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FEDERAL RESERVE BANK OF ST. LOUIS

Review

CONTENTS

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Inventories Continue in Balance

THE CURRENT BUSINESS RECOVERY, now in its fourth year, is one of the longest of the postwar period. A significant characteristic of the present expansion is the apparent absence of excessive inventory accumulation. Unlike earlier periods, when stock building assumed rather sizable proportions as the expansion progressed, inventory accumulation to date has been closely coordinated with the rise in sales.

One widely used yardstick for measuring the inventory position of businesses is the ratio of inventories to sales. An important consideration of businessmen in setting inventory levels is the ongoing pace of sales. As sales fluctuate, producers alter raw material purchases and production schedules so as to achieve an appropriate inventory level. If sales rise, material purchases and production are usually stepped up. Greater inventories of raw materials, goods in process, and finished goods are necessary to support a larger volume of production and sales. If sales decline, material purchases and production are normally cut back until the desired relationship is regained. Both retailers and wholesalers act in much the same manner in attempting to maintain a balance between inventories and sales.

Despite these underlying relationships, the inventory-sales ratio tends to rise around cyclical peaks and fall during late recessions and early recoveries. As sales increase during a period of expansion, businessmen build inventories all along the line. Inventory policies are based not only on *current* sales, but also on *anticipated* sales as well as expected developments in other areas such as prices. For example, retailers and wholesalers at-

tempt to hedge against the possibility of lengthened delivery schedules by adding to their stocks of finished goods. Similarly, producers, anticipating shortages, bottlenecks, or price rises, build raw material supplies and may also build up their finished goods stocks. As a consequence, during an expansion inventories tend to increase at a faster rate than sales. This is reflected in a rise in the inventory-sales ratio.

Just after cyclical peaks there frequently are unplanned increases in the stocks-sales ratio. When the pace of economic activity slackens and sales fall off, the ratio will continue to rise until businessmen are able to bring inventories into line with sales. Attempts to reduce inventories continue throughout the recession.

By the time the trough of business activity is reached, the ratio of inventories to sales ordinarily has started to decline. The decline usually continues for several months into the early recovery period. This results from three considerations. First, since there is typically some imbalance between inventories and sales at such times, businessmen are willing to reduce inventories. Second, businessmen hesitate to build up inventories until there is evidence that the increase in sales is permanent. Third, since production for inventories takes some time, the inventory-sales ratio may decline for a period even after businessmen decide to rebuild them if sales are rising.

Movements in the inventory-sales ratio have implications for the entire economy. It is frequently suggested that one of the underlying factors tending to amplify cyclical swings in economic activity has been increases or decreases in the inventory-sales relationship. For example, in the late expansionary periods, inventories are generally accumulated at a more rapid rate than final sales, adding to business activity.

Inventories have increased since the trough of the 1960-1961 recession. However, the rise in inventories has not been as rapid as the rise in sales. Since February 1961, manufacturing and trade inventories have increased by about $12 billion, and sales have risen by $13.2 billion.[1] The ratio of inventories to sales[2] has declined from 1.61 in February 1961 to 1.48 in March 1964 (see chart). The recent stocks-sales ratio is near the low end of the range of values which has prevailed during the past 11 years. Since 1953, the ratio has moved between a high of 1.69 (December 1953) and a low of 1.47 (May 1959 and February 1964).

The view that inventory levels are currently low is supported by a comparison of recent stocks-sales ratios with those of the 1954-57 and 1958-60 expansions.

[1] As this *Review* went to press, new estimates of manufacturing and trade sales and inventories were released. Although the estimates were extensively revised, the basic theme and conclusion of this article have not been affected.

[2] The ratio is computed by dividing end-of-month inventory figures by monthly sales figures.

After touching a high of 1.69 in December 1953, the ratio declined throughout the remainder of the recession, which ended in August of 1954, and the first part of the subsequent recovery. It reached a low in mid-1955, stayed relatively stable for several months, and then began to rise. In the last twelve months of the expansionary period, the inventory-sales ratio averaged 1.58. It peaked at 1.68 during the 1957-58 recession. The pattern during the 1958-61 business cycle was essentially the same. In the recovery which began in 1961, the ratio followed the typical pattern of declining during the early part of the recovery. From February 1961 to April 1962, the ratio fell from 1.61 to 1.49. Since April of 1962, however, the ratio has remained relatively stable, fluctuating between 1.54 and 1.47.

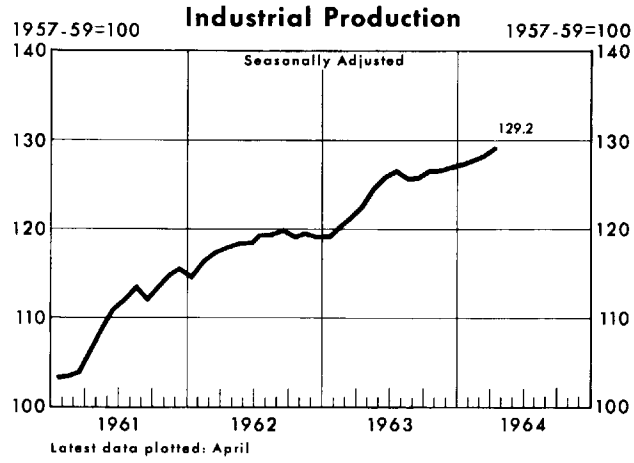
In evaluating the recent relatively low inventory-sales ratios, trend should also be taken into consideration. Businessmen probably desire to hold somewhat smaller inventories in comparison to sales than they did several years ago. Inventories are costly to maintain in terms of interest on funds needed to finance them, storage space, insurance, and handling, and they carry the risk of obsolescence. Hence, over the years better techniques of inventory control have been introduced which have enabled businessmen to reduce the desired level of inventories. These techniques have been made possible through the use of high-speed electronic computers. Faster transportation and the virtual elimination of shortages may also be responsible for reducing inventories. In addition, book values of a given amount of inventory may be somewhat lower because of changed accounting procedures.

Since 1953, there has been a decline at an average rate of about ½ of 1 per cent per year in the inventory-sales ratio (using a least squares trend line). Nevertheless, the recent level of the stocks-sales ratio falls significantly below the trend line. So far this year the ratio has averaged 97.2 per cent of the trend line compared to an average of 99.0 per cent since the last trough in the business cycle (February 1961). The averages for the previous two periods of economic expansion were 97.7 per cent and 98.9 per cent, and at cyclical peaks the ratios have generally been above the trend line.

In summary, recent movements in the inventory-sales ratio suggest that businessmen have succeeded in maintaining an apparently desirable balance between inventories and sales. This balance suggests that there may not have been any significant overinvestment in inventories thus far during the current expansion.

Business Developments

Elsewhere in the economy, most indicators point to high and rising levels of activity. Industrial production in April measured 129.2 per cent of the 1957-59 average, up one point from March, and up at a 4.7 per cent annual rate since the fourth quarter of 1963.



The April advance was concentrated in steel, autos, and business equipment. In May, steel production increased further, and auto assemblies were maintained at the record April level. Outlays for new construction in May were at an annual rate of $66.7 billion, the same as in April. This was up at a 2.6 per cent annual rate from the fourth quarter of last year.

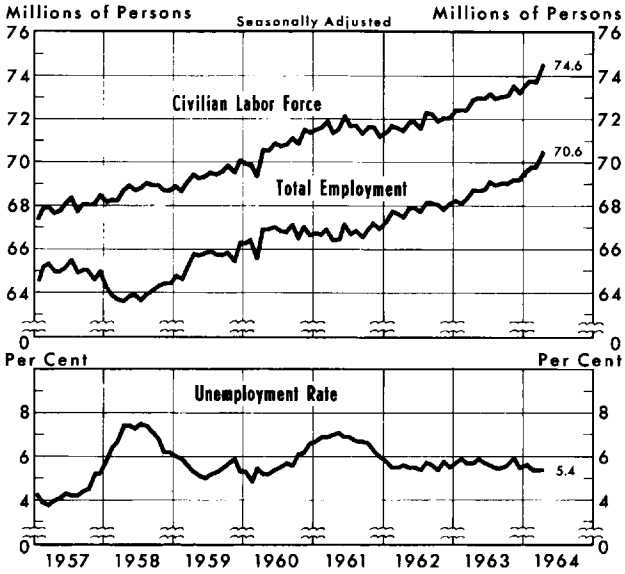
New orders for durable goods increased by $1.3 billion, or 7 per cent from March to April. The April gain followed two months of decline. Since the fourth quarter of 1963, new orders have risen at an annual rate of 32 per cent. Except for electrical equipment, all major groups showed gains in April. The largest increases were for primary metals and aircraft.

Total employment, as estimated from household surveys, has been growing at an annual rate of 4.6 per cent since the last quarter of 1963. Seasonally adjusted, total employment rose by 750,000 from March to April, the largest monthly increase in four years, and then increased by 195,000 from April to May. Payroll employment, based on reports from employing establishments, expanded by an estimated 200,000 from March to April.

Economic strength is indicated not only by the rapid growth in employment in recent months, but also by the rate of increase of the labor force. From the fourth quarter of 1963 to May 1964, the labor force rose at an annual rate of 3.5 per cent. This rate of increase is much greater than the rate of increase of the working-age population and indicates a demand

for labor strong enough to attract many new entrants into the labor force.

Status of the National Labor Force



Source: United States Bureau of Labor Statistics
Latest data plotted: April

Personal income in April was at a seasonally adjusted annual rate of $483 billion, $2 billion higher than in March, and up at an annual rate of 5.0 per cent from the fourth quarter of 1963. Most of the increase from March to April was in wages and salaries, which rose about $1.6 billion.

Retail sales have increased substantially since the final months of 1963. Sales averaged $21.5 billion in the March-May period, up at an annual rate of 8 per cent since the fourth quarter of 1963. By comparison, retail sales had risen at an average annual rate of 3.9 per cent from 1957 to 1963.

Both consumer prices and wholesale prices have been relatively stable in recent months. The consumer price index in April was 107.8, about unchanged since December. The wholesale price index edged lower in April and early May as food prices fell slightly.

Financial Developments

The nation's money supply (demand deposits and currency) averaged a seasonally adjusted $154.9 billion in May, $100 million more than in March.[3] Since March, money has risen at a 0.4 per cent annual rate, compared with a 2.2 per cent rate since December and a 4.0 per cent rate since September 1962. From 1951 to 1963 the money supply rose at an average annual rate of 2.0 per cent.

Money supply plus time deposits in commercial banks rose $1.9 billion from March to May, or at an annual rate of 4.2 per cent. By comparison, the increase has been at an annual rate of 6.3 per cent since December and 8.4 per cent since September 1962.

The rate of growth in time deposits of commercial banks has been declining in recent months. Through January 1964, the rate of increase remained at the high levels which had prevailed since mid-1960. From January to May, however, these deposits increased at a rate of only 9.8 per cent per year compared with an average rate of increase of about 18 per cent over the past four years.

Total liquid assets held by the public rose at about the same rate in the first four months of 1964 as in the comparable period a year earlier. The public's holdings of money, time deposits in commercial and mutual savings banks, postal savings, savings and loan shares, savings bonds, and U. S. Government securities maturing within one year rose at an annual rate of 6.6 per cent from the fourth quarter of 1963 to April. In the like period a year earlier, these assets rose at a 7.0 per cent rate. In early 1964 there have been increases in the outstanding quantity of Treasury securities maturing within one year and in time deposits in mutual savings banks (where there were increases in interest rates paid). The remaining liquid

Continued on page 10

[3] In the near future the Board of Governors will release a money supply series which will contain revisions in the unadjusted data as well as in the seasonal adjustment factors. An analysis of these new data may cast a somewhat different light on the recent past.

New Member Bank

The First National Bank in Osceola, Osceola, Arkansas, succeeded the nonmember Mississippi County Bank, Osceola, on May 1. The new national bank has a capital of $200,000 and surplus of $400,000. Its officers are: C. B. Wood, Chairman of the Board; J. W. Farris, President; H. F. Ohlendorf, Vice President; C. E. Dean, Vice President; C. L. Anderson, Jr., Vice President and Cashier; Mary E. Balloue, Assistant Cashier; Charles R. Wilks, Assistant Cashier; Nora Wise, Assistant Cashier and Manager, Luxora Office; Fred F. Alexander, Assistant Cashier and Manager, Joiner Office.