# MARKET MONITOR

# Chart of the Week: Energizing Inflation Energy Contribution to Headline Inflation (pp) 8 US (PCE) Euro Area (HICP) UK (CPI) Forecasts 6 4 2 2019 2020 2021 2022 2023

### **INFLATION**

Energy prices have increased rapidly over the last few months. Energy has been a greater contributor to overall inflation in the Euro area than the US, warranting aggressive central bank and policy actions aimed at controlling energy costs and ensuring adequate corporate and household energy access. In particular, UK Prime Minister Truss has announced an energy price cap that should reduce energy's contribution to UK inflation going forward.

Source: Bloomberg, Haver Analytics, and GS Global Investment Research.

### **MARKET SUMMARY**

**GLOBAL EQUITIES:** US equities rose last week as Chair Powell reaffirmed the Fed's hawkish stance, with the S&P 500 ending 3.68% higher. In Europe, the FTSE 100 and STOXX 600 rose 0.97% and 1.06%, respectively, as the ECB's record rate hike and UK stimulus plans to tackle the country's cost of living crisis outweighed recession worries.

**COMMODITIES:** Oil prices fell to seven-month lows last week on the back of demand concerns over high inflation and interest rate hikes, renewed COVID restrictions in China, an unexpected increase in US crude inventories, and fears of a looming recession. Brent and WTI fell to \$92.84 and \$86.79 per barrel, respectively. Meanwhile, gold prices ended higher at \$1741 per troy ounce.

**FIXED INCOME:** Global sovereign yields mostly rose last week amidst stronger than expected economic data and central banks holding firm in hawkish stances. The US 2-Year and 10-Year Treasury yields finished the week up at 3.57% and 3.32%, respectively, as the favorable ISM print and the release of the Beige Book supported markets betting on further Fed rate hikes. Meanwhile, the 10-Year German Bund yield rose to 1.70% on the back of the ECB's largest rate hike in two decades.

**FX:** The US dollar fell from a 20-year high, depreciating -0.04% against a basket of currencies as investors speculated about upcoming US inflation data and future Fed hawkishness. The euro benefitted from the ECB's large rate hike, ending the week above parity against the US dollar at \$1.0044 for the first time in 3 weeks. In Britain, the pound sterling fell to its lowest level since 1985 on inflation, recession, and government spending concerns before ending the week at \$1.1590.

### **ECONOMIC SUMMARY**

**MONETARY POLICY:** In Europe, the ECB raised key policy rates by a record 75 bps, bringing its benchmark deposit rate to 0.75%, its highest since 2011. The central bank indicated that it expects to raise interest rates further in an attempt to curb inflation pressures. GIR now expects another 75 bps rate hike at the October meeting and projects a terminal rate of 2.25% by March 2023.

**ECONOMIC POLICY:** In the UK, newly appointed PM Liz Truss announced support to businesses and a cap on typical household energy bills for two years starting in October 2022. GIR forecasts the energy bill freeze to notably push down headline inflation and shift peak inflation to October at around 10%.

**ACTIVITY:** The US ISM Non-Manufacturing Index rose to 56.9 in August, above consensus expectations and 0.2 pp above July's print on the back of stronger order growth and employment as well as easing price pressures and supply bottlenecks. In China, producer and consumer inflation data slowed to 2.3% and 2.5% YoY, respectively, in August, suggesting weaker domestic consumer demand. In Europe, Euro area retail sales fell -0.9% YoY in July, in line with consensus expectations for further contraction. Meanwhile, Euro area and UK composite PMIs for August were both revised down to 48.9 and 49.6, respectively.

**TRADE:** The US trade deficit narrowed by 12.6% in July on the back of record high exports. In China, both imports and exports lagged expectations, narrowing the trade balance as surging inflation hit overseas demand and new COVID restrictions and heatwaves disrupted output.

### MARKET WATCH

# S&P 500 INDEX SECTOR RETURNS

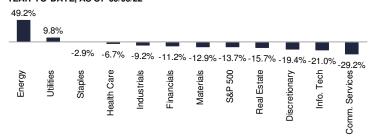
### MONTH-TO-DATE, AS OF 09/09/22 5.7% 4.6% 4.1% 4.0% 3.6% 2.9% 2.8% 2.6% 2.0% 1.3% 0.3% Staples Energy S&P 500 Discretionary Health Care Financials **Materials** Real Estate ndustrials Comm. Services Info. Tech

### Style Performance

# US EQUITY SIZE & STYLE RETURNS

Month-to-Date		(as of 09/09/22)	Year-to-Date			
Value	Core	Growth		Value	Core	Growth
3.11%	2.99%	2.89%	Large	-7.05%	-14.41%	-20.97%
3.44%	3.68%	4.12%	Medium	-8.77%	-13.46%	-22.01%
1.81%	2.14%	2.46%	Small	-10.58%	-15.39%	-20.38%

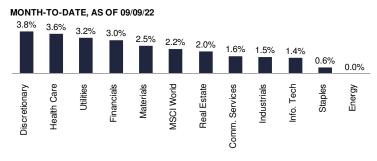
### YEAR-TO-DATE, AS OF 09/09/22



### MSCI WORLD SIZE & STYLE RETURNS

Month-to-Date		(as of 09/09/22)	Year-to-Date			
Value	Core	Growth		Value	Core	Growth
2.08%	2.18%	2.28%	Large	-8.39%	-15.71%	-22.91%
2.03%	2.20%	2.42%	Medium	-12.52%	-17.42%	-23.96%
1.14%	1.42%	1.72%	Small	-11.61%	-17.10%	-22.79%

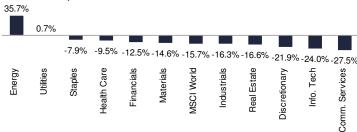
### **MSCI WORLD INDEX SECTOR RETURNS**



### **US FIXED INCOME MATURITY AND QUALITY RETURNS**

Month-to-Date		(as of 09/09/22)	Year-to-Date				
	Short	Intermed.	Long		Short	Intermed.	Long
	-0.22%	-0.39%	-2.78%	Government	-4.97%	-6.82%	-24.88%
	-0.19%	-0.39%	-1.76%	Corporate	-5.55%	-9.09%	-24.03%
	1.02%	1.15%	0.75%	High Yield	-5.89%	-9.62%	-19.66%

### YEAR-TO-DATE, AS OF 09/09/22



### **EUROPEAN FIXED INCOME MATURITY AND QUALITY RETURNS**

Month-to-Date		(as of 09/09/22)	Year-to-Date			
Short	Intermed.	Long		Short	Intermed.	Long
-0.26%	-0.75%	-2.11%	Government	-3.32%	-10.64%	-25.73%
-0.13%	-0.31%	-0.80%	Corporate	-3.97%	-13.94%	-24.89%
-0.04%		High Yield	-11.22%			

## **ECONOMIC WATCH**

	Monday, September 12						
UK Ind. Prod. (Cons:							
	0.4%, Prior: -0.9%)						
	UK Manuf. Prod. (Cons:						
	0.4%, Prior: -1.6%)						

UK CPI (Cons: 10.2%,
Prior: 10.1%)
Euro area Ind. Prod.
(Cons: -0.8%, Prior 0.7%)
US Core PPI (Cons:
7.1%, Prior: 7.6%)

Thursday, September 1
US Retail Sales (Cons:
0.2%, Prior: 0.0%)
US Ind. Prod. (Cons:
0.2%, Prior: 0.6%)
China Ind. Prod. (Cons:
4.0%, Prior: 3.8%)

Friday, September 16
Eur. CPI (Cons: 9.1%,
Prior: 9.1%)
UMich Cons. Sentiment
(Cons: 60.0, Prior: 58.2)

Source: Bloomberg and Goldman Sachs Asset Management. For style performance, Large, Mid, and Small for US Equity refer to the Russell 1000, Russell Midcap, and Russell 2000 indices, respectively. Value refers to companies with lower price-to-book ratios and lower expected growth values, and Growth refers to higher price-to-book ratios and higher forecasted growth values. For US Fixed Income, Government, Corporate, and High Yield refer to the Bloomberg Treasury, Bloomberg Corporate Credit, and Bloomberg High Yield indices, respectively. Short, Intermediate, and Long refer to the Short, Intermediate, and Long segments of their respective curves. For European Fixed Income, Government, Corporate, and High Yield refer to the Bloomberg Euro Treasury Index, the Bloomberg Euro Corporate Index, and the Bloomberg Euro High Yield Index, respectively. Quality returns refers to the credit quality of asset classes ranging from Government, highest quality, to High Yield, lowest quality. Since August 24, 2021, the Barclays indices are branded "Bloomberg indices". Please see end disclosures for footnotes. Past performance does not guarantee future results, which may vary.

## **WEEKLY MARKET RECAP**

INDEX RETURNS				
	1 WEEK	MTD	QTD	YTD
EQUITIES				
S&P 500	3.68%	2.90%	7.80%	-13.72%
DJ Industrial Average	2.72%	2.10%	5.00%	-10.16%
Russell 2000	4.07%	2.14%	10.50%	-15.39%
Russell Midcap	4.80%	3.68%	10.34%	-13.46%
STOXX Europe 50 (€)	0.73%	1.54%	3.57%	-14.50%
STOXX Europe 600 (€)†	1.06%	1.30%	3.62%	-11.89%
MSCI EAFE Small Cap	1.11%	-0.73%	1.17%	-23.57%
FTSE 100 (£)	0.97%	1.02%	3.62%	2.62%
DAX (€)	0.29%	1.97%	2.38%	-17.61%
FTSE MIB (€)	0.79%	2.48%	4.21%	-16.22%
CAC 40 (€)†	0.73%	1.42%	4.99%	-11.33%
SWISS MKT (CHF)	0.08%	0.42%	1.48%	-13.04%
TOPIX (¥)	1.83%	0.12%	5.10%	0.08%
Hang Seng (HKD)	-0.04%	-2.46%	-10.31%	-14.62%
MSCI World	3.02%	2.20%	5.77%	-15.69%
MSCI China Free†	-0.00%	-2.39%	-8.82%	-15.02%
MSCI EAFE	0.89%	0.06%	0.08%	-19.19%
MSCIEM	-0.13%	-2.34%	-2.05%	-19.17%
MSCI Brazil (BRL)	1.24%	2.44%	14.08%	10.17%
MSCI India (INR)	1.48%	0.15%	14.80%	3.56%
MSCI Russia (RUB)	0.00%	0.00%	0.00%	-100.00%
FIXED INCOME				
Bloomberg Aggregate	-0.70%	-0.91%	-1.35%	-11.56%
Bloomberg Euro Aggregate	-0.76%	-0.91%	-5.58%	-23.73%
Bloomberg US High Yield	1.31%	1.14%	4.64%	-10.21%
Bloomberg Euro High Yield (€)	0.46%	-0.04%	3.76%	-11.22%
Bloomberg Muni Aggregate	-0.37%	-0.90%	-0.51%	-9.45%
Bloomberg TIPS	-1.08%	-1.35%	0.35%	-9.35%
JPM EMBI Glbl. Divers.	0.67%	0.13%	2.05%	-18.67%
JPM GBI-EM Glbl. Divers.	0.21%	0.21%	0.36%	-14.22%
OTHER				
DJ US Real Estate	4.39%	3.22%	5.88%	-15.32%
FTSE EPRA/NAREIT Dvlpd. Ex-US	0.45%	-0.75%	-1.80%	-21.56%
S&P GSCI	0.14%	-2.02%	-4.69%	29.43%
Alerian MLP *	-0.53%	-0.28%	16.64%	28.35%
US Dollar Index	-0.04%	0.42%	3.98%	13.97%
VIX	-10.52%	-11.91%	-20.62%	32.35%

COMMODITIES				
	09/09/22	08/31/22	06/30/22	12/31/21
WTI Oil (\$/barrel)	\$86.79	\$89.55	\$105.76	\$75.21
Brent Oil (\$/barrel)	\$92.84	\$96.49	\$114.81	\$77.78
Gold (\$/oz)	\$1741.10	\$1738.90	\$1827.50	\$1831.00
Natural Gas (\$/mmBtu)	\$8.00	\$9.13	\$5.42	\$3.73

CURRENCIES				
	09/09/22	08/31/22	06/30/22	12/31/21
Euro (\$/€)	1.0044	1.0045	1.0481	1.1386
Pound (\$/£)	1.1590	1.1615	1.2182	1.3535
Japanese Yen (¥/\$)	142.70	138.72	135.57	115.03
Swiss Franc (CHF/€)	0.9650	0.9807	0.9995	1.0378
Chinese Yuan Renminbi (CNY/\$)	6.9265	6.8904	6.6993	6.3797

RATES & SPREADS					
	09/09/22	08/31/22	06/30/22	12/31/21	
RATES					
Fed Funds Target	2.50%	2.50%	1.75%	0.25%	
Secured Overnight Financing Rate *	2.28%	2.29%	1.50%	0.05%	
ECB Depo Rate	-0.00%	-0.00%	-0.50%	-0.50%	
3-Month US Dollar Libor	3.25%	3.10%	2.29%	0.21%	
US Treasuries 2-Year	3.57%	3.45%	2.92%	0.73%	
US Treasuries 10-Year	3.32%	3.13%	2.97%	1.50%	
US Treasury 2-10 Slope	-0.25%	-0.32%	0.05%	0.77%	
German Bunds 2-Year	1.33%	1.20%	0.65%	-0.62%	
German Bunds 10-Year	1.70%	1.54%	1.34%	-0.18%	
Japanese Govt Bonds 10-Year	0.25%	0.23%	0.23%	0.07%	
UK Gilts 10-Year	3.10%	2.80%	2.23%	0.97%	
Swiss Govt Bonds 10-Year	1.01%	0.84%	1.07%	-0.14%	
French OATs 10-Year	2.27%	2.15%	1.92%	0.20%	
Italian BTPs 10-Year	4.02%	3.89%	3.26%	1.17%	
Spanish Bonos 10-Year	2.86%	2.74%	2.42%	0.56%	
SPREADS					
HY Corp. Spread (bps)	447	482	569	283	
Bank Loan Spread (bps) *	578	564	658	439	
IG Corp. Spread (bps)	140	140	156	92	
EMD Spread (bps)	505	515	554	376	

# **Global Equity Valuations**

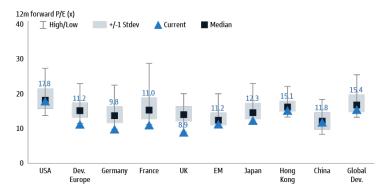


Chart Source: Goldman Sachs Asset Management and Bloomberg as of close of trading on August 31, 2022. Chart data shows next 12 month P/E ratio from September 2012 to the current period. 12m forward P/E(x) refers to price-to-earnings ratio for the next 12 months, which is a valuation measure applied to respective broad equity indices. Please see additional disclosures at the end of this presentation.

Weekly Market Recap Notes:

All data is denominated in USD unless noted otherwise.

† Data is released weekly, as of Monday.

If data displays an asterisk:

- \* Data is lagged by 1 day.
- \*\* Data is lagged by 2 days.

Source: Goldman Sachs Asset Management. Past performance does not guarantee future results, which may vary. Please see end disclosures for footnotes.

### IMPORTANT INFORMATION

### Page 1 Chart of the Week Notes:

As of September 9, 2022. The chart shows energy's contribution to headline inflation for the US, Euro area, and UK as measured by the "electricity, gas, and other fuels" category's percentage point (pp) contribution to the US Personal Consumption Expenditures Price Index (PCE), Euro area Harmonized Index of Consumer Prices (HICP), and UK Consumer Price Index (CPI), respectively.

### Page 1 Market Summary Notes:

"Fed" refers to the Federal Reserve. "WTI" stands for West Texas Intermediate crude oil, a common US benchmark for oil prices. "Brent" is a global benchmark for oil prices worldwide. "Hawkish" refers to a state of less accommodative monetary policy. "US ISM print" refers to the US Institute for Supply Management's Non-Manufacturing Index. "Beige Book" refers to the Federal Reserve's report on the economic conditions in each US Federal district. "ECB" refers to the European Central Bank.

### Page 1 Economic Summary Notes:

"Bps" refers to basis points. "GIR" refers to Goldman Sachs Global Investment Research. "Terminal rate" refers to a central bank's peak benchmark interest rate. "GIR peak inflation forecast" refers to Goldman Sachs Global Investment Research's expectations for peak UK headline inflation, year-over-year. "US ISM Non-Manufacturing Index" refers to the US Institute for Supply Management's Non-Manufacturing Index. "Chinese producer inflation data" refers to the China Producer Price Index, year-over-year. "Chinese consumer inflation data" refers to the China Consumer Price Index, year-over-year. "YoY" refers to year-over-year. "Euro area retail sales" refers to Eurostat Retail Sales Eurozone Volume, year-over-year. "Euro area composite PMI" refers to the Markit Eurozone Composite Purchasing Managers' Index. "UK composite PMI" refers to the Markit UK Composite Purchasing Managers' Index. "US trade deficit" refers to the US Trade Balance.

### Page 2 Style Performance Notes:

For US Fixed Income, Government, Corporate, and High Yield refer to the Bloomberg US Treasury, the Bloomberg US Corporate Credit, and the Bloomberg US High Yield indices, respectively. For European Fixed Income, Government, Corporate, and High Yield refer to the Bloomberg Euro Treasury Index, the Bloomberg Euro Corporate Index, and the Bloomberg Euro High Yield Index, respectively. Short, Intermediate, and Long refer to the Short, Intermediate, and Long segments of their respective curves. Quality returns refers to the credit quality of asset classes ranging from Government, highest quality, to High Yield, lowest quality. Since August 24, 2016, the Barclays indices are co-branded "Bloomberg Barclays indices".

### Page 2 Economic Watch Notes:

"UK Ind. Prod." refers to UK Industrial Production, month-over-month. "UK Manuf. Prod." refers to UK Manufacturing Production, month-over-month. "UK ILO Unemployment" refers to UK International Labour Organization's unemployment rate. "US CPI" refers to US Consumer Price Index, year-over-year. "UK CPI" refers to UK Consumer Price Index, year-over-year. "Euro area Ind. Prod." refers to Eurostat Industrial Production, month-over-month. "US Core PPI" refers to US Producer Price Index excluding food and energy, year-over-year. "US Retail Sales" refers to US Retail Sales, month-over-month. "US Ind. Prod." refers to US Industrial Production, month-over-month. "China Ind. Prod." refers to China Industrial Production, year-over-year. "Eur. CPI" refers to Eurozone Consumer Price Index, year-over-year. "UMich Cons. Sentiment" refers to University of Michigan's Consumer Sentiment Index. "BoE" refers to the Bank of England. "FOMC" refers to the Federal Open Market Committee.

### Page 3 Global Equity Valuations Chart Notes:

Earnings are forward looking Bloomberg estimates of operating earnings per share over the next four quarters, which may exclude one-time extraordinary gains and losses. Please see index disclosures for additional definitions on the indices.

USA is represented by the MSCI USA Index, Dev. Europe is represented by MSCI Europe Index, Germany is represented by MSCI Germany Index, France is represented by MSCI France Index, UK is represented by MSCI UK Index, EM is represented by MSCI EM Index, Japan is represented by MSCI Japan Index, Hong Kong is represented by MSCI Hong Kong Index, China is represented by MSCI China Index, Global Dev. is represented by MSCI World Index

### **Risk Considerations**

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### Index Benchmarks

### **Equities**

The S&P 500 Index is the Standard & Poor's 500 Composite Stock Prices Index of 500 stocks, an unmanaged index of common stock prices. The **Dow** Jones Industrial Average Index is a price-weighted average of 30 actively traded blue-chip stocks. The Russell 1000 Index is a market-cap weighted index that measures the performance of the 1,000 largest companies in the Russell 3000 Index. The Russell Mid Cap Index measures the performance of the 800 smallest companies in the Russell 1000 Index, which represent approximately 30% of the total market capitalization of the Russell 1000 Index. The Russell 2000 Index is an unmanaged index of common stock prices that measures the performance of the 2000 smallest companies in the Russell 3000 Index. The MSCI EAFE Index is a free-float weighted equity index, which covers developed markets countries in Europe, Australasia, Israel, and the Far East. The MSCI Emerging Markets (EM) Index is a free float-adjusted market capitalization index that captures large and mid-cap representation across five EM countries in Latin America. The STOXX Europe 600 Index is derived from the STOXX Europe Total Market Index (TMI) and is a subset of the STOXX Global 1800 Index. With a fixed number of 600 components, the STOXX Europe 600 Index represents large, mid and small capitalization companies across 18 countries of the European region. The Japan TOPIX Index is a capitalizationweighted index of the largest companies and corporations that are found in the First Section of the Tokyo Stock Exchange.

The **German DAX** is a capitalization-weighted blue chip stock market index consisting of the 30 major German companies trading on the Frankfurt Stock Exchange. The Shanghai Composite is a market capitalization weighted index of all A-shares and B-shares that trade on the Shanghai Stock Exchange. Euro Stoxx 50 Index, Europe's leading Blue-chip index for the Eurozone, provides a Blue-chip representation of supersector leaders in the Eurozone. The Financial Times Stock Exchange (FTSE) 100 Index is an index of the 100 companies listed on the London Stock Exchange with the highest market capitalization. FTSE MIB Index is composed of 40 Italian equities and seeks to replicate the broad sector weights of the Italian stock market. CAC 40 Index is composed of the 40 largest equities listed in France. SWISS Market Index is composed of the largest and most liquid stocks traded on the Geneva, Zurich, and Basel Stock Exchanges. Hang Seng Composite Index covers about 95% of the total market capitalization of companies listed on the Main Board of the Hong Kong Stock Exchange. The MSCI World Index is a broad global equity index that represents large and mid-cap equity performance across 23 developed markets countries. It covers approximately 85% of the free float-adjusted market capitalization in each country. CSI 300 Index covers 300 stocks traded in the Shanghai and Shenzhen stock exchanges. The MSCI China Index captures large and mid cap representation across China H shares, B shares, Red chips, P chips and foreign listings (e.g. ADRs). With 461 constituents, the index covers about 85% of this China equity universe. Currently, the index also includes Large Cap A shares represented at 5% of their free float adjusted market capitalization. MSCI Brazil Index covers about 85% of the total market capitalization of the Brazilian equity universe. MSCI India Index covers about 85% of the total market capitalization of the Indian equity universe. MSCI Russia Index covers about 85% of the free float-adjusted market capitalization in Russia. The CBOE Volatility Index (VIX) is a leading measure of market expectations of near-term volatility conveyed by S&P 500 Index option prices.

### Fixed Income

The Bloomberg US Aggregate Bond Index represents an unmanaged diversified portfolio of fixed-income securities, including US Treasuries, investment-grade corporate bonds, and mortgage-backed and asset-backed securities. The Bloomberg US High-Yield Index covers the USD-denominated, non-investment grade, fixed-rate, taxable corporate bond market. The Bloomberg US Aggregate Municipal Bond Index is an unmanaged broadbased total return index composed of approximately 8,000 investment grade, fixed rate, and tax-exempt issues, with a remaining maturity of at least one year. The Bloomberg US High Yield Municipal Bond Index (formerly the Lehman Brothers High Yield Municipal Bond Index) is an unmanaged index made up of bonds that are noninvestment grade, unrated, or rated below Ba1 by Moody's Investors Service with a remaining maturity of at least one year. The J.P. Morgan Emerging Markets Bond Index (EMBI Global Index) is an unmanaged market capitalization Index that tracks total returns for USDdenominated debt instruments issued by emerging market sovereign and quasisovereign issuers. The J.P. Morgan Government Bond Index-Emerging Markets Global Diversified (GBI-EM Global Index) is a market capitalization Index that tracks the performance of local currency debt issued by emerging market governments. Bloomberg Euro Aggregate Index refers to the Bloomberg EuroAgg Index. The index measures the market of investment grade, euro-denominated, fixed-rate bond market, including treasuries, government-related, corporate and securitized issues. Inclusion is based on currency denomination of a bond and not country of risk of the issuer. Bloomberg Euro High Yield Index refers to the Bloomberg Euro High Yield 3% Issuer Capped Index. The index measures the of non-investment grade, fixed-rate corporate bonds denominated in USD. Inclusion is based on the currency of issue, and not the domicile of the issuer. The index excludes emerging market debt.

The S&P 500 Utilities Sector comprises those companies included in the S&P 500 that are classified as members of the GICS® utilities sector. The FTSE EPRA/NAREIT Developed ex US Index is a subset of the FTSE EPRA/NAREIT Developed Index and is designed to track the performance of listed real estate companies and REITS.

The S&P GSCI Commodity Index is a composite index of commodity sector returns, representing an unleveraged, long-only investment in commodity futures that is broadly diversified across the spectrum of commodities. The S&P 500 Consumer Staples Index comprises those companies included in the S&P 500 that are classified as members of the GICS® consumer staples sector. The USD Index tracks the value of the USD relative to 6 major foreign currencies. The Housing Starts refers to US Housing Starts.

It is not possible to invest in an unmanaged index.

### **Commodities**

WTI Oil refers to West Texas Intermediate (WTI) Crude Oil, a land-locked crude, delivered via pipeline into Cushing, Oklahoma. Brent Oil refers to Brent crude oil, a waterborne crude oil produced in the North Sea. OPEC refers to the Organization of the Petroleum Exporting Countries. The Gold Spot price is quoted as US Dollars per Troy Ounce.

### Currencies

Euro (\$/€) refers to the Euro's exchange rate with the Dollar. Pound (\$/£) refers to the British Pound's exchange rate with the US Dollar. Japanese Yen (¥/\$) refers to the US Dollar's exchange rate with the Japanese Yen. Swiss Franc (CHF/€) refers the Euro's exchange rate with the Swiss Franc. Chinese Yuan Renminbi (CNY/\$) refers to the US Dollar's exchange rate with the Chinese Yuan Renminbi.

### Rates

The federal funds rate is the interest rate at which depository institutions lend balances at the Federal Reserve to other depository institutions overnight. The LIBOR is the USD-denominated London Interbank Offered Rate, and is the average of interest rates estimated by each of the leading banks in London that it would be charged were it to borrow from other banks. The 2-Year Treasury is a US Treasury debt obligation that has a maturity of 2 years. The 10-Year Treasury is a US Treasury debt obligation that has a maturity of 10 years. The 2-10 Treasury Slope is the difference between the 10-Year Treasury and the 2-Year Treasury. The Core-Periphery spreads refers to the spread between sovereign debt yields of core European countries and peripheral European countries. The German Bunds 2-Year is a German debt obligation that has a maturity of 2 years. The German Bunds 10-Year is a German debt obligation that has a maturity of 10 years. The Japanese Govt Bonds 2-Year is a Japanese debt obligation that has a maturity of 2 years. The Japanese Govt Bonds 10-Year is a Japanese debt obligation that has a maturity of 10 years. The **UK Gilts 10-Year** is a UK debt obligation that has a maturity of 10 years. The Swiss Govt Bonds 10-Year is a Swiss debt obligation that has a maturity of 10 years. The French OATs 10-Year is a French debt obligation that has a maturity of 10 years. The Italian BTPs 10-Year is a Italian debt obligation that has a maturity of 10 years. The Spanish Bonos 10-Year is a Spanish debt obligation that has a maturity of 10 years.

High Yield (HY) Corporate Spread is the Bloomberg US Corporate High Yield Average Option Adjusted Spread (OAS), which measures the spread between the US Treasury yield curve and the Bloomberg US Corporate High Yield curve. The Bank Loan Spread is the daily discount margin (3-year life) of the Credit Suisse Leveraged Loan Index, which is designed to mirror the investable universe of the USD-denominated leveraged loan market. The Investment Grade (IG) Corporate Spread is the Bloomberg US Aggregate Corporate Average OAS, which measures the spread between the US Treasury yield curve and the Bloomberg US Corporate Average curve. The EMD Spread is the J.P. Morgan EMBI Global Diversified Sovereign Spread, which measures the spread between the US Treasury yield curve and the J.P. Morgan EMBI Global Diversified Sovereign curve.

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