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## RESEARCH REPORTS

### COMING EFFECTS OF CURRENT EVENTS

#### *Where Are We Going?*

Since the publication of *Statistical Indicators of Cyclical Revivals and Recessions* by the National Bureau of Economic Research, we have been working on a method of adapting the results of that study to current analyses of business-cycle changes.

The table below presents the current status of the 18 monthly statistical indicators suggested by the National Bureau. Each indicator reflects some aspect of the Nation's economic activity; and each segment of business activity concerned is either expanding, contracting, or has an indeterminate trend each month.

Thus far, our study has enabled us to make preliminary estimates regarding the status of each of the indicators. Inadequate data, lack of seasonal adjustments, erratic movements of some series, and other technical statistical problems have prevented a more complete analysis. For several series no basis for an estimate is at present available, and that fact is indicated by a question mark. As a result of additional research, future tables not only should be more complete, but our estimates should be more nearly accurate.

The 18 indicators included in the table have been divided into three major groups designated respectively "leading group," "roughly coincident group," and "lagging group." The "leading group" includes eight series whose turning points usually have led the peaks and troughs of general business activity; that is, these series have begun to decrease or have started to increase prior to the corresponding change for business activity in general. The "roughly coincident group" includes six series that in the past have not consistently led or lagged general business activity but usually have changed direction shortly before or shortly after over-all business has reached a peak or trough. Finally, in the "lagging group" are four series that in the past usually have not begun to decrease or have not started to increase until after the corresponding movements of business activity in general have been well under way.

For each statistical indicator, the table shows the average number of months that the particular series has led or lagged cyclical peaks and troughs in the past to-

gether with the current status of the series. For example, the index of industrial common-stock prices usually has begun to decrease 6 months before the peak of business activity has been reached and usually has started to increase 7.2 months before the low of business activity has been reached. Recently, the trend of this index has been upward; therefore, in view of the fact that the economy is in the recovery phase of a business cycle, this indicator suggests that a cyclical contraction of general business activity is not imminent.

With the exception of three series (new orders of durable-goods industries, average hours worked per week in manufacturing industries, and the number of new incorporations) for which no definite trend can be established, all of the remaining series in the "leading group" apparently are expanding. Four of the six "roughly coincident group" are expanding, and three of the four "lagging group" are expanding. This record is what one would expect when a general recovery movement has been under way for several months.

#### *Conclusions*

*An analysis of the 18 statistical indicators reveals no evidence that the end of the present recovery is imminent.*

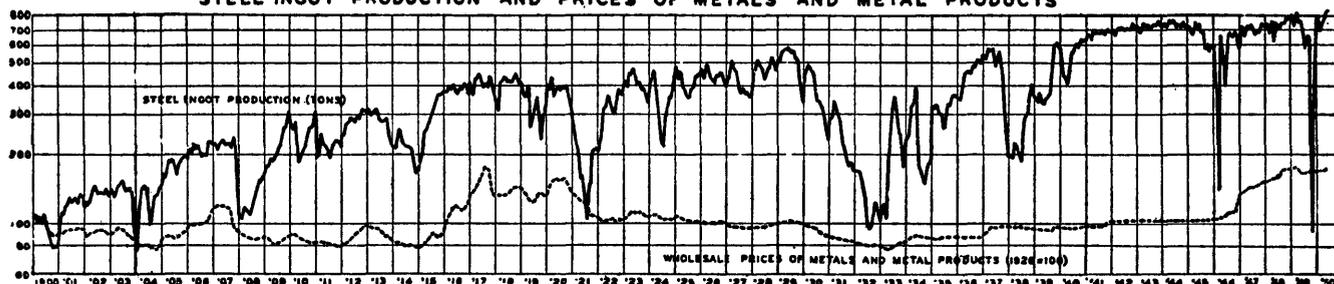
#### PRESENT STATUS OF STATISTICAL INDICATORS

	Average monthly		Status
	Lead (-) or Lag (+) at		
<i>Leading Group</i>	<i>Peaks</i>	<i>Troughs</i>	
1. Liab. of ind. and comm. failures*	-10.5	-7.5	E
2. Ind. common stock price index	-6.0	-7.2	E
3. New orders of dur. goods industries	-6.9	-4.7	?
4. Res. bldg. contracts, floor space	-6.2	-4.5	E
5. Comm. and ind. bldg. contracts, fl. sp.	-5.2	-1.7	E
6. Aver. hours worked per week in mfg.	-3.8	-2.6	?
7. Number of new incorporations	-2.5	-3.5	?
8. Whol. price index of 28 commod.	-2.6	-3.2	E
<i>Roughly Coincident Group</i>			
9. Employ. in nonagricultural estab.	-0.2	-3.3	E
10. Unemployment*	NA	NA	E
11. Bank debits outside N.Y.C.	+2.0	-4.3	?
12. Freight car loadings	-0.3	-1.3	?
13. Industrial production index	+0.6	-2.2	E
14. Whol. price index excl. farm prod. and foods	-3.5	+3.7	E
<i>Lagging Group</i>			
15. Personal income	+4.0	-0.2	E
16. Sales by retail stores	+3.8	+1.8	?
17. Consumer instalment debt	+5.0	+3.5	E
18. Manufacturers' inventories	+6.5	+7.5	E

E=expanding; NA=not available; \*inverted because movements of these series are generally opposite to those of most economic series.

<sup>1</sup>This National Bureau publication, which was reviewed in the May 15, 1950, *Research Reports*, is Occasional Paper 31 and may be obtained from the National Bureau of Economic Research, 1819 Broadway, New York 23, New York, price \$1.50.

## STEEL-INGOT PRODUCTION AND PRICES OF METALS AND METAL PRODUCTS



In the past, downturns in several of the "leading group" series have preceded downturns in over-all business by as much as 6 to 10 months. In view of the fact that none of the statistical indicators have turned downward as yet, we should not expect the recovery to end for several months at least.

### SUPPLY

#### Industrial Production

Steel-ingot production, scheduled at 101.1 percent of capacity for the week ended June 17, 1950, was slightly less than that in the preceding week but was 21 percent more than that in the corresponding week last year.

	1929	1932	1937	1938	1949	1950
Percent of Capacity†	97	18	76	28	87	101p
Weekly Cap. (Million Tons)	1.38	1.52	1.51	1.54	1.84	1.91
Production (Million Tons)	1.34	.27	1.15	.43	1.60	1.93

Automobile and truck production in the week ended June 10, 1950, in the United States and Canada was estimated at 191,585 vehicles, a new high, compared with a revised total of 138,402 vehicles for the holiday week ended June 3.

	1929	1932	1937	1938	1949	1950
Vehicles (000 omitted)†	126	53	119	40	137	192p

Electric-power production in the week ended June 10, 1950, increased to 5,920,827,000 kilowatt-hours from 5,631,934,000 kilowatt-hours in the previous week.

	1929	1932	1937	1938	1949	1950
Billion Kilowatt-Hours†	1.70	1.44	2.21	1.99	5.30	5.92

Lumber production in the week ended June 3, 1950, increased. *The New York Times* seasonally adjusted index was 24 points more than that for the previous week and was 22 points more than that for the corresponding week last year.

	1929	1932	1937	1938	1949	1950
<i>The New York Times</i> Index	120*	39*	96*	81*	107*	129*

†Latest weekly data; corresponding weeks of earlier years  
p=preliminary; \*holiday

#### Steel-Ingot Production vs. Prices of Metals and Metal Products

Since mid-April the Nation's steel mills have been operating at an average rate of 100 percent of capacity or more; and weekly production has exceeded 1,900,000 tons, an all-time record. As a result, total production of steel ingots and steel for castings in May reached a new monthly peak of 8,549,038 net tons. The previous all-time high was reached in March 1949, when 8,388,000 net tons were produced. Output of steel in May was 4 percent greater than that reported for April and was 12 percent more than that produced in May last year.

Although the gray market is not active on a large scale, other developments that have accompanied past

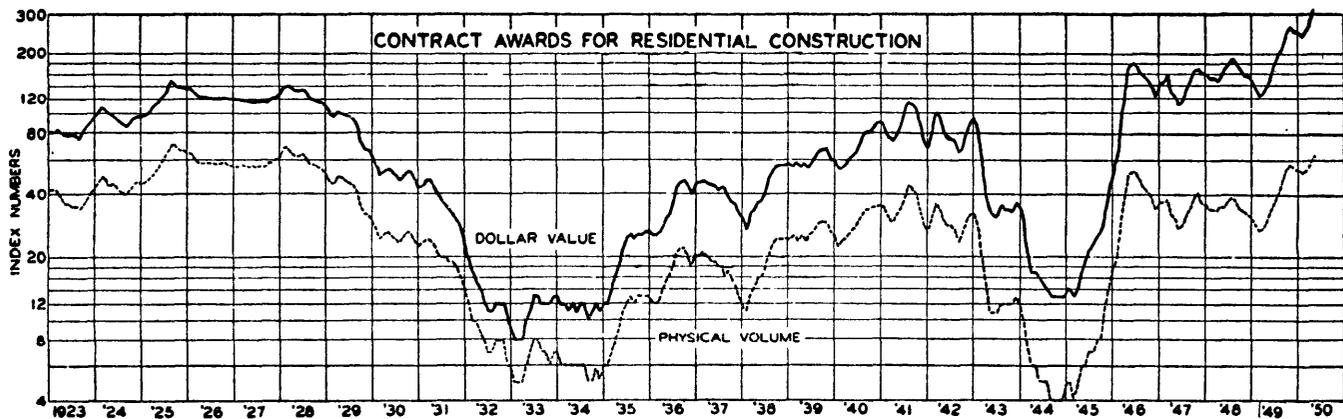
booms in the steel industry have occurred. Conversion deals, by means of which steel consumers arrange to have raw materials converted to the finished product needed, are frequent and widespread. Automobile companies, for example, have contracted for the conversion of large amounts of raw steel to the flat-rolled steel otherwise unobtainable in sufficient quantities. *The Iron Age* states that many "mills have booked their conversion space to the end of the year," and conversion costs have increased. Premium prices, which are the relatively higher prices charged by small, marginal, or high-cost producers for steel products in short supply, now range from \$3 to \$20 per ton higher than the average for certain products.

The boom in the steel industry apparently is largely attributable to orders from the automobile, construction, and related industries, including automotive-parts producers and household electrical-appliance companies. The automobile industry has been maintaining operations at record levels in recent weeks; and there is as yet no indication of curtailment, although a seasonal reduction in output is expected this fall. Construction of new housing (discussed elsewhere in this bulletin) and other construction have increased to record levels in recent months. Because of the backlog demand for steel that now exists, steel producers predict that operations will be maintained at near-capacity levels throughout the last half of the year. However, *The Iron Age* recently stated that the better-than-capacity rate of operations "can't be maintained through the hot weather and vacation periods this summer. But it is little short of a miracle that it has been sustained this long."

Apparently the editors of *The Iron Age* expected break-downs and shortages of raw materials, particularly scrap, to hamper steel production. However, the additions to productive facilities since the first of the year may have counterbalanced the withdrawal of equipment from operations for repairs. (We have previously explained how the steel industry can report scheduled operations at better than 100 percent of capacity. See *Research Reports*, May 22, 1950, page 84.)

Scrap shortages have appeared in recent weeks. Many companies have been forced to use relatively poor grades of scrap in their production of steel in order to maintain near-capacity operations. However, imports of scrap are expected to increase substantially in the next few months.

The most interesting development of the past several weeks has been the marked increases in the prices of steel scrap. The price of No. 1 heavy-melting steel scrap rose to \$47, an all-time high, in Pittsburgh during the first week of June. Substantial increases have occurred in the other principal markets also, and in most instances prices higher than \$40 per ton are now quoted.



Scrap prices a year ago were approximately \$21 per ton, and last January the average price was \$30.

As we have previously mentioned, even the minor recessions in steel activity since 1900 invariably have been preceded by declining prices for steel scrap. Furthermore, except during the unusual situation immediately following World War II, a rise as rapid and as great as the recent upward spurt in scrap prices usually has been followed by a sharp reversal of the price trend. Judging by past experience, a substantial reduction in the steel-production rate will not occur until after the upward trend of scrap prices has been decisively reversed.

Several small steel producers have raised the prices of finished steel products, but these increases have not yet been reflected in the price indexes of metals and metal products that have become available. Higher prices for several nonferrous metals and other metal products in May resulted in a 1-percent increase in the metals and metal-products component of the Bureau of Labor Statistics wholesale price index for that month. Extensive curtailments of steel production have occurred on eight occasions since 1900 after moderate increases in the prices of metals and metal products, but the relationship is not an invariable one, and several months have elapsed in some instances between the price increases and the curtailments of steel production.

*Although the upward movement of scrap prices has been halted and may be reversed when new sources of supply are tapped, neither the trend of scrap prices nor the trend of prices of metals and metal products suggests that a substantial curtailment of steel production will occur in the near future.*

## DEMAND

### Department-Store Sales

Department-store sales for the week ended June 3, 1950, were 16 percent more than sales for the previous week and were 5 percent more than sales in the corresponding week last year.

## PRICES

### Commodities at Wholesale

	1949 June 15	1950 June 8	1950 June 15
(August 1939=100)			
Spot-Market Prices (28 basic raw materials)	231	269	263
Commodity Futures Prices (Dow-Jones Daily Index)	259	311	303

## BUSINESS

### Residential Construction

The Federal Reserve Board's seasonally adjusted index of residential construction for April was at an all-time high, 12 percent above the previous peak reached in March and 123 percent above the figure reported for April last year.

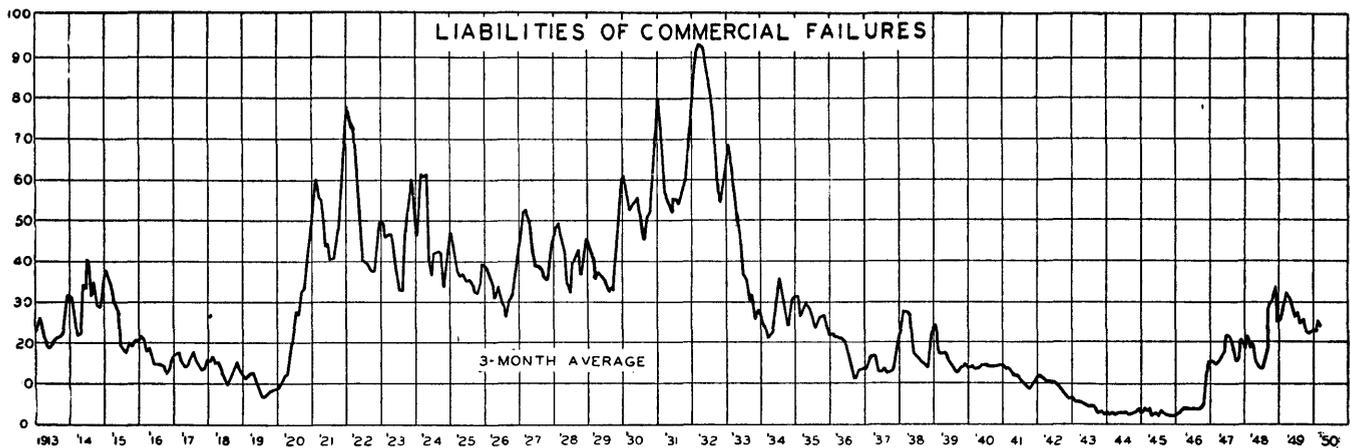
The Board's index of residential construction represents a 3-month moving average (centered) of the dollar value of contract awards. The substantial increase in the index for April was attributable primarily to the fact that the relatively low figure for February was dropped from the average and the record amounts of contract awards reported in March, April, and May were included.

Our index of the physical volume of residential construction for April was at a new postwar high but was still less than the peaks reached in 1925 and 1928. (This index is derived by dividing the dollar-value index by the construction-cost index. The index of construction costs increased 1 percent during April.) The April index of physical volume was 10.5 percent above that for March, 90 percent above the index for April 1949, but 12 percent below the all-time high reached in August 1925.

There is some question regarding the accuracy of a physical-volume estimate derived by dividing dollar-value data by an index of prices. The Department of Labor's "estimated number of new permanent family dwelling units started in nonfarm areas" indicates that more than 1,000,000 units were started in 1949 and, in recent months, more than 100,000 per month have been started. In 1925, when the previous record was established, only 937,000 units were started, an average of less than 80,000 per month.

In spite of the record dollar value of housing construction reported during the past 4 years, the actual number of houses constructed has been much less than the number built in the 4-year period, 1925-28. The average number built during the past 4 years probably has been 25 percent fewer than the average number constructed in the earlier period mentioned.

The paradoxical aspects of the situation are apparent when one realizes that the *incentives* provided by the Government, including subsidies to low-income groups, special insurance provided for the protection of banks that extend credit on real estate for middle- and low-income groups, and other dispensations granted to veterans, were virtually nonexistent in the 1920's. (The pro-



visions of the Housing Act of 1950 are such that the initial cost and monthly payments of buying a house are actually less in many instances than the initial cost and monthly payments of buying a new automobile in many areas of the country.)

The present backlog demand for housing, according to surveys conducted for the Federal Reserve Board and the Department of Commerce, apparently is substantial. The Department of Commerce has concluded that the present rate of construction can be maintained for some time to come, although probably for no longer than 3 years.

A preliminary study reveals that, in order for the Federal Reserve Board's *seasonally adjusted* index of residential construction for May to remain unchanged from the April level, the dollar value of residential construction during June (which will be included in the 3-month moving average) will have to increase 18 percent above the previous all-time high reached last April. In view of the fact that residential construction has decreased during June in 3 of the past 4 years, the possibility of such an increase seems remote. Therefore, the upward trend of the Board's *seasonally adjusted* index of residential construction may be halted temporarily.

*One factor that may not have been given sufficient weight by many observers is the increasing number of children per American family. Many families now living in small 1- or 2-room quarters will be eager to have somewhat larger living facilities in another year or two if the birth rate continues at recent high levels. As long as new and larger living quarters can be obtained at what amounts to little more than a modest increase in rent, the demand for new housing may be unusually great for some years to come.*

### The Trend of Commercial Failures

The liabilities involved in commercial failures during April totaled \$21,250,000, a decrease of 24 percent from the March figure and nearly 34 percent less than that for April 1949. As a result of the decrease during April, the 3-month moving average plotted in March decreased nearly 7 percent.

Readers may notice that the extreme peaks formerly shown in 1948 and 1949 (January 2, 1950, *Research Reports*, page 4) no longer appear on the chart. Railroad failures, which were not included in the series prior to 1945, had been added to the data since 1945. The series has now been revised to make the data comparable throughout the period covered. As a result, the revised

curve more nearly parallels our own estimate of liabilities excluding railroad failures, which was shown as a dotted line on the chart published last January.

The number of failures in April was 806, compared with 884 in the previous month and 877 in the corresponding month last year. April was the first month since April 1946 in which the number of failures was less than the total for the corresponding month of the previous year. The fact that the great majority of failures since the war has been small businesses (nearly 90 percent from 1945 through 1948 were firms with three or less employees) may partially explain the decrease during the last few years in the average amount of liabilities per failure. Since 1946 the number of failures has increased more than eightfold, but liabilities during the same period have increased only fivefold.

From time to time we have mentioned that trends of failures' liabilities have been difficult to ascertain because of the seasonal factors involved. Our 3-month moving average reduces the seasonal fluctuations somewhat. Nevertheless, even this average has had a marked seasonal pattern. In view of the importance of this series as an indicator of cyclical recessions and recoveries (see "Coming Effects of Current Events" in this bulletin), we have attempted to remove the seasonal influence from the series during the last few months. The *seasonally adjusted* trend of failures' liabilities has been downward since January. We plan to adjust this series for seasonal variations back to 1913.

*The downward trend of the liabilities of commercial failures suggests that the end of the present recovery is not yet in sight. Prior to any substantial recession an increase in the liabilities of commercial failures is probable.*

COMMERCIAL FAILURES, NUMBERS AND LIABILITIES

	Number of Failures			Liabilities of Failures (000 omitted)		
	1948	1949	1950	1948	1949	1950
January	356	566	864	\$12,965	\$19,159	\$26,436
February	417	685	811	25,619	27,567	22,156
March	477	847	884	17,481	37,118	27,900
April	404	877	806	15,296	31,930	21,250
May	426	775		13,814	24,583	
June	463	828		12,163	28,161	
July	420	719		13,876	21,804	
August	439	810		21,422	31,175	
September	398	732		20,703	20,598	
October	459	802		25,114	23,894	
November	460	835		24,416	22,799	
December	531	770		31,731	19,251	
	5,250	9,246		\$234,600	\$308,039	