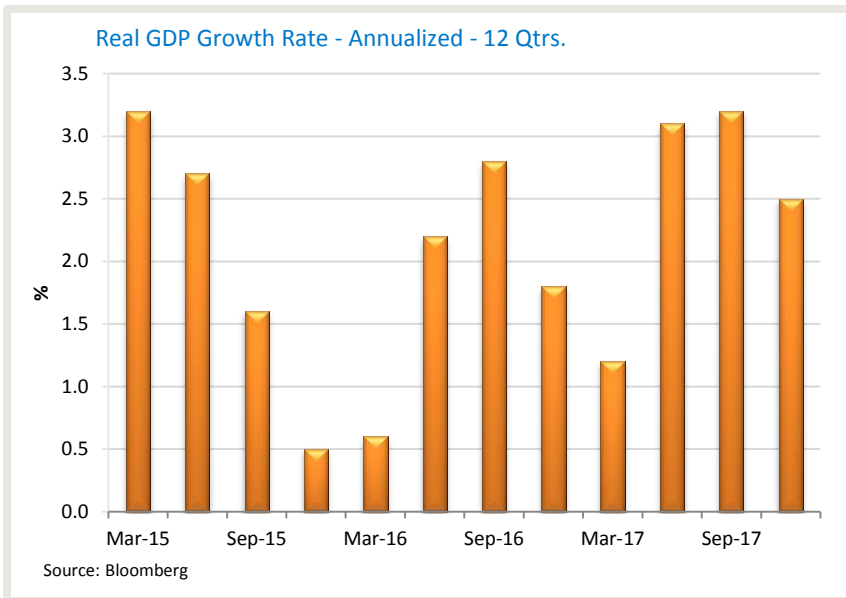


Weekly Market Review

March 23, 2018

Chart of the Week



Weekly Highlights

- **Congress passed a \$1.3 trillion spending bill** in the early hours of Friday morning, which would avert a partial government shutdown if signed by President Trump before Friday evening. In a notably bipartisan bill, Democrats got increases in domestic spending, and Republicans claimed large increases in military spending. As of mid-day Friday, the President indicated he had signed the bill, rather than vetoing it as he had threatened earlier in the day.
- **The Federal Open Market Committee (FOMC) raised the federal funds rate target** to a range of 1.50% to 1.75%. The FOMC projects another two hikes this year, as it expects inflation to rise to its 2% target. The FOMC described economic activity as “moderate”—a slight downgrade from the previous “solid” characterization—but upgraded its gross domestic product (GDP) growth forecast. Additionally, the Federal Reserve’s (Fed’s) dot plot predicted an additional rate rise in 2019.
- **Jobless claims indicate the labor market remains very strong.** Initial jobless claims in the week ended March 17 rose 3,000 from the previous week to 229,000. However, this figure remains near all-time lows, and continuing claims set a new multidecade low of 1.828 million for the week ended March 10.

Talking Points

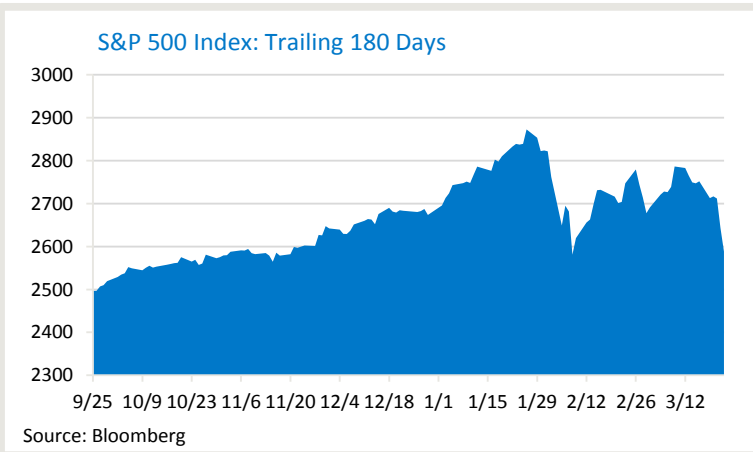
- **Global equity markets** were led by Russia and Japan, with returns in the low single digits. Most major developed European indices traded slightly down, and the S&P 500, down nearly 4%, produced the worst returns through Thursday.
- **Treasuries were mostly unchanged** through Thursday. US Treasury yields experienced only de minimis shifts during the week, with three- and six-month T-bill yields falling marginally.
- **Commodities were mixed on the week.** Oil and precious and metals were up through Thursday. Natural gas and copper fell. Corn, wheat, and live cattle were down slightly.
- **The US dollar** is marginally down this week against a basket of major trade partners’ currencies, but the USD is still at roughly the same level as a month ago. The U.S. Dollar (DXY) Index’s current level is near the weakest it has been since 2014.
- **In other economic news:** The March composite PMI fell modestly from February’s reading, though this figure still stands near a three-year high—indicating strength in the manufacturing sector. The housing market made a solid showing in February, with new and existing home sales growing modestly year-over-year.

Market Dashboard

	Last Price	Change	% Chg.	YTD %
S&P 500	2,588.26	-163.75	-5.95%	-3.2%
Dow Industrials	23,533.20	-1,413.31	-5.67%	-4.8%
Nasdaq	6,992.67	-489.32	-6.54%	1.3%
Russell 2000	1,510.08	-75.96	-4.79%	-1.7%
Euro Stoxx Index	365.82	-11.89	-3.15%	-6.0%
Shanghai Composite	3,152.76	-117.12	-3.58%	-4.7%
Russell Global	2,127.27	-55.49	-2.54%	-0.8%

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

	Last Price	Change	% Chg.	YTD %
Russell Global EM	3,749.81	-49.49	-1.30%	2.9%
10-Year US Treas.	2.83	-2 bps	NM	NM
DJ UBS Comm. Idx.	87.44	0.08	0.09%	-0.8%
Gold	\$1,347.88	\$34.06	2.59%	3.5%
Crude Oil	\$65.97	\$3.56	5.70%	9.5%
Dollar Index	89.49	-0.74	-0.82%	-2.9%
VIX Index	24.87	9.07	57.41%	125.3%



	One Week			YTD		
	Value	Growth		Value	Growth	
L	-5.69%	-6.17%	-6.56%	-5.86%	-3.13%	-0.72%
	-4.79%	-4.88%	-4.99%	-5.29%	-2.82%	0.37%
S	-4.99%	-4.79%	-4.61%	-4.76%	-1.66%	1.23%

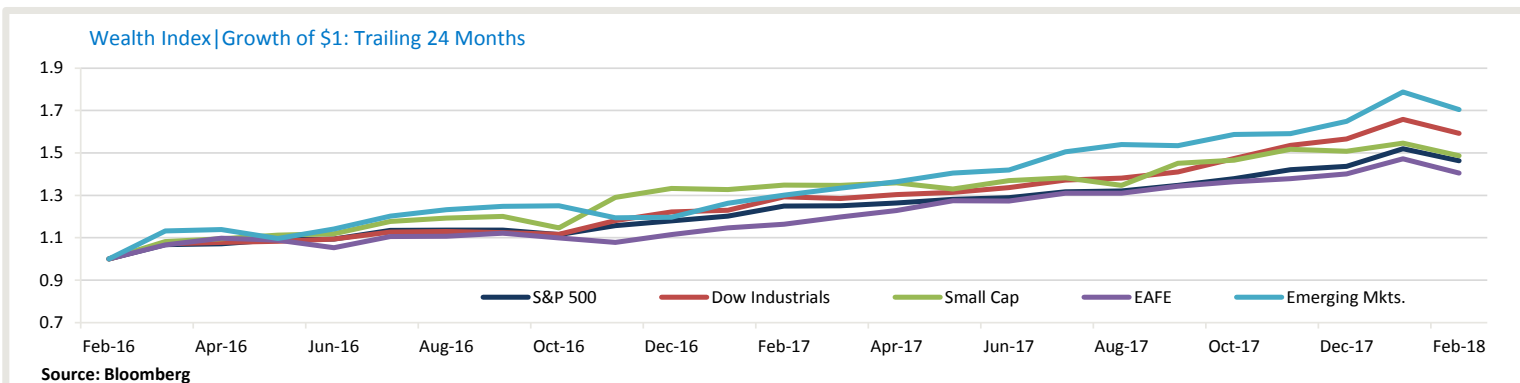
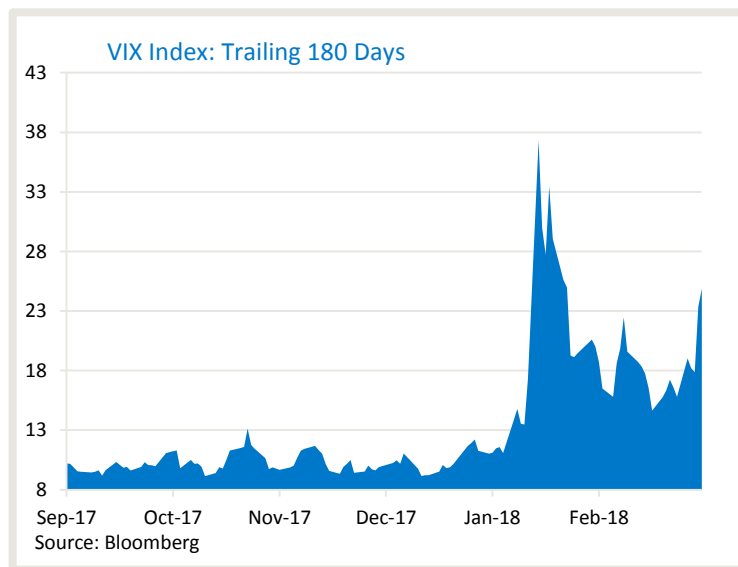
Source: Bloomberg

Sector Performance:

S&P/Global Industry Classification Sectors (GICS)

	% Wgt in S&P 500	Week % Chg.	YTD % Chg.
Consumer Discretionary	12.8	-4.79%	1.6%
Consumer Staples	7.5	-4.62%	-10.9%
Energy	5.8	-0.93%	-7.5%
Financials	14.6	-7.22%	-3.9%
Health Care	13.7	-6.79%	-3.5%
Industrials	10.2	-4.97%	-4.0%
Information Technology	24.9	-7.88%	1.5%
Materials	2.9	-5.33%	-7.4%
Real Estate	2.7	-3.82%	-8.7%
Telecom Services	1.9	-5.64%	-11.4%
Utilities	2.8	-2.53%	-7.0%

Source: Bloomberg



The Economy and Markets

A Macro View – Junk Bonds: Where Do They Go from Here?

In its annual communique, the G-20 group of finance ministers and central bankers from the world's largest economies observed that the bloc is experiencing "the broadest synchronised global growth upsurge since 2010, and a pick-up in investment and trade." At the same time, the United States is putting its foot on the fiscal gas pedal, and consumer and business confidence surveys are at post-crisis highs. At first glance, this appears to be the exact type of market environment best suited for risky assets like junk bonds. However, with the end of the first quarter quickly approaching, high yield bonds are in the red year-to-date, and many investors are dumping their junk. What, then, could be driving the most recent pullback in this asset class, and what kind of ride might investors expect from here?

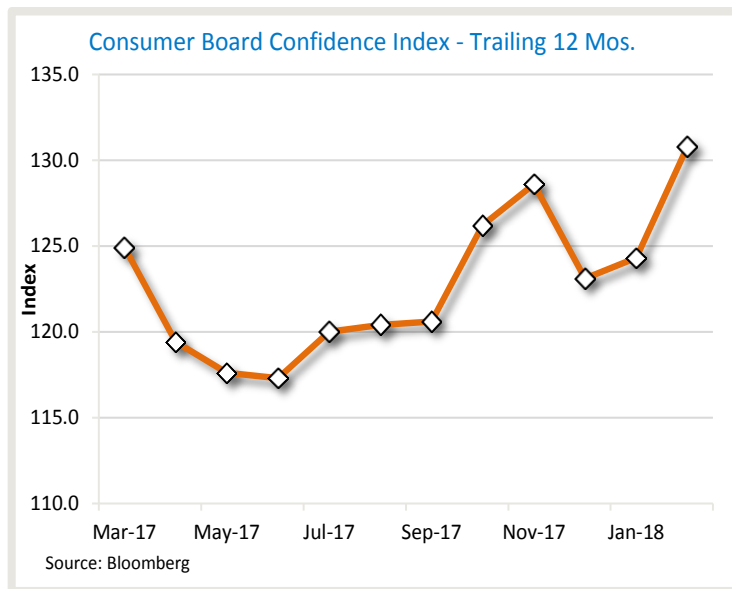
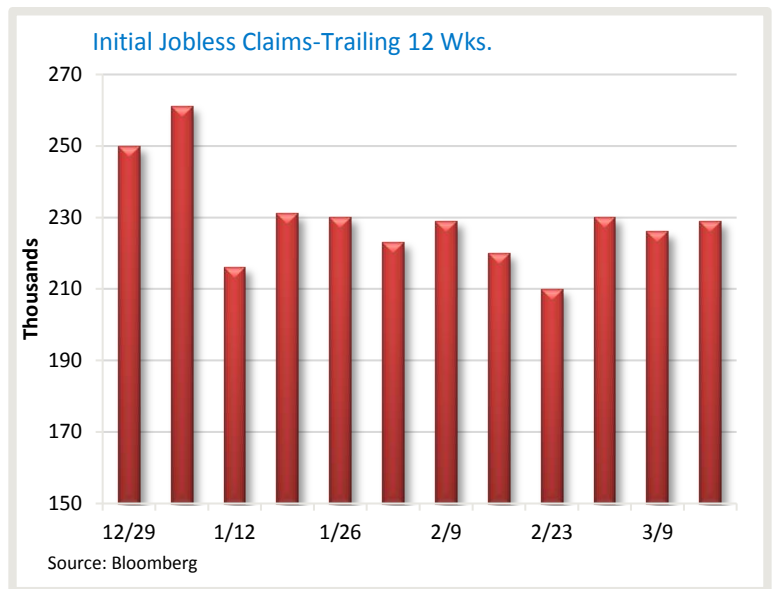
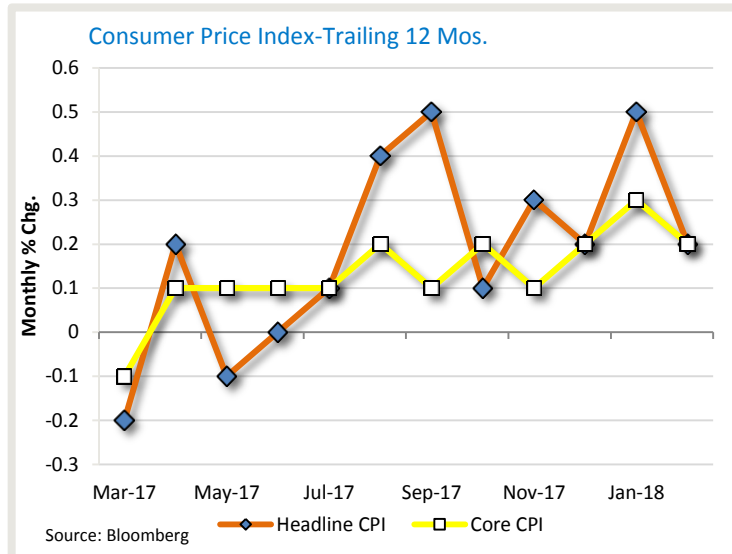
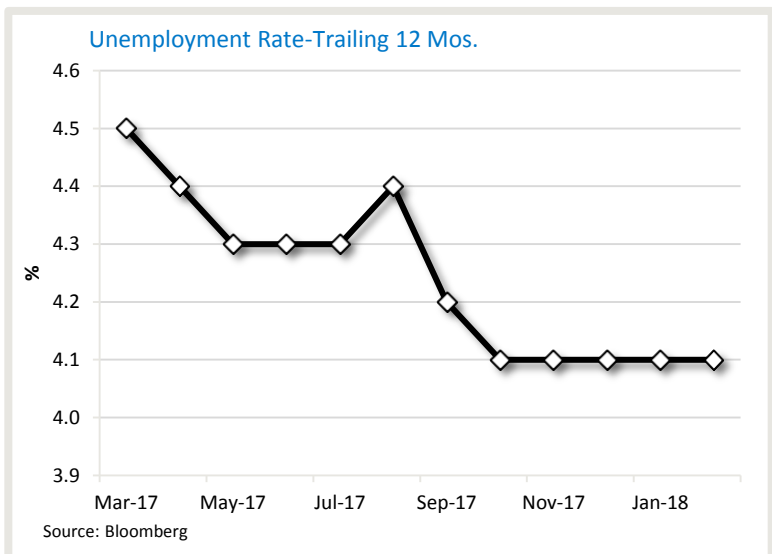
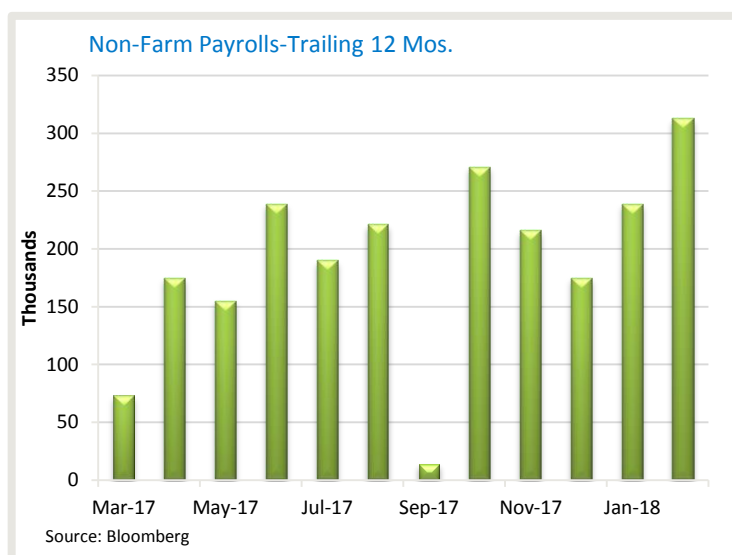
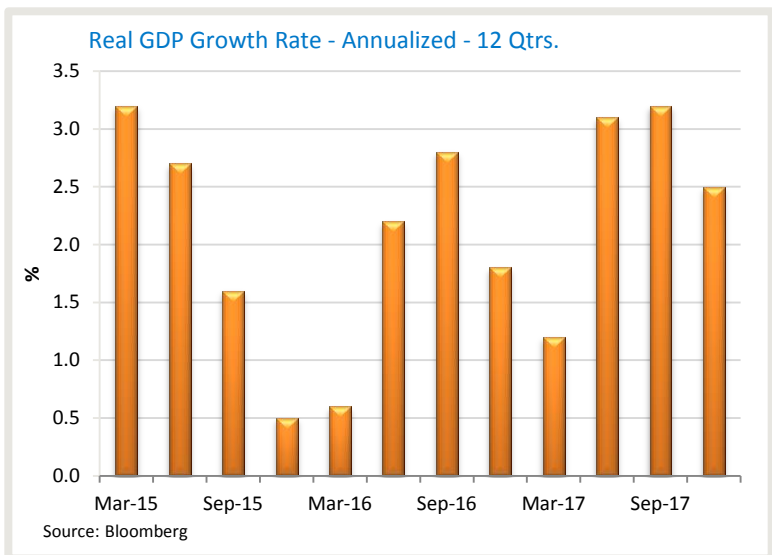
The answer to the first question is simple—rising benchmark interest rates. Following the Federal Open Market Committee (FOMC's) meeting this week, the Federal Reserve (Fed) is now targeting the fed funds rate at 1.50% to 1.75%. Although the central bank's march toward tighter monetary conditions has untethered short-term bond yields from zero, recent tax cuts and higher spending caps are leading to a surge in Treasury issuance. These developments, along with expectations of marginally higher growth and inflation, have shifted the Treasury yield curve higher. Within the investment industry, high yield bonds are known to outperform both higher-rated corporate bonds and Treasuries in rising rate environments, due to their greater yield cushion, or spread, over these higher-quality instruments. In fairness, the only domestic fixed income sector (barring Treasury bills) that has done better than high yield bonds this year is bank loans, which are often issued by the same firms, but have floating coupons. Considering relative performance, high yield has done pretty well so far this year, but comforting ourselves by assuming we can expect more of the same would be to ignore an inauspicious set of current circumstances and even more dark clouds on the horizon.

The current situation features tight valuations in the high yield bond market, which have approached levels last seen before the selloff in commodity-related bonds in 2014 and 2015. The option-adjusted spread (OAS) on the Bloomberg Barclays High Yield Corporate Index stood at 3.38% on March 21—well below the 4.61% median for this figure since 1994. This tells us that the incremental benefit from holding junk bonds over similar-maturity Treasuries has been lower for only a very brief period in mid-2014 and in the run-up to the Great Financial Crisis. Further, JPMorgan notes that the share of index constituents trading with a spread of fewer than 250 basis points has reached nearly 44% as of the end of January. The last time the figure was higher was in 2007. For comparison, this measure fell just shy of 21% in June 2014. Consequently, very little upside remains for the asset class even if today's solid fundamentals were to improve, and history shows that the most likely road from such rich valuations is bumpy and painful in the short to medium term.

The aforementioned clouds represent the potential for higher interest rates, which would mean higher debt service costs for low-rated borrowers. The recent spike in the LIBOR-overnight indexed swap spread (LOIS) indicates that short-term credit conditions have tightened at the same time that Treasury yields have risen. However, rising interest rates are a risk we can easily quantify, and many more looming threats exist that could cast sizable wrenches into the smooth functioning of the high yield market and the American economy writ large. Foremost among these would be a trade war with our major commercial partners, but domestic political turmoil, a drop in commodity prices, tension in the South China Sea, or further sabre rattling with North Korea could also cause investors' appetite for risk to dry up. Many investors have already headed for the doors—high yield mutual funds have experienced five straight months of outflows, and more than \$11 billion in 2018 through February, according to Morningstar. It is entirely possible that America's speculative debt will keep chugging along in 2018, and investors will fall back in love with their junk. However, the market is priced to perfection, as they say, and expectations for corporate America are high. It would not necessarily take a major political crisis to push spreads wider from their current tights. Missed earnings estimates, a series of defaults, or even continued outflows could make the ride quite a bit rougher for those who stay the course. When high yield bonds were last discussed in January 2017, we noted that high yield investors would be wise not to expect returns in line with 2016 for the coming 12 months. Now that we are being paid even less to take junk credit risk, we suggest that investors equip their portfolios with a good pair of shock absorbers, because the road in 2018 is likely to be bumpy.

Michael Wedekind
Investment Analyst

Economic Data



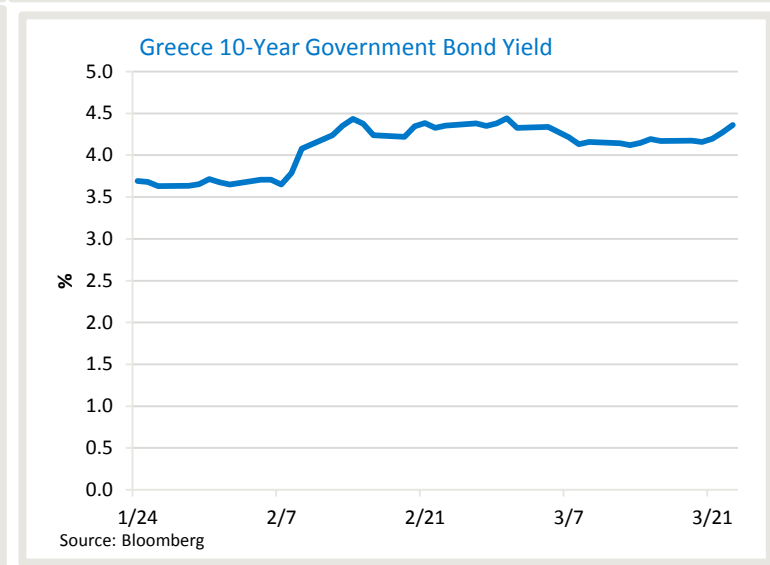
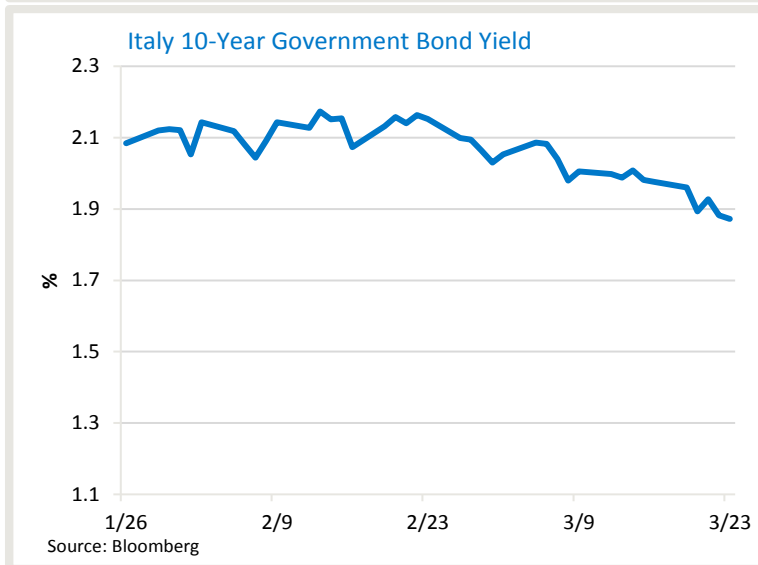
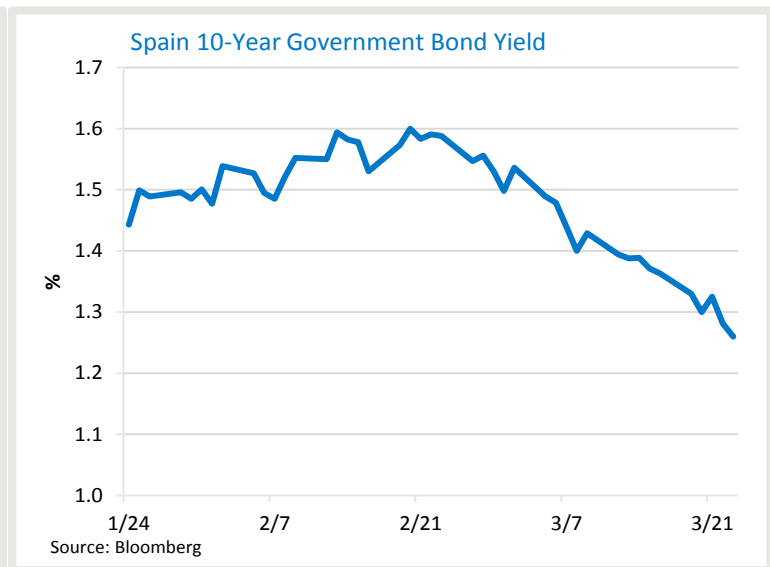
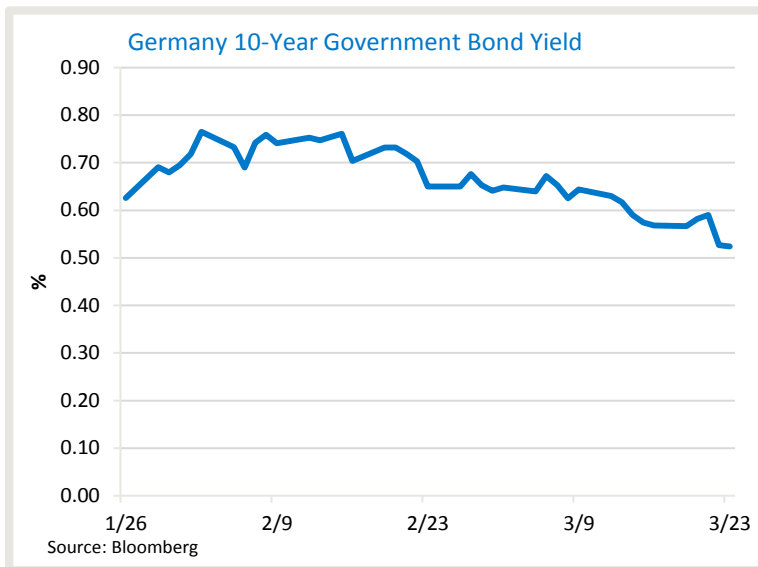
Eurozone

SELECTED EUROPEAN SOVEREIGN YIELD PERFORMANCE

	Last	Change	% Chg.	YTD %
Germany 10-Yr. Govt.	0.52	4 bps	NM	NM
Greece 10-Yr. Govt.	4.36	-15 bps	NM	NM
Italy 10-Yr. Govt.	1.87	9 bps	NM	NM
Spain 10-Yr. Govt.	1.26	10 bps	NM	NM
Belgium 10-Yr. Govt.	0.81	4 bps	NM	NM

Source: Bloomberg
Basis points (bps)

	Last	Change	% Chg.	YTD %
France 10-Yr. Govt.	0.76	6 bps	NM	NM
Ireland 10-Yr. Govt.	0.95	5 bps	NM	NM
Portugal 10-Yr. Govt.	1.71	3 bps	NM	NM
Netherlands 10-Yr. Govt.	0.67	5 bps	NM	NM
U.K. 10-Yr. Govt.	1.44	-2 bps	NM	NM



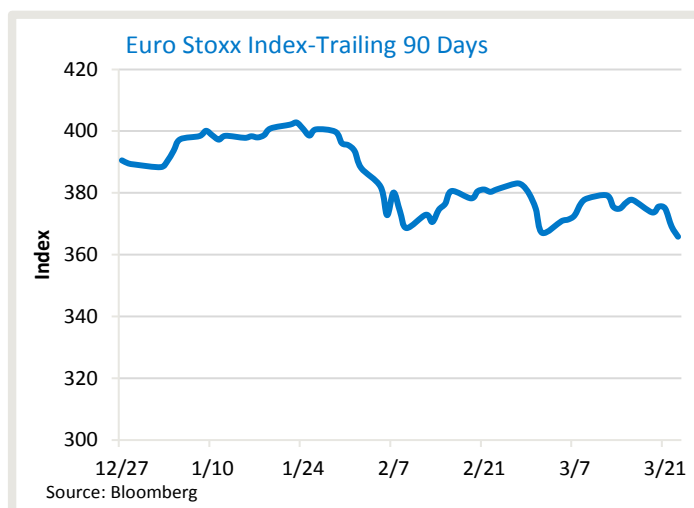
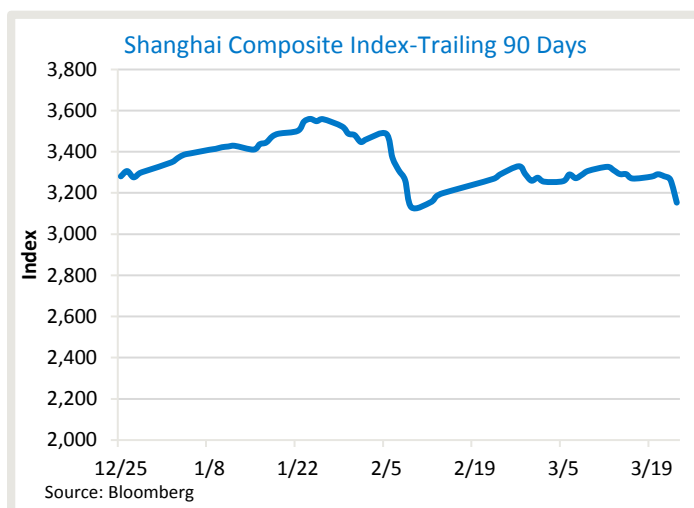
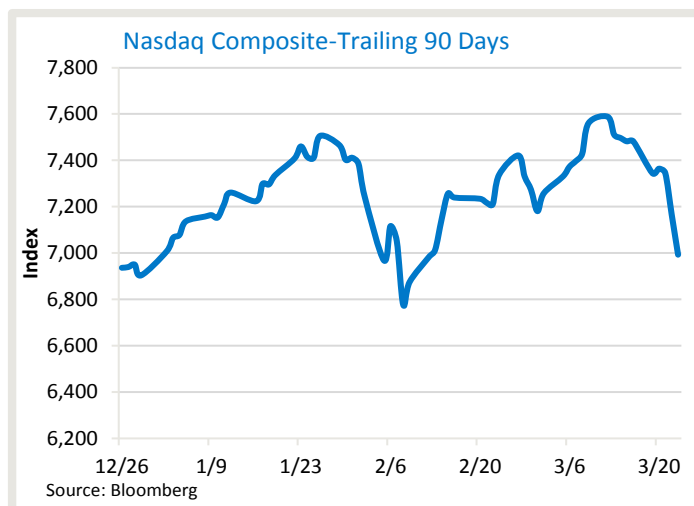
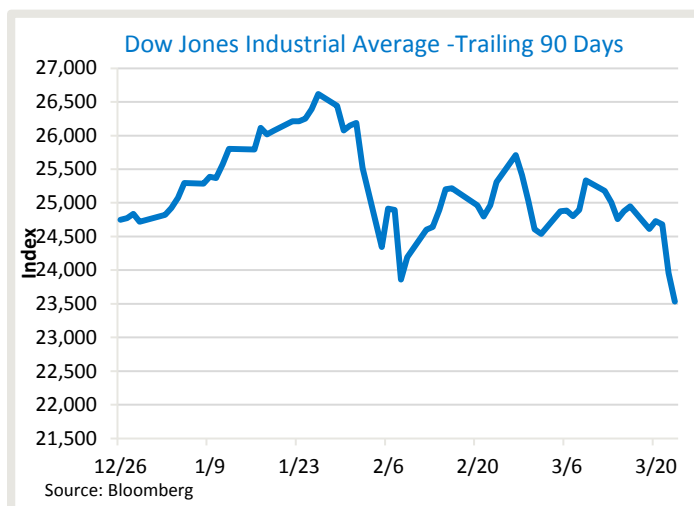
Equities

WORLD MARKET PERFORMANCE

	Last	Change	% Chg.	YTD %
S&P 500	2,588.26	-163.75	-5.95%	-3.19%
Dow Industrials	23,533.20	-1413.31	-5.67%	-4.80%
Nasdaq Composite	6,992.67	-489.32	-6.54%	1.29%
Russell Global	2,127.27	-55.49	-2.54%	-0.8%
Russell Global EM	3,749.81	-49.49	-1.30%	2.9%
S&P/TSX (Canada)	15,223.74	-487.59	-3.10%	-6.08%
Mexico IPC	46,515.93	-1004.09	-2.11%	-5.84%
Brazil Bovespa	84,377.20	-509.27	-0.60%	10.44%
Euro Stoxx 600	365.82	-11.89	-3.15%	-6.00%
FTSE 100	6,921.94	-242.20	-3.38%	-9.96%
IBEX 35 (Spain)	9,393.10	-367.90	-3.77%	-6.48%

	Last	Change	% Chg.	YTD %
Swiss Market Index	8,569.08	-313.45	-3.53%	-8.66%
CAC 40 Index (France)	5,095.22	-187.53	-3.55%	-4.09%
DAX Index (Germany)	11,886.31	-503.27	-4.06%	-7.98%
Irish Overall Index	6,514.91	-179.03	-2.67%	-7.44%
Nikkei 225	20,617.86	-1186.09	-5.44%	-9.43%
Hang Seng Index	30,309.29	-1192.68	-3.79%	1.30%
Shanghai Composite	3,152.76	-117.12	-3.58%	-4.67%
Kospi Index (S. Korea)	2,416.76	-77.21	-3.10%	-2.06%
Taiwan Taiex Index	10,823.33	-204.37	-1.85%	1.70%
Tel Aviv 25 Index	1,470.44	-34.51	-2.29%	-2.61%
MICEX Index (Russia)	2,285.53	-9.07	-0.40%	8.33%

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



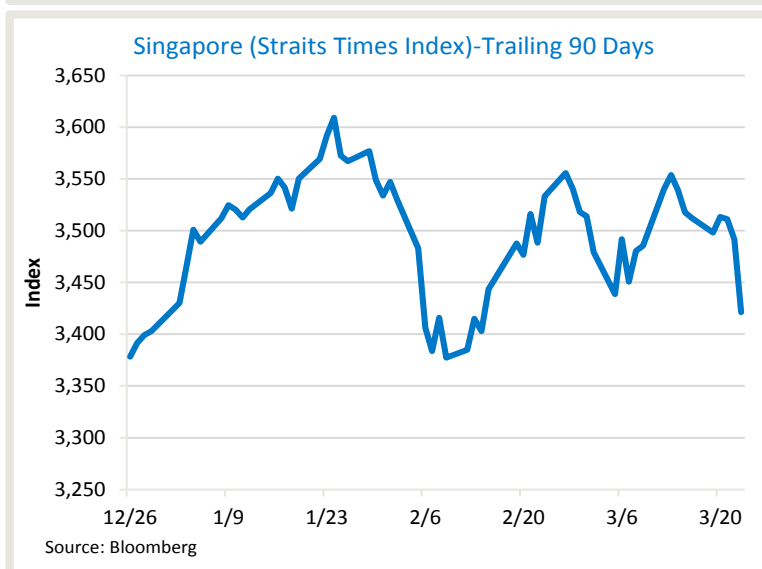
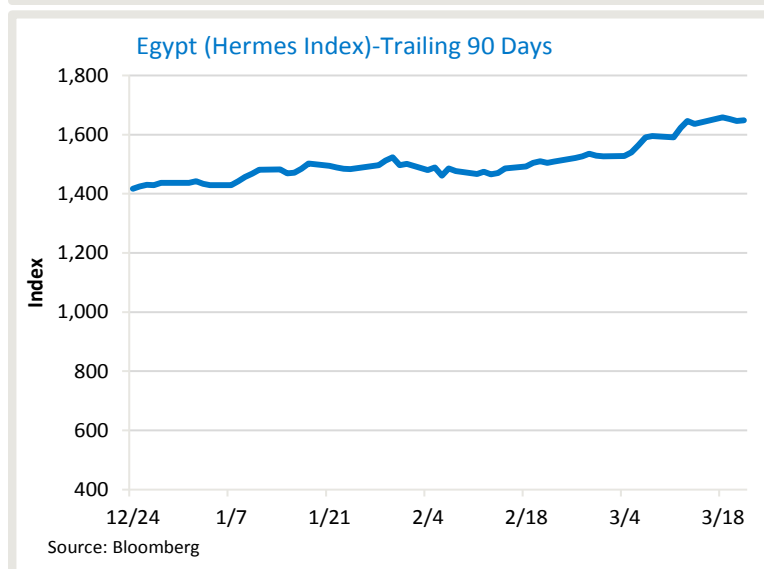
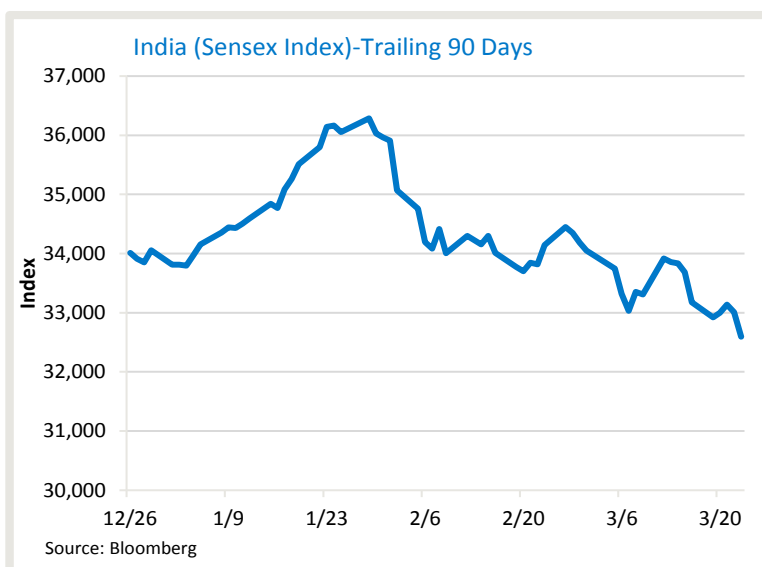
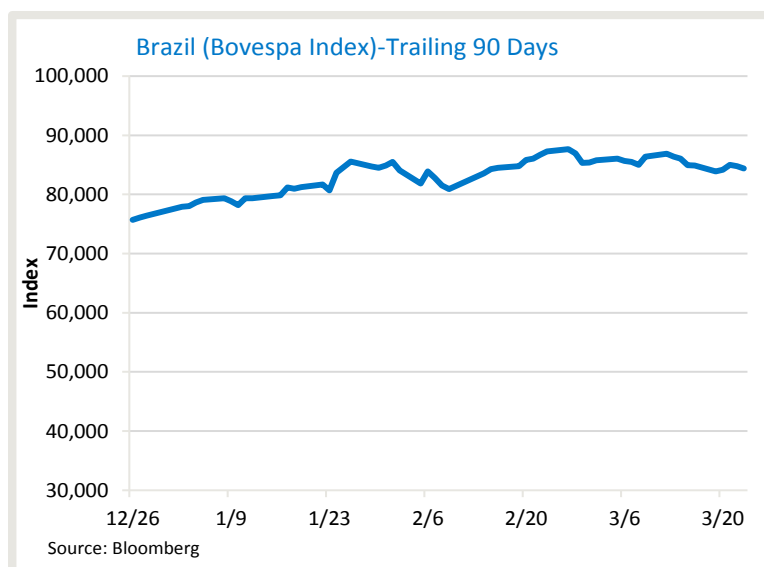
Equities – Emerging and Frontier Markets

EMERGING AND FRONTIER MARKET PERFORMANCE

	Last	Change	% Chg.	YTD %
Mexico IPC	46,515.93	-1004.09	-2.1%	-5.8%
Brazil (Bovespa Index)	84,377.20	-509.27	-0.6%	10.4%
MICEX Index (Russia)	2,285.53	-9.07	-0.4%	8.3%
Czech Republic (Prague)	1,107.72	-10.80	-1.0%	2.7%
Turkey (Istanbul)	116,602.82	-613.50	-0.5%	1.1%
Egypt (Hermes Index)	1,634.81	-6.39	-0.4%	13.8%
Kenya (Nairobi 20 Index)	3,847.18	45.39	1.2%	3.6%
Saudi Arabia (TASI Index)	7,840.94	96.26	1.2%	8.5%
Lebanon (Beirut BLOM Index)	1,170.76	-0.94	-0.1%	1.9%
Palestine	582.18	-0.25	0.0%	1.3%

	Last	Change	% Chg.	YTD %
Hang Seng Index	30,309.29	-1192.68	-3.8%	1.3%
India (Sensex 30)	32,596.54	-579.46	-1.7%	-4.3%
Malaysia (KLCI Index)	1,865.22	18.83	1.0%	3.8%
Singapore (Straits Times Index)	3,421.39	-90.75	-2.6%	0.5%
Thailand (SET Index)	1,794.21	-17.55	-1.0%	2.3%
Indonesia (Jakarta)	6,210.70	-94.25	-1.5%	-2.3%
Pakistan (Karachi KSE 100)	45,030.22	1667.01	3.8%	11.3%
Vietnam (Ho Chi Minh)	1,153.59	3.40	0.3%	17.2%
Sri Lanka (Colombo)	6,443.75	-65.71	-1.0%	1.2%
Cambodia (Laos)	914.38	11.76	1.3%	-8.4%

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

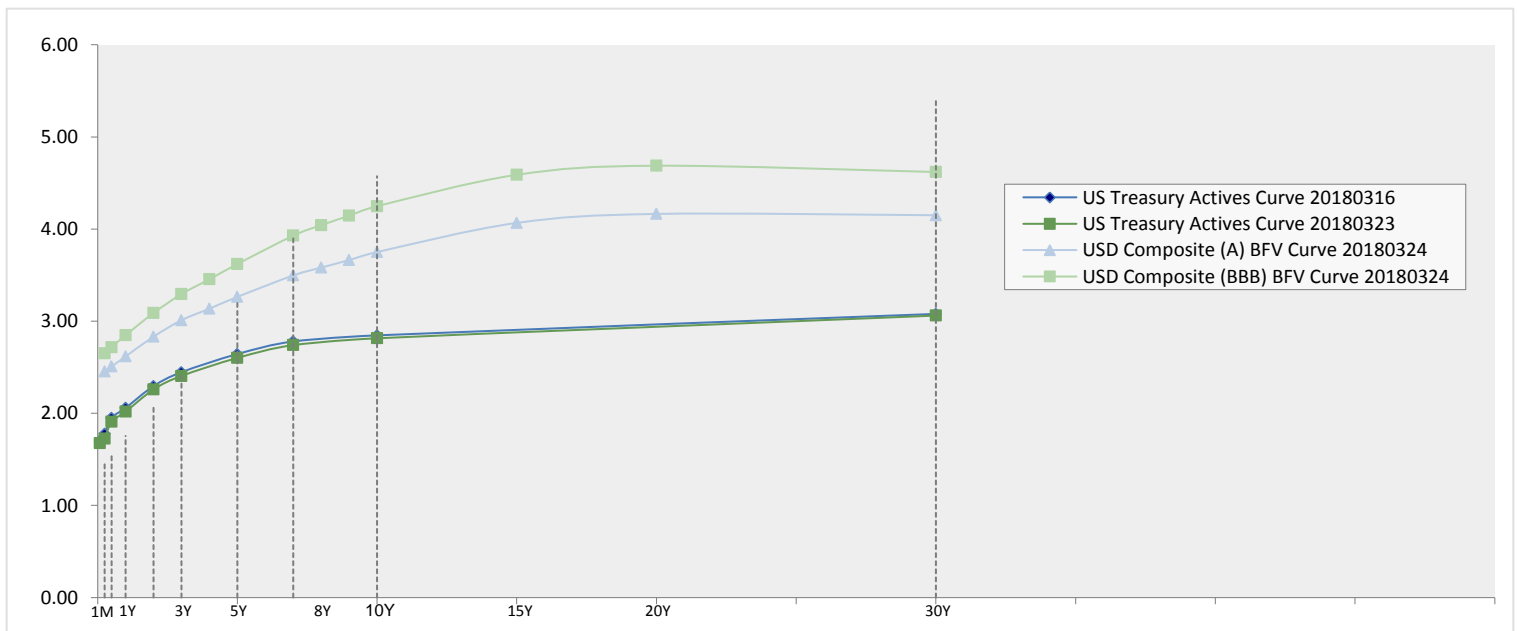


Interest Rates

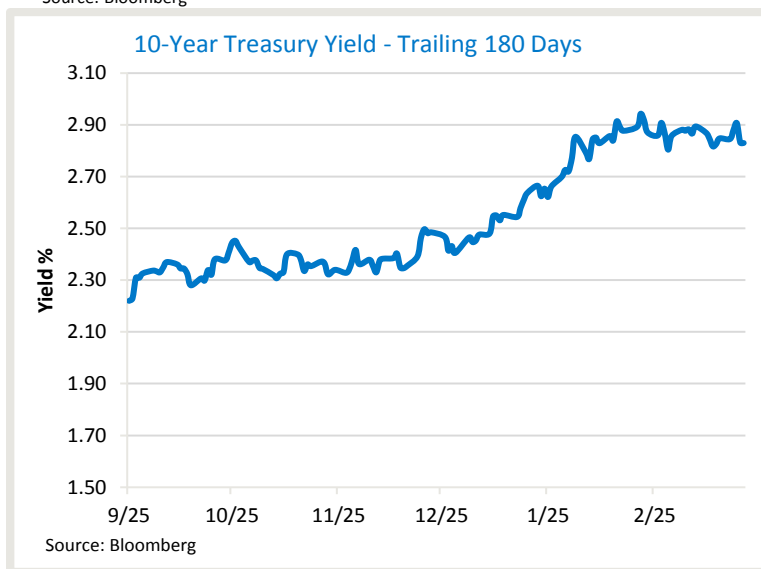
SELECTED INTEREST RATES

	Last	Change	% Chg.	YTD %		Last	Change	% Chg.	YTD %
2-Yr. U.S. Treasury	2.26%	1 bps	NM	NM	Prime Rate	4.75%	0.25	NM	NM
5-Yr. U.S. Treasury	2.61%	-3 bps	NM	NM	Fed Funds Rate	1.75%	0.25	NM	NM
10-Yr. U.S. Treasury	2.83%	-2 bps	NM	NM	Discount Rate	2.25%	0.25	NM	NM
30-Yr. U.S. Treasury	3.08%	0 bps	NM	NM	LIBOR (3 Mo.)	2.29%	8 bps	NM	NM
German 10-Yr. Govt.	0.52%	4 bps	NM	NM	Bond Buyer 40 Muni	3.83%	-2 bps	NM	NM
France 10-Yr.	0.76%	6 bps	NM	NM	Bond Buyer 40 G.O.	3.90%	NA	NM	NM
Italy 10-Yr.	1.87%	9 bps	NM	NM	Bond Buyer 40 Rev.	4.38%	NA	NM	NM
Fed 5-Yr Fwd BE Inf.	2.06%	-6 bps	NM	NM					

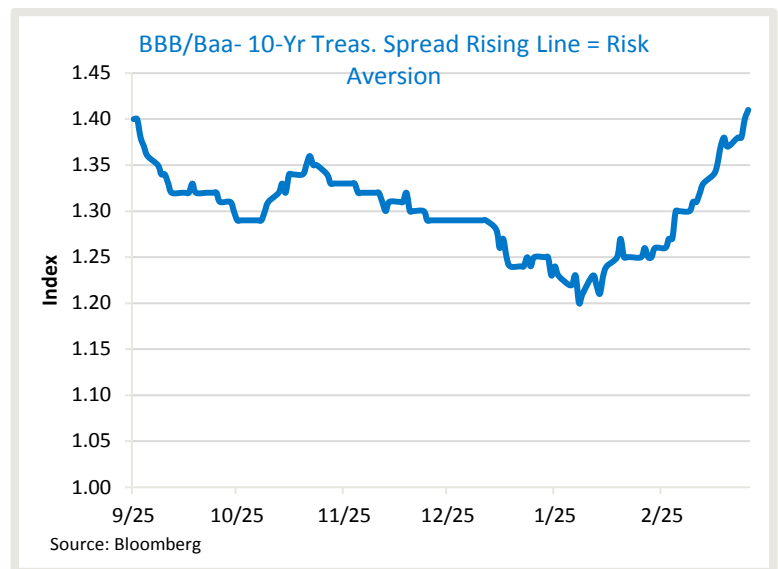
Source: Bloomberg



Source: Bloomberg



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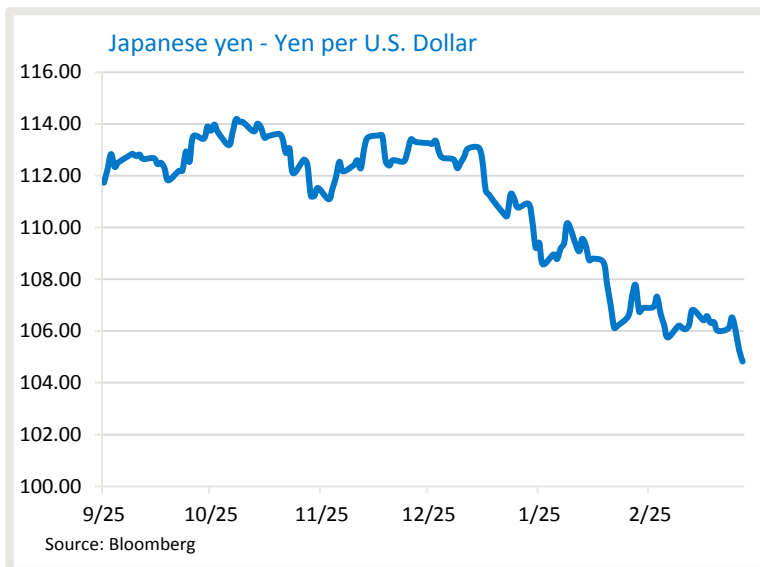
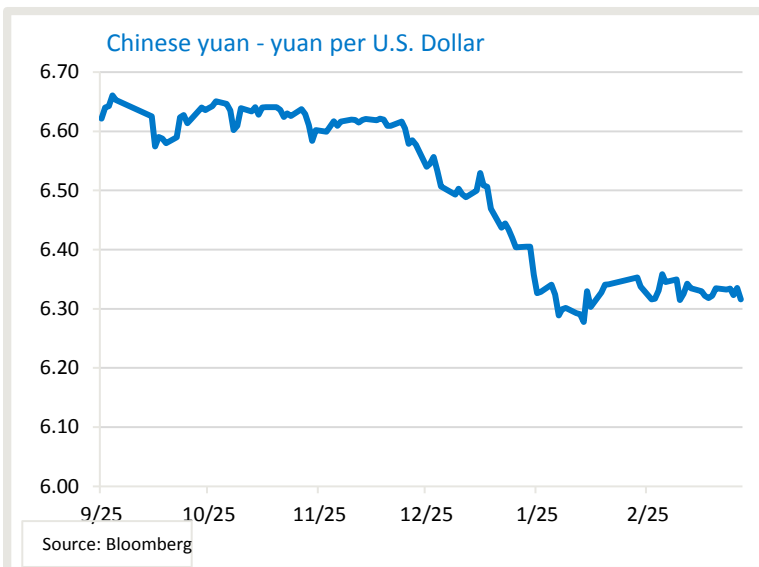
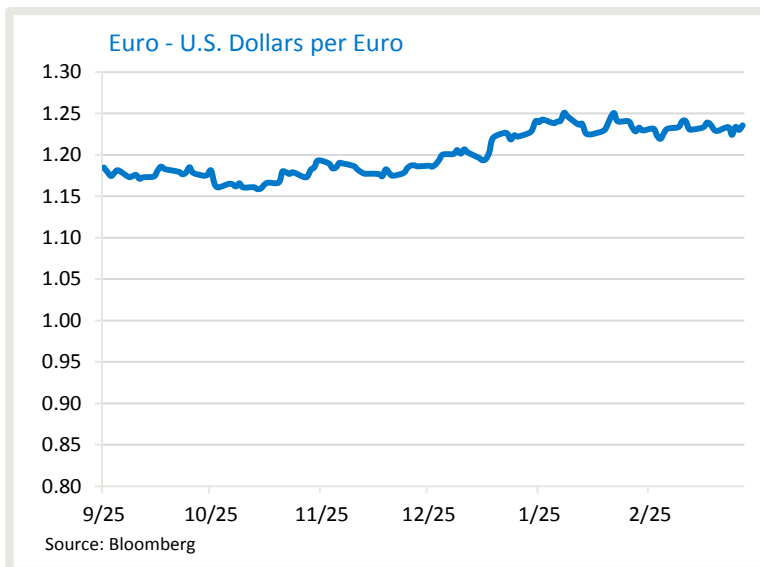
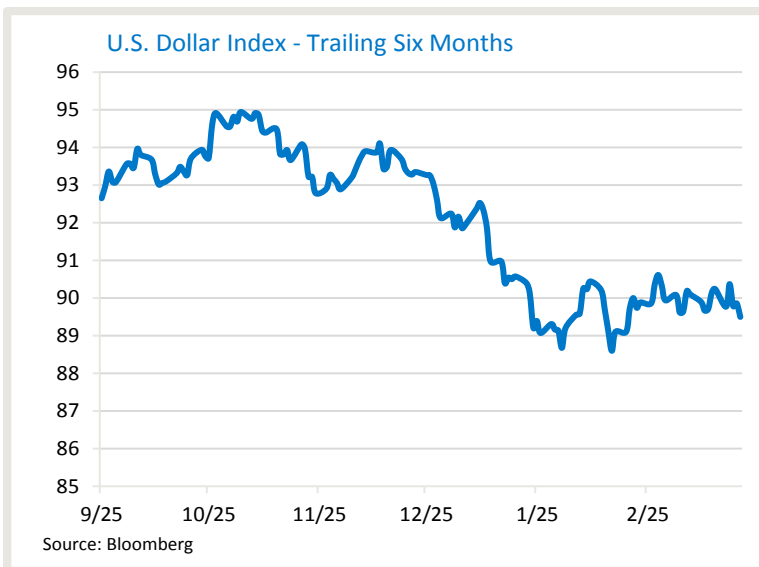
Currencies

SELECTED CURRENCY PERFORMANCE

	Last	Change	% Chg.	YTD %
Dollar Index	89.49	-0.738	-0.82%	-2.85%
Euro	1.24	0.007	0.55%	2.93%
Japanese Yen	104.79	-1.190	1.14%	7.51%
British Pound	1.41	0.020	1.40%	4.62%
Canadian Dollar	1.29	-0.022	1.72%	-2.36%

	Last	Change	% Chg.	YTD %
Chinese Yuan	6.32	-0.019	0.30%	3.02%
Swiss Franc	0.95	-0.005	0.53%	2.88%
New Zealand Dollar	0.72	0.002	0.32%	2.01%
Brazilian Real	3.32	0.034	-1.02%	-0.18%
Mexican Peso	18.52	-0.183	0.99%	6.23%

Source: Bloomberg



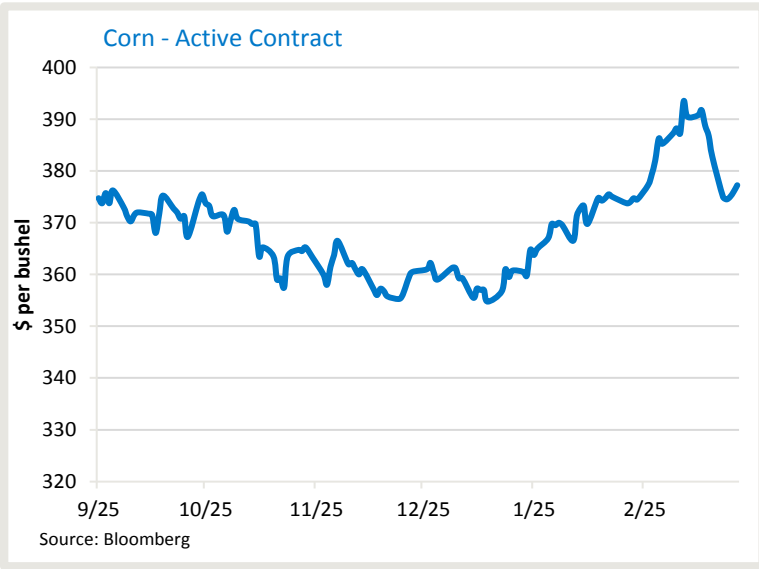
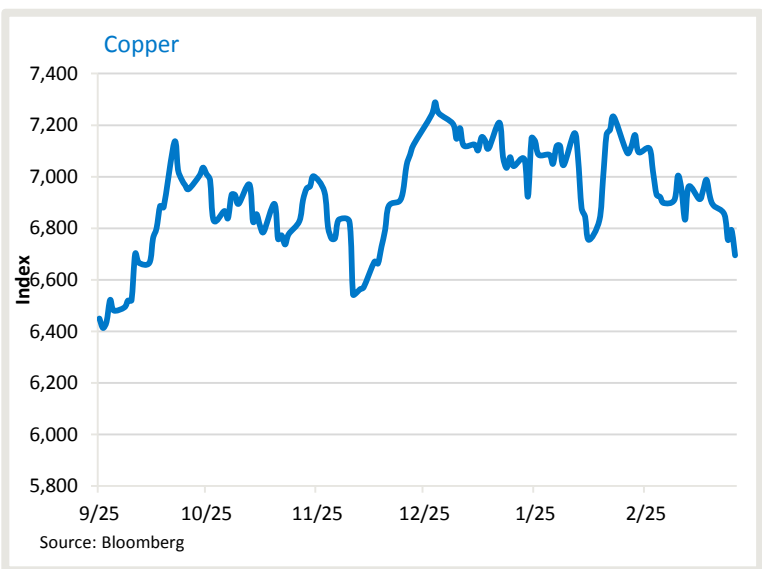
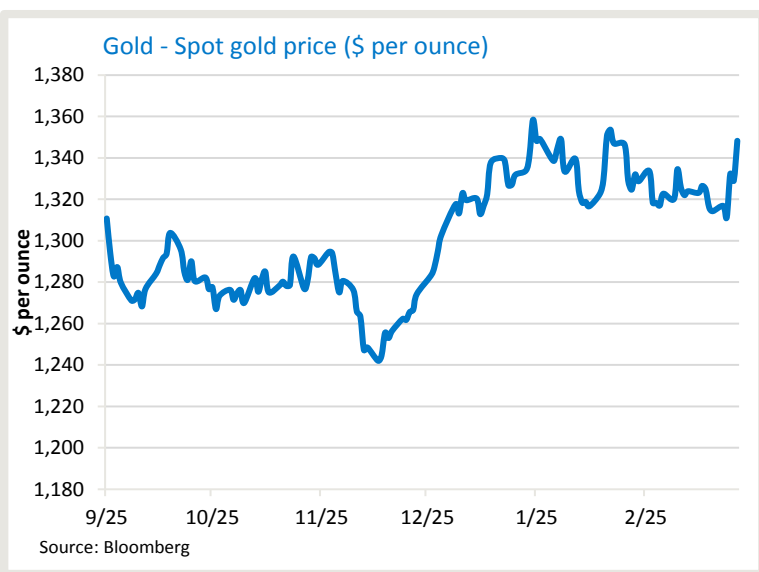
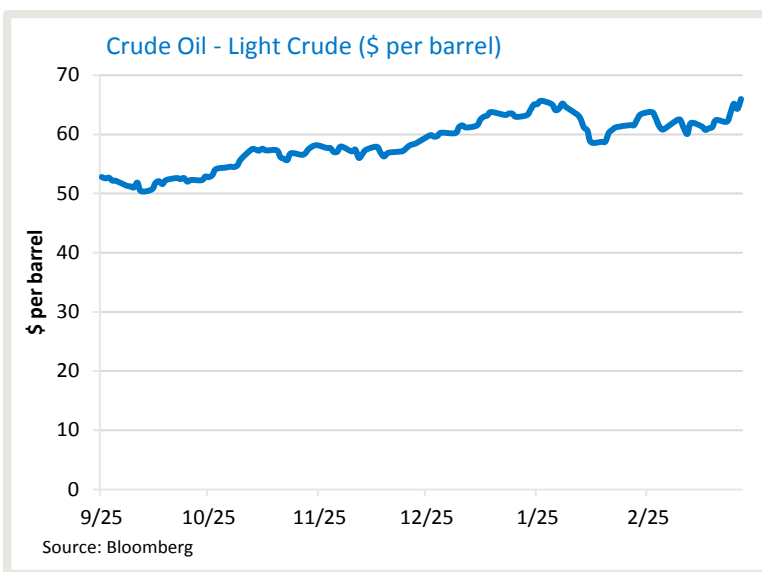
Commodities

SELECTED COMMODITY MARKET PERFORMANCE

	Last	Change	% Chg.	YTD %
Bloomberg Comm. Idx.	87.44	0.08	0.09%	-0.82%
Crude Oil	\$65.97	\$3.56	5.70%	9.46%
Natural Gas	\$2.59	-\$0.10	-3.76%	-5.89%
Gasoline (\$/Gal.)	\$2.59	\$0.06	2.17%	4.18%
Heating Oil	202.19	11.01	5.76%	0.41%
Gold Spot	\$1,348.27	\$34.06	2.59%	3.49%
Silver Spot	\$16.58	\$0.22	1.35%	-2.23%

Source: Bloomberg; % change is based on price.

	Last	Change	% Chg.	YTD %
Platinum Spot	\$948.50	-\$2.59	-0.27%	2.07%
Corn	377.25	-5.50	-1.44%	5.08%
Wheat	460.25	-7.50	-1.60%	4.54%
Soybeans	1,028.25	-21.25	-2.02%	5.68%
Sugar	12.57	-0.08	-0.63%	-16.31%
Orange Juice	135.25	-3.05	-2.21%	-1.85%
Aluminum	2,075.00	-10.00	-0.48%	-8.51%
Copper	6,695.00	-193.00	-2.80%	-7.62%

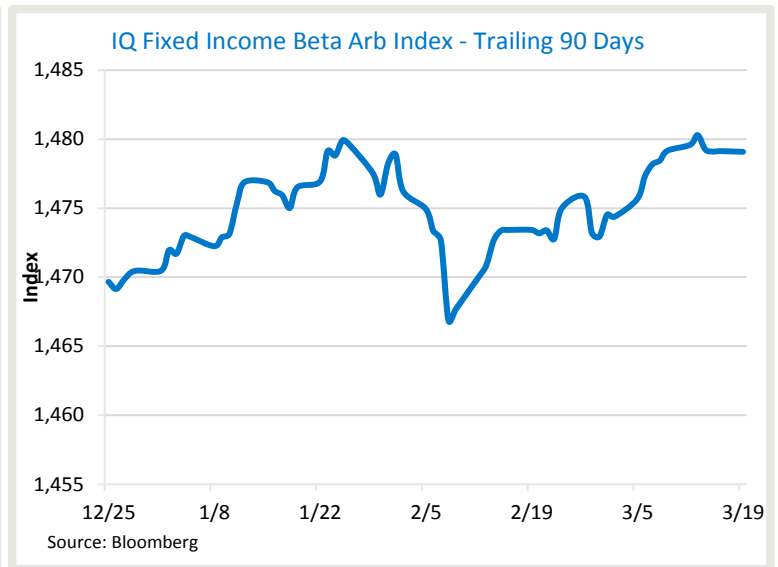
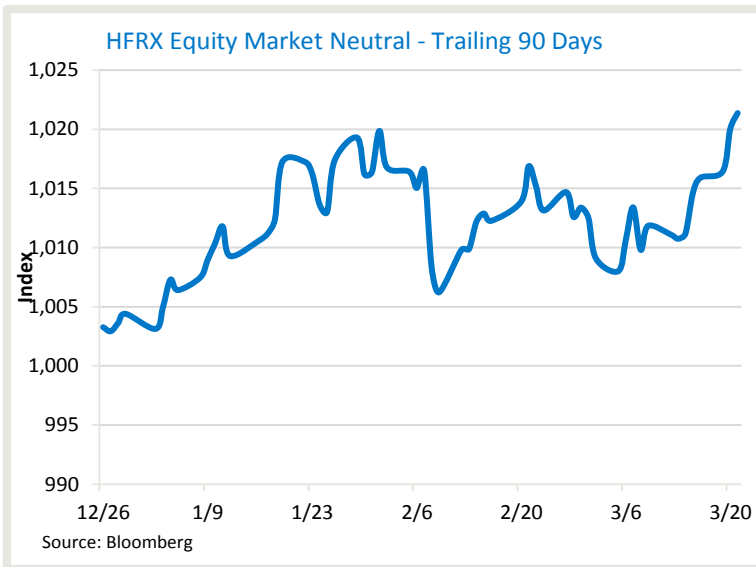
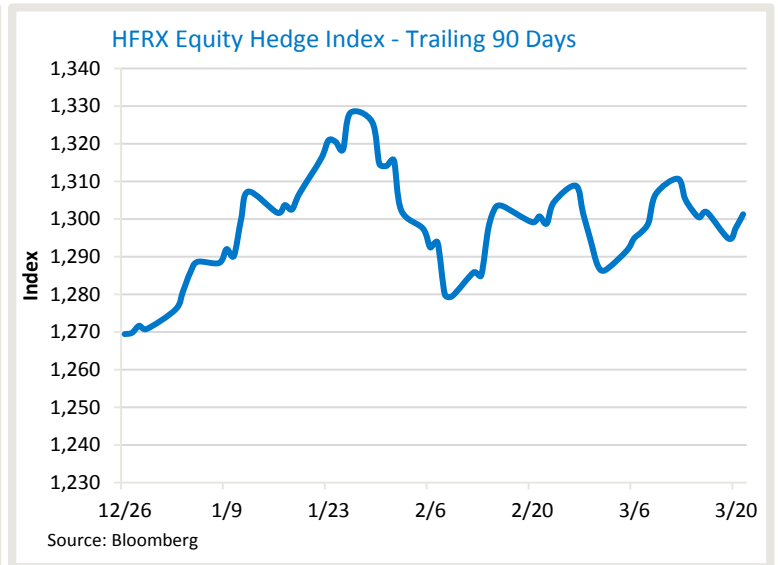
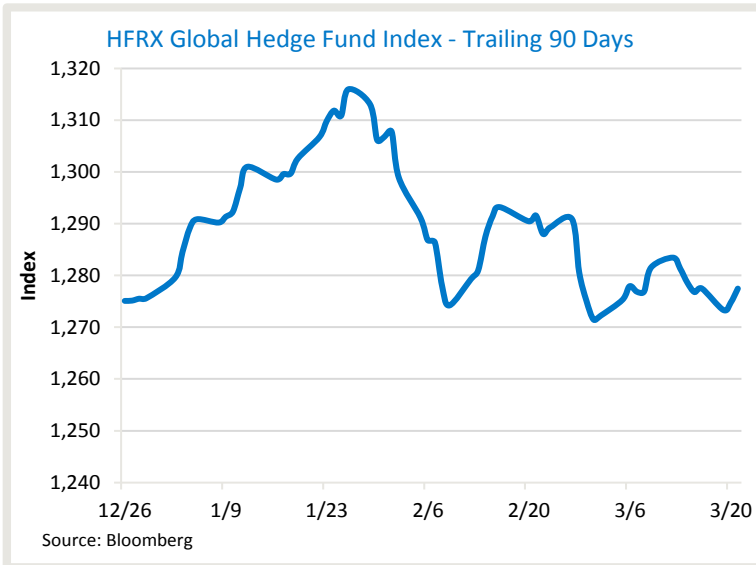


Alternative Investments

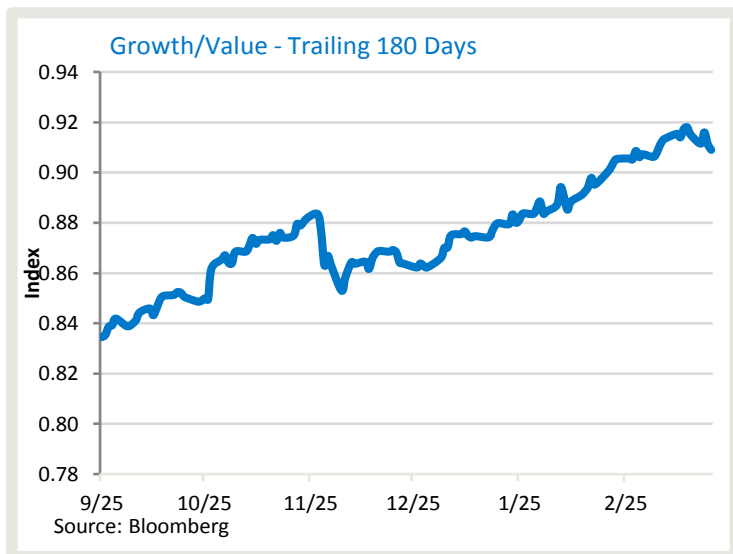
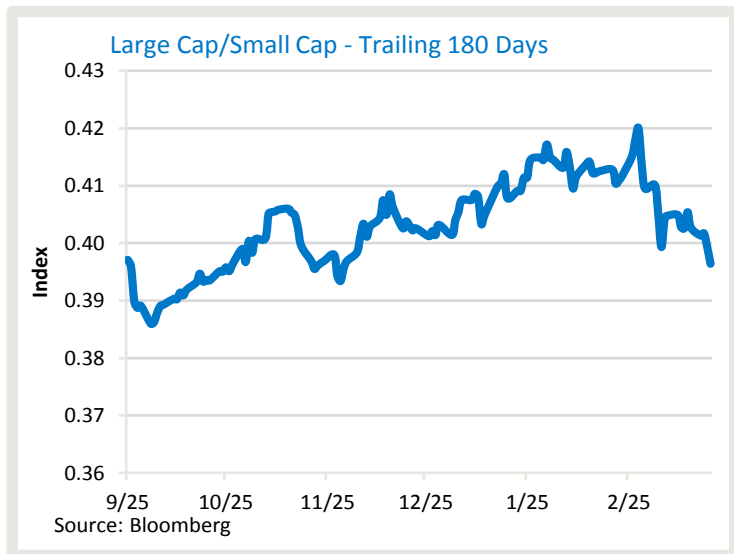
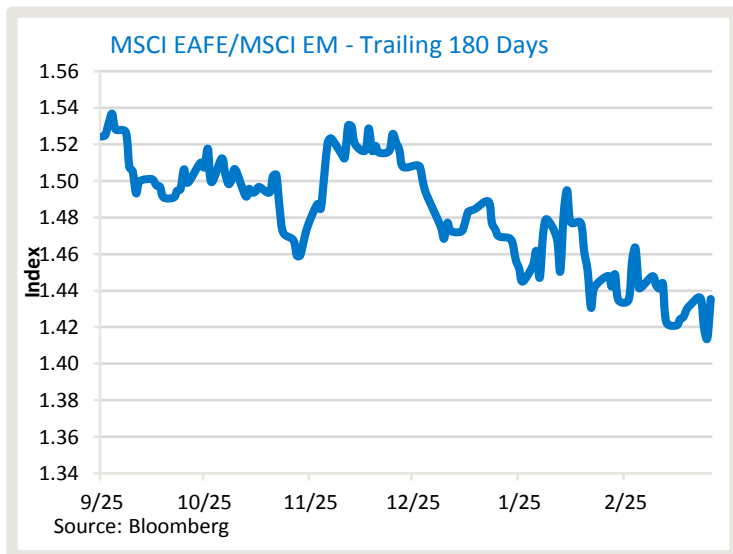
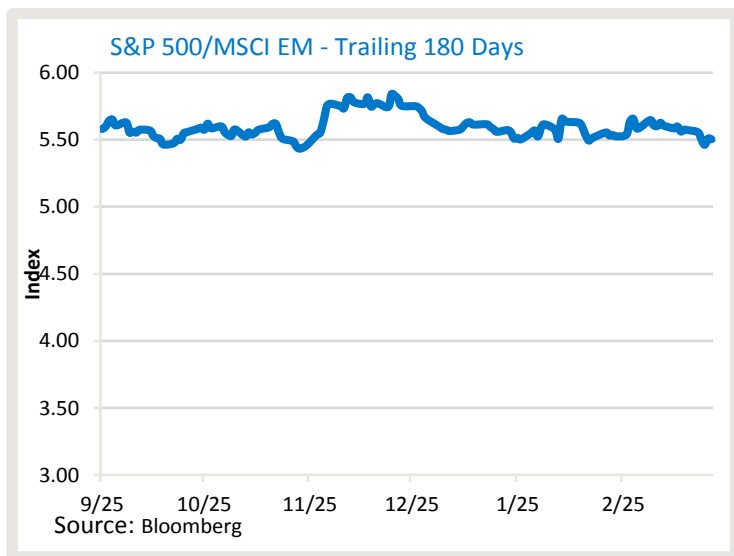
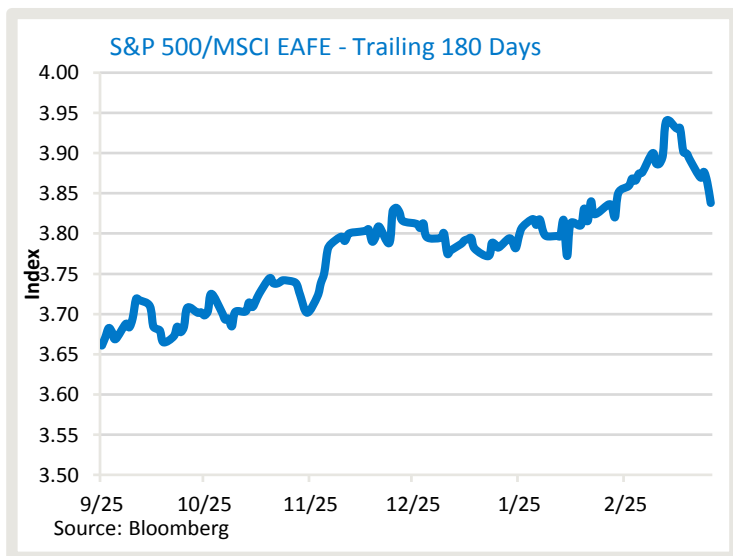
SELECTED ALTERNATIVE INVESTMENT INDEX PERFORMANCE

	Last	Change	% Chg.	YTD %		Last	Change	% Chg.	YTD %
HFRX Global Hedge Fund Index	1277.47	-0.03	0.00%	0.15%	HFRX Distressed Index	1078.20	-14.42	-1.32%	-2.57%
HFRX Equity Market Neutral	1021.37	5.47	0.54%	1.69%	HFRX Merger Arbitrage Index	1836.26	4.80	0.26%	-0.90%
HFRX Equity Hedge Index	1301.26	-0.57	-0.04%	2.40%	HFRX Convertible Arbitrage Index	796.87	-0.88	-0.11%	0.08%
HFRX Event-Driven Index	1615.22	-9.08	-0.56%	-3.03%	HFRX Macro CTA Index	1156.48	8.16	0.71%	-0.63%
HFRX Absolute Return Index	1071.12	2.13	0.20%	0.74%	IQ Fixed Income Beta Arb Index	1472.66	-6.47	-0.44%	0.15%

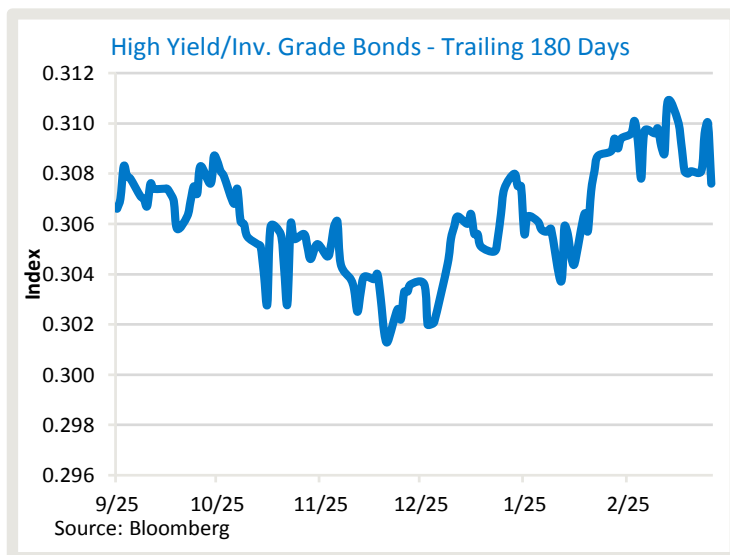
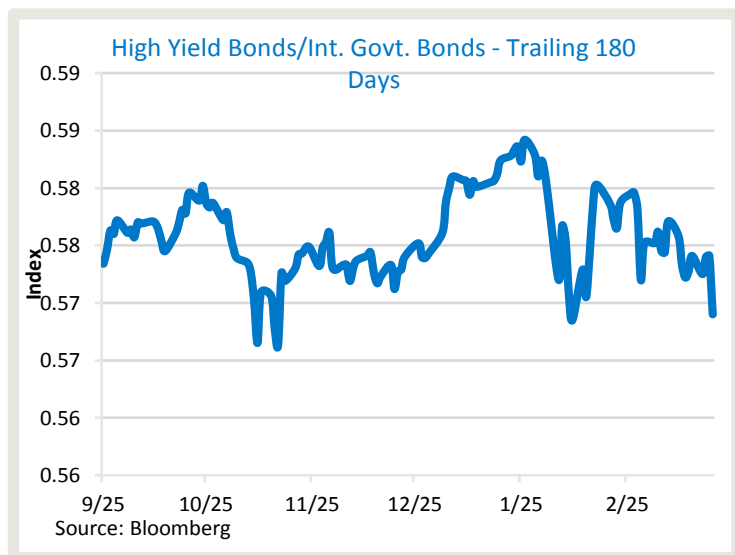
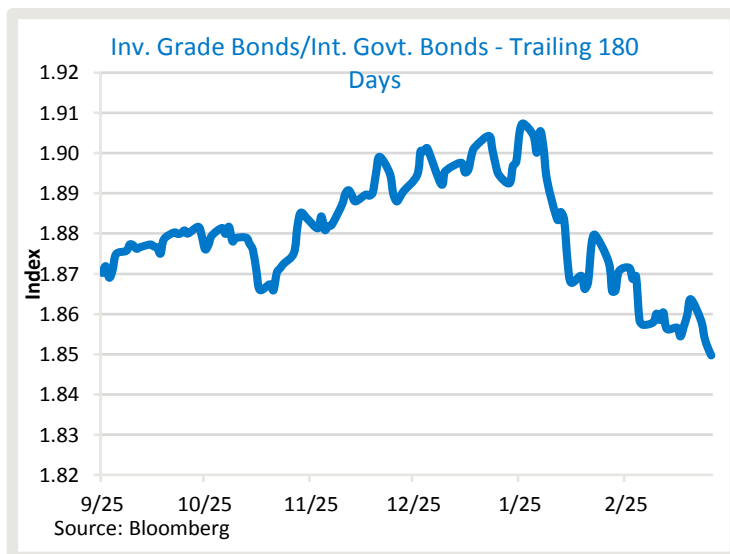
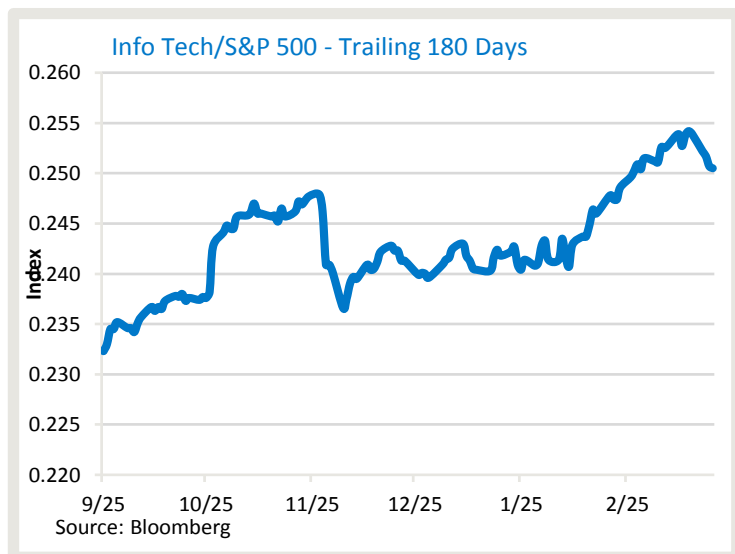
Source: Bloomberg; Index % change is based on price.



Portfolio Construction



Portfolio Construction (continued)



WEEKLY ASSET CLASS PERFORMANCE (Prior 12 weeks ending Thursday)

			1/4	1/11	1/18	1/25	2/1	2/8	2/15	2/22	3/1	3/8	3/15	3/22
Equity	Domestic Equity	Large Cap (R200)	1.42%	1.65%	1.29%	1.45%	-0.43%	-8.67%	5.89%	-0.96%	-0.89%	2.19%	0.29%	-4.06%
		Small Cap (R2000)	0.44%	2.00%	-0.63%	1.58%	-1.36%	-7.35%	5.01%	-0.47%	-1.48%	4.28%	0.30%	-2.08%
	Int'l. Equity	MSCI EAFE	2.24%	1.15%	1.35%	2.10%	-1.48%	-6.11%	1.78%	-0.04%	-1.72%	0.71%	0.54%	-1.56%
		MSCI Em. Mkts.	3.38%	0.37%	2.55%	2.93%	-1.17%	-6.85%	3.40%	-0.14%	-0.72%	0.25%	1.76%	-1.60%
Fixed Income	BarCap Agg. (AGG)	1.05%	-9.17%	-6.31%	0.12%	0.12%	-2.20%	-2.12%	-13.90%	12.30%	-6.86%	1.13%	-11.90%	
	High Yield (JNK)	0.90%	-0.19%	-0.30%	0.22%	-1.19%	-1.70%	0.87%	-0.25%	-0.44%	0.22%	0.14%	-0.58%	
Commodities	Bloomberg Commodity Index	0.99%	-0.30%	0.44%	1.99%	-0.66%	-3.18%	1.41%	0.49%	-0.52%	-0.70%	0.31%	-0.25%	
Alternatives	Hedge Funds (HFRX Global)	1.06%	0.61%	0.21%	0.86%	-0.23%	-2.28%	1.06%	-0.27%	-1.28%	0.43%	0.01%	0.05%	
Asset Allocation	60/40*	1.39%	-2.33%	-1.57%	1.11%	-0.56%	-5.45%	2.01%	-5.23%	3.57%	-1.19%	0.67%	-5.93%	
	48/32/20 (w/Alts.)**	1.32%	-1.74%	-1.21%	1.06%	-0.50%	-4.82%	1.82%	-4.24%	2.60%	-0.86%	0.54%	-4.74%	

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	0.96	1.05	0.94	0.89	0.99	0.89	0.84	0.94	1.00	0.87	0.98	0.92	1.06	1.09
Large Cap Growth	1.04	1.00	1.09	0.98	0.93	1.03	0.93	0.88	0.99	1.04	0.90	1.02	0.96	1.10	1.14
Large Cap Value	0.96	0.92	1.00	0.90	0.85	0.94	0.85	0.81	0.90	0.95	0.83	0.93	0.88	1.01	1.04
Mid Cap Core	1.06	1.02	1.11	1.00	0.95	1.05	0.94	0.89	1.00	1.06	0.92	1.04	0.97	1.12	1.16
Mid Cap Growth	1.12	1.07	1.17	1.06	1.00	1.11	0.99	0.94	1.06	1.12	0.97	1.10	1.03	1.19	1.22
Mid Cap Value	1.01	0.97	1.06	0.95	0.90	1.00	0.90	0.85	0.96	1.01	0.88	0.99	0.93	1.07	1.10
Small Cap Core	1.13	1.08	1.18	1.06	1.01	1.11	1.00	0.95	1.06	1.12	0.97	1.10	1.03	1.19	1.23
Small Cap Growth	1.19	1.14	1.24	1.12	1.06	1.17	1.05	1.00	1.12	1.18	1.03	1.16	1.09	1.26	1.29
Small Cap Value	1.06	1.01	1.11	1.00	0.94	1.05	0.94	0.89	1.00	1.06	0.92	1.03	0.97	1.12	1.15
Int'l. Developed	1.00	0.96	1.05	0.95	0.90	0.99	0.89	0.84	0.95	1.00	0.87	0.98	0.92	1.06	1.09
Emerging Markets	1.16	1.11	1.21	1.09	1.03	1.14	1.03	0.97	1.09	1.15	1.00	1.13	1.06	1.22	1.26
REITs	1.02	0.98	1.07	0.96	0.91	1.01	0.91	0.86	0.97	1.02	0.88	1.00	0.94	1.08	1.12
Commodities	1.09	1.04	1.14	1.03	0.97	1.08	0.97	0.92	1.03	1.09	0.94	1.07	1.00	1.15	1.19
Int. Bond	0.94	0.91	0.99	0.89	0.84	0.93	0.84	0.80	0.89	0.94	0.82	0.92	0.87	1.00	1.03
High Yield	0.92	0.88	0.96	0.86	0.82	0.91	0.81	0.77	0.87	0.91	0.79	0.90	0.84	0.97	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. **West Texas Intermediate (WTI)**, also known as Texas light sweet, is a grade of crude oil used as a benchmark in oil pricing. **Risk Premium** is the return in excess of the risk-free rate of return an investment is expected to yield. **LIBOR or ICE LIBOR** (previously BBA LIBOR) is a benchmark rate, which some of the world's leading banks charge each other for short-term loans. It stands for Intercontinental Exchange London Interbank Offered Rate and serves as the first step to calculating interest rates on various loans throughout the world. **An overnight indexed swap (OIS)** is an interest rate swap where the periodic floating payment is generally based on a return calculated from a daily compound interest investment. The **LIBOR-OIS spread** is the difference between LIBOR and the OIS rates. The spread between the two rates is considered to be a measure of health of the banking system.

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 **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 **Dow Jones Wilshire U.S. 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. The **Russell Top 200 Index** measures the performance of the 200 largest companies in the Russell 1000 Index, with a weighted average market capitalization of \$186 billion. The **Barclays 1-3 Year US Treasury Bond Index** measures public US Treasury obligations with remaining maturities of one to three years. The **S&P LSTA Leveraged Loan Index** is an unmanaged capitalization-weighted syndicated loan index based upon market weightings, spreads and interest payments. It covers the US market back to 1997 and currently calculates on a daily basis. The **U.S. Dollar Index (USD, DXY, DX)** is an index (or measure) of the value of the United States dollar relative to a basket of foreign currencies

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