



Cost of Capital in the Current Environment

Global Economic and Financial Market Trends

January 2024 Update

Foreword



Carla S. Nunes, CFA

Managing Director
Kroll, LLC

Dear Readers,

We are pleased to share the January 2024 update to our *Cost of Capital in the Current Environment—Global Economic and Financial Market Trends* report. This report provides data and insights used to support Kroll's Recommended Equity Risk Premia and Normalized Risk-Free Rate guidance for a variety of countries.

Global economic growth in 2023 handed a pleasant surprise to economists, thanks in part to a resilient U.S. economy and a decline in global energy prices. Although the U.S. economy showed greater resilience than the Eurozone's, 2023 real GDP growth for both geographies likely ended in a much better place than originally projected. Going forward, a soft-landing scenario is plausible, although real growth in most regions globally is expected to slow down in 2024.

The good news is that despite the significant increase in interest rates in 2022 and 2023, economies and markets seem to have absorbed the hikes without major disruptions. Inflation has decelerated significantly, at a faster pace than many anticipated, while long-term inflation expectations have also dropped materially, especially in Germany. Investors are pricing significant policy rate cuts in 2024 for major economies, boosting confidence and leading to new record highs in some equity markets. This "risk-on" attitude means equity risk premia is likely to come down, barring a major geopolitical event (e.g., escalation of the Middle East conflict) or other unforeseen materially negative events. Nevertheless, central bankers may ultimately be more conservative about the timing and speed of rate cuts than investors are anticipating, and overall cost of capital estimates may stay higher for longer. Companies in the riskiest segment of the market are still experiencing credit deterioration, and we will likely continue to see an increase in distressed debt exchanges, bankruptcy and restructuring activity.

For the first time, this report contains projected long-term real GDP. It also contains valuable insights on long-term inflation expectations, the balance sheet size of major central banks, stock market performance (and related volatility measures), credit spreads, unemployment rates, consumer and business confidence indicators, and real GDP growth estimates for eight regions/countries.

We hope this report helps you understand some of the ingredients used to arrive at Kroll's cost of capital guidance. If you would like to receive further information or discuss any of the findings, please contact us.

Sincerely,
Carla Nunes

Global Cost of Capital Inputs—U.S. and Eurozone

Data as of January 31, 2024

	Normalized Risk-Free Rate	Kroll-Recommended Equity Risk Premium
U.S. (in USD)	Higher of 3.5% or Spot*	5.5%
Eurozone *** (in EUR)	Higher of 3.0% or Spot**	5.5% to 6.0%

These are our latest equity risk premium (ERP) recommendations for the U.S. and the Eurozone (from a German investor perspective), along with accompanying risk-free rates.

- Long-term inflation expectations have declined significantly, in both Germany and the overall Eurozone, at a much faster pace than anticipated. If these expectations are sustained, the Kroll normalized risk-free rate of 3.0% for Germany may soon be lowered.
- Major equity markets have been buoyed by the anticipation of significant policy rate cuts in 2024 and the prospect of a soft landing. The U.S. has reached new record highs, which had not occurred in two years. Record highs have also been reached in certain Eurozone countries, such as the CAC-40 in France and the DAX in Germany.
- The Kroll Recommended Eurozone ERP remains in the range of 5.5% to 6.0%. But based on current economic and financial market conditions, we believe that a **5.5% ERP** (i.e., toward the lower end of the range) is more appropriate when developing EUR-denominated discount rates as of February 5, 2023, and thereafter.
- The “risk-on” attitude in U.S. markets means the U.S. ERP is likely to come down, barring a major geopolitical event (e.g., escalation of Middle East conflict) or other materially negative events.

* We recommend using the spot 20-year U.S. Treasury yield as the proxy for the risk-free rate if the prevailing yield as of the valuation date is higher than our recommended U.S. normalized risk-free rate of 3.5%. This guidance is effective when developing USD-denominated discount rates as of June 16, 2022, and thereafter.

** We recommend using the spot 15-year German government bond yield as the proxy for the risk-free rate if the prevailing yield as of the valuation date is higher than our recommended German normalized risk-free rate of 3.0%. This guidance is effective when developing EUR-denominated discount rates as of October 18, 2022, and thereafter.

*** This represents the German normalized risk-free rate and Eurozone ERP for use in EUR-denominated discount rates from a German investor perspective. Our current ERP recommendation is at the bottom of the range shown here. Additional country risk adjustments may be warranted when estimating discount rates for other countries in the Eurozone.

For more information, visit kroll.com/costofcapitalnavigator.

Long-Term Inflation Expectations and Real GDP Growth (Median)

Data as of January 30, 2024

Inflation has decelerated significantly toward the end of 2023 and in early 2024, at a faster pace than many anticipated. Meanwhile, long-term inflation expectations have also dropped materially, especially in Germany. Long-term real GDP expectations have remained mostly steady.



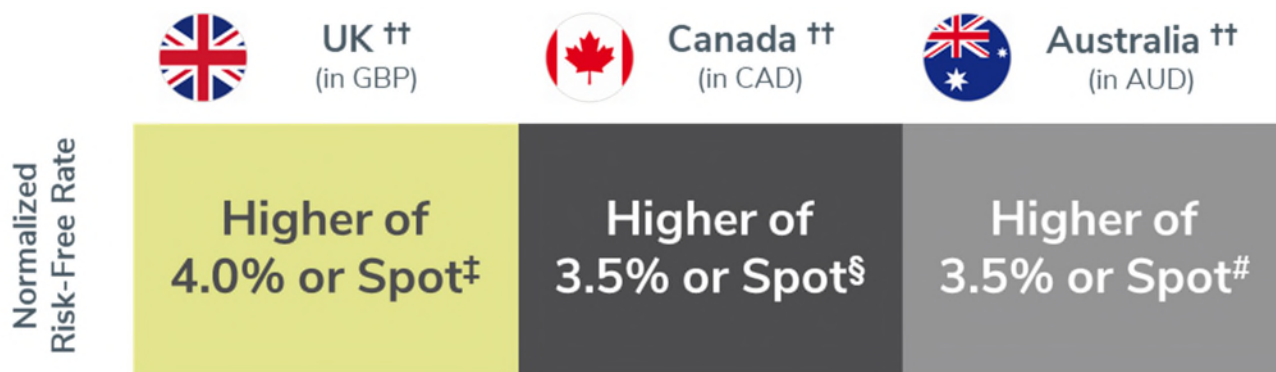
Sources of underlying U.S. data: 1) Real GDP growth data was sourced from Blue Chip Economic Indicators, Blue Chip Financial Forecasts, Consensus Economics, IHS Markit (S&P Global Market Intelligence), Federal Reserve Bank of Philadelphia (Livingston Survey, and Survey of Professional Forecasters), and Oxford Economics. 2) Inflation expectations relied on the sources already listed under real GDP growth data, as well as data from the Federal Reserve Bank of Cleveland, the Federal Reserve Bank of Philadelphia (Aruoba Term Structure of Inflation Expectations), and the University of Michigan's Surveys of Consumers Inflation Expectations.

Sources of underlying German real GDP growth and inflation data: Consensus Economics, Economist Intelligence Unit, IHS Markit (S&P Global Market Intelligence), International Monetary Fund, Oxford Economics and PwC.

Global Cost of Capital Inputs—Other Countries

Data as of January 31, 2024

This is the latest Kroll risk-free rate guidance for the UK, Canada and Australia.



‡ We recommend using the spot 20-year UK Gilt yield as the proxy for the risk-free rate if the prevailing yield as of the valuation date is higher than our recommended UK normalized risk-free rate of 4.0%. This guidance is effective when developing GBP-denominated discount rates as of October 18, 2022, and thereafter.

§ We recommend using the spot Government of Canada Benchmark Long-Term Bond yield as the proxy for the risk-free rate if the prevailing yield as of the valuation date is higher than our recommended Canada normalized risk-free rate of 3.5%. This guidance is effective when developing CAD-denominated discount rates as of October 18, 2022, and thereafter.

We recommend using the spot 10-year Australia Commonwealth Government Bond yield as the proxy for the risk-free rate if the prevailing yield as of the valuation date is higher than our recommended Australia normalized risk-free rate of 3.5%. This guidance is effective when developing AUD-denominated discount rates as of October 31, 2022, and thereafter.

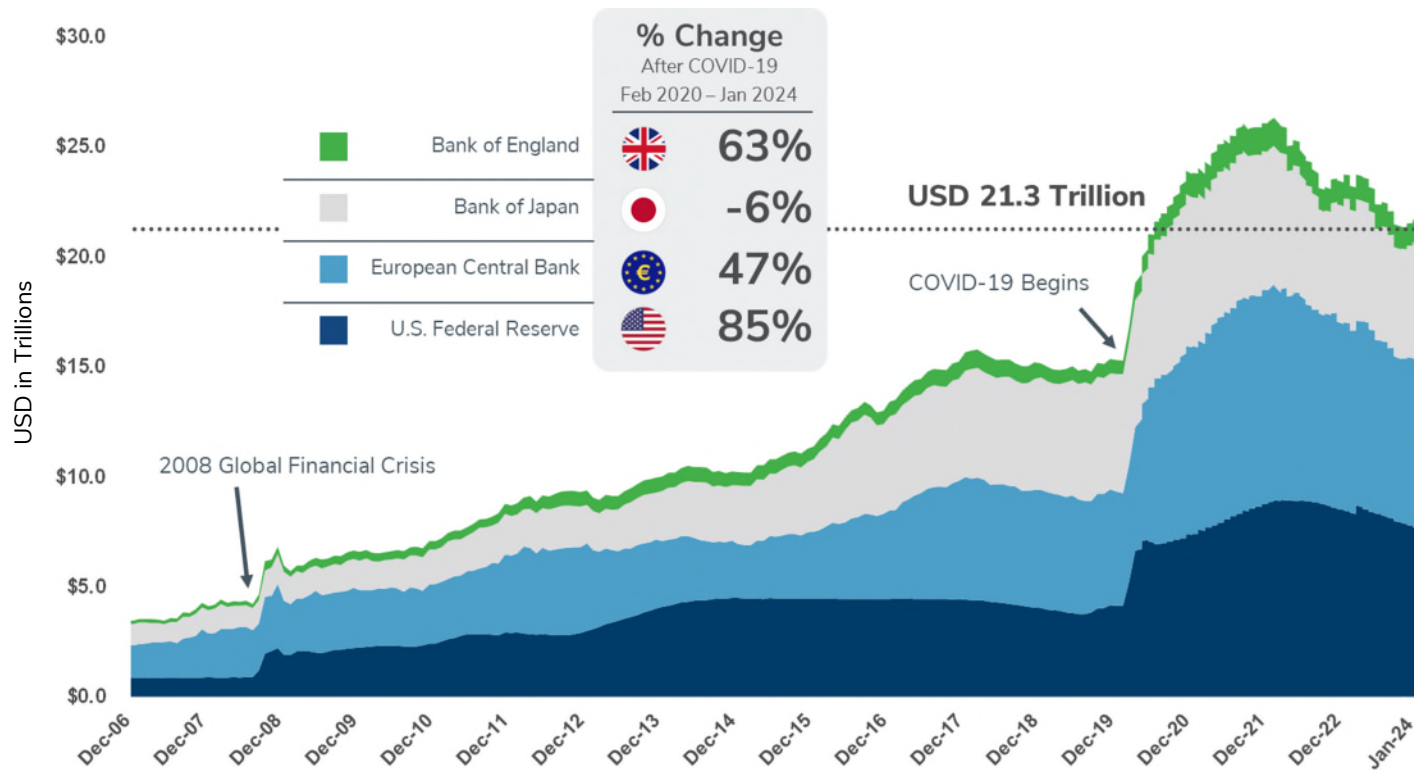
†† Although we do not currently have an official Kroll Recommended ERP for the UK, Canada and Australia, historical and other forward-looking ERP information for these countries is available in the International Cost of Capital Module within the Cost of Capital Navigator.

For more information, visit kroll.com/costofcapitalnavigator.

Total Assets Held by Central Banks Over Time

Data as of January 26, 2024

After COVID-19 was declared a pandemic, major central banks implemented new (or expanded existing) quantitative easing policies (QE) that entailed massive purchases of securities at an unprecedented pace. The swelling size of their balance sheets, which primarily comprised government debt securities, contributed to keeping interest rates at historically low levels in most developed markets. However, the surge in inflation in 2022 finally led most major central banks to raise policy interest rates, begin unwinding asset purchase programs and reduce the size of their balance sheets (quantitative tightening). Nevertheless, over the next two years, the combined balance sheet of these central banks will remain significantly larger than pre-pandemic levels.

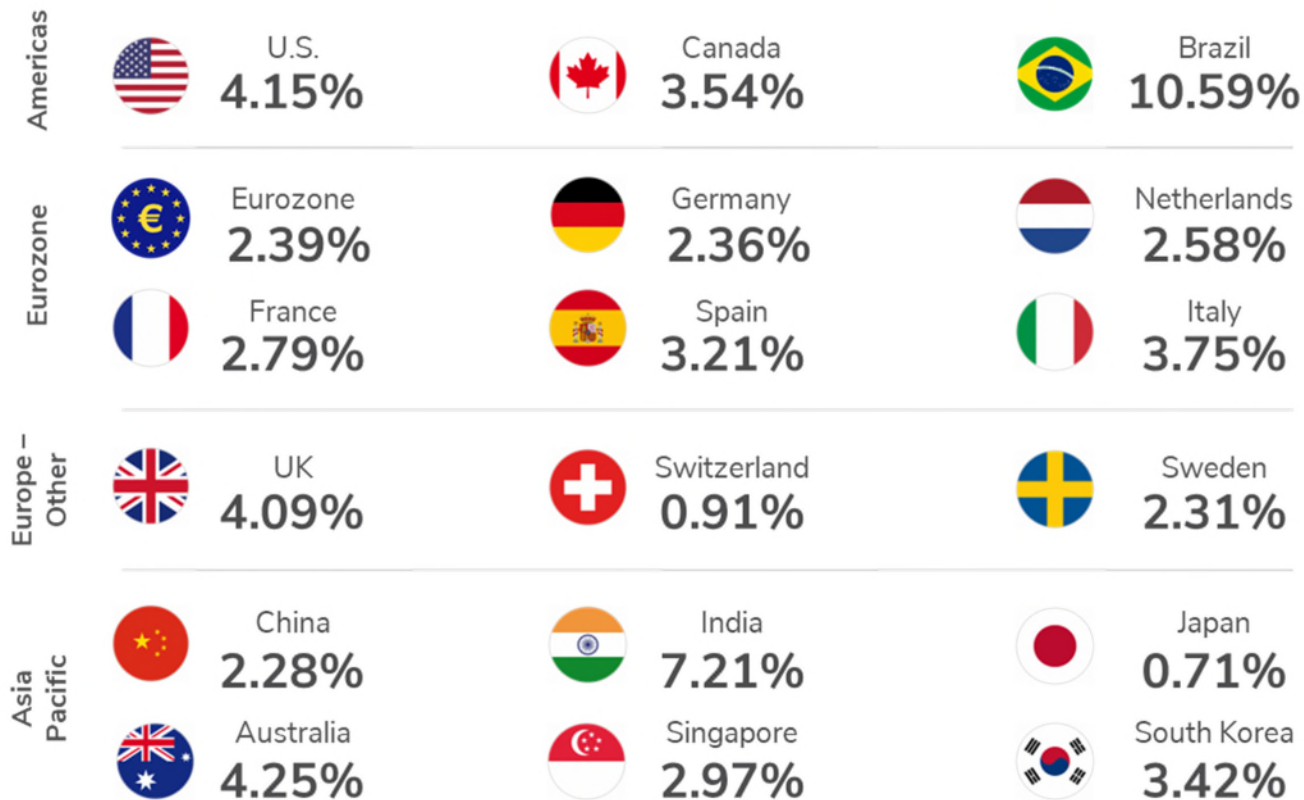


Sources: Capital IQ, FRED® Economic Data, Bank of England, Bank of Japan and European Central Bank

Global 10-Year Government Bond Yields

Data as of January 26, 2024

Long-term interest rates have fallen from the peaks observed in October 2023, but they are still at higher levels than over a decade ago for most major economies. The daily volatility in government bond yields has been significant, as investors try to ascertain from economic news the path that central banks will take when deciding the timing and magnitude of cuts of their respective policy interest rates.

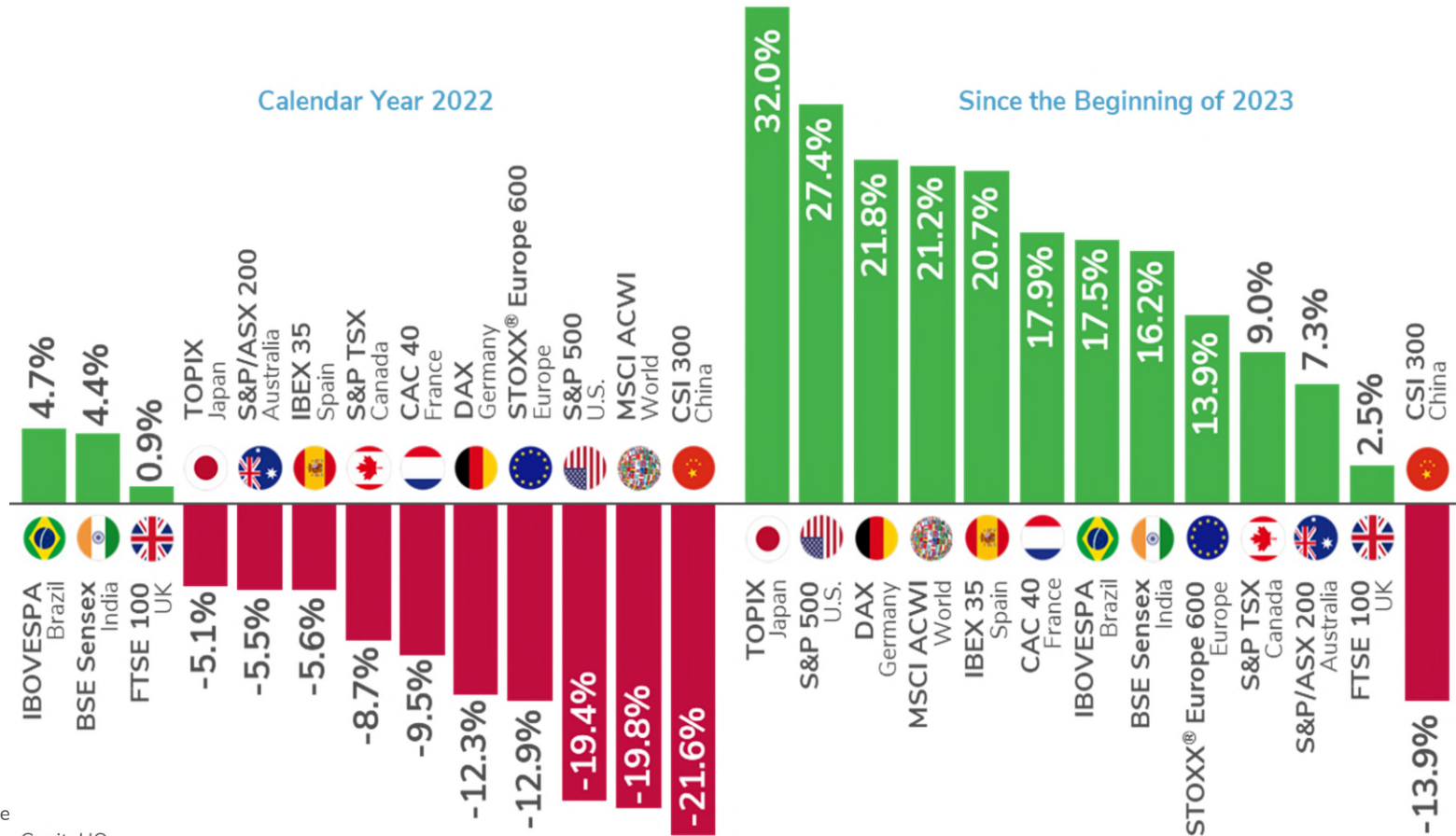


Sources: Refinitiv (Brazil, India), European Central Bank (Eurozone aggregate yield) and Capital IQ (other countries)

Stock Market Performance

Data as of January 26, 2024

Investor optimism rose in 2023, especially toward the end of the year, partly due to a fast decline in inflation readings and the anticipation that policy interest rates had peaked. This contributed to a recovery in global equity markets, although many have yet to reach the records achieved in early 2022. Japan saw the greatest price return (in local currency terms) in 2023 as the Bank of Japan stayed away from rate hikes and continued its yield-curve targeting policy—in stark contrast with other major central banks. China was the worst-performing market in both 2022 and 2023—the end of China’s zero-COVID-19 policy in early 2023 failed to create the recovery that market analysts had predicted at the time. The S&P 500, CAC 40 and DAX indices have all reached new record highs recently.



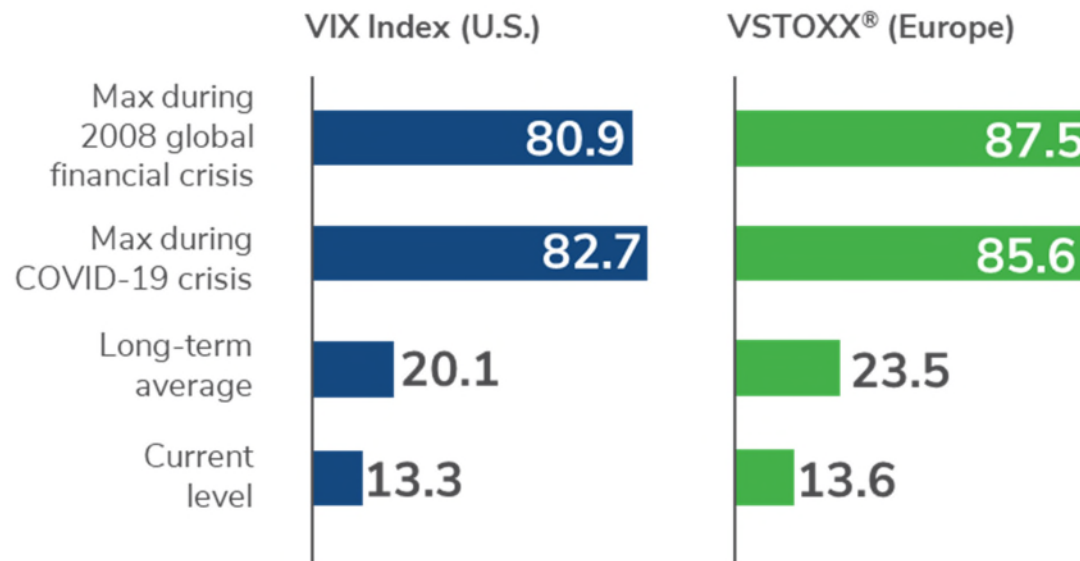
Source: Capital IQ

Cost of Capital in the Current Environment

Global Market Volatility

Data as of January 26, 2024

U.S. and European financial markets experienced significant volatility during 2022, as uncertainty related to the Russia-Ukraine war and the impact of inflationary pressures on central banks' plans to raise interest rates led to fears of stagflation. However, market optimism surged in 2023 (particularly toward the end of the year), lowering investor risk aversion in the U.S. and Europe. The respective volatility indices are now significantly below their long-term averages.



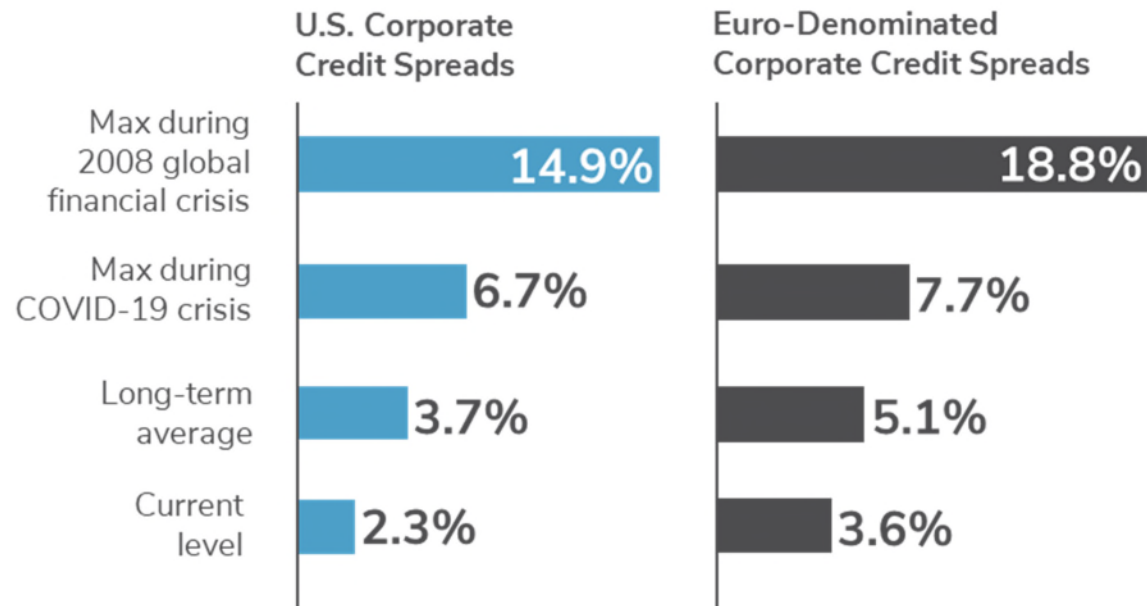
Sources: Capital IQ, FRED® Economic Data and Bloomberg

U.S. corporate credit spreads are based on the difference in effective yields between the ICE Bank of America (BofA) U.S. High Yield Index and the ICE BofA U.S. Corporate Index. EUR-denominated corporate credit spreads are based on the difference in effective yields between the Bloomberg Pan-European High Yield Index (EUR) and the Bloomberg Euro Aggregate Corporate Bond Index. Long-term averages are based on 1995 to present for VIX daily series, 1999 to present for VSTOXX® daily series, 1996 to present for U.S. credit spread daily series and 1998 to present for EUR-denominated credit spread monthly series.

Global Credit Spreads

Data as of January 26, 2024

U.S. and European corporate credit spreads have remained remarkably tight and below long-term averages, despite the significant increase in interest rates. Part of the explanation appears to be related to an expectation of interest rate cuts and, in the case of the U.S., strong real economic growth. However, these graphs hide the credit deterioration seen in the riskiest segment of the market (issuers with ratings of B- and below). According to S&P Global Ratings, the number of global corporate defaults rose by 80% in 2023 (from 2022). S&P expects the trailing-12-month speculative-grade corporate default rate to reach 5% for the U.S. and 3.75% for Europe by September 2024.*



Sources of underlying data: Capital IQ, FRED® Economic Data, Bloomberg and Kroll analysis

U.S. corporate credit spreads are based on the difference in effective yields between the ICE BofA U.S. High Yield Index and the ICE BofA U.S. Corporate Index. EUR-denominated corporate credit spreads are based on the difference in effective yields between the Bloomberg Pan-European High Yield Index (EUR) and the Bloomberg Euro Aggregate Corporate Bond Index. Long-term averages are based on 1995 to present for VIX daily series, 1999 to present for VSTOXX daily series, 1996 to present for U.S. credit spread daily series and 1998 to present for EUR-denominated credit spread monthly series.

*S&P Global Ratings, "Ratings Performance Insights," January 12, 2024.

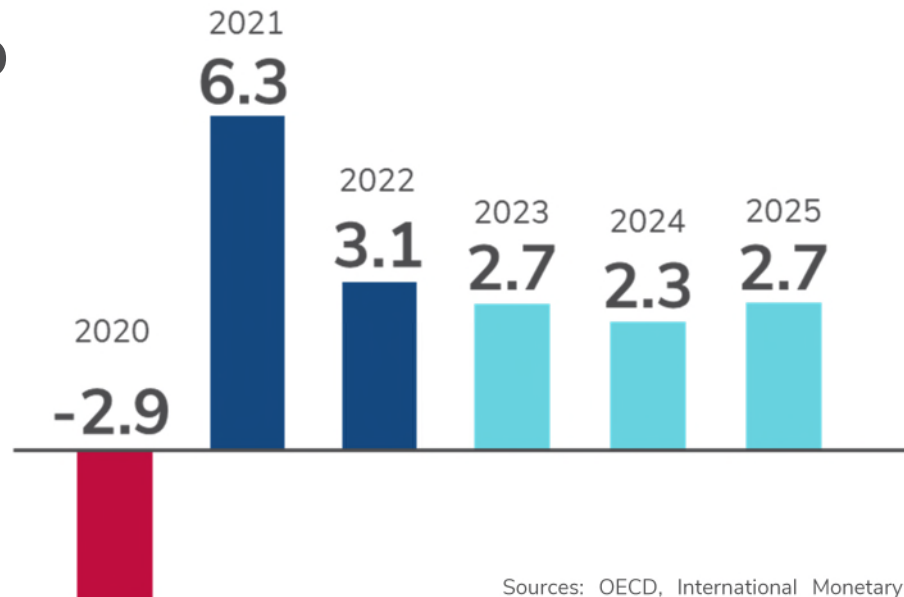
Real GDP Growth (%) Estimates (Median)

Data as of January 30, 2024

Global economic growth was stronger in 2023 than originally predicted when we conducted this analysis a year ago. At the time, the median real GDP growth estimate was 1.7% (vs. the estimated actual of 2.7%). This forecast reflected the impact of the Russia-Ukraine war and global inflationary pressures, which created the specter of stagflation in some countries and regions. In reality, a faster decline in inflation readings (partly due to a drop in global energy and other commodity prices) and resilience from certain economies (especially the U.S. and certain emerging markets) helped the global economy stay afloat. Going forward, the drawdown of pandemic-related excess savings by households and high interest rates in consumer and business activity are expected to weigh down growth. Nevertheless, a soft landing is now plausible in many markets (i.e., central banks could manage to bring inflation down to their respective targets without causing a recession). The recent disruption in Red Sea shipping routes related to the Israeli-Palestinian conflict and the potential escalation to other Middle Eastern countries (or to an even broader scale) present a risk to growth.



WORLD



Sources: OECD, International Monetary Fund, World Bank, Blue Chip Economic Indicators, Consensus Economics, Economic Intelligence Unit, Fitch Ratings, IHS Markit (S&P Global Market Intelligence), Moody's Analytics, Oxford Economics and S&P Global Ratings. Some sources did not have data available for all countries and regions.

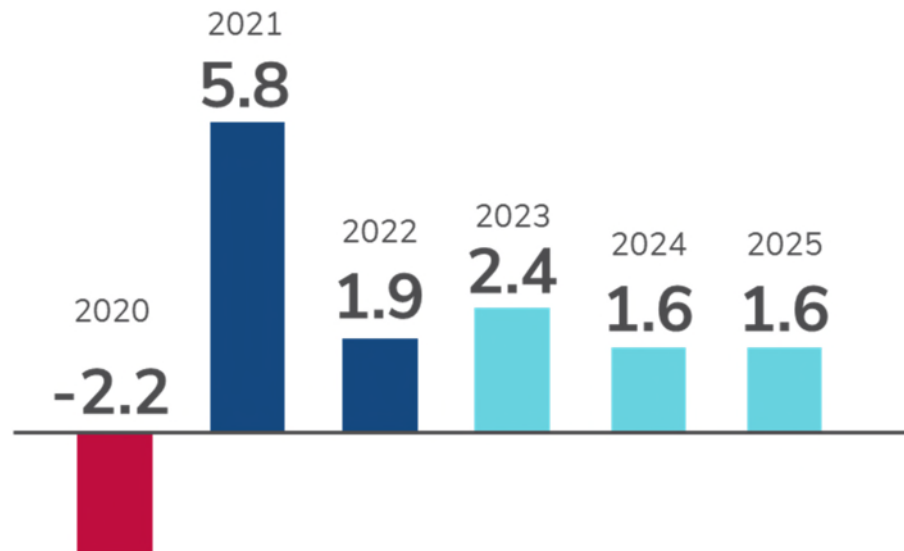
Real GDP Growth (%) Estimates (Median)

Data as of January 30, 2024

Against most odds, the U.S. economy managed not only to avoid recession but also withstand aggressive rate hikes by the Fed and grow in real terms at an above-potential rate (see projected long-term real GDP growth earlier in this report). The Fed appears to be achieving a soft landing, which was not the base case for most economists at the beginning of 2023. Consumer spending was robust in 2023, helped by a strong job market and the use of excess savings obtained from pandemic-era fiscal stimulus packages. Interest rates have likely peaked, and investors are now pricing significant policy rate cuts in 2024. The Fed may ultimately be more conservative about the timing and speed of cuts than investors are anticipating, as it continues to monitor the still-strong labor market and potential pockets of inflation reacceleration. The Fed is trying to avoid the mistakes made in the 1980s, by delaying cuts until inflation reaches its 2.0% target sustainably. Real growth for 2024 and 2025 is projected to be below potential for the U.S. economy, but a recession is no longer the base case scenario.



U.S.



Sources: OECD, International Monetary Fund, World Bank, Blue Chip Economic Indicators, Consensus Economics, Economic Intelligence Unit, Fitch Ratings, IHS Markit (S&P Global Market Intelligence), Moody's Analytics, Oxford Economics and S&P Global Ratings. Some sources did not have data available for all countries and regions.

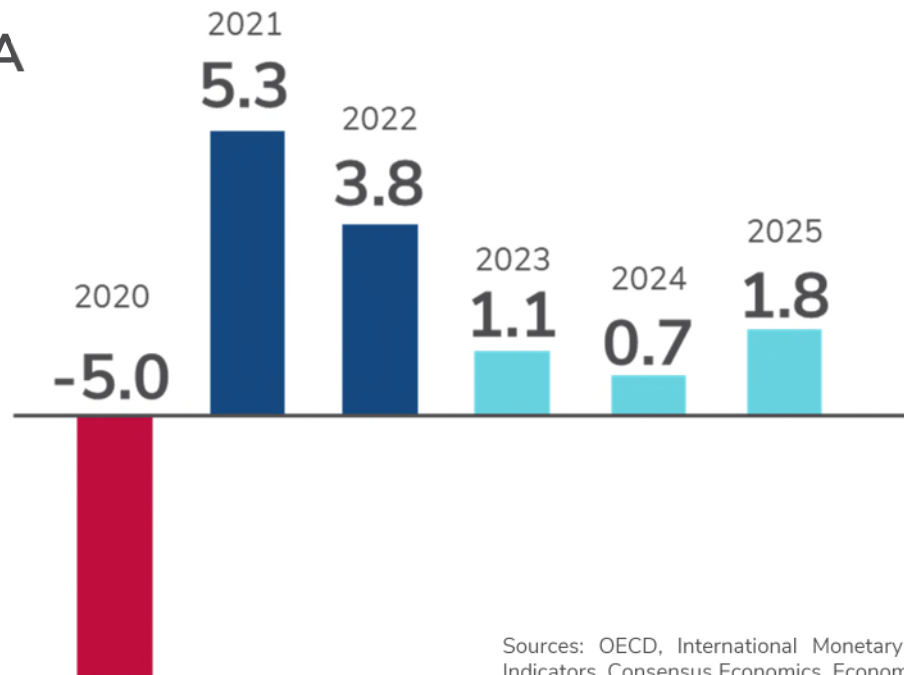
Real GDP Growth (%) Estimates (Median)

Data as of January 30, 2024

Canada's inflation reached a 40-year high in 2022, leading the Bank of Canada to aggressively hike interest rates between 2022 and 2023. Real GDP growth was strong in 2022, but moderated in 2023 as higher interest rates weighed on growth. Consumers reduced spending in response to higher prices and interest rates, and business investment contracted. While inflation has come down closer to its target range, the Bank of Canada worries that there are certain elements of price stickiness, including shelter costs, which remain the biggest contributor to above-target inflation. This means the central bank will be careful with the timing and magnitude of policy rate cuts. Real growth is expected to slow down further in 2024 as tight financial conditions continue to impact consumers and businesses.



CANADA



Sources: OECD, International Monetary Fund, World Bank, Blue Chip Economic Indicators, Consensus Economics, Economic Intelligence Unit, Fitch Ratings, IHS Markit (S&P Global Market Intelligence), Moody's Analytics, Oxford Economics and S&P Global Ratings. Some sources did not have data available for all countries and regions.

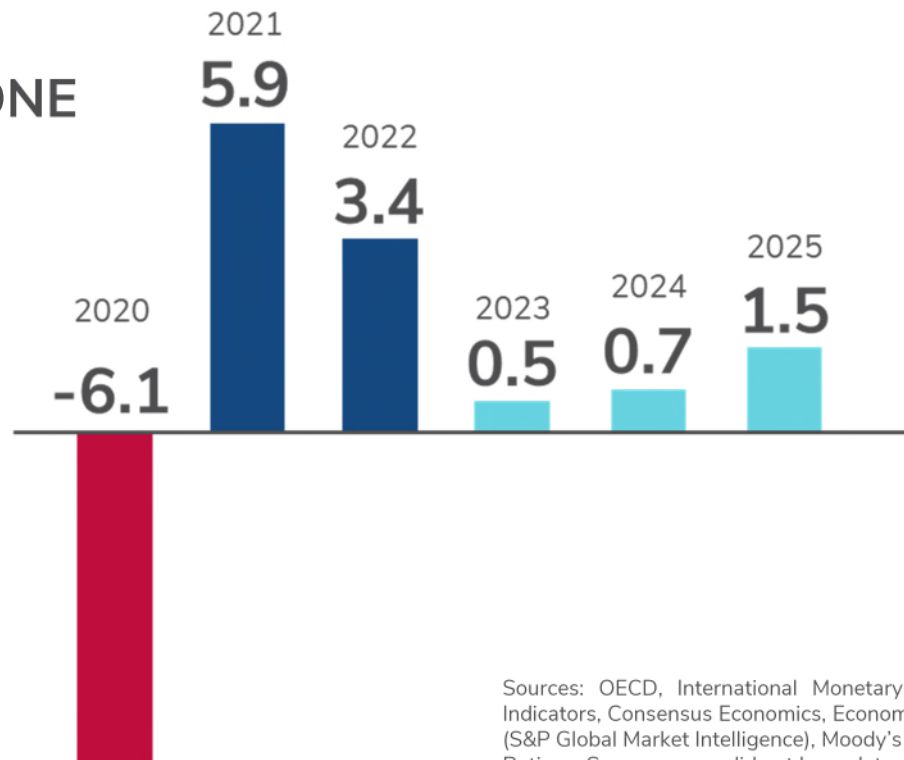
Real GDP Growth (%) Estimates (Median)

Data as of January 30, 2024

After two consecutive years of strong (above-potential) growth, the Eurozone saw its economy stagnate in 2023, due in good part to the after-effects of the Russia-Ukraine war. Significant energy dependence on Russia led to record-high inflation for the common-currency area in 2022, and while inflation began its descent in 2023, high interest rates negatively impacted both the consumer and business sectors. Germany, traditionally seen as the growth engine of the Eurozone, may have contracted in 2023. Real growth is expected to see a small acceleration in 2024 and then recover further in 2025. A surprisingly rapid decline in inflation toward the end of 2023 led many to speculate that the European Central Bank will start to cut interest rates soon. However, there is very little room for policy errors, and the central bank may wait until midyear (or possibly longer) for rate cuts, until it is more certain that wage pressures will not reignite inflation.



EUROZONE



Sources: OECD, International Monetary Fund, World Bank, Blue Chip Economic Indicators, Consensus Economics, Economic Intelligence Unit, Fitch Ratings, IHS Markit (S&P Global Market Intelligence), Moody's Analytics, Oxford Economics and S&P Global Ratings. Some sources did not have data available for all countries and regions.

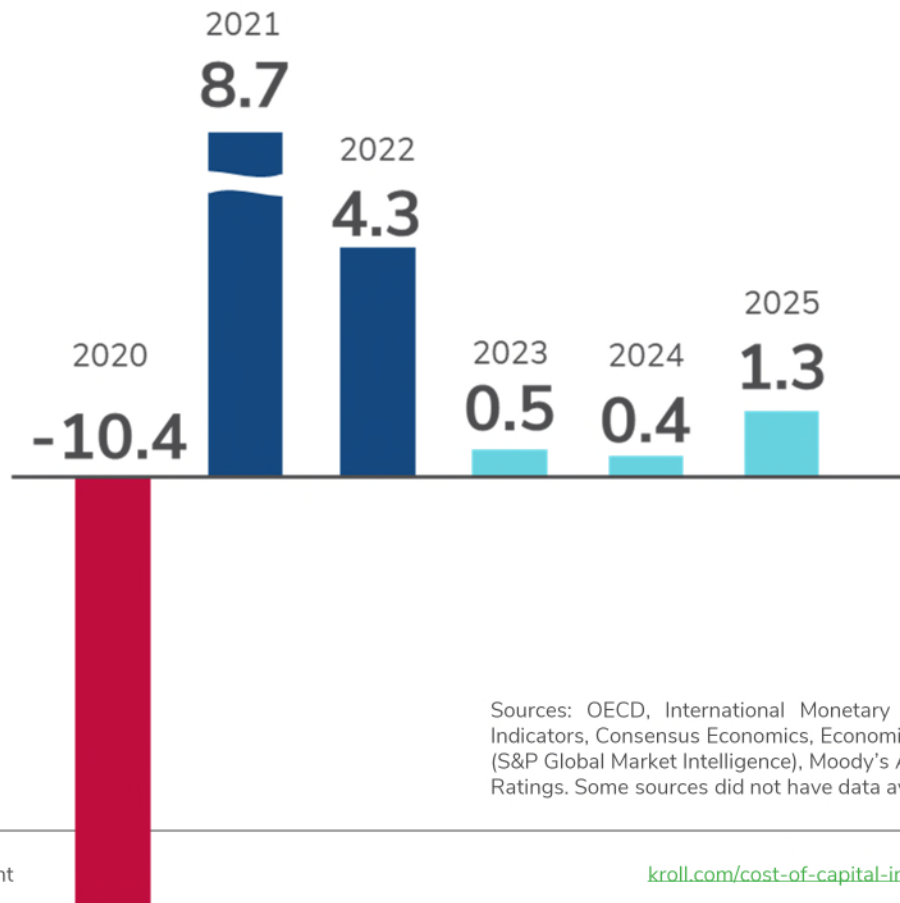
Real GDP Growth (%) Estimates (Median)

Data as of January 30, 2024

A surge in inflation in 2022 led to a significant reduction in UK consumer purchasing power. The UK economy was very vulnerable to effects from the Russia-Ukraine war, particularly due to rising energy prices and supply chain disruptions. The Bank of England raised its policy interest rate at a rapid pace, bringing it to the highest level since 2008. Real economic growth came to almost a halt in 2023, although it defied earlier more-pessimistic projections of a contraction for the year. Inflation has come down at a slower rate than in other parts of Europe or in the U.S., and it remains at about double the Bank of England's target. Interest rate cuts may come later than in the U.S. or Eurozone, which will continue to weigh down economic activity in 2024. A recession is still in the cards, according to many economists.



UK



Sources: OECD, International Monetary Fund, World Bank, Blue Chip Economic Indicators, Consensus Economics, Economic Intelligence Unit, Fitch Ratings, IHS Markit (S&P Global Market Intelligence), Moody's Analytics, Oxford Economics and S&P Global Ratings. Some sources did not have data available for all countries and regions.

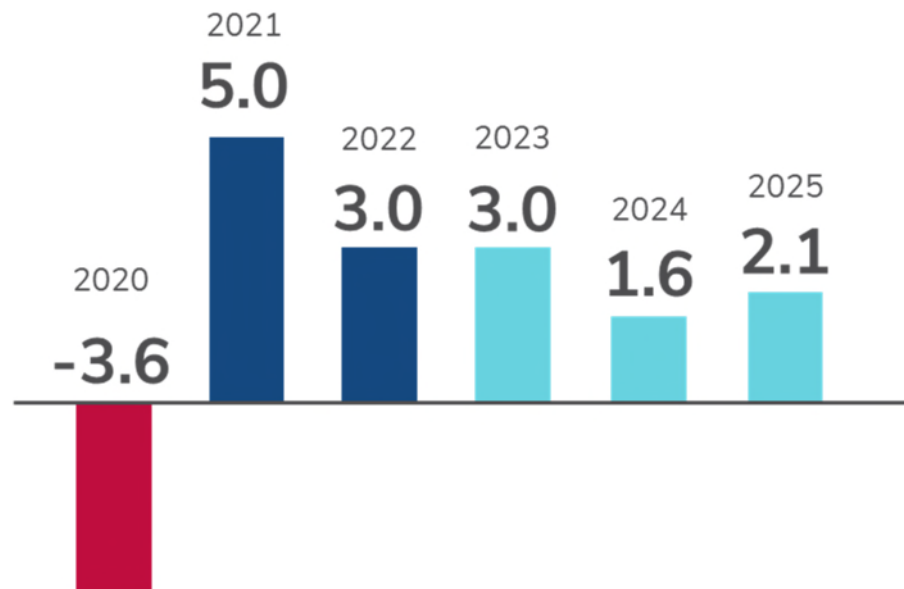
Real GDP Growth (%) Estimates (Median)

Data as of January 30, 2024

Estimates of Brazil's real GDP growth in 2023 appear to match growth in 2022. Consumer spending was strong, but business investment was negatively impacted by high interest rates in 2023. Inflation has been coming down closer to target, which has enabled the central bank of Brazil to start cutting its policy interest rate (the SELIC) in the latter half of 2023. Nonetheless, real growth is expected to slow down in 2024 as high interest rates continue to be a drag on spending and investment. A gradual recovery is projected for 2025.



BRAZIL



Sources: OECD, International Monetary Fund, World Bank, Blue Chip Economic Indicators, Consensus Economics, Economic Intelligence Unit, Fitch Ratings, IHS Markit (S&P Global Market Intelligence), Moody's Analytics, Oxford Economics and S&P Global Ratings. Some sources did not have data available for all countries and regions.

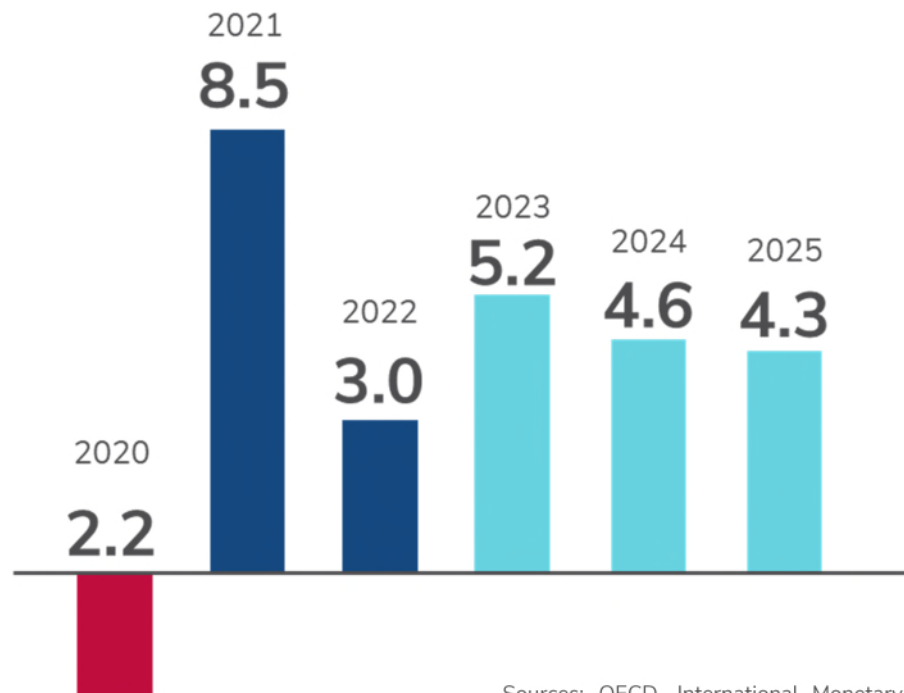
Real GDP Growth (%) Estimates (Median)

Data as of January 30, 2024

China's real GDP growth in 2022 was the second worst in decades (after the low in 2020), as a resurgence of COVID-19 cases and China's zero-COVID-19 policy translated into lockdowns in many cities and ports. These measures weighed on economic activity and contributed to further bottlenecks in global supply chains. After China ended its zero-COVID-19 policy in early 2023, real GDP growth improved significantly, partly aided by government support. However, economic activity is weighed down by soft domestic demand and weakness in China's property sector. Going forward, growth is still expected to be below the nearly 6% (and higher) level the economy enjoyed for many years.



CHINA



Sources: OECD, International Monetary Fund, World Bank, Blue Chip Economic Indicators, Consensus Economics, Economic Intelligence Unit, Fitch Ratings, IHS Markit (S&P Global Market Intelligence), Moody's Analytics, Oxford Economics and S&P Global Ratings. Some sources did not have data available for all countries and regions.

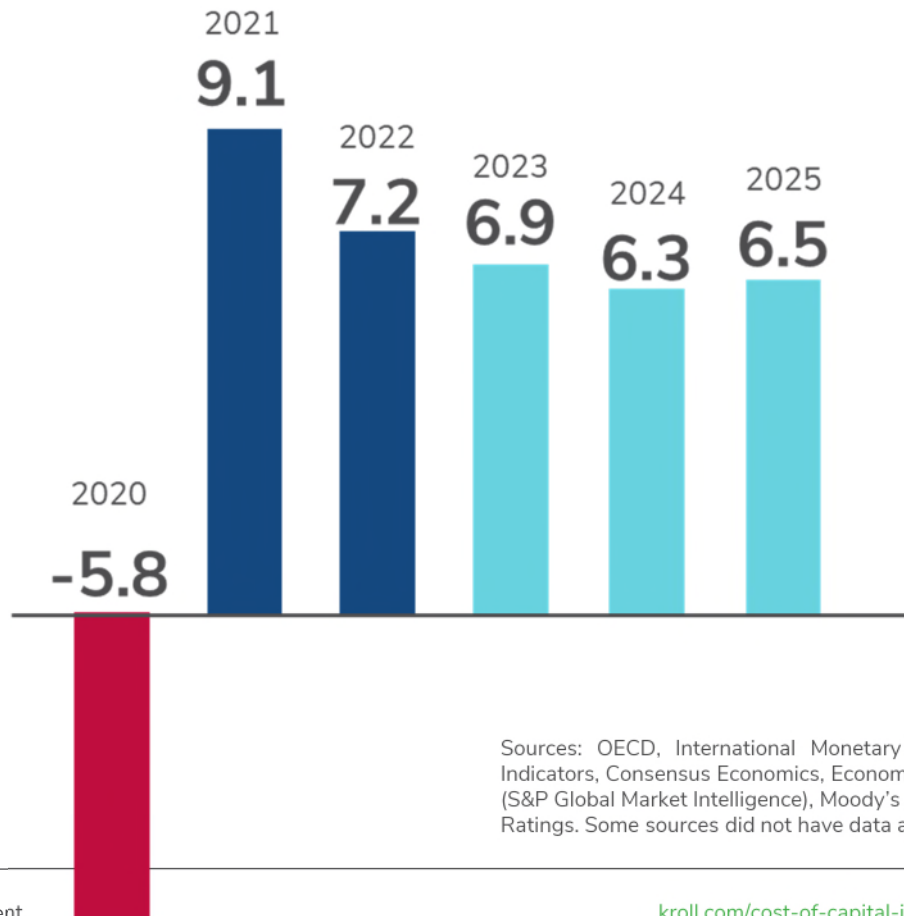
Real GDP Growth (%) Estimates (Median)

Data as of January 30, 2024

India saw an impressive rebound from the pandemic in 2021, with still-stellar performance in 2022 and 2023. India is a bright spot in the global economy: While real growth is predicted to decelerate in 2024, India is still expected by most accounts to have the highest growth rate among G-20 countries. India's economy is supported by strong domestic demand but is also expected to benefit from ongoing diversification of global supply chains away from China.



INDIA

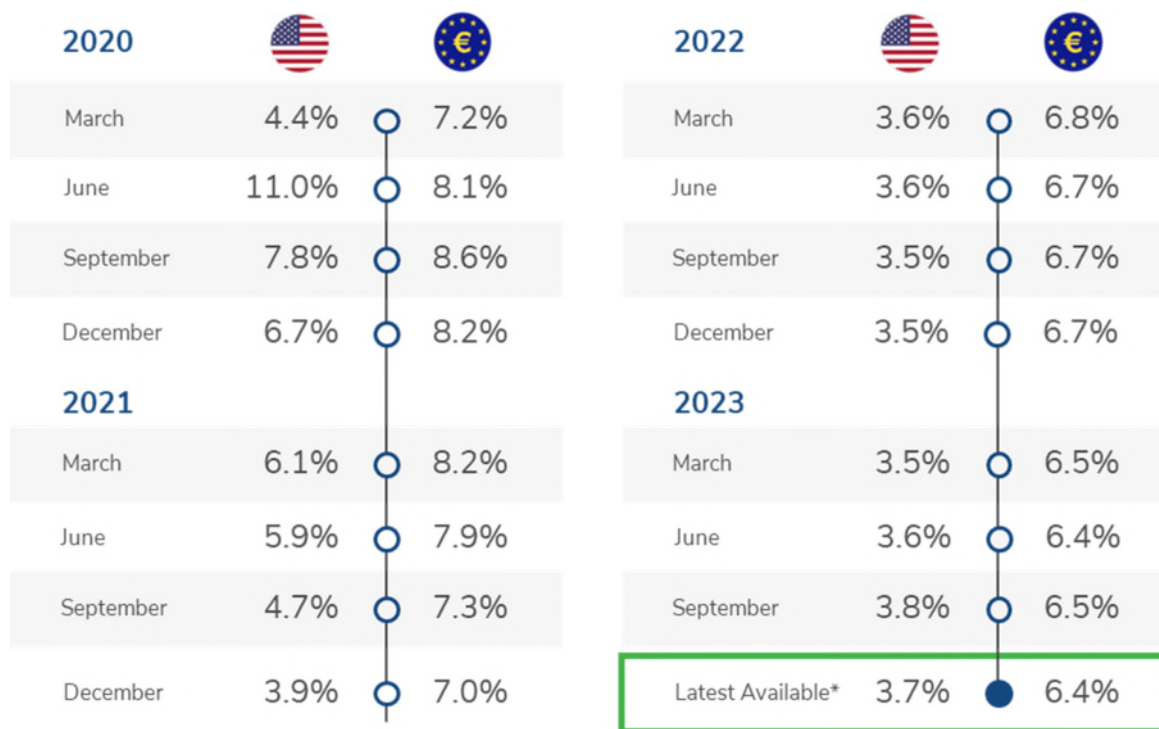


Sources: OECD, International Monetary Fund, World Bank, Blue Chip Economic Indicators, Consensus Economics, Economic Intelligence Unit, Fitch Ratings, IHS Markit (S&P Global Market Intelligence), Moody's Analytics, Oxford Economics and S&P Global Ratings. Some sources did not have data available for all countries and regions.

U.S. vs. Eurozone Unemployment Rate

Data as of January 26, 2024

Contrary to expectations of many economists, the steep increase in interest rates during 2022 and 2023 has yet to lead to a significant increase in the unemployment rate. Job markets have remained strong, with the U.S. unemployment rate only slightly above pre-pandemic levels, which at the time marked multidecade lows. The U.S. is still seeing surprisingly strong job creation, although layoffs in tech and some other industries are ongoing. The Eurozone's unemployment rate is now lower than the level registered in March 2020.



Source: U.S. Bureau of Labor Statistics and Eurostat







*Data was available for December 2023 for the U.S. and November 2023 for the Eurozone

U.S. and Eurozone

Consumer Sentiment vs. Business Confidence

Data as of January 26, 2024

Consumer sentiment in the U.S. and Eurozone has yet to recover to pre-pandemic levels. However, relative to 2022, consumers have become notably more optimistic in both geographies as the process of disinflation continues and job markets continue to be relatively strong. Business confidence in the U.S. is about the same as before the pandemic. In contrast, while business confidence in the Eurozone had surpassed COVID-19 levels in the first half of 2023, it dipped in the last six months of the year as high interest rates weighed on economic activity.

		Pre-COVID-19 (February 2020)		Post-COVID-19 (January 2024)	Long-Term Avg. (1952-2024)
Consumer Sentiment		101.0	↓	78.8	85.5
	 	108.1	↓	89.6	100.0
Business Confidence		99.0	↓	98.6	100.0
	 	100.3	↓	95.5	100.0

Sources: Michigan University's Index of Consumer Sentiment (preliminary January 2024 reading), OECD's Business Confidence Index and European Commission business and consumer surveys. The same methodology that the European Commission uses to standardize its Economic Sentiment Indicator was applied to the Eurozone Consumer Confidence and Business Climate Indicator series. Business Confidence for the U.S. was available for November 2023 and for the Eurozone for December 2023.



For more information, please contact:



Carla S. Nunes, CFA

Managing Director
Kroll, LLC

carla.nunes@kroll.com



Kevin Madden

Director
Kroll, LLC

kevin.madden@kroll.com

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