

Research Department
Federal Reserve
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Tip-off on Recession

"The most widely heralded recession of recent times," some analysts are calling it. If a recession actually did begin this spring — as seems likely on the evidence of the second quarter's 3.3-percent rate of decline in real GNP — then much of the credit for calling the turn belongs to the composite index of leading economic indicators. This index, which correctly predicted each of the preceding five business-cycle peaks, apparently did the same this time, since it has declined in each of the past two quarters and is now 2 percent below last October's peak.

Many important statistics come out of Washington every month, but the leading-indicators series is rather special. The "big" numbers — employment, industrial production, personal income, retail sales, and consumer prices — are all important, of course, but they simply tell us the current status of business activity. The leading-indicators series has a more ambitious goal: to tell us where the economy is going in the future. Generally, it does that quite well.

The composite

The index's unique value comes from the ability of its twelve components to anticipate developments in a number of important economic activities. These activities span the economic spectrum — labor markets, product markets, business formations, financial markets, and construction activity. The composite index is derived by weighting the twelve components in a way which indicates their cyclical importance, by such measures as cyclical timing, closeness of fit to the overall business cycle, and data availability.

In the words of the Commerce Department's *Handbook of Cyclical Indicators*, the

composite index "serves as a summary measure designed to indicate changes in the direction of economic activity." The index thus captures basic changes in the underlying structure of the economy while those changes are still in the early stages of development.

The composite index has been revised several times over the years, most notably in late 1976. At that time, several components were dropped because they lacked timeliness or behaved erratically at the cyclical turning points, and were replaced by more suitable indicators. Another improvement was the replacement of several series which were expressed in nominal dollar terms, and which thus imparted an upward bias to the index during inflationary periods.

Labor and product markets

The labor markets provide two of the index's components: the average workweek and the layoff rate in manufacturing. When business activity begins to weaken, employers may reduce the amount of labor at their disposal by laying off workers — or alternatively, by shortening the workweek in various ways, either through reducing hours, eliminating overtime or dropping a shift. Conversely, when conditions begin to improve, they may reduce layoffs or lengthen the workweek in various ways. Through such tentative adjustments, employers can respond to the first hints of a change in the business climate.

Similarly, several leading indicators give signals of impending slack (or tightness) in product markets and distribution channels. One such measure is vendor performance; if more production capacity becomes available in a weakening economy, then

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suppliers can provide faster delivery, and vice versa. New orders provide another important clue to cyclical change, since business firms will cut back on orders if they find their stock of inventories rising relative to sales, or vice versa. Sensitive commodity prices are yet another measure of easing or tightness in markets; in particular, they provide a good indicator of shifts in strongly competitive international markets.

Other components

Business planning for the future affects the composite index in other ways as well. If the outlook is cloudy, business people will have doubts about the wisdom of starting new enterprises, and net business formations will decline. On the eve of recession, firms will reduce or eliminate their contracts for new plant and equipment. The stock-market index is in this category also, because current stock prices reflect the expected future flow of earnings from assets.

The composite index includes two financial series — changes in the real (M₂) money supply, and changes in total liquid assets. In

an impending downturn, individuals will tend to restrain spending if their stocks of money and liquid assets are below desired levels, and vice versa.

Other indicators refer to impending developments in household spending, such as new housing permit activity and manufacturers' orders for consumer goods and materials. Still, these and other indicators do not show transactions with the ultimate owner or consumer. Indeed, that point reflects the basic purpose of the leading indicators — to detect underlying trends in various sectors of the economy before they show up in final markets. The twelve leading series generally reflect changes in the early stages of production, which are affected by business firms' expectations about the future as well as the feedback from the present state of the market.

Do leaders really lead?

The composite index of leading economic indicators led the turn at every business-cycle change in the past quarter-century. The index turned down anywhere from one

Components of Index

1. Average workweek of production workers in manufacturing
2. Index of net business formations
3. Index of stock prices (500 stocks)
4. Index of new private housing permits
5. Layoff rate in manufacturing (inverted)
6. New orders for consumer goods and materials (constant dollars)
7. New plant-equipment contracts and orders (constant dollars)
8. Net change in inventories, on hand and on order (constant dollars)
9. Percent change in wholesale prices of crude non-food materials
10. Percent of companies reporting slower deliveries from vendors
11. Money supply, M₂ (constant dollars)
12. Percent change in total liquid assets

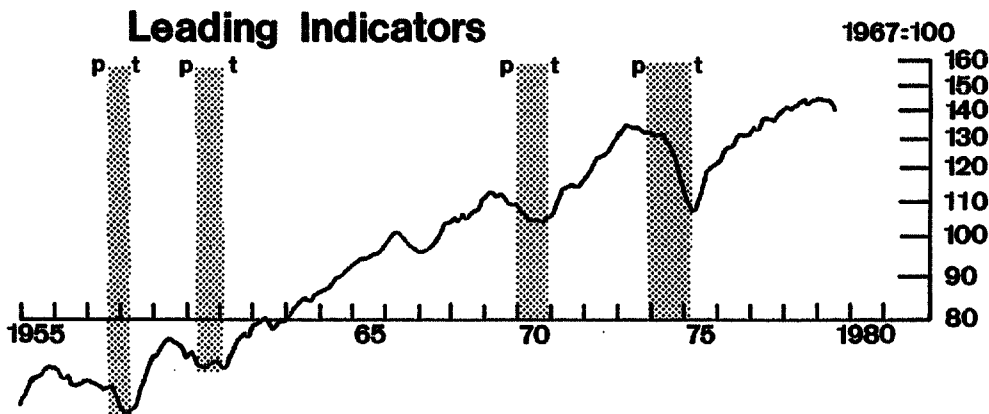
to eight months before the cyclical peak, and it turned up anywhere from one to six months before the cyclical trough. On the average, it led the peak by four months, and led the trough by three months. Those figures were computed by using the rule-of-thumb that three months' movement in a new direction constitutes a new trend — a rule violated in the present instance, where the composite index dropped for two quarters in a row, but not for any three consecutive months.

Unfortunately, the composite index not only predicted the last six recessions but also predicted six recessions that didn't happen. The index seems to share that characteristic with the stock market, of which it has been said that it predicted "nine of the last five postwar recessions." The composite has had a much better performance anticipating

cyclical upturns, without this tendency for making false predictions.

False signals of recession generally have developed about midway in economic expansions, on those occasions when the economy tends to become sluggish for a period of months. The most obvious case occurred in 1966, when the composite index declined 5 percent from February to December, as a number of incipient weaknesses developed in the economy. (Actually, 1966 may not have been much of an exception, because that sluggish year just missed being declared a recession year.) Since the index gives off such frequent signals of impending recession, perhaps the net is drawn too fine. But if the statistical net were coarser, the leading series might miss the warnings of slowdown and might create some unpleasant surprises for us.

Herbert Runyon



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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT
 (Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 7/18/79	Change from 7/11/79	Change from year ago @	
			Dollar	Percent
Loans (gross, adjusted) and investments*	128,823	175	+ 17,661	15.89
Loans (gross, adjusted) — total#	106,349	124	+ 16,659	18.57
Commercial and industrial	30,762	- 69	+ 3,434	+ 12.57
Real estate	38,832	237	+ 8,234	26.91
Loans to individuals	22,104	64	NA	NA
Securities loans	1,742	- 88	NA	NA
U.S. Treasury securities*	7,593	- 11	- 372	- 4.67
Other securities*	14,881	80	+ 1,374	10.17
Demand deposits — total#	43,454	- 662	+ 2,837	6.98
Demand deposits — adjusted	31,434	- 635	+ 1,954	6.63
Savings deposits — total	30,578	38	+ 59	1.93
Time deposits — total#	49,909	- 99	+ 4,532	9.99
Individuals, part. & corp.	41,471	- 42	+ 5,434	15.08
(Large negotiable CD's)	17,150	- 298	- 513	- 2.90
Weekly Averages of Daily Figures	Week ended 7/18/79	Week ended 7/11/79	Comparable year-ago period	
Member Bank Reserve Position				
Excess Reserves (+)/Deficiency (-)	6	- 4		93
Borrowings	84	281		57
Net free reserves (+)/Net borrowed(-)	- 78	- 285		36
Federal Funds — Seven Large Banks				
Net interbank transactions	+ 1,634	+ 2,063		+ 80
[Purchases (+)/Sales (-)]				
Net, U.S. Securities dealer transactions	+ 113	+ 388		+ 647
[Loans (+)/Borrowings (-)]				

* Excludes trading account securities.

Includes items not shown separately.

@ Historical data are not strictly comparable due to changes in the reporting panel; however, adjustments have been applied to 1978 data to remove as much as possible the effects of the changes in coverage. In addition, for some items, historical data are not available due to definitional changes.

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