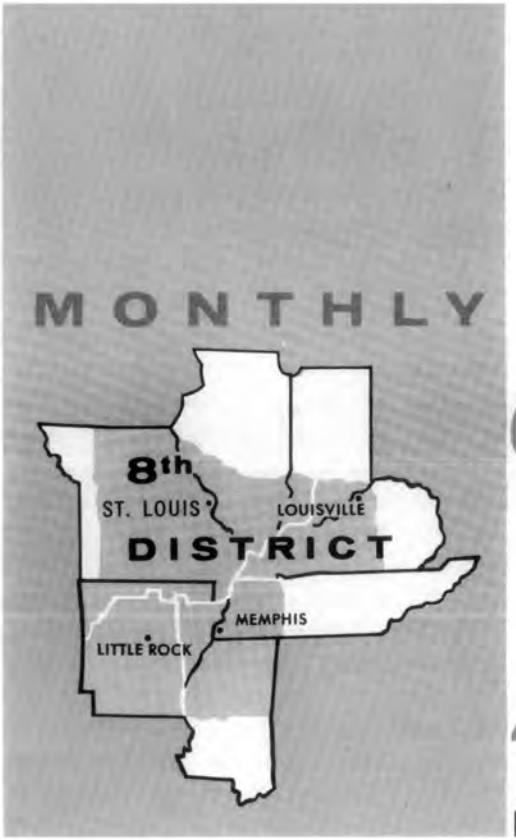

Review

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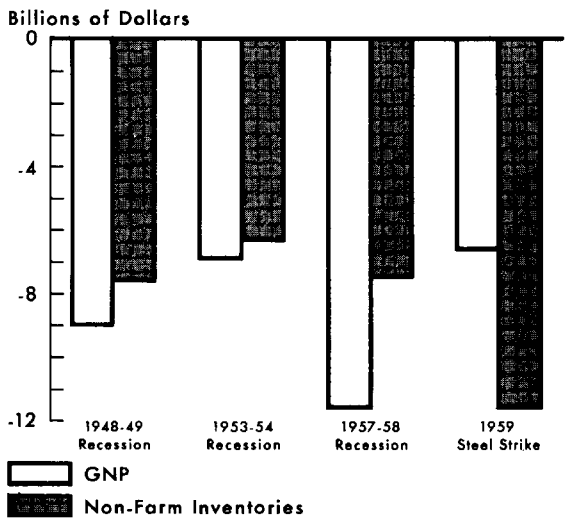
CHANGES SINCE THE STEEL STRIKE
—*Inventory Fluctuations*

CHANGES IN BUSINESS INVENTORIES are an important factor in fluctuations in business activity. In each of the three postwar recessions the magnitude of decline in total goods and services produced was almost completely matched by the decline in inventories—as can be seen in Chart I. In view of the importance of changes in inventories in reflecting and contributing to changes in total economic activity, an examination of inventory movements during the recent past and an appraisal of the current situation may be useful.

CHART I

Changes in GNP and in the Rate of Non-Farm Inventory Investment*



*Based on seasonally adjusted quarterly data

In the long run the supply of a product is adjusted to the final demand for that product. However, at times the flow of certain goods through the productive processes may exceed the rate of final sales of those goods, and at times the flow may be less than the rate of final sales. Consequently, inventories throughout the many stages of production tend to accumulate or to be drawn down. In an effort to maintain inventories appropriate to their understanding of the unfolding economic situation, firms, departments, and other decision-making units within the economy make adjustments in their purchasing and production plans, the consequences of which are transmitted throughout the economy.

In some instances inventories are accumulated or drawn down in a planned effort to provide for or to take advantage of current or prospective economic developments. At other times there are unplanned changes in inventories resulting from unanticipated changes in demand. Hence, an analysis of inventory movements confined simply to an examination of the amount of changes in inventories would be unlikely to reveal the full economic significance of the changes. In a complex and interdependent economy changes in one sector may necessitate adjustments in other sectors. For example, small swings in sales at the retail level may induce wide swings in inventories of distributors and manufacturers. Indeed, a comprehensive analysis of the relationship between changes in sales and changes in inventories would also need to take account of the influence of the rate of change in sales on changes in inventories.

The period following the steel strike of 1959 presents an interesting and convenient period for an analysis of inventory movements. As the steel strike moved into its final stages there was a substantial consensus that one effect of the strike would be to lengthen the period of prosperity growing out of the 1957-1958 recession. A major premise of this expectation was the belief that inventories were due for prolonged expansion.

During the first quarter of 1959 inventories increased at an annual rate of 9 per cent. In anticipation of the strike the rate jumped to 12 per cent during the second quarter and by July inventories had been built up to a seasonally adjusted level of $89.9 billion. During the strike, from July to November, inventories were drawn down by $1.5 billion. All of the decline occurred in the durable goods categories. Between July and November of 1959 durable goods inventories fell $2.1 billion. These declines were offset partially by a $0.6 billion increase in nondurable inventories.

Following settlement of the strike, inventories rebounded sharply, but expansion had nearly ended by April of this year. In the five-month period from the end of November 1959 to the end of April 1960, inventories rose $4.2 billion, or an annual rate of 11.5 per cent. In five months following April they rose by only $0.6 billion—an annual rate of 1.4 per cent. In fact, there was some liquidation of inventories in July, August, and September.

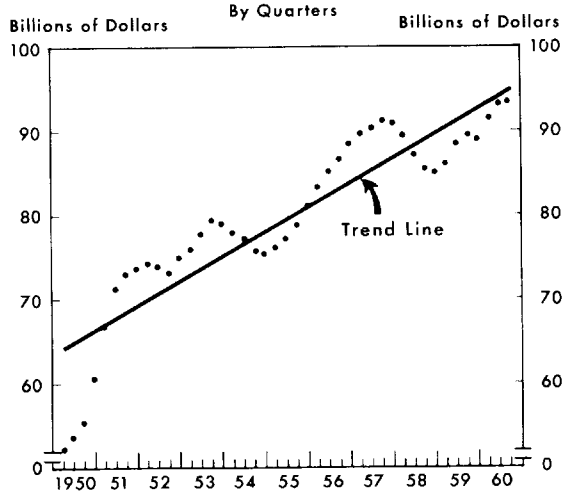
Are Inventories Too Low or Too High?

Even though in June of this year inventories attained a record level of $93.4 billion (and currently remain near this level), it is important to note that this level was well below what might have been expected on the basis of past performance. It was, for example, below a trend line projected through observations of inventory levels from 1950 to the present (see Chart II). That any given observation was below this projected line is not surprising in itself since one-half the observations lie below this line. It is surprising, however, that at the peak of what was expected to be a prolonged boom inventories did not attain the level that would have been produced by the average increase per quarter during the decade of the 1950's.

CHART II

Total Inventories

By Quarters



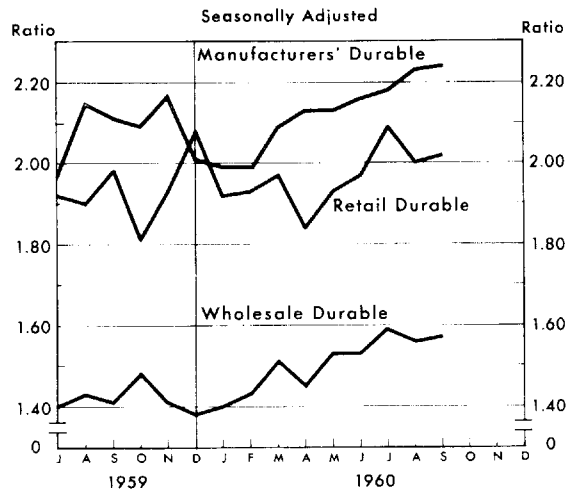
Because inventories have either failed to grow appreciably or have fallen off somewhat for a number of months it has been suggested that inventories are getting "too thin." On the other hand there has been an effort to explain these lower levels in terms of basic changes in inventory practices occasioned by the growth of self-service chain stores with central warehouse facilities, and by the application of scientific inventory control practices through the use of high-speed data processing and computational equipment. Without resolving such arguments, it appears that some evidence may suggest that inventories are still in excess of current requirements. It is not at all clear that inventories are low.

An examination of movements in aggregate inventory levels may not adequately reveal the nature of underlying forces for expansion or contraction. Individual businessmen seek to relate their inventory levels to their needs rather than to arbitrary inventory levels. Their inventory levels are adjusted, for example, to the level of sales and to expected future demands upon their productive capacities, as well as to expected price developments and supply prospects. Stocks-sales relationships for durable goods at the retail, wholesale, and manufacturers' levels are shown on Chart III.

CHART III

Stocks-Sales Relationships

Seasonally Adjusted



In response to declines in retail sales during the steel strike, retailers' inventories were reduced through the final months of 1959. Even so, the retailers' stocks-sales ratio grew sharply in November and December. Both sales and inventories expanded from the beginning of the year through April. Sales declined steadily from April through September, but inventories continued to expand through July. Slight inventory liquidation between July and August of this year reduced the stocks-sales ratio. Nonetheless, stocks are still somewhat higher in relation to current sales than they have been on the average for the past few years.

Sales of wholesalers picked up in November of 1959 but the period of expansion lasted only two months. Sales have drifted downward since the beginning of the year. Wholesalers' inventories rose steadily from November 1959 to May of this year, but have declined slightly through September from May's high. Reflecting these movements, the stocks-sales ratio declined during the last two months of 1959 and then rose steadily through July of 1960. It declined slightly through September from July, but is currently well above "normal" levels.

Manufacturers expanded their inventories rapidly in the period between November 1959 and March 1960. Bouyant sales reduced the stocks-sales ratio to relatively low levels until February. Since this time,

however, the ratio has risen steadily—despite success in recent months in checking inventory growth.

The prevailing rather high stocks-sales relationships suggest that inventories may not be low in a sense meaningful to businessmen. In this view, a sizable expansion in inventories would be unlikely unless preceded by a surge in final demand.

Recent Developments Influencing Demand

It is appropriate, therefore, to assess the immediate prospects for expansion in final demand. Although total business sales have declined steadily since May of this year, retail and wholesale sales steadied during August and September. The decline in total business sales during August and September has therefore been confined to the manufacturers' level.

Retail sales in October are estimated to have risen 2 per cent over September levels, with most of the strength in durable goods sales. Department store sales in October were up slightly over September levels; however, November sales appear to have slackened somewhat. Although manufacturers' sales declined through September, new orders picked up sharply in August and September. There are indications that new orders in October may have declined.

Whether the recent strength in sales can be maintained rests to some extent on future developments regarding employment, income levels, and consumer desires. Unemployment since the strike has remained at high levels compared with periods of relative prosperity. In August of 1960 the proportion of unemployed in the civilian labor force attained a seasonally adjusted level of 5.9 per cent. Following a slight decline in this ratio during September it rose in October to 6.4 per cent, its highest post-strike level.

Expansion in personal income since the steel strike has been moderate. There was a sharp increase in November and December of 1959 following the strike's termination, and there was an upturn in April. However, since April personal income has grown slowly. Its major component, wage and salary disbursements, actually declined in September, but offsetting increases in transfer payments, including unemployment benefits, prevented the total from declining. In October, payrolls in construction, retailing, and governments offset a decline in manufacturers' wages and salaries, and an increase in unemployment compensation contributed to an increase in total income.

Increases in expenditures for new construction during September may have contributed to favorable inventory adjustments since construction is a major user of steel and other materials and many manufactured items. Both private and public construction improved, with strength in the private sector being shown in commercial and industrial construction. Residential construction, however, continued to decline through September.

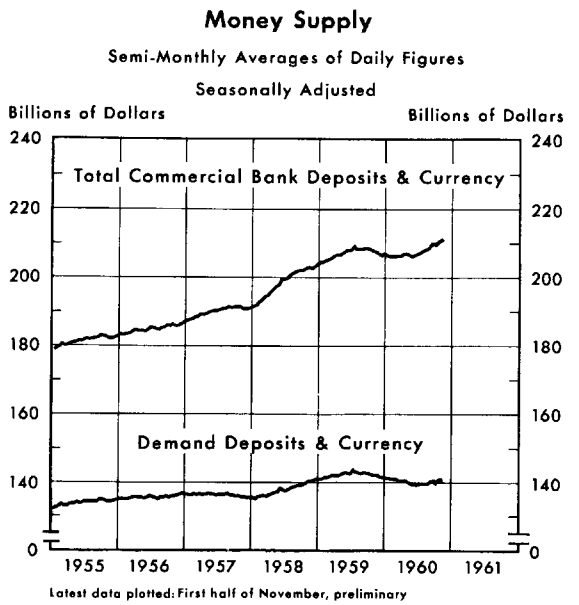
Business fixed investment in the third quarter reached a seasonally adjusted annual rate of $30.0 billion. While this represents an increase of $0.5 billion over the second quarter, the rate of change has slowed. The second quarter witnessed a $2.4 billion increase over first-quarter rates.

—*Financial Developments*

THE MONEY SUPPLY of the nation, seasonally adjusted, declined from the end of the steel strike last November to late spring 1960 but has been rising in recent months. Total bank loans and investments declined slightly from November 1959 to February 1960. Since March, bank credit has risen substantially. The general level of interest rates has been falling since the beginning of the year.

Money Supply

The daily average money supply, seasonally adjusted, declined from $142.2 billion in November 1959 to $139.5 billion in June 1960. Since June the money supply has worked up to an estimated $141 billion for the last two weeks of October.[1] The rise in the money supply from the last half of June to the first



[1] See "A New Money Supply Series" in the current issue of this *Review*.

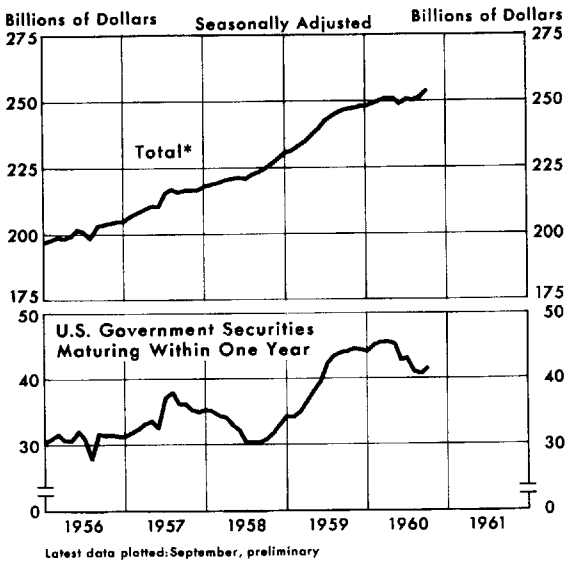
half of November was at the annual rate of 2.9 per cent. Time and savings deposits, which are not included in the traditional concept of the money supply, rose modestly during the latter part of 1959 and the first few months of 1960. Since March, time deposits have expanded sharply and continuously, at an annual rate of about 7.5 per cent.

The growth in time deposit balances explains in part the anomaly that bank credit expanded while the money supply contracted from November 1959 to June 1960. Since banks need a smaller portion of reserves to support time deposits than demand deposits, a shift from demand to time deposits allows member banks to expand total bank credit while total reserves as well as the money supply are contracting. A shift in demand deposit balances from central reserve city and reserve city banks, where reserve requirements are relatively high, to country banks occurred during the 12-month period under discussion. This explains in part how bank credit expanded since the steel strike while reserves of member banks showed little net change.

The turnover of demand deposits at reporting centers outside the seven large financial centers increased from an annual rate of 25.0 in November 1959 to 26.1 in March. This was equivalent to an annual rate of increase in the turnover of money of 13 per cent. Since March there has been very little change in this measure of the velocity of money. The income velocity of money, i.e., total output of goods and services (Gross National Product) divided by the money supply, declined moderately in the third quarter of 1960 after having risen during the previous three quarters.

The rate of growth in quantity of liquid assets other than money held by the nonbank public (seasonally adjusted) declined during the last few months of 1959. Since March of this year the volume of liquid assets has leveled off at roughly $251 billion. The change in the rate of growth of the public's liquidity position is due primarily to a decline in the volume of U. S. Government securities maturing within one year. During November the Treasury exchanged $10.3 billion of securities maturing November 15 for $9.1 billion 3¼ per cent 15-month notes and $1.2 billion 3¾ per cent 5½-year bonds. A continued growth in other liquid assets, principally time deposits at commercial banks, offset some of the decrease in short-term Governments. The public's holdings of liquid assets is one factor which may affect the velocity of money.

Liquid Assets Held by the Non-Bank Public



Latest data plotted: September, preliminary

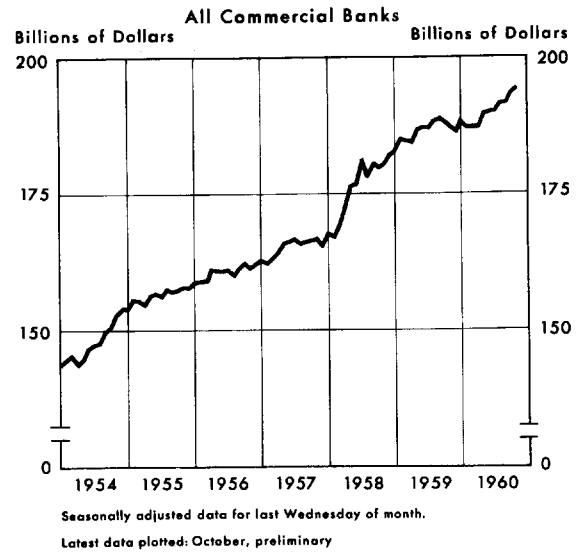
* Time deposits of commercial banks and mutual savings banks, savings and loan shares, U. S. Government savings bonds, and U. S. Government securities maturing within one year.

Bank Credit

From the end of the steel strike in November 1959 to the end of October this year, total commercial bank credit expanded by about $7 billion, or 3.7 per cent. Commercial bank loans rose about $6 billion while investment portfolios increased about $1 billion.

In the period from November last year to the end of March this year total bank loans and investments decreased $2.6 billion. This decline was largely seasonal in nature. During the four-month period bank

Total Loans and Investments



Seasonally adjusted data for last Wednesday of month.

Latest data plotted: October, preliminary

loans rose nearly $2 billion in contrast to a typical decline at this time of year. Large net sales of securities ($4.5 billion) more than offset the expansion in loans. Funds obtained from liquidating securities were used in large part to satisfy loan demands and to reduce indebtedness at the Reserve Banks.

Commercial bank credit rose over $9 billion from the end of March 1960 to the end of October according to preliminary data. Usually bank credit rises much less sharply during this period of the year. Loans rose about $4 billion, and banks, with an increase in reserves available, bought roughly $5 billion of securities on balance. The rise in bank credit was particularly pronounced around mid-September, presumably as a result of large borrowing for tax purposes.

Reserves of Member Banks

Total effective reserves of member banks have undergone three distinct phases from the end of the steel strike until early November 1960. From November 1959 to late January 1960 total reserves averaged about $18.7 billion. This general level of reserves had been maintained since mid-1958. From January of this year to April, reserves declined by $585 million, an annual rate of decline of about 9 per cent. Since April, reserves have worked up to a level of about $18.9 billion in early November, or at an annual rate of 7 per cent. Underlying the movements in total reserves have been changes in member bank borrowing, a net gold outflow, and System open market operations.

Total reserves remained about level from November of last year to late January 1960. Federal Reserve holdings of Government securities, seasonally adjusted, declined and gold drains reduced reserves by about $130 million. Increases in Federal Reserve float and an inflow of currency largely offset open market operations and the gold movement. Member bank borrowing remained about unchanged during these months.

The decline in reserves which occurred from the end of January through April resulted largely from a decrease in member bank borrowing and a decline in float. Gold also continued to drain reserves from banks in this period. Federal Reserve holdings of Government securities remained about constant.

Since April, total reserves, seasonally adjusted, have been increasing. Federal Reserve open market operations added about $1.6 billion to member bank reserves. Offsetting in part the System's purchases was the continued decline in member bank borrowing as well as a further outflow of gold.

All told, member bank borrowing declined from about $900 million in November 1959 to about $175 million in early November this year. In this same period roughly $1.2 billion of bank reserves were absorbed by a net sale of gold by the U. S. Treasury.

Excess reserves of member banks rose slightly during the last two months of 1959, declined during January, and in recent months have risen again. Excess reserves averaged $650 million in October and early November this year compared with $453 million in November 1959. Most of the increase in excess reserves has occurred at country banks, apparently reflecting the changes in Federal Reserve Regulations pertaining to vault cash.

Interest Rates

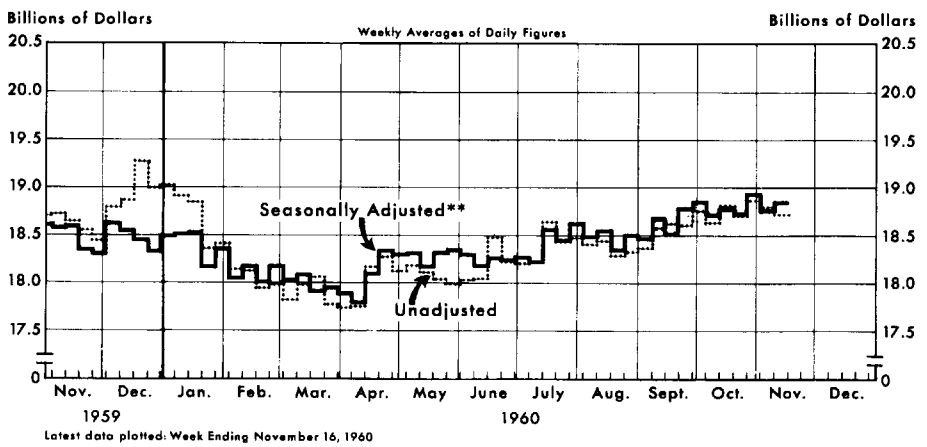
The general level of interest rates, seasonally adjusted, rose during November and December 1959 and then declined.[2] From a seasonally adjusted rate of 4.49 per cent in December 1959, yields on three-month Treasury bills fell to 2.19 per cent in early November of this year.

Yields on Treasury bills, seasonally adjusted, declined by 48 per cent from February to early Novem-

[2] See "The Seasonal Pattern in Interest Rates" in the current issue of this *Review*.

(Continued on page 9)

Total Effective Reserves of Member Banks*



* For data previous to September 1, figures are total reserves less $125 million for estimated change in reserve requirements. Data after September 1 are total reserves.

** Seasonal adjustment factors were obtained roughly by averaging daily figures for each calendar day for the five years 1955-59. These were divided by the average level for the entire five years. The seven calendar date factors were then averaged to obtain the weekly factors. Unadjusted data were divided by weekly average factors to obtain the seasonally adjusted data.

The Seasonal Pattern of Interest Rates

IN AN EARLIER ISSUE of this *Review,* some of the underlying causes of movements in interest rates were discussed and an attempt was made to put these changes into perspective with those of other times and other places.[1] This article continues the discussion of interest rates and focuses on the seasonal movements of rates. It points out the seasonal pattern in some leading rates and analyzes yield changes during 1959 and the first nine months of 1960 in light of these forces. It is believed that an understanding of seasonal influences aids in analyzing movements in interest rates.

A Definition

Interest rates are prices paid for the use of loan funds. Like all prices in our market system, interest rates serve as allocators, apportioning a limited supply of the commodity concerned among competing demands. Movements in market interest rates reflect changes in the relationship between the amount of funds available and the amount of funds sought. Rising market rates result from a decrease in supply or a strengthening in demand. Conversely, falling rates reflect an increase in supply or a weakening in demand.

Factors Influencing Rate Changes

Demands for credit fluctuate widely during the year. In the latter half of the year, there is usually a sharp rise in the amount of credit sought, particularly short-term credit. The Federal Government, which receives a sizable portion of its income in March, April, and June, typically operates with a surplus during the first half of the calendar year and with a deficit during during the second half. Hence, it usually borrows funds during the third and fourth quarters to finance its deficit operations. At the same time, many businesses seek additional funds to move the harvest and to build their inventories in preparation for Christmas. Consumers, who borrow more during the summer months and December than at other times, intensify the demand for credit during the second half.

During the first six months of the year, demands for funds usually diminish. With the taxes it receives in the spring, the Government can carry on its operations and frequently reduce its debt. Some businesses reduce inventories in the late winter and the spring and as a result reduce their indebtedness. Consumer demands for credit also decline temporarily after the first of the year.

To avoid seasonal changes in market interest rates, the supply of loanable funds would have to vary with credit demands. The supply of funds comes from saving and bank credit creation. In 1959, the flow of saving amounted to an estimated $60 billion and the money supply rose $0.6 billion. Individuals, businesses, and governments may all save; however, the flow of net saving comes primarily from individuals and retained earnings of businesses. It is believed that the rate of saving changes only modestly from season to season.

On the other hand, bank credit, which may be expanded to supplement the flow of saving, varies seasonally and acts as a partial offset to fluctuations in credit demand. Loans and investments of all commercial banks tend to contract during the first half of the year, reaching their lowest point in February and growing very slowly for several succeeding months. They expand rapidly during the second half, particularly during the fourth quarter. Although the supply of funds, primarily bank credit, varies with the demand for funds, changes in the amount of funds available are usually more modest than changes in the amount of funds sought. Therefore, some market interest rates fluctuate seasonally.

A Look at Seasonal Fluctuations

An examination of seasonal interest rate patterns is complicated by relatively large cyclical and other nonseasonal movements in interest rates. Cyclical

[1] See article on "Interest Rates in Perspective," in the August 1960 issue of this *Review,* pp. 2-5.

fluctuations in yields on short-term money market instruments are quite pronounced. During the cyclical decline from April 1953 to June 1954, three-month Treasury bill rates fell 70 per cent, from a level of 2.19 per cent to .64 per cent. During the ensuing 39 months they more than quintupled, rising to 3.58 per cent. In October 1957 another decline set in and yields on Treasury bills fell 77 per cent to a level of .83 per cent during June 1958. From June 1958 to December 1959, they again rose substantially, climbing to 4.49 per cent.[2] Less pronounced than such cyclical changes are the other nonseasonal movements in interest rates. Nevertheless, these day-to-day movements may be comparatively large: daily rises and falls in Treasury bill yields often exceed 5 per cent.[3]

Seasonal fluctuations in market yields have been much more important in recent years than they were in the forties. Before the 1951 Federal Reserve System-Treasury "accord," the System's "pegging" operations largely prevented seasonal movements in yields. Further, as the general level of interest rates has risen over the past decade, a given seasonal pattern—about 25 per cent from trough to peak for Treasury bills—has meant an increasing seasonal change in percentage points.

When random and cyclical movements are eliminated, seasonal patterns in some interest rates can be observed (Table 1 and Chart 1).[4] There is a rather large and fairly consistent seasonal pattern in the yields of three-month Treasury bills.[5] Bill rates usually decline sharply during January and February from their December level. They rise during March and April (partially because of borrowings to pay taxes) and then decline to their lowest point in June. Rates on bills turn upward in July and rise sharply during August and September. After hesitating for two months, bill yields in December reach their highest level, about 25 per cent above their low point.

CHART 1

Seasonal Adjustment Factors for Selected Yields

Monthly Averages of Daily Figures

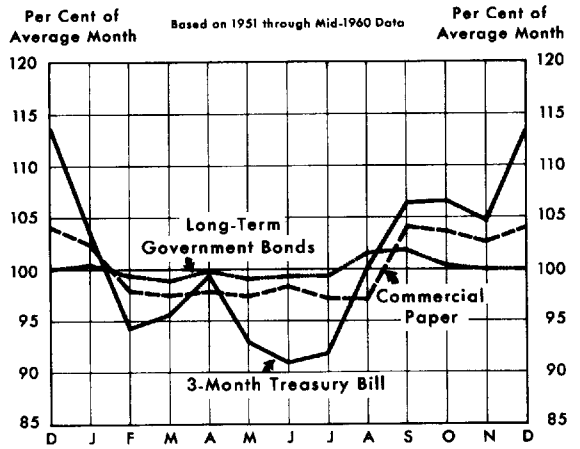


Table 1

Seasonal Adjustment Factors for Selected Yields Based on 1951 through Mid-1960 Data

Monthly Averages of Daily Figures

	Three-month Treasury Bill Market Yield	Commercial Paper Rate	Long-term Government Bond Yield
January	103.7	102.4	100.4
February	94.3	97.9	99.4
March	95.7	97.5	98.9
April	99.3	97.8	99.8
May	92.9	97.4	99.1
June	91.0	98.3	99.3
July	91.8	97.2	99.3
August	100.3	97.1	101.6
September	106.4	104.1	101.8
October	106.6	103.7	100.4
November	104.7	102.6	100.0
December	113.3	104.0	100.0

Yields on prime 4- to 6-month commercial paper follow a similar seasonal pattern, although the magnitude of the variations is smaller (Chart 1). They reach their annual peaks in September rather than in December, however. Interest rates on long-term U. S. Government securities follow a modest seasonal pattern (Chart 1). Yields on corporate and municipal bonds as well as interest rates on mortgages have shown only a slight seasonal movement. Rates on most loans from financial institutions to their customers probably have not varied seasonally. Thus, the greatest seasonal fluctuations appear to occur in money market rates and primarily affect financial institutions and others that supply funds to the money market and a few large borrowers, notably corporations that can deal in the money market, and the Federal Government.

[2] A large change in yields on short-term instruments accompanies a small change in price. The quintupling of Treasury bill yields from June 1958 to December 1959 was associated with a 1 per cent decrease in price.

[3] A 7 per cent rise in Treasury bill yields that occurred on October 4, 1960, accompanied a .08 of 1 per cent price decline.

[4] The Investment Bankers Association of America has developed semi-monthly seasonal factors for municipal government, Federal Government, and corporate bond yields and for three-month Treasury bill yields. "A Survey of the Municipal Bond Market," *IBA Statistical Bulletin*, Vol. 16 (September, 1960).

[5] Seasonal adjustments of monthly averages of daily market rates for the 1951 to mid-1960 period were computed by relating the original data to a centered twelve-month moving average. Adjustment factors for each month were obtained by eliminating the two extreme values and averaging the remaining ratios. The seasonally adjusted series was then calculated by dividing the original data by the adjustment factor for that month.

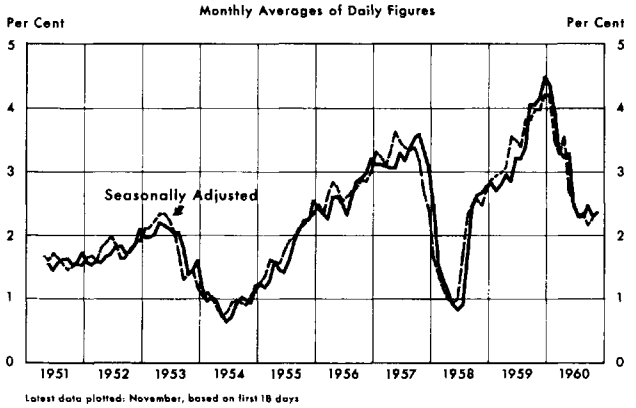
Review of Seasonally Adjusted Data—1959 to Date

During the first six months of 1959 economic activity was recovering rapidly from the recession of 1958. Demands for funds were vigorous, and interest rates on three-month Treasury bills rose from an average of 2.77 per cent in December 1958 to 3.21 per cent in June 1959. This was an increase in rates of about 16 per cent. However, adjusting the rise for the seasonal contraction in the first half, bill rates rose nearly three times as much, or 44 per cent (Chart 2).

Chart 2

Yields on Three-Month Treasury Bills

Monthly Averages of Daily Figures



Latest data plotted: November, based on first 18 days

In the last half of 1959, when the steel strike occurred, unadjusted Treasury bill rates rose sharply, from an average of 3.21 per cent in June to 4.49 per cent during December. This was a jump of 40 per cent. Much of this rise reflected seasonal influences; when these were eliminated the rise amounted to only 12 per cent.

The recent peak in the unadjusted three-month Treasury bill rate on a monthly average basis was reached last December. But when seasonal influences were eliminated it appears that rates were higher in both January and February this year (Chart 2). From February through July of this year both seasonally adjusted and unadjusted data declined markedly, falling to about half their former level. However, from July through September, unadjusted Treasury bill rates reversed their trend again, rising from 2.30 per cent to 2.48 per cent. Adjusted for seasonal, yields continued to decline, from 2.50 per cent to 2.33 per cent. Both unadjusted and adjusted yields averaged lower in October than in September.

Conclusion

There is a definite seasonal pattern in the movements of some market yields, primarily money market rates, although cyclical and other nonseasonal movements largely obscure them. This seasonal pattern arises from regular variations in demands for credit which are only partially matched by changes in the supply of loanable funds. Analysis of recent interest rate data, adjusted for seasonal variations, seems to give a clearer picture of developments in market rates than a review of the unadjusted data alone.

Financial Developments

(Continued from page 6)

ber 1960. During the other two most recent periods of monetary ease, 1957-58 and 1953-54, the bill rate, seasonally adjusted, declined by about 70 per cent. During both of the previous periods of ease bill rates fell for approximately 12 months.

Other short-term market rates, notably rates on commercial paper and bankers' acceptances, have also declined since early 1960. The discount rate, which had remained at 4 per cent since June 1959, was lowered one-half a percentage point in June and again in August. The prime rate, that is, the rate which banks charge their largest and most preferred customers, was reduced from 5 per cent to 4.5 per cent in late August.

Rates on intermediate- and long-term Government bonds have also showed a decline during most of 1960. Intermediate-term Government bonds, which averaged 4.95 per cent in December, averaged 3.50 per cent in August and September. During October and early November, rates on these issues increased to about 3.60 per cent. Long-term Governments declined from 4.37 per cent in January to 3.79 per cent in August. Since August, rates on these maturities have shown a slight increase. Yields on municipal and corporate bonds have fluctuated similarly to long-term Governments. Mortgage rates have declined slightly, since reaching a peak in January 1960.

A New Money Supply Series

THE QUANTITY OF MONEY in the nation is an important economic variable since changes in the money supply influence business activity and prices. The Federal Reserve System has responsibility for bringing about changes in the money supply appropriate to economic growth, a high level of employment, and price stability. Although the immediate effects of most System actions are on the member bank reserves, the actions are designed to affect the quantity of money. Recently, the System has developed a more refined measure of the money supply which will be released semi-monthly.[1]

The Federal Reserve System has published monthly for many years data on the money supply based on an estimated consolidated statement of the banking and monetary system as of the last Wednesday in the month, and for call report dates.[2] The definition of the money supply in both the old and the new series includes most demand deposits at commercial banks plus currency outside of the banking system. The new money supply series differs from the old in two respects. In the new series demand deposits of member banks are computed on a daily average basis, thus reducing the random fluctuations which were present in the one-day-a-month series. The definition of the money supply has also been modified, raising the general level of the new series.

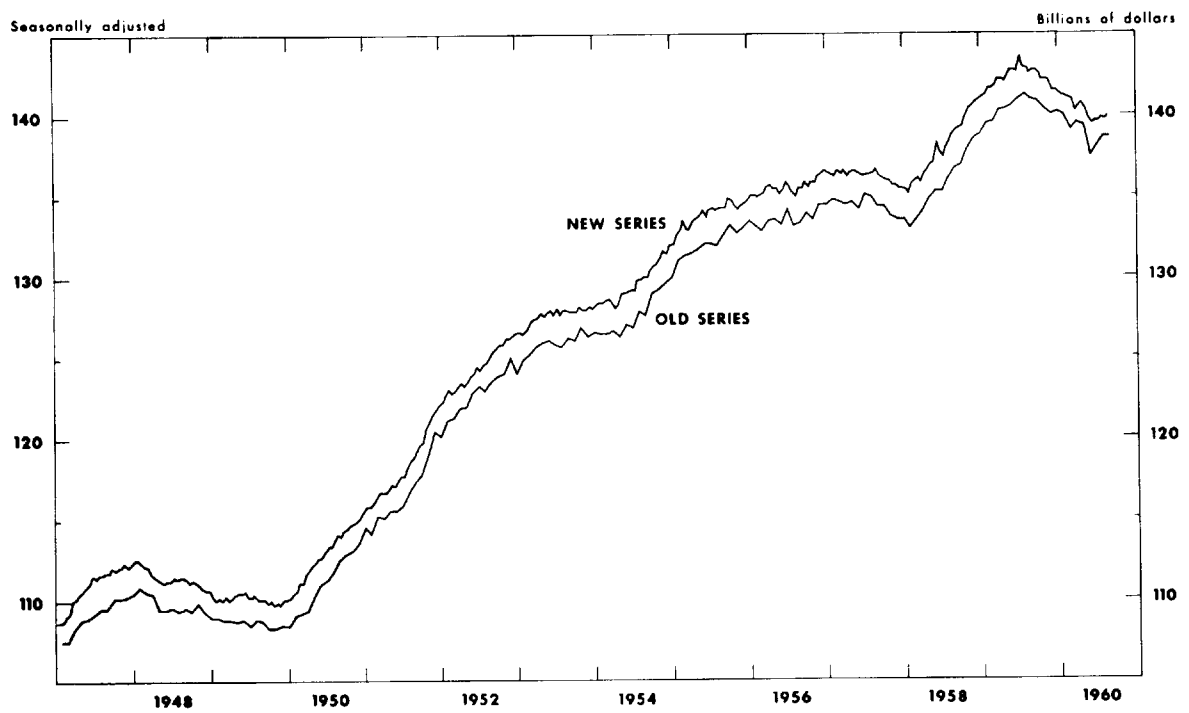
The old series was considered deficient by many economic analysts because of the random errors associated with a one-day-a-month figure.[3] For ex-

[1] For a more detailed discussion of this new series see "A New Measure of the Money Supply", *Federal Reserve Bulletin*, Oct. 1960, pp. 1102-1123.

[2] Since November 1958 this information is available twice a month in the Federal Reserve release "Assets and Liabilities of All Banks in the United States" (G.7).

[3] See "A New Measure of the Money Supply" in the July 1959 issue of this *Review*.

Money Supply Measures



Source: Board of Governors of the Federal Reserve System.

ample, movements of demand deposit balances between private accounts (which are considered part of the money supply) and the U. S. Treasury account (not treated as a part of the money supply) would, at times, greatly affect the one-day-a-month figure. The new series, which is based on averages of daily figures, reduces this type of statistical error. The member bank demand deposit component, which makes up about two-thirds of the total money supply, consists of daily averages instead of the one-day-a-month measure of deposits. The daily average member bank deposits are drawn from reports made by member banks in connection with their required reserves. Daily average figures on currency outside banks are estimated largely from the records of the Reserve Banks and from daily information on member bank vault cash.

In both the new and old series, demand deposits of nonmember banks and cash held in their vaults are largely estimated. Reports of deposits for these banks are received only infrequently. Estimates for nonmember banks are based primarily on changes in the country-member-bank figures.

The daily average method of computing the money supply provides the monetary authorities with a more useful tool for policy purposes. Elimination of the random fluctuations as well as the semi-monthly nature of the series may make turning points in this important economic variable more easily discernible.

The new series also differs from the old series in the definition of money. The new series includes in its measure of demand deposits those demand deposits in commercial banks due to mutual savings banks and foreign banks. This change was made since such deposits are comparable to balances of other financial institutions. In arriving at the figure for demand deposits adjusted, "Federal Reserve float" has been subtracted in the new series in order to reduce double counting.

The changes mentioned above represent the basic differences between the old and the new series. Time and savings deposits of commercial banks are still regarded as not being a part of the money supply since they must first be converted into either demand deposits or currency before they can be used in business transactions. However, for many purposes it is useful to combine time and savings deposits in commercial banks and the money supply. Figures on time deposits will continue to be made available.

Deposits of the U. S. Government are excluded in the new as in the old series because such deposits do not represent money in the hands of the public and it is widely felt that funds held by the Treasury do not have the same economic impact as funds held by the public. Figures on these deposits will be available, however, for analysis purposes. Deposits of state and local governments are considered as part of the money supply in both series. The currency component is handled much the same way in the new series as in the past.

The general level of the new daily average series is about $1.5 billion higher than the end-of-month series (see chart). This difference is due primarily to the net effect of adding demand deposits due mutual savings and foreign banks and deducting Federal Reserve float.

Although the long-term movements of both series are highly correlated, short-term differences in the two series are from time to time of important significance. These short-run differences are due in large part to the random forces which affect the end-of-month figures. The institution of a daily average series has the advantage of removing most of these random factors and thus makes the new measure of the money supply a more useful tool in implementing monetary policy.

Current data on the money supply will be available in the Federal Reserve publication *Demand Deposits, Currency and Related Items*" (J.3). Two releases of this document will appear monthly, seven to ten days following the semi-monthly period. This release may be secured by writing the Publications Section, Board of Governors of the Federal Reserve System, Washington 25, D.C. The series will also appear monthly in the *Federal Reserve Bulletin.*

Changes in Required Reserves

THE BOARD OF GOVERNORS of the Federal Reserve System on October 26 amended its Regulation D, relating to bank reserves and reserve requirements, in three respects, the amendments to be effective November 24 and December 1, 1960.

The changes, made in further implementation of a 1959 Act of Congress relating to vault cash and reserve requirements, will make available to the System's 6,200 member banks about $1,300 million of additional reserves as the economy enters, between Thanksgiving and Christmas, the peak season of rising cash and credit needs. The changes are as follows:

1. Effective November 24, all of the System's 6,200 member banks were authorized to count all their vault cash (i.e., all the coin and currency they hold) in meeting their reserve requirements.

2. Also effective November 24, the reserve requirement of "country" banks (i.e., banks not classified as central reserve city or reserve city banks) against their net demand deposits, which were 11 per cent, became 12 per cent.

3. Effective December 1, the reserve requirements of central reserve city banks against their net demand deposits, now 17½ per cent, will become 16½ per cent. This change is in accordance with a provision of the 1959 Act to eliminate the differential between the requirements of central reserve city banks and reserve city banks by July 28, 1962.

These actions are the third in a series taken over the course of a year to implement the legislation cited. The previous actions, both authorizing member banks to count specified portions of vault cash in meeting reserve requirements, were made effective December 1 and 3, 1959, and August 25 and September 1, 1960.

The recent actions will release, for loans, investments, and for provisions of seasonal cash needs, a net amount of approximately $1,050 million of reserves on November 24 and $250 million on December 1. Of the $1,300 million total, $400 million will be released at central reserve city banks, $380 million at reserve city banks ($18 million in the Eighth District), and $520 million at country banks ($25 million in the Eighth District). The net amount of additional reserves to be made available to country banks reflects the result of a release of $900 million of vault cash, partly offset by an increase of $380 million in their reserve requirements.

All member banks are required to set aside a portion of their deposits to meet basic reserve requirements established by the System. Before the 1959 Act of Congress, member banks had to meet these requirements with balances kept at their respective Federal Reserve Banks. They were not permitted to count, as reserves, cash in their own vaults. However, the amount of cash that banks have found it necessary to hold, in relation to their deposits, varied bank by bank, depending upon the daily needs of their customers. The legislation adopted by Congress was designed to smooth out the inequities resulting from these operating differences. When the new changes become effective, all member banks will be permitted to count all cash on hand, as well as balances kept at their Federal Reserve Bank, in meeting their basic reserve requirements.

Before the 1959 Act, country banks, on the average, were in the position of having 14.5 per cent of their net demand deposits immobilized in the form of reserve balances and needed vault cash. In consequence of the legislation and the series of actions over the last year in relation to it, this amount will be changed to a uniform 12 per cent, after the effective date of action.

The corresponding percentages for reserve city banks will be reduced from an average of 18.2 per cent to a uniform figure of 16.5 per cent. For central reserve city banks, the comparable figures are 18.7 and 16.5 per cent.