2011 U.S. economic outlook: Cautious optimism

An update of Vanguard's proprietary leading indicators

Vanguard research

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Executive summary. What is the economic outlook for 2011? The consensus view is that the still-fragile U.S. labor market will improve marginally, although vocal dissidents argue for a gloomier "new normal" economy or, alternatively, more robust growth. This paper addresses how investors should view the balance of risks to the consensus view. Using Vanguard's proprietary leading economic indicators, our analysis suggests that—for the first time in five years—the balance of risks to the U.S. outlook is now tilted toward better-than-expected job growth. These upside cyclical risks—should they be realized—would seem consistent with a self-sustaining recovery, positive but volatile stock market returns, and, eventually, stronger upward pressure on trend inflation and U.S. interest rates, secular themes that we previously discussed in our flagship publication, *Vanguard's Economic and Capital Markets Outlook* (Davis et al., 2010).

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For this research, we consulted our proprietary leading measures of the U.S. business cycle, including the Vanguard Economic Momentum Index (VEMI) and the Vanguard Economic Dashboard, to assess the risks to the consensus macro U.S. outlook for 2011. Over the past three years, the VEMI has proven fairly accurate in anticipating turning points in real time, including the profound economic contraction in 2008, the end of the recession in 2009, and the mid-2010 "soft patch" in an otherwise firming U.S. economic recovery.[1]

We show that the value of the VEMI has consistently improved since mid-2010 to a level that now suggests an increased likelihood of a stronger-than-expected economic recovery in the second half of 2011. While we appreciate the secular headwinds facing the U.S. economy, our analysis of the leading indicators suggests that domestic employment growth will likely soon improve to a level that should eventually place downward pressure on the near-10% U.S. unemployment rate.

Color-coding the recovery

Figure 1 updates our "dashboard" of the more than 70 individual components that make up the Vanguard Economic Momentum Index. Here we have classified the VEMI components in six broad categories to give readers a better sense of how, for instance, housing-related leading indicators compare to those related to manufacturing. Within each category, the components are ranked from top to bottom based on their historical ability to forecast U.S. nonfarm payroll growth.[2]

We assigned colors to the VEMI components based on the following criteria:

Red: Signals a negative and worsening outlook for payroll growth in 6 to 12 months.

Yellow: Signals modest, consensus-like job growth in 6 to 12 months.

Green: Signals stronger-than-expected job growth in 6 to 12 months.

The color patterns in Figure 1 remain mixed, which partly explains the divergent views among economists and investment strategists regarding the near-term direction of the U.S. economy. Nevertheless, those patterns reveal a modest improvement in various leading VEMI components since the "soft patch" that occurred in mid-2010 following the first significant outbreak of the European fiscal crisis and increasing uncertainty about U.S. policy and regulatory issues (in particular, the health care and financial market reforms).

Generally speaking, green- and yellow-colored indicators have expanded somewhat since fears of a double-dip recession peaked in mid-2010. The strongest green signals currently relate to manufacturing, corporate cash flows, expected business spending, and select labor market and financial market series. Among the indicators colored red, the most pessimistic are tied to construction, confidence, consumption, and credit, although some of these improved late in 2010.[3]

Notes on risk: All investments are subject to risk. 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.

1 See, for instance, two previous Vanguard research notes: *When Will the Recession End? Analysis Based on a Proprietary Index of Economic Momentum* by Davis et al. (June 2009), and *Assessing the Risks to the U.S. Economic Recovery* by Davis et al. (June 2010).

2 The reader is referred to Davis et al. (2009) for more details on the criteria used to empirically select and rank the dashboard indicators in Figure 1.

3 The most depressed sectors of the U.S. economy—in particular, commercial real estate and state and local governments—are not reflected in the leading indicators because those sectors lag the broader economy.

Figure 1. Vanguard dashboard of leading economic indicators

In our dashboard, each row represents a component of the Vanguard Economic Momentum Index. Within their categories, the components are ranked in descending order based on their historical ability to forecast nonfarm payroll growth. Various leading components have shown modest improvements since mid-2010.

January 2007–November 2010

Note: The dashboard was constructed using data available as of December 31, 2010. See page 2 for details about the color labeling.

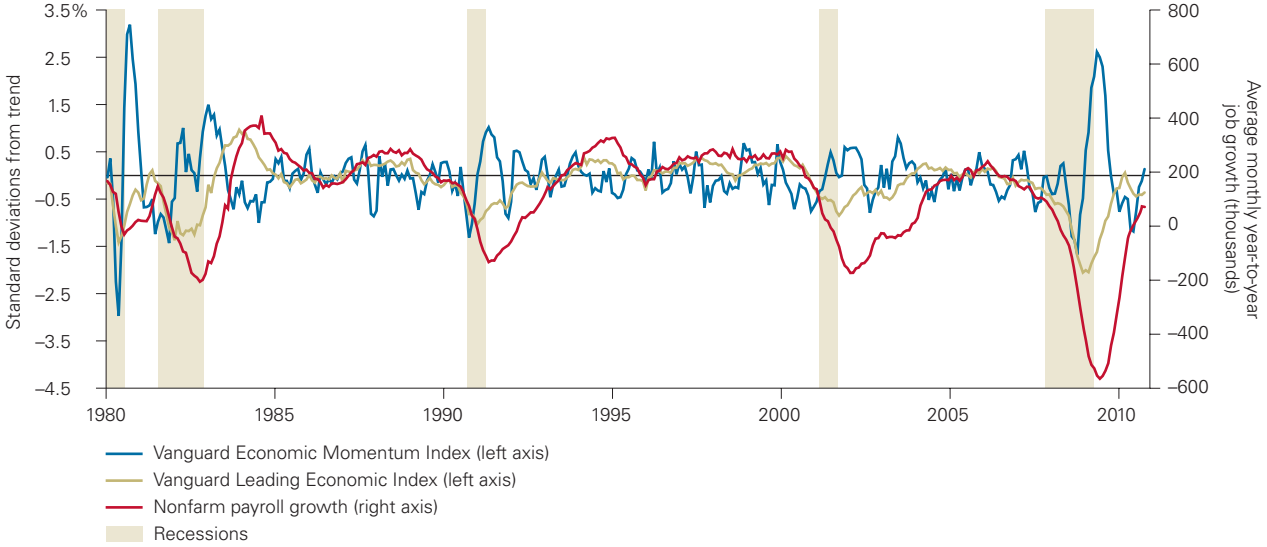
Source: Vanguard.

Collectively, the 70 dashboard components in Figure 1 make up the VEMI, which is shown in blue in **Figure 2**, on page 4. The VEMI is a standardized, weighted index that incorporates the second derivative (i.e., the rate of change of the rate of change) of the leading economic indicators shown in Figure 1. By design, the VEMI tends to lead turning points in widely tracked business cycle measures, including those published by the Conference Board and the Economic Cycle Research Institute.

In Figure 2 in yellow, we introduce our own leading index of the U.S. business cycle: the Vanguard Leading Economic Index (VLEI). This index represents the combined signals of the first-derivative growth of the same group of 70 indicators that make up the VEMI and dashboard. The VLEI is weighted according to the same criteria as the VEMI and is thus calibrated using payroll growth as the measure of the U.S. economy; historically, the index has led payroll growth by about four months on average.

Figure 2. Vanguard leading indexes and the U.S. business cycle

Based on monthly data from January 1980 through November 2010



Notes: Series are measured as deviations from their time-varying trend. NBER recession periods are shaded. We define the business cycle by movements in U.S. nonfarm payroll employment, which is classified as a coincident measure of business activity. The indexes were constructed using data available as of December 31, 2010.

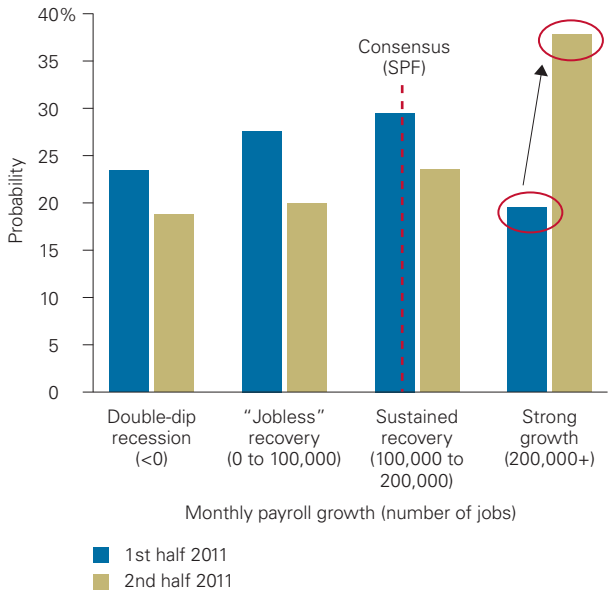
Sources: National Bureau of Economic Research, U.S. Bureau of Labor Statistics, and Vanguard.

While the similarities between the VLEI and other business-cycle measures mentioned earlier are clear, the VEMI's unique construction (namely the use of a second derivative) allows it to signal turning points in U.S. business cycles with sharp rises and declines. As illustrated in Figure 2, the VEMI's sharp upward move as early as February 2009 indicated that job growth (and hence the end of the U.S. recession) was likely in the months ahead. According to the U.S. Bureau of Labor Statistics, nonfarm payroll growth first turned positive in November 2009, and the pace of job creation accelerated in March 2010.

The VEMI became negative again in December 2009, signaling elevated odds (as high as 35% during the summer of 2010) of a forthcoming double-dip recession. Indeed, it was this deterioration in leading indicators that partly explains the Federal Reserve's controversial decision to implement QE2, its second round of quantitative easing through massive bond purchases. The VEMI bottomed in June 2010 and actually turned positive in November.

Figure 3. Implications for the U.S. labor market in 2011

Estimated probability distribution for average monthly changes in U.S. nonfarm payrolls



Notes: Forecasted distributions were generated in two steps. First, a linear regression model of future average monthly changes in U.S. nonfarm payrolls was estimated on current values of our proprietary leading indicators using data since 1960. Second, the forecasted distribution was generated from this regression model using bootstrapping simulation techniques. The "Consensus (SPF)" label refers to the latest median consensus forecast reported by the Federal Reserve Bank of Philadelphia's *Survey of Professional Forecasters*.

Sources: Philadelphia Federal Reserve *Survey of Professional Forecasters*, U.S. Bureau of Labor Statistics, and Vanguard.

Handicapping the consensus outlook

The consensus view is that the still-fragile U.S. economic recovery will evolve into a modest U-shaped, self-sustaining expansion. According to the Philadelphia Federal Reserve's *Survey of Professional Forecasters*, the consensus forecast anticipates real GDP growth in a fairly tight range centered near 2.5%–3.0% over the next four quarters. Similarly, the pace of job growth is expected to rise modestly over the course of the year, for an average increase of roughly 140,000 per month in nonfarm payrolls. That rate of job creation probably would not be enough to bring down the near-10% unemployment rate materially by the end of 2011.

Given the general improvement in financial conditions in 2010, how should investors view the balance of risks to this consensus economic forecast?

We attempt to address this question directly in **Figure 3**. For this purpose, we estimated and then simulated an econometric model to translate the latest values of our set of proprietary leading indicators in Figure 2 into a forecasted range of potential average monthly changes in U.S. nonfarm payrolls for the first and second halves of 2011.

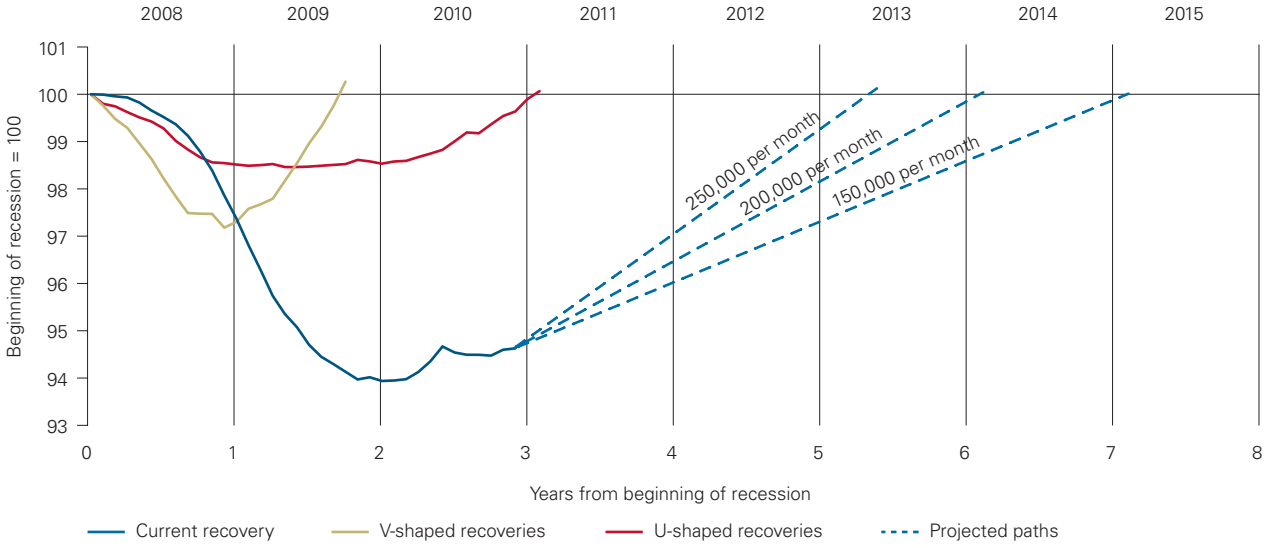
Although the distributions in Figure 3 are wide, the risks are roughly balanced relative to the consensus forecast for the *first half* of 2011. Importantly, those estimated risks tilt toward faster-than-expected job growth in the *second half* of 2011. Although the estimated probability of such an outcome is less than 40%, this is the first time in five years that our proprietary indicators have produced a positively skewed distribution for future U.S. job growth.[4]

Overall, our risk assessment is one of cautious optimism. In short, our leading indicators do suggest that the U.S. labor market is likely to experience stronger employment growth soon. Nevertheless, Vanguard appreciates that the serious headwinds of high debt levels, housing foreclosures, and a higher structural unemployment rate will likely continue to weigh on the economic recovery and contribute to spikes in market volatility at times in the coming quarters. Indeed, **Figure 4**, on page 6, is a striking reminder of the significant job growth that will be necessary in coming years simply to return to pre-recession employment levels.

4 Our calculations reveal that the accuracy of the forecasts generated from our leading indicators and econometric model would historically have produced a forecast that was, on average, about 30% more accurate than the consensus SPF forecast. That said, the average out-of-sample forecasting error in nonfarm payroll growth per month has been +/– 100,000. This is another reason that we present our 2011 forecasts in Figure 3 in a probabilistic format.

Figure 4. A long road back to pre-recession employment levels

This chart compares current and hypothetical future levels of U.S. nonfarm payrolls with the averages in previous recoveries. The projected paths represent the time needed to reach pre-recession employment levels at various rates of monthly job growth.



Notes: The line labeled "V-shaped recoveries" represents the average level of nonfarm payrolls following the U.S. recessions that began in the years 1948, 1953, 1957, 1960, 1970, 1974, and 1981. The line labeled "U-shaped recoveries" represents the average level of nonfarm payrolls following the recessions that began in 1990 and 2001.

Sources: National Bureau of Economic Research, U.S. Bureau of Labor Statistics, and Vanguard.

Implications for investment strategies: Focus on the strategic, not the tactical

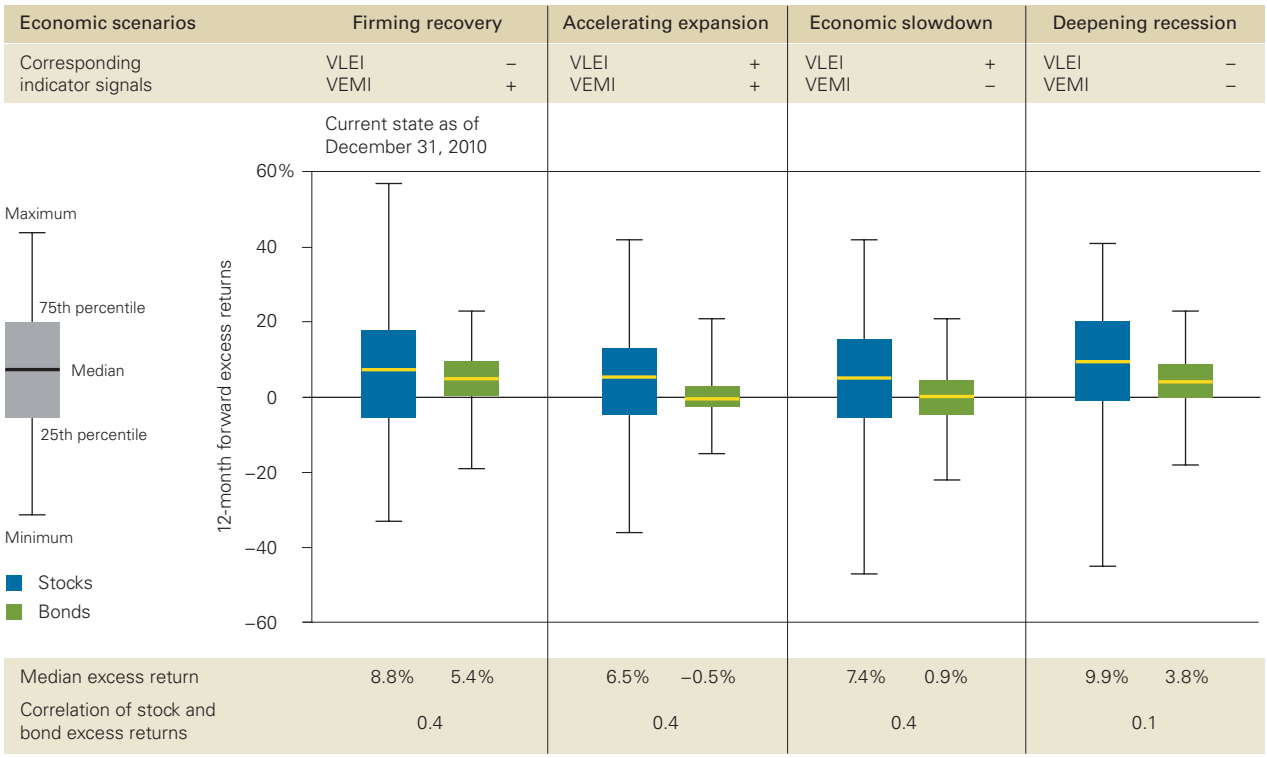
As noted earlier, the upside cyclical risks—should they be realized—would seem consistent with a self-sustaining recovery, positive but volatile equity market returns, somewhat stronger trend inflationary pressures, and a rising-rate environment. We must stress, however, that our indicators are *not* designed for tactical asset allocation strategies, nor should they be used in isolation to justify a change in any investment strategy. For one thing, some of the individual VEMI components most supportive of the stronger-than-expected growth forecast are the very financial variables associated with strong stock and corporate bond markets in 2010.

Second, the correlation of these leading economic indicators with future stock and bond returns can be weak, as **Figure 5** illustrates.[5] In our minds, the mixed patterns in Figure 5 not only are understandable, given the inherent difficulty in predicting future asset prices, but also underscore the time-tested benefits of an investment program focused on a broadly diversified strategic asset allocation.

5 Based on regression analysis, the VLEI and VEMI have historically explained 9% of the variance of the future one-year-ahead excess returns of stocks and 16% of that of bonds over the 1961–2010 sample.

Figure 5. Historical relationship between leading economic indicators and future stock and bond returns

12-month forward excess returns over cash for stocks and bonds, based on data for the period January 1961–November 2010



Sources: U.S. stock returns are represented by the total returns of the S&P 500 Index from 1960 through 1970, the Dow Jones Wilshire 5000 Index from 1970 through May 2005, and the MSCI US Broad Market Index thereafter. U.S. bond returns are represented by the total returns of the S&P High Grade Corporate Index from 1960 through 1968, the Citigroup High Grade Index from 1968 through 1972, the Lehman Brothers U.S. Long Credit AA or Better Index from 1972 through 1976, and the Barclays Capital U.S. Aggregate Bond Index thereafter. Cash returns are represented by the Citigroup 1-Month Treasury Bill Index.

References

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