

# MACRO & MARKETS

CHART PACK | OCTOBER 2023

## PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.

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No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment. Past results are not indicative of future performance and are no guarantee that losses will not occur in the future. Future returns are not guaranteed and a loss of principal may occur.

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# GLOBAL



# MACRO



## SUMMARY

# GLOBAL ECONOMY

Growth in developed market economies is decelerating: Europe is on the leading edge while the United States may join in 2024. Macro data has run stronger than expected so far in 2023, raising the odds of a “soft landing”, or a slowing in the economy that reduces inflation without causing recession.

China’s struggling property sector weighs on growth, and longer-term growth prospects face headwinds. The recent announcement of additional fiscal stimulus should provide some support for growth going into 2024.

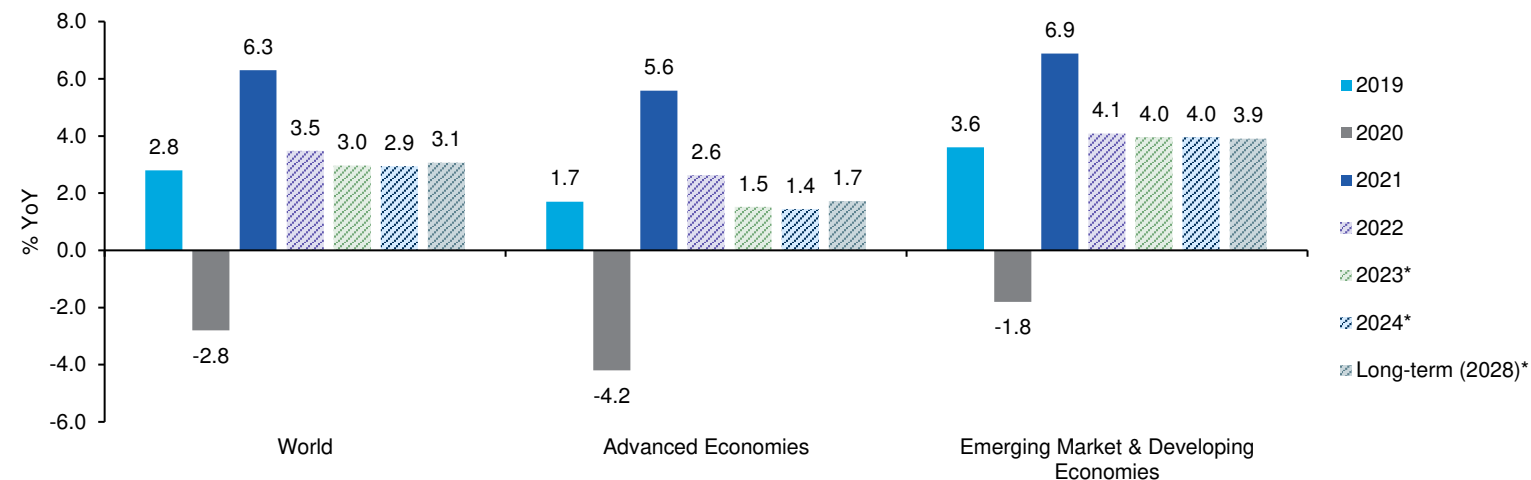
Core inflation is stubbornly high. While peak inflation is in the rearview mirror, price growth will likely remain above developed market central bank targets.

As a result, central banks will likely keep policy restrictive for longer than investors now appreciate.

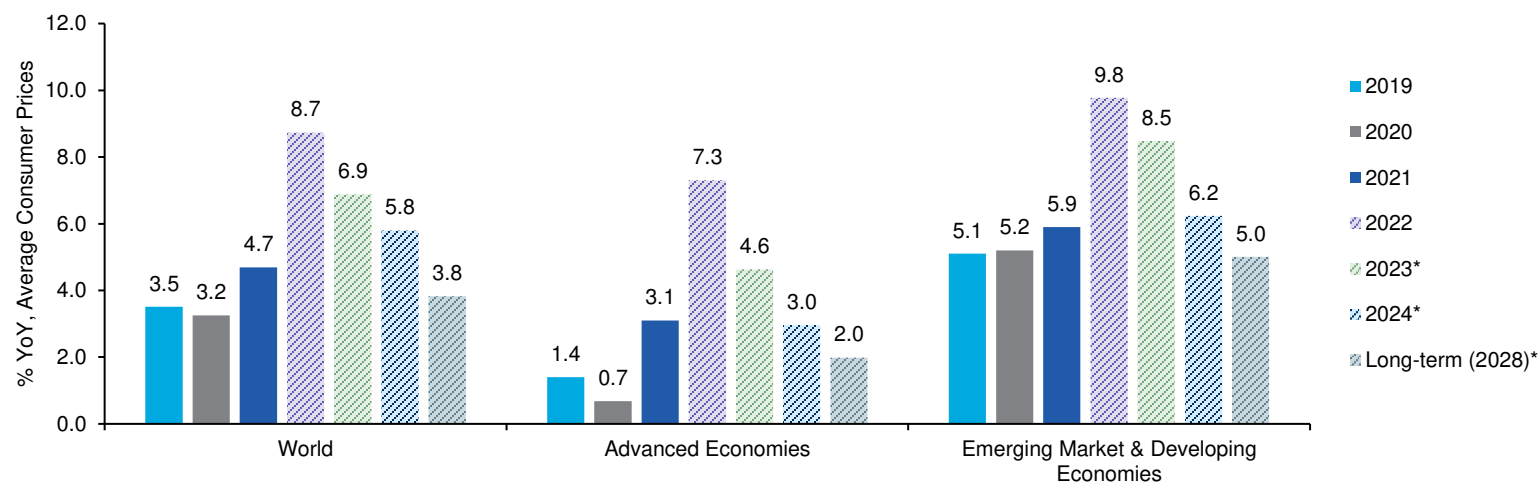
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Data as of 10/10/23, sourced from IMF.org. IMF’s database is updated twice a year in April and October. \*2023-2028 are projections sourced from the IMF’s July 2023 World Economic Outlook Update. Interim updates in January and July. Projections or other forward-looking statements regarding future events or expectations are only current as of the date indicated. There is no assurance that such events or expectations will be achieved and actual results may be significantly different from that shown here. Investors cannot invest directly in an index. Please see the disclosures for the full benchmark description. See Additional Information in Disclosure Statements. [28788]

## REAL GDP



## INFLATION



## GLOBAL MACRO

### UNITED STATES

Labor market shows continued resilience: While the pace of hiring has slowed, the US economy added 150,000 jobs in October, double the run-rate that keeps labor market pressure unchanged. The unemployment rate rose one-tenth to 3.9%, still below everyone's estimate of the natural rate. A taut labor market keeps upward pressure on costs, with average hourly earnings rising at an annual rate of 4.1%.

Inflation is off its peak but edged higher to 3.7% year-over-year in September. While the pace of US headline inflation has eased, assisted by a fall in energy prices, core measures prove more resilient. Recent strength in oil prices adds upside risk.

We believe the Federal Reserve (Fed) intends to keep the nominal funds rate at a restrictive level and hold it there until enough evidence accumulates that inflation will fall back to goal. The Fed will likely hold the range for the federal funds rate steady at 5¼ to 5½ percent through fall 2024. The door is open to further tightening, but only in the event of robust data on the employment and inflation fronts.

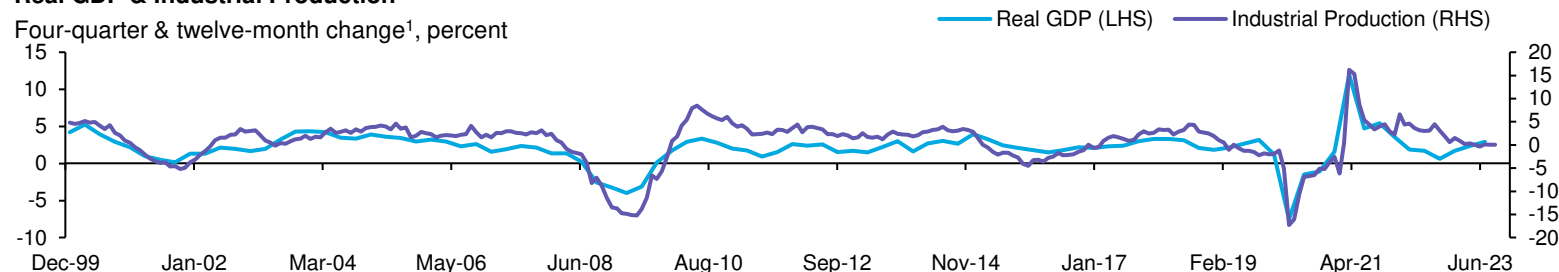
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## SELECTED ECONOMIC & FINANCIAL MARKET INDICATORS FOR THE UNITED STATES

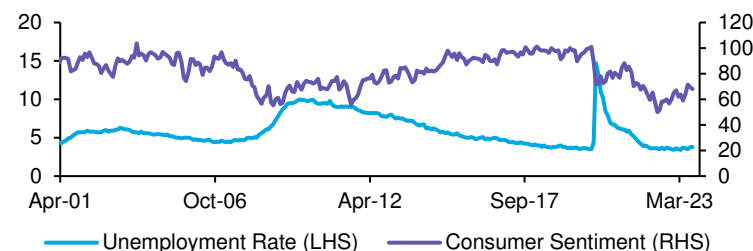
### Real GDP & Industrial Production

Four-quarter & twelve-month change<sup>1</sup>, percent



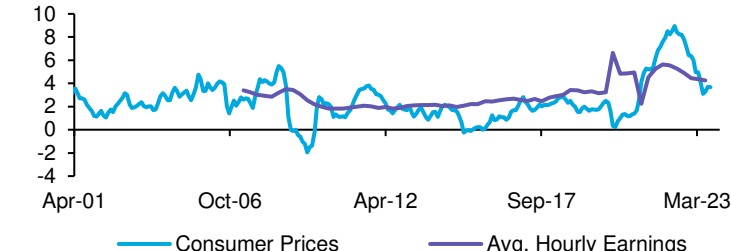
### Unemployment Rate & Consumer Confidence

Percent (LHS), index (RHS)



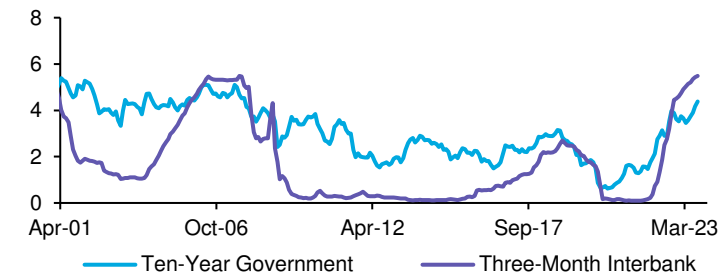
### Wage & Price Inflation

Twelve-month change, percent



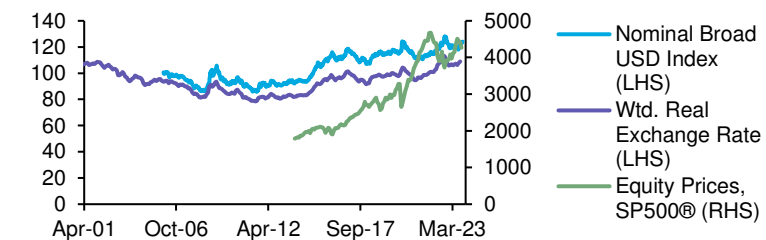
### Interest Rates

Twelve-month change, percent



### Selected Financial Market Prices

Nominal US Dollar Index (LHS), equity prices, & weighted real exchange value of the US dollar (indexes, RHS)



## GLOBAL MACRO

### EURO AREA

Euro area economies are decelerating, with gross domestic product (GDP) shrinking -0.1% in Q3. Monetary policy transmission is working as financial conditions remain tight, restraining credit growth and investment.

Signs show inflation continues to normalize, with core inflation dropping to 4.2% in October from 4.5% in September. This follows national consumer price indexes (CPIs) that showed an ongoing, but slow, disinflation process in Europe.

The European Central Bank (ECB) kept rates on hold at 4% in October, its first “pause” since July 2022 when it began its 450 basis points of cumulative tightening. We think the ECB has reached its terminal rate, with the next action to be a rate cut in June 2024.

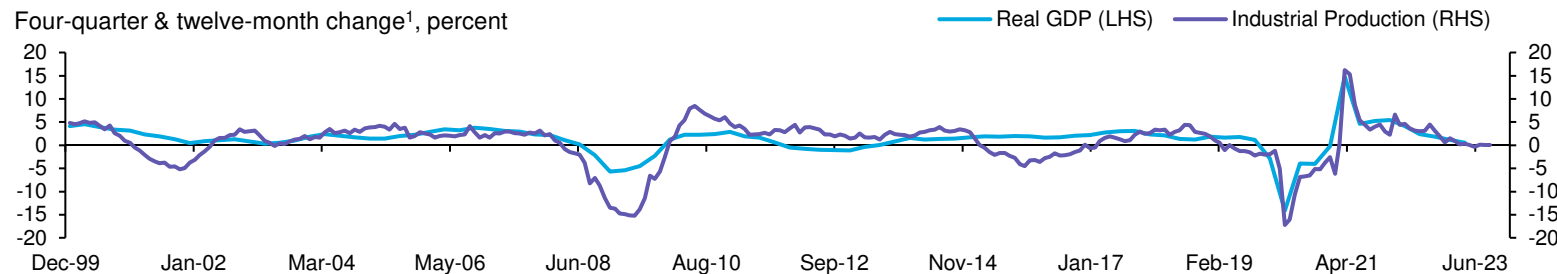
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<sup>1</sup>Four-quarter change refers to Real GDP while twelve-month change refers to Industrial production. Real GDP data as of 1Q23 due to data availability. <sup>2</sup>In the euro area, the Harmonized Index of Consumer Prices (HICP) is used to measure consumer price inflation. Data as of 10/31/23, sourced from FRED. Projections or other forward-looking statements regarding future events or expectations are only current as of the date indicated. There is no assurance that such events or expectations will be achieved and actual results may be significantly different from that shown here. Investors cannot invest directly in an index. Please see the disclosures for the full benchmark description. See Additional Information in Disclosure Statements. [28788]

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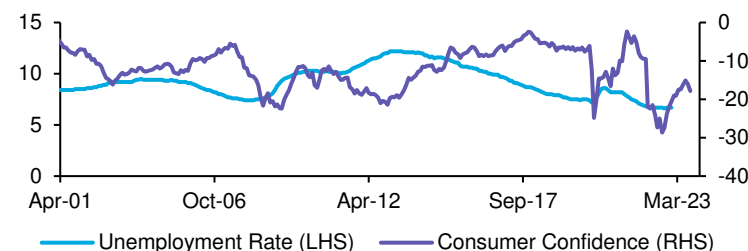
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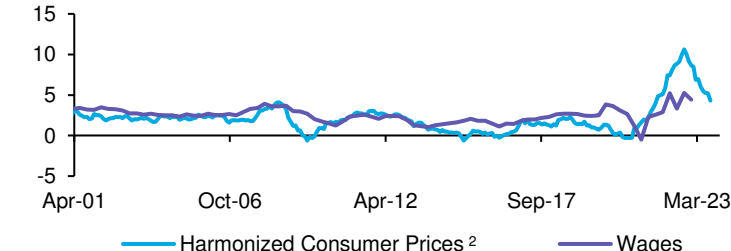
### Unemployment Rate & Consumer Confidence

Percent (LHS), index (RHS)



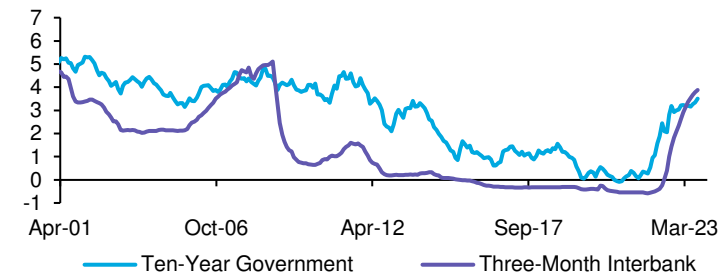
### Wage & Price Inflation

Twelve-month change, percent



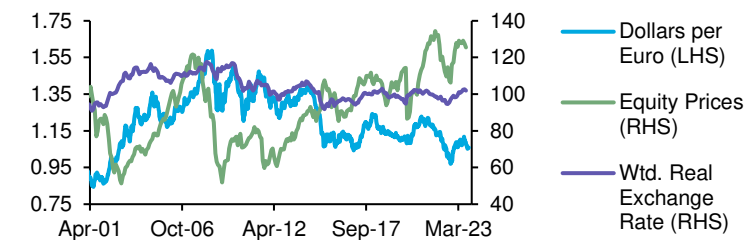
### Interest Rates

Twelve-month change, percent



### Selected Financial Market Prices

Dollars per euro (LHS), equity prices, and the weighted real exchange value of the euro (indexes, RHS)



## GLOBAL MACRO

# UNITED KINGDOM

UK inflation has cooled faster than expected: Twelve-month CPI inflation edged lower to 6.7% in September and is expected to drop below 5% in the October data. This takes some pressure off the Bank of England, which left rates on hold at 5.25% at its October meeting. The central bank maintains a tightening bias as impaired supply continues to apply forceful upward pressure on UK prices.

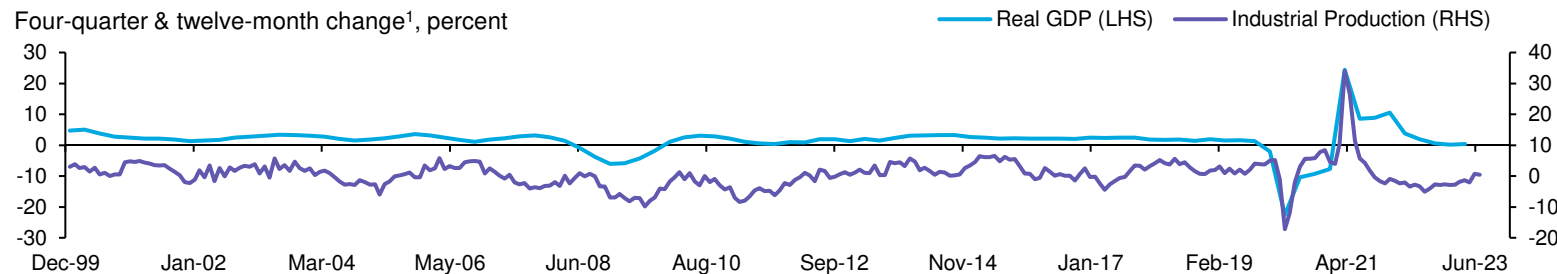
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## SELECTED ECONOMIC & FINANCIAL MARKET INDICATORS FOR THE UNITED KINGDOM

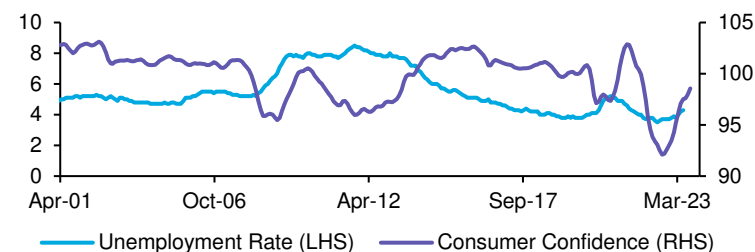
### Real GDP & Industrial Production

Four-quarter & twelve-month change<sup>1</sup>, percent



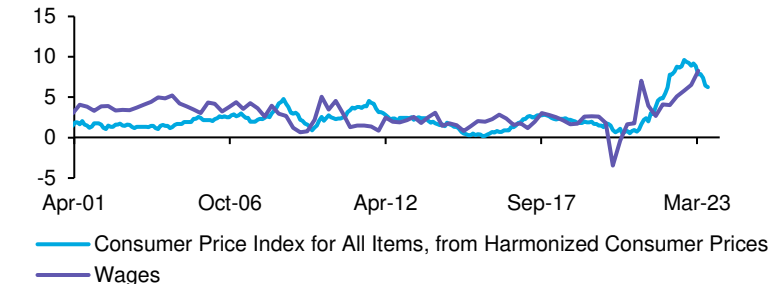
### Unemployment Rate & Consumer Confidence

Percent (LHS), index (RHS)



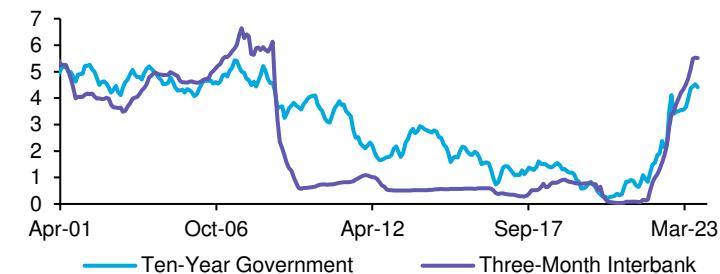
### Wage & Price Inflation

Twelve-month change, percent



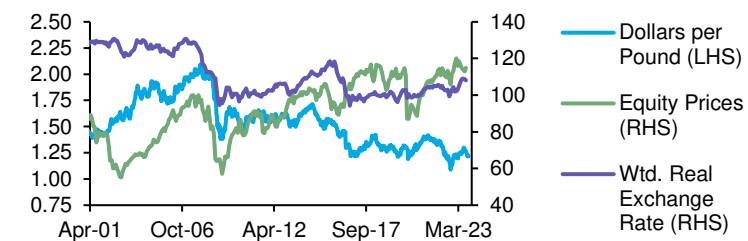
### Interest Rates

Twelve-month change, percent



### Selected Financial Market Prices

Dollars per pound (LHS), equity prices, and the weighted real exchange value of the pound (indexes, RHS)



## GLOBAL MACRO

### JAPAN

Evidence of strong underlying inflation in Japan clears the path for the Bank of Japan to exit its emergency monetary policy settings. Yield curve control is being phased out gradually, with targets being relaxed further at the October 31 meeting.

The Bank of Japan's latest outlook lifted inflation forecasts. A weak yen, the recent increase in global energy prices and additional fiscal stimulus add to inflationary pressures. Underlying inflation drivers have momentum, with early signs pointing to strong wage agreements at the upcoming spring wage-setting rounds.

Supported by evidence that underlying inflation can run sustainably at 2%, we think the Bank of Japan will begin lifting its policy rate from negative territory as early as January 2024.

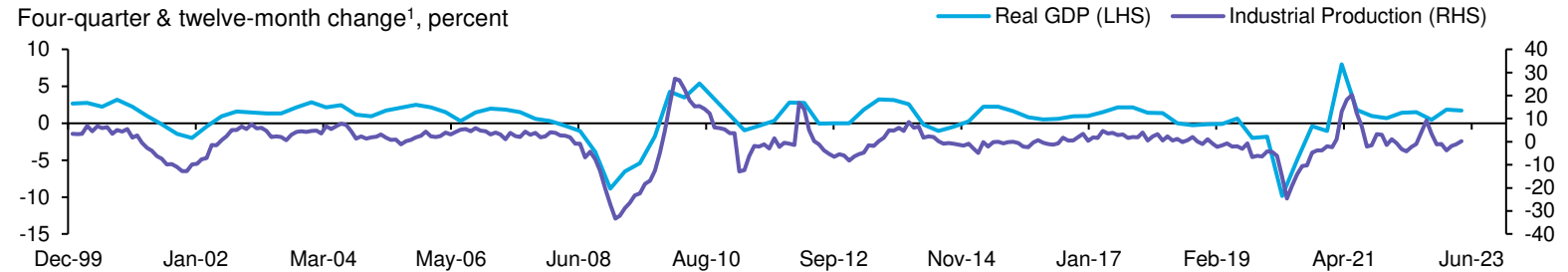
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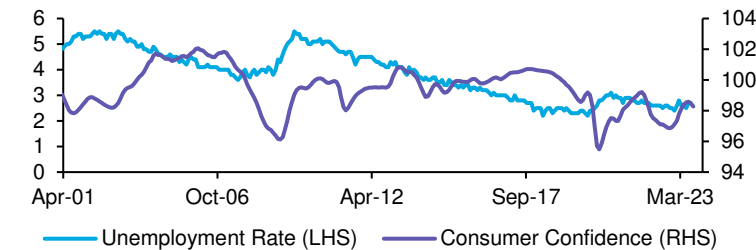
### Real GDP & Industrial Production

Four-quarter & twelve-month change<sup>1</sup>, percent



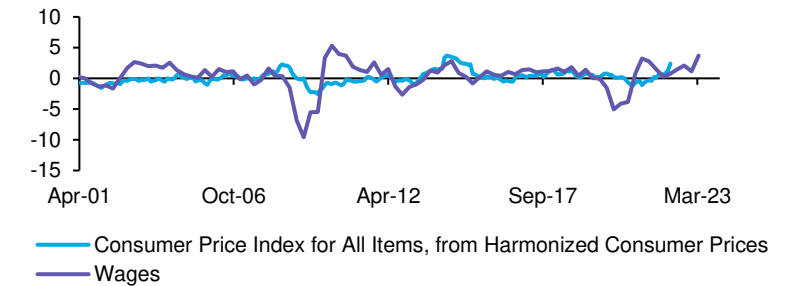
### Unemployment Rate & Consumer Confidence

Percent (LHS), index (RHS)



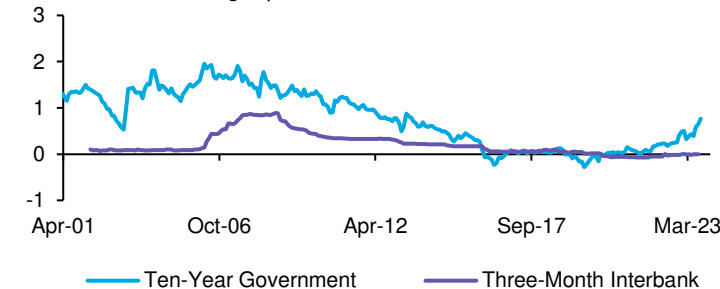
### Wage & Price Inflation

Twelve-month change, percent



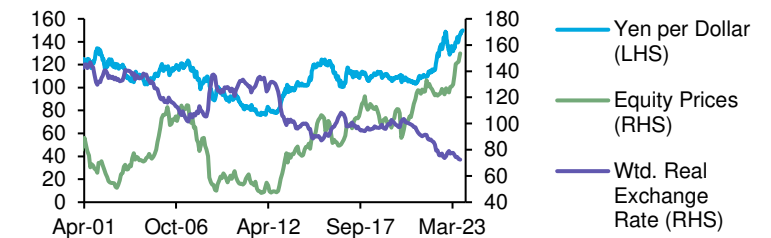
### Interest Rates

Twelve-month change, percent



### Selected Financial Market Prices

Yen per dollar (LHS), equity prices, and the weighted real exchange value of the yen (indexes, RHS)



## GLOBAL MACRO

### CHINA

China's rapid economic re-opening provided a near-term growth jolt but was short-lived.

The zero-Covid headwind is gone, but we feel other challenges remain. Constrained property, export and technology sectors weigh on the outlook. China's National People's Congress GDP growth target of "around 5%" in 2023 recognizes these slower prospects.

In October, President Xi announced additional fiscal support through the issuance of \$137 billion in additional sovereign debt. The fiscal deficit was raised to 3.8%, well above the 3% target set in March that was generally considered a limit. It is rare for the Chinese government to adjust its budget midyear, clearly demonstrating support of the economy as it rises out of its trough, and to achieve 5% growth in 2023.

Chinese inflation is relatively benign. Inflation is expected to average a little below 2% in 2023, after peaking at 2.8% in September 2022. The People's Bank of China (PBOC) expects inflation to remain mild in 2023 and has delivered a round of monetary policy easing. We believe further easing could come into play later this year to support the recovery.

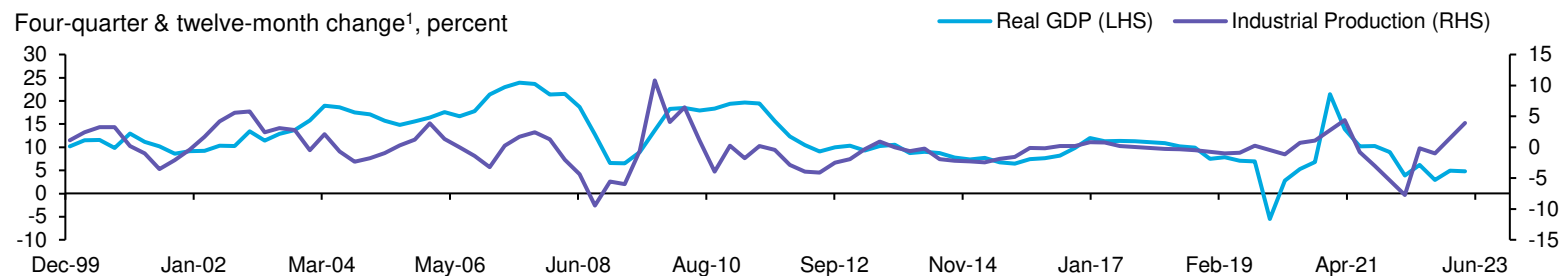
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## SELECTED ECONOMIC & FINANCIAL MARKET INDICATORS FOR CHINA

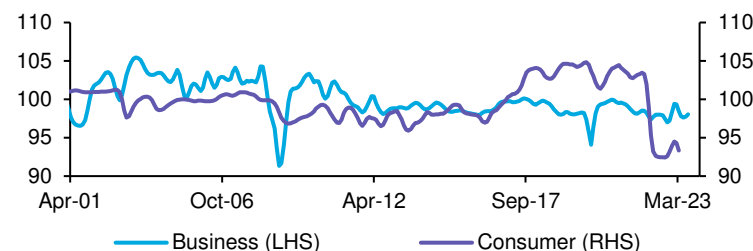
### Nominal GDP & Industrial Production

Four-quarter & twelve-month change<sup>1</sup>, percent



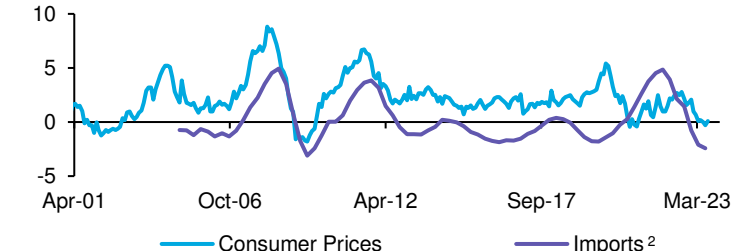
### Business & Consumer Confidence

Index



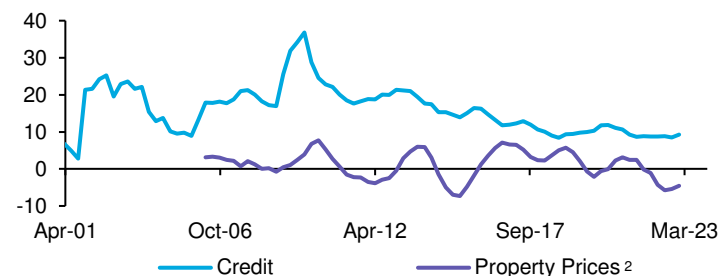
### Consumer & Import Price Inflation

Twelve-month change, percent



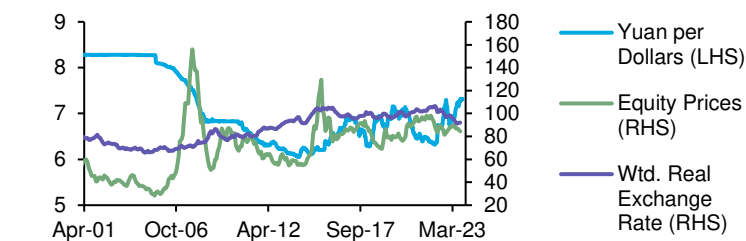
### Property Prices & Credit to Nonfinancial Sectors

Four-quarter change, percent



### Selected Financial Market Prices

Yuan per dollar (LHS), equity prices, and the weighted real exchange value of the yuan (indexes, RHS)





# MARKET RETURNS

## SUMMARY

# MARKET OVERVIEW

The global capital markets had to contend with numerous headwinds during October. The eruption of hostilities between Israel and Hamas raised the specter of a significant humanitarian crisis as well as sparking concerns of a wider regional conflict with potentially severe repercussions for global energy markets and shipping routes. Although the pace of policy rate increases has slowed, central bank officials in the US, the UK and Europe continued to maintain a hawkish outlook in their attempts to subdue stubborn inflation rates.

Global equities posted a return of -3.0% during the month as measured by the MSCI All-Country World index. US shares outperformed comparable developed market counterparts, in part due to continued positive economic results. Emerging markets equities underperformed developed equity markets during the month. Sovereign yields marched higher during the month, with the Bloomberg Global Aggregate falling by -1.2%.

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Data as of 10/31/23, sourced from Bloomberg. <sup>1</sup>Bloomberg Emerging Markets Hard Currency (USD) Aggregate Index. <sup>2</sup>Chicago Board Options Exchange Volatility Index. <sup>3</sup>US Fed Trade Weighted Dollar Emerging Market Economies Index. <sup>4</sup>US Fed Trade Weighted Nominal Emerging Market Economies Dollar Index. Investors cannot invest directly in an index. Please see the disclosures for the full benchmark description. Level = index or price level. Green shading = positive; Red shading = negative. See Additional Information in Disclosure Statements. [28788]

	Level	1M	YTD	1Y	3Y
<b>Equities (MSCI) – Returns</b>					
MSCI All-Country World	1,444	-3.0%	7.2%	11.1%	23.1%
MSCI All-Country ex-US	690	-4.1%	1.5%	12.7%	11.0%
MSCI Emerging Markets	2,352	-3.9%	-1.8%	11.3%	-9.6%
MSCI Europe	11,900	-3.7%	4.6%	16.5%	28.1%
MSCI Asia Pacific	306	-4.2%	-0.8%	13.8%	-5.0%
MSCI EAFE Small Cap	475	-5.9%	-3.7%	7.0%	2.1%
<b>Country Equities – Returns</b>					
US (S&P 500 <sup>®</sup> )	9,052	-2.1%	10.7%	10.1%	34.4%
US (NASDAQ)	15,561	-2.8%	23.6%	18.0%	20.5%
US (Russell 2000 <sup>®</sup> )	8,836	-6.8%	-4.5%	-8.6%	12.3%
Japan (NIKKEI 225 JPY)	54,041	-3.1%	20.6%	14.2%	42.5%
EU (STOXX 600 USD Hedged)	252	-3.6%	5.2%	8.7%	38.6%
UK (FTSE 100)	7,780	-3.7%	1.6%	7.2%	46.6%
France (CAC 40 EUR)	20,795	-3.5%	9.5%	13.3%	63.0%
Germany (DAX 40 EUR)	256	-3.6%	8.7%	14.8%	36.2%
China (MSCI China USD)	115	-4.3%	-11.1%	21.3%	-42.5%
Canada (S&P/TSX 60 CAD)	3,685	-3.1%	-0.2%	-0.3%	34.2%
Australia (S&P ASX 200 AUD)	85,012	-3.8%	-0.2%	3.0%	29.1%
<b>Fixed Income – Total Return, Unhedged</b>					
Bloomberg US Aggregate	1,992	-1.6%	-2.8%	0.4%	-15.8%
Bloomberg Global Aggregate	431	-1.2%	-3.4%	1.7%	-20.4%
Bloomberg Global Treasury	510	-1.2%	-4.8%	0.5%	-24.4%
Bloomberg US Treasury	2,129	-1.2%	-2.7%	-0.6%	-16.7%
Bloomberg Global Aggregate Credit	243	-1.1%	-0.6%	4.9%	-16.8%
Bloomberg Global High Yield	1,389	-0.9%	4.1%	10.0%	-1.3%
Bloomberg EMD USD Aggregate	338	-1.6%	-0.9%	7.1%	-15.6%

	Level	1M	YTD	1Y	3Y
<b>Commodities – Returns</b>					
Bloomberg Commodity Index	105	-0.2%	-7.3%	-7.7%	45.6%
Oil (WTI, USD/Barrel)	81	-10.8%	0.9%	-6.4%	126.4%
Gold (USD/Troy Ounce)	1,984	7.3%	8.8%	21.4%	5.6%
Copper (USD/MT)	8,029	-2.2%	-4.0%	6.7%	19.7%
<b>Spreads – bps</b>					
Bloomberg US Corporate	129	8	-1	-29	4
Bloomberg US Corporate High Yield	437	43	-32	-27	-72
Bloomberg EM HC Aggregate <sup>1</sup>	1,067	-16	-6	69	-164
Bloomberg EuroAgg Corporate	160	7	-7	-61	44
Bloomberg Pan-European High Yield	489	42	-23	-116	9
<b>Key Rates – change in yield, %</b>					
3M Treasury Bill	5.47	0.02	1.10	1.40	5.38
2Y US Treasuries	5.09	0.04	0.66	0.60	4.93
10Y US Treasuries	4.93	0.36	1.06	0.88	4.06
10Y German Bund	2.80	-0.03	0.24	0.67	3.43
10Y UK Gilt	4.51	0.07	0.84	1.00	4.25
10Y Japanese Bond	0.94	0.18	0.53	0.70	0.90
US 30Y Fixed Rate Mortgage	8.06	0.32	1.40	0.84	5.00
<b>Volatility Indicators</b>					
CBOE VIX <sup>2</sup>	18.14	0.62	-3.53	-7.74	-19.88
ICE BofA MOVE Index	126.86	13.31	5.25	-21.06	64.95
<b>Currencies – change in exchange rate</b>					
Foreign Economies US Dollar Index <sup>3</sup>	118.73	0.7%	2.6%	-3.4%	10.7%
EM Economies US Dollar Index <sup>4</sup>	131.21	1.3%	1.7%	-2.2%	3.4%
Euro	1.06	0.0%	-1.2%	7.0%	-9.2%
British pound	1.22	-0.4%	0.6%	6.0%	-6.1%
Japanese yen	151.68	-1.5%	-15.7%	-2.0%	-44.9%
Chinese yuan	7.32	-0.3%	-6.1%	-0.2%	-9.3%

## SUMMARY

# WORLD EQUITY MARKETS

We believe renewed geopolitical turmoil in the Middle East and the potential for disruption in world energy markets led global equity markets lower for the third month in a row in October as the MSCI All-Country World Index returned -3.0%. US equity markets outperformed all other regions, albeit with a return of -2.3% as measured by the MSCI USA Index. Emerging markets equities trailed their developed market counterparts with a return of -3.9%. In global small cap equities, US shares continued to underperform their counterparts in Europe and Asia.

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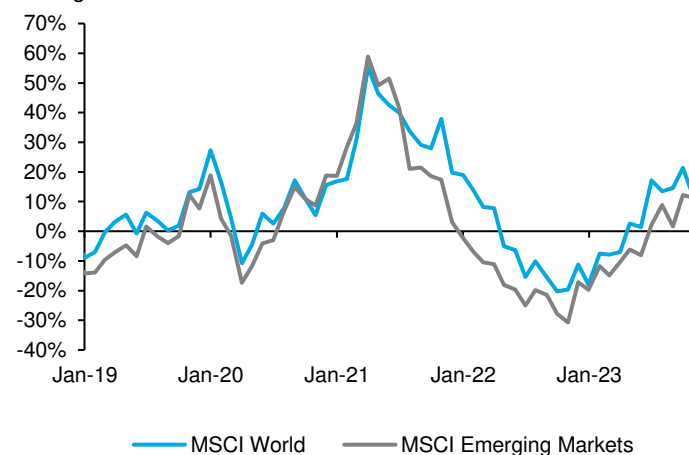
Note: The charts shown are equity markets indexed to 100 = 1/1/2020 to track the last few years of performance.

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### Developed Markets vs. Emerging Equity Markets

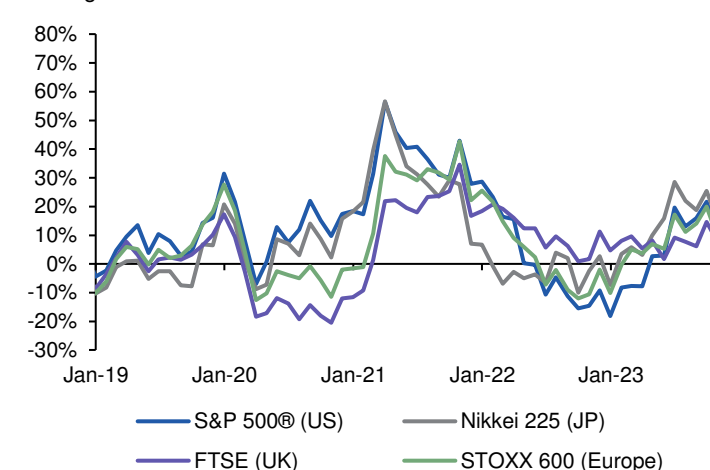
Rolling 12-month returns



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US (Russell 2000®)	8,836	-6.8%	-4.5%	-8.6%	12.3%
Japan (NIKKEI 225 JPY)	54,041	-3.1%	20.6%	14.2%	42.5%
EU (STOXX 600 USD Hedged)	252	-3.6%	5.2%	8.7%	38.6%
UK (FTSE 100)	7,780	-3.7%	1.6%	7.2%	46.6%
France (CAC 40 EUR)	20,795	-3.5%	9.5%	13.3%	63.0%
Germany (DAX 40 EUR)	256	-3.6%	8.7%	14.8%	36.2%
China (MSCI China USD)	115	-4.3%	-11.1%	21.3%	-42.5%
Canada (S&P/TSX 60 CAD)	3,685	-3.1%	-0.2%	-0.3%	34.2%
Australia (S&P ASX 200 AUD)	85,012	-3.8%	-0.2%	3.0%	29.1%

### Country Equities

Rolling 12-month returns



## SUMMARY

# US EQUITY PERFORMANCE

The US equity markets recorded a third straight month of losses in October as the Russell 3000 Index fell by -2.7%. Despite better-than-expected economic data and growing acceptance for a soft-landing economic scenario, we feel investors appear to remain cautious regarding the Fed's consistently hawkish rhetoric, stubborn inflation rates that remain well above policymakers' targets and the substantial move higher in interest rates.

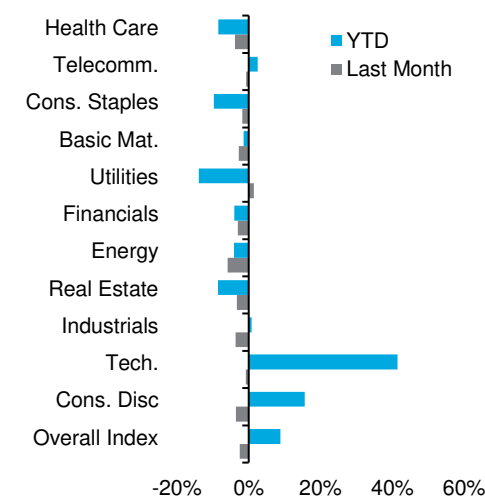
As with previous months, large-cap equities slightly outperformed the broader US equity market with a return of -2.5%, while small-cap equities tumbled by -6.8%. Growth equities fared better than value, returning -1.7% and -3.7%, respectively. Sector performance was universally negative, with the exception of small-cap Energy, Industrials and Technology.

**PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.**

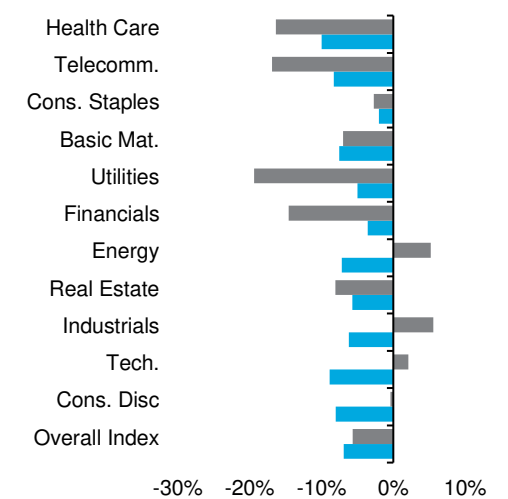
Data as of 10/31/23, sourced from Bloomberg. R1000®=Russell 1000®. R2000®=Russell 2000®. Investors cannot invest directly in an index. Please see the disclosures for the full benchmark description. See Additional Information in Disclosure Statements. [28788]

	Level	1M	YTD	1Y	3Y
<b>US Equities – Returns</b>					
S&P 500®	9,052	-2.1%	10.7%	10.1%	34.4%
NASDAQ	15,561	-2.8%	23.6%	18.0%	20.5%
R1000®	14,132	-2.4%	10.3%	9.5%	31.4%
R2000®	8,836	-6.8%	-4.5%	-8.6%	12.3%

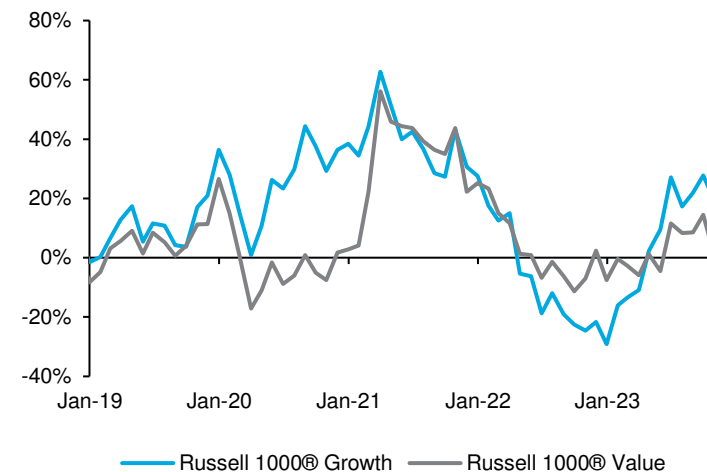
**Russell 1000® Sub-Sectors**



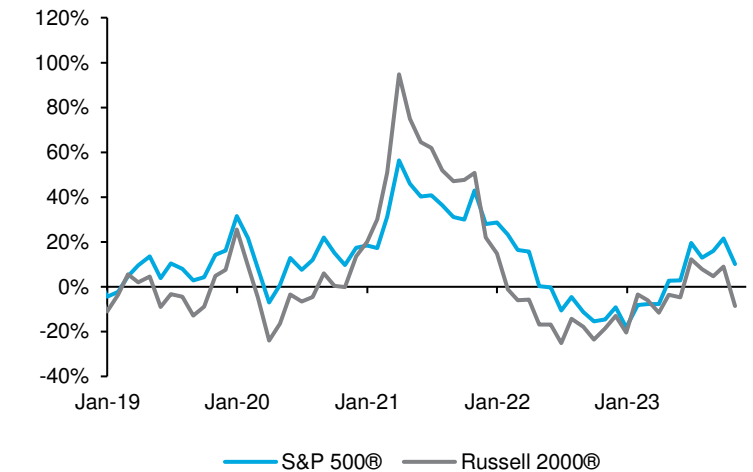
**Russell 2000® Sub-Sectors**



**Russell 1000® Growth vs. Russell 1000® Value**  
Rolling 12-month returns



**S&P 500® (Large Cap) vs. Russell 2000® (Small Cap)**  
Rolling 12-month returns





## SUMMARY

# EMERGING MARKETS (EM) EQUITY PERFORMANCE

Emerging market equities posted a return of -3.9% for October, trailing their developed market counterparts by a slight margin. Poland outpaced the broader index following elections in which the pro-European Civic Platform assumed control of the government. Other notable outperformers included Taiwan, South Africa and Hungary. Chinese equities slightly trailed the broader index despite somewhat better-than-expected economic results. Korea, Indonesia and Mexico trailed the index by wider margins. Turkey, which continues to struggle with surging inflation and a weakening currency, underperformed the index by a substantial margin.

**PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.**

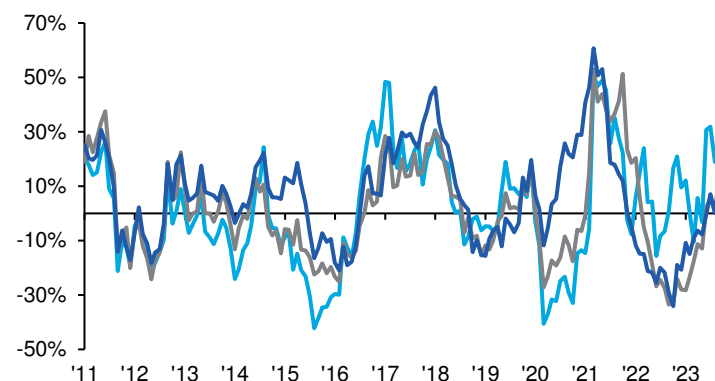
Data as of 10/31/23, sourced from Bloomberg. Investors cannot invest directly in an index. Please see the disclosures for the full benchmark description. Level = index or price level. Green shading = positive; Red shading = negative. See Additional Information in Disclosure Statements. [28788]

	Level	1M	YTD	1Y	3Y
<b>MSCI USD – Returns</b>					
China	115.28	-4.3%	-11.1%	21.3%	-42.5%
Taiwan	1,321.69	-1.7%	10.0%	27.1%	20.2%
India	1,280.94	-3.0%	5.1%	4.6%	47.5%
Korea	762.27	-7.0%	-0.4%	8.9%	-10.3%
Brazil	6,710.32	-3.7%	8.8%	2.7%	45.2%
Saudi Arabia	1,323.90	-2.6%	-1.5%	-11.7%	47.3%
South Africa	935.12	-1.7%	-10.8%	2.5%	9.6%
Thailand	951.58	-3.2%	-16.4%	-4.0%	11.8%
Mexico	11,833.17	-6.2%	11.8%	10.6%	73.2%
Indonesia	8,788.42	-9.6%	-5.9%	-10.1%	14.9%

	Level	1M	YTD	1Y	3Y
<b>MSCI USD – Returns</b>					
Czech Republic	1,591.75	0.9%	34.3%	43.2%	154.0%
Hungary	1,252.12	1.4%	30.9%	55.3%	42.3%
Poland	1,134.14	16.3%	25.9%	60.4%	39.4%
Turkey	970.66	-13.0%	-6.2%	24.1%	92.7%
Chile	3,801.04	-9.1%	-9.5%	-5.7%	21.4%

## EM Regional Performance

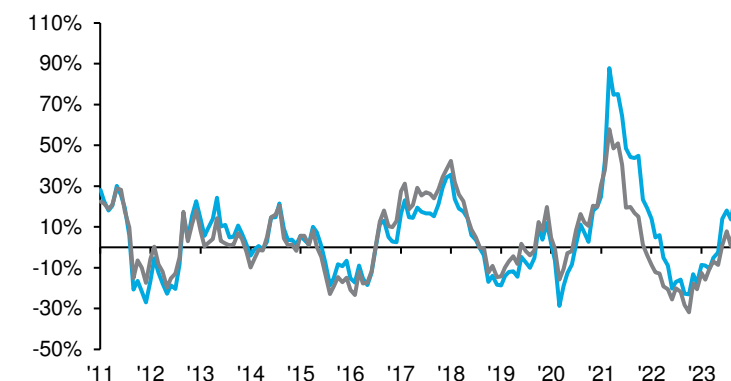
Rolling 12-month returns



— MSCI EM Latin America  
— MSCI EM Europe & Middle East & Africa  
— MSCI EM Asia

## EM Large vs. Small Cap

Rolling 12-month returns



— MSCI EM Small Cap — MSCI EM Large Cap

## SUMMARY

# US FIXED INCOME PERFORMANCE

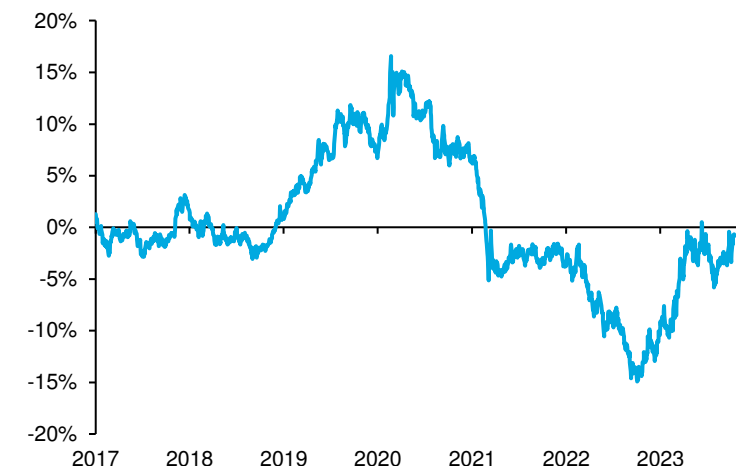
The Bloomberg US Aggregate Index posted a return of -1.6% in October. US Treasury yields rose across the yield curve, with 2-year rates higher by +4 basis points, while 10-year yields rose by +36 basis points. The inversion between 2-year and 10-year yields continued to moderate, ending the month at -16 basis points. Short- and intermediate-maturity bonds again outperformed longer-term bonds during the month as investors came to terms with the likelihood of a sustained period of higher interest rates, stubborn inflation and prospects for a soft landing for the US economy. Both corporate and securitized debt underperformed US Treasuries on a total and excess return basis during the month.

**PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.**

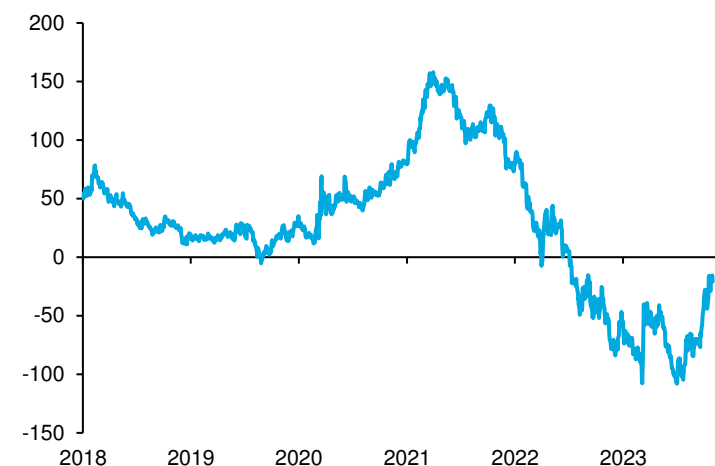
Data as of 10/31/23, sourced from Bloomberg. <sup>1</sup>Chicago Board Options Exchange Volatility Index. Investors cannot invest directly in an index. Please see the disclosures for the full benchmark description. Level = index or price level. Green shading = positive; Red shading = negative. See Additional Information in Disclosure Statements. [28788]

	Level	1M	YTD	1Y	3Y
<b>Key Rates – change in yield, %</b>					
3M Treasury Bill	5.47	0.02	1.10	1.40	5.38
2Y US Treasuries	5.09	0.04	0.66	0.60	4.93
10Y US Treasuries	4.93	0.36	1.06	0.88	4.06
10Y German Bund	2.80	-0.03	0.24	0.67	3.43
10Y UK Gilt	4.51	0.07	0.84	1.00	4.25
10Y Japanese Bond	0.94	0.18	0.53	0.70	0.90
US 30Y Fixed Rate Mortgage	8.06	0.32	1.40	0.84	5.00
<b>Volatility Indicators</b>					
CBOE VIX <sup>1</sup>	18.14	0.62	-3.53	-7.74	-19.88
ICE BofA MOVE Index	126.86	13.31	5.25	-21.06	64.95

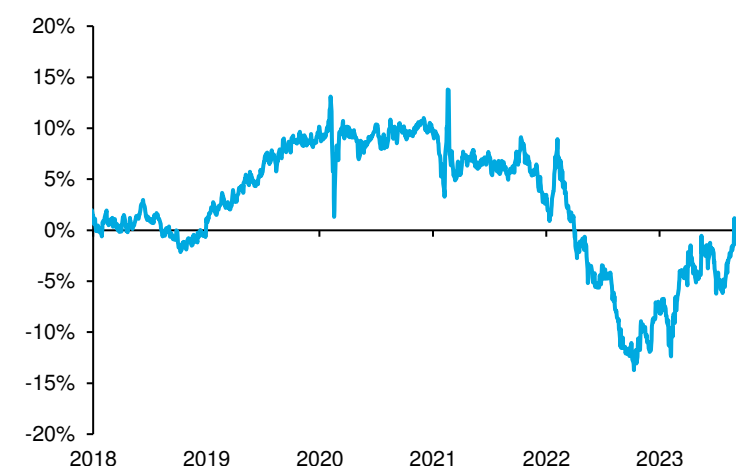
**Bloomberg US Treasury Bond Index Total Return**  
Rolling 12-month returns



**US Yield Curve (10 Year – 2 Year Yield)**



**Bloomberg Global Inflation-Linked US TIPS Total Return**  
Rolling 12-month returns



## SUMMARY

# GLOBAL FIXED INCOME PERFORMANCE

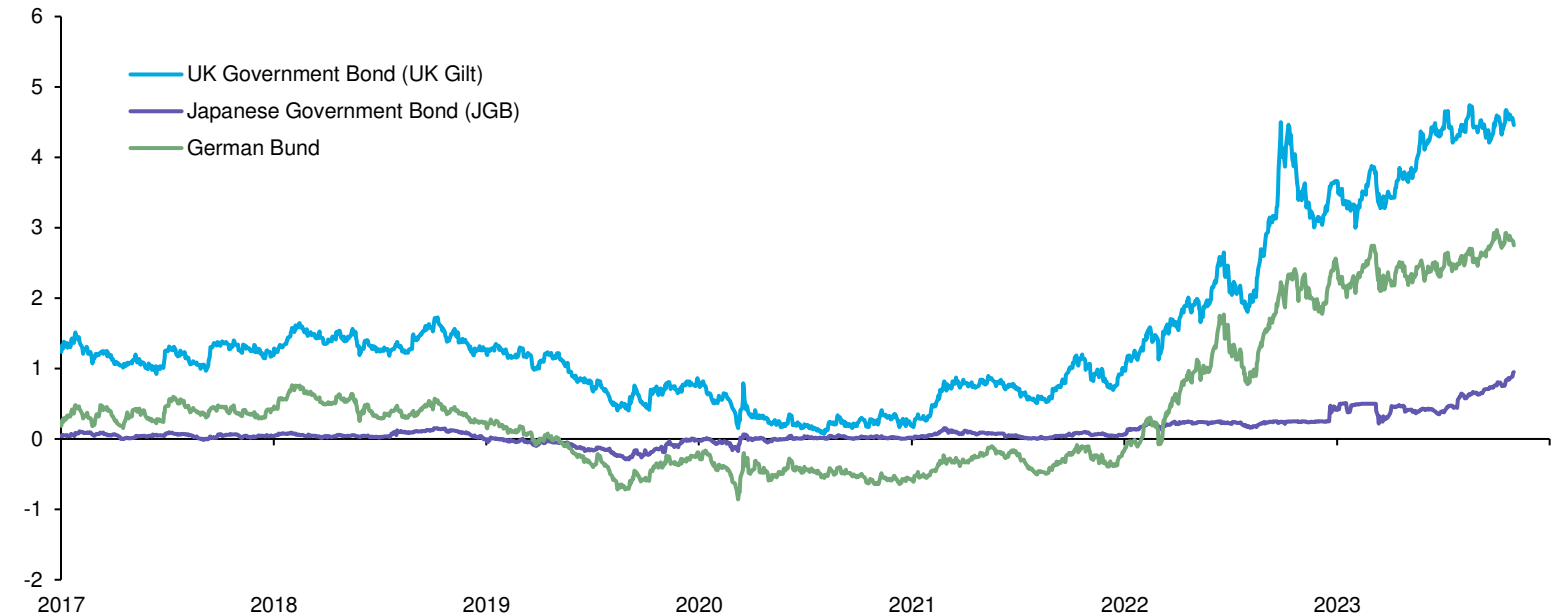
The Bloomberg Global Aggregate Index posted an unhedged return of -1.2% during October. European sovereign bonds outperformed counterparts in the US, the UK and Japan, following the ECB's decision to leave policy rates unchanged at its October 26 meeting. In the US, 10-year Treasury yields rose substantially as investors adjusted to expectations for a soft landing and a period of higher-for-longer interest rates. Yields on Japanese government bonds continued to rise as the Bank of Japan made minor adjustments to its yield curve control policy.

**PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.**

Data as of 10/31/23, sourced from Bloomberg. Investors cannot invest directly in an index. Please see the disclosures for the full benchmark description. See Additional Information in Disclosure Statements. [28788]

	Level	1M	YTD	1Y	3Y
<b>Fixed Income – Total Return, Unhedged</b>					
Bloomberg US Aggregate	1,992	-1.6%	-2.8%	0.4%	-15.8%
Bloomberg Global Aggregate	431	-1.2%	-3.4%	1.7%	-20.4%
Bloomberg Global Treasury	510	-1.2%	-4.8%	0.5%	-24.4%
Bloomberg US Treasury	2,129	-1.2%	-2.7%	-0.6%	-16.7%
Bloomberg Global Aggregate Credit	243	-1.1%	-0.6%	4.9%	-16.8%
Bloomberg Global High Yield	1,389	-0.9%	4.1%	10.0%	-1.3%
Bloomberg EMD USD Aggregate	338	-1.6%	-0.9%	7.1%	-15.6%

## Global Government Rates, 10 Year Yields



## SUMMARY

# CORPORATE FIXED INCOME PERFORMANCE

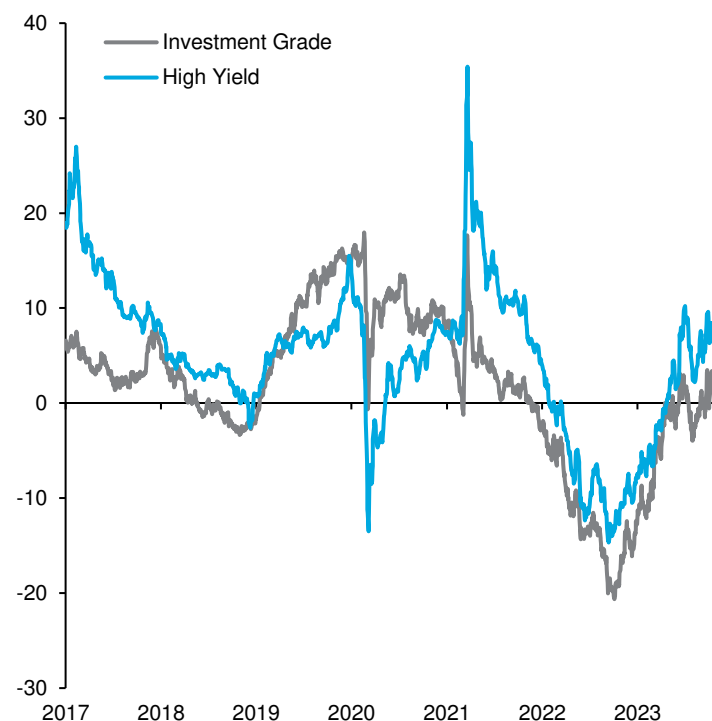
US and European investment-grade corporate spreads drifted higher in October by +8 and +7 basis points, respectively, with dwindling new issuance offsetting lingering concerns around the direction of global economic performance. We believe the latter factor contributed to the significant widening in global high yield spreads. Both investment-grade and high yield corporate bonds trailed comparable government securities on both a total and excess return basis during the month.

**PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.**

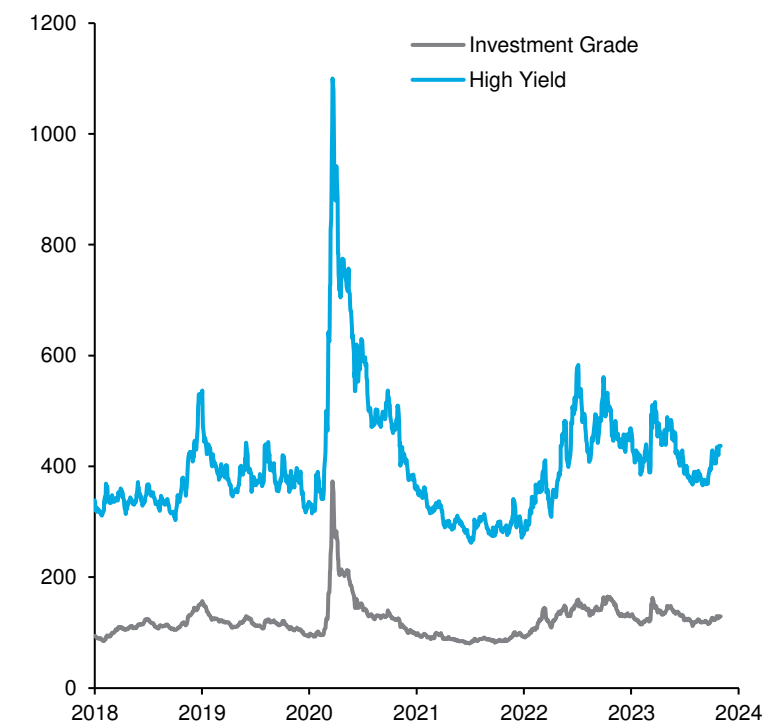
Data as of 10/31/23, sourced from Bloomberg. <sup>1</sup>Bloomberg Emerging Markets Hard Currency (USD) Aggregate Index. Investors cannot invest directly in an index. Please see the disclosures for the full benchmark description. Level = index or price level. Green shading = positive; Red shading = negative. See Additional Information in Disclosure Statements. [28788]

	Level	1M	YTD	1Y	3Y
<b>Spreads – bps</b>					
Bloomberg US Corporate	129	8	-1	-29	4
Bloomberg US Corporate High Yield	437	43	-32	-27	-72
Bloomberg EM HC Aggregate <sup>1</sup>	1,067	-16	-6	69	-164
Bloomberg EuroAgg Corporate	160	7	-7	-61	44
Bloomberg Pan-European High Yield	489	42	-23	-116	9

**Bloomberg US Corporate & High Yield Total Return**  
12-month percent change



**US Corporate OAS**  
Basis Points





## SUMMARY

# CURRENCIES

In October, the US dollar continued its upward trajectory, albeit at a slower pace than in prior periods. The resilient US economy coupled with consistently hawkish messaging from the Fed provided positive support for the US dollar, which rose by +1.0% against a broad basket of major developed market currencies. Despite adjustments to the Bank of Japan's yield curve control policy, the Japanese yen was a notable underperformer among majors as inflation continues to accelerate.

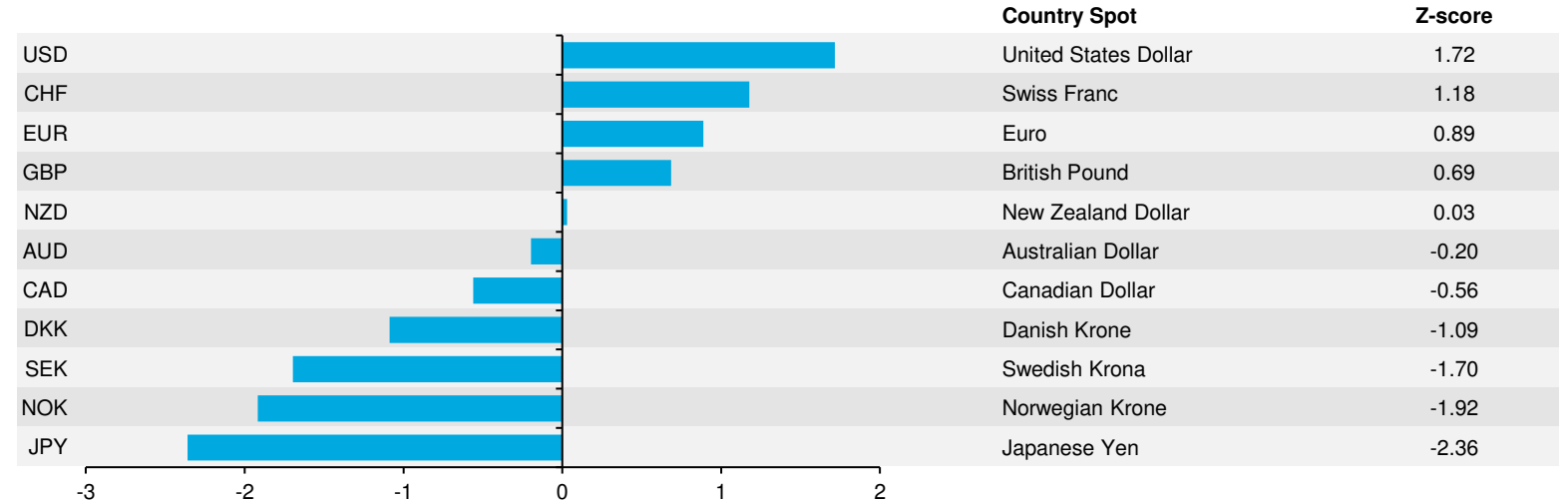
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**Federal Reserve's Trade Weighted Nominal Dollar Indices**



**Real Effective Exchange Rates**



## SUMMARY

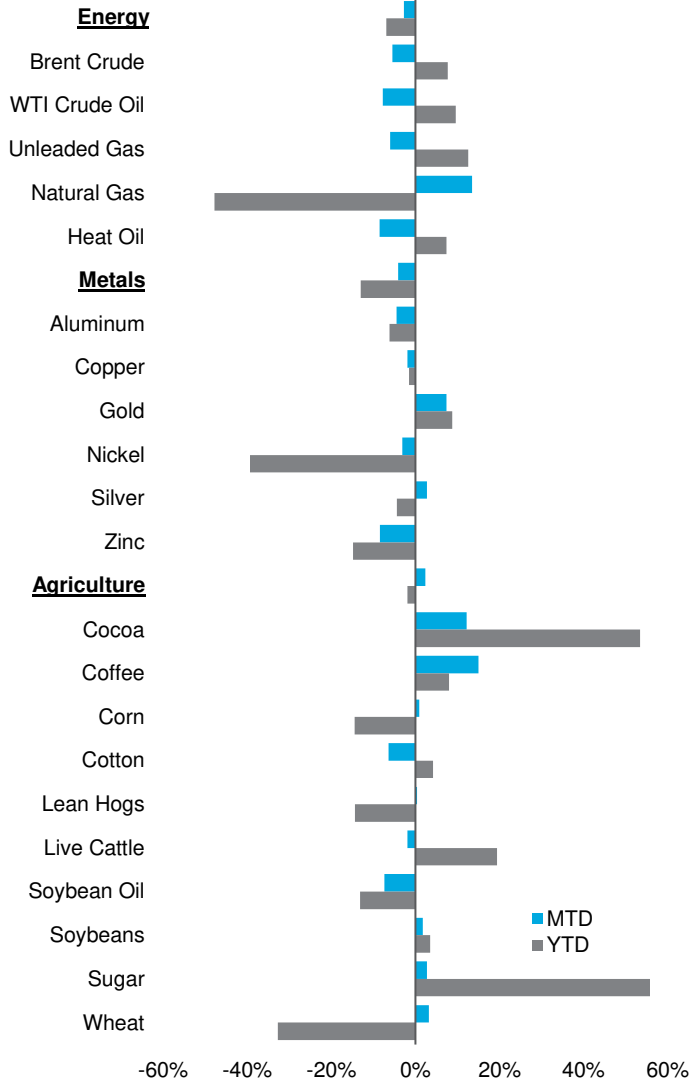
# COMMODITIES

The Bloomberg Commodity Index declined by -0.2% during October. Within the Energy complex, perceived softer global demand for crude oil overshadowed the outbreak of hostilities in the Middle East as well as reduced production from OPEC+ countries. Natural gas prices were the lone exception, rising in anticipation of increased demand ahead of the arrival of winter in the Northern Hemisphere. Industrial metals also fell in response to expectations for slowing economic activity, while gold prices rose sharply in response to interest as a safe-haven. Agricultural prices ended the month mixed with large gains for cocoa and coffee, modest gains for sugar and wheat and weaker prices for cotton and soybean oil.

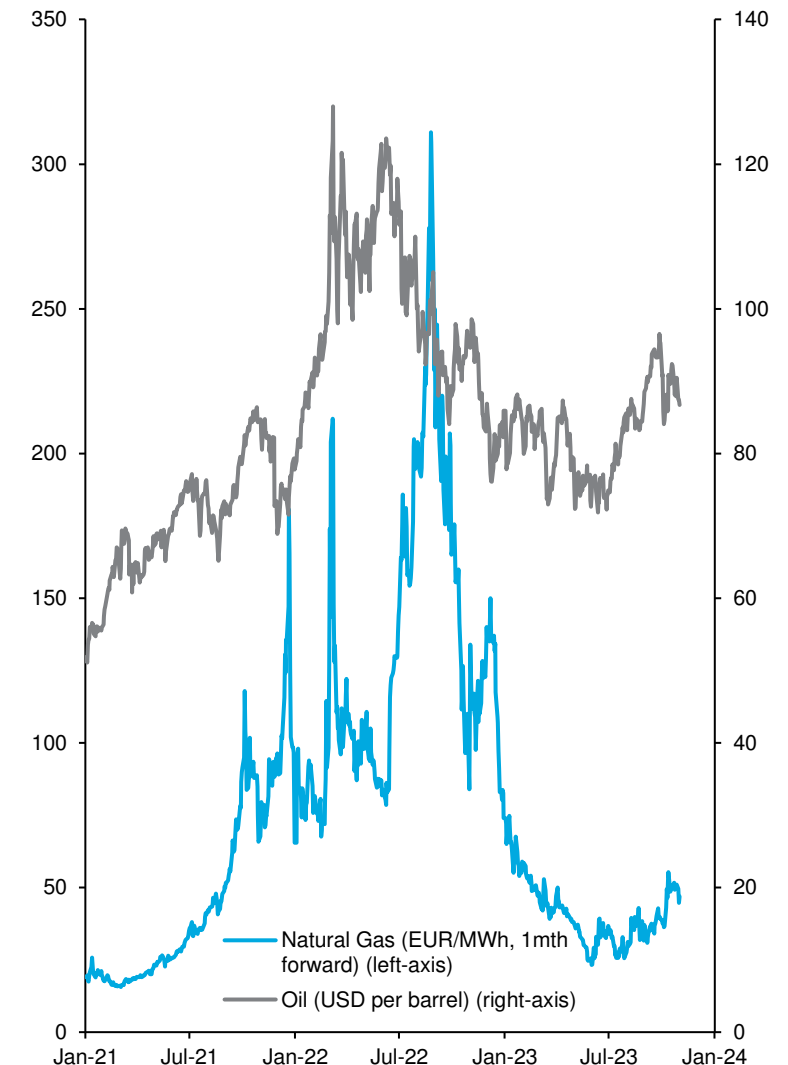
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### Commodities Sub-Indices Returns



### Oil & Natural Gas Prices



# INDEX DESCRIPTIONS

## INDEX DESCRIPTIONS

### **Bankrate.com US Home Mortgage 30 Year Fixed National Avg Index**

The Bankrate.com US Home Mortgage 30 Year Fixed National Avg Index includes only 30-Year Fixed Mortgage products, with and without points. This index is the Overnight National Average. You will see daily rate averages on Bankrate.com in boxes labeled overnight averages (these calculations are run after the close of the business day). Included there are rates we have collected on the previous day for a specific banking product. Overnight averages tend to be volatile. They help consumers see the movement of rates day to day. The institutions included in the overnight averages tables will be different from one day to the next, depending on which institutions' rates we gather on a particular day for presentation on the site.

### **Bloomberg Commodity Index**

The Bloomberg Commodity Index is a broadly diversified index that tracks the commodities markets through commodity futures contracts.

These are subindices of the Bloomberg Commodity Index: Agriculture, Aluminum, Brent Crude, Cocoa, Coffee, Copper, Corn, Cotton, Energy, Gold, Heat Oil, Lean Hogs, Live Cattle, Natural Gas, Nickel, Silver, Soybean Oil, Soybeans, Sugar, Unleaded Gas, Wheat, WTI Crude Oil, Zinc

### **Bloomberg Emerging Markets Hard Currency (USD) Aggregate Index**

The Bloomberg Emerging Markets Hard Currency (USD) Aggregate Index is a flagship hard currency Emerging Markets debt benchmark that includes USD-denominated debt from sovereign, quasi-sovereign, and corporate EM issuers.

### **Bloomberg Emerging Markets USD Aggregate Bond Index**

The Bloomberg Emerging Markets USD Aggregate Bond Index is a flagship hard currency Emerging Markets debt benchmark that includes fixed and floating-rate US dollar-denominated debt issued from sovereign, quasi-sovereign, and corporate EM issuers. Country eligibility and classification as Emerging Markets is rules-based and reviewed annually using World Bank income group and International Monetary Fund (IMF) country classifications.

### **Bloomberg Euro Aggregate Corporate Index**

The Bloomberg Euro Aggregate Corporate Index measures the corporate component of the Euro Aggregate Index. It includes investment grade, euro-denominated, fixed-rate securities

### **Bloomberg Global Aggregate Bond Index**

The Bloomberg Global Aggregate Bond Index is a measure of global investment-grade debt performance. This multicurrency benchmark includes Treasury, government-related, corporate, and securitized fixed-rate bonds from both developed and emerging market issuers.

### **Bloomberg Global Aggregate Credit Index**

The Bloomberg Global Aggregate Credit Index contains publicly issued corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements.

### **Bloomberg Global High Yield Corporate Bond Index**

The Bloomberg Global High Yield Corporate Bond Index is a rules-based market-value-weighted index engineered to measure the below-investment-grade, fixed-rate, global corporate bond market. Eligible denominations include USD, EUR, GBP, and CAD.

### **Bloomberg Global Treasury Index**

The Bloomberg Global Treasury Index tracks fixed-rate, local currency government debt of investment-grade countries, including both developed and emerging markets. The index represents the treasury sector of the Global Aggregate Index and contains issues from 37 countries denominated in 24 currencies.

### **Bloomberg Pan-European High Yield Index**

The Bloomberg Pan-European High Yield Index measures the market of non-investment grade, fixed-rate corporate bonds denominated in the following currencies: euro, pounds sterling, Danish krone, Norwegian krone, Swedish krona, and Swiss franc. Inclusion is based on the currency of issue, and not the domicile of the issuer. The index excludes emerging market debt.



## INDEX DESCRIPTIONS

### Bloomberg US Aggregate Bond Index

The Bloomberg US Aggregate Bond Index is a broad-based benchmark that measures the investment-grade, US-dollar-denominated, fixed-rate taxable bond market, including Treasuries, government-related and corporate securities, mortgage-backed securities (agency fixed-rate and hybrid adjustable-rate mortgage pass-throughs), asset-backed securities, and commercial mortgage-backed securities.

### Bloomberg US Corporate Bond Index

The Bloomberg US Corporate Bond Index is an unmanaged market-value-weighted index of investment-grade corporate fixed-rate debt issues with maturities of one year or more.

### Bloomberg US Corporate High Yield Index

The Bloomberg US Corporate High Yield Index is an unmanaged, US dollar-denominated, nonconvertible, non-investment-grade debt index. The index consists of domestic and corporate bonds rated Ba and below with a minimum outstanding amount of \$150 million.

### Bloomberg US Treasury Bond Index

The Bloomberg US Treasury Bond Index is an unmanaged index of prices of US Treasury bonds with maturities of 1 to 30 years.

### Bloomberg US Treasury Inflation-Linked Bond Index

The Bloomberg US Treasury Inflation-Linked Bond Index measures the performance of the US Treasury Inflation Protected Securities (TIPS) market. Federal Reserve holdings of US TIPS are not index eligible and are excluded from the face amount outstanding of each bond in the index. Inception date is 03/01/1997. It's a USD, unhedged index.

### British Pound Sterling

The British Pound Sterling is the official currency of The United Kingdom.

### CAC 40

The CAC 40 is a benchmark French stock market index. The index represents a capitalization-weighted measure of the 40 most significant stocks among the 100 largest market caps on the Euronext Paris.

### Chicago Board Options Exchange Volatility Index (VIX)

The Chicago Board Options Exchange Volatility Index (VIX) is calculated from options on the S&P 500 Index and is supposed to reflect the market expectation of the index's annualized 30-day volatility. The volatility measured by the VIX reflects both the possibility of upside movements as well as the possibility of downside movements.

### Chinese renminbi (yuan)

The Chinese renminbi (yuan) is the official currency of The People's Republic of China.

### DAX

The DAX is a stock market index consisting of the 40 major German blue-chip companies trading on the Frankfurt Stock Exchange.

### Euro

The Euro is the official currency of the European Economic & Monetary Union.

### Financial Times Stock Exchange 100 Index

The Financial Times Stock Exchange 100 Index, also called the FTSE 100 Index, FTSE 100, FTSE, or, informally, the "Footsie", is a share index of the 100 companies listed on the London Stock Exchange with the highest market capitalization.

## INDEX DESCRIPTIONS

### Generic 1st Crude Oil Commodity

The Generic 1<sup>st</sup> Crude Oil Commodity measures the performance of the nearest expiration date of the WTI Crude Oil Future.

### Generic German Bund 10 Year Bond Index

The Generic German Bund 10 Year Bond Index measures the performance of a 10 Year German Government Bond.

### Generic Japan 10 Year Bond Index

The Generic Japan 10 Year Bond Index measures the performance of a 10 Year Japanese Government Bond.

### Generic UK 10 Year Bond Index

The Generic UK 10 Year Bond Index measures the performance of a 10 Year British Government Bond.

### Generic US 3 Month Government Bill

The Generic United States 3 Month Government Bill represents the yield for the current 3 month US Treasury Bill.

### Generic US Government 10 Year Bond Index

The Generic US Government 10 Year Bond Index measures the performance of a 10 Year US Treasury.

### Generic US Government 2 Year Bond Index

The Generic US Government 2 Year Bond Index measures the performance of a 2 Year US Treasury.

### Gold Spot

The Gold Spot price measures the gold spot price quoted as US Dollars per Troy Ounce.

### ICE BofaA MOVE Index

The ICE BofaA MOVE Index measures the implied volatility of US Treasury options across various maturities.

### ICE LIBOR USD 3 month Index

The ICE LIBOR USD 3 month Index is based on the London - Interbank Offered Rate - ICE Benchmark Administration Fixing for US Dollar. The fixing is conducted each day at 11am & released at 11.45am (London time). The rate is an average derived from the quotations provided by the banks determined by the ICE Benchmark Administration. The top and bottom quartile is eliminated and an average of the remaining quotations calculated to arrive at fixing. The fixing is rounded up to 5 decimal places where the sixth digit is five or more. ICE Libor day count follows normal market convention: 365 days for GBP, 360 days for the other currencies and for value two business days after the fixing. Please note that for the overnight rate, the value date is on the same day as the fixing date, with the maturity date falling the next business day in both centres.

### Japanese yen

The Japanese yen is the official currency of Japan.

### LME Copper Cash

The LME Copper Cash measures the copper cash price from the end of LME day Final Evening Evaluations.

## INDEX DESCRIPTIONS

### MSCI ACWI ex USA Index

The MSCI ACWI ex USA Index captures large and mid cap representation across 22 of 23 Developed Markets (DM) countries (excluding the US) and 24 Emerging Markets (EM) countries. With 2,258 constituents, the index covers approximately 85% of the global equity opportunity set outside the US.

### MSCI ACWI Index

The MSCI ACWI Index, MSCI's flagship global equity index, is designed to represent performance of the full opportunity set of large- and mid-cap stocks across 23 developed and 24 emerging markets. As of May 2022, it covers more than 2,933 constituents across 11 sectors and approximately 85% of the free float-adjusted market capitalization in each market.

### MSCI Asia Pacific Index

The MSCI Asia Pacific Index is a free float-adjusted market capitalization-weighted index of the stock markets of Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, Philippines, Singapore, South Korea, Taiwan and Thailand.

### MSCI Brazil Index

The MSCI Brazil Index is designed to measure the performance of the large- and mid-cap segments of the Brazilian market. The index covers about 85% of the Brazilian equity universe.

### MSCI Chile Index

The MSCI Chile Index is designed to measure the performance of the large, mid and small cap segments of the Chilean market. The index covers approximately 85% of the Chile equity universe.

### MSCI China Index

The MSCI China Index is a free-float-adjusted market-capitalization-weighted index that is designed to measure equity market performance in China.

### MSCI Czech Republic Index

The MSCI Czech Republic Index is designed to measure the performance of the large and mid cap segments of the Czech Republic market. The index covers approximately 85% of the free float-adjusted market capitalization in Czech Republic.

### MSCI EAFE Small Cap Index

The MSCI EAFE Small Cap Index is an equity index which captures small cap representation across 21 Developed Markets countries around the world, excluding the US and Canada.

### MSCI Emerging Markets (EM) Asia Index

The MSCI Emerging Markets (EM) Asia Index captures large and mid cap representation across 8 Emerging Markets countries (China, India, Indonesia, Korea, Malaysia, the Philippines, Taiwan and Thailand).

### MSCI Emerging Markets (EM) Europe & Middle East & Africa (EMEA) Index

The MSCI Emerging Markets (EM) Europe & Middle East & Africa (EMEA) Index captures large and mid cap representation across 11 EM countries in EMEA (Czech Republic, Egypt, Greece, Hungary, Kuwait, Poland, Qatar, Saudi Arabia, South Africa, Turkey and United Arab Emirates).

### MSCI Emerging Markets (EM) Latin America Index

The MSCI Emerging Markets (EM) Latin America Index captures large and mid cap representation across 5 EM countries in Latin America (Brazil, Chile, Colombia, Mexico, and Peru).

### MSCI Emerging Markets Index

The MSCI Emerging Markets Index captures large and mid cap representation across 24 Emerging Markets (EM) countries. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

## INDEX DESCRIPTIONS

### MSCI Europe Index

The MSCI Europe Index represents the performance of large and mid-cap equities across 15 developed countries in Europe. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

### MSCI Hungary Index

The MSCI Hungary Index is designed to measure the performance of the large and mid cap segments of the Hungarian market. The index covers approximately 85% of the Hungarian equity universe.

### MSCI India Index

The MSCI India Index is designed to measure the performance of the large- and mid-cap segments of the Indian market. The index covers approximately 85% of the Indian equity universe.

### MSCI Indonesia Index

The MSCI Indonesia Index is designed to measure the performance of the large- and mid-cap segments of the Indonesian market. The index covers about 85% of the Indonesian equity universe.

### MSCI Japan Index

The MSCI Japan Index represents 8% of the MSCI World Index. It is designed to measure the performance of the large and mid-cap segments and aims to represent ~85% of the Japanese market.

### MSCI Korea Index

The MSCI Korea Index is designed to measure the performance of the large- and mid-cap segments of the South Korean market. With 107 constituents, the index covers about 85% of the Korean equity universe.

### MSCI Mexico Index

The MSCI Mexico Index is designed to measure the performance of the large- and mid-cap segments of the Mexican market. With 27 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Mexico.

### MSCI Poland Index

The MSCI Hungary Index is designed to measure the performance of the large and mid cap segments of the Hungarian market. The index covers approximately 85% of the Hungarian equity universe.

### MSCI Saudi Arabia Index

The MSCI Saudi Arabia Index is designed to measure the performance of the large- and mid-cap segments of the Saudi Arabian market.

### MSCI South Africa Index

The MSCI South Africa Index is designed to measure the performance of the large- and mid-cap segments of the South African market. With 54 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in South Africa.

### MSCI Taiwan Index

The MSCI Taiwan Index is designed to measure the performance of the large- and mid-cap segments of the Taiwan market. With 88 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Taiwan.

### MSCI Thailand Index

The MSCI Thailand Index is designed to measure the performance of the large- and mid-cap segments of the Thailand market. With 36 constituents, the index covers about 85% of the Thailand equity universe.

## INDEX DESCRIPTIONS

### MSCI Turkey Index

The MSCI Turkey Index is designed to measure the performance of the large and mid cap segments of the Turkish market. The index covers about 85% of the equity universe in Turkey.

### Nasdaq Composite Index

The Nasdaq Composite Index is a stock market index that includes almost all stocks listed on the Nasdaq stock exchange.

### Nikkei 225

The Nikkei 225, or the Nikkei Stock Average, more commonly called the Nikkei or the Nikkei index, is a stock market index for the Tokyo Stock Exchange.

### Russell 1000<sup>®</sup> Basic Materials Index

The Russell 1000<sup>®</sup> Basic Materials Index measures the performance of the Basic Materials sector of the Russell 1000<sup>®</sup> Index.

### Russell 1000<sup>®</sup> Consumer Discretionary Index

The Russell 1000<sup>®</sup> Consumer Discretionary Index measures the performance of the Consumer Discretionary sector of the Russell 1000<sup>®</sup> Index.

### Russell 1000<sup>®</sup> Consumer Staples Index

The Russell 1000<sup>®</sup> Consumer Staples Index measures the performance of the Consumer Staples sector of the Russell 1000<sup>®</sup> Index.

### Russell 1000<sup>®</sup> Energy Index

The Russell 1000<sup>®</sup> Energy Index measures the performance of the Energy sector of the Russell 1000<sup>®</sup> Index.

### Russell 1000<sup>®</sup> Financials Index

The Russell 1000<sup>®</sup> Financials Index measures the performance of the Financials sector of the Russell 1000<sup>®</sup> Index.

### Russell 1000<sup>®</sup> Growth Index

The Russell 1000<sup>®</sup> Growth Index measures the performance of the large-cap growth segment of the US equity universe.

### Russell 1000<sup>®</sup> Health Care Index

The Russell 1000<sup>®</sup> Health Care Index measures the performance of the Health Care sector of the Russell 1000<sup>®</sup> Index.

### Russell 1000<sup>®</sup> Industrials Index

The Russell 1000<sup>®</sup> Industrials Index measures the performance of the Industrials sector of the Russell 1000<sup>®</sup> Index.

### Russell 1000<sup>®</sup> Real Estate Index

The Russell 1000<sup>®</sup> Real Estate Index measures the performance of the Real Estate sector of the Russell 1000<sup>®</sup> Index.

### Russell 1000<sup>®</sup> Technology Index

The Russell 1000<sup>®</sup> Technology Index measures the performance of the Technology sector of the Russell 1000<sup>®</sup> Index.

### Russell 1000<sup>®</sup> Telecommunications Index

The Russell 1000<sup>®</sup> Telecommunications Index measures the performance of the Telecommunications sector of the Russell 1000<sup>®</sup> Index.

### Russell 1000<sup>®</sup> Utilities Index

The Russell 1000<sup>®</sup> Utilities Index measures the performance of the Utilities sector of the Russell 1000<sup>®</sup> Index.



## INDEX DESCRIPTIONS

### **Russell 1000<sup>®</sup> Value Index**

The Russell 1000<sup>®</sup> Value Index measures the performance of the large-cap value segment of the US equity universe.

### **Russell 2000<sup>®</sup> Index**

The Russell 2000<sup>®</sup> Index is a small-cap U.S. stock market index that makes up the smallest 2,000 stocks in the Russell 3000<sup>®</sup> Index.

### **Russell 2000<sup>®</sup> Basic Materials Index**

The Russell 2000<sup>®</sup> Basic Materials Index measures the performance of the Basic Materials sector of the Russell 2000<sup>®</sup> Index.

### **Russell 2000<sup>®</sup> Consumer Discretionary Index**

The Russell 2000<sup>®</sup> Consumer Discretionary Index measures the performance of the Consumer Discretionary sector of the Russell 2000<sup>®</sup> Index.

### **Russell 2000<sup>®</sup> Consumer Staples Index**

The Russell 2000<sup>®</sup> Consumer Staples Index measures the performance of the Consumer Staples sector of the Russell 2000<sup>®</sup> Index.

### **Russell 2000<sup>®</sup> Energy Index**

The Russell 2000<sup>®</sup> Energy Index measures the performance of the Energy sector of the Russell 2000<sup>®</sup> Index.

### **Russell 2000<sup>®</sup> Financials Index**

The Russell 2000<sup>®</sup> Financials Index measures the performance of the Financials sector of the Russell 2000<sup>®</sup> Index.

### **Russell 2000<sup>®</sup> Health Care Index**

The Russell 2000<sup>®</sup> Health Care Index measures the performance of the Health Care sector of the Russell 2000<sup>®</sup> Index.

### **Russell 2000<sup>®</sup> Industrials Index**

The Russell 2000<sup>®</sup> Industrials Index measures the performance of the Industrials sector of the Russell 2000<sup>®</sup> Index.

### **Russell 2000<sup>®</sup> Real Estate Index**

The Russell 2000<sup>®</sup> Real Estate Index measures the performance of the Real Estate sector of the Russell 2000<sup>®</sup> Index.

### **Russell 2000<sup>®</sup> Technology Index**

The Russell 2000<sup>®</sup> Technology Index measures the performance of the Technology sector of the Russell 2000<sup>®</sup> Index.

### **Russell 2000<sup>®</sup> Telecommunications Index**

The Russell 2000<sup>®</sup> Telecommunications Index measures the performance of the Telecommunications sector of the Russell 2000<sup>®</sup> Index.

### **Russell 2000<sup>®</sup> Utilities Index**

The Russell 2000<sup>®</sup> Utilities Index measures the performance of the Utilities sector of the Russell 2000<sup>®</sup> Index.

### **S&P 500<sup>®</sup> Index**

The S&P 500<sup>®</sup> Index includes 500 leading companies and covers approximately 80% of available market capitalization.

### **S&P/ASX 200 Index**

The S&P/ASX 200 Index is a market-capitalization weighted and float-adjusted stock market index of stocks listed on the Australian Securities Exchange.

## INDEX DESCRIPTIONS

### **S&P/TSX 60 Index**

The S&P/TSX 60 Index is a stock market index of 60 large companies listed on the Toronto Stock Exchange.

### **STOXX Europe 600**

The STOXX Europe 600, also called STOXX 600, SXXP, is a stock index of European stocks designed by STOXX Ltd.

### **US Fed Trade Weighted Nominal Advanced Foreign Economies Dollar Index**

A weighted average of the foreign exchange value of the U.S. dollar against a subset of the broad index currencies that are advanced foreign economies.

### **US Fed Trade Weighted Nominal Emerging Market Economies Dollar Index**

A weighted average of the foreign exchange value of the U.S. dollar against a subset of the broad index currencies that are emerging market economies.

# GLOSSARY OF TERMS

## GLOSSARY

### Advanced Economies

The IMF World Economic Outlook classifies 39 economies as “advanced,” based on such factors as high per capita income, exports of diversified goods and services, and greater integration into the global financial system.

### Country Spot

Country Spot rate is expressed as the home currency per one unit of foreign currency.

### Emerging Market & Developing Economies

Countries classified as emerging market economies are those with an economy that is transitioning into being developed. These countries have a unified currency, stock market, and banking system, and they're in the process of industrialization.

### EUR/MWh

Euros per mega-watt hour.

### OAS

Option-Adjusted Spread is a yield spread which is added to the benchmark yield curve to price security with an embedded option. This spread measures the deviation of the security's performance from the benchmark on the back of an embedded option.

### Real Effective Exchange Rates

Real effective exchange rate is the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs. International Monetary Fund, International Financial Statistics.

### Spreads

Spread is the measurement, in basis points, of the difference or gap between a fixed-income security rate and the risk-free rate of return.

### Z-score

Z-score is a statistical measurement that describes a value's relationship to the mean of a group of values. Values are rankings on z-scores of real effective exchange rates.

## DISCLOSURE

For more market perspectives and insights from our teams, please visit [www.mellon.com](http://www.mellon.com)

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