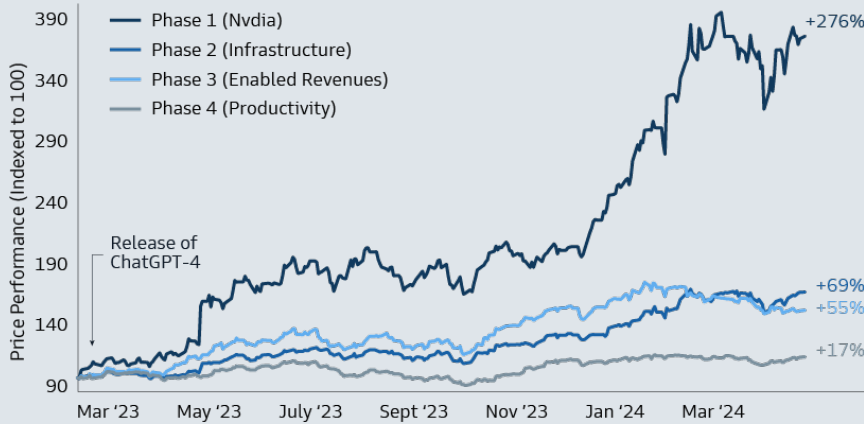


# MARKET MONITOR

Chart Of The Week: Phases of the AI Trade



Source: GS GIR and GS Asset Management. As of May 13, 2024.

## EQUITIES

Artificial intelligence optimism across US equities is high, but we believe there will be additional beneficiaries as more companies adopt the technology. We highlight three subsequent phases of the AI trade: Phase 2) infrastructure companies involved in the build-out of AI, Phase 3) companies with business models that can incorporate AI into product offerings, and Phase 4) companies in labor-intensive industries that can harness AI to improve productivity.

## MARKET SUMMARY

**GLOBAL EQUITIES:** Global equities rose last week on the back of cooling consumer price growth. In the US, the S&P 500 and Dow Jones Industrial Average each notched all-time highs mid-week, crossing above 5,300 and 40,000, respectively. Ultimately, the S&P 500 closed 1.60% higher on the week. Outside of the US, the STOXX 600 and FTSE 100 also reached all-time highs mid-week, closing 0.62% and 0.09% higher, respectively.

**COMMODITIES:** Oil prices fluctuated last week as the International Energy Agency lowered its outlook for crude demand growth this year amid an economic slowdown and mild weather in Europe. Nonetheless, it was reported that annual consumption remained on track to reach a record of more than 103 million barrels per day. Ultimately, WTI and Brent crude closed the week higher at \$80.06 and \$83.98/bbl, respectively. Meanwhile the price of gold increased to \$2440.40/troy oz as US interest rates continued to fall from their local peaks reached in April.

**FIXED INCOME:** Global interest rates mostly fell last week as price growth and economic activity showed signs of moderation. In the US, the 2-Year and 10-Year US Treasury yields closed the week lower at 4.82% and 4.42%, respectively, as consumer price growth registered in line with consensus expectations and retail sales were stagnant for the month of April. In the Euro area, the 10-Year German Bund yield remained flat at 2.52% despite confirmation that core price growth in the Euro area cooled.

**FX:** The US dollar depreciated against a basket of currencies last week as futures pricing suggested many investors grew more optimistic about the Fed's future path of rate cuts. The US dollar index closed the week down -0.78%. In Japan, the yen marginally strengthened against the greenback despite a sharp decline in first quarter real GDP growth, ultimately closing the week at ¥155.66.

## ECONOMIC SUMMARY

**INFLATION:** US disinflation resumed in April as each headline and core price growth printed in line with consensus expectations. The US headline Consumer Price Index (CPI) rose 0.31% in April from the prior month, corresponding to a 3.36% year-over-year increase. Similarly, core CPI rose by 0.29% month-over-month and 3.61% year-over-year. The composition of the report was disinflationary, partly driven by growth of the primary rent measure, which slowed to a 31-month low. Wholesale price growth on the other hand reaccelerated in April, with the Producer Price Index rising by 2.2% from the prior year, its highest level in the last twelve months. In the Euro area, the final core CPI print confirmed that core price growth slowed to 2.7% in April from the prior year.

**ACTIVITY:** US retail sales growth was flat relative to the prior month, below consensus expectations for a 0.4% increase. Auto sales, which declined by -0.8%, contributed to the soft print. Industrial production also remained unchanged in April, below consensus expectations for a modest increase.

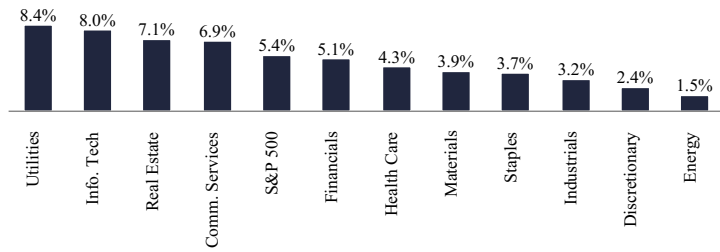
**GROWTH:** In Japan, the first estimate of first quarter real GDP growth registered at -2.0% quarter-over-quarter annualized, well below consensus expectations. Our colleagues in GIR expect a sharp rebound of economic growth in the second quarter.

**LABOR:** In the UK, private sector pay grew by 5.9% in March from the prior year, in line with the Bank of England's forecast. Meanwhile, the 3-month unemployment rate ticked slightly higher to 4.3% in March, in line with consensus expectations. With a lack of upside surprises among the two data releases, our colleagues in GIR continue to expect the BoE to deliver the first interest rate cut in June.

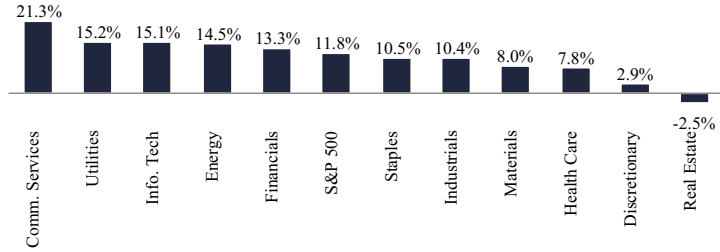
## MARKET WATCH

### S&P 500 INDEX SECTOR RETURNS

MONTH-TO-DATE, AS OF 05/17/24

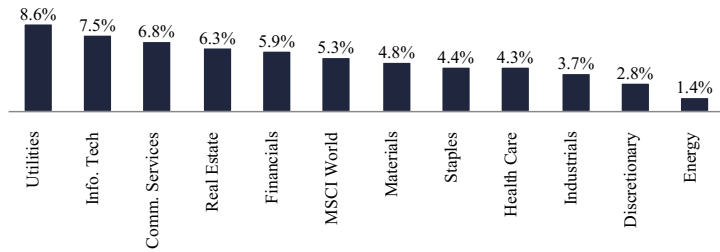


YEAR-TO-DATE, AS OF 05/17/24

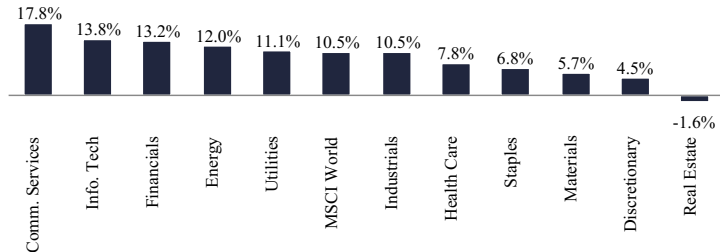


### MSCI WORLD INDEX SECTOR RETURNS

MONTH-TO-DATE, AS OF 05/17/24



YEAR-TO-DATE, AS OF 05/17/24



## ECONOMIC WATCH

Monday, May 20	Tuesday, May 21	Wednesday, May 22	Thursday, May 23	Friday, May 24	Critical Future Events
		UK CPI YoY (Cons: 2.1%, Prior: 3.2%) FOMC Meeting Minutes	Euro area Composite PMI (Cons: 52.0, Prior: 51.7) UK Composite PMI (Cons: N/A, Prior: 54.1) US Composite PMI (Cons: N/A, Prior: 51.3)	UK Retail Sales MoM (Cons: -0.2%, Prior: 0.0%)	ECB Meeting – June 6 FOMC Meeting – June 12 BoJ Meeting – June 14 BoE Meeting – June 20

Source: MSCI, 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 05/17/24)			Year-to-Date			
Value	Core	Growth		Value	Core	Growth
4.43%	5.42%	6.24%	Large	8.95%	11.32%	13.34%
4.76%	4.59%	4.20%	Medium	7.44%	7.45%	7.46%
6.55%	6.26%	5.97%	Small	2.65%	3.90%	5.23%

MSCI WORLD SIZE & STYLE RETURNS

Month-to-Date (as of 05/17/24)			Year-to-Date			
Value	Core	Growth		Value	Core	Growth
4.54%	5.37%	6.10%	Large	8.89%	11.00%	12.90%
4.32%	4.40%	4.53%	Medium	6.83%	6.52%	6.03%
5.08%	5.34%	5.59%	Small	3.67%	4.29%	4.89%

US FIXED INCOME MATURITY AND QUALITY RETURNS

Month-to-Date (as of 05/17/24)			Year-to-Date			
Short	Intermed.	Long		Short	Intermed.	Long
0.89%	1.17%	3.67%	Government	-0.02%	-0.58%	-5.82%
0.96%	1.42%	3.31%	Corporate	0.90%	0.31%	-3.44%
1.07%	1.31%	2.05%	High Yield	2.02%	1.88%	0.46%

EUROPEAN FIXED INCOME MATURITY AND QUALITY RETURNS

Month-to-Date (as of 05/17/24)			Year-to-Date			
Short	Intermed.	Long		Short	Intermed.	Long
0.25%	0.58%	1.08%	Government	-0.05%	-1.35%	-2.71%
0.32%	0.69%	0.88%	Corporate	0.84%	0.03%	-1.69%
0.80%			High Yield	2.27%		

## WEEKLY MARKET RECAP

INDEX RETURNS				
	1 WEEK	MTD	QTD	YTD
<b>EQUITIES</b>				
S&P 500	1.60%	5.43%	1.12%	11.80%
DJ Industrial Average	1.35%	5.93%	0.72%	6.90%
Russell 2000	1.79%	6.26%	-1.22%	3.90%
Russell Midcap	1.05%	4.59%	-1.06%	7.45%
STOXX Europe 50 (€)	-0.15%	3.65%	1.32%	14.43%
STOXX Europe 600 (€)†	0.62%	4.03%	3.02%	10.90%
MSCI EAFE Small Cap	1.35%	4.57%	1.54%	4.09%
FTSE 100 (£)	0.09%	3.80%	6.63%	10.88%
DAX (€)	-0.36%	4.31%	1.15%	11.66%
FTSE MIB (€)	2.14%	4.90%	3.45%	19.09%
CAC 40 (€)†	-0.44%	2.78%	0.62%	9.65%
SWISS MKT (CHF)	2.66%	7.20%	4.29%	11.35%
TOPIX (¥)	0.64%	0.09%	-0.82%	17.17%
Hang Seng (HKD)	3.25%	10.57%	18.80%	15.80%
MSCI World	1.63%	5.27%	1.41%	10.54%
MSCI China Free†	4.26%	10.64%	18.17%	17.78%
MSCI EAFE	1.70%	4.91%	2.34%	8.40%
MSCI EM	2.72%	5.36%	5.85%	8.43%
MSCI Brazil (BRL)	-0.60%	0.65%	-0.00%	-4.51%
MSCI India (INR)	2.60%	0.84%	3.22%	9.78%
<b>FIXED INCOME</b>				
Bloomberg Aggregate	0.57%	1.94%	-0.63%	-1.40%
Bloomberg Euro Aggregate	1.21%	2.36%	0.07%	-2.49%
Bloomberg US High Yield	0.39%	1.33%	0.37%	1.85%
Bloomberg Euro High Yield (€)	0.29%	0.80%	0.72%	2.27%
Bloomberg Muni Aggregate	-0.06%	1.02%	-0.23%	-0.61%
Bloomberg TIPS	0.53%	1.66%	-0.11%	-0.22%
JPM EMBI Gbl. Divers.	0.82%	2.44%	0.32%	2.36%
JPM GBI-EM Gbl. Divers.	1.51%	3.33%	1.12%	-1.02%
<b>OTHER</b>				
DJ US Real Estate	2.49%	7.00%	-1.78%	-2.92%
FTSE EPRA/NAREIT Dvlpd. Ex-US	1.62%	4.55%	0.45%	-1.42%
S&P GSCI	1.88%	0.32%	1.49%	12.00%
Alerian MLP	0.13%	1.90%	0.65%	14.63%
US Dollar Index	-0.78%	-1.57%	0.02%	3.25%
VIX	-4.46%	-23.39%	-7.84%	-3.69%

COMMODITIES				
	05/17/24	04/30/24	03/31/24	12/31/23
WTI Oil (\$/barrel)	\$80.06	\$81.93	\$83.17	\$71.65
Brent Oil (\$/barrel)	\$83.98	\$87.86	\$87.48	\$77.04
Gold (\$/oz)	\$2440.40	\$2324.70	\$2238.40	\$2091.80
Natural Gas (\$/mmBtu)	\$2.63	\$1.99	\$1.76	\$2.51

CURRENCIES				
	05/17/24	04/30/24	03/31/24	12/31/23
Euro (\$/€)	1.0876	1.0678	1.0788	1.1041
Pound (\$/£)	1.2710	1.2504	1.2622	1.2746
Japanese Yen (¥/\$)	155.66	157.67	151.38	141.02
Swiss Franc (CHF/€)	0.9876	0.9814	0.9730	0.9289
Chinese Yuan Renminbi (CNY/\$)	7.1065	7.1082	7.1070	7.0842

RATES & SPREADS				
	05/17/24	04/30/24	03/31/24	12/31/23
<b>RATES</b>				
Secured Overnight Financing Rate *	5.31%	5.34%	5.34%	5.38%
3-Month US Dollar Libor	5.59%	5.59%	5.56%	5.59%
ECB Depo Rate	4.00%	3.75%	3.50%	2.00%
US Treasuries 2-Year	4.82%	5.04%	4.62%	4.25%
US Treasuries 10-Year	4.42%	4.68%	4.19%	3.86%
US Treasury 2-10 Slope	-0.41%	-0.36%	-0.42%	-0.39%
German Bunds 2-Year	2.99%	3.03%	2.85%	2.40%
German Bunds 10-Year	2.52%	2.58%	2.30%	2.02%
Japanese Govt Bonds 10-Year	0.95%	0.88%	0.73%	0.61%
UK Gilts 10-Year	4.13%	4.35%	3.93%	3.54%
Swiss Govt Bonds 10-Year	0.78%	0.77%	0.69%	0.70%
French OATs 10-Year	2.99%	3.05%	2.81%	2.56%
Italian BTPs 10-Year	3.81%	3.92%	3.68%	3.70%
Spanish Bonos 10-Year	3.27%	3.35%	3.16%	2.99%
<b>SPREADS</b>				
HY Corp. Spread (bps)	296	300	303	323
Bank Loan Spread (bps) *	491	504	509	528
IG Corp. Spread (bps)	86	86	89	98
EMD Spread (bps)	411	421	390	438

## Global Equity Valuations

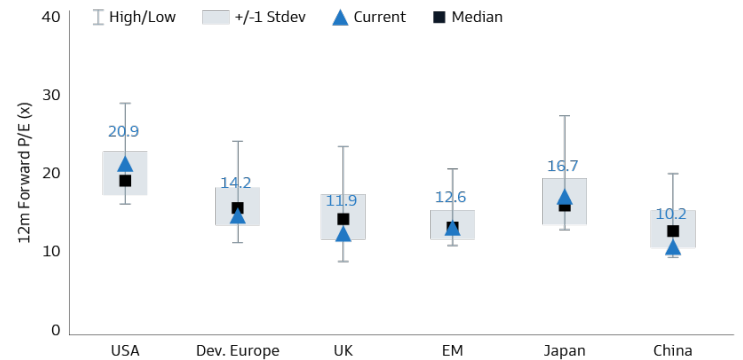


Chart Source: Goldman Sachs Asset Management and Bloomberg as of close of trading on April 30, 2024. Chart data shows next 12-month P/E ratio from May 2014 to the current period. 12m forward P/E(x) refers to price-to-earnings ratio for the next 12 months, which is a valuation measure applied to respective 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: MSCI and 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:** Source: Goldman Sachs Global Investment Research and Goldman Sachs Asset Management. As of May 13, 2024. Chart shows the price performance, indexed to 100, of NVDA and three baskets of stocks expected to benefit from the adoption of artificial intelligence. Phase 2 includes Russell 3000 and MSCI AC World stocks with business models centered on semiconductors, data centers, servers, utilities, cloud providers, and security. Phase 3 includes Russell 3000 stocks that we believe can incorporate AI into product offerings that boost revenue streams. Phase 4 includes Russell 1000 stocks with the largest estimated potential change to earnings via increased productivity. Any reference to a specific company or security does not constitute a recommendation to buy, sell, hold or directly invest in the company or its securities. It should not be assumed that investment decisions made in the future will be profitable or will equal the performance of the securities discussed in this document. **Past performance does not guarantee future results, which may vary.**

**Page 1 Market Summary Notes:** "WTI" refers to West Texas Intermediate crude oil, a common US benchmark for oil prices. "Brent" refers to a global benchmark for oil prices worldwide. "Bbl" refers to barrel. "Oz" refers to ounce.

**Page 1 Economic Summary Notes:** "Real GDP" refers to Gross Domestic Product adjusted for inflation. "GIR" refers to Goldman Sachs Global Investment Research. "BoE" refers to Bank of England.

**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:** "CPI" refers to consumer price index. "PMI" refers to purchasing managers' index. "UMich Consumer Sentiment" refers to the University of Michigan's Index of Consumer Sentiment. "ECB" refers to European Central Bank. "BoJ" refers to 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.

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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 24 Emerging Markets (EM) countries. 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. 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 **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 **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. 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. **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 to 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 **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.

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