



VOL. 5, NO. 12
DECEMBER 2010

Economic Letter

Insights from the
FEDERAL RESERVE BANK OF DALLAS

Most forecasters project growth at 2 to 3 percent over the next year, but not gaining sufficient momentum to advance safely above stall speed.

Gauging the Odds of a Double-Dip Recession Amid Signals and Slowdowns

by Harvey Rosenblum and Tyler Atkinson

Public sentiment says the recession isn't over. Never mind that the National Bureau of Economic Research (NBER), the arbiter of recessions, declared that the Great Recession of 2008 and 2009 officially ended in June 2009. An unrelenting pessimism constrains the recovery as consumers spend reluctantly while paying down debt, gripped by persistent fears of unemployment. The economy grew at a 2.5 percent annualized pace in the third quarter, according to the second estimate of real gross domestic product (GDP), a moderate improvement after two quarters of decelerating growth during the recovery. This tepid expansion has raised concern that things could get worse again before getting better and that the likelihood of another recession may have risen.

Slowdown or Imminent Recession?

Does the slow growth necessarily foretell a double dip? Just as a bicycle requires momentum to stay upright, history tells us that once the economy slows to a sluggish growth rate, it will likely fall into a recession. This "stall speed" appears to be 2 percent annual real GDP growth. Every recession since 1970 has been preceded by expansion of less than 2 percent, though there was a false alarm in 1995. The second estimate of third-quarter GDP shows real output rising 3.2 percent over the past year (*Chart 1*).

Even with researchers' considerable effort, forecasting recessions may be no more reliable than consulting a few indicators. The yield curve, which is a measure of the differences in government debt yields at various maturities, the unemployment rate and oil price shocks all have a good history of signaling downturns just before or during the first quarter of a recession. Still, the unique current economic environment raises questions about applying such indicators.



The Yield Curve

The difference between the 10-year Treasury yield and the one-year note turned negative—that is, short-term interest rates were higher than

long-term rates—before every recession in the postwar era, with one false signal in 1966 (Chart 2). A common explanation for the predictive power of the yield curve draws on the assumption

that long-term interest rates—to a great extent, though not perfectly—represent expectations of future short-term rates. In that case, an inverted yield curve indicates a market expectation that short-term interest rates will be lower in the future than they are today. Because interest rates tend to be procyclical—they rise with a growing economy and decline with a contracting economy—an expectation of falling interest rates suggests that market investors believe a recession lies ahead. This is reinforced by monetary policy. Since short-term interest rates hew close to the overnight interest rate target set by the Fed, an inverted yield curve is, equivalently, signaling an expectation that the Fed will soon be reducing its target interest rate—something that typically happens when recession is imminent or has already begun.

Before the 2008 recession, the inversion of the yield curve occurred well before the recession is dated to have begun. At the time, in early 2006, some analysts pointed to factors that might rationalize the inverted yield curve as something other than a signal of an impending downturn.¹ Those factors included increased demand for long-maturity assets given the reduced probability of recessions and lower, less-volatile inflation during the period of the Great Moderation; increased global savings concentrated in the hands of a few countries that tended to invest their savings in U.S. capital markets; and increased demand for dollar-denominated assets by foreign central banks. Whether those factors played a role in the yield curve inversion in early 2006 is open to debate.

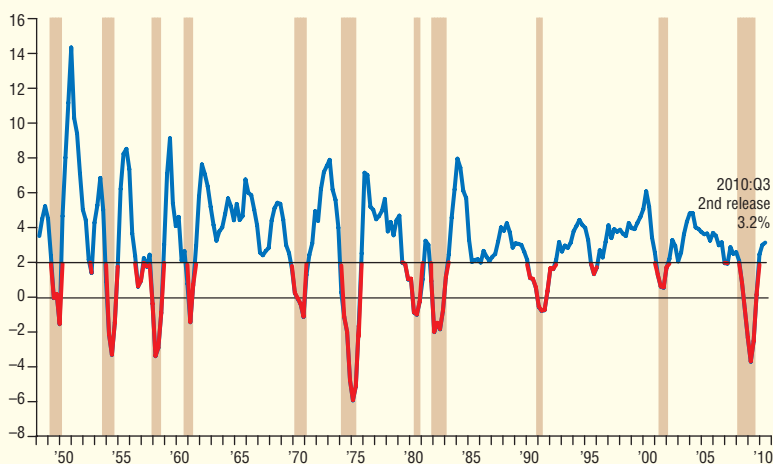
Unemployment Rate

An even more reliable signal of recession, albeit with a lag, is a 0.33 percentage point increase in the three-month moving average of the unemployment rate from its recent low. This signal assumes that workers losing their jobs cut spending almost immediately. Demand for goods and services slides. Using revised data,

Chart 1

Economy “Stalls” at 2 Percent Four-Quarter Growth

Four-quarter real GDP growth*



* Third-release vintage data. This refers to annual real GDP growth as it appeared when it was released for the third time.

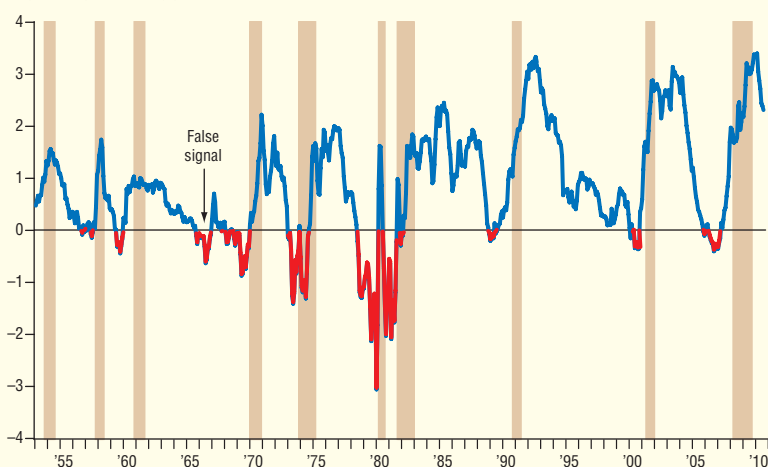
NOTE: Bars denote NBER recessions.

SOURCES: Bureau of Economic Analysis; Real-Time Data Research Center, Federal Reserve Bank of Philadelphia.

Chart 2

Inverted Yield Curve Has Signaled Every Recession

10-year – 1-year Treasury yield



NOTE: Bars denote NBER recessions.

SOURCE: Federal Reserve Board.



this unemployment jump is a flawless indicator in the postwar era, signaling every recession either before it began or within three months of its start (Chart 3).

Oil Price Shocks

The yield curve and unemployment rate signal disarray affecting demand and subsequently output. On the supply side, oil shocks have figured in most U.S. recessions since price volatility increased in the 1970s (Chart 4). In fact, every recession in the postwar era, except in 1960 and 1970, followed an oil price shock the previous year. For this analysis, an oil price shock is defined as the real price of oil exceeding the high over the previous three years.² This is more of a required condition, but not solely sufficient, for a recession. Volatility in the 1990s and the gradual run-up in prices in the 2000s were considered oil price shocks under this criterion but did not immediately lead to recession.

One might deduce that the oil price spike in 2007 had a large role in the latest recession. Economist James Hamilton suggests that if oil prices hadn't increased from mid-2007 to mid-2008, the period would have endured slow growth rather than contraction.³

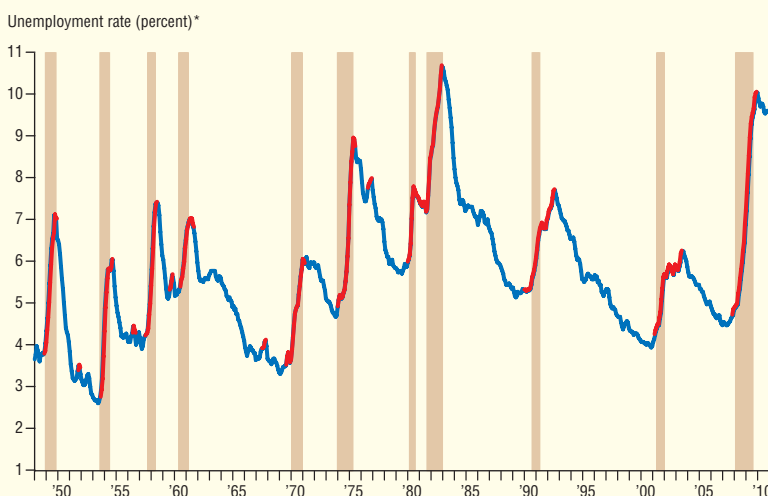
Similar Slowdowns

To analyze the current slowdown, the third release of second-quarter 2010 GDP is used rather than the second third-quarter report, which is subject to an additional revision. There have been 20 slowdowns similar to the current one since 1955, with nine leading to a recession.⁴ Economic growth picked up in the other 11 instances, averting a recession (Table 1).

All of the slowdowns that led to a recession had two or three signals of recession, mostly accompanied by yearly GDP growth of 2 percent or less. The current slowdown has zero signals. This indicates that a recession in the near future is unlikely. So why does concern of a double dip persist?

Chart 3

The Economy Rarely Escapes an Uptick in Unemployment



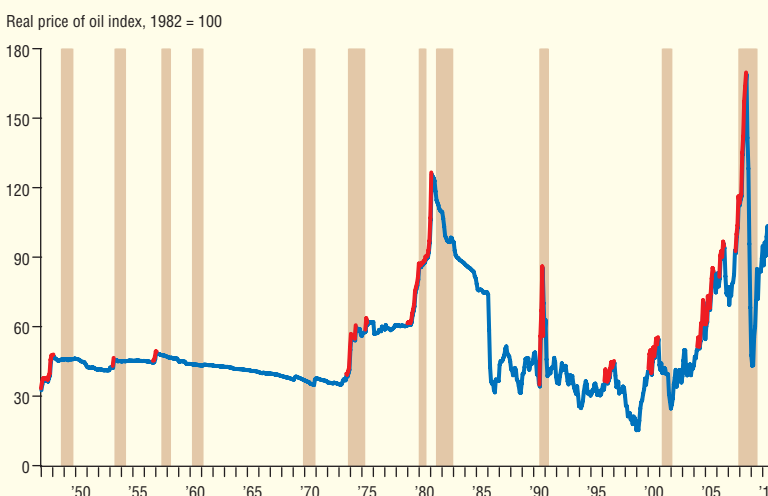
* Three-month moving average (first-release vintage).

NOTES: Red lines indicate the three-month moving average is more than 0.33 percentage points from the recent low. Bars denote NBER recessions.

SOURCES: Bureau of Labor Statistics; Real-Time Data Research Center, Federal Reserve Bank of Philadelphia.

Chart 4

Oil Price Shocks Precede Recessions



NOTES: Red lines indicate a price higher than the previous three years' maximum. Bars denote NBER recessions.

SOURCE: Bureau of Labor Statistics.

Concerns and Caveats

The yield curve's steep upward slope suggests a low probability of a recession in the coming year.

Nonetheless, many economists are reluctant to rely on this indicator because the curve's shape and slope have been distorted by the Federal

Reserve's unconventional monetary policy: a near-zero federal funds rate and a quantitative-easing program that damped intermediate- and longer-term Treasury rates. With near-zero short-term rates, it is almost impossible for a yield curve inversion, that is, short-term rates exceeding longer-term ones.

There is some reason to believe the unemployment rate could climb again. Claims for jobless benefits remain at a level usually associated with an increasing unemployment. Even if the rate does not increase, it remains elevated, straining the overall recovery.

While the current real price of oil does not fit the criterion of a shock,

it sits at levels only seen in the early 1980s and 2006–08. An oil supply shock would be especially damaging to the already weak recovery.

Most forecasters project growth at 2 to 3 percent over the next year, but not gaining sufficient momentum to advance safely above stall speed. Until this situation is resolved, policymakers will continue facing pressure to pursue fiscal and monetary measures to guide the economy toward full employment and more robust growth.

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Notes

¹ “Reflections on the Yield Curve and Monetary Policy,” speech by Federal Reserve Chairman Ben S. Bernanke before the Economic Club of New York, New York City, March 20, 2006; and “Globalization’s Effect on Interest Rates and the Yield Curve,” by Tao Wu, Federal Reserve Bank of Dallas *Economic Letter*, vol. 1, no. 9, 2006.

² “What Is an Oil Shock?” by James D. Hamilton, *Journal of Econometrics*, vol. 113, no. 2, 2003, pp. 363–98.

³ “Causes and Consequences of the Oil Shock of 2007–08,” by James D. Hamilton, *Brookings Papers on Economic Activity*, Spring 2009, pp. 215–84.

⁴ For this analysis, a similar slowdown is defined as two consecutive quarters of slowing real gross domestic product growth, with the last quarter at or below 2 percent annualized quarter over quarter, excluding those more than one quarter into a recession.

Table 1

Similar Slowdowns: What Signals Were Saying

| | Yield curve negative in previous year? | Unemployment jump?* | Oil shock in previous year? | Year-over-year growth** | Recession in following year? |
|---------|--|---------------------|-----------------------------|-------------------------|------------------------------|
| 1956:Q1 | N | N | N | 3.6 | N |
| 1957:Q2 | Y | Y | Y | 1.7 | Y |
| 1960:Q3 | Y | Y | N | 2.6 | Y |
| 1963:Q1 | N | N | N | 4.1 | N |
| 1964:Q4 | N | N | N | 4.4 | N |
| 1966:Q2 | Y | N | N | 5.9 | N |
| 1967:Q1 | Y | N | N | 2.5 | N |
| 1969:Q2 | Y | Y | N | 3.0 | Y |
| 1970:Q1 | Y | Y | N | 0.2 | Y |
| 1974:Q1 | Y | Y | Y | 0.2 | Y |
| 1978:Q1 | N | N | N | 3.8 | N |
| 1979:Q2 | Y | N | Y | 1.9 | Y |
| 1980:Q1 | Y | Y | Y | 1.0 | Y |
| 1984:Q3 | N | N | N | 6.1 | N |
| 1995:Q2 | N | N | N | 3.3 | N |
| 1999:Q2 | N | N | N | 3.9 | N |
| 2000:Q4 | Y | Y | Y | 3.4 | Y |
| 2001:Q2 | Y | Y | Y | 1.2 | Y |
| 2003:Q1 | N | Y | N | 2.0 | N |
| 2006:Q3 | Y | N | Y | 3.0 | N |
| 2010:Q2 | N | N | N | 3.0 | ? |

* First-release vintage. ** Third-release vintage.

SOURCES: Bureau of Economic Analysis; Real-Time Data Research Center, Federal Reserve Bank of Philadelphia; Federal Reserve Board; Bureau of Labor Statistics.

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