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Volume Title: Business Cycles, Inflation, and Forecasting, 2nd edition

Volume Author/Editor: Geoffrey H. Moore

Volume Publisher: Ballinger

Volume ISBN: 0-884-10285-8

Volume URL: <http://www.nber.org/books/moor83-1>

Publication Date: 1983

Chapter Title: The Timing and Severity of the 1980 Recession

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Chapter URL: <http://www.nber.org/chapters/c0688>

Chapter pages in book: (p. 11 - 18)

## *Chapter 2*

# **The Timing and Severity of the 1980 Recession**

*Victor Zarnowitz\* and Geoffrey H. Moore*

In the sixty years of its existence, the National Bureau of Economic Research has been continuously engaged in studies of business cycles. Among the most widely used results of that program are the chronologies of periods of general economic expansion and contraction in the United States and several other countries. These are lists of annual, quarterly, and monthly dates that mark the peaks (signaling the start of recessions) and troughs (which signal the beginning of recoveries). For the United States, England, France, and Germany, these "reference chronologies" extend back more than 130 years.

The following is a brief report on the most recent NBER work in this area. On June 3, 1980, the Bureau's Committee on Business Cycle Dating issued a statement identifying January 1980 as the latest peak in the sequence of U.S. business cycles.<sup>1</sup> At the time no cyclical peak in real GNP had yet been recorded; indeed, that series had continued to increase to the first quarter of the year (1980:1). Thus the determination that the economy was already in a cyclical decline for some five months was by no means obvious and by historical standards relatively early.

The NBER judgment as to the date of the peak was strongly supported by a comprehensive analysis of contemporary economic conditions. Following a long period of very little growth in 1979, most of the important monthly indicators of macroeconomic activity de-

Reprinted from *NBER Reporter*, National Bureau of Economic Research (Spring 1981).

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clined early in 1980. The movements formed a sufficiently consistent pattern to denote a transition from a phase of slow growth to one of a cyclical contraction. Similar slowdown-and-recession sequences have been repeatedly observed in the past. In June, the fragmentary evidence for the second quarter of 1980 suggested that the economy was deteriorating much faster than in the first quarter.

About a month after the NBER dating decision, more complete, though still preliminary, figures for the second quarter became available. Eventually, it turned out that real GNP fell at a record annual rate of 9.9 percent in 1980: 2. Together with other evidence that had become available, this clearly confirmed the occurrence and documented the deepening of the recession.

Table 2-1 lists the dates of the most recent cyclical peaks in fifteen monthly and five quarterly series on output, employment, real sales, and some related processes. This set includes only comprehensive measures of economic performance that show directly whether business activity is rising or falling; hence, the series are classified as "roughly coincident" with the historical chronology of business cycle turning points. Indeed, most of these indicators have been used by the NBER in its past work on dating cycles. The table omits the "leading indicators" representing marginal employment adjustments, business and residential investment commitments (new orders and contracts, starts and permits, and so forth), money and credit flows, sensitive prices, and profits. Most of these early-warning cyclical indicators began declining in 1978 or the first half of 1979. Even so, the dispersion of the specific peak dates in Table 2-1 is rather wide.

The list of the downturns discloses scattered turns during 1979, but the principal cluster is in January-February 1980, with a large concentration of series on real income, real GNP, industrial production, and employment.

Short, random movements and measurement errors ("noise") obscure the evidence of any single time series. A group of indicators contains less noise and is therefore, on the whole, more reliable. There are statistical procedures to standardize different series so that they can be meaningfully combined, as applied in the monthly coincident index of the U.S. Department of Commerce, included in Table 2-1. This index followed an almost entirely flat course between March 1979 and January 1980 (see Table 2-2, footnote a) but declined sharply thereafter.

When other monthly indicators and the quarterly GNP series in real terms are added, the resulting broader composite indexes also peak in January 1980. This reflects largely the fact that, although housing construction and real manufacturing and trade sales weak-

Table 2-1. Chronology of Cyclical Peaks in Twenty Series on Aggregate Output, Employment, Real Income, Expenditures, and Sales, 1979-1980.

<i>Date of Peak</i>	<i>Monthly Series</i>	<i>Quarterly Series (middle month of quarter)</i>	<i>Number of Series Reaching Peaks</i>
March 1979	• Mfg. and trade sales, 1972\$ Wages in goods industries, 1972\$		2
June 1979	Number of unemployed (inverted)		1
July 1979	Unemployment rate (inverted) Insured unemployment rate (inverted)		2
September 1979	Retail sales, 1972\$		1
January 1980	Index of coincident indicators <sup>a</sup> • Industrial production, total <sup>b</sup> Employment in goods industries Nonfarm employee hours Personal income, 1972\$ • Personal income less transfer payments, 1972\$		6
February 1980	Total civilian employment Nonfarm employment, household survey • Nonfarm employment, establishment survey	GNP, 1972\$ Final sales, 1972\$ Disposable income, 1972\$ Goods output, 1972\$ Personal consumption expenditures, 1972\$	8
<b>Number of series</b>	<b>15</b>	<b>5</b>	<b>20</b>

Note: Series are listed according to the timing of their cyclical peaks as dated in the first column. For quarterly series, the turning points are identified by the middle month of the quarter. All monthly series are in physical units (aggregates or rates of employment and unemployment, indexes of production), except for five income or sales aggregates in constant (1972) dollars. All quarterly series are constant-dollar aggregates from the national income and product accounts.

<sup>a</sup>This BEA index (1967 = 100) is a weighted composite of the four monthly series marked • in this table. Its value was slightly higher in March 1979 (146.6)

## Notes to Table 2-1. continued

than in January 1980 (146.1) but the latter date is more representative. The three-month averages centered on the two dates are 145.2 and 145.6, respectively.

<sup>b</sup> The March 1979 value (153.5) is slightly higher than the January 1980 value (152.7), but the latter is a better choice by the fact of the centered three-month averages (which are 152.4 and 152.6, respectively).

end early, the rest of the economy, mainly services and business fixed investment, held up relatively well during 1979. The personal saving rate fell to unusually low levels in this period of widely anticipated inflation and low real interest rates, a situation that helped prop up the economy temporarily despite the slow erosion of real after-tax income of a large part of the private sector.

Based on this evidence (consisting mainly of data through April 1980), the NBER committee concluded that January 1980 was the best choice for the business cycle peak date.<sup>2</sup> However, it warned that the selection was still tentative because of the risks of data revisions, particularly since the initial decline in the winter was rather hesitant; the decline in economic activity accelerated greatly in the spring quarter. In mid-March, credit restraints of unprecedented severity in peacetime were suddenly imposed by the Federal Reserve. The reaction to this unanticipated shock treatment turned out to be very strong. For example, total private borrowing (change in the debt of businesses and households) dropped 51 percent in 1980: 2, from \$353 billion to \$171 billion (at seasonally adjusted annual rates). At the same time, growth rates of monetary aggregates fell sharply, partly into the negative range. Interest rates shot up to peaks of 14-20 percent in March and April, then fell abruptly to 7-12 percent in June and July.

The phase of rapid contraction was short-lived. The Federal Reserve moved in May to soften the credit controls and eliminated them completely on July 3. Private borrowing increased promptly and strongly in 1980: 3. Reduced rates of increase in consumer prices and declines in interest rates helped improve consumer expectations and buying attitudes. Real retail sales and housing starts turned upward. The decline in the coincident index came to a halt in June-August, and the decline in real GNP in 1980:3. These events had been signaled by the leading index, which reached its lowest point in May.

The initial rise in that index has been as large as it usually is early in a business recovery—over 12 percent between May and November 1980, for example. Correspondingly, activity picked up strongly in many areas of the economy, although some, notably the automomo-

Table 2-2. Selected Measures of Duration, Depth, and Diffusion of Business Cycle Contractions, 1948-1980.<sup>a</sup>

	Nov. 1948 Oct. 1949	July 1953 May 1954	Aug. 1957 Apr. 1958	Apr. 1960 Feb. 1961	Dec. 1960 Nov. 1970	Nov. 1973 Mar. 1975	Jan. 1980 July 1980 <sup>b</sup>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Duration (months)							
Business cycle	11	10	8	10	11	16	6
GNP, constant dollars	6	12	6	9	15	15	3
Coincident index	12	15	14	13	13	16	6
Industrial production	15	9	13	13	13	9	6
Nonfarm employment	13	16	14	10	8	6	5
Depth (%) <sup>c</sup>							
GNP, constant dollars	-1.4	-3.3	-3.2	-1.2	-1.1	-5.7	-2.6
Coincident index	-10.8	-9.2	-12.4	-6.8	-6.3	-13.9	-7.0
Industrial production	-10.1	-9.4	-13.5	-8.6	-6.8	-15.3	-8.5
Nonfarm employment	-5.2	-3.4	-4.3	-2.2	-1.6	-3.7	-1.4
Unemployment rate							
Maximum	7.9	6.1	7.5	7.1	6.1	9.1	7.6
Increase	+4.5	+3.6	+3.8	+2.3	+2.7	+4.2	+2.0
Diffusion (%)							
Nonfarm industries, maximum							
percent with declining							
employment	90	87	88	80	80	87	75
Date when maximum reached	Feb. 1949	Mar. 1954	Sept. 1957	Oct. 1960	May 1970	Feb. 1975	Apr. 1980

<sup>a</sup> From peak (first date) to trough (second date).

<sup>b</sup> Tentative: month of lowest value during 1980 of the composite index of four coincident indicators. This date may or may not prove to be the trough of the recession that began in January 1980.

<sup>c</sup> Percentage change from the peak month or quarter in the series to the trough month or quarter over the intervals shown above. For the unemployment rate, the maximum figure is the highest for any month associated with the contraction, and the increases are from the lowest month to the highest, in percentage points.

<sup>d</sup> Since 1960 (columns 4-7) based on changes in employment over six-month spans in 172 nonagricultural industries, centered on the fourth month of the span. Prior to 1960 (columns 1-3) based on cyclical changes in employment in thirty nonagricultural industries. For the latter index, the figures comparable to those in columns 4-6 are as follows: Apr. 1960-Feb. 1961: 82, Aug. 1960; Dec. 1960-Nov. 1970: 83, June 1970; Nov. 1973-Mar. 1975: 90, Jan. 1975. No overlap is available for the 1980 recession.

Source: U.S. Department of Commerce, U.S. Department of Labor, Board of Governors of the Federal Reserve System, National Bureau of Economic Research. For a similar table carrying the record back to 1920, see Appendix Table A-2.

ble industry, remained depressed. Thus industrial production gained 6.4 percent in July–November (a very vigorous annual rate of 20.5 percent).

Monetary growth accelerated greatly in the summer and fall of 1980. Fears that the new surge of money and credit creation would result in greater inflationary pressures, and that the Federal Reserve would once more precipitate a drastic retrenchment, fueled a second round of sharp interest rises within one year. Thus the prime rate rose above 20 percent (its previous high of late April) in the second half of December. At the concurrent inflation rates, the burden in real terms of these high costs of money was plain to see, and they soon became the focus of widespread expectations that the young recovery would falter.

The prospects for a sustained expansion are indeed uncertain. With the data available at the present time (early March 1981), July 1980 appears the most reasonable trough date. However, this date has not been reviewed or approved by the NBER Business Cycle Dating group, and it would be invalidated should another sufficiently large decline in aggregate economic activity develop in the near future.<sup>3</sup> Consequently, no reference date for the beginning of a new business expansion can as yet be identified with adequate confidence, and none has been determined by the NBER committee.

Nevertheless, it is interesting to ask how this last recession compares with the previous ones, a question that requires some preliminary cutoff date for the 1980 contraction. If the trough did in fact occur in July, real GNP will have declined for one quarter only in this recession, which is unusual—although the NBER, for good reasons, never agreed with the popular notion that a recession requires as a minimum two consecutive quarterly declines in real GNP. Thus some may query whether the 1980 decline did have the dimensions of a business cycle contraction.

Table 2-2 based on the assumption that the recession ended in July, removes such doubts. Although short, the 1980 decline in real GNP was larger than the declines in three of the six earlier post-World War II recessions. The total loss in the coincident index exceeded those that occurred during the recessions of 1960 and 1970. The comparisons for industrial production lead to a similar conclusion. Only in terms of the changes in employment and unemployment can the 1980 contraction be considered the mildest of the seven episodes since 1948. The trend toward milder declines in employment has been going on for many years, largely because of the growth in employment in the service industries, which as a rule are more recession-proof than the goods-producing industries.

According to the new estimates just released, real GNP increased at a 2.4 percent annual rate in the third quarter and at a 4.0 percent annual rate in the fourth quarter of 1980. The first of these figures falls short of, but the second exceeds, the long-term growth rate of U.S. aggregate output. Other indicators also suggest that July 1980 may mark the trough in the growth cycle, that is, the end of the below-trend phase that began in December 1978.<sup>4</sup> In particular, the rise in the coincident index after July 1980 was far greater than the long-term average growth rate for this series. Historically, the business cycle troughs and the growth cycle troughs have often coincided. On the assumption, albeit very tentative, that this will again prove to be the case, the latest low-growth phase would have lasted nineteen months (December 1978–July 1980), which is very close to the average for these periods after World War II (eighteen months). Hence, although the business cycle contraction was unusually short, the growth cycle contraction was of typical length.

In conclusion, the 1980 declines in the indicators of major economic activities were relatively short but widespread and deep enough to qualify as another business cycle contraction.

## NOTES TO CHAPTER 2

1. Members include NBER Director Geoffrey H. Moore and the following NBER research associates: William Branson (Princeton), Martin Feldstein (Harvard), Benjamin Friedman (Harvard), Robert Gordon (Northwestern), Robert Hall, chairman (Stanford), and Victor Zarnowitz, Chicago.

2. The Committee did not fix a quarterly or annual peak date, but in our view the quarterly peak was the first quarter of 1980 and the annual peak was 1979.

3. That is, if, after a recovery of less than a year, economic activity should decline to a lower level than it reached in mid-1980, the July 1980 trough might not hold. The shortest business cycle expansion in the NBER chronology for the United States lasted ten months (3/1919–1/1920). Incidentally, this expansion was preceded by the shortest contraction, seven months (8/1918–3/1919). If July 1980 proves to be a trough, the 1981 recession will have lasted six months only. For the NBER chronologies of business cycles, see Appendix Table A-1.

4. Growth cycles are defined by the consensus of fluctuations in trend-adjusted data for the physical volume of aggregate economic activity. For a brief explanation of this concept and the chronology of U.S. growth cycles 1948–1978, see Chapter 4 and Appendix Table A-4. (Postscript: The NBER committee subsequently selected July 1980 as the business cycle trough and July 1981 as the peak. But the growth cycle contraction continued through 1980, 1981 and 1982. That is, the rapid-growth phase of the July 1980–July 1981 business cycle expansion proved too brief to be considered a growth cycle upswing.)



