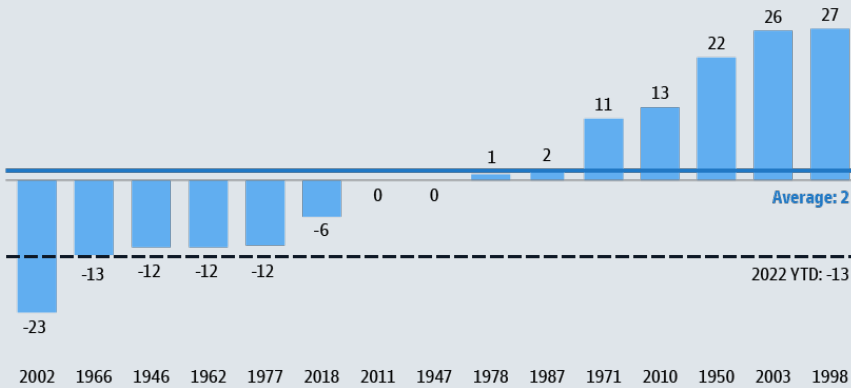


# MARKET MONITOR

## Chart of the Week: Temporary Turbulence

S&P 500 Annual Return in Calendar Years with 13%+ Pullback (Ex-Recessions, %)



Source: Bloomberg and Goldman Sachs Asset Management. As of May 5, 2022.

## EQUITIES

The S&P 500 has seen one of its worst starts to the year in the post-WWII period. However, history suggests that markets tend to recover given supportive fundamentals. Non-recessionary calendar years with 13%+ drawdowns have seen an average annual return of 2%. In fact, 7 of 15 years saw a positive annual return and in 14 of those 15 episodes, the S&P 500 outperformed 2022's YTD returns. As such, we believe there is meaningful upside for the S&P 500.

## MARKET SUMMARY

**GLOBAL EQUITIES:** Global equities were volatile last week as investors digested central bank meetings, corporate earnings reports, and jobs data. US equities tumbled as investors worried about the Fed's ability to tame surging inflation, with the S&P 500 ending -0.18% lower. In Europe, the FTSE 100 and STOXX 600 fell -2.07% and -4.33%, respectively, as the BoE warned of recession risk.

**COMMODITIES:** Oil prices rose on the back of supply concerns, with the EU proposing a ban on Russian oil imports, OPEC+ indicating it would stick to modest oil outputs, and the US announcing its plans to refill its strategic petroleum reserves. Brent and WTI rose to \$112.39 and \$109.77 per barrel, respectively. Meanwhile, gold prices fell -1.48% amidst equity market volatility.

**FIXED INCOME:** US Treasury yields whipsawed as investors grappled with rate hike news. Yields initially dropped after Powell ruled out the possibility of 75 bps hikes, but later reversed, with the 2-Year and 10-Year Treasury yields ending the week at 2.70% and 3.12%, respectively, and marking the first time since 2018 that 10-Year yields surpassed 3%. In Europe, 10-Year German Bund yields hit 1% for the first time since 2015 on the back of ECB rate hike expectations, finally ending at 1.13%. 10-Year UK Gilt yields ended at 2.00% after seeing a large mid-week dip as the BoE raised recession concerns.

**FX:** The US dollar hit a 20-year high against a basket of currencies, finally appreciating 0.25% on the week as the equity market selloff boosted demand. Meanwhile, the euro and pound sterling tumbled against the US dollar following disappointing German economic data and a more dovish BoE. The euro and pound sterling ended the week at \$1.0547 and \$1.2331, respectively.

## ECONOMIC SUMMARY

**POLICY:** The Fed raised policy rates by 50 bps in May, in line with consensus expectations, while ruling out the possibility of future 75 bps hikes. The BoE also lifted rates by 25 bps to 1.0% while downgrading their medium-term growth forecast. We maintain our expectation of back-to-back BoE hikes through August, bringing the policy rate to 1.5%. We believe risks remain tilted toward further hikes.

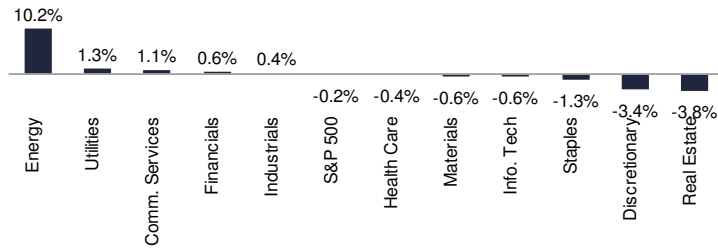
**LABOR:** US Initial Jobless Claims rose 19k to 200k for the week ending April 30, above consensus expectations. Meanwhile, US unemployment steadied at 3.6% and US non-farm payrolls added 428k jobs, well above consensus estimates of 391k. In the Euro area, the labor market continued to progress, with the unemployment rate falling to 6.8% in March as the economy further reopened, though Russia's war in Ukraine may weigh on the job market in the upcoming months.

**ACTIVITY:** The US ISM Manufacturing Index printed below consensus expectations at 55.4 MoM, its lowest reading since 2020 but still in expansionary territory. The ISM Non-Manufacturing Index also unexpectedly slowed in April, falling to 57.1 MoM, reflecting persistent supply-chain constraints.

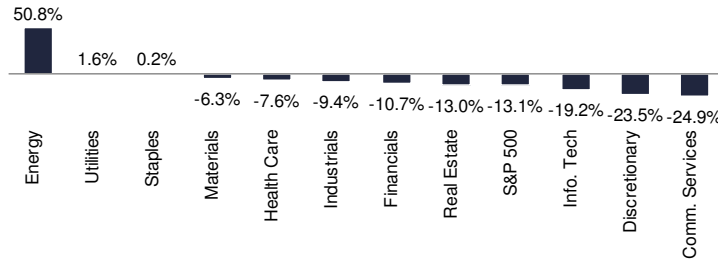
## MARKET WATCH

### S&P 500 INDEX SECTOR RETURNS

MONTH-TO-DATE, AS OF 05/06/22

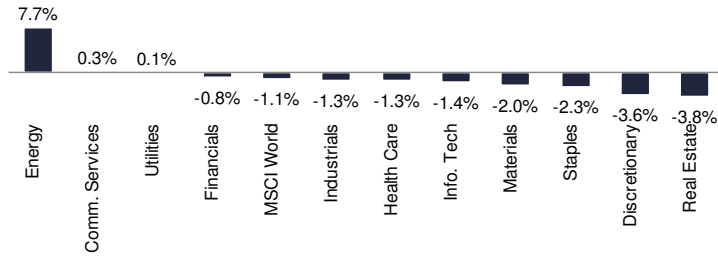


YEAR-TO-DATE, AS OF 05/06/22

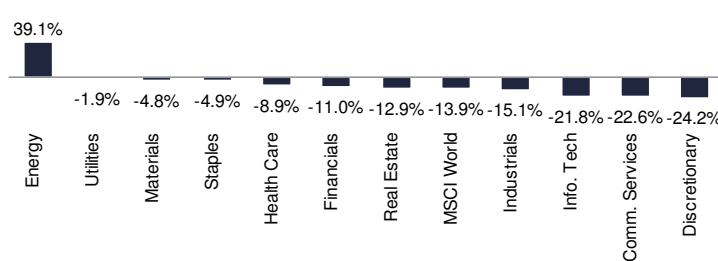


### MSCI WORLD INDEX SECTOR RETURNS

MONTH-TO-DATE, AS OF 05/06/22



YEAR-TO-DATE, AS OF 05/06/22



## ECONOMIC WATCH

Monday, May 9	Tuesday, May 10	Wednesday, May 11	Thursday, May 12	Friday, May 13	Critical Future Events
	China PPI YoY (Cons: 7.8%, Prior: 8.3%) China CPI YoY (Cons: 1.9%, Prior: 1.5%)	US CPI YoY (Cons: 8.1%, Prior: 8.5%) US Core CPI YoY (Cons: 6.0%, Prior: 6.5%)	UK GDP (Cons: 1.0%, Prior: 1.3%) UK Manuf. Prod. (Cons: 0.5%, Prior: -0.4%) UK Ind. Prod. (Cons: 0.1%, Prior: -0.6%) US PPI YoY (Cons: 10.7%, Prior: 11.2%)	Euro Ind. Prod. (Cons: -1.0%, Prior: 0.7%) UMich Cons. Sentiment (Cons: 64.0, Prior: 65.2)	FOMC Meeting – Jun 14-15 BoE Meeting – Jun 16 BoJ Meeting – Jun 16-17

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.**

## Style Performance

US EQUITY SIZE & STYLE RETURNS

Month-to-Date (as of 05/06/22)			Year-to-Date			
Value	Core	Growth		Value	Core	Growth
0.65%	-0.47%	-1.63%	Large	-5.73%	-13.99%	-21.33%
0.24%	-1.01%	-3.70%	Medium	-7.43%	-13.83%	-25.29%
-0.11%	-1.29%	-2.66%	Small	-10.07%	-17.77%	-25.39%

MSCI WORLD SIZE & STYLE RETURNS

Month-to-Date (as of 05/06/22)			Year-to-Date			
Value	Core	Growth		Value	Core	Growth
0.28%	-1.02%	-2.47%	Large	-4.77%	-13.74%	-22.24%
-0.74%	-1.78%	-3.30%	Medium	-8.83%	-15.48%	-23.90%
-1.02%	-2.15%	-3.42%	Small	-9.06%	-15.65%	-22.31%

US FIXED INCOME MATURITY AND QUALITY RETURNS

Month-to-Date (as of 05/06/22)			Year-to-Date			
Short	Intermed.	Long		Short	Intermed.	Long
-0.04%*	-0.43%	-2.95%*	Government	-4.23%*	-6.15%	-20.93%*
-0.00%*	-0.25%*	-1.67%*	Corporate	-5.09%*	-8.21%*	-21.40%*
-0.28%*	-0.51%*	-1.14%*	High Yield	-4.85%*	-8.13%*	-17.88%*

EUROPEAN FIXED INCOME MATURITY AND QUALITY RETURNS

Month-to-Date (as of 05/06/22)			Year-to-Date			
Short	Intermed.	Long		Short	Intermed.	Long
-0.31%	-1.34%	-2.98%	Government	-1.98%	-7.87%	-18.68%
-0.31%	-1.59%	-2.98%	Corporate	-2.49%	-10.26%	-18.95%
	-1.81%		High Yield		-8.64%	

## WEEKLY MARKET RECAP

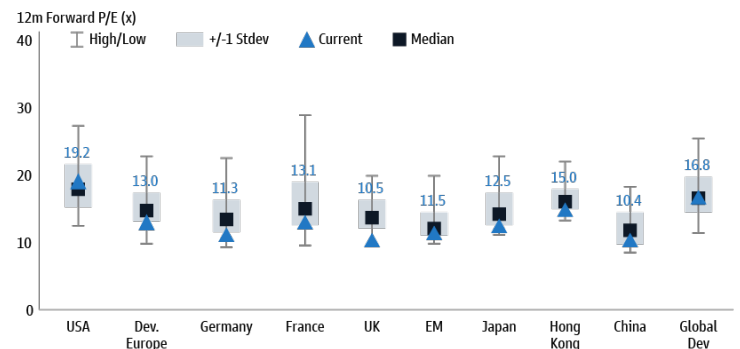
INDEX RETURNS				
	1 WEEK	MTD	QTD	YTD
<b>EQUITIES</b>				
S&P 500	-0.18%	-0.18%	-8.88%	-13.07%
DJ Industrial Average	-0.21%	-0.21%	-5.03%	-8.92%
Russell 2000	-1.29%	-1.29%	-11.08%	-17.77%
Russell Midcap	-1.01%	-1.01%	-8.64%	-13.83%
STOXX Europe 50 (€)	-3.74%	-3.74%	-5.65%	-14.01%
STOXX Europe 600 (€)†	-4.33%	-4.33%	-5.02%	-10.74%
MSCI EAFE Small Cap	-3.65%	-3.65%	-10.20%	-17.77%
FTSE 100 (£)	-2.07%	-2.07%	-1.33%	1.51%
DAX (€)	-3.00%	-3.00%	-5.14%	-13.92%
FTSE MIB (€)	-3.20%	-3.20%	-5.18%	-12.89%
CAC 40 (€)†	-3.82%	-3.82%	-5.18%	-11.56%
SWISS MKT (CHF)	-3.28%	-3.28%	-2.45%	-6.61%
TOPIX (¥)	0.86%	0.86%	-1.56%	-2.71%
Hang Seng (HKD)	-5.16%	-5.16%	-9.06%	-14.20%
MSCI World	-1.12%	-1.12%	-9.29%	-13.87%
MSCI China Free†	-5.50%	-5.50%	-5.88%	-19.62%
MSCI EAFE	-2.78%	-2.78%	-8.99%	-14.25%
MSCI EM	-4.12%	-4.12%	-9.44%	-15.71%
MSCI Brazil (BRL)	-2.14%	-2.14%	-11.99%	2.09%
MSCI India (INR)	-4.23%	-4.23%	-4.99%	-4.90%
MSCI Russia (RUB)	0.00%	0.00%	0.00%	-100.00%
<b>FIXED INCOME</b>				
Bloomberg Aggregate *	-0.71%	-0.71%	-4.48%	-10.15%
Bloomberg Euro Aggregate	-1.15%	-1.15%	-9.48%	-16.23%
Bloomberg US High Yield	-1.19%	-1.19%	-4.70%	-9.31%
Bloomberg Euro High Yield (€)	-1.81%	-1.81%	-4.66%	-8.64%
Bloomberg Muni Aggregate	-0.75%	-0.75%	-3.49%	-9.50%
Bloomberg TIPS	-1.81%	-1.81%	-3.95%	-7.14%
JPM EMBI Gbl. Divers.	-1.46%	-1.46%	-6.97%	-16.29%
JPM GBI-EM Gbl. Divers.	-1.18%	-1.18%	-7.14%	-13.14%
<b>OTHER</b>				
DJ US Real Estate	-3.62%	-3.62%	-7.45%	-13.46%
FTSE EPRA/NAREIT Dvlpd. Ex-US	-3.90%	-3.90%	-10.53%	-13.42%
S&P GSCI	1.86%	1.86%	7.08%	42.55%
Alerian MLP *	3.80%	3.80%	3.71%	23.22%
US Dollar Index	0.25%	0.25%	5.40%	8.19%
VIX	-9.61%	-9.61%	46.84%	75.32%

COMMODITIES				
	05/06/22	04/30/22	03/31/22	12/31/21
WTI Oil (\$/barrel)	\$109.77	\$104.69	\$100.28	\$75.21
Brent Oil (\$/barrel)	\$112.39	\$109.34	\$107.91	\$77.78
Gold (\$/oz)	\$1890.20	\$1918.60	\$1954.00	\$1831.00
Natural Gas (\$/mmBtu)	\$8.04	\$7.24	\$5.64	\$3.73

CURRENCIES				
	05/06/22	04/30/22	03/31/22	12/31/21
Euro (\$/€)	1.0547	1.0570	1.1070	1.1386
Pound (\$/£)	1.2331	1.2599	1.3135	1.3535
Japanese Yen (¥/\$)	130.59	129.45	121.61	115.03
Swiss Franc (CHF/€)	1.0421	1.0264	1.0213	1.0378
Chinese Yuan Renminbi (CNY/\$)	6.6665	6.6085	6.3460	6.3797

RATES & SPREADS				
	05/06/22	04/30/22	03/31/22	12/31/21
<b>RATES</b>				
Fed Funds Target *	1.00%	0.50%	0.50%	0.25%
Secured Overnight Financing Rate *	0.79%	0.28%	0.29%	0.05%
ECB Depo Rate	-0.50%	-0.50%	-0.40%	-0.40%
3-Month US Dollar Libor	1.40%	1.33%	0.96%	0.21%
US Treasuries 2-Year	2.70%	2.70%	2.28%	0.73%
US Treasuries 10-Year	3.12%	2.88%	2.32%	1.50%
US Treasury 2-10 Slope	0.43%	0.19%	0.04%	0.77%
German Bunds 2-Year	0.32%	0.26%	-0.07%	-0.62%
German Bunds 10-Year	1.13%	0.94%	0.55%	-0.18%
Japanese Govt Bonds 10-Year	0.24%	0.23%	0.22%	0.07%
UK Gilts 10-Year	2.00%	1.91%	1.61%	0.97%
Swiss Govt Bonds 10-Year	1.01%	0.87%	0.60%	-0.14%
French OATs 10-Year	1.66%	1.46%	0.98%	0.20%
Italian BTPs 10-Year	3.14%	2.77%	2.04%	1.17%
Spanish Bonos 10-Year	2.24%	1.97%	1.44%	0.56%
<b>SPREADS</b>				
HY Corp. Spread (bps) *	391	378	321	283
Bank Loan Spread (bps) *	473	458	449	439
IG Corp. Spread (bps) *	133	134	115	92
EMD Spread (bps)	455	446	409	376

## Global Equity Valuations



Goldman Sachs Asset Management and Bloomberg as of close of trading on April 29, 2022. Chart data shows next 12 month P/E ratio from May 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:

The chart shows S&P 500 annual return in post-World War II calendar years with a drawdown of at least 13% from the start of the calendar year. The chart excludes years with NBER recessions in the calendar year of drawdown or the first 6 months of the subsequent calendar year. The years are displayed in order of their calendar year returns, from smallest to largest. "YTD" refers to year to date.

### Page 1 Market Summary Notes:

"Fed" refers to the US Federal Reserve. "BoE" refers to the Bank of England. "EU" refers to the European Union. "OPEC+" refers to the Organization of the Petroleum Exporting Countries and its allies. "Brent" is a global benchmark for oil prices worldwide. "WTI" stands for West Texas Intermediate crude oil, a common US benchmark for oil prices. "Whipsawed" refers to abrupt moves of a security in opposite and unexpected directions. "Bps" refers to basis points. "ECB" refers to the European Central Bank.

### Page 1 Economic Summary Notes:

"US Initial Jobless Claims" refers to the number of people filing to receive unemployment insurance benefits for the week ending April 30. "US ISM Manufacturing Index" refers to the US Institute for Supply Management's Manufacturing Index. "MoM" refers to month-over-month. "ISM Non-Manufacturing Index" refers to the US Institute for Supply Management's Non-Manufacturing Index.

### 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:

"China PPI YoY" refers to the China Producer Price Index, year-over-year. "China CPI YoY" refers to the China Consumer Price Index, year-over-year. "US CPI YoY" refers to the US Consumer Price Index, year-over-year. "US Core CPI YoY" refers to the US Consumer Price Index excluding food and energy, year-over-year. "UK GDP" refers to the United Kingdom's Gross Domestic Product growth for Q1, quarter-over-quarter. "UK Manuf. Prod." refers to the United Kingdom's Manufacturing Production, month-over-month. "UK Ind. Prod." refers to the United Kingdom's Industrial Production, month-over-month. "US PPI YoY" refers to the US Producer Price Index, year-over-year. "Euro Ind. Prod." refers to Eurostat Industrial Production, month-over-month. "UMich Cons. Sentiment" refers to the University of Michigan Consumer Sentiment Index. "FOMC" refers to the Federal Reserve's Federal Open Market Committee. "BoJ" refers to the Bank of Japan.

### 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.

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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 capitalization-weighted 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 broad-based 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 USD-denominated debt instruments issued by emerging market sovereign and quasi-sovereign 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.

#### Other

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.

#### 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 an 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.

#### Spreads

**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.

It is not possible to invest in an unmanaged index.

Although certain information has been obtained from sources believed to be reliable, we do not guarantee its accuracy, completeness or fairness. We have relied upon and assumed without independent verification, the accuracy and completeness of all information available from public sources.

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