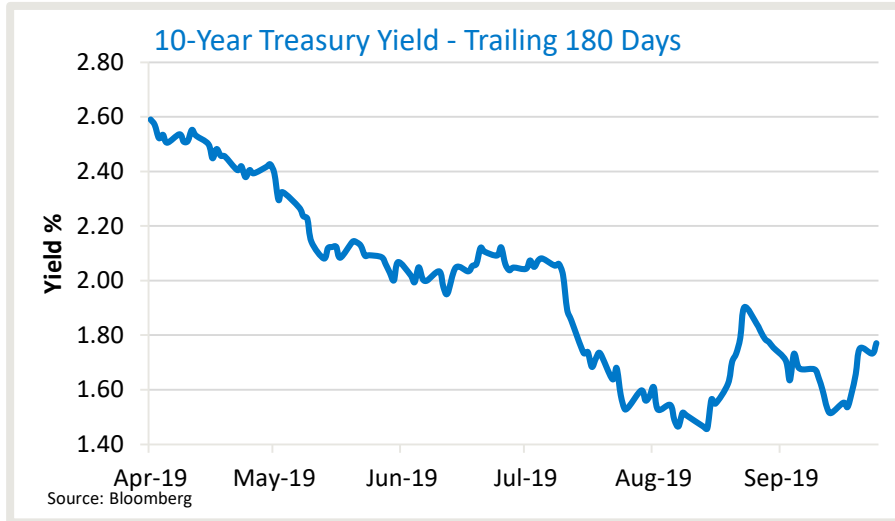


Weekly Market Review

October 21, 2019

Chart of the Week



Weekly Highlights

- The UK and EU have struck a long-awaited new draft Brexit deal this week.** According to the new deal, a legal customs border will exist between Northern Ireland and the Republic of Ireland. But in practice, the customs border will be between Great Britain and the island of Ireland, with goods being checked at the points of entry. This replaces the controversial Irish backstop plan in Theresa May's deal. However, hopes of securing a Brexit deal were dealt a major blow after Northern Ireland's Democratic Unionist party said it could not support the revised deal as it stands.
- US Industrial production declined sharply in September.** Industrial production fell 0.40% from August. This follows an upwardly revised 0.80% increase (from 0.60%) in August. US industrial production also contracted 0.10% compared with the same month last year to post its first year-over-year decline since 2016. The decline was influenced strongly by the General Motors strike and also driven by weakness in mining and lower global oil prices.
- Housing, construction, and employment data was mixed.** US housing starts declined 9.40% month over month to 1.256 million units in September. Construction in the volatile multifamily housing segment dropped, but single-family home construction rose for a fourth straight month. Initial jobless claims for the week ending October 12 increased by 4,000 to 214,000. Continuing claims for the week ending October 5 decreased by 10,000 to 1.679 million.

Talking Points

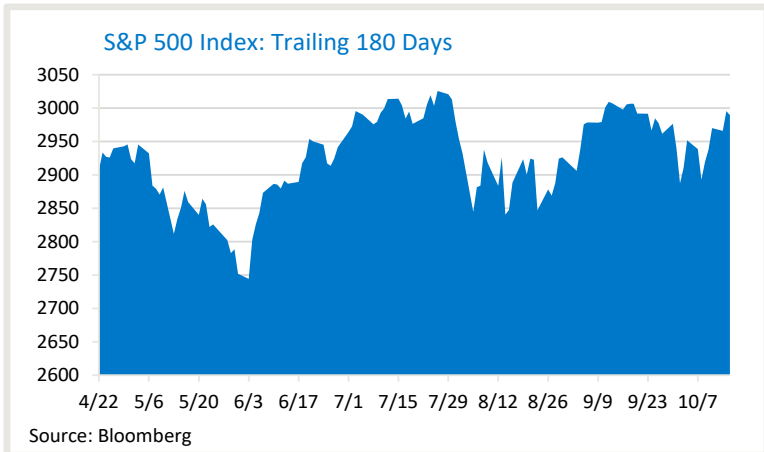
- US equities** had moderate gains this week. The market sentiment was supported by decent earnings reports and news of a draft Brexit deal, but also was dampened by some weak economic data.
- The Yield on the 10-Year US Treasury Note** recovered from declines seen in the early part of the week and hovered around 1.75% for most of the week.
- Gold prices** rebounded from some of the small sell-off seen in the initial days of the week, as concerns about the preliminary Brexit deal's approval by the British Parliament and weaker-than-expected US economic data drove the price upward.
- Oil** had a mixed week, as a greater-than-expected increase in the US's stock pile amid a global slowdown drove the price down midweek. But news from the cease-fire pact in Syria and tentative Brexit deal enabled oil to regain some of the lost ground on Thursday.
- Netflix Inc.** announced reported revenue of \$5.25 billion, up 31% from a year ago, and earnings per share of \$1.47. The streaming giant also said that it had a net addition of 6.77 million paying subscribers in its third quarter. However, the company's projections for fourth-quarter additions were lower than analysts' expectations.

Market Dashboard

	Last Price	Change	% Chg.	YTD %
S&P 500	2,986.20	15.93	0.54%	19.1%
Dow Industrials	26,770.20	-46.39	-0.17%	14.8%
Nasdaq	8,089.54	32.50	0.40%	21.9%
Russell 2000	1,535.48	23.58	1.56%	13.9%
Euro Stoxx Index	391.84	0.23	0.06%	16.0%
Shanghai Composite	2,938.14	-35.51	-1.19%	17.8%
MSCI ACWI	526.92	5.78	1.11%	15.6%

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

	Last Price	Change	% Chg.	YTD %
MSCI EM	1,028.39	16.85	1.67%	6.5%
10-Year US Treas.	1.75	-1 bps	NM	NM
Bloomberg Cmnts. Idx.	78.67	-0.16	-0.21%	2.5%
Gold	\$1,490.10	\$1.58	0.11%	16.2%
Crude Oil	\$53.74	-\$1.01	-1.85%	11.3%
Dollar Index	97.25	-1.04	-1.06%	1.1%
VIX Index	14.25	-1.33	-8.54%	-43.9%



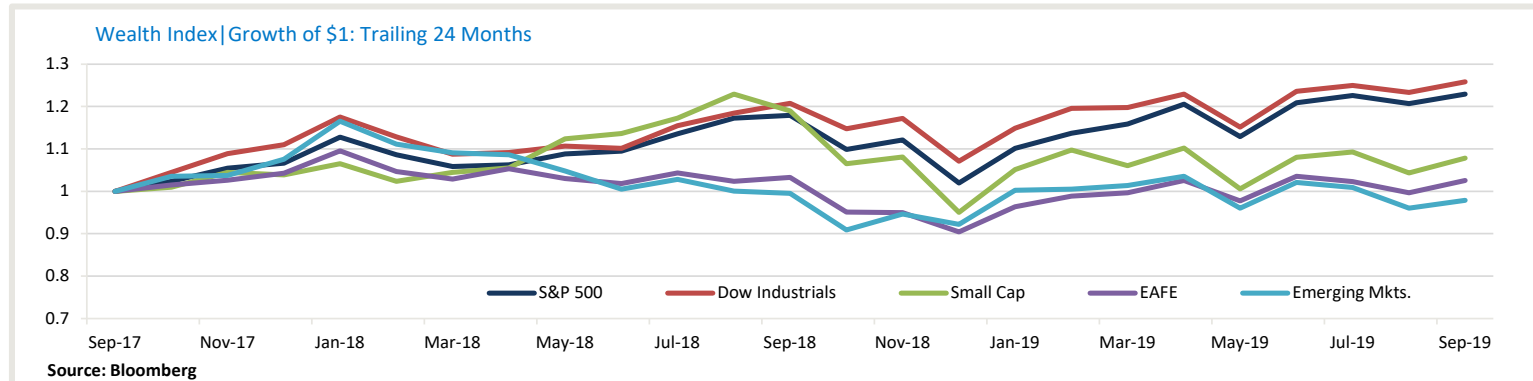
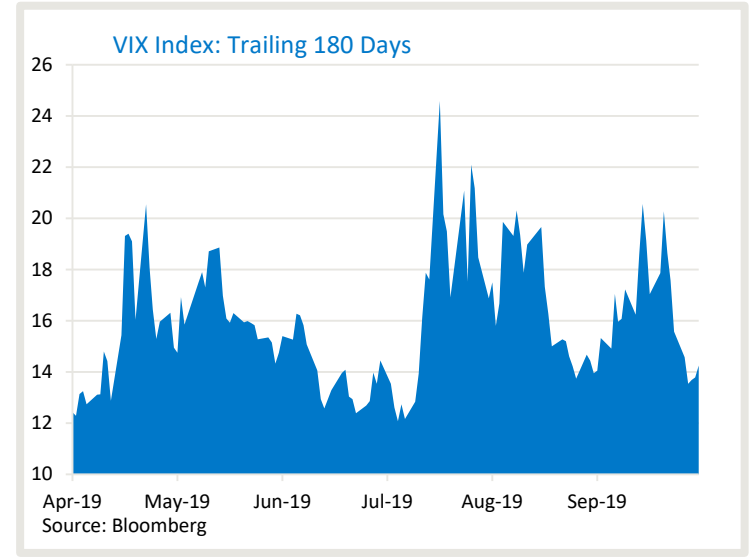
	One Week			YTD		
	Value	Growth		Value	Growth	
L	0.61%	0.44%	0.31%	14.33%	18.69%	22.55%
	0.87%	0.56%	0.07%	16.77%	20.21%	25.06%
S	1.61%	1.56%	1.51%	11.71%	13.86%	15.80%

Source: Bloomberg

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

	% Wgt in S&P 500	Week % Chg.	YTD % Chg.
Consumer Discretionary	10.3	1.30%	22.7%
Consumer Staples	7.5	0.16%	19.5%
Energy	4.3	-1.72%	-0.8%
Financials	12.9	1.55%	17.8%
Health Care	13.8	2.03%	6.0%
Industrials	9.2	0.10%	19.6%
Information Technology	21.9	-0.86%	30.5%
Materials	2.7	0.32%	13.9%
Real Estate	3.3	1.80%	28.4%
Communication Services	10.5	1.32%	22.8%
Utilities	3.5	-0.15%	20.6%

Source: Bloomberg



The Economy and Markets

A Macro View: ESG Entering the Mainstream

Funds that focus on environmental, social, and governance (ESG) advancement attracted about \$8.9 billion worth of net inflows during the first six months of the year, according to data from Morningstar. That is more than a 60% jump from the \$5.5 billion in inflows for all of 2018. According to a report from US SIF, ESG investing now represents \$12 trillion in assets under management and is growing by more than 13% CAGR in the US.¹ Trends like these show that the inflows into ESG products are unlikely to slow anytime soon.

This growth in ESG investments can be attributed to a number of reasons. A Bank of America study showed that millennials are the demographic group most eager to invest using ESG and impact criteria, and more than half the US workforce will be millennials in the next six years, according to another forecast by Inc. magazine. This demographic change is expected to drive the growth in ESG investments. Regulatory pressures have required companies to provide more transparent ESG and social impact data, making it easier for advisors to evaluate a fund's underlying investments. Additionally, the increasing supply of ESG investment products has reduced the cost of investing in ESG funds.

In the past, ESG investing was seen as a niche sector that restricted the fund manager's investment universe, because such funds often excluded companies seen as harmful to the environment or society, such as oil companies or arms manufacturers. Therefore, investors were often made to believe that they had to accept lower returns because of their convictions. This is changing too. Data from a recent study by MSCI showed that ESG-rated companies were more profitable, paid higher dividends, and had better risk-management practices.² The study also stated that "ESG has affected the valuation and performance of companies, both through their systematic risk profile (lower costs of capital and higher valuations) and their idiosyncratic risk profile (higher profitability and lower exposures to tail risk)." In response to this wider demand, the financial services industry is launching a slew of new exchange-traded funds (ETFs) and mutual funds aimed at this socially conscious universe of investors.

The growth in ESG integration can be seen across industries. Even the US 401(k) industry, which is usually slow to adapt to new trends, has started to integrate ESG investments. Of 401(K) advisors surveyed, 52% use ESG criteria for retirement portfolios, according to a survey by Ignites. However, pension funds in Europe may be leading the ESG investment movement. Finland's largest pension fund invested more than \$800 million in iShares ESG MSCI USA Leaders ETF (SUSL) in the second quarter launch and invested a similar amount in Xtrackers MSCI USA ESG Leaders Equity ETF (USSG) in the first quarter.

Data is another key lubricant in the rise in ESG investing. Advancement in machine learning and data analytics offers a great potential to gain competitive advantage in ESG investing. Therefore, algorithms can be designed to select ESG stocks with the highest growth potential, with minimal human intervention. This has enabled quant managers who traditionally use factors such as value, size, momentum, growth, and volatility to integrate them into their ESG investment process. According to Preqin research, nearly 30% of hedge funds say they are using ESG considerations to form investment decisions.

However, the future is not without challenges. ESG integration is gaining acceptance, but from a low base. Close to 90 ESG ETFs track roughly \$16 billion in assets in the US, a mere fraction of the more than \$4 trillion of total ETF assets. ESG integration in fixed income investments is well below that of equities. A concern to investors is that ESG mutual funds and ETFs offered to investors may be driven by marketing decisions and may not be true ESG investment products. In addition, ESG data has improved in recent times, but advances in quality and comparability of data still have a long way to go. Clearly, the industry could identify a single ESG-reporting standard to streamline the data-collection process and produce higher-quality, comparable data. The Sustainability Accounting Standards Board (SASB) is working on providing globally applicable industry-specific standards and sustainability metrics for the typical company in an industry.

Worldwide investor demand for ESG investing is certainly strong: 76% of individual global investors and 71% of US investors believe it is important to have the ability to invest according to personal values and ethical requirements, according to a survey conducted by Natixis Investment Management. However, to realize this potential and to ensure the ESG theme is not another investing fad, policy makers, corporations, and investors must find a way to address the unique challenges the industry is facing.

Ramasubramaniam, CFA

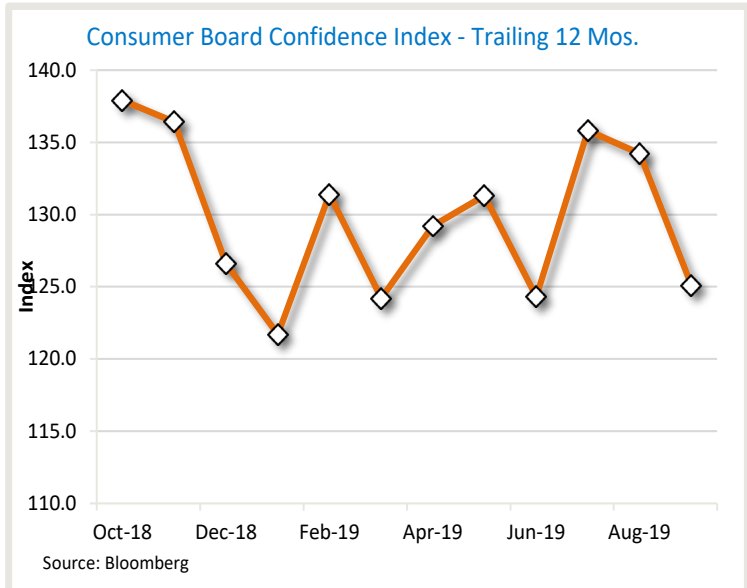
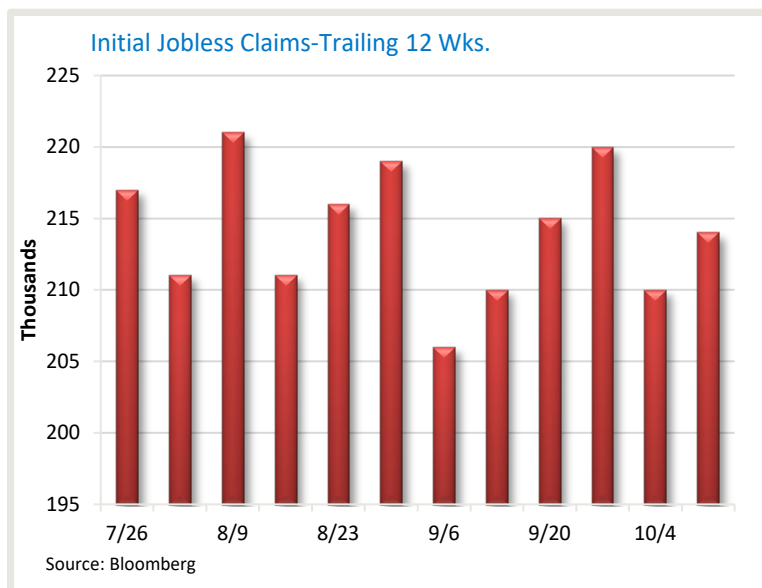
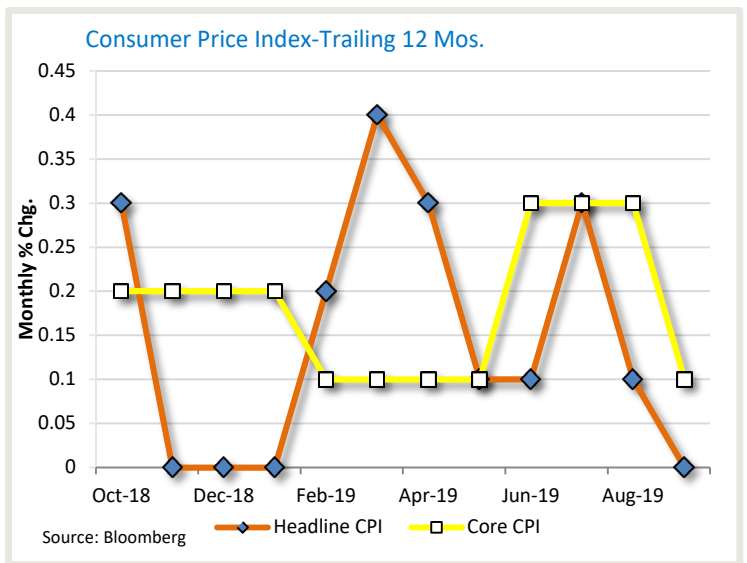
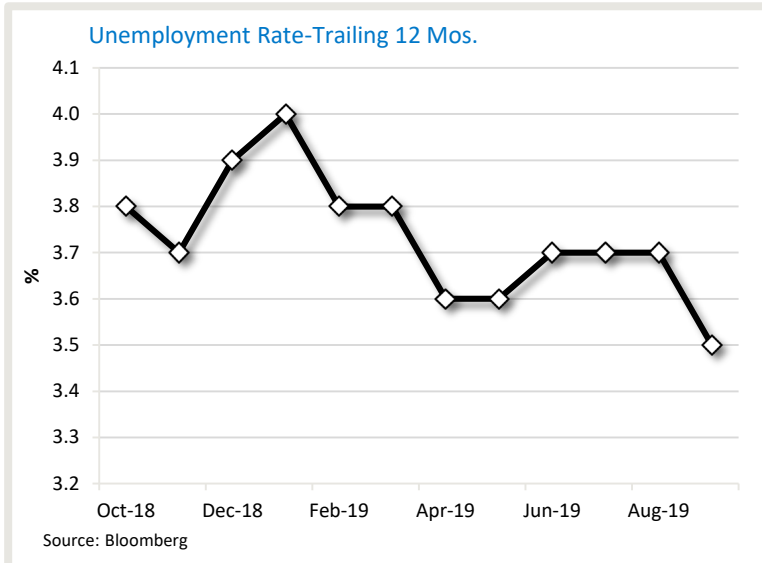
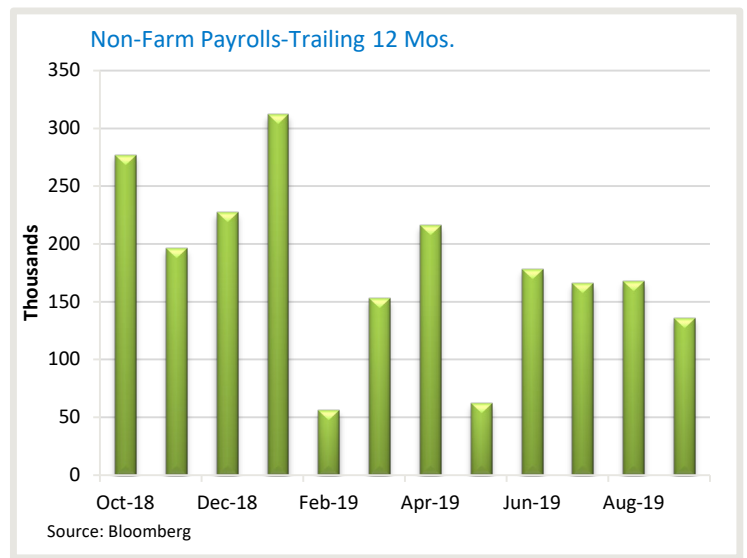
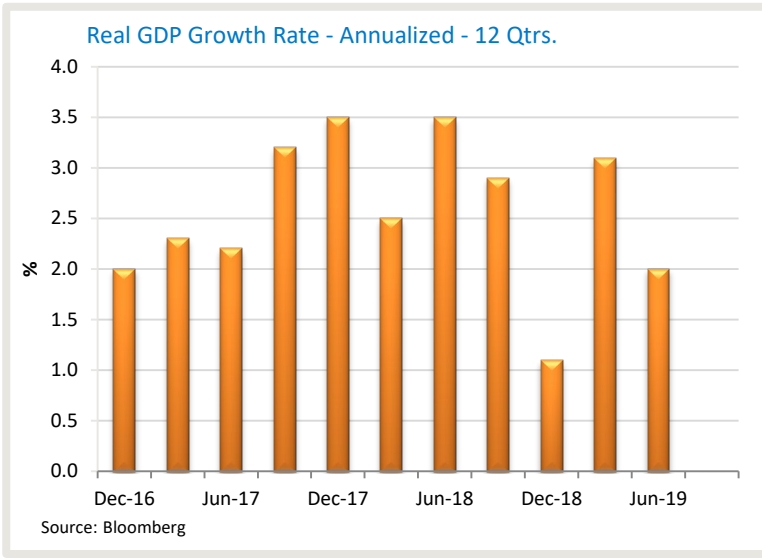
Investment Analyst

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1 2018 Report on US Sustainable, Responsible and Impact Investing Trends; US SIF; 2019

2 Foundations of ESG Investing: How ESG Affects Equity Valuation, Risk, and Performance; Guido Giese, Linda-Eling Lee, Dimitris Melas, Zoltán Nagy, and Laura Nishikawa; 2019

Economic Data



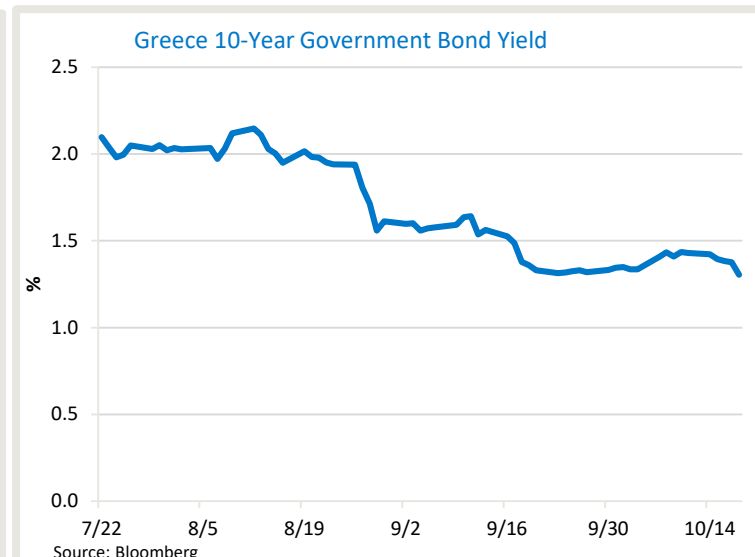
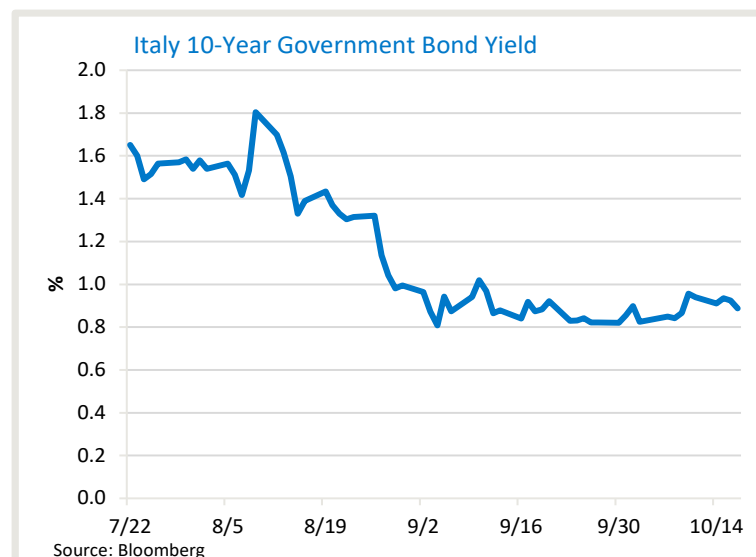
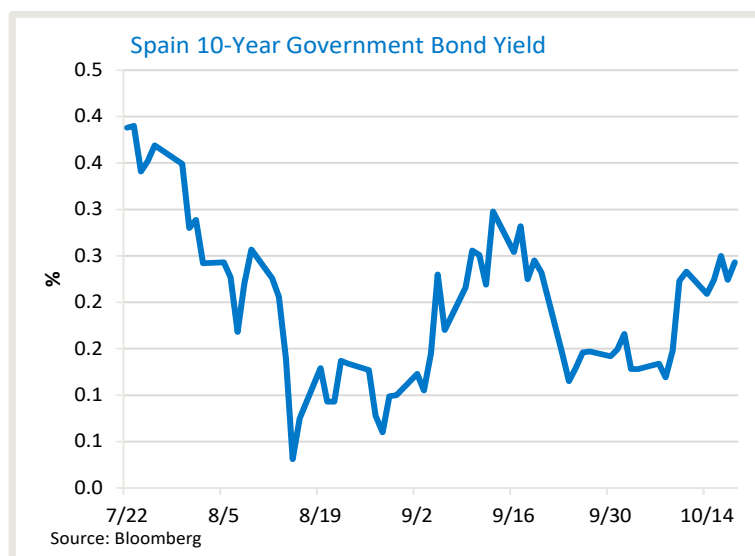
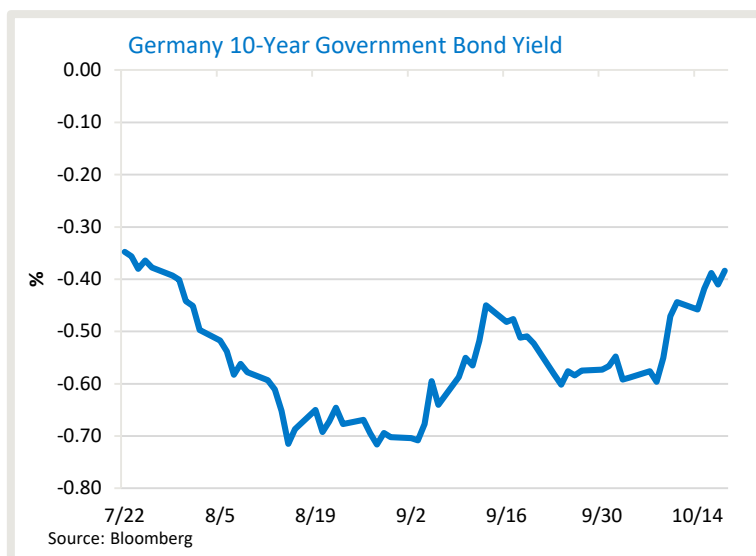
Eurozone

SELECTED EUROPEAN SOVEREIGN YIELD PERFORMANCE

	Last	Change	% Chg.	YTD %
Germany 10-Yr. Govt.	-0.38	-6 bps	NM	NM
Greece 10-Yr. Govt.	1.30	12 bps	NM	NM
Italy 10-Yr. Govt.	0.92	1 bps	NM	NM
Spain 10-Yr. Govt.	0.24	-1 bps	NM	NM
Belgium 10-Yr. Govt.	-0.09	-7 bps	NM	NM

Source: Bloomberg
Basis points (bps)

	Last	Change	% Chg.	YTD %
France 10-Yr. Govt.	-0.08	-5 bps	NM	NM
Ireland 10-Yr. Govt.	0.04	-1 bps	NM	NM
Portugal 10-Yr. Govt.	0.20	0 bps	NM	NM
Netherlands 10-Yr. Govt.	-0.26	-6 bps	NM	NM
U.K. 10-Yr. Govt.	0.71	0 bps	NM	NM

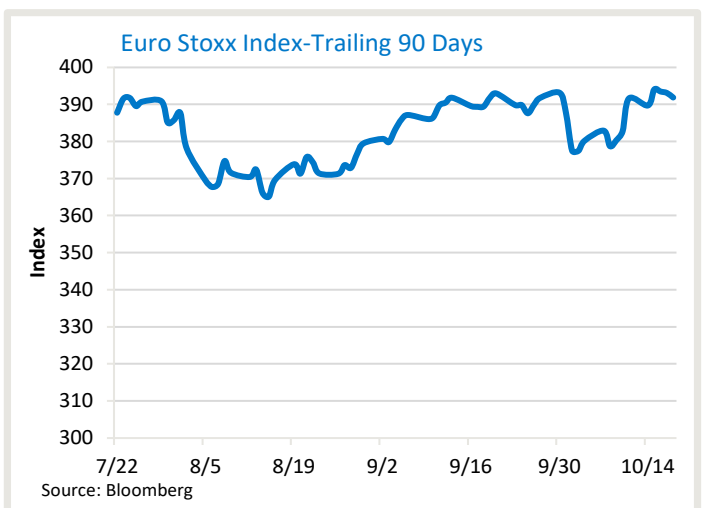
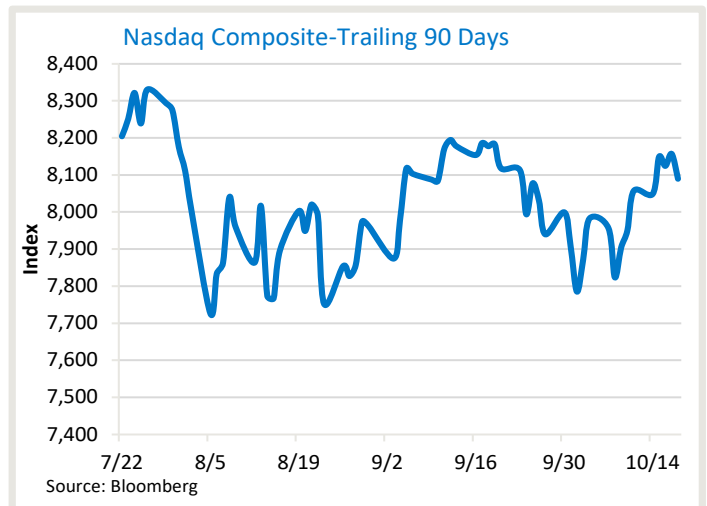
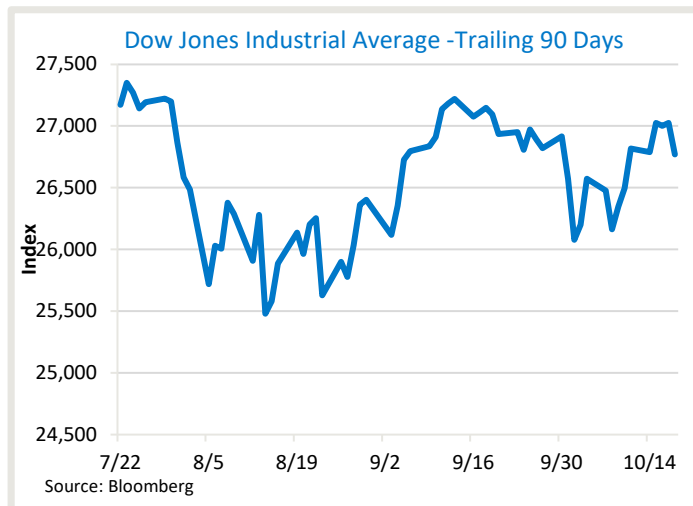


Equities

WORLD MARKET PERFORMANCE

	Last	Change	% Chg.	YTD %		Last	Change	% Chg.	YTD %
S&P 500	2,986.20	15.93	0.54%	19.12%	Swiss Market Index	9,965.49	-51.90	-0.52%	18.22%
Dow Industrials	26,770.20	-46.39	-0.17%	14.76%	CAC 40 Index (France)	5,636.25	-29.23	-0.52%	19.14%
Nasdaq Composite	8,089.54	32.50	0.40%	21.92%	DAX Index (Germany)	12,633.60	121.95	0.97%	19.65%
MSCI ACWI	526.92	5.78	1.11%	15.6%	Irish Overall Index	6,463.55	14.96	0.23%	17.95%
MSCI EM	1,028.39	16.85	1.67%	6.5%	Nikkei 225	22,492.68	940.70	4.36%	12.38%
S&P/TSX (Canada)	16,377.12	-38.04	-0.23%	14.34%	Hang Seng Index	26,719.58	411.14	1.56%	3.38%
Mexico IPC	43,178.63	-35.96	-0.08%	3.69%	Shanghai Composite	2,938.14	-35.51	-1.19%	17.81%
Brazil Bovespa	104,728.90	897.00	0.86%	19.16%	Kospi Index (S. Korea)	2,060.69	16.08	0.79%	0.96%
Euro Stoxx 600	391.84	0.23	0.06%	16.05%	Taiwan Taiex Index	11,180.22	290.26	2.67%	14.94%
FTSE 100	7,150.57	-96.51	-1.33%	6.28%	Tel Aviv 25 Index	1,648.74	37.28	2.31%	12.63%
IBEX 35 (Spain)	9,329.80	56.00	0.60%	9.25%	MOEX Index (Russia)	2,752.91	44.84	1.66%	16.19%

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



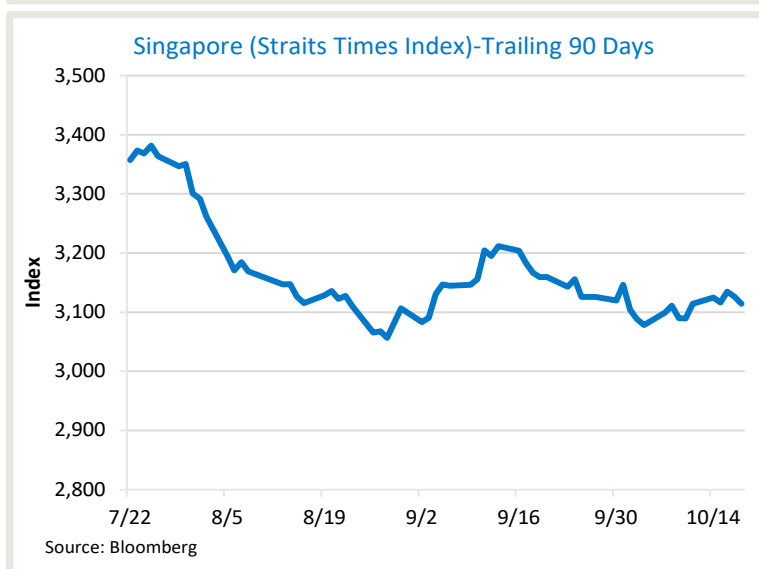
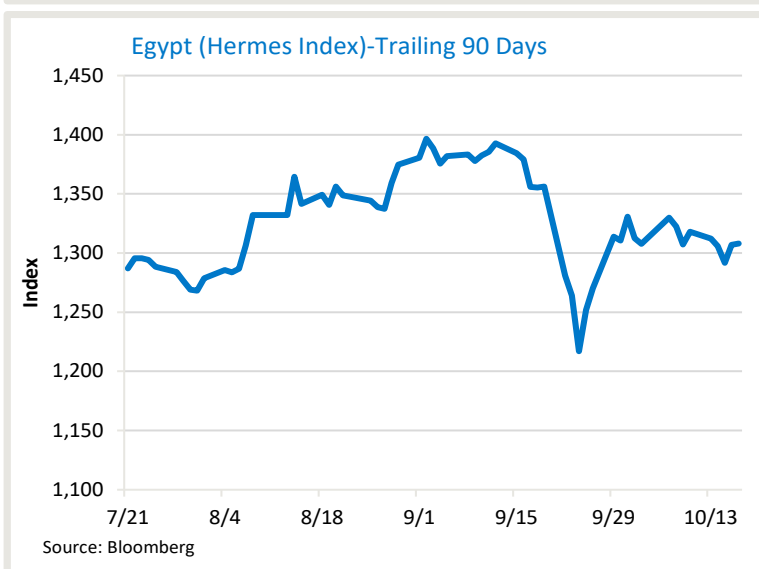
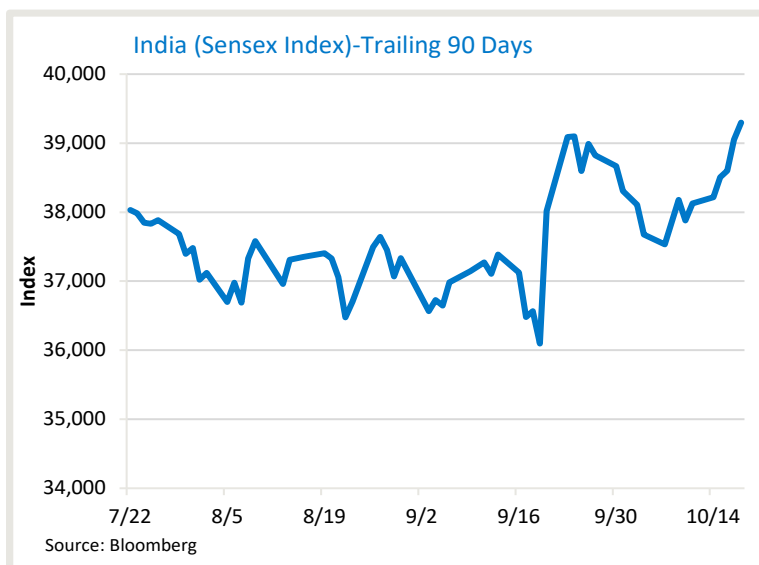
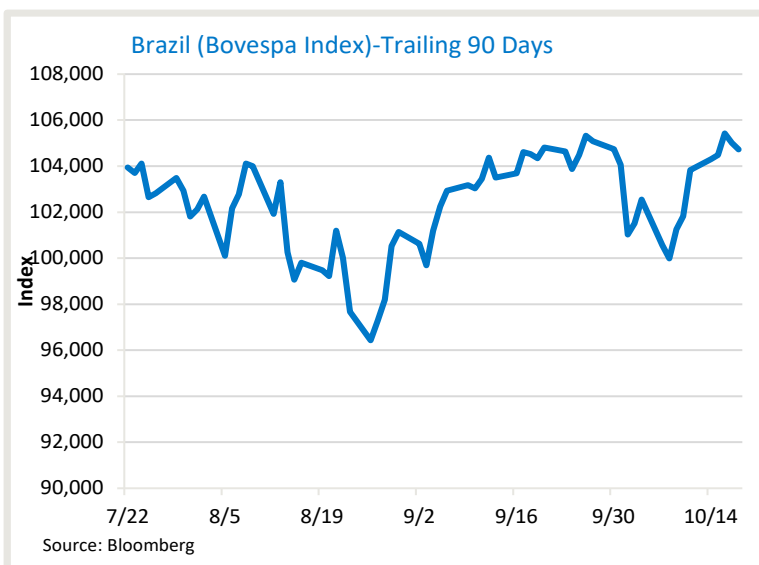
Equities – Emerging and Frontier Markets

EMERGING AND FRONTIER MARKET PERFORMANCE

	Last	Change	% Chg.	YTD %
Mexico IPC	43,178.63	-35.96	-0.1%	3.7%
Brazil (Bovespa Index)	104,728.90	897.00	0.9%	19.2%
MOEX Index (Russia)	2,752.91	44.84	1.7%	16.2%
Czech Republic (Prague)	1,042.90	29.35	2.9%	5.7%
Turkey (Istanbul)	98,415.34	-612.48	-0.6%	7.8%
Egypt (Hermes Index)	1,308.09	-9.98	-0.8%	2.4%
Kenya (Nairobi 20 Index)	2,460.75	5.48	0.2%	-13.2%
Saudi Arabia (TASI Index)	7,635.82	-59.66	-0.8%	-2.4%
Lebanon (Beirut BLOM Index)	763.81	-20.31	-2.6%	-21.8%
Palestine	517.40	1.44	0.3%	-2.3%

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

	Last	Change	% Chg.	YTD %
Hang Seng Index	26,719.58	411.14	1.6%	3.4%
India (Sensex 30)	39,298.38	0.00	0.0%	9.0%
Malaysia (KLCI Index)	1,571.15	14.31	0.9%	-7.1%
Singapore (Straits Times Index)	3,114.16	0.19	0.0%	1.5%
Thailand (SET Index)	1,631.43	23.93	1.5%	4.3%
Indonesia (Jakarta)	6,191.95	86.15	1.4%	0.0%
Pakistan (Karachi KSE 100)	33,870.15	-605.54	-1.8%	-8.6%
Vietnam (Ho Chi Minh)	989.20	-2.64	-0.3%	10.8%
Sri Lanka (Colombo)	5,863.48	28.82	0.5%	-3.1%
Cambodia (Laos)	697.29	-30.91	-4.2%	-16.6%

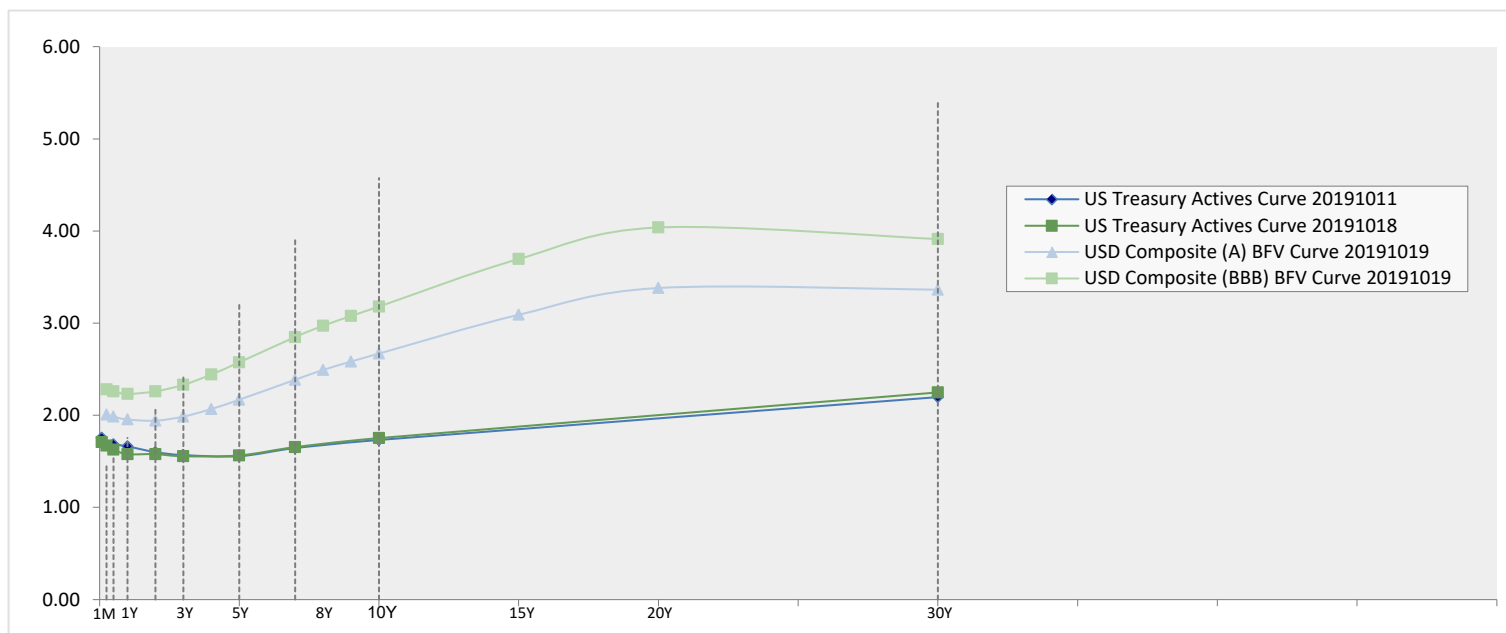


Interest Rates

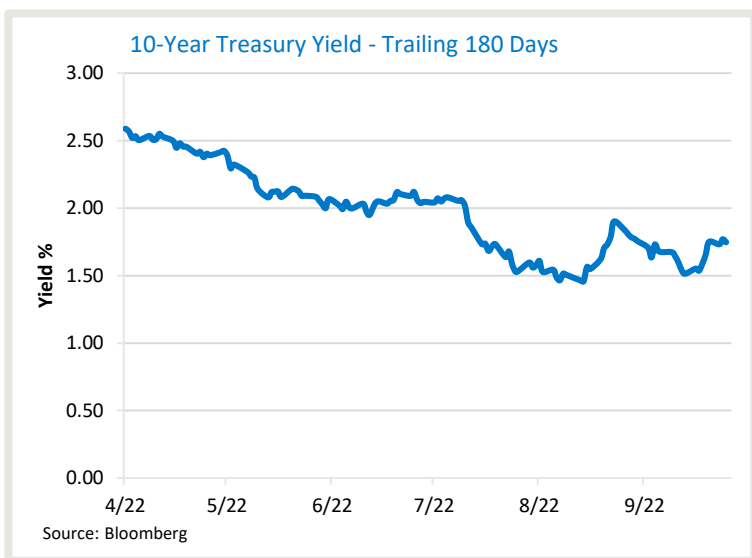
SELECTED INTEREST RATES

	Last	Change	% Chg.	YTD %		Last	Change	% Chg.	YTD %
2-Yr. U.S. Treasury	1.57%	0 bps	NM	NM	Prime Rate	5.00%	0.00	NM	NM
5-Yr. U.S. Treasury	1.56%	-2 bps	NM	NM	Fed Funds Rate	2.00%	0.00	NM	NM
10-Yr. U.S. Treasury	1.75%	-1 bps	NM	NM	Discount Rate	2.50%	0.00	NM	NM
30-Yr. U.S. Treasury	2.25%	3 bps	NM	NM	LIBOR (3 Mo.)	1.97%	-4 bps	NM	NM
German 10-Yr. Govt.	-0.38%	-6 bps	NM	NM	Bond Buyer 40 Muni	2.72%	6 bps	NM	NM
France 10-Yr.	-0.08%	-5 bps	NM	NM	Bond Buyer 40 G.O.	2.70%	NA	NM	NM
Italy 10-Yr.	0.92%	1 bps	NM	NM	Bond Buyer 40 Rev.	3.18%	NA	NM	NM
Fed 5-Yr Fwd BE Inf.	1.62%	2 bps	NM	NM					

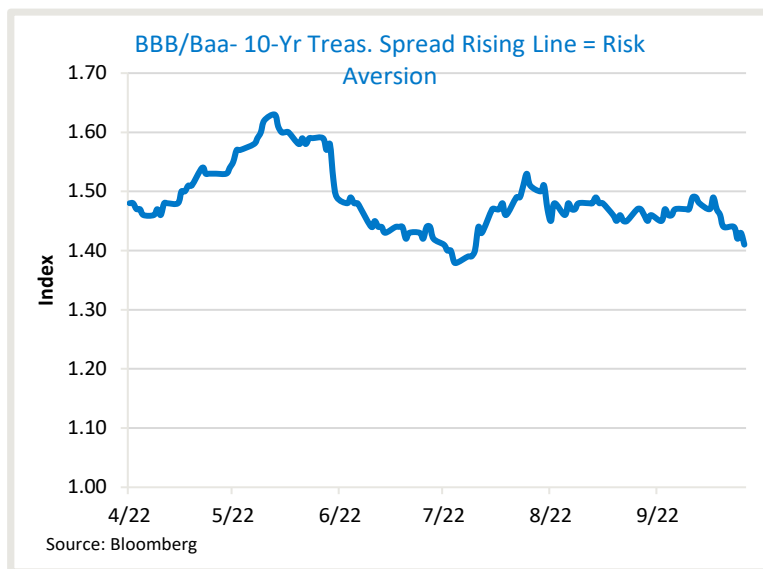
Source: Bloomberg



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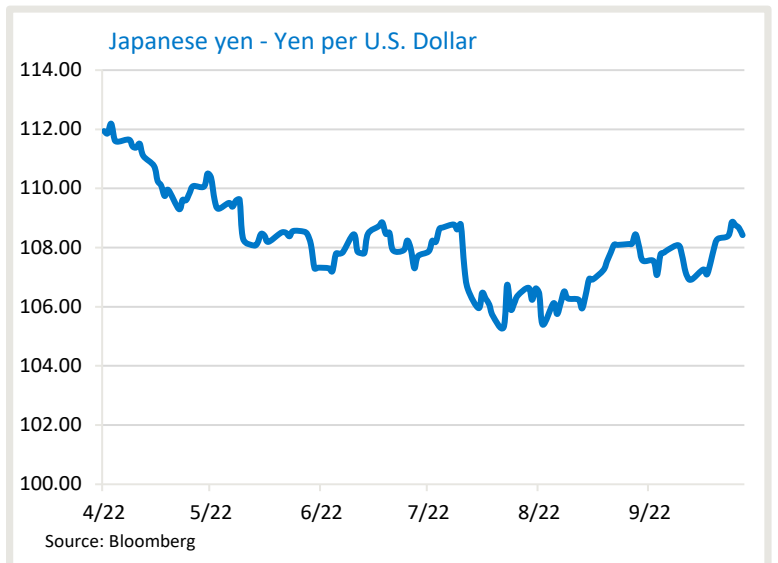
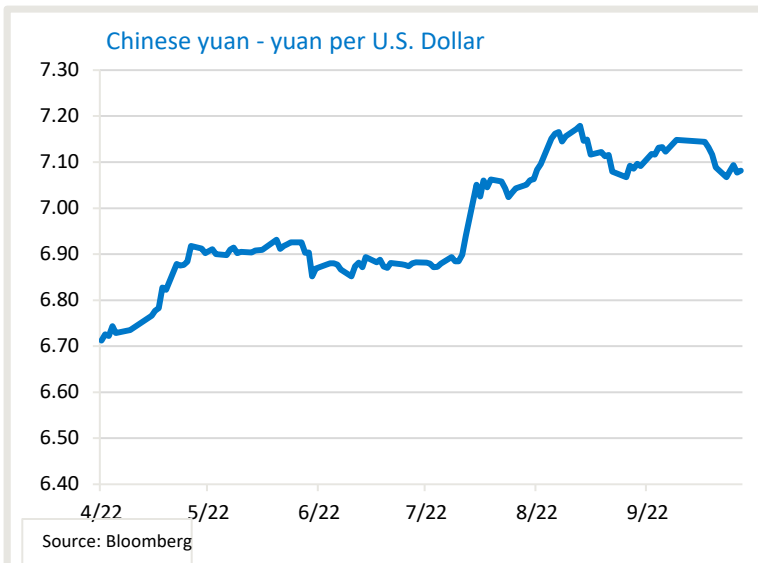
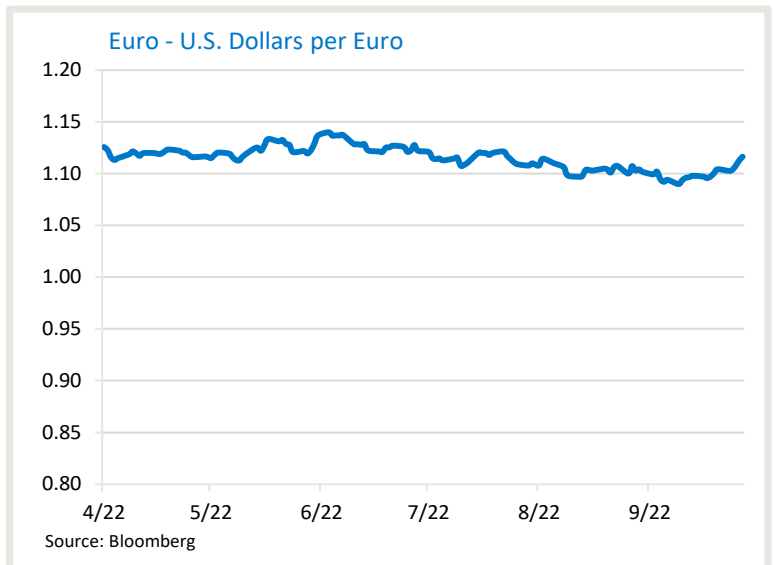
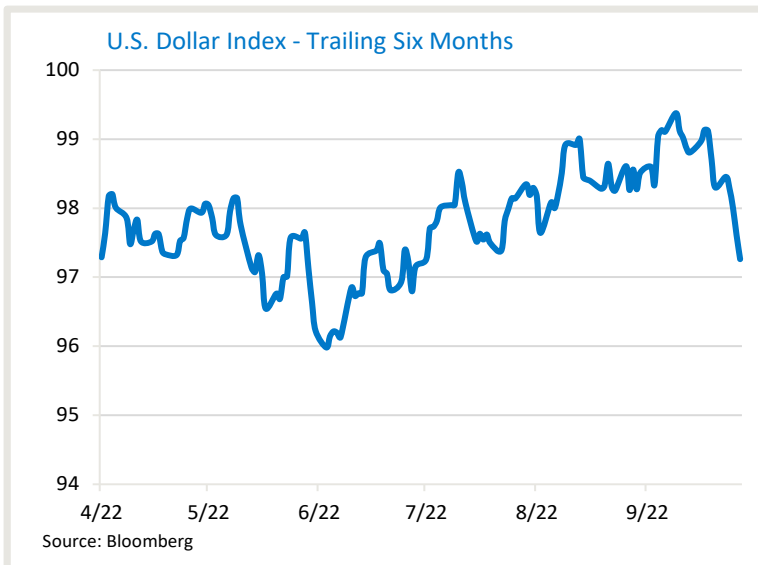
Currencies

SELECTED CURRENCY PERFORMANCE

	Last	Change	% Chg.	YTD %
Dollar Index	97.27	-1.040	-1.06%	1.13%
Euro	1.12	0.012	1.10%	-2.65%
Japanese Yen	108.41	0.130	-0.12%	1.17%
British Pound	1.30	0.028	2.23%	1.54%
Canadian Dollar	1.31	-0.008	0.60%	3.91%

	Last	Change	% Chg.	YTD %
Chinese Yuan	7.08	-0.007	0.09%	-2.87%
Swiss Franc	0.98	-0.013	1.31%	-0.24%
New Zealand Dollar	0.64	0.005	0.77%	-4.96%
Brazilian Real	4.11	0.006	-0.15%	-5.86%
Mexican Peso	19.11	-0.201	1.05%	2.77%

Source: Bloomberg

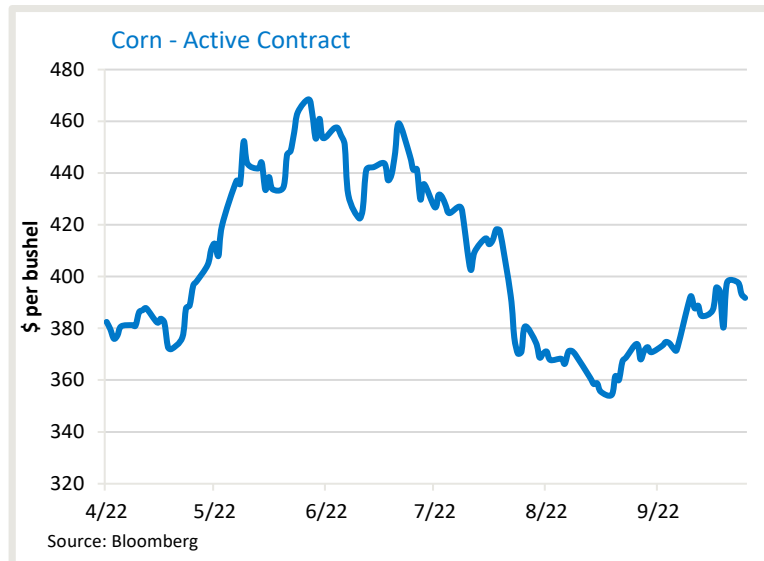
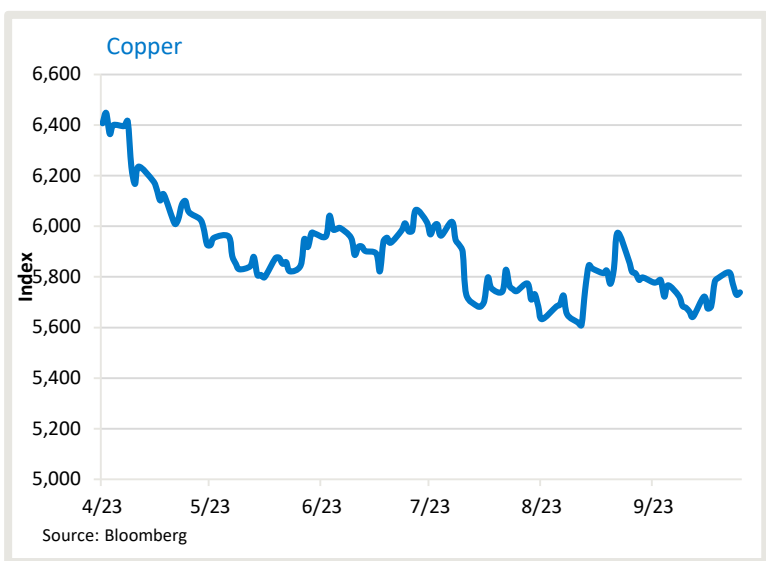
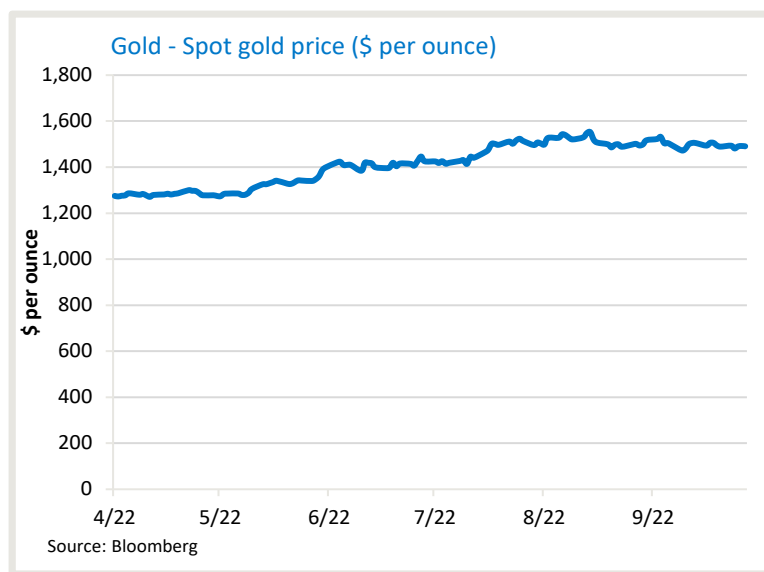
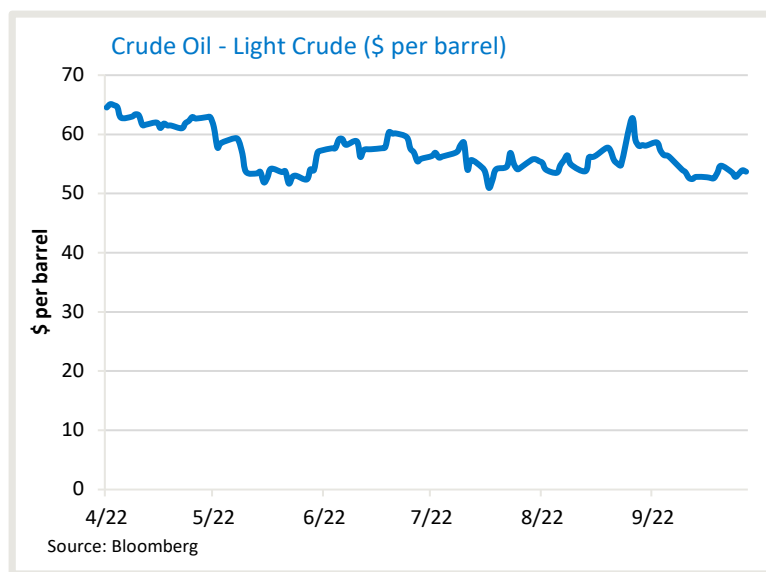


Commodities

SELECTED COMMODITY MARKET PERFORMANCE

	Last	Change	% Chg.	YTD %		Last	Change	% Chg.	YTD %
Bloomberg Comm. Idx.	78.67	-0.16	-0.21%	2.54%	Platinum Spot	\$890.20	-\$4.56	-0.51%	11.92%
Crude Oil	\$53.74	-\$1.01	-1.85%	11.34%	Corn	391.00	-6.75	-1.70%	-1.64%
Natural Gas	\$2.35	\$0.14	6.23%	-15.97%	Wheat	532.25	24.25	4.77%	-1.89%
Gasoline (\$/Gal.)	\$2.66	\$0.02	0.68%	17.68%	Soybeans	934.00	-2.00	-0.21%	-0.13%
Heating Oil	194.56	-1.30	-0.66%	13.04%	Sugar	12.32	-0.09	-0.73%	-6.31%
Gold Spot	\$1,490.08	\$1.58	0.11%	16.23%	Orange Juice	102.15	1.25	1.24%	-22.58%
Silver Spot	\$17.54	\$0.01	0.05%	13.26%	Aluminum	1,727.00	5.00	0.29%	-6.45%
					Copper	5,739.00	-57.00	-0.98%	-3.79%

Source: Bloomberg; % change is based on price.

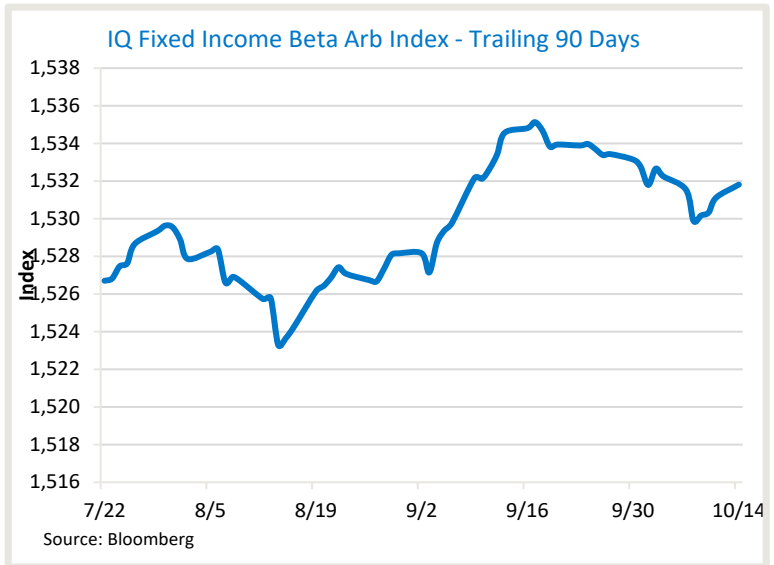
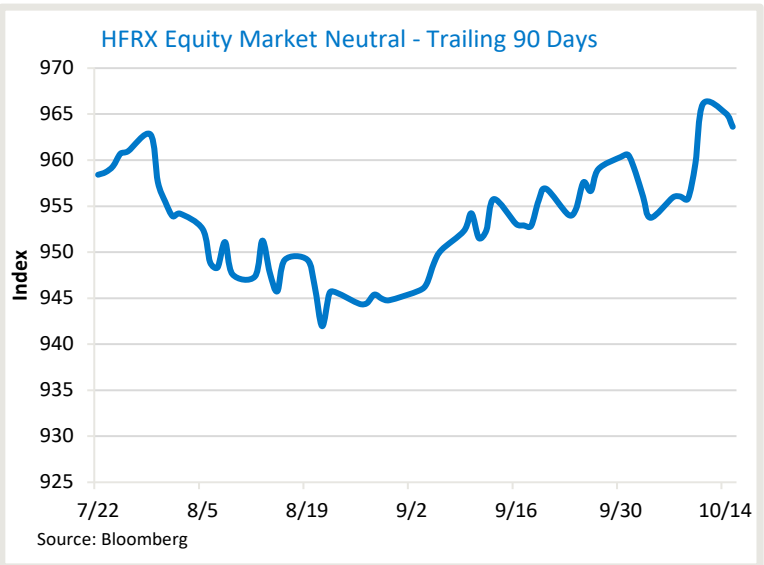
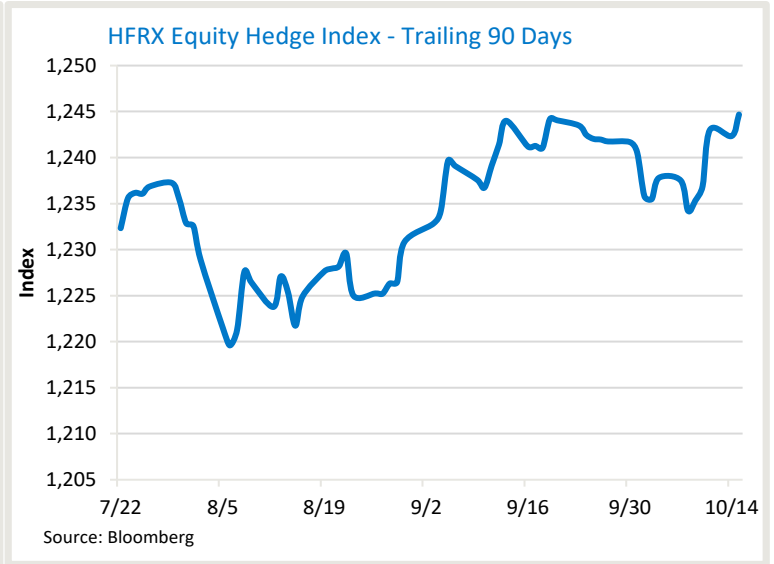
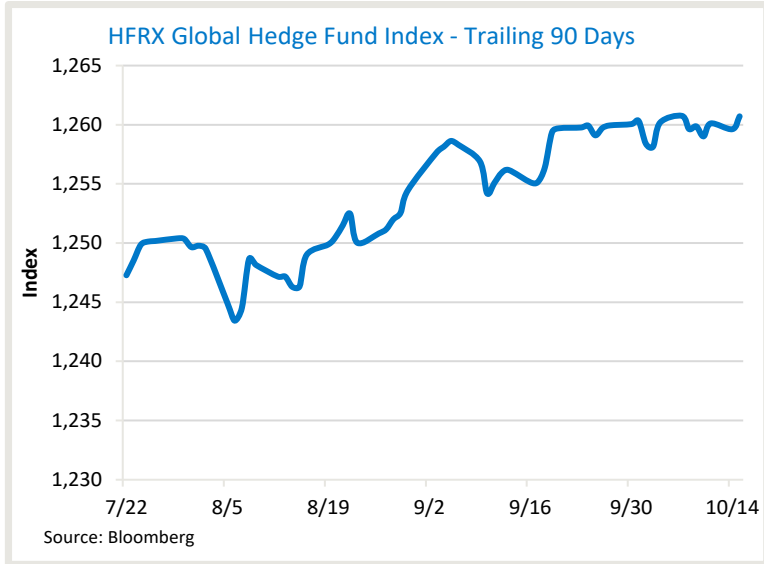


Alternative Investments

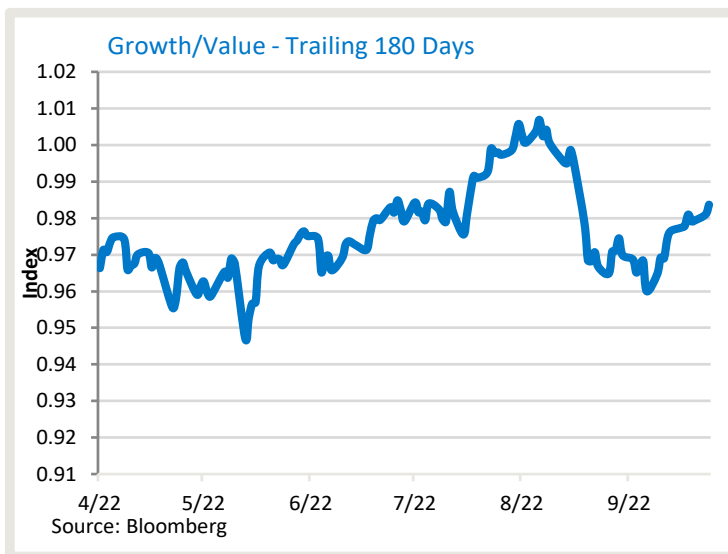
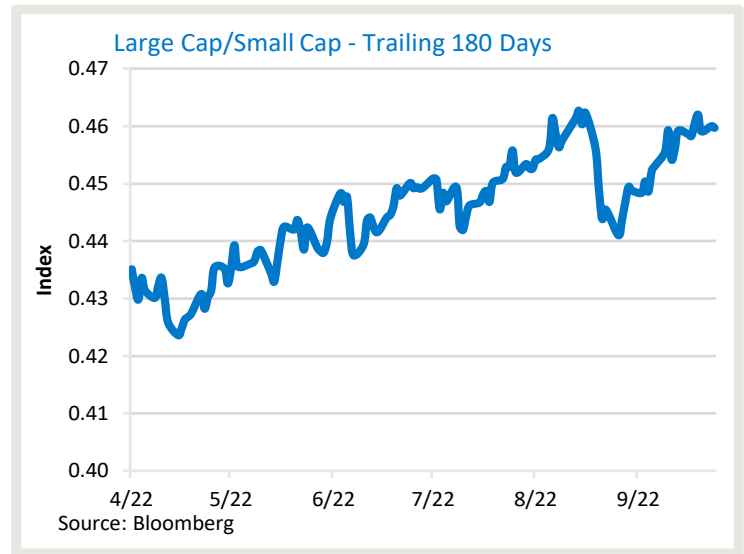
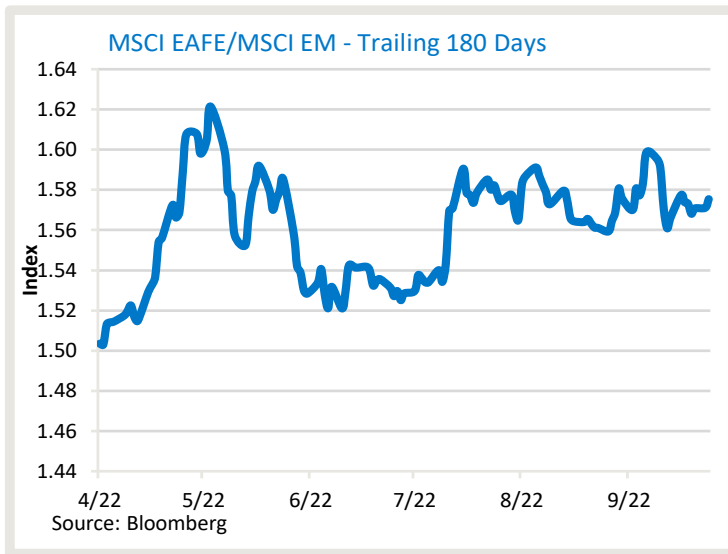
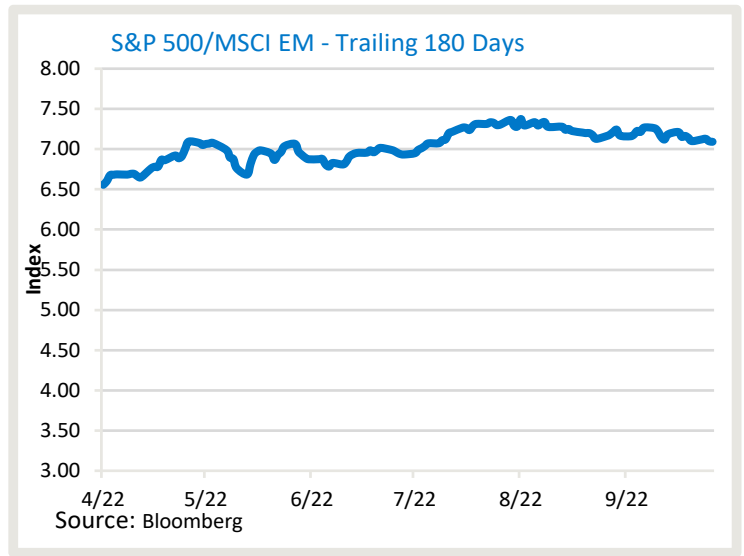
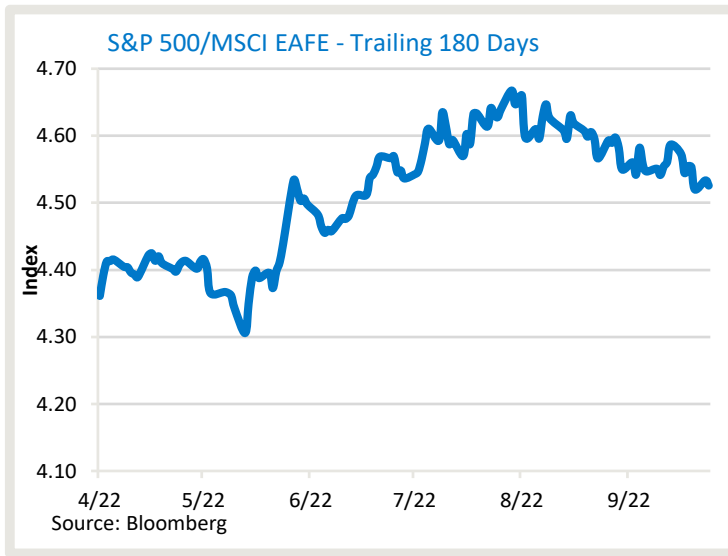
SELECTED ALTERNATIVE INVESTMENT INDEX PERFORMANCE

	Last	Change	% Chg.	YTD %		Last	Change	% Chg.	YTD %
HFRX Global Hedge Fund Index	1260.18	0.07	0.01%	5.91%	HFRX Special Situation Index	1250.37	0.17	0.01%	3.94%
HFRX Equity Market Neutral	966.81	0.71	0.07%	-0.60%	HFRX Merger Arbitrage Index	1796.49	5.01	0.28%	-1.16%
HFRX Equity Hedge Index	1244.97	1.97	0.16%	8.15%	HFRX Convertible Arbitrage Index	815.11	-0.30	-0.04%	3.49%
HFRX Event-Driven Index	1546.38	0.45	0.03%	5.11%	HFRX Macro CTA Index	1163.76	-4.64	-0.40%	3.35%
HFRX Absolute Return Index	1092.20	2.28	0.21%	3.22%	IQ Fixed Income Beta Arb Index	1535.03	3.92	0.26%	4.96%

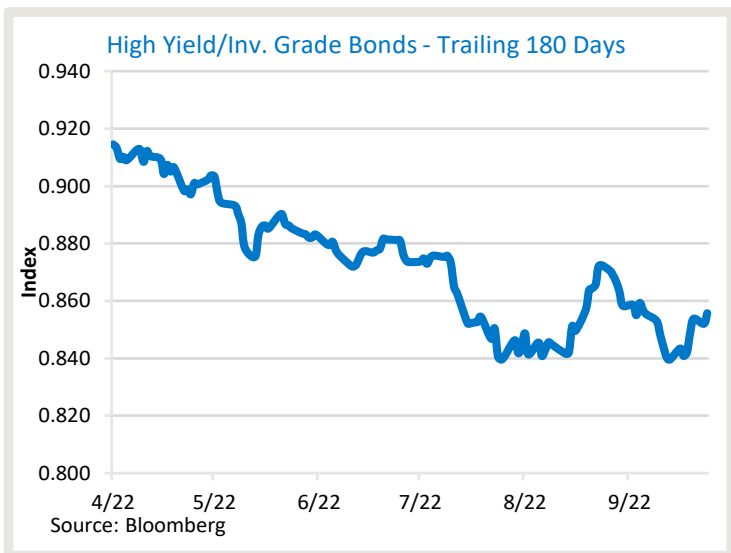
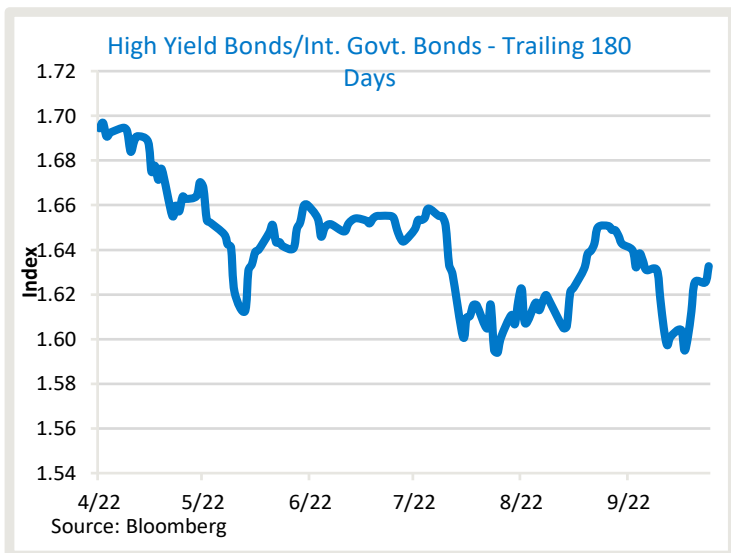
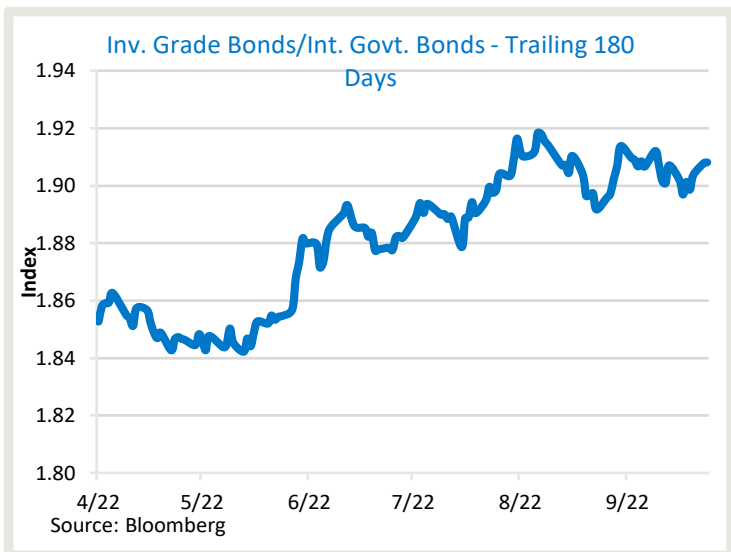
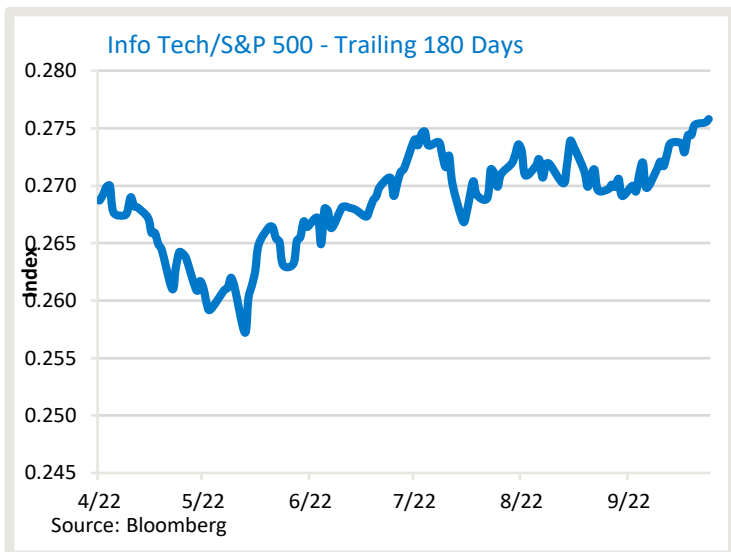
Source: Bloomberg; Index % change is based on price.



Portfolio Construction



Portfolio Construction (continued)



WEEKLY ASSET CLASS PERFORMANCE (Prior 12 weeks ending Thursday)

			8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26	10/3	10/10	10/17
Equity	Domestic Equity	Large Cap (R200)	-1.62%	-0.58%	-2.98%	2.63%	0.07%	1.73%	1.03%	-0.07%	-1.09%	-2.16%	1.10%	2.01%
		Small Cap (R2000)	-0.68%	-1.20%	-4.60%	3.03%	-0.62%	0.94%	4.26%	-0.86%	-1.80%	-3.06%	-0.07%	3.80%
	Int'l. Equity	MSCI EAFE	-1.28%	-2.53%	-2.66%	1.78%	0.11%	2.32%	1.68%	0.44%	-0.94%	-2.60%	0.86%	3.22%
		MSCI Em. Mkts.	-2.82%	-3.93%	-2.11%	1.26%	-0.57%	3.39%	1.93%	-0.56%	-0.72%	-1.69%	0.43%	3.20%
Fixed Income	BarCap Agg. (AGG)	0.65%	0.79%	0.86%	-0.39%	0.63%	-0.42%	-1.00%	0.08%	0.44%	0.57%	-0.48%	-0.34%	
	High Yield (JNK)	-0.52%	-0.36%	-0.53%	1.33%	0.33%	-0.27%	0.28%	0.07%	-0.17%	-1.37%	0.33%	0.72%	
Commodities	Bloomberg Commodity Index	-2.52%	0.04%	-0.44%	-0.37%	1.40%	0.70%	0.69%	1.06%	-0.96%	-1.14%	0.26%	0.82%	
Alternatives	Hedge Funds (HFRX Global)	-0.03%	-0.09%	-0.19%	0.49%	0.01%	0.49%	-0.22%	0.27%	0.03%	-0.13%	0.07%	0.09%	
Asset Allocation	60/40*	-0.69%	-0.61%	-1.58%	1.35%	0.18%	0.97%	0.75%	-0.04%	-0.54%	-1.30%	0.32%	1.54%	
	48/32/20 (w/Alts.)**	-0.56%	-0.51%	-1.30%	1.18%	0.15%	0.87%	0.55%	0.03%	-0.43%	-1.06%	0.27%	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	1.00	1.01	1.04	1.05	1.04	1.03	1.06	1.01	0.94	0.96	0.92	1.06	1.08	1.05
Large Cap Growth	1.00	1.00	1.02	1.05	1.06	1.04	1.04	1.06	1.01	0.94	0.96	0.93	1.07	1.08	1.06
Large Cap Value	0.99	0.98	1.00	1.02	1.04	1.02	1.02	1.04	0.99	0.93	0.94	0.91	1.05	1.06	1.04
Mid Cap Core	0.96	0.96	0.98	1.00	1.01	1.00	0.99	1.02	0.97	0.90	0.92	0.89	1.02	1.04	1.01
Mid Cap Growth	0.95	0.95	0.97	0.99	1.00	0.98	0.98	1.01	0.96	0.89	0.91	0.88	1.01	1.03	1.00
Mid Cap Value	0.97	0.96	0.98	1.00	1.02	1.00	1.00	1.02	0.97	0.91	0.93	0.89	1.03	1.04	1.02
Small Cap Core	0.97	0.96	0.98	1.01	1.02	1.00	1.00	1.03	0.98	0.91	0.93	0.90	1.03	1.04	1.02
Small Cap Growth	0.94	0.94	0.96	0.98	0.99	0.98	0.97	1.00	0.95	0.89	0.90	0.87	1.00	1.02	1.00
Small Cap Value	0.99	0.99	1.01	1.03	1.04	1.03	1.03	1.05	1.00	0.93	0.95	0.92	1.05	1.07	1.05
Int'l. Developed	1.06	1.06	1.08	1.11	1.12	1.10	1.10	1.13	1.07	1.00	1.02	0.98	1.13	1.15	1.12
Emerging Markets	1.04	1.04	1.06	1.09	1.10	1.08	1.08	1.11	1.05	0.98	1.00	0.97	1.11	1.13	1.10
REITs	1.08	1.08	1.10	1.12	1.14	1.12	1.12	1.15	1.09	1.02	1.04	1.00	1.15	1.17	1.14
Commodities	0.94	0.94	0.95	0.98	0.99	0.97	0.97	1.00	0.95	0.88	0.90	0.87	1.00	1.02	0.99
Int. Bond	0.93	0.92	0.94	0.96	0.97	0.96	0.96	0.98	0.93	0.87	0.89	0.86	0.99	1.00	0.98
High Yield	0.95	0.94	0.96	0.99	1.00	0.98	0.98	1.00	0.96	0.89	0.91	0.88	1.01	1.02	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.

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 **S&P 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 **NFIB Small Business Optimism Index** is compiled from a survey that is conducted each month by the National Federation of Independent **Business** (NFIB) of its members

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