October 1963

FEDERAL RESERVE BANK OF ST. LOUIS *Review*

Volume 45 • Number 10
FEDERAL RESERVE BANK
OF ST. LOUIS
P. O. Box 442, St. Louis, Mo. 63166

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Controlling Reserves—

READERS may be interested in an article entitled "Controlling Reserves—The Heart of Federal Reserve Policy," which appears in the September 1963 issue of the *Monthly Review* of the Federal Reserve Bank of Atlanta. The article, written by Harry Brandt, Assistant Vice President, says in part:

A consideration of free reserves and the variety of influences, including changes in bank credit, that affect them suggests they are greatly overrated as a barometer of credit availability. In fact, focusing on free reserves can be misleading. . . .

Failing as a sure sign of credit availability, free reserves also are faulty as a measure of the intensity of credit demand. Moreover, they are usually not very indicative of actual bank credit trends. . . .

. . . . . .

Federal Reserve officials have found that this uncertain relationship between a particular level of free reserves and bank credit expansion makes it impractical to rely heavily on this measure as a guide to operations. Furthermore, experience has shown that maintaining the same level of [free] reserves over a prolonged period will not necessarily result in a steady expansion of bank credit. . . .

. . . . . .

These and other shortcomings of free reserves have stimulated System economists to investigate and develop alternative and supplementary reserve measures. The concept of total reserves is one of the most important of these. Total reserves (the sum of required and excess reserves) is a measure of the reserves actually supplied and used. Since the System can create and destroy reserves and, in the process, offset influences on reserve levels, it has rather close control over the amount of total member bank reserves.

The total reserve concept is thus often considered a better analytical tool than free reserves because it enables the System to take account of demands for bank credit. Movements in total reserves correspond more closely with bank credit changes than do free reserves. Total reserve figures, available daily, may also be averaged to remove the influence of unusual occurrences in a single day's level. Bank credit figures, available for a single day only, cannot be adjusted in this manner.

As a policy guide, total reserves are valuable for still another reason. If expansion in total credit is deemed either too small or too large, policymakers can step up or reduce the expansion in the reserve base. Figures on total reserves, adjusted for reserve requirement changes, also provide some historical perspective on the influence of monetary policy.

. . . . . .

Policy-makers . . . have given careful consideration in recent years to aggregate reserve measures. And, while recent concern with movements in short-term rates, which are not always consistent with reserves, present added complications, controlling reserves still lies at the heart of Federal Reserve policy.

Reprints of the complete article are available upon request to the:

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Bank Loans and Investments, 1951–1963

STUDIES OF CHANGES in the rates of increase in the money supply and in member bank reserves have been presented in earlier issues of this *Review*.[1] The first study related changes in the rate of increase in the money supply to changes in business activity. The more recent study related changes in member bank reserves to changes in the stock of money. The purpose of this article is to examine changes in the rate of increase in bank credit (total loans and investments of commercial banks) and to relate them to changes in bank reserves and money. In particular, the article focuses on how differently loans and investments have performed in the cycle and how differently they respond to changes in reserves.

Preliminary Observations

In influencing commercial bank credit and the money supply, the Federal Reserve System depends chiefly on its ability to control the volume of member bank reserves.[2] Member banks must keep as reserves (deposits with Federal Reserve Banks or cash in vault) an amount equal to a prescribed fraction of their deposits. As the banking system acquires additional reserves, it becomes possible for it to expand credit. An expansion in bank credit increases the amount of bank deposits.

Changes in total member bank reserves do not necessarily induce an exactly corresponding movement in commercial bank credit. Instead of expanding or contracting credit when reserves are supplied or withdrawn, banks may choose to vary their holdings of excess reserves.[3] Also, a change in total reserves may be offset by a change in required reserves which follows from shifts in the relative amounts of demand and time deposits or from shifts of demand deposits between reserve city banks and other member banks.[4] A lack of correspondence between changes in member bank reserves and in total bank credit can also result from expansions or contractions of credit by nonmember banks.

Not only may changes in bank reserves and commercial bank credit fail to correspond exactly, but bank credit and the money supply may fail to move together. Since Treasury deposits at commercial banks are not included in the money supply series, movements of deposits between the private sector (individuals or businesses) and the Treasury cause changes in the money supply without a change in bank credit. Other factors which cause differences between movements in bank credit and the money supply are shifts between demand deposits or currency (included in the usual definition of money) and time deposits in commercial banks (not generally included in the definition of money).

Despite these several factors that may cause differences in the movements of bank reserves, bank credit, and money, a high degree of correspondence has been found between the changes in rates of change of money and reserves.[5]

Method of Analysis

Annual rates of change of total member bank reserves, total commercial bank credit, loans and investments, and the money supply for monthly periods from December 1950 to August 1963 are presented in the accompanying charts.[6] In order to reduce the effects of random fluctuations, three-month moving averages for each of these series are plotted.

Each series has been divided into a number of time periods during which the rates of change appear to

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[1] "Changes in Selected Liquid Assets, 1951-1961," October 1961 and "Member Bank Reserves and the Money Supply," March 1962.

[2] See *The Federal Reserve System: Purposes and Functions*, Board of Governors of the Federal Reserve System, Washington 25, D. C.

[3] A study which appeared in the April 1963 issue of this *Review* concluded that movements in excess reserves do not appear to reduce significantly the Reserve System's control of bank credit and the money supply.

[4] Reserve city banks have reserve requirements of 16½ per cent behind net demand deposits; other member banks have requirements of 12 per cent. All member banks are required to hold reserves of 4 per cent behind time deposits.

[5] Meigs, A. James, *Free Reserves and the Money Supply*, Chicago University Press, 1962; Dewald, William, "Free Reserves, Total Reserves, and Monetary Control," April 1963, *Journal of Political Economy*, pp. 141-153; Black, Robert, "The Impact of Member Bank Reserves Upon the Money Supply," January 1963, *Southern Economic Journal*, pp. 199-210; "Member Bank Reserves and the Money Supply," March 1962 issue of this *Review*.

[6] The monthly data used as the basis for the computations are daily averages for reserves and money and last-Wednesday-of-the-month figures for bank credit; all series have been seasonally adjusted.

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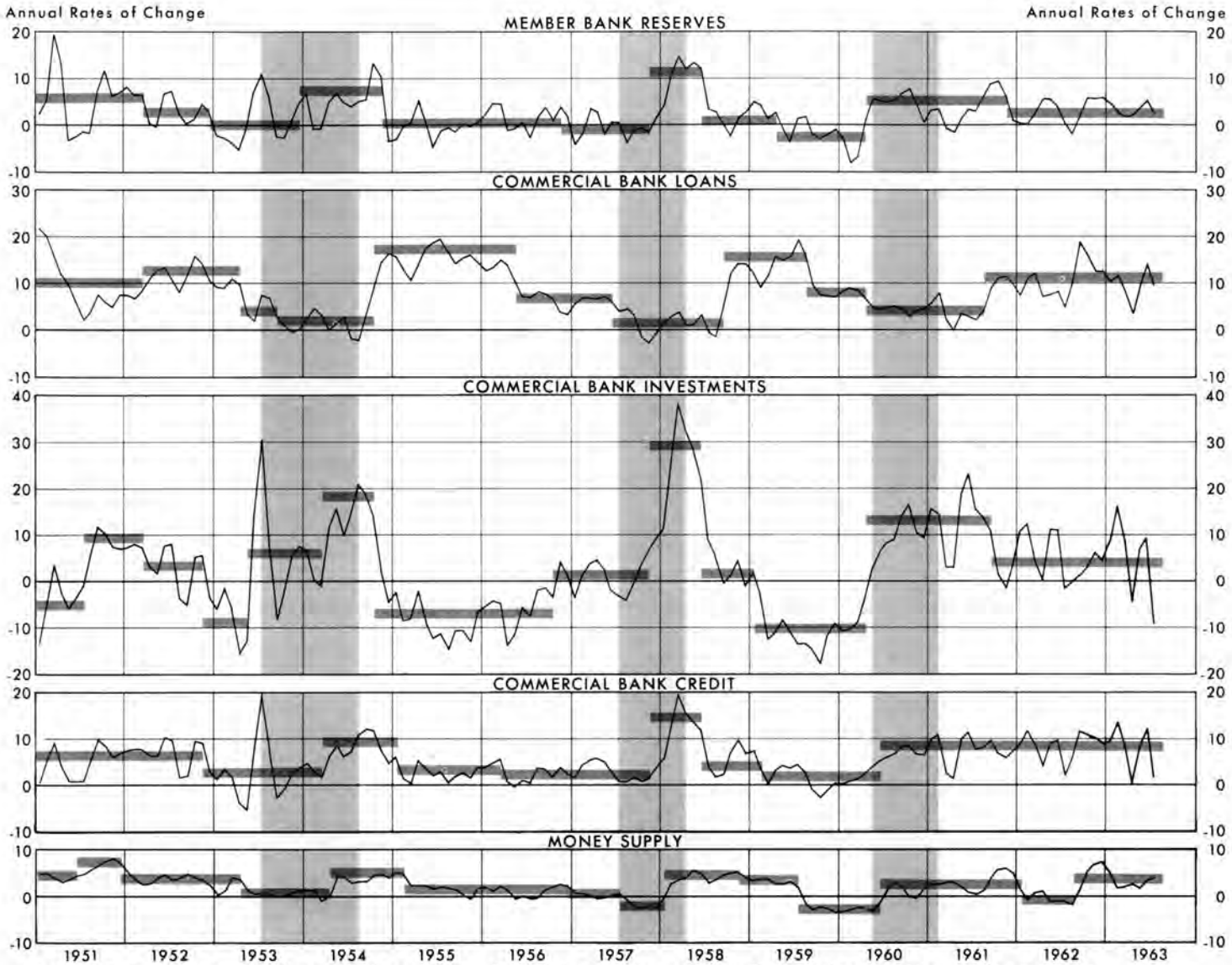

Bars represent annual rates of change of seasonally adjusted data for the periods indicated. Lines represent moving averages, weighted 1-2-1, of annual rates of change of seasonally adjusted data.
Latest data plotted: July, which includes August data

have stayed within a fairly uniform range. Wide short-run fluctuations in the rates of change make the determination of these periods somewhat arbitrary. It is believed, however, that most analysts would arrive at substantially similar periods. The average annual rate of change for each period is represented by a bar superimposed upon the line charts and is posted in the accompanying tables.[7]

Much of the analysis in this study seeks to determine the stage of the business cycle when marked and sustained changes occur in the rates of change in bank reserves, bank investments, bank loans, and money. There have been three periods of business recession (shaded areas on chart) and four periods of expansion in the 12-year span. The upper and lower turning points of economic activity designated by the National Bureau of Economic Research are used as reference points in this article.[8]

[7] The bars for both reserves and the money supply are approximately the same as those used in the March 1962 issue of this *Review*. Monthly data are used here rather than semi-monthly, and there have been some minor revisions of data.

[8] N.B.E.R. cyclical peaks are July 1953, July 1957, and May 1960; troughs are August 1954, April 1958, and February 1961.

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the Money Supply: 1951-1963

Table I

Member Bank Reserves

Periods of No Marked and Sustained Changes in Rates of Change (Represented by Bars on Charts)		Annual Rates of Change
Dec. '50	Mar. '52	+ 5.5
Mar. '52	Dec. '52	+ 2.4
Dec. '52	Dec. '53	— 0.2
Dec. '53	Nov. '54	+ 7.1
Nov. '54	Nov. '56	+ 0.1
Nov. '56	Nov. '57	— 1.2
Nov. '57	June '58	+11.2
June '58	Apr. '59	+ 0.6
Apr. '59	Apr. '60	— 2.8
Apr. '60	Nov. '61	+ 4.9
Nov. '61	Aug. '63	+ 2.2
Average Annual Rate of Increase: Dec. '50-Aug '63		**+ 2.3**

Table II

Commercial Bank Loans

Periods of No Marked and Sustained Changes in Rates of Change (Represented by Bars on Charts)		Annual Rates of Change
Dec. '50	Mar. '52	+ 9.7
Mar. '52	Apr. '53	+12.4
Apr. '53	Sept. '53	+ 3.7
Sept. '53	Oct. '54	+ 1.5
Oct. '54	May '56	+16.9
May '56	June '57	+ 6.5
June '57	Sept. '58	+ 1.1
Sept. '58	Aug. '59	+15.4
Aug. '59	Apr. '60	+ 7.8
Apr. '60	Aug. '61	+ 3.7
Aug. '61	Aug. '63	+11.1
Average Annual Rate of Increase: Dec. '50-Aug '63		**+ 8.4**

Patterns of Fluctuation

Late Recession-Early Recovery Periods

During each business recession since 1950 and in the first few months of each recovery, bank loans rose quite slowly. During these same periods bank reserves expanded markedly. Beginning in the middle of the 1953-54 and 1957-58 recessions and at the start of the 1960-61 downturn, bank reserves were increased at rates two to five times the average of the last twelve years (see chart). Because business activity was contracting during these periods, the demand for loans was weak.

Rather than allow reserves to build up in excess of the amount which they desired to hold, banks purchased securities at very rapid rates during these late recession-early recovery periods. From March 1954 to October 1954, from November 1957 to June 1958,

Table III

Commercial Bank Investments

Periods of No Marked and Sustained Changes in Rates of Change (Represented by Bars on Charts)		Annual Rates of Change
Dec. '50	July '51	— 5.4
July '51	Mar. '52	+ 9.0
Mar. '52	Nov. '52	+ 3.0
Nov. '52	May '53	— 9.1
May '53	Mar. '54	+ 5.5
Mar. '54	Oct. '54	+18.0
Oct. '54	Oct. '56	— 7.3
Oct. '56	Nov. '57	+ 1.3
Nov. '57	June '58	+28.9
June '58	Jan. '59	+ 1.4
Jan. '59	Apr. '60	—10.4
Apr. '60	Sept. '61	+13.0
Sept. '61	Aug. '63	+ 3.9
Average Annual Rate of Increase: Dec. '50-Aug '63		**+ 2.1**

Table IV

Commercial Bank Credit

Periods of No Marked and Sustained Changes in Rates of Change (Represented by Bars on Charts)		Annual Rates of Change
Dec. '50	Nov. '52	+ 6.1
Nov. '52	Mar. '54	+ 2.4
Mar. '54	Jan. '55	+ 9.0
Jan. '55	Mar. '56	+ 2.9
Mar. '56	Nov. '57	+ 1.9
Nov. '57	June '58	+14.3
June '58	Feb. '59	+ 3.9
Feb. '59	June '60	+ 1.7
June '60	Aug. '63	+ 8.5
Average Annual Rate of Increase: Dec. '50-Aug '63		**+ 5.2**

Table V

Money Supply

Periods of No Marked and Sustained Changes in Rates of Change (Represented by Bars on Charts)		Annual Rates of Change
Dec. '50	June '51	+ 4.1
June '51	Dec. '51	+ 6.9
Dec. '51	Apr. '53	+ 3.5
Apr. '53	Apr. '54	+ 0.2
Apr. '54	Feb. '55	+ 4.9
Feb. '55	Dec. '56	+ 1.3
Dec. '56	July '57	+ 0.3
July '57	Jan. '58	— 2.2
Jan. '58	Nov. '58	+ 4.6
Nov. '58	July '59	+ 3.4
July '59	June '60	— 3.0
June '60	Jan. '62	+ 2.6
Jan. '62	Aug. '62	— 0.9
Aug. '62	Aug. '63	+ 3.7
Average Annual Rate of Increase: Dec. '50-Aug '63		**+ 2.1**

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and from April 1960 to September 1961, commercial banks added to their securities portfolios at annual rates of 18 per cent, 29 per cent, and 13 per cent, respectively (Table III). By comparison, investment holdings rose at an average annual rate of 2.1 per cent over the 1951-63 period as a whole.

Reflecting primarily the sizable increases in bank security holdings, total bank credit and the money supply rose at relatively rapid rates in each of these late recession-early recovery periods. Even after the stock of money had been increasing at an advanced rate for a month or two, desired cash balances of the public evidently remained above their actual balances as spending continued to decline.[9] Within a few months, however, actual cash balances exceeded desired cash balances, spending increased, and business activity was stimulated.

Recovery-Expansion Periods

Several months after the trough of each cycle, with the improvement in general business conditions, bank loan demand strengthened. From October 1954 to May 1956, from September 1958 to August 1959, and from August 1961 to August 1963, commercial banks increased their loans at annual rates exceeding 10 per cent. The rapid expansions in bank loans occurred despite the fact that during each such period of loan expansion the rate of increase in bank reserves was reduced.

With reserves being supplied at reduced rates during these periods of business expansion and with loans rising sharply, banks either sold securities on balance or reduced markedly the rates at which they were acquiring them. From October 1954 to October 1956 and from January 1959 to April 1960, commercial banks sold sizable amounts of securities to provide loan funds, reducing investment portfolios at annual rates of 7 per cent and 10 per cent, respectively. Since September 1961, banks have added to their investment holdings but at a substantially reduced rate compared to the previous period.

The increases in loans coupled with the sales or small net purchases of securities have usually resulted in moderate rates of increase in total bank credit during the expansionary phases of business cycles. This pattern—a slower rate of increase in bank credit during the cyclical expansion than in the late recession-early recovery phase—is consistent with earlier findings.

[9] See "Changes in the Velocity of Money, 1951-1962," in the June 1962 issue of this *Review*.

The economic expansion since early 1961 presents an interesting exception to the usual slowdown in the rate of increase in reserves and money during the expansion phase of the cycle. Although the rate of increase of bank reserves was reduced beginning about November 1961, bank credit has continued to rise at an undiminished pace (8.5 per cent annual rate). This has been possible, in large measure, because most of the deposit increase since late 1961 has been in time accounts (which have lower reserve requirements than demand deposits).

Late Expansion-Early Recession Periods

In the final months of the business expansions during the period since 1950, the rate of increase in bank loans usually has slowed. At the same time banks have increased their rate of net security purchases. Reflecting the fact that both bank reserves and the money supply have risen at relatively slow rates (or declined) in these periods around the cyclical peaks, total bank credit has generally risen at somewhat more moderate rates at such times than at any other phase of the cycle.

Conclusions

Changes in total bank credit during the past twelve years have been similar to changes in bank reserves and in the money supply. All three series have risen most rapidly in late recessions and early recoveries, and each of them has generally risen moderately during the expansionary phases of economic activity. Both reserves and money have declined or have risen only slightly around the upper turning points of the business cycle, and bank credit has usually risen at its slowest rates during this stage of the cycle.

Most of the expansion in bank credit during late recessions and early recoveries has taken the form of net acquisitions of securities. Later in the recoveries, as business activity has risen, bank loans have usually increased markedly, and banks have sold securities on balance or have increased their holdings less rapidly. As a result, bank credit has risen moderately. During the period around the cyclical peaks, bank credit has risen still more slowly, reflecting low rates of increase in reserves and declines in the rate of expansion of loans.

Changes in the public's demands for loan funds and for money balances do not coincide. When recessionary forces are dominant, demands for credit are usually weak. At these times, the public's desire to hold cash

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balances typically rises relative to its desires for goods and services, and marked monetary expansion is usually desirable. When bank reserves have been increased during periods of economic recession, bank credit and the money supply have also expanded. The rise in bank credit, despite a weak loan demand, was occasioned by net bank purchases of securities.

Conversely, during periods of rapid business expansion, demands for credit funds are usually vigorous. At the same time, as indicated by the greater expenditures, the public's cash holdings are large relative to their desires to hold cash balances. Under these conditions, the central bank has been able to reduce the rates of monetary expansion by supplying reserves at a less rapid rate. The commercial banks, although expanding loans, sell securities or purchase them at slower rates, and total bank credit rises only moderately.

NORMAN BOWSHER

Use of the Word "Money"

IN DISCUSSIONS OF MONETARY CONDITIONS, the word "money" is often used in more than one sense. For instance, in one manner of speaking, money may be judged to be tight in times of economic boom or expansion, the demand being great relative to supply. In this context, the word "money" means loan or investment funds, and the word "credit" could apply equally well. According to this way of speaking, money (credit) usually becomes easy during recessions, the demand being small relative to supply.

In another context, changes in business conditions may be described as reflecting changes in the amount of money people wish to hold relative to its supply. What is important, according to this view, is the discrepancy between *actual* and *desired* money balances. According to this view, during expansionary phases, the public's actual money balances are greater than desired money; in an attempt to reduce its money balances, the public steps up its rate of spending on goods and services or financial assets. During recessions actual balances are less than desired balances; accordingly, in an attempt to hold larger money balances the public reduces its rate of spending. Used in this way the word "money" means particular highly-liquid assets, and the words "demand deposits and currency" or "cash" could be substituted.[1]

Proper monetary action, according to this view, is to provide the public with the amount of money that it desires to hold at high employment levels of economic activity consistent with the avoidance of inflation. By injecting more demand deposits and currency into the economy when the demand for these assets rises relative to the demand for other goods, monetary action can satisfy the public's desire to increase cash balances without a decline in total spending. If the increase in money supply is adequate, the public will be encouraged to maintain its expenditures, and total economic activity will be supported. Conversely, as an anti-inflationary measure, the central bank can reduce the supply of demand deposits and currency or increase them less rapidly, the process working in reverse.

When both viewpoints are considered, it becomes evident that during a business contraction when money (credit) appears to be in relatively plentiful supply, it may be appropriate for money (demand deposits and currency) to be expanded rapidly. This, in turn, tends to make credit still more abundant. Conversely, in a boom or an inflation, when money (credit) is in great demand, it may be desirable for the monetary authorities to make money (demand deposits and currency) available less rapidly. Credit will tend to become even scarcer relative to demand.

If the distinction between these different meanings of the word "money" is kept in mind, discussions of monetary conditions and actions may be clarified. During times of economic slack and underemployment of resources, some say that money, meaning loan and investment funds, is relatively available and that since monetary conditions are very easy, the monetary authorities are doing all that they can desirably or usefully do. For those who think that the quantity of cash relative to the amount of cash which would be desired at full employment is a significant way of judging monetary conditions, a quite different view of the situation may be justified.

It is not intended here to prove that one or the other of the two major concepts of money is the more useful or significant. It is only intended to suggest that in a discussion of monetary conditions or actions, it would probably be desirable to distinguish between the two meanings of the word "money."

[1] Some analysts prefer to include other liquid assets, such as time deposits in commercial banks.

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Economic Activity Continues to Expand

ECONOMIC ACTIVITY expanded during the third quarter of 1963 as output and total demand continued to rise. This expansion was accompanied by a further increase in both personal income and instalment credit. Total employment also moved up, but the unemployment rate continued to fluctuate around levels which have prevailed since early last year. Consumer prices edged up during the quarter, while wholesale prices were virtually unchanged.

Industrial production in August measured 126 (1957-59=100), the same as in June, but one point less than in July. Since February, industrial production

has risen at an annual rate of 9 per cent. The decline from July to August was largely attributable to a greater-than-seasonal reduction in both automobile assemblies and iron and steel production. There were widespread increases in other lines of activity. Preliminary data suggests that neither autos nor iron and steel acted as a drag on industrial production in September.

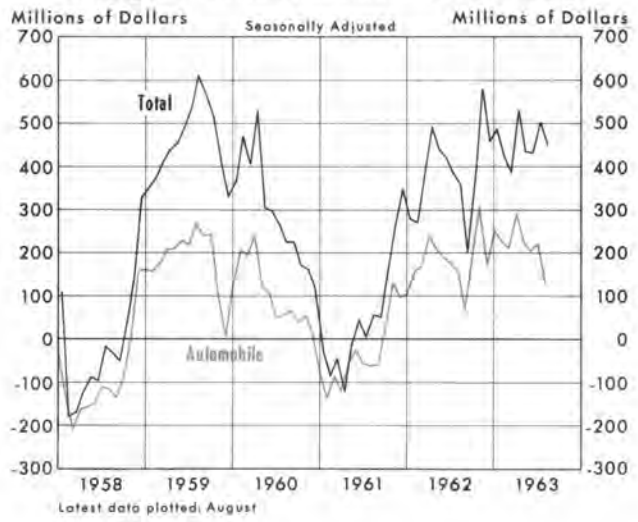
Personal income rose $700 million in August, reaching a seasonally adjusted annual rate of about $465 billion. Since February, personal income has risen at an average monthly rate of $2 billion, or at a 5.3 per cent annual rate. The largest source of personal income, wage and salary disbursements, increased by some $100 million in August. These payments have risen at an average monthly rate of $1.6 billion since February and an annual rate of 6.2 per cent.

Despite some slowdown in automobile sales resulting from a shortage of 1963 models, consumer spending continued at a brisk pace. Retail store sales were

$20.8 billion in August, unchanged from July, but up at a 4.0 per cent annual rate since February. The initial statistics for September indicate that retail sales fell off slightly from the August level.

Consumer Credit Rises

The rise in incomes and business activity has been accompanied by a rapid expansion in consumer credit. Since late 1961, total instalment credit has been increasing about $400 million a month on a seasonally adjusted basis, an average annual rate of 11 per cent (see chart). Since November of last year, this credit has risen at an even faster pace, an average of $465 million per month. Automobile paper has been in-



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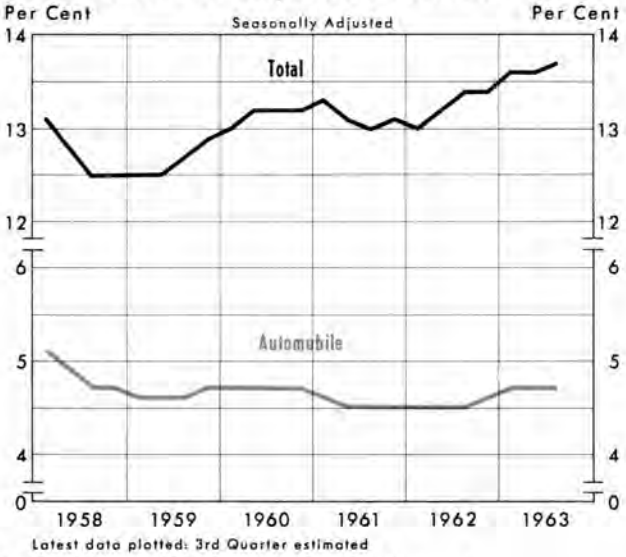
creasing almost $190 million a month since late 1961 and $225 million per month since last November.

Although incomes of consumers have been increasing, people are apparently devoting slightly larger proportions of their incomes to repaying instalment loans. In the third quarter of this year, repayments on instalment credit amounted to an estimated 13.7 per cent of incomes after taxes compared to 13.1 per cent in the fourth quarter of 1961 (see chart). In 1959 and the first half of 1960, when consumer credit also rose at rates approximating the 1963 rate, the ratio rose to a peak of 13.2 per cent in the second quarter of 1960. The ratio of automobile paper repayments to disposable personal income, however, has changed little: an estimated 4.7 per cent in the third quarter of 1963, 4.5 per cent in the fourth quarter of 1961, and 4.7 per cent in the second quarter of 1960.

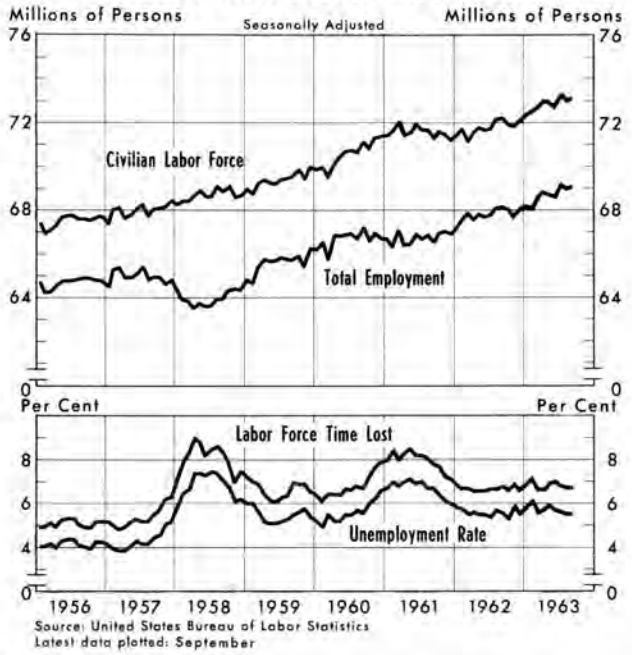
Repayments on Consumer Instalment Credit as a Percent of Disposable Personal Income



Employment Increased from August to September

Total employment in September was 69.1 million, up 159,000 from August, but slightly below the July level of 69.2 million. Layoffs in both the automobile and iron and steel industries were primarily responsible for the July to August reduction. With almost all automobile producers closed down for model changeovers at about the same time, there was a decline of 58,000 in the transportation industry in August, more than double the normal decline. Rehiring in both autos and iron and steel helped to raise the September total. Since last February, total employment has risen at an annual rate of 2.4 per cent; over the past year it has increased at a 1.30 per cent rate, and during the past ten years at a 1.16 per cent rate.

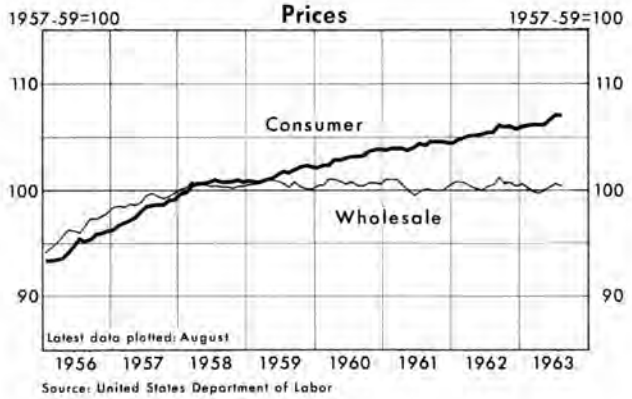
Status of the National Labor Force



Prices Were Stable

Although the economy has expanded vigorously since early this year, the general price level has shown remarkable stability. The wholesale price index, which reflects price movements of commodities—from raw materials to fabricated products—sold in primary markets, has been virtually unchanged in 1963 (see chart). Wholesale prices have actually declined slightly since February 1961, the trough month of the most recent business recession, and have been generally unchanged since early 1958.

Consumer prices have increased at an annual rate of 1.8 per cent since January of this year, compared with a 1.2 per cent rate of increase since February 1961 and a 1.5 per cent rate since 1951. The sharpest price increases in 1963 have occurred since May, reflecting largely a seasonal rise in food prices. From September 1962 to May, consumer prices were almost unchanged on balance.



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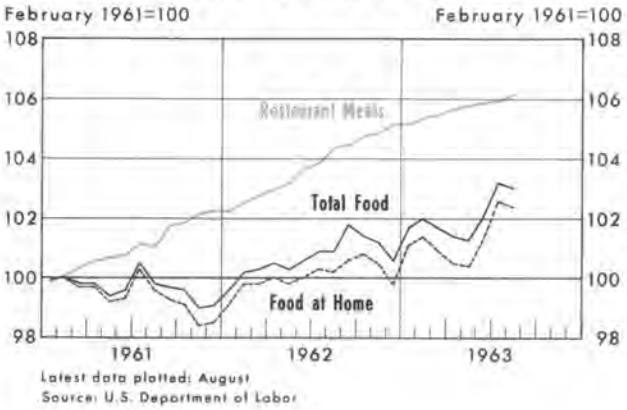
The rise in consumer prices since February 1961 has been dominated by increases in prices of food, housing, and transportation. The upward trend in food prices since February 1961 reflects to a substantial degree a steady rise in the cost of restaurant meals. The increased cost of housing has resulted from a steady rise in rent coupled with a sharp increase in household operating expenses. Prices of household furnishings have declined, and the cost of gas and electricity has remained about unchanged. Both public and private transportation prices have risen since early 1961.

Index of Food Prices



Latest data plotted: August
Source: U.S. Department of Labor

Financial Developments

SINCE MID-SUMMER, several developments have played major roles in the financial markets. There has been a material lengthening of the average maturity of the Federal debt. In addition, measures have been adopted which have tended to cause higher short-term interest rates. The money supply, which had shown a substantial growth since the fall of 1962, has remained about unchanged since July.

Debt Maturity Has Been Extended

Treasury refunding actions of August and September resulted in an extension of the average maturity of the Government debt from 5 years and 1 month in June to 5 years and 3 months in mid-September. The August refunding consisted of an exchange of $6.4 billion of maturing securities for a 15-month issue. The average maturity was further extended in September when a $6.6 billion advance refunding shifted $3.9 billion of issues maturing in May 1964 into issues due in 1968, 1973, and 1989-94 and $2.7 billion of issues maturing in 1966 and 1967 into issues due in 1973 and 1989-94.

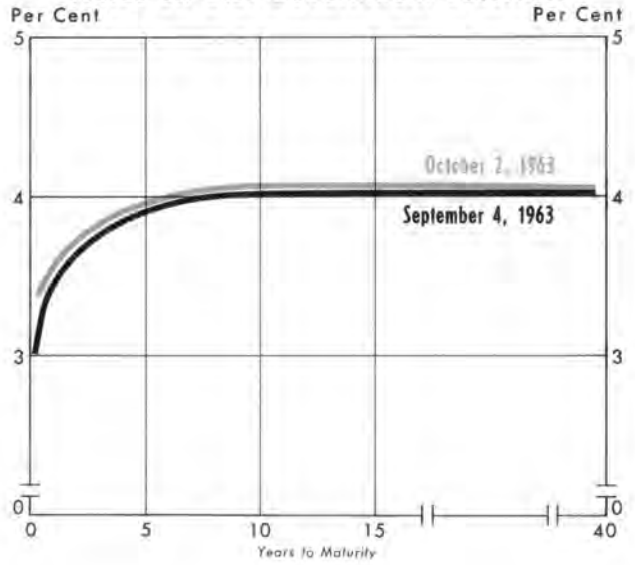
This change continues a lengthening of the debt which began in late 1960. Since September 1960, the average maturity of the debt has been increased by 13 months (see chart). Some economists contend that such a shift tends to increase the demand for money, increase long-term interest rates, and, therefore, decrease the demand for goods and services.

Although the Treasury achieved a more desirable maturity distribution of the debt from its point of view, concern has been expressed that the advanced refunding might have an undesirable impact on the yield curve. The new issues were priced, after a cash adjustment, to provide yields a few basis points above the yield curve as of September 4 (see chart). Concern

Average Maturity of the Marketable Government Debt

Latest data plotted: 3rd Quarter 1963 preliminary
Source: U.S. Treasury Department

Yields on U.S. Government Securities



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has been expressed whether other long-term yields would move up to the level of the new issues or whether the yields on the new securities would fall to be in line with the September 4 yield curve. The latter event has generally occurred after other refunding operations. By early October, the yield curve had moved upward slightly.

Interest Rates Have Increased

In line with a desire to curb the outflow of capital which contributes to the United States' balance-of-payments problem, short-term interest rates have increased since June. The three-month Treasury bill rate increased from an average of 2.99 per cent during June to 3.27 per cent in late July and to 3.41 per cent in early October. Accompanying the rise in short-term rates was an increase in mid-July in the Federal Reserve discount rate from 3 to 3½ per cent.[1] Long-term Treasury bond rates fluctuated between 3.98 and 4.00 per cent from June to September 3, the date prior to announcement of the advanced refunding. By early October, these rates had risen to 4.05 per cent.

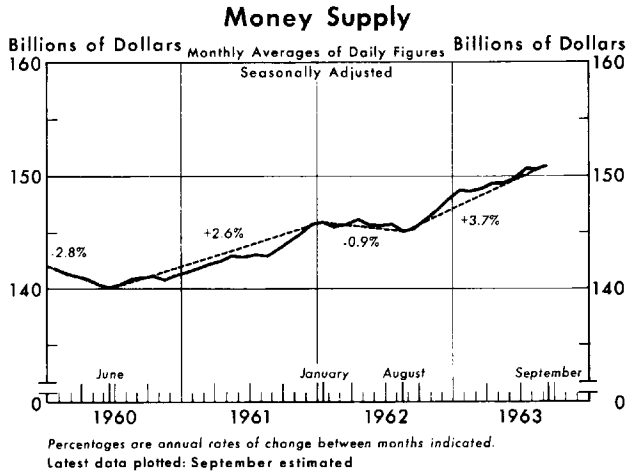
Short-term rates decreased during the early part of the advanced refunding period, but they subsequently rose towards month's end. From September 4, the day the advanced refunding was announced, to September 9, short-term Treasury bill rates decreased from 3.37 to 3.34 per cent. However, by September 17, the date the books were closed on the advanced refunding, short-term interest rate increases had more than offset the earlier decline. Three-month bills at 3.40 per cent and six-month bills at 3.51 per cent were 3 basis points above their September 4 levels. Higher short-term rates suggest that there may have been no marked increase in the demand for money and other highly liquid instruments.

Long-term Treasury bond rates increased from 4.01 to 4.06 per cent upon announcement of the advanced refunding and were 4.05 per cent on September 17. The higher long-term interest rates were probably related to pressures on the money market resulting from the settlement date of the advanced refunding and from tax payment pressures. The effect on investment of these changes in rates has probably been very slight.

[1]For a discussion of the discount rate increase see this *Review*, August 1963. Interest rate developments from June to early September are presented in "Business Activity, the Money Market, and Monetary Developments," this *Review*, September 1963.

Monetary Expansion Has Slowed

The money supply, which averaged $150.9 billion (seasonally adjusted) in the first half of September, has been about unchanged on balance since July. In contrast, in the period from September 1962 to July it expanded at a 4.5 per cent annual rate. Time deposits have increased at an annual rate of 13 per cent since July. During the September 1962-July 1963 period, time deposits rose at a 16 per cent rate.



Percentages are annual rates of change between months indicated.
Latest data plotted: September estimated

Member bank reserves increased substantially from September 1962 to July 1963. Total reserves expanded at a 4.8 per cent annual rate. During this same period, reserves available for total private deposits rose at a 5.2 per cent rate and reserves available for private demand deposits increased at a 3.1 per cent rate. From July to the end of September this year, bank reserves remained about unchanged.

By increasing or decreasing the pace at which reserves are supplied to the banking system, the monetary authority affects the ability of the commercial banking system to extend credit. Changes in total bank loans and investments are closely related to changes in the total volume of demand deposits, a major portion of the money supply, and time deposits.

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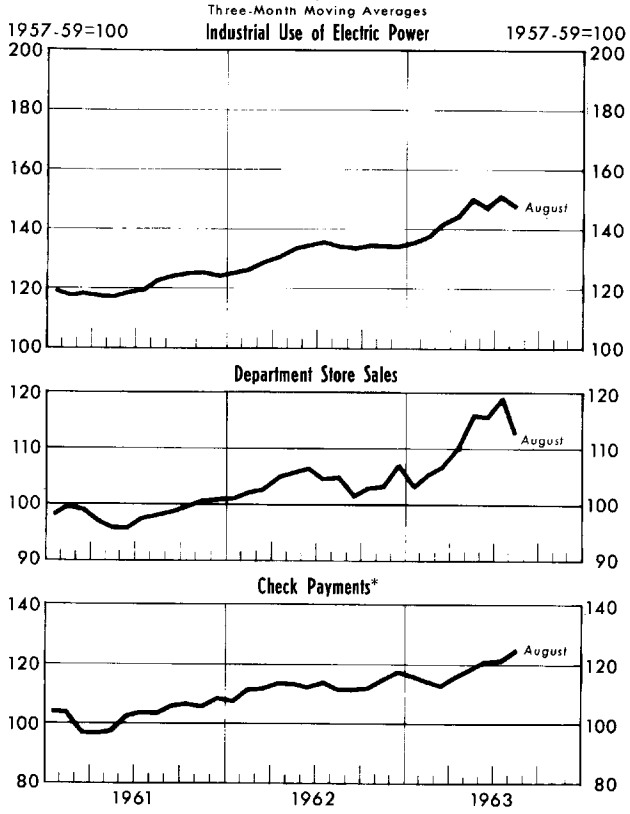
ECONOMIC INDICATORS

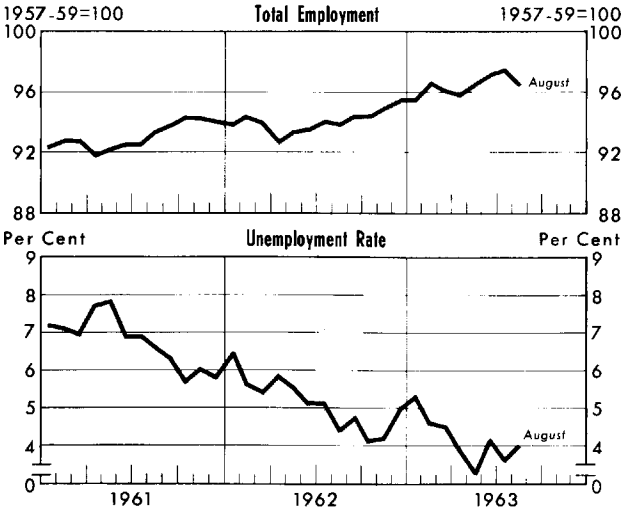
Evansville, Indiana, Metropolitan Area

Production and Spending



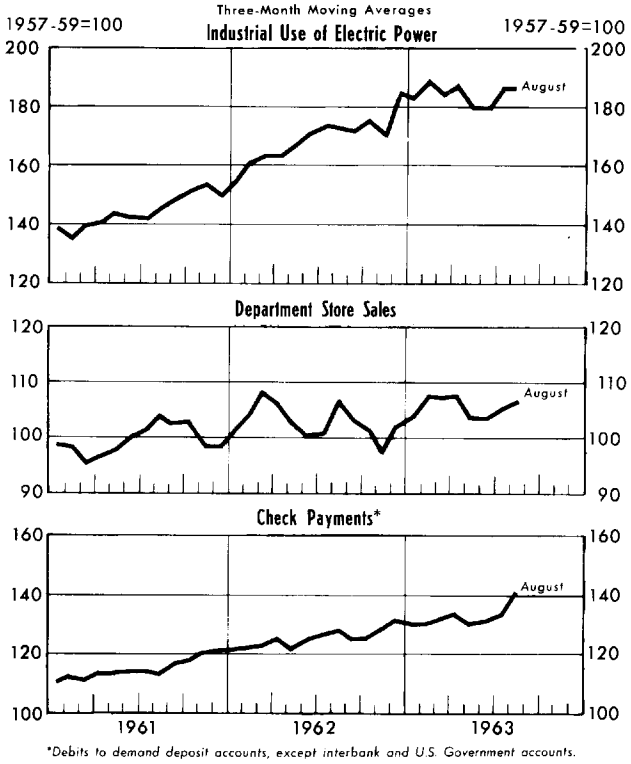
*Debits to demand deposit accounts, except interbank and U.S. Government accounts.

Manpower Utilization



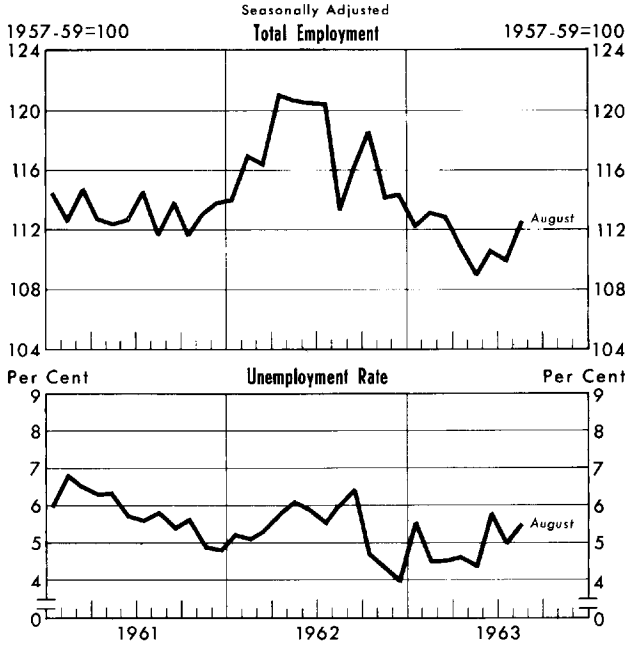
Springfield, Missouri, Metropolitan Area

Production and Spending



*Debits to demand deposit accounts, except interbank and U.S. Government accounts.

Manpower Utilization



CHARTS AND TABLES OF economic data for each of seven metropolitan areas in the Central Mississippi Valley are available monthly in a report of this Bank entitled *SELECTED ECONOMIC INDICATORS*. Direct request to: *Research Dept.*, Federal Reserve Bank of St. Louis, P. O. Box 442, St. Louis, Missouri 63166.

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