The NBER's Recession Dating Procedure

Business Cycle Dating Committee, National Bureau of Economic Research

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This memo will appear monthly on the NBER's website, NBER.org, during the period of uncertainty about the state of the economy. The purpose of the memo is to explain the Bureau's procedures for dating recessions, not to indicate whether or not the economy is in a recession. That determination is made only by the Bureau's Business Cycle Dating Committee, which has not yet met. More than anything else, this memo explains why the committee has yet to meet. The committee does not determine the start or end of a recession until it has at least six months of data beyond the peak date, and often even more time is required to make the determination.

The memo does not attempt to assess the effects of the tragedy of September 11 on the economy. The data considered here reflect the actual state of the economy through August 2001.

A recession is a significant decline in activity spread across the economy, lasting more than a few months, visible in industrial production, employment, real income, and wholesale-retail trade. A recession begins just after the economy reaches a peak of output and employment and ends as the economy reaches its trough. Between trough and peak, the economy is in an expansion. Expansion is the normal state of the economy; most recessions are brief and they have been rare in recent decades.

Because a recession influences the economy broadly and is not confined to one sector, the committee emphasizes economy-wide measures of economic activity. In principle, the best such measure is real gross domestic product, GDP. But GDP is measured only at a quarterly frequency and is continually revised, often decades later. The traditional role of the committee is to maintain a monthly chronology, so the committee refers almost exclusively to monthly indicators.

The broadest monthly indicator is employment in the entire economy. Figure 1 shows the movements of total non-farm employment from the payroll survey, during the most recent recession in 1990-91. The figure shows the peak and trough dates for the entire economy determined by the NBER, July 1990 for the peak and March 1991 for the trough. Employment reached a peak in June 1990 and a trough in May 1991. Notice that employment actually declined slightly for two months after the trough date determined by the committee. Other indicators figured in the committee's decision that the trough occurred in March rather than May 1991.

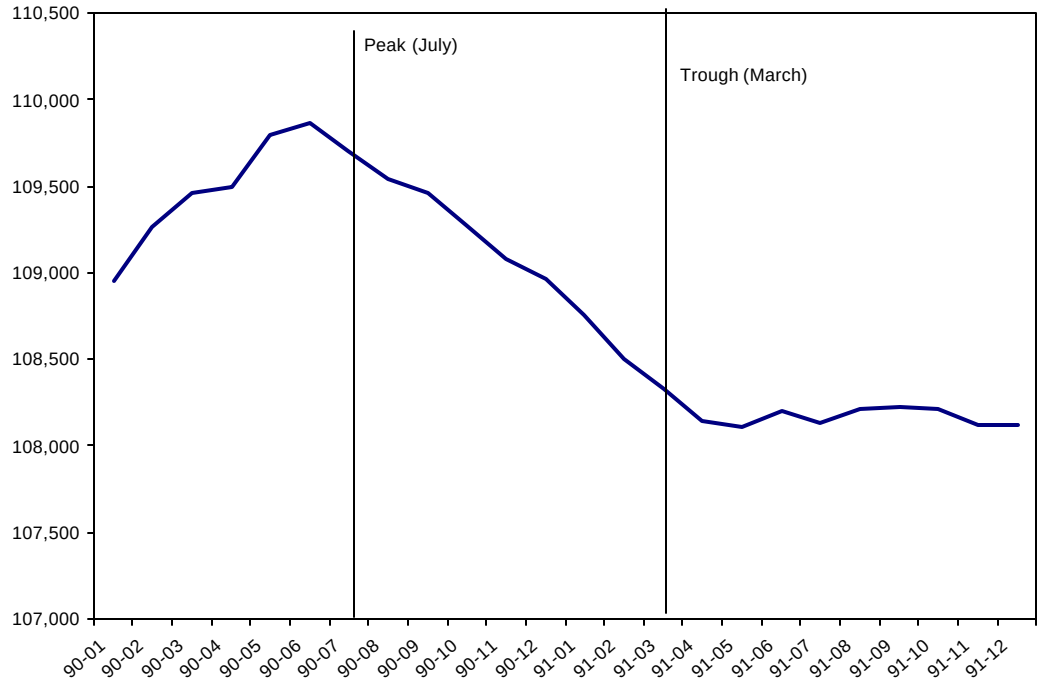

Figure 1. Employment in the Most Recent Recession
Source: http://stats.bls.gov/ceshome.htm, Most Requested Series, total nonfarm employment, seasonally adjusted

The committee generally also studies another monthly indicator with economy-wide coverage, personal income less transfer payments, in real (inflation-adjusted) terms. In addition, the committee refers to two indicators with coverage of manufacturing and goods: real manufacturing and trade sales and industrial production. The Bureau of Economic Analysis of the Commerce Department compiles the first and the Federal Reserve Board the second. Because manufacturing has become a relatively small part of the economy, the movements of these indicators may differ from those reflecting other sectors.

Figure 2 shows the Fed's Index of Industrial Production during the recession in 1990-91. In 1990, starting in October, industrial production fell precipitously. It raced down to a sharp minimum in March 1991 and reversed course in that month. Notice that the peak in industrial

production occurred two months later than the peak date determined by the Bureau for the overall economy.

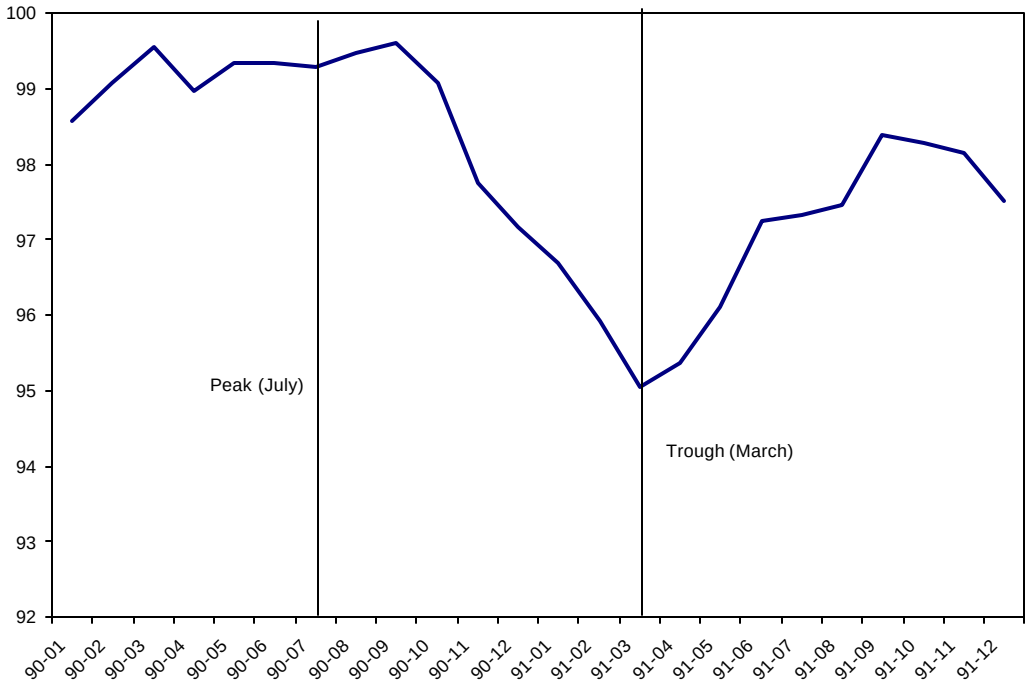

Figure 2. Industrial Production in the Most Recent Recession
Source: http://www.federalreserve.gov/releases/G17/table2a.htm

The figures illustrate the principle that the determination of the month of the peak and trough involve a compromise when the major indexes disagree. The NBER picked July as the 1990 peak date because it marked the peak of the various indicators considered together.

Although the four indicators described above are the most important measures considered by the NBER in developing its business cycle chronology, there is no fixed rule about which other measures contribute information to the process.

A recession involves a substantial decline in output and employment. In the 1990-91 recession, industrial production fell by 4.6 percent and employment by a little less than 2 percent. A small decline in output not matched by a corresponding decline in employment would not enter the Bureau's chronology as a recession. As a result, the Bureau waits until the data show whether or not a decline is large enough to qualify as a recession before declaring that a turning point in the economy is a true peak marking the onset of a recession. The Bureau announced in April 1991 its determination that July 1990 was a peak, and in December 1992 announced its determination that March 1991 was a trough. The particularly long lag for the trough date resulted from the slow pace of growth in 1991 and 1992—had the economy reversed course and declined below its March 1991 level during that period, the period would have been counted as a single longer recession. The Bureau could not set a date for the trough until, in late

1992, the economy had regained its July 1990 peak and a subsequent contraction would have been considered a separate recession.

The Current Economy

Figure 3 shows the recent movements of employment. After falling by 70,000 in July 2000 and another 62,000 in August, employment resumed growth through March 2001 and declined since then. The last five months have shown an overall decline of 323,000. These declines are small in comparison to the total decline in the 1990-91 recession, shown in Figure 1, of about 1,900,000 workers.

Figure 4 shows the movements of real personal income less transfers. Though the rate of growth has slowed somewhat, there is no sign of a decline to date. Figure 5 shows real manufacturing and trade sales. This measure reached a peak almost a year ago and has moved downward since then. Figure 6 shows industrial production. A peak occurred in September and the index declined over the next 10 months by 4.1 percent, not far below the total decline in the 1990-91 recession of 4.6 percent.

The data continue to suggest that the only substantial declines in real activity in the U.S. economy are in manufacturing, the sector reflected in the industrial production index and in real manufacturing and trade sales. Broader aggregates, such as employment and real personal income, have not fallen by the amount typical of a recession (employment) or at all (real personal income).

For more information, see the FAQs at the end of this memo, and also see http://www.nber.org/cycles.html .

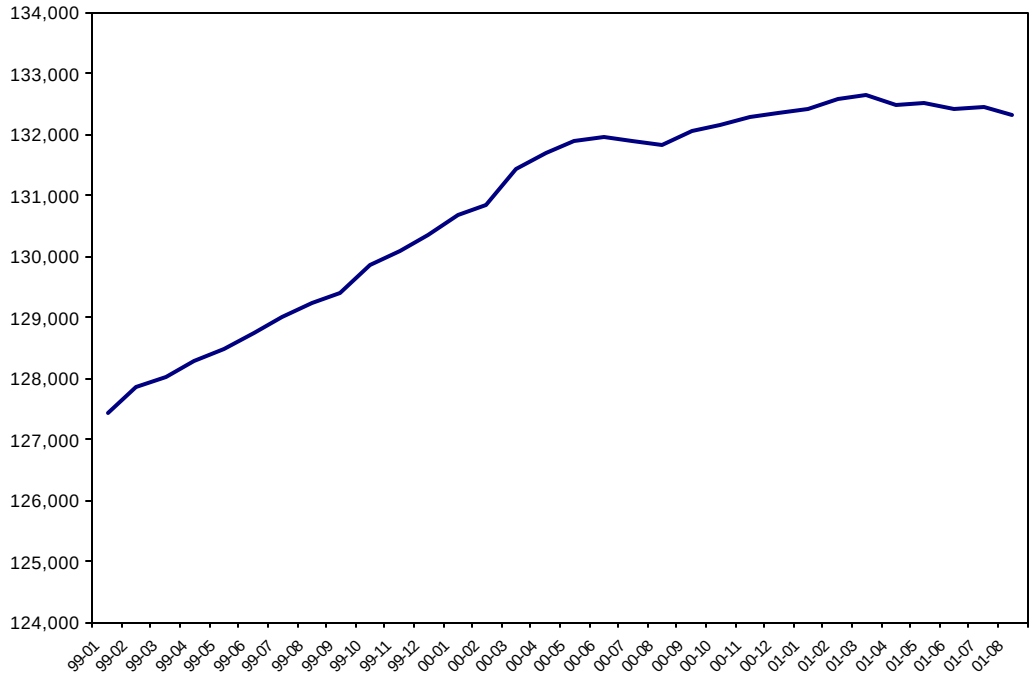

Figure 3. Current Employment

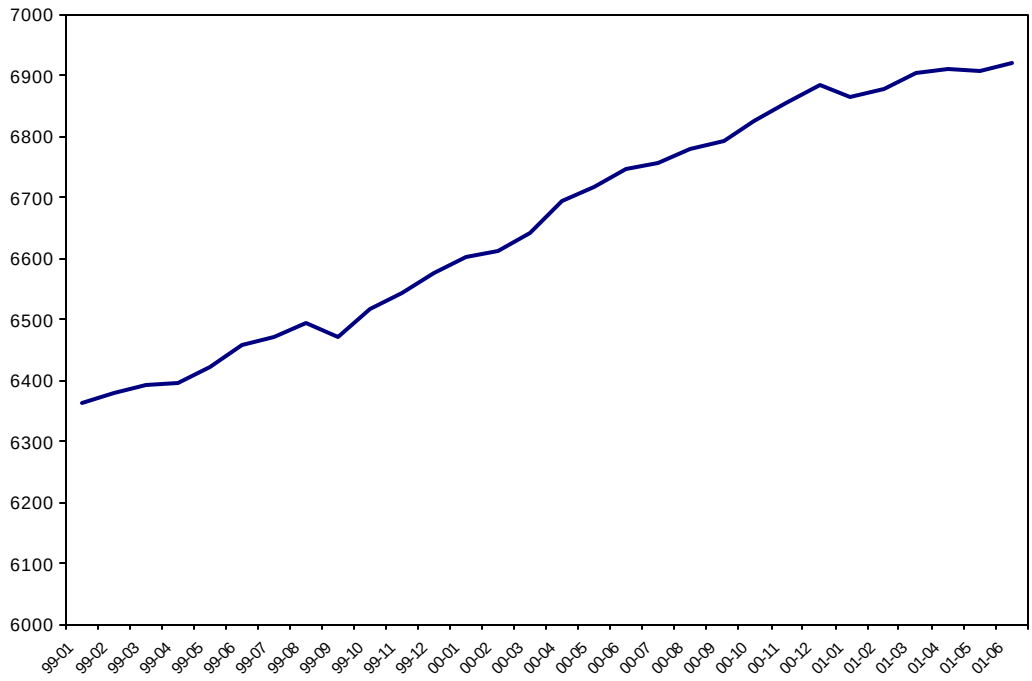

Figure 4. Current Real Personal Income Less Transfers

Source: The Conference Board (http://www.globalindicators.org)

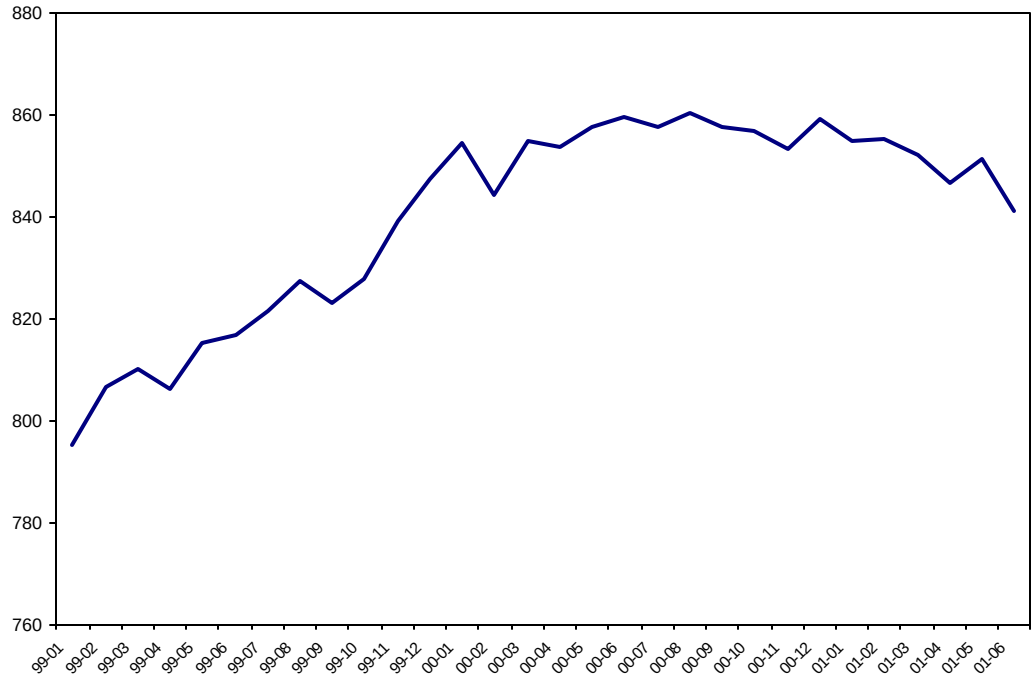

Figure 5. Current Real Manufacturing and Trade Sales
Source: The Conference Board (http://www.globalindicators.org)

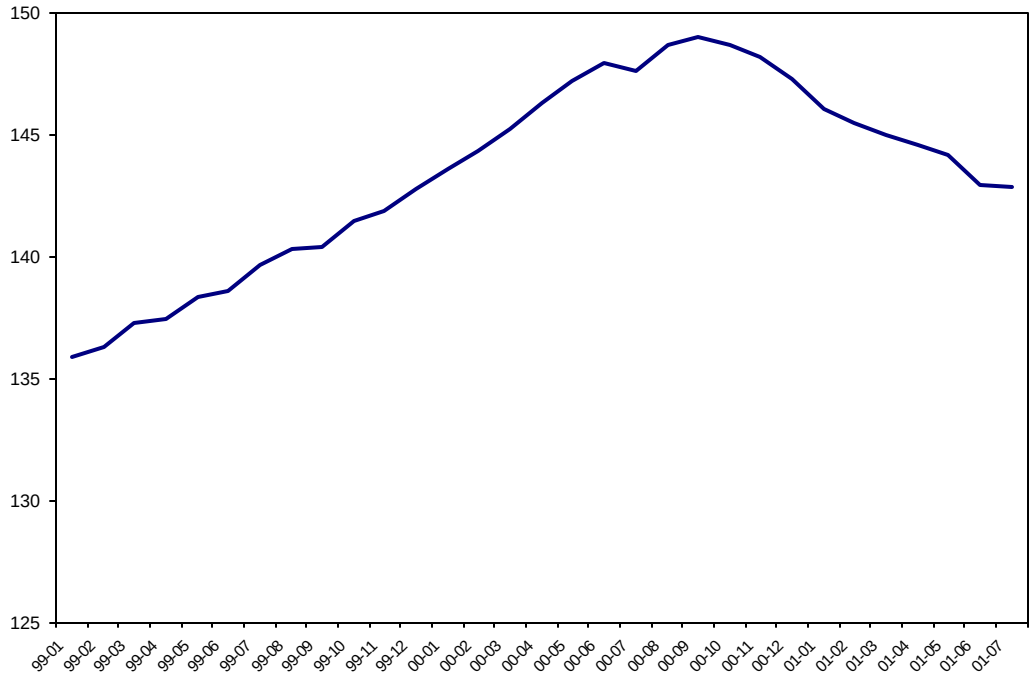

Figure 6. Current Industrial Production

FAQs

Q: The financial press often states the definition of a recession as two consecutive quarters of decline in real GDP. How does that relate to the NBER's recession dating procedure?

A: Most of the recessions identified by our procedures do consist of two or more quarters of declining real GDP, but not all of them. But our procedure differs in a number of ways. First, we use monthly indicators to arrive at a monthly chronology. Second, we use indicators subject to much less frequent revision. Third, we consider the depth of the decline in economic activity. Recall that our definition includes the phrase, "a significant decline in activity."

Q: Isn't a recession a period of diminished economic activity?

A: It's more accurate to say that a recession—the way we use the word—is a period of *diminishing* activity rather than *diminished* activity. We identify a month when the economy reached a peak of activity and a later month when the economy reached a trough. The time in between is a recession, a period when the economy is contracting. The following period is an expansion. Economic activity is below normal or diminished for some part of the recession and for some part of the following expansion as well. Some call the period of diminished activity a *slump.*

Q. You emphasize the payroll survey as a source for data on economy-wide employment. What about the household survey, which showed a decline in employment in August?

A. Although the household survey is a large, well-designed probability sample of the U.S. population, its estimates of total employment appear to be noisier than those from the payroll survey. The downward jump in August, which differs from the payroll data, may be such a random movement. Data in the coming months will help resolve the discrepancy between the two sources of data on employment.

Q. How do the movements of unemployment claims inform the Bureau's thinking?

A: A bulge in jobless claims would appear to forecast declining employment, but we don't use forecasts and the claims numbers have a lot of noise.

Q. What about the unemployment rate, which jumped 0.4 percentage points in August?

Unemployment is generally a lagging indicator. Its modest rise from a very low level to date is consistent with the employment data. The household survey—the source of the unemployment rate data—contains random noise that occasionally results in larger than expected changes, as in August.

Q: How do structural changes in the economy in the 1990s affect the NBER's method for dating business cycles? The Bureau notes that industrial production measures a declining

part of the economy. What other substitutes for output bear watching, particularly with regard to service sector activity?

A: Economy-wide employment and real personal income are the most important monthly indicators. At a quarterly frequency, real GDP is informative. Another interesting monthly indicator is aggregate hours of work. For the service sector, the BEA publishes monthly data on consumption of services (http://www.bea.doc.gov/bea/dn/nipaweb/TableViewFixed.asp?SelectedTable=206&FirstYear=2000&LastYear=2001&Freq=Month). Interestingly, these data show that consumption of services has grown more slowly in past months than consumption of durable and non-durable goods.

Q: Regarding movements of income as an indicator of recessions, isn't it true that real income has not fallen substantially during five of the past nine recessions.

A. That is why employment is probably the single most reliable indicator.