

Economic and market update

October 2022

Key points

- The Reserve Bank of Australia (RBA) has slowed the pace of interest rate increases as it seeks to tame inflation while avoiding recession.
- High inflation and a shortfall in households' purchasing power will likely prevent the U.S. economy from growing above trend over coming quarters.
- Economic momentum continued to deteriorate in the euro area as nations adapted to the cut-off in natural gas supplies from Russia.
- Sharp moves in U.K. bond and currency markets in late September created havoc in the pensions sector, prompting intervention from the Bank of England (BOE).

Australia

Economic activity in Australia has remained surprisingly strong. We continue to see full-year 2022 gross domestic product (GDP) growth in a range of 3% to 3.5%, as a tight labour market continues to support domestic demand. We believe Australia will avoid a recession in 2023, unlike our view for most other developed markets. We foresee full-year 2023 GDP growth slowing to around 1.5% as interest rates move into restrictive territory.

The RBA raised its cash rate target by 25 basis points to 2.6% at its October meeting, a slowing of its pace after four consecutive 50-basis-point hikes. The slowing pace acknowledges the bank's inherent trade-off between aiming to tame inflation and avoiding moves that could invite recession. It has more room to manoeuvre than other developed markets central banks, given lower inflation and wage pressures in Australia. We expect the RBA to increase the cash rate to a range of 3.5% to 4% by mid-2023. We believe that such a step is necessary to bring inflation back to its 2% to 3% target range, which we expect to occur in early 2024.

The consumer price index (CPI) rose by 7.3% in the 12 months ended 30 September, compared with 6.1% in the 12 months ended 30 June. We believe inflation in Australia won't reach peaks in and near double digits as in some other developed markets. Emergence from COVID lockdowns and associated spending

occurred later in Australia, giving inflation less time to take hold, and wage contracts typically negotiated over several years haven't allowed wage pressures to build significantly.

Australia's unemployment rate remains steady at 3.5%. A change in rules around COVID isolation and newly opened borders allowing for normalisation of migration patterns will serve to boost labour supply. We do expect the unemployment rate to rise from recent lows amid a weaker global growth picture in 2023.

United States

Core aspects of the U.S. economy such as consumer spending and housing have weakened materially over the course of 2022. We expect that, given the monetary policy backdrop and a burgeoning shortfall in households' purchasing power amid high inflation, the economy will grow no better than trend (around 1.8% annualised) over the next few quarters.

An ever-more-hawkish U.S. Federal Reserve has led us to increase our view for the terminal rate for the federal funds rate target. In our base case, we believe the Fed will raise the rate to 4.5% by the end of the 2023 first quarter, from a current target range of 3% to 3.25%. At its September meeting, the Fed voted to raise the target for the funds rate by 75 basis points, to its current range. We believe the Fed will keep its target at the terminal rate for some time to bring inflation back toward its 2% target.

Core inflation in the September CPI report surprised to the upside for a second consecutive month, rising by 6.6% compared with a year earlier, the highest level since 1982. The Fed's preferred inflation indicator, the core personal consumption expenditures (PCE) index, rose by 0.6% in August, having been flat in July. We foresee core PCE around 4.5% at year-end compared with the end of 2021, higher than our forecast of 4.2% before the release of the September CPI report.

The unemployment rate fell to 3.5% in September, with the economy adding 263,000 jobs. Such a degree of job creation at this stage of the business cycle signifies a still-strong labour market and allows the Fed to continue to focus squarely on

inflation in its policymaking. We foresee the unemployment rate climbing to 4.4% in the fourth quarter of 2023.

Euro area

Economic momentum has continued to deteriorate in the euro area in recent weeks, and we continue to expect a mild recession there this quarter, stretching into the first quarter of 2023. We continue to foresee full-year 2022 economic growth in a range of 2% to 3%. Our 2023 forecast range is for a contraction of 0.5% to growth of 0.5%.

European nations are adapting to the cut-off in natural gas supplies from Russia, with most achieving their storage targets ahead of time through alternative sources. But we remain cautious on the outlook given forecasts for a colder, drier, and less windy than usual early winter. We project that consumption will have to be reduced by around 15% this winter. We expect Germany and Italy—whose economies have had significant exposure to Russia—to drive the slowdown. European Union countries have allocated, on average, around 2.5% of GDP to offset a surge in energy prices.

The European Central Bank (ECB) announced a 75-basis-point increase in its key interest rates at its October meeting. We continue to foresee the ECB raising the deposit facility rate to 2.5% in the first quarter of 2023 and then leaving it at that level for the rest of the year in a continued effort to return inflation toward the bank's 2% target.

Headline inflation in the euro area reached 9.9% in September. Euro area producer prices were up by 43.3% in August compared with a year earlier, slightly higher than expected. Energy prices continued their climb, up 116.8% year-on-year. We expect headline inflation to peak around 11% in the fourth quarter, higher than our previous view of a 10% peak. The unemployment rate in the euro area remained steady at a record low of 6.6% in August. We expect the labour market to remain tight even as economic growth falters, keeping upward pressure on wages and keeping the ECB vigilant.

United Kingdom

Bond and currency markets soundly rejected the U.K. government's growth plan announced in September that included the largest

package of tax cuts in generations. Market and political drama have enveloped the nation since, with a change of chancellor and prime minister. Initial concerns about the proposals' effect on inflation and the government's financial stability caused bond yields to spike so quickly that the BOE intervened to ward off a potential crisis in the pensions market.

We continue to foresee full-year 2022 GDP growth in a range of 3% to 4%. For 2023, we anticipate a contraction of up to 0.5%. The BOE raised its bank rate by 50 basis points for a second consecutive meeting in September to a 14-year high of 2.25%, emphasising that "further, forceful" monetary policy tightening was needed to bring inflation back to the bank's 2% target. We expect the bank to reach a terminal rate of 5% in the first quarter of 2023, then keep it there for the rest of the year.

Headline inflation in the United Kingdom reached 10.1% in September compared with September 2021, up from a 9.9% year-on-year increase in August. The government's recent announcement of an earlier end to the energy price guarantee scheme presents upside risks to our inflation outlook. Our current view is that inflation will average 9% to 9.5% in 2022 and 6.5% to 7% in 2023. We foresee year-on-year headline inflation falling to around 4.5% by year-end 2023.

The unemployment rate in the United Kingdom fell to 3.5% in the three months through August, the lowest since the three months ended February 1974. Job vacancies fell for a fourth consecutive reading in the July-to-September period but remain near historical highs. Still, we see the decrease as a tentative sign that the labour market is loosening.

China

An October release of GDP and other data in China was postponed indefinitely and without explanation, signalling a potential de-emphasis on economic growth in favour of alternative policy objectives. The postponement was announced near the start of the weeklong National Congress of the China Communist Party, a major policy gathering that takes place every five years.

We had expected the National Bureau of Statistics to report weaker-than-consensus third-quarter GDP growth of less than 2.5%

compared with a year earlier. High-frequency data had suggested that activity started to pick up in late September after much of the quarter until then had been disappointing. We do foresee a recovery in the fourth quarter, however, as fiscal and monetary stimulus flow through the economy. We foresee growth of 5% in 2023, a downgrade from our most recent view of 5.5%. Still, that would represent growth above our view of China's potential 2023 growth of 4.3%, a development that could be concerning depending on its effect on inflation.

The People's Bank of China kept on an accommodative tack in October, keeping its one-year medium-term lending facility rate at 2.75% for a second straight month. We expect policy to remain accommodative for the next six months to counter weakness in the real estate sector and the effects of ongoing COVID lockdowns. As the economy rebounds in 2023, we expect policy to switch from accommodative to neutral.

We have upgraded our forecasts for inflation in China for both 2022 and 2023. Higher pork prices are the culprit for our view that year-on-year inflation will exceed 3% on the way to an annual average of 2.3% in 2022. For 2023, we foresee inflation surpassing 4% on a year-on-year basis and averaging 3.2%, attributable to weakness in China's currency and the potential for further stimulus.

Emerging markets

The growth story in emerging markets is one of relative resilience compared with that of developed markets. We foresee economic growth around 3.3% for both full-year 2022 and full-year 2023, below consensus but higher than our view for developed markets. Growth has been slower than it might have been, as rising global interest rates increased debt loads and forced fiscal discipline on emerging markets.

Central banks in emerging markets have continued to increase policy interest rates in the face of high inflation, though we believe that, with inflation beginning to fall, they may be able to halt and even reverse some hikes in 2023. Mexico's central bank increased its policy rate by 75 basis points for a third successive policy meeting, to 9.25%, effective from the end of September. The Central Bank of Chile raised its key rate by 50 basis points to 11.25%

in October but estimated that it had reached the high point of this hiking cycle. Brazil's central bank left its key policy rate unchanged at 13.75% at its September meeting and said it would closely watch whether leaving the rate at this level "for a sufficiently long period" would push inflation back toward target levels.

Inflation in emerging markets has been more of a goods story than a services story, so indications that goods price gains are starting to slow is a welcome sign. Headline inflation in Brazil slowed to 7.17% in September compared with a year earlier, a third consecutive decline and the smallest annual increase since April 2021. Mexico's CPI rose by 8.7% compared with

a year earlier, the same rate of annual increase as in August. South Korea's CPI rose by 0.3% in September from a month earlier, after a decline in prices in August, but year-on-year price gains at 5.6% were at a four-month low.

Asset class return outlooks

Vanguard has updated its 10-year annualised outlooks for equity and fixed income returns based on data as of 30 September 2022. The probabilistic return assumptions depend on market conditions at the time of the running of the Vanguard Capital Markets Model® (VCMM) and, as such, can change with each running over time.

| AUSTRALIAN DOLLAR INVESTORS ASSET CLASS | MEDIAN VOLATILITY (%) | 10-YEAR ANNUALISED RETURN FORECAST |
|--|--------------------------|---------------------------------------|
| Australian equities | 21.8 | 4.5%–6.5% |
| Global ex-Australia equities (unhedged) | 20.3 | 5.7%–7.7% |
| Australian aggregate bonds | 5.8 | 3.7%–4.7% |
| Global bonds ex-Australia (hedged) | 5.0 | 3.9%–4.9% |

Important: The projections or other information generated by the Vanguard Capital Markets Model regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from the VCMM are derived from 10,000 simulations for each modeled asset class. Simulations are as of September 30, 2022. Results from the model may vary with each use and over time.

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The Vanguard Capital Markets Model® is a proprietary financial simulation tool developed and maintained by Vanguard's primary investment research and advice teams. The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data from as early as 1960. Using a system of estimated equations, the model then applies a Monte Carlo simulation method to project the estimated interrelationships among risk factors and asset classes as well as uncertainty and randomness over time. The model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.

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