Vanguard research | Global macro matters

November 2021

A shot in the arm: Reopening, inflation, and the Fed

The progress in combatting COVID-19 throughout 2021 has driven marked improvements in closing the immunity and reluctance gaps in the U.S., and the reopening of the economy is now moving into a more advanced stage.[1]

The economy is transitioning from being driven principally by health outcomes to once again seeing more fundamental influences. We look ahead and assess the U.S. economy's reopening through the lens of key questions currently facing markets: What will the next phase of the recovery look like, and will its nature prompt earlier-than-expected policy rate action from the Federal Reserve?

Prolonged reopening fuels continued economic uncertainty

Unlike the abrupt shutdown of the economy in early 2020, the reopening has been drawn out. This will extend the current economic volatility well into 2022 before a settling point is reached and more clarity on underlying conditions can be obtained. This heightened data volatility has led to disparate views on the state of the recovery and economic fundamentals. Fixed income markets have been understandably volatile during this period but as of late have seemed to settle around ranges we believe to be consistent with fair values and with economic conditions.

Current labor market conditions have defied traditional economic patterns, and it's becoming evident that behavioral, more so than economic, reasons are responsible for people staying out of the labor force. At a time when the number of job openings and wage growth are at generation highs, workers who left the labor force over the past 18 months are showing little hurry to return. We assess that labor force participation has settled at a new, lower range, and therefore we expect full employment will be achieved by the second half of 2022, even with modest job growth.[2]

Near-term demand will remain strong, despite capacity constraints from the supply side of the economy, which has limited our most optimistic growth scenarios. Beyond 2021, we assess households to be in a strong position and estimate that ample savings, reduced debt obligations, and favorable labor market prospects will be key drivers of continued above-trend economic growth.

Inflation pressures have exceeded our expectations, and a normalization between supply and demand conditions remains some time off. We expect that prices will moderate from current levels; however, lingering supply constraints, ample demand, and diminishing slack in the economy will continue to keep inflation elevated throughout 2022.

1 See *Vanguard Economic and Market Outlook 2021: Approaching the Dawn*. The immunity gap is the proportion of the population that remains susceptible to COVID-19. The reluctance gap is the proportion of the population that continues to refrain from normal out-of-house activities in fear of catching the virus.

2 Full employment is a condition in which essentially all who are able and willing to work are employed.

A "higher for longer" inflation scenario and tighter labor market conditions have brought forward our policy rate view, and we expect that economic conditions will be sufficient to meet the Fed's threshold for tightening in the second half of 2022.

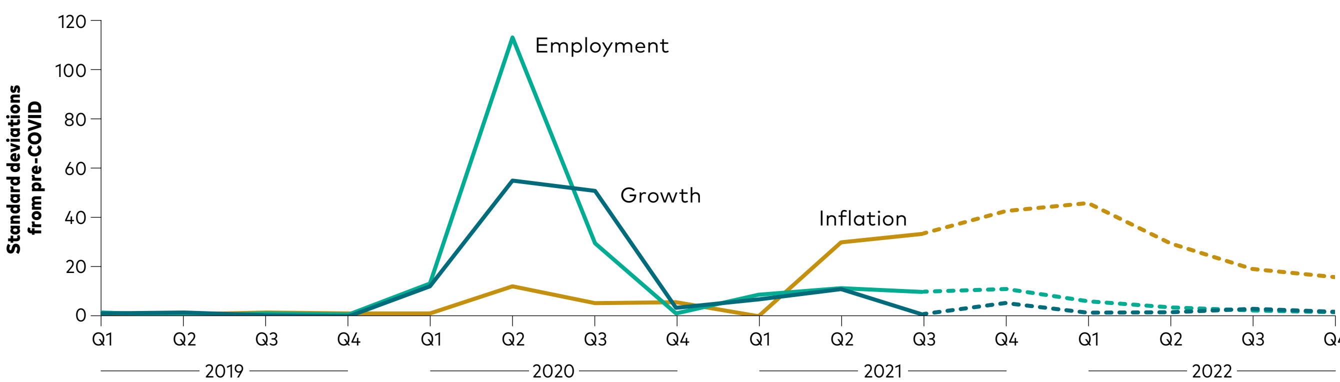
Reopening's volatility prompts disparate views on the outlook

The acceleration in reopening the economy has sparked important questions about the persistence of supply/demand imbalances, our standing in the current economic cycle, and the eventual effect on Fed policy action.

Unlike the abrupt shutdown of the economy early in the pandemic, the reopening has been a more drawn-out process and, as such, the near term will continue to be excessively volatile, adding a high degree of uncertainty to the longer-run implications. The reopening process will likely extend well into 2022 before a settling point is reached and greater clarity on underlying conditions is obtained (**Figure 1**).

The considerable uncertainty in conditions has left ample space for disparate views for the recovery and its trajectory. Lack of clarity in economic growth, fears of persistently high inflation readings, and questions regarding the longevity of the economic cycle have largely been attributed to causing the volatility in fixed income markets in 2021.

FIGURE 1.
Economic volatility to remain well into 2022



Notes: The chart depicts the absolute difference in standard deviation of observed readings from the 2019 trend. Dotted lines represent Vanguard forecasted values.
Sources: Vanguard forecast and calculations, based on Refinitiv data.

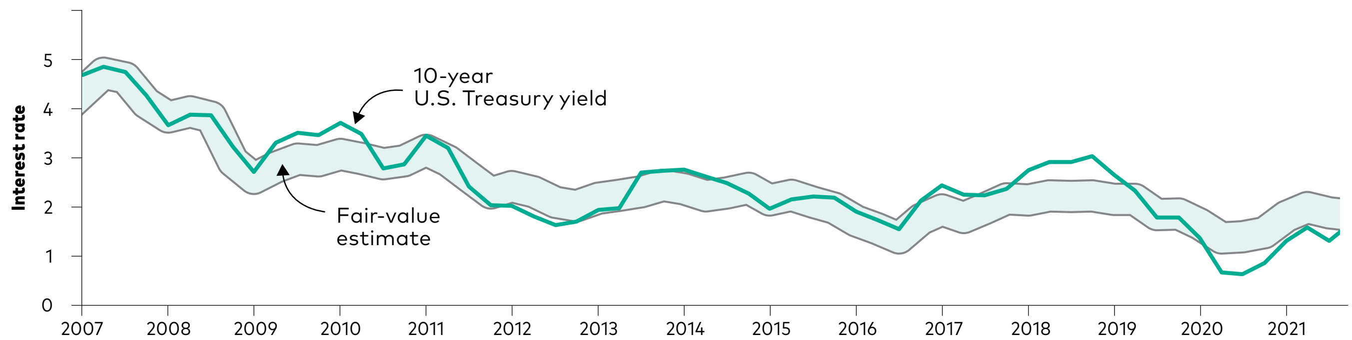
The yield on 10-year U.S. Treasury bonds has fluctuated from a high of 1.74% in March of this year to a low of 1.19% in August, and is currently at 1.57%.[3] As shown in **Figure 2a**, we view the current range as consistent with what would be justified by both a range of asset pricing and current economic conditions.

Figure 2b approaches market pricing from another angle—what probability of economic recession is being priced in by fixed income markets compared with a broad array of macroeconomic indicators? As conditions have improved during the reopening, the probability implied by our macro model has fallen sharply and become *de minimis*, and as bond markets have rebounded from earlier lows, the recession signal from the yield curve has similarly normalized.

FIGURE 2.

Market pricing has settled in fair-value ranges

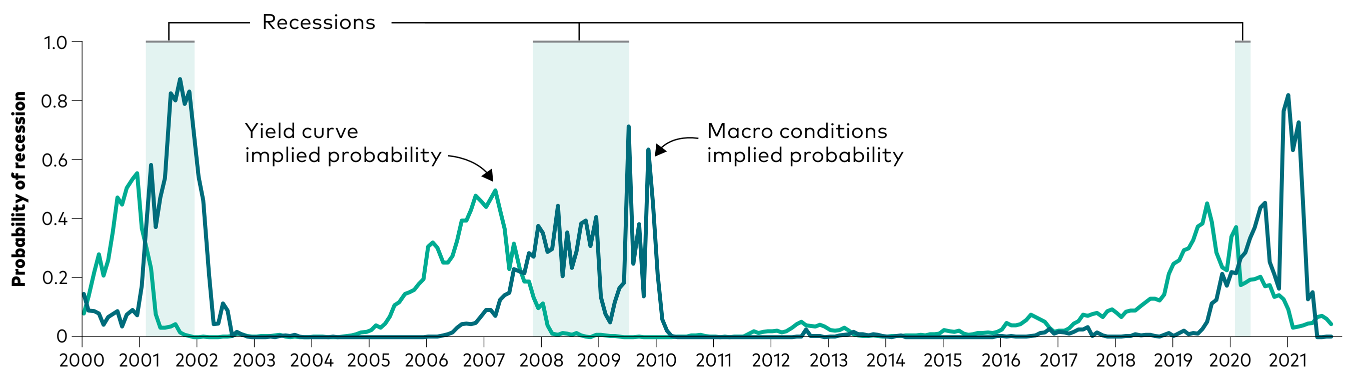
a. 10-year Treasury yield has moved into fair-value range



Notes: The 10-year U.S. Treasury fair-value model is an ordinary least squares model based on cross-asset relationships and their predictive relationship to the 10-year U.S. Treasury yield. Assets examined in the cross-asset model are U.S. equity market industry groups (financials, consumer discretionary, consumer staples, industrials, and utilities), U.S. Treasury market volatility as measured by the Merrill Lynch Option Volatility Estimate (MOVE) Index, precious and industrial metals (copper and gold), and currency relationships (Japanese yen and U.S. dollar).

Sources: Vanguard and Refinitv, based on data from the London Metal Exchange, ICE Benchmark Administration, Standard & Poor's, MSCI, the U.S. Federal Reserve, and Merrill Lynch.

b. Recession pricing from yield curve and broader macroeconomic fundamentals has normalized



Notes: Macro conditions implied probability is based on results of a probit model accounting for credit default spread (AAA interest rates minus Baa interest rates), yield curve (10-year U.S. Treasury yield minus 3-month T-bill yield), proprietary economic growth and momentum indicators, changes in the Standard & Poor's 500 Index, and S&P 500 Index volatility. Yield curve implied probability is based on results of a probit model accounting for 10-year U.S. Treasury yield minus 3-month T-bill yield. Recession is as defined by the National Bureau of Economic Research. Probabilities are derived based on data from January 1982 through October 2021.

Sources: Vanguard calculations, based on data from the Federal Reserve Bank of St. Louis, Standard & Poor's, Thomson Reuters Datastream, and the Federal Reserve System Board of Governors.

3 Source: Federal Reserve Bank of St Louis. Current 10-year yield as of November 12, 2021.

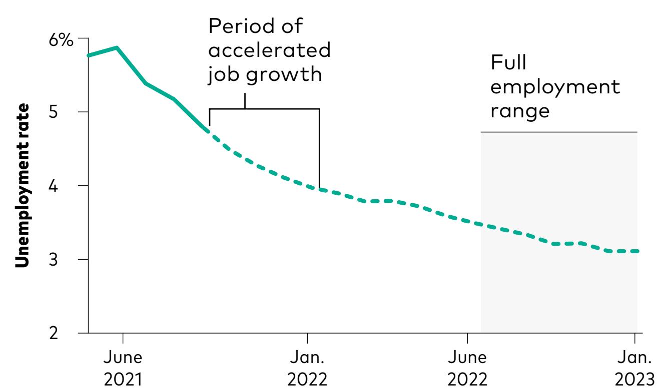
Pre-COVID labor participation is unlikely to be reached

From the time the pandemic began, a key question has been how the labor market would respond to such a deep and dramatic shock. In large part because of the strong fiscal policy response and the development of high-efficacy vaccines, the post-recession economic factors that often keep people unemployed have largely dissipated. But behavioral factors keeping people out of the labor force are showing signs of persistence. This suggests that the official unemployment rate will reach pre-pandemic lows in 2022 but that the labor force participation rate may peak nearly a percentage point lower than the February 2020 level of 63.3%. The key implication is that an overall tighter economy and earlier timeline to reach full employment, together with persistent strong demand, will act to keep upward pressure on prices.

Two key factors support our view. First, employers' demand for labor is currently at record highs, as evidenced by the number of job openings exceeding the number of unemployed. This ratio of openings per unemployed was at 1.43 in September 2021, the highest on record since the monthly data started being reported in 2000. As we progress through this fall and into winter, we expect the pace of job growth to accelerate as vaccination levels reach peak ranges, businesses fully reopen, and unemployment insurance support measures fade. We estimate an average pace of monthly jobs gains of around 600,000 per month for the rest of 2021, which will drive the unemployment rate down significantly, from 4.8% in September to about 4% by year-end. We expect the pace of payroll gains to remain elevated in 2022, with the unemployment rate reaching 3.5% in the second half of the year—a level we believe will be consistent with full employment (**Figure 3**).

FIGURE 3.

Full employment range is expected to be reached by year-end 2022



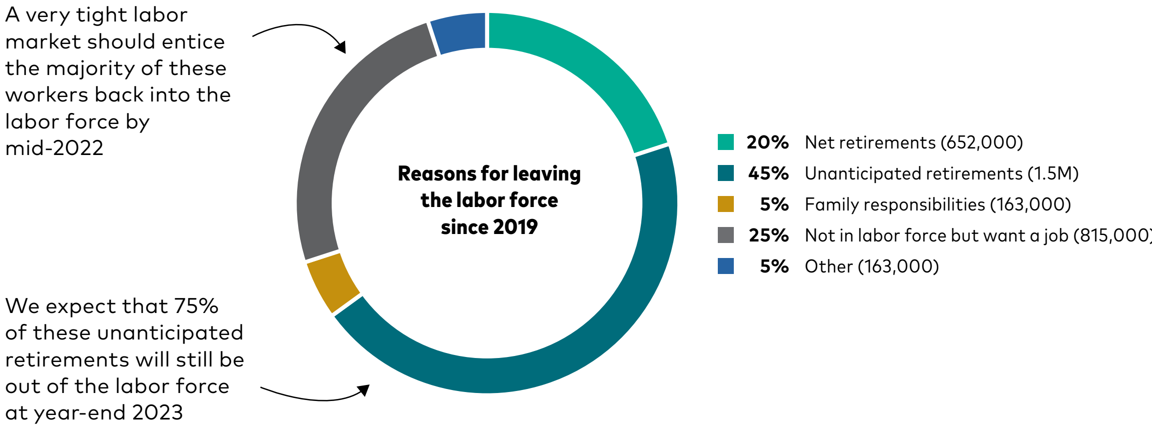
Notes: The dotted line depicts the Vanguard headline (U-3) unemployment rate forecast. U-3 is the most commonly reported rate of U.S. unemployment.

Sources: Vanguard forecast and calculations, based on Refinitiv data.

The second factor supporting our view relates to the longer-run dynamics affecting the labor force—demographics. The largest contributor to the decline in labor force participation since the pandemic started has been retirements, with nearly 3 million workers retiring as of June 2021. Although some of these retirements were planned before the pandemic, roughly half were not. These unanticipated retirements are generally older and wealthier workers who were employed in higher-wage industries and workers who originally had expected to retire in the next few years; as such, we expect that only a fraction of these unanticipated retirees will ever return to the labor force (**Figure 4**).

FIGURE 4.

Majority of the labor force shortfall will persist



Notes: *Net retirements* refers to expected retirements minus new labor market entrants. This is a normal labor market rotation that occurs as older workers retire and younger workers enter the labor force. This rotation will have a net negative effect on the labor force from 2020 to 2025 because retirements will exceed new labor market entrants. *Unanticipated retirements* are retirements in excess of what our demographic models predicted—workers who likely retired as a result of pandemic implications. *Family responsibilties* refers to those who are not working because they are caring for family. *Other* includes those who have left the labor force to continue their education or because of a disability. All figures represent the change from 4Q 2019 to 2Q 2021.

Sources: Vanguard calculations, based on data from the Federal Reserve Bank of Atlanta.

Strong demand environment to persist

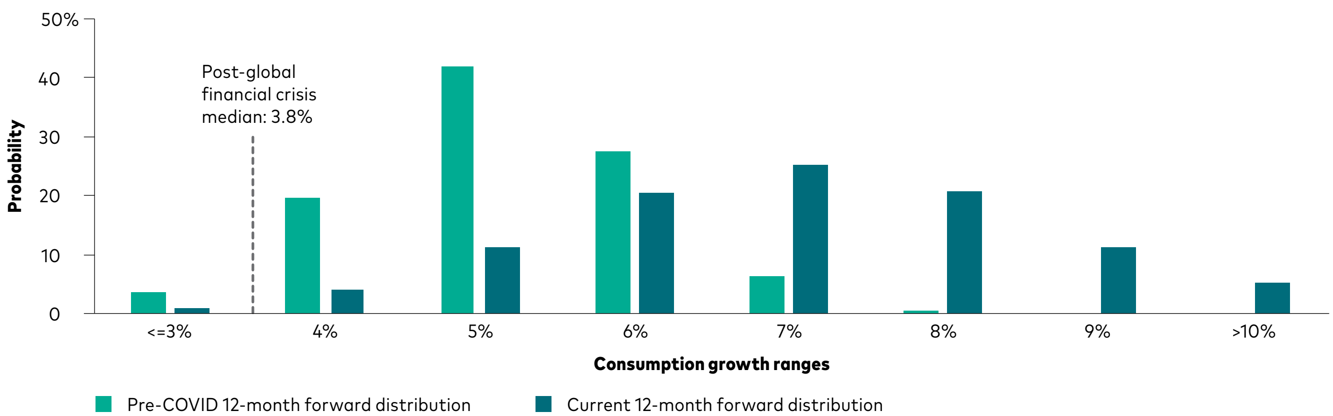
The strong pace of growth in 2021 likely peaked in the second quarter, as households and businesses engaged more fully in economic activity. With the majority of the reopening effect on growth behind us, the pace will continue to be strong, yet moderating.

Relative to our earlier expectations, we have seen that capacity constraints from the supply side of the economy have played a key role in limiting our most optimistic growth scenarios. At the same time, the resurgence of the virus through the Delta variant also has been a meaningful factor.

However, looking ahead and into 2022, we see a strong demand environment persisting. Broadly, consumer balance sheets are in a healthy position, having de-levered further during the pandemic, accumulated savings, and benefited from favorable wealth effects in housing and asset prices.[4] With these positive fundamentals in place, and with continued positive labor market and earnings prospects, forward-looking conditions for growth appear quite favorable, even relative to the strong conditions pre-pandemic, as shown in **Figure 5**.

FIGURE 5.

Favorable consumption drivers point to sustained strength from households



Note: The chart depicts the distribution of forecasted consumption ranges based on simulations from a regression using four-quarter lagged savings rate, financial obligations ratio, overall economic activity based on Vanguard leading economic indicators model, and household wealth growth.

Sources: Vanguard and Refinitiv.

4 Leverage, as measured by the New York Federal Reserve financial obligations ratio, dropped from 15% of disposable income in Q4 2019 to 13.8% in 2Q 2021. The household savings rate has averaged 15.7% during the pandemic (March 2020–September 2021), relative to a 7.5% trend pre-COVID. Household net worth has increased 21% relative to Q4 2019, and real estate wealth has increased 12% as measured by Federal Reserve flow of funds data.

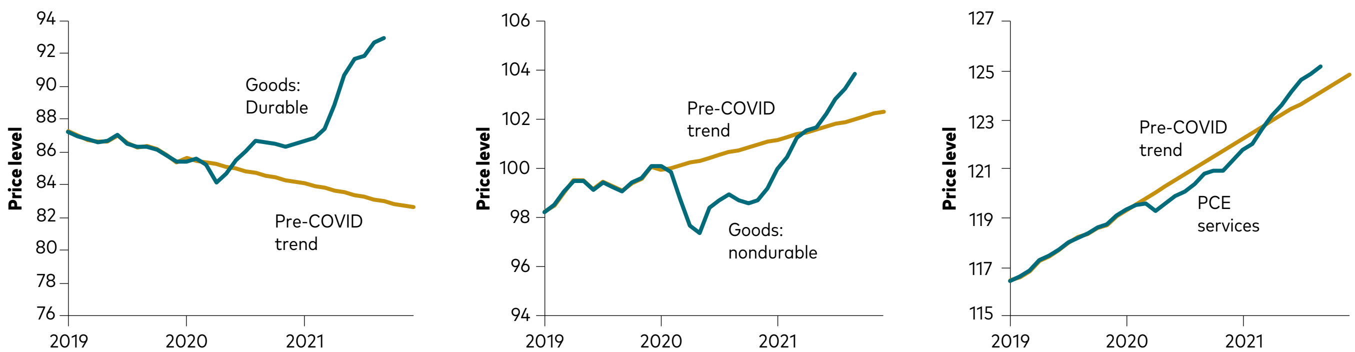
Higher-for-longer inflation scenario ahead

As we outlined in our 2021 market and economic outlook, a midyear "inflation scare" was probable given year-over-year comparison effects and the potential for our most optimistic health care scenarios to unfold.[5] Indeed, the swift acceleration of vaccinations and an additional fiscal support package in the first quarter heightened the growth impulse and amplified the supply/demand imbalances as reopening got underway. The resulting inflation has exceeded initial expectations—both ours and the markets'.

Additionally, as compared with earlier this year when inflation pressures were dominated by sectors tied closely to the reopening, we have seen that rising prices have broadened and are now evident across "stickier" components such as shelter and wages. **Figure 6** shows the current trajectory of inflation in major economic sectors, compared with pre-COVID trends.

FIGURE 6.

Inflation pressures have broadened



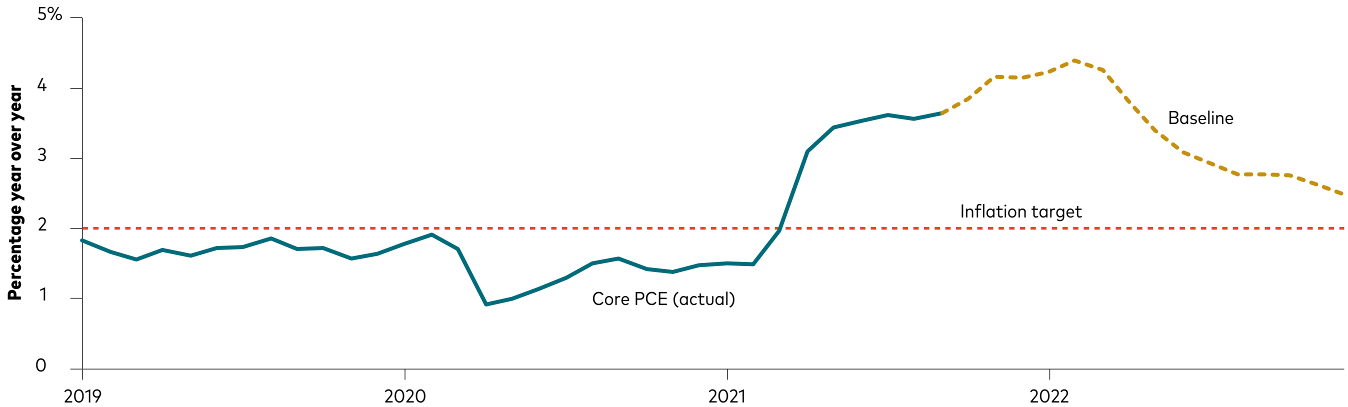
Note: Charts depict the price-level subcomponents of the personal consumption expenditures (PCE) index relative to their 2019 trend extrapolated forward.
Sources: Vanguard calculations, based on Refinitiv data.

5 *See Vanguard Economic and Market Outlook 2021: Approaching the Dawn*, page 16.

We expect that as the reopening matures and consumer preferences show further normalization, prices will moderate from current levels. However, lingering supply constraints, overall less slack in the economy, and sustained demand will continue to keep inflation elevated throughout 2022, as shown in the baseline forecast in **Figure 7**.

FIGURE 7.

Moderation in prices is expected, but elevated pressures to remain



Note: Core PCE is the personal consumption expenditures price index, excluding food and energy.

Source: Vanguard.

Fed likely to lift off sooner

We expect the Fed to be focused on two keys aspects of the economy as it assesses the policy rate stance: labor market conditions improving to a point of full employment, and inflation to be sustainably at or moderately above 2%.[6]

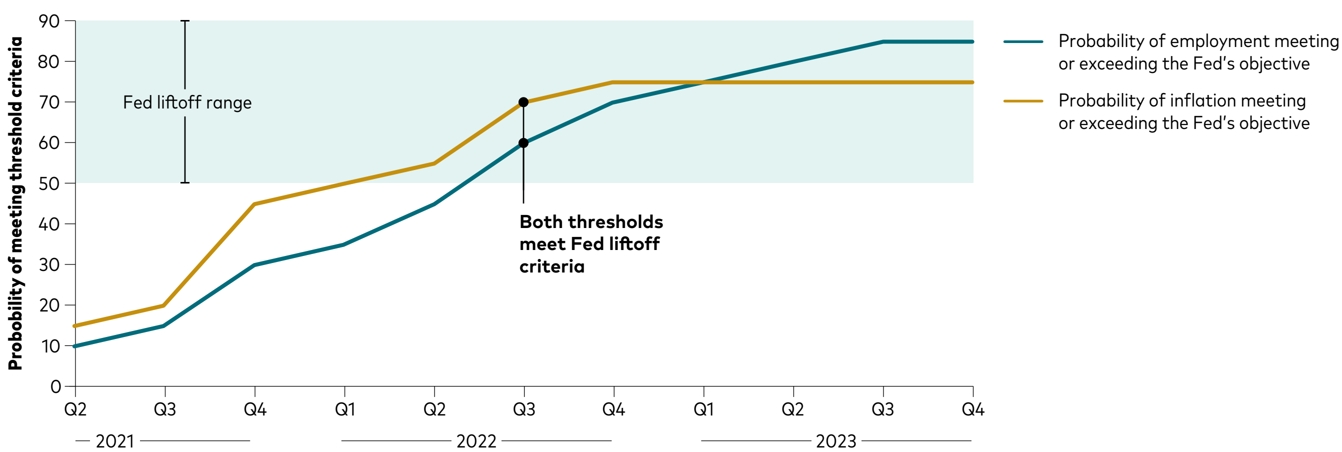
As we noted earlier, the volatility of economic data and the resulting uncertainty in the outlook are likely to remain elevated, and clearer readings of the underlying conditions in the economy remain some time off.

Figure 8 presents the probability of liftoff timing based on our forecasts for labor market and inflation conditions. With inflation having exceeding expectations, and if price conditions evolve as we expect, it is likely that this aspect of the liftoff criteria has effectively been met, placing added emphasis on the way labor market conditions evolve. Given our labor market estimates, we expect to be in the range of full employment by the second half of 2022. We note within "range" of full employment, given the ambiguous nature of such a threshold, particularly as the Fed has communicated the desire to factor in a wide array of variables with which to make an assessment.

As economic slack continues to dissipate through 2022, we expect the Fed to initiate policy rate liftoff in the second half of 2022.

FIGURE 8.

Economy expected to meet liftoff conditions in the second half of 2022



Notes: Probabilities are derived from Vanguard baseline employment and core PCE forecasts. The full employment threshold is a combination of the labor-force-adjusted unemployment rate and the prime-age employment-to-population ratio within pre-COVID ranges. The inflation threshold is when the core PCE is equal to or greater than 2% and is forecast to persist for some time at such levels.

Source: Vanguard.

6 See "The Federal Reserve's New Framework: Context and Consequences" speech by Fed Vice Chair Richard H. Clarida, November 16, 2020; available at https://www.federalreserve.gov/newsevents/speech/clarida20201116a.htm.

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