

CAMBRIDGE July 17 -- The Business Cycle Dating Committee of the National Bureau of Economic Research met yesterday. At its meeting, the committee determined that a trough in business activity occurred in the U.S. economy in November 2001. The trough marks the end of the recession that began in March 2001 and the beginning of an expansion. The recession lasted 8 months, which is slightly less than average for recessions since World War II.

In determining that a trough occurred in November 2001, the committee did not conclude that economic conditions since that month have been favorable or that the economy has returned to operating at normal capacity. Rather, the committee determined only that the recession ended and a recovery began in that month. A recession is a period of falling economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales. The trough marks the end of the declining phase and the start of the rising phase of the business cycle. Economic activity is typically below normal in the early stages of an expansion, and it sometimes remains so well into the expansion.

The committee waited to make the determination of the trough date until it was confident that any future downturn in the economy would be considered a new recession and not a continuation of the recession that began in March 2001. The committee noted that the most recent data indicate that the broadest measure of economic activity—gross domestic product in constant dollars—has risen 4.0 percent from its low in the third quarter of 2001, and is 3.3 percent above its pre-recession peak in the fourth quarter of 2000. Two other indicators of economic activity that play an important role in the committee's decisions—personal income excluding transfer payments and the volume of sales of the manufacturing and wholesale-retail sectors, both in real terms—have also surpassed their pre-recession peaks. Two other indicators the committee focuses on—payroll employment and industrial production—remain well below their pre-recession peaks. Indeed, the most recent data indicate that employment has not begun to recover at all. The committee determined, however, that the fact that the broadest, most comprehensive measure of economic activity is well above its pre-recession levels implied that any subsequent downturn in the economy would be a separate recession.

Identifying the date of the trough involved weighing the evidence provided by the behavior of various indicators of economic activity. The estimates of real GDP issued by the Bureau of Economic Analysis of the U.S. Department of Commerce are only available quarterly. Further, macroeconomic indicators are subject to substantial revisions and measurement error. For these reasons, the committee refers to a variety of monthly indicators to choose the exact months of peaks and troughs. It places particular emphasis on real personal income excluding transfers and on employment, since both measures reflect activity across the entire economy. The committee places less emphasis on the industrial production and real sales series, which mainly cover the manufacturing and goods-producing sectors of the economy. The committee also looks at

estimates of monthly real GDP prepared by Macroeconomic Advisers. There is no fixed rule about what weights are assigned to the various indicators, or about what other measures contribute information to the process.

The behavior of these series strongly suggests that the trough occurred in late 2001. All the major indicators of economic activity were generally flat or declining through September 2001. Real GDP then grew at a substantial rate from the third quarter to the fourth quarter of 2001 and has continued growing since then. The committee concluded that this strong growth in the most comprehensive measure of economic activity essentially ruled out the possibility that the trough occurred later than the fourth quarter. The committee also viewed the behavior of quarterly real GDP as strong evidence against the possibility that the trough occurred in December 2001, since there could be a December trough only if economic activity was declining over most of the fourth quarter. Reinforcing the conclusion that the trough did not occur in December, two of the monthly indicators—personal income excluding transfers and the estimates of monthly real GDP—grew very rapidly in December, and the sales series grew as well. These considerations indicate that the trough occurred in September, October, or November.

Monthly real GDP and sales reached their lows in September. The committee's conclusion that the trough did not occur in September was based on two considerations. First, personal income, employment, and industrial production were all substantially lower in October and November than in September. Second, the NBER's practice has been to identify the highs and lows of economic activity that are due to the operation of normal economic forces; temporary movements in activity resulting from unusual forces, such as strikes, have been discounted in identifying turning points. The committee concluded that some of the depressed level of economic activity in September 2001 was the result of the exceptional events of September 11, and thus should not be considered in identifying the trough.

From October to November, industrial production and sales fell sharply, employment fell moderately, personal income rose very slightly, and monthly real GDP rose moderately. Based on this information, the committee concluded that the economy reached a trough in November.

The NBER's practice has been that if economic activity is roughly flat at the end of a recession or expansion, the turning point is placed at the end of the flat period. Although the committee concluded that it was not necessary to invoke this rule to determine that the trough occurred in November rather than September or October, the rule strengthened the committee's confidence in its determination.

The NBER also maintains a quarterly chronology of the U.S. business cycle. The committee determined that the fourth quarter of 2001 was a quarterly trough in economic activity.

For more information, see the FAQs below and the more detailed description of the NBER's business cycle dating procedure at <http://www.nber.org/cycles/recessions.html>. An Excel spreadsheet containing the data and the figures for many of the major indicators of economic activity considered by the committee is available at that page as well.

Committee members are: Robert E. Hall, Stanford University (chair); Martin Feldstein, NBER President; Jeffrey A. Frankel, Harvard University; Robert J. Gordon, Northwestern University; Christina D. Romer, University of California, Berkeley; David H. Romer, University of California, Berkeley; and Victor Zarnowitz, the Conference Board.

FAQs

Q: Why did the committee wait so long before identifying a trough?

A: The committee's goal is to determine the dates of peaks and troughs as definitively as possible. The committee is careful to avoid premature judgments. The initial announcements of many of the major indicators of economic activity are preliminary and subject to substantial revisions, so it is not possible to identify the month of a peak or trough rapidly. The main reason that the committee's decision in this episode was particularly difficult was the divergent behavior of employment. The committee felt that it was important to wait until real GDP was substantially above its pre-recession peak before determining that a trough had occurred, and to study the NBER's past practices carefully to ensure that its decision in this episode was consistent with the dating of earlier turning points.

Q: The most recent data indicate that since November 2001, the unemployment rate has risen from 5.6 percent to 6.4 percent and payroll employment has fallen by almost a million jobs. How can the NBER say that the economy began an expansion in November 2001?

A: The NBER defines expansions and recessions in terms of whether aggregate economic activity is rising or falling, and it views real GDP as the single best measure of economic activity. Real GDP has risen substantially since November 2001. However, this growth in real GDP has resulted entirely from productivity growth. As a result, the growth in real GDP has been accompanied by falling employment. Unemployment has risen because of falling employment and because the labor force has been rising.

Q: Can you say more about how this decision compares with the NBER's dating of previous cycles?

A: The committee looked at both the NBER's past descriptions of business cycle dating and its past choices of dates. In its descriptions, the NBER has consistently placed more emphasis on output than on employment. In their 1946 NBER book, *Measuring Business Cycles*, Arthur Burns and Wesley Mitchell stated that something close to nominal GNP would be the single series that would best capture what they meant by "aggregate economic activity." In a 1963 paper in the *Journal of Business*, "On the Dating of Business Cycles," long-time NBER business cycle researcher Victor Zarnowitz wrote, "The concept of general business activity was no doubt always more closely related to comprehensive indexes of production or output values than to measures of other aspects of the economy Hence, if one wishes to approximate the concept by a single measure, the gross national product (perhaps preferably in constant prices) appears as the most logical choice." Both Burns and Mitchell and Zarnowitz ultimately rejected the use of a single indicator to date business cycles. Instead, since World War II the NBER has always used a range of indicators. Those indicators have focused more on output than employment. For example, in a 1967 article in the *American Statistician*, "What Is a Recession?", the late Geoffrey

Moore, another long-time NBER business cycle researcher, listed 9 series used in dating cycles; of these, 6 were related to output, income, or trade, and 3 to labor market conditions. In recent decades, the dating committee has emphasized four indicators of output, income, and sales (quarterly real GDP, and monthly real personal income excluding transfers, industrial production, and real sales), and one indicator of employment (non-agricultural payroll employment).

A comparison of the NBER business cycle reference dates and the turning points in GDP and payroll employment for the postwar era also suggests that the NBER has placed more emphasis on output-based measures. (In doing this comparison, the committee used the most recently revised data, so some of the correlation or lack of correlation between the two series and the reference dates may reflect data revisions rather than deliberate choices of the NBER. Also, in deducing the turning points in individual series the committee followed the NBER practice of dating peaks and troughs at the end of flat periods.) The committee found that while there are certainly some recessions (such as those beginning in 1960 and 1969) where the turning points in employment are closer to the NBER reference dates than are the turning points in real GDP, the turning points in GDP are never very different from the NBER dates. On the other hand, there are two recent turning points (the 1973 peak and the 1991 trough) where the turning points in real GDP are very consistent with the NBER dates, while the turning points in employment are 10 months or more different from the NBER date.

Q: Is the November 2001 date subject to revision?

A: As suggested above, a major reason the committee does not rush to identify turning points in economic activity is to minimize the chances of identifying the wrong month. Nonetheless, in keeping with past NBER practices, the committee would revise the November 2001 date if it concluded that it was incorrect.

Q: Is the NBER committee considering revising the date of the last peak?

A: The committee would change the date of the peak if it concluded that the date it had chosen was incorrect. However, the committee believes that consideration of revising the date of the peak should wait until the results of the major rebenchmarking of the GDP estimates currently being undertaken by the Bureau of Economic Analysis are announced in December 2003.

Q: Since the recession ended in November, does this mean the expansion began in December?

A: The exact trough occurred sometime in November. For the rest of November, the economy was expanding. So the recession ended and the expansion began in November.

Q: Quarterly real GDP reached its low in the third quarter of 2001 and grew at an annual rate of 2.7 percent from the third quarter to the fourth quarter. Thus, why did the committee not choose the third quarter as the quarterly trough in economic activity?

A: A sensible rule that was laid down by early NBER business cycle researchers and that has been followed by the NBER without exception is that if the monthly peak or trough occurs in the middle month of a quarter, that quarter should be chosen as the quarterly turning point. Application of this rule to the current episode implies that the quarterly trough occurred in the fourth quarter. In addition, simply looking at real GDP overstates the case that the quarterly trough occurred in the third quarter. The committee believes that some of the growth in GDP from the third to the fourth quarter was the result of the events of September 11 rather than of normal economic forces. And several of the major indicators considered by the committee—employment, personal income, and industrial production—were on average lower in the fourth quarter than in the third.

Q: Does the committee believe that a new recession has begun?

A: The committee does not forecast or comment on current economic activity.