JULY/AUGUST 2022

Market perspectives

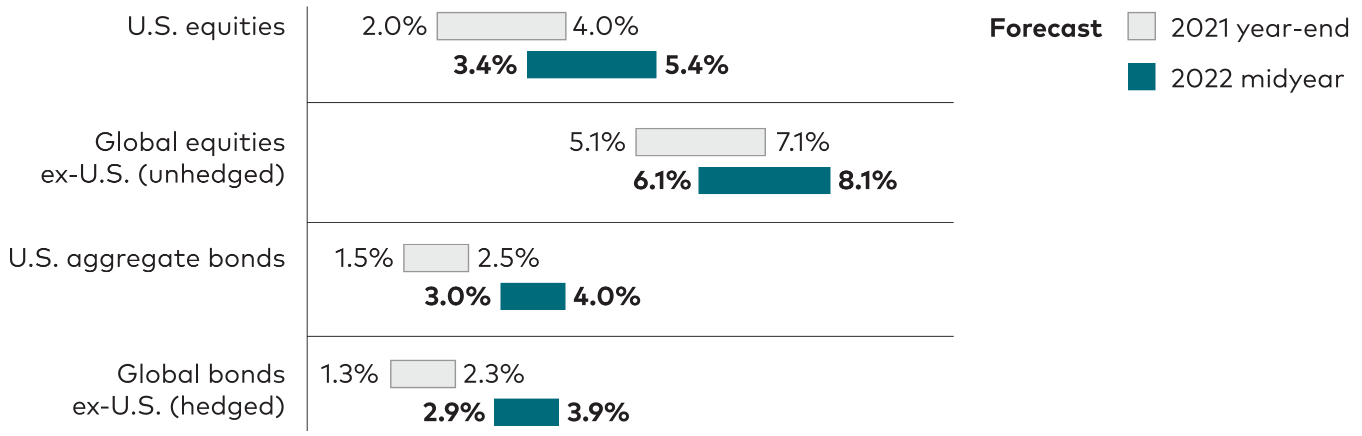
Vanguard's monthly economic and market update

Compared with the start of the year, Vanguard has:

- Downgraded our 2022 GDP growth forecasts for all the major regions.
- Increased our inflation forecasts.
- Become more hawkish about monetary policy.

Global equity and fixed income outlook

Stock and bond markets have been hit hard so far in 2022. But there is an upside to down markets: Because of lower current equity valuations and higher interest rates, our model suggests higher expected long-term returns. Falling equity valuations and rising interest rates have largely increased our 10-year annualized developed market return forecasts in the first five months of 2022 by about 1 percentage point for stocks and 1.5 percentage points for bonds.



IMPORTANT: The projections and 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 December 31, 2021, and May 31, 2022. Results from the model may vary with each use and over time. For more information, please see page 4.

Note: Figures are based on a 1-point range around the 50th percentile of the distribution of return outcomes for equities and a 0.5-point range around the 50th percentile for fixed income.

Source: Vanguard.

United States

~1.5%

Economic growth

We downgraded our forecast by 2 percentage points since the start of the year because of factors that we expect will continue throughout 2022—namely, tightening financial conditions, wages not keeping up with inflation, and the lack of demand for U.S. exports. The probability of a recession is 25% over the next 12 months and 65% over 24 months.

7% to 7.5%

Headline inflation

Surging energy and food prices keep our projections for headline CPI around 7% to 7.5% by year-end 2022 before it moderates in 2023. In the current environment, headline inflation will matter more for monetary policy than it typically does.

3.25% to 3.75%

Monetary policy

The Fed turned hawkish in recent weeks, further emphasizing inflation as a clear priority over potential implications for economic growth. We expect the target federal funds rate to end the year in a range of 3.25% to 3.75% and expect a terminal rate of at least 4% in 2023—much higher than what we consider to be the neutral rate (2.5%) and what's currently priced into the market.*

3% to 3.5%

Unemployment rate

Labor market trends are likely to keep downward pressure on the unemployment rate through year-end, though increases in 2023 are likely as the impacts of Fed policy and slowing demand take hold.

* The neutral rate is the theoretical interest rate at which monetary policy neither stimulates nor restricts an economy.

Notes: Figures related to economic growth, inflation, monetary policy, and unemployment rate are Vanguard forecasts for the end of 2022. Growth and inflation are comparisons with year-end 2021; monetary policy and unemployment rate are absolute levels.

Source: Vanguard.

Euro area

2% to 3%

Economic growth

We've twice downgraded our outlook this year because of higher energy prices—once before and once after Russia's invasion of Ukraine. Risks are growing, though recession in the next 12 months isn't a foregone conclusion. But a complete cutoff from Russian natural gas would almost certainly lead to rationing and recession.

~8% to 8.5%

Headline inflation

We expect headline inflation to peak close to 10% in the third quarter, higher than current record levels. But by the end of 2023, we foresee inflation falling back toward the European Central Bank's 2% target. For now, European consumers grapple with rapid price rises that extend to an array of goods and services.

0.5% to 0.75%

Monetary policy

The European Central Bank has signaled a July interest rate hike. We expect the deposit rate to move into positive territory in the third quarter for the first time since 2012. The ECB has turned hawkish recently given broadening inflation pressures. "Fragmentation risk" complicates matters: The ECB manages policy for 19 nations.

~7%

Unemployment rate

We foresee the labor market remaining historically strong with a comparatively low unemployment rate by year-end. Wage pressures continue to build as job vacancy rates have risen to new records.

Notes: Figures related to economic growth, inflation, monetary policy, and unemployment rate are Vanguard forecasts for the end of 2022. Growth and inflation are comparisons with year-end 2021; monetary policy and unemployment rate are absolute levels.

Source: Vanguard.

China

~3%
Economic growth
We foresee China's 2022 growth falling short of our 5% forecast at the start of the year as three priorities clash. A commitment to financial stability and a zero-COVID policy leave policymakers' target for growth "around 5.5%" vulnerable amid a weak domestic labor market and slowing global growth.

<2.5%
Headline inflation
Inflation has increased toward midyear but remains unlikely to reach policymakers' 3% target. Spillover from building global inflation pressures is likely to be offset by the weakening domestic growth picture. Producer price inflation remains elevated but in recent years has had little pass-through to consumer prices.

2.75%
Monetary policy
We expect only one further 10-basis-point cut in the one-year, medium-term lending facility rate, in line with consensus. We expect intensified policy efforts this year to focus on fiscal policy. Monetary policy is constrained by external and domestic forces: global central banks' tightening paths and a desire not to overstimulate China's property sector.

~5.5%
Unemployment rate
Our year-end forecast for the unemployment rate is higher than consensus and 100 basis points above the level that would be expected to promote inflation. China's below-trend growth translates to slack in the labor market, with recent university graduates faring worst.

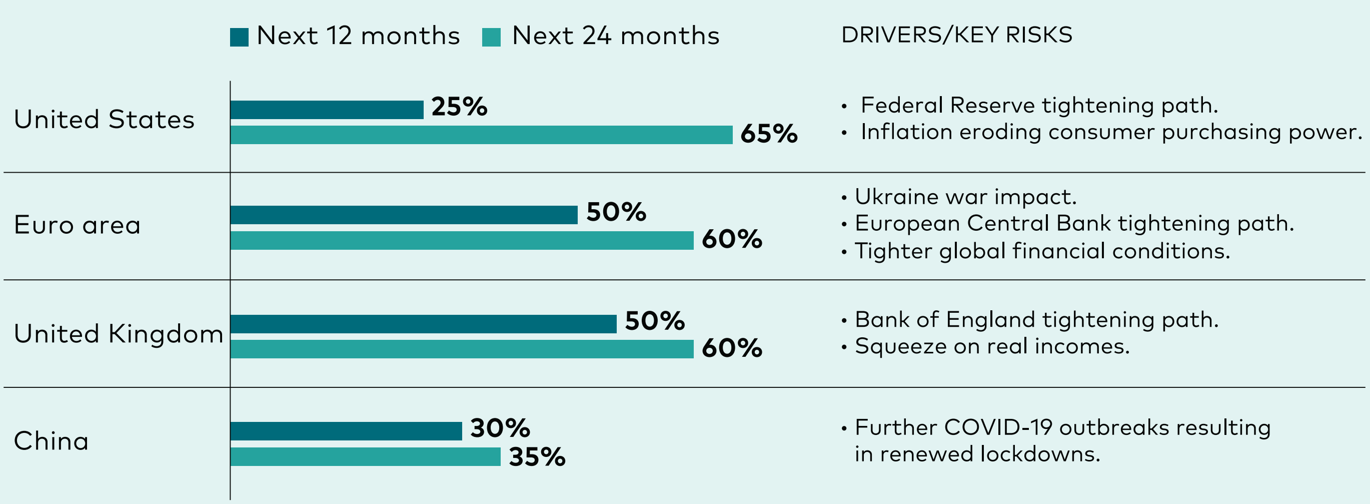
Notes: Figures related to economic growth, inflation, monetary policy, and unemployment rate are Vanguard forecasts for the end of 2022. Growth and inflation are comparisons with year-end 2021; monetary policy and unemployment rate are absolute levels.

Source: Vanguard.

Emerging markets

We recently downgraded our forecast for full-year 2022 growth in emerging markets, from about 5.5% at the start of the year to about 3%. Emerging markets continue to face headwinds from slowing growth in the United States, the euro area, and China, as well as from developed markets' central bank tightening and from domestic and global inflation. Although higher commodities prices do benefit some emerging economies, they're a negative in the aggregate.

Probability of recession for select regions



Source: Vanguard, as of July 7, 2022.

All investing is subject to risk, including possible loss of principal.

Diversification does not ensure a profit or protect against a loss.

Investments in bonds are subject to interest rate, credit, and inflation risk.

Investments in stocks or bonds issued by non-U.S. companies are subject to risks including country/regional risk and currency risk. These risks are especially high in emerging markets.

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The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More important, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.

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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