Vanguard

MAY 2021

Market perspectives

Vanguard's monthly economic and market update

KEY TAKEAWAYS:

- Growth continues to pick up in the U.S. as the vaccine rollout continues, but the euro area lags behind.
- Vanguard expects core U.S. inflation to temporarily bump up above 2% in the second quarter.
- We believe the Federal Reserve will start to issue guidance during the second half of the year around how and when it might start the unwinding of its balance sheet.
- Vanguard expects the unemployment rate to fall toward 5% by year's end.

Asset-class return outlooks

Our 10-year, annualized, nominal return projections, as of December 31, 2020, are shown below. Please note that the figures are based on a 1.0-point range around the rounded 50th percentile of the distribution of return outcomes for equities and a 0.5-point range around the rounded 50th percentile for fixed income.

Equities	Return projection	Median volatility
U.S. equities	3.0%–5.0%	16.9%
U.S. value	4.4%–6.4%	18.9%
U.S. growth	–0.1%–1.9%	17.9%
U.S. large-cap	2.9%–4.9%	16.5%
U.S. small-cap	3.2%–5.2%	21.9%
U.S. real estate investment trusts	3.0%–5.0%	19.6%
Global equities ex-U.S. (unhedged)	6.1%–8.1%	18.6%
U.S. inflation	1.1%–2.1%	2.4%

Fixed income	Return projection	Median volatility
U.S. aggregate bonds	0.8%–1.8%	4.2%
U.S. Treasury bonds	0.5%–1.5%	4.4%
U.S. credit bonds	1.2%–2.2%	5.7%
U.S. high-yield corporate bonds	1.9%–2.9%	10.1%
U.S. Treasury Inflation-Protected Securities	0.5%–1.5%	6.7%
U.S. cash	0.7%–1.7%	1.0%
Global bonds ex-U.S. (hedged)	0.6%–1.6%	2.5%
Emerging markets sovereign	1.5%–2.5%	10.5%

These probabilistic return assumptions depend on current market conditions and, as such, may change over time.

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 December 31, 2020. Results from the model may vary with each use and over time. For more information, see page 4.

Source: Vanguard Investment Strategy Group.

Region-by-region outlook

Growth picks up in the U.S. as the vaccine rollout continues

United States. High-frequency data suggest the economy in the United States gained considerable traction in the last half of March, a period that coincided with the start of stimulus payment disbursements under the $1.9 trillion American Rescue Plan Act of 2021.

- The somewhat earlier-than-expected direct payments alongside a continued strong pace of vaccinations point to the U.S. economy growing above the 5% we had previously anticipated in the first quarter.
- Our view that the U.S. economy will grow in a range of 7.0% to 7.5% for the full year hasn't changed.

"It's likely that in the next 12 months we will see the highest growth rates in the United States that we've seen since perhaps the early 1980s."

Vanguard Global Chief Economist Joe Davis, from a recent Morningstar podcast

Euro area. An increase in COVID-19 case numbers in France, Germany, and Italy in March has led governments to tighten restrictions, including a third national lockdown in France. That development, alongside continued slow rollout of vaccines compared with other developed markets, has led Vanguard to reconsider our view of GDP growth in the euro area.

- We expect 2021 GDP growth in the neighborhood of 4%, compared with our previous expectation for growth around 5%.
- On a positive note, cases in France and Italy have since begun to decline.

China. High-frequency data suggest that recent COVID-19 outbreaks and related restrictions in China weren't as disruptive as initially feared.

- The data support our assessment for full-year growth around 9%, a level toward which consensus estimates have recently risen closer. With outbreaks in control, we expect service activities to resume fully in the coming weeks.
- Vanguard continues to see quarterly growth slowing, but remaining positive, to around 1% in the first quarter, compared with fourth-quarter 2020 growth of 3%. Just about 10% of the population has been vaccinated, meaning China will need to considerably ramp up vaccine distribution to hit its target of 40% by June.

Emerging markets. Greater optimism around vaccination efforts and the pass-through effects of a strengthening U.S. economy support our view that emerging markets, on aggregate, will grow by more than the 6% outlook we communicated at the end of 2020.

- We continue to see emerging Asia leading the way, with 2021 growth above 8%. The region has been largely successful in managing the pandemic, and its export-driven model is likely to prosper as global growth accelerates.
- We expect Latin America to trail, with 2021 growth of around 4.0% not making up for a contraction of 7.4% in 2020.

Unemployment rate continues to fall

Employment news is encouraging but will lag behind pre-pandemic levels

We expect job gains to average more than 500,000 per month for the remainder of the year, with gains front-loaded in this quarter and the next.

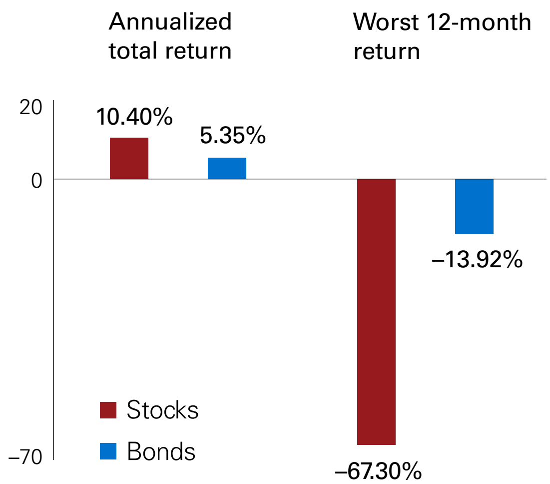
- Vanguard expects the unemployment rate to fall toward 5% by year's end.
- We foresee overall employment by the end of 2023 around 1.2 million lower than we had forecast before the pandemic.

Bonds can still serve as ballast

A bear market for bonds is nothing like a bear market for stocks

- For a majority of diversified, long-term investors, a potential bond bear market should not be viewed with the same level of apprehension as a potential equity bear market.
- Indeed, even the worst 12-month period for the U.S. bond market, historically, saw a little more than just one-fifth the losses of the worst 12-month period for the U.S. equity market.

U.S. financial markets, 1926–2020



The following indexes were used for U.S. stock market returns: the Standard & Poor's 90 from 1926 through March 3, 1957; the Standard & Poor's 500 Index from March 4, 1957, through 1974; the Wilshire 5000 Index from 1975 through April 22, 2005; the MSCI US Broad Market Index from April 23, 2005, through June 2, 2013; and the CRSP US Total Market Index thereafter. U.S. bond market returns: the Standard & Poor's High Grade Corporate Index from 1926 to 1968, the Citigroup High Grade Index from 1969 to 1972, the Lehman Brothers U.S. Long Credit AA Index from 1973 to 1975, the Barclays Capital U.S. Aggregate Bond Index from 1976 to 2009, and the Bloomberg Barclays U.S. Aggregate Float Adjusted Index thereafter.

Source: Vanguard calculations using data from S&P, MSCI, Citigroup, and Barclays as of December 31, 2020.

Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

The Fed remains steady

Monetary policy stays accommodative

Chairman Jerome Powell has emphasized that the Fed would communicate potential changes to its $120 billion-per-month bond-buying program well in advance of any tapering of purchases.

- Mr. Powell on several occasions has said the Fed wasn't going to even "talk about talking about" tapering.
- Given U.S. economic strengthening and a quickening in the pace of COVID-19 vaccinations, however, Vanguard expects that in the second half of the year, the Fed will start to issue guidance around how and when it might start the unwinding of its balance sheet.
- We continue to anticipate a lift-off for the Fed's interest rate target only in the third quarter of 2023.

Price rises limited

Inflation may bump up temporarily

Vanguard expects core U.S. inflation above 2% in the second quarter, given base effects, or comparisons to weak year-earlier numbers. We expect some volatility on a sector-by-sector basis; some sectors could see temporary mismatches between supply and demand as consumers reengage with the economy.

- Vanguard believes these mismatches will be temporary and we expect that a continuation of the long-term structural trends that have kept inflation low for more than a decade will continue to limit price rises.
- We expect consumer price inflation to strengthen further in the second quarter as economic activity normalizes further and base effects from last year's high food prices fade out, but we do not foresee a significant pass-through from high producer prices given strong competition in the consumer market.

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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.

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. VCMM results will vary with each use and over time.

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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