Research Department
Federal Reserve
Bank of
San Francisco

July 9, 1982

FRBSF Weekly Letter

The Recession Is Over?

The Commerce Department's index of leading economic indicators increased for the third straight month in May, and to many analysts that suggests that the recession is just about over. The index generally is a reliable cyclical indicator, normally turning up three months or so before each trough in business activity, and turning downward for a considerably longer period before each business-cycle peak is reached. Given the index's importance as a forecasting tool, it would be worthwhile to review the components of this measure and to evaluate its success in leading cyclical turning points throughout all the ups and downs of the past generation.

The Commerce Department selects the twelve components of the overall series for their consistency of behavior at business-cycle peaks and troughs, and for their economic significance and statistical adequacy and availability. An increase or decrease in the composite index does not mean that the individual series are all moving in the same direction simultaneously. Rather it means that most of the 12 series, adjusted for their relative importance, are moving in the same direction. All of the individual indicators are highly accurate forecasters of coming trends. As individual series, however, they sometimes generate false signals because of random data fluctuations, so we gain a certain safety in numbers by combining them into a larger index.

The Commerce Department does not choose the components of this series for their importance as overall economic indicators. Sales and employment data, which are far more comprehensive in scope, are listed as coincidental series, while the closely-watched unemployment rate considerably lags the turns in business activity. For the leading series, in contrast, Commerce chooses statistics on the basis of their consistency in leading the turning points of the business cycle. It then groups the series into four major categories—labor-market trends, capital investment, inventory investment, and financial flows—as shown below with relative weights.

Labor market (17.5%)

Two series labeled "marginal employment adjustment" afford an early clue to changes taking place in the utilization of the labor force. The two series—the average work week in manufacturing and new unemployment-compensation claims—provide a foretaste of a declining economy prior to a peak in business-cycle activity. Conversely, as the economic climate starts to improve, the average factory work week lengthens as the demand for labor increases, while the number of new claims for jobless compensation declines.

Capital investment (23.7%)

Two series in this category deal with brick-and-mortar capital projects and capital equipment—the number of new building permits for private housing and the real value of contracts and orders for plant and equipment. There are substantial lags involved in both cases. The lag between permits for new homes and their actual construction generally runs about three months or so. In the industrial field, the lag between purchase commitment and actual delivery may vary from several months for off-the-shelf items of equipment to several years for large structures.

New business incorporations represent a third major capital-investment commitment. Founders of new businesses organize those enterprises when they expect an improvement in the general tone of business activity, although their actual capital expenditures may be far in the future. Current feelings of optimism (or pessimism) thus lead to decisions to create new business firms, which then in turn lead to capital commitments at some future date.

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Inventory investment (32.0%)

New orders for consumer goods represent one important indicator, since they reflect the state of future demand by retailers. (Most consumption goods are produced for stock rather than for special order.) A second indicator—vendor performance—indicates the slowness or rapidity of deliveries and, hence, pressures on supply. Deliveries generally become slower as business activity expands and as production bottlenecks and materials shortages begin to appear. A third indicator, measuring changes in inventories, again reflects the state of business confidence. If sales are brisk, for example, business firms will try to stock a full range of goods and reorder as necessary to avoid losing sales for lack of stock, so that stocks will expand at an accelerated pace.

A fourth indicator measures changes in sensitive prices—that is, wholesale prices of crude materials which have undergone no processing and thus are entering organized markets for the first time. The prices of such materials generally are quite sensitive to changes in demand, given a relatively fixed supply coming on to the market. The prospect of an expanding business trend thus will lead to rising prices, while the prospect of declining activity normally will lead to a fall in such prices.

Financial flows (26.9%)

The Commerce statisticians have given heavier weights to each of the financial indicators than to any of the other leading indicator series. (Only one other series—new unemployment claims (8.9%)—can match the importance of any of these financial series.) The highest weight goes to changes in total liquid assets, which is a comprehensive series including the monetary aggregates and most short-term market instruments ranging from Treasury bills to commercial paper. The importance of this series stems from the fact that as the stock of liquid assets rises, the public feels more confident about boosting spending, and as asset holdings decline, the public devotes first attention to rebuilding its stock of financial assets.

Also crucial is the behavior of the money supply, since changes in this aggregate work with a variable lag upon the major economic indicators. Money-supply changes generally precede shifts in output and employment by two to four quarters, but generally precede change in prices and interest rates by six to eight quarters.

A third series, the Standard and Poor stock price index, represents a measure of changes in corporate profitability. Stock prices represent the present or discounted value of a stream of future income. Changes in expectations regarding the value of this future-income stream will be reflected in the present value (price) of stock shares. Increases or decreases in the stock index therefore will indicate expectations of greater or less profitability.

Importance of index

The leading-indicators series derives its importance, of course, from the fact that it generally precedes turning points in the overall national economy, as designated by the National Bureau of Economic Research (see chart). Over seven business cycles from the July 1953 peak through the July 1981 peak, the leading indicator series generally led the cyclical peak by some eight to fifteen months, with an average lead of about ten months. In contrast, the leading-indicator series led the lower turning point by from one month to six months, with an average of less than four months. The difference reflects the fact that cyclical expansions normally last much longer than contractions; specifically, expansions have averaged 39 months over the past generation compared with the 11-months average for cyclical contractions.

Does a one-month change in the leading-indicators index portend a shift in cyclical activity? Not necessarily; the composite index picks up a certain amount of statistical "noise" from the component series, reflecting short-run random movements which do not represent basic changes in the direction of the national economy. The composite index thus should show several consecutive months of sign change (positive or negative) as the minimum indication of a change in the direction of economic activity. In a recession period, for example, signs shifting from the minus to the plus column should indicate a shift from cyclical recession to expansion—which describes the present situation quite closely.

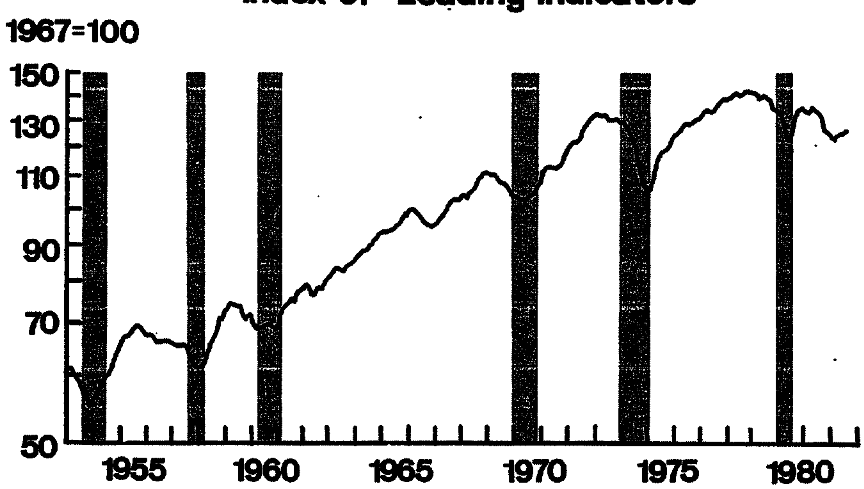
Reliability of signals

Does the leading-indicators series ever forecast cyclical-turning points which never arrive? Only two false signals can be detected in the cyclical record of the past generation, and there was a reason for the shift in each of those two cases. Between September 1955 and June 1956 and again between March 1966 and December 1966, the composite index declined consistently for a number of months. The decline was not followed by an official recession in either case. However, the series could be considered vindicated by the fact that real GNP weakened substantially throughout all of 1955 and again throughout all of 1966.

There is no such ambiguity in the present situation. May's third consecutive plus sign in the leading-indicator series suggests that the bottom of the recession, given the lags involved, may have been reached just around mid year. This squares with the predictions of most business forecasters, who see the second half as a period of recovery and expansion. Continued plus signs in the composite series should add more statistical weight to their forecast.

Herbert Runyon

Index of Leading Indicators



Source: U.S. Department of Commerce
Shaded areas indicate recessions

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

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 6/23/82	Change from 6/16/82	Change from year ago Dollar	Percent
Loans (gross, adjusted) and investments*	159,422	143	8,964	6.0
Loans (gross, adjusted) — total #	138,813	116	10,115	7.9
Commercial and industrial	43,467	– 12	5,029	13.1
Real estate	56,981	58	4,219	8.0
Loans to individuals	23,349	22	291	1.3
Securities loans	2,265	107	604	36.4
U.S. Treasury securities*	6,559	38	212	3.3
Other securities*	14,050	– 11	– 1,363	– 8.9
Demand deposits — total#	37,174	–2,836	– 2,625	– 6.6
Demand deposits — adjusted	26,117	–1,241	– 1,883	– 6.7
Savings deposits — total	30,227	– 559	301	1.0
Time deposits — total#	94,696	– 339	13,444	16.5
Individuals, part. & corp.	84,999	– 340	12,942	18.0
(Large negotiable CD's)	34,432	– 692	3,880	12.7

Weekly Averages of Daily Figures	Week ended 6/23/82	Week ended 6/16/82	Comparable year-ago period
Member Bank Reserve Position			
Excess Reserves (+)/Deficiency (–)	108	21	50
Borrowings	25	8	359
Net free reserves (+)/Net borrowed(–)	83	13	– 309

* Excludes trading account securities.
# Includes items not shown separately.

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