

MARCH 22, 2020



A sharp contraction, then an upswing

Commentary by Joe Davis, Vanguard Global Chief Economist

In only a few months, COVID-19 has spread around the world. The extreme measures being taken to protect us, to combat the disease’s spread, should be positive for public health. But such a step necessarily involves a trade-off. In appropriately prioritizing human health, we in essence must shut down large swaths of the economy, closing schools and businesses and limiting human interaction.

Having to do so makes it unfortunately clear that a global recession is at hand.

A deep (and we hope short) U.S. recession

Given increased efforts to contain the spread of the coronavirus, we anticipate a sharp (but we hope short) contraction in the U.S. economy, which likely has already entered into recession this month. The coming months are likely to witness a profound fall-off in the real economy.

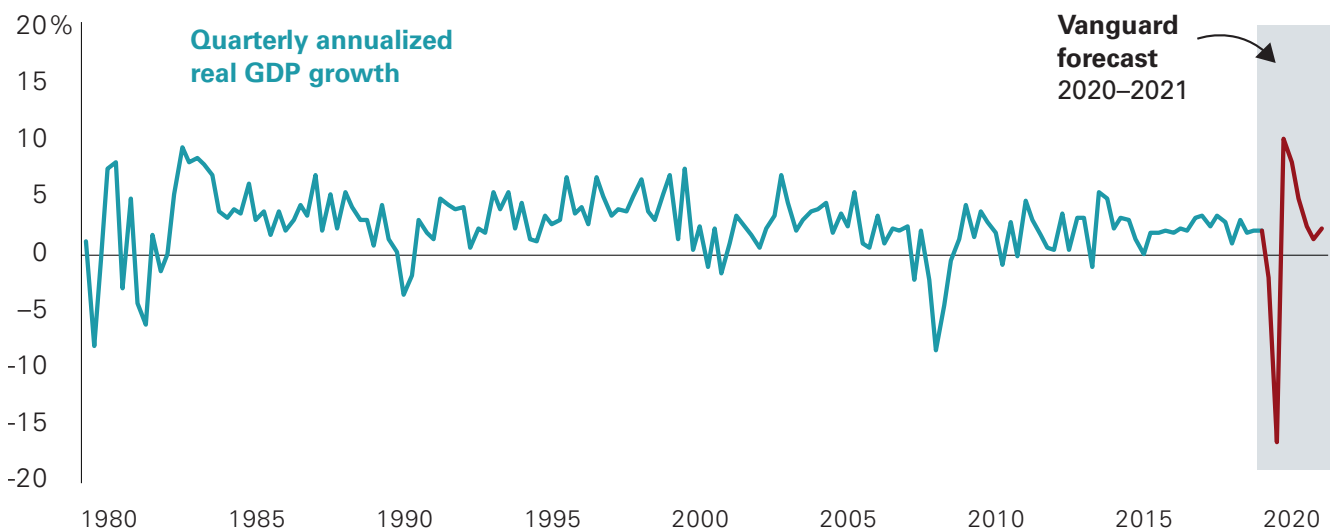
For some time, we have been estimating the likely impacts of the virus’ spread through a number of channels, including reduced trade, restrictions in supply

chains, tighter financial conditions, and, perhaps most significantly, social distancing measures. This latter effect is leading to a profound decline in consumer spending in the “face-to-face” sectors of the economy, namely hotels, restaurants, air travel, and related activities. We expect consumer spending in the months ahead to decline at the sharpest pace since at least World War II, with clear impacts to employment.

As shown in the illustration, real GDP is likely to contract in the coming quarter by nearly 17% on an annualized basis. This would mark the deepest quarterly decline since at least the 1950s. This will be a trying time for all of us, and certainly for the U.S. economy.

We expect, however, that this could also turn out to be among the shortest recessions in our history. Importantly, we assume that the need to significantly restrain activity, such as the closure of non-essential businesses, will dissipate by late in the second quarter. Under such a scenario, and with aggressive fiscal and monetary policy measures, we would foresee a rebound in growth in the third quarter to mark the end of this sharp yet short recession.

A sharp but short contraction



Sources: U.S. Bureau of Economic Analysis historical data, Vanguard calculations.

A bear market in stocks, and a ray of light

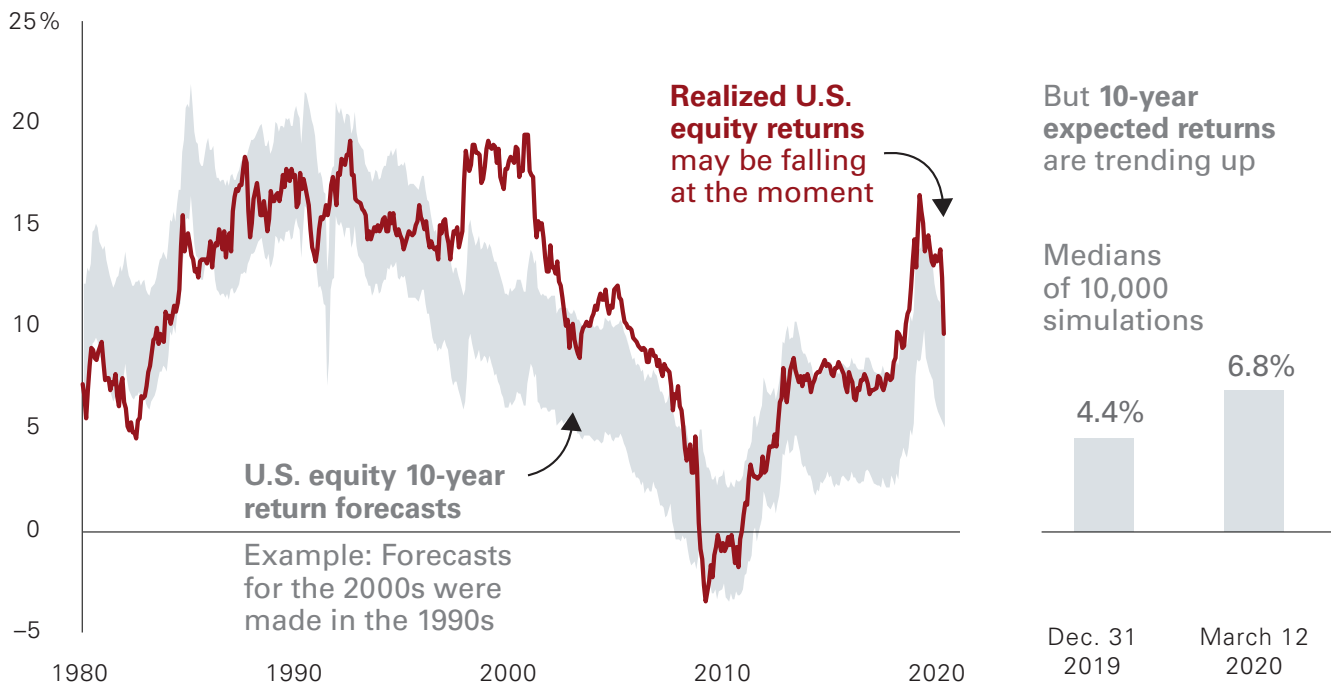
Financial markets have sold off significantly over the last several weeks, with eye-watering volatility. While we noted in our annual economic and market outlook that there was an elevated risk of a correction in the stock market, the speed of this bear market has certainly taken me by surprise.

A positive side, however, is that the long-term picture has brightened for equities. As the illustration shows, the recent sharp downturn has brought returns more in line with the previous outlooks provided by our Vanguard Capital Markets Model®. As you can see, over longer periods we've had a fairly good record of anticipating where future stock returns would be, on average, over

the next ten years. Our forecasting accuracy results from our framework that is based, in part, on stock-market valuations. Until the pandemic, valuations were elevated, explaining why we expected muted stock returns.

A ray of light is that, looking over the next ten years, our stock market outlook is starting to improve. The reason? The role that current valuations, which have contracted in the recent sell-off, play in our long-term forecast. Put simply, the price of most equities has become much lower than it had been, giving equities more room to grow before they reach what we'd consider to be their fair value. The theme broadly holds true for ex-U.S. equities. A similar dynamic also occurred in 2009, when the global economy was in a deep recession and stock prices were low.

Ten-year forecasts remind us to think long-term



Notes: Forecasts correspond to the 25th to 75th percentile of distributions of 10,000 Vanguard Capital Markets Model simulations for ten-year annualized nominal returns, in U.S. dollars, based on the MSCI US Broad Market Index.

IMPORTANT: The projections and other information generated by the VCMM 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 VCMM are derived from 10,000 simulations for each modeled asset class. Simulations are as of December 31, 2019, and March 12, 2020. Results from the model may vary with each use and over time. For more information, please see the important information on the next page.

Source: Vanguard

The months ahead will be trying times for all of us, as consumers, as investors, and as people contending with the virus. But I have faith that there are better days ahead.

All investing is subject to risk, including the possible loss of the money you invest.

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.

Please remember that all investments involve some risk. Be aware that fluctuations in the financial markets and other factors may cause declines in the value of your account. There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income.

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. Simulations are as of December 31, 2019, and March 12, 2020. Results from the model may 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.



© 2020 The Vanguard Group, Inc.
All rights reserved.

Investment Products: Not FDIC Insured | No Bank Guarantee | May Lose Value

FASJDVCM 032020