropolitan regions across the United States. The **Nasdaq Composite Index** is a stock market index of the common stocks and similar securities listed on the NASDAQ stock market. The **US Dollar Index** is a measure of the value of the United States dollar relative to a basket of foreign currencies. It is a weighted geometric mean of the dollar's value relative to other select currencies (Euro, Japanese yen, Pound sterling, Canadian dollar, Swedish krona (SEK) & Swiss franc). The **FTSE 100 Index (FTSE 100)** is a share index of the 100 companies listed on the London Stock Exchange (LSE) with the highest market capitalization. The **Bloomberg Commodity Index (formerly the Dow Jones-UBS Commodity Index)** tracks prices of futures contracts on physical commodities on the commodity markets and is designed to minimize concentration in any one commodity or sector (currently 22 commodity futures in seven sectors). The **Barclays Capital US Credit Index** is an unmanaged index considered representative of publicly issued, SEC-registered US corporate and specified foreign debentures and secured notes. The **Barclays Capital US Aggregate Bond Index** is a market capitalization-weighted index of investment-grade, fixed-rate debt issues, including government, corporate, asset-backed, and mortgage-backed securities, with maturities of at least one year. The **Barclays Capital US Corporate High Yield Index** covers the USD-denominated, non-investment grade, fixed-rate, taxable corporate bond market. Securities are classified as high-yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. The index may include emerging market debt. The **Barclays Capital Municipal Bond Index** is an unmanaged index comprised of investment-grade, fixed-rate municipal securities representative of the tax-exempt bond market in general. The **Barclays Capital US Treasury Total Return Index** is an unmanaged index of public obligations of the US Treasury with a remaining maturity of one year or more. The **Barclays Capital Global Aggregate ex-U.S. Index** is a market capitalization-weighted index, meaning the securities in the index are weighted according to the market size of each bond type. Most U.S. traded investment grade bonds are represented. Municipal bonds, and Treasury Inflation-Protected Securities are excluded, due to tax treatment issues. The index includes Treasury securities, Government agency bonds, Mortgage-backed bonds, Corporate bonds, and a small amount of foreign bonds traded in U.S. The **Barclays Capital U.S. 5-10 Year Corporate Bond Index** measures the investment return of U.S. dollar denominated, investment-grade, fixed rate, taxable securities issued by industrial, utility, and financial companies with maturities between 5 and 10 years. Treasury securities, mortgage-backed securities (MBS) foreign bonds, government agency bonds and corporate bonds are some of the categories included in the index. The **Barclays Capital U.S. Corporate High-Yield Index** is composed of fixed-rate, publicly issued, non-investment grade debt. The **Barclays Capital U.S. Corporate 5-10 Year Index** includes U.S. dollar-denominated, investment-grade, fixed-rate, taxable securities issued by industrial, utility, & financial companies, with maturities between 5 & 10 years. The **Russell 1000 Index** is a market capitalization-weighted benchmark index made up of the 1000 largest U.S. companies in the Russell 3000 Index. The **Russell 1000 Growth Index** is an unmanaged index considered representative of large-cap growth stocks. The **Russell 1000 Value Index** is an unmanaged index considered representative of large-cap value stocks. The **Russell 2000 Index** is an unmanaged index considered representative of small-cap stocks. The **Russell 2000 Growth Index** is an unmanaged index considered representative of small-cap growth stocks. The **Russell 2000 Value Index** is an unmanaged index considered representative of small-cap value stocks. The **Russell 3000 Index** is an unmanaged index considered representative of the US stock market. The **Russell Midcap Index** is a subset of the Russell 1000 Index. It includes approximately 800 of the smallest securities based on a combination of their market cap and current index membership. The **Russell Midcap Growth Index** is an unmanaged index considered representative of mid-cap growth stocks. The **Russell Midcap Value Index** is an unmanaged index considered representative of mid-cap value stocks. The **HFRX Indices** are a series of benchmarks of hedge fund industry performance which are engineered to achieve representative performance of a larger universe of hedge fund strategies. Hedge Fund Research, Inc. employs the HFRX Methodology (UCITS compliant), a proprietary and highly quantitative process by which hedge funds are selected as constituents for the HFRX Indices. The **University of Michigan Consumer Sentiment Index (MCSI)** is a survey of consumer confidence conducted by the University of Michigan using telephone surveys to gather information on consumer expectations regarding the overall economy. The **CBOE Volatility Index (VIX)** is an up-to-the-minute market estimate of expected volatility that is calculated by using real-time S&P 500 Index option bid/ask quotes. The Index uses nearby and second nearby options with at least 8 days left to expiration and then weights them to yield a constant, 30-day measure of the expected volatility of the S&P 500 Index. The **MSCI EAFE Index** is designed to measure the equity market performance of developed markets outside of the U.S. & Canada. The **MSCI EAFE Growth Index** is an unmanaged index considered representative of growth stocks of Europe, Australasia and the Far East. The **MSCI EAFE Value Index** is an unmanaged index considered representative of value stocks of Europe, Australasia and the Far East. The **MSCI EM (Emerging Markets) Latin America Index** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of emerging markets in Latin America. The **MSCI World ex-U.S. Index** captures large and mid-cap representation across 22 of 23 Developed Markets (DM) countries - excluding the US. With 1,002 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country. The **MSCI Japan Index** is designed to measure the performance of the large and mid-cap segments of the Japanese market. With 320 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Japan. The **MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. The **MSCI Europe Index** is an unmanaged index considered representative of stocks of developed European countries. The **MSCI Pacific Index** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in the Pacific region. The **Barclays Intermediate US Government/Credit Bond Index** is a market capitalization-weighted index of investment-grade, fixed-rate debt issues, including Treasuries, government-related and U.S. corporate securities, with maturities of at least one year and less than 10 years. The **NY Empire State Manufacturing Index** is based on the monthly survey of manufacturers in New York State – known as the Empire State Manufacturing Survey – conducted by the Federal Reserve Bank of New York. The **ISM Manufacturing Index** is based on surveys of more than 300 manufacturing firms by the Institute of Supply Management and monitors employment, production, inventories, new orders and supplier deliveries. The **ISM Non-Manufacturing Index** is an index based on surveys of more than 400 non-manufacturing firms' purchasing and supply executives, within 60 sectors across the nation, by the Institute of Supply Management (ISM) and also tracks economic data, like the ISM Non-Manufacturing Business Activity Index. A composite diffusion index is created based on the data from these surveys that monitors economic conditions of the nation. The **Housing Market Index (HMI)** is based on a monthly survey of NAHB members designed to take the pulse of the single-family housing market. In May 2007, **Markit's U.S. PMI** research was extended out to cover producers of metal goods. In October 2009, Markit's U.S. Manufacturing PMI survey panel was extended further to cover all areas of U.S. manufacturing activity. The **S&P Composite 1500 Index** combines three leading indices, the S&P 500, the S&P MidCap 400, and the S&P SmallCap 600 to cover approximately 90% of the U.S. market capitalization. It is designed for investors seeking to replicate the performance of the U.S. equity market or benchmark against a representative universe of tradable stocks. The **Industrial Production Index** is an economic indicator that measures real output for all facilities located in the United States manufacturing, mining, and electric, and gas utilities (excluding those in U.S. territories). The **Dow Jones U.S. Select REIT Index** tracks the performance of publicly traded REITs and REIT-like securities and is designed to serve as a proxy for direct real estate investment, in part by excluding companies whose performance may be driven by factors other than the value of real estate.

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