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Letter From Chairman Burns to Senator Proxmire

Editor's Note: *This letter, discussing the role of the money supply in the conduct of monetary policy, was sent by Arthur F. Burns, Chairman of the Board of Governors of the Federal Reserve System, to the Honorable William Proxmire of the United States Senate on November 6, 1973.*

I am writing in further response to your letter of September 17, 1973, which requested comments on certain criticisms of monetary policy over the past year.

As stated in your letter, the criticisms are: (1) "that there was too much variation from time to time in the rate of increase in the money supply, that monetary policy was too erratic, too much characterized by stops and starts"; and (2) "that the money supply had increased much too much last year, in fact that the increase would have been too much even if we had been in the depths of a recession instead of enjoying a fairly vigorous economic expansion".

These criticisms involve basic issues with regard to the role of money in the economy, and the role that the money supply should play in the formulation and execution of monetary policy. These issues, along with the specific points you raise, require careful examination.

CRITICISM OF OUR PUBLIC POLICIES

During the past two years the American economy has experienced a substantial measure of prosperity. Real output has increased sharply, jobs have been created for millions of additional workers, and total personal income—both in dollars and in terms of real purchasing power—has risen to the highest levels ever reached.

Yet the prosperity has been a troubled one. Price increases have been large and widespread. For a time, the unemployment rate remained unduly high. Interest rates have risen sharply since the spring of 1972. Mortgage money has recently become difficult to obtain in many communities. And confidence in the dollar at home and abroad has at times wavered.

Many observers have blamed these difficulties on the management of public economic policies. Certainly, the Federal budget—despite vigorous efforts to hold expenditures down—continued in substantial deficit. There has also been an enormous growth in the activities of Federally sponsored agencies which, although technically outside the budget, must still be financed. The results of efforts to control wages and prices during the past year have been disappointing. Partial decontrol in early 1973 and the subsequent freeze failed to bring the results that were hoped for.

Monetary policy has been criticized on somewhat contradictory counts—for being inflationary, or for permitting too high a level of interest rates, or for failing to bring the economy back to full employment, or for permitting excessive short-term variations in the growth of the money supply, and so on.

One indication of dissatisfaction with our public policies was provided by a report, to which you refer in your letter, on a questionnaire survey conducted by the National Association of Business Economists. Of the respondents, 38 percent rated fiscal policy "over the past year" as "poor"; 41 percent rated monetary policy "over the past year" as "poor"; only 14 percent felt that the wage-price controls under Phase Four were "about right". If this sampling is at all indicative, the public policies on which we have relied are being widely questioned. Many members of the above group, in fact, went on record for a significant change in fiscal policy. In response to a question whether they favored a variable investment tax credit, 46.5 percent said "yes", 40 percent said "no", and 13.5 percent expressed "no opinion".

Let me turn now to the questions raised in your letter and in some other recent discussions about monetary policy. I shall discuss, in particular, the role of money supply in the conduct of monetary policy; the extent and significance of variability in the growth of the money supply; and the actual behavior of the money supply during 1972-73.

ROLE OF MONEY SUPPLY

For many years economists have debated the role of the money supply in the performance of economic systems. One school of thought, often termed "monetarist", claims that changes in the money supply influence very importantly, perhaps even decisively, the pace of economic activity and the level of prices. Monetarists contend that the monetary authorities should pay principal attention to the money supply, rather than to other financial variables such as interest rates, in the conduct of monetary policy. They also contend that fiscal policy has only a small independent impact on the economy.

Another school of thought places less emphasis on the money supply and assigns more importance to the expenditure and tax policies of the Federal Government as factors influencing real economic activity and the level of prices. This school emphasizes the need for monetary policy to be concerned with interest rates and with conditions in the money and capital markets. Some economic activities, particularly residential building and State and local government construction, depend heavily on borrowed funds, and are therefore influenced greatly by changes in the cost and availability of credit. In other categories of spending—such as business investment in fixed capital and inventories, and consumer purchases of durable goods—credit conditions play a less decisive role, but they are nonetheless important.

Monetarists recognize that monetary policy affects private spending in part through its impact on interest rates and other credit terms. But they believe that primary attention to the growth of the money supply will result in a more appropriate monetary policy than would attention to conditions in the credit markets.

Needless to say, monetary policy is—and has long been—a controversial subject. Even the monetarists do not speak with one voice on monetary policy. Some influential monetarists believe that monetary policy should aim strictly at maintaining a constant rate of growth of the money supply. However, what that constant should be, or how broadly the money supply should be defined, are matters on which monetarists still differ. And there are also monetarists who would allow some—but infrequent—changes in the rate of growth of the money supply, in accordance with changing economic conditions.

It seems self-evident that adherence to a rigid growth rate rule, or even one that is changed infrequently, would practically prevent monetary policy from playing an active role in economic stabilization. Monetarists recognize this. They believe that most economic disturbances tend to be self-correcting, and they therefore argue that a constant or nearly constant rate of growth of the money supply would result in reasonably satisfactory economic performance.

But neither historical evidence, nor the thrust of explorations in business-cycle theory over a long century, give support to the notion that our economy is inherently stable. On the contrary, experience has demonstrated repeatedly that blind reliance on the self-correcting properties of our economic system can lead to serious trouble. Discretionary economic policy, while it has at times led to mistakes, has more often proved reasonably successful. The disappearance of business depressions, which in earlier times spelled mass unemployment for workers and mass bankruptcies for businessmen, is largely attributable to the stabilization policies of the last thirty years.

The fact is that the internal workings of a market economy tend of themselves to generate business fluctuations, and most modern economists recognize this. For example, improved prospects for profits often spur unsustainable bursts of investment spending. The flow of personal income in an age of affluence allows ample latitude for changes in discretionary expenditures and in savings rates. During a business-cycle expansion various imbalances tend to develop within the economy—between aggregate inventories and sales, or between aggregate business investment in fixed capital and consumer outlays, or between average unit costs of production and prices. Such imbalances give rise to cyclical movements in the economy. Flexible fiscal and monetary policies, therefore, are often needed to cope with undesirable economic developments, and this need is not diminished by the fact that our available tools of economic stabilization leave something to be desired.

There is general agreement among economists that, as a rule, the effects of stabilization policies occur gradually over time, and that economic forecasts are an essential tool of policy making. However, no economist—or school of economics—has a monopoly on accurate forecasting. At times, forecasts based largely on the money supply have turned out to be satisfactory. At other times, such forecasts have been quite poor, mainly because of unanticipated changes in the intensity with which the existing money stock is used by business firms and consumers.

Changes in the rate of turnover of money have historically played a large role in economic fluctuations, and they continue to do so. For example, the narrowly defined money stock—that is, demand deposits plus currency in public circulation—grew by 5.7 percent between the fourth quarter of 1969 and the fourth quarter of 1970. But the turnover of money declined during that year, and the dollar value of gross national product (GNP) rose only 4.5 percent. In the following year, the growth rate of the money supply increased to 6.9 percent, but the turnover of money picked up briskly and the dollar value of GNP accelerated to 9.3 percent. The movement out of recession in 1970 into recovery in 1971 was thus closely related to the greater intensity of the use of money. Occurrences such as this are very common because the willingness to use the existing stock of money, expressed in its rate of turnover, is a highly dynamic force in economic life.

For this as well as other reasons, the Federal Reserve uses a blend of forecasting techniques. The behavior of the money supply and other financial variables is accorded careful attention. So also are the results of the most recent surveys on plant and equipment spending, consumer attitudes, and inventory plans. Recent trends in key producing and spending sectors are analyzed. The opinions of businessmen and outside economic analysts are canvassed, in part through the nationwide contacts of Federal Reserve Banks. And an assessment is made of the probable course of fiscal policy, also of labor market and agricultural policies, and the effects on the economy.

Evidence from all these sources is weighed. Efforts are also made to assess economic developments through the use of large-scale econometric models. An eclectic approach is thus taken by the Federal Reserve, in recognition of the fact that the state of economic knowledge does not justify reliance on any single forecasting technique. As economic research has cumulated, it has become increasingly clear that money does indeed matter. But other financial variables also matter.

In recent years, the Federal Reserve has placed somewhat more emphasis on achieving desired growth rates of the monetary aggregates, including the narrowly defined money supply, in its conduct of monetary policy. But we have continued to give careful attention to other financial indicators, among them the level of interest rates on mortgages and other loans and the liquidity position of financial institutions and the general public. This is necessary because the economic implications of any given monetary growth rate depend on the state of liquidity, the attitudes of businessmen, investors, and consumers toward liquidity, the cost and availability of borrowed funds, and other factors. Also, as the nation's central bank, the Federal Reserve can never lose sight of its role as a lender of last resort, so that financial crises and panics will be averted.

I recognize that one advantage of maintaining a relatively stable growth rate of the money supply is that a partial offset is thereby provided to unexpected and undesired shifts in the aggregate demand for goods and services. There is always some uncertainty as to the emerging strength of aggregate demand. If money growth is maintained at a rather stable rate, and aggregate demand turns out to be weaker than is consistent with the nation's economic objectives, interest rates will tend to decline and the easing of credit markets should help to moderate the undesired weakness in demand. Similarly, if the demand for goods and services threatens to outrun productive capacity, a rather stable rate of monetary growth will provide a restraining influence on the supply of credit and thus tend to restrain excessive spending.

However, it would be unwise for monetary policy to aim at all times at a constant or nearly constant rate of growth of money balances. The money growth rate that can contribute most to national objectives will vary with economic conditions. For example, if the aggregate demand for goods and services is unusually weak, or if the demand for liquidity is unusually strong, a rate of increase in the money supply well above the desirable long-term trend may be needed for a time. Again, when the economy is experiencing severe cost-push inflation, a monetary growth rate that is relatively high by a historical yardstick may have to be tolerated for a time. If money growth were severely constrained in order to combat the element of inflation resulting from such a cause, it might well have seriously adverse effects on production and employment. In short, what growth rate of the money supply is appropriate at any given time cannot be determined simply by extrapolating past trends or by some preconceived arithmetical standard.

Moreover, for purposes of conducting monetary policy, it is never safe to rely on just one concept of money—even if that concept happens to be fashionable. A variety of plausible concepts merit careful attention, because a number of financial assets serve as a convenient, safe, and liquid store of purchasing power.

The Federal Reserve publishes data corresponding to three definitions of money, and takes all of them into account in determining policy. The three measures are: (a) the narrowly defined money stock (M_1), which encompasses currency and demand deposits held by the nonbank public; (b) a more broadly defined money stock (M_2), which also includes time and savings deposits at commercial banks (other than large negotiable time certificates of deposit); (c) a still broader definition (M_3), which includes savings deposits at mutual savings banks and savings and loan associations. A definition embracing other liquid assets could also be justified—for example, one that would include large-denomination negotiable time certificates of deposit, United States savings bonds and Treasury bills, commercial paper, and other short-term money market instruments.

There are many assets closely related to cash, and the public can switch readily among these assets. However money may be defined, the task of determining the amount of money needed to maintain high employment and reasonable stability of the general price level is complicated by shifting preferences of the public for cash and other financial assets.

VARIABILITY OF MONEY SUPPLY GROWTH

In the short run, the rate of change in the observed money supply is quite erratic, and cannot be trusted as an indicator of the course of monetary policy. This would be so even if there were no errors of measurement.

The record of hearings held by the Joint Economic Committee on June 27, 1973 includes a memorandum which I submitted on problems encountered in controlling the money supply. As indicated there, week-to-week, month-to-month, and even quarter-to-quarter fluctuations in the rate of change of money balances are frequently influenced by international flows of funds, changes in the level of United States Government deposits, and sudden changes in the public's attitude toward liquidity. Some of these variations appear to be essentially random—a product of the enormous ebb and flow of funds in our modern economy.

Because the demands of the public for money are subject to rather wide short-term variations, efforts by the Federal Reserve to maintain a constant growth rate of the money supply could lead to sharp short-run swings in interest rates and risk damage to financial markets and the economy. Uncertainties about financing costs could reduce the fluidity of markets and increase the costs of financing to borrowers. In addition, wide and erratic movements of interest rates and financial conditions could have undesirable effects on business and consumer spending. These adverse effects may not be of major dimensions, but it is better to avoid them.

In any event, for a variety of reasons explained in the memorandum for the Joint Economic Committee, to which I have previously referred, the Federal Reserve does not have precise control over the money supply. To give one example, a significant part of the money supply consists of deposits lodged in nonmember banks that are not subject to the reserve requirements set by the Federal Reserve. As a result, there is some slippage in monetary control. Furthermore, since deposits at nonmember banks have been reported for only two to four days in a year, in contrast to daily statistics for member banks, the data on the money supply—which we regularly present on a weekly, monthly, and quarterly basis—are estimates rather than precise measurements. When the infrequent reports from nonmember banks become available, they often necessitate considerable revisions of the money supply figures. In the past two years, the revisions were upward, and this may happen again this year.

Some indication of the extent of short-term variations in the recorded money supply is provided below. Table 1 shows the average and maximum deviations (without regard to sign) of M_1 from its average annual growth rate over a three and a half year period. As would be expected, the degree of variation diminishes as the time unit lengthens; it is much larger for monthly than for quarterly data, and is also larger for quarterly than for semiannual data.

In our judgment, there need be little reason for concern about the short-run variations that occur in the rate of change in the money stock. Such variations have minimal effects on the real economy. For one thing, the outstanding supply of money is very large. It is also quite stable, even when the short-run rate of change is unstable. This October the average outstanding supply of M_1, seasonally adjusted, was about $264 billion. On this base, a monthly rise or fall in the money stock of even $2½ billion would amount to only a 1 percent change. But when such a temporary change is expressed as an annual rate, as is now commonly done, it comes out as about 12 percent and attracts attention far beyond its real significance.

The Federal Reserve research staff has investigated carefully the economic implications of variability in M_1 growth. The experience of the past two decades suggests that even an abnormally large or abnormally small rate of growth of the money stock over a period up to six months or so has a negligible influence on the course of the economy—provided it is subsequently offset. Such short-run variations in the rate of change in the money supply may not at all reflect Federal Reserve policy, and they do not justify the attention they often receive from financial analysts.

The thrust of monetary policy and its probable effects

Table I

DEVIATIONS IN M_1 FROM ITS AVERAGE RATE OF GROWTH 1970 THROUGH MID-1973

Annual rates of change in percent

Form of data	Average deviation	Maximum deviation
Monthly	3.8	8.8
Quarterly	2.4	5.5
Semiannual	1.8	4.1

Table II

GROWTH RATES OF MONEY SUPPLY ON TWO BASES

Annual rate of change, in percent

Quarters	M	Q
1972: I	9.2	5.3
II	6.1	8.4
III	8.2	8.0
IV	8.6	7.1
1973: I	1.7	4.7
II	10.3	6.9
III	0.3	5.1

on economic activity can only be determined by observing the course of the money supply and of other monetary aggregates over periods lasting six months or so. Even then, care must be taken to measure the growth of money balances in ways that temper the influence of short-term variations. For example, the growth of money balances over a quarter can be measured from the amount outstanding in the last month of the preceding quarter to the last month of the current quarter, or from the average amount outstanding during the preceding quarter to the average in the current quarter. The first measure captures the latest tendencies in the money supply, but may be distorted by random changes that have no lasting significance. The second measure tends to average out temporary fluctuations and is comparable to the data provided on a wide range of nonmonetary economic variables, such as GNP and related measures.

A comparison of these two ways of measuring the rate of growth in M_1 is shown in Table II for successive quarters in 1972 and 1973. The first column, labeled M, shows annual rates calculated from end-months of quarters; the second column, labeled Q, shows annual rates calculated from quarterly averages.

As may be seen, the quarterly averages disclose much more clearly the developing trend of monetary restraint—which, in fact, began in the second quarter of 1972. Also, the growth of M_1, which on a month-end basis appears very erratic in the first three quarters of 1973, is much more stable on a quarterly average basis. For example, while the level of M_1 did not expand significantly between June and September, the quarterly average figures indicate further sizable growth in the third quarter. For purposes of economic analysis, it is an advantage to recognize that the money available for use was appreciably larger in the third quarter than in the second quarter.

EXPERIENCE OF 1972-73

During 1972, it was the responsibility of the Federal Reserve to encourage a rate of economic expansion adequate to reduce unemployment to acceptable levels. At the same time, despite the dampening effects of the wage-price control program, inflationary pressures were gathering. Monetary policy, therefore, had to balance the twin objectives of containing inflationary pressures and encouraging economic growth. These objectives were to some extent conflicting, and monetary policy alone could not be expected to cope with both problems. Continuation of an effective wage-price program and a firmer policy of fiscal restraint were urgently needed.

The narrowly defined money stock increased 7.4 percent during 1972 (measured from the fourth quarter of 1971 to the fourth quarter of 1972). Between the third quarter of 1972 and the third quarter of 1973, the growth rate was 6.1 percent. By the first half of 1973, the annual growth rate had declined to 5.8 percent, and a further slowing occurred in the third quarter.

Evaluation of the appropriateness of these growth rates would require full analysis of the economic and financial objectives, conditions, and policies during the past two years, if not longer. Such an analysis cannot be undertaken here. Some perspective on monetary developments during 1972-73 may be gained, however, from comparisons with the experience of other industrial countries, and by recalling briefly how domestic economic conditions evolved during this period.

Table III compares the growth of M_1 in the United States with that of other industrial countries in 1972 and the first half of 1973. The definitions of M_1 differ somewhat from country to country, but are as nearly comparable as statistical sources permit. It goes without saying that each country faced its own set of economic conditions and problems. Yet it is useful to note that monetary growth in the United States was much lower than in other major in-

Table III

ANNUAL PERCENTAGE RATES OF GROWTH IN MONEY SUPPLY

Country	Fourth quarter 1971 to fourth quarter 1972	Fourth quarter 1972 to second quarter 1973
United States	7.4	5.8
United Kingdom	14.1	10.0
Germany	14.3	4.2
France	15.4	8.7
Japan	23.1	28.2

dustrial countries, and that it also was steadier than in other countries.

The next table shows, in summary fashion, the rates of change in the money supply of the United States, in its total production, and in the consumer price level during 1972 and 1973. The table is based on the latest data. It may be noted, in passing, that, according to data available as late as January 1973, the rate of growth of M_1 during 1972 was 7.2 percent, not 7.4 percent, and that the rate of increase in real GNP was 7.7 percent, not 7.0 percent. In other words, on the basis of the data available during 1972, the rate of growth of M_1 was below the rate of growth of the physical volume of overall production.

The table indicates that growth in M_1 during 1972 and 1973 approximately matched the growth of real output, but was far below the expansion in the dollar value of the nation's output. Although monetary policy limited the availability of money relative to the growth of transactions demands, it still encouraged a substantial expansion in economic activity; real output rose by about 7 percent in 1972. Even so, unemployment remained unsatisfactorily high throughtout the greater part of the year. It was not until November that the unemployment rate dropped below 5½ percent. For the year as a whole, the unemployment rate averaged 5.6 percent. It may be of interest to recall that unemployment averaged 5.5 percent in 1954 and 1960, which are commonly regarded as recession years.

Since the expansion of M_1 in 1972 was low relative to the demands for money and credit, it was accompanied by rising short-term interest rates. Long-term interest rates showed little net change last year, as credit demands were satisfied mainly in the short-term markets.

In 1973, the growth of M_1 moderated while the transactions demands for cash and the turnover of money accelerated. GNP in current dollars rose at a 12 percent annual rate as prices rose more rapidly. In credit markets, short-term interest rates rose sharply further, while long-term interest rates also moved up, though by substantially less than short-term rates.

The extraordinary upsurge of the price level this year reflects a variety of special influences. First, there has been a worldwide economic boom superimposed on the boom in the United States. Second, we have encountered critical shortages of basic materials. The expansion in industrial capacity needed to produce these materials had not been put in place earlier because of the abnormally low level of profits between 1966 and 1971 and also because of numerous impediments to new investment on ecological grounds. Third, farm product prices escalated sharply as a result of crop failures in many countries last year.

Table IV

MONEY SUPPLY, GNP, AND PRICES IN THE UNITED STATES

Percentage change at annual rates

Money supply, GNP, and prices	Fourth quarter 1971 to fourth quarter 1972	Fourth quarter 1972 to	
		Second quarter 1973	Third quarter 1973
Money supply (M_1)	7.4	5.8	5.6
Gross national product			
Current dollars	10.6	12.1	11.7
Constant dollars	7.0	5.4	4.8
Prices			
Consumer price index (CPI)	3.4	7.1	7.8
CPI excluding food	3.0	4.0	4.1

Fourth, fuel prices spurted upward, reflecting the developing shortages in the energy field. And fifth, the depreciation of the dollar in foreign exchange markets has served to boost prices of imported goods and to add to the demands pressing on our productive resources.

In view of these powerful special factors, and the cyclical expansion of our economy, a sharp advance in our price level would have been practically inevitable in 1973. The upsurge of the price level this year hardly represents either the basic trend of prices or the response of prices to previous monetary or fiscal policies—whatever their shortcomings may have been. In particular, as the above table shows, the explosion of food prices that occurred this year is in large part responsible for the accelerated rise in the overall consumer price level.

The severe rate of inflation that we have experienced in 1973 cannot responsibly be attributed to monetary management or to public policies more generally. In retrospect, it may well be that monetary policy should have been a little less expansive in 1972. But a markedly more restrictive policy would have led to a still sharper rise in interest rates and risked a premature ending of the business expansion, without limiting to any significant degree this year's upsurge of the price level.

CONCLUDING OBSERVATIONS

The present inflation is the most serious economic problem facing our country, and it poses great difficulties for economic stabilization policies. We must recognize, I believe, that it will take some time for the forces of inflation, which now engulf our economy and others around the world, to burn themselves out. In today's environment, controls on wages and prices cannot be expected to yield the benefits they did in 1971 and 1972, when economic conditions were much different. Primary reliance in dealing with inflation—both in the near future and over the longer term—will have to be placed on fiscal and monetary policies.

The prospects for regaining price stability would be enhanced by improvements in our monetary and fiscal instruments. The conduct of monetary policy could be improved if steps were taken to increase the precision with which the money supply can be controlled by the Federal Reserve. Part of the present control problem stems from statistical inadequacies—chiefly the paucity of data on deposits at nonmember banks. Also, however, control over the money supply and other monetary aggregates is less precise than it can or should be because nonmember banks are not subject to the same reserve requirements as are Federal Reserve members.

I hope that the Congress will support efforts to rectify these deficiencies. For its part, the Federal Reserve Board is even now carrying on discussions with the Federal Deposit Insurance Corporation about the need for better statistics on the nation's money supply. The Board also expects shortly to recommend to the Congress legislation that will put demand deposits at commercial banks on a uniform basis from the standpoint of reserve requirements.

Improvements in our fiscal policies are also needed. It is important for the Congress to put an end to fragmented consideration of expenditures, to place a firm ceiling on total Federal expenditures, and to relate these expenditures to prospective revenues and the nation's economic needs. Fortunately, there is now widespread recognition by members of the Congress of the need to reform budgetary procedures along these broad lines.

It also is high time for fiscal policy to become a more versatile tool of economic stabilization. Particularly appropriate would be fiscal instruments that could be adapted quickly, under special legislative rules, to changing economic conditions—such as a variable tax credit for business investment in fixed capital. Once again I would urge the Congress to give serious consideration to this urgently needed reform.

We must strive also for better understanding of the effects of economic stabilization policies on economic activity and prices. Our knowledge in this area is greater now than it was five or ten years ago, thanks to extensive research undertaken by economists in academic institutions, at the Federal Reserve, and elsewhere. The keen interest of the Joint Economic Committee in improving economic stabilization policies has, I believe, been an influence of great importance in stimulating this widespread research effort.

I look forward to continued cooperation with the Committee in an effort to achieve the kind of economic performance our citizens expect and deserve.

The Business Situation

The economy is continuing to expand at a more moderate rate than was experienced during the period of hectic and unsustainably rapid advance in late 1972 and early 1973. Over the past two quarters, the growth of real gross national product (GNP) has averaged 3 percent at an annual rate. This is well below the 7 percent averaged from the end of 1971 through the first quarter of this year. At this point, however, it is still unclear how much of this slowing in real growth is the consequence of capacity constraints and supply bottlenecks and how much is the reflection of less exuberant demand. At present, there are many signs that pressures on capacity are very pronounced. Shortages of parts and other production difficulties helped keep new car output and sales somewhat below what they might have been in the third quarter. The recent decline in new orders for durable goods may reflect the fact that some major industries are booked to capacity. Delivery lead times for new orders are exceedingly long, and the rate of capacity utilization in the major materials industries climbed to a record in the third quarter. By October, unemployment had fallen to its lowest rate in three and one-half years.

Residential construction is one area where activity has slackened. Consumer demand may also be moderating, and there has been a sharp deterioration in "consumer confidence". The threatening energy crisis has added another element of uncertainty to the economic outlook and was responsible in part for the gloom which pervaded the stock market in early November. On the other hand, business spending on plant and equipment has been very strong and, according to the available surveys of investment intentions, should remain strong in 1974.

While interpretation of the price data has been complicated by the frequent changes in the Economic Stabilization Program, inflation clearly remains very much a problem. The GNP deflator increased at a 6.7 percent annual rate in the third quarter, about the same as over the first half of the year but about twice as fast as during 1971 and 1972. Consumer price increases moderated in September, but this slowing came on the heels of a spectacular burst in the preceding month. Total consumer prices rose at a 10 percent annual rate over the three months ended in September and 7.4 percent during the past year. Although the degree of acceleration has been less dramatic, wages are also rising rapidly. Hourly compensation in the private economy climbed at an 8.4 percent annual rate in the latest quarter and, along with slower growth in productivity, led to a substantial increase in unit labor costs.

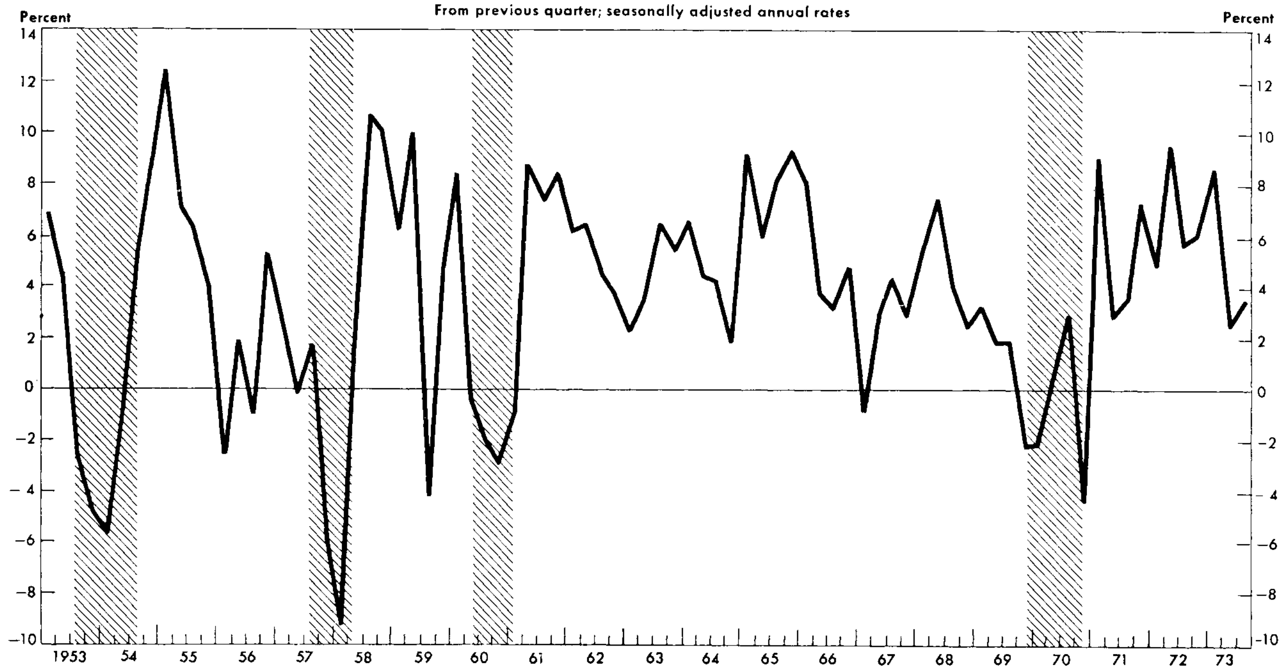
GROSS NATIONAL PRODUCT AND RELATED DEVELOPMENTS

According to preliminary estimates from the Department of Commerce, the market value of the nation's output of goods and services (GNP) rose $32 billion to a seasonally adjusted annual rate of $1,304 billion during the third quarter of 1973. Measured in current dollars, GNP climbed at a 10.4 percent annual rate, somewhat above the pace recorded in the second quarter. After adjustment for changes in the price level, GNP expanded at a 3.6 percent rate in the July-September period, up from the second-quarter increase but well below the rate of expansion experienced from late 1971 through the first quarter of this year.

The recent slowing in the growth of real GNP may represent a return to more sustainable rates of increase and does not necessarily presage the end of the expansion and the onset of a recession. In the past, real growth has on several occasions dropped below its long-term trend of close to 4 percent in successive quarters without being followed by a recession (see Chart I). Moreover, continued high levels of unfilled orders with respect to sales volume, of capacity utilization, and of employment suggest that supply constraints are responsible, at least in part, for the moderation in growth.

The relative contribution of expenditure components to the third-quarter GNP gain differed perceptibly from the pattern of the April-June period (see Chart II). Inventory investment, which did not contribute to GNP expansion in the previous quarter, added $4.2 billion to the third-quarter advance in GNP, while final expenditures—GNP net of inventory accumulation—rose by $1.9 billion less than in the April-June period. Inventory accumulation reached $8.7 billion at an annual rate in the third quarter,

Chart I
PERCENTAGE CHANGES IN REAL GROSS NATIONAL PRODUCT
From previous quarter; seasonally adjusted annual rates



Note: Shaded areas represent recession periods, according to the National Bureau of Economic Research chronology. The dates of the 1969-70 recession are tentative.
Source: United States Department of Commerce, Bureau of Economic Analysis.

its highest level since the corresponding quarter of 1972 and almost twice the size of the gains registered in the first two quarters of this year. Notwithstanding this rise in inventory spending, by historical standards the ratio of inventories to sales for all business remained low in August, the latest month for which data are available, suggesting that further strengthening in this area is likely in the quarters ahead. A significant proportion of the third-quarter inventory buildup ($1.5 billion) was in the farm sector, with farmers apparently holding supplies off the market in anticipation of higher prices.

The growth of personal consumption expenditures has slowed substantially. Over the past two quarters, the average increase has amounted to $17 billion, compared with an average rise of $20 billion per quarter over the year ended this past March. When stripped of price increases, the braking emerges more clearly, since consumption expenditures grew at only a 1½ percent annual rate during the six months ended in September, after rising 8 percent in the previous four quarters.

During the third quarter, current dollar spending on consumer durables declined $0.7 billion, marking the first cutback in almost three years. Mobile home sales, which are included in consumer outlays for durable goods, accounted for much of the decline. Expenditures for passenger cars edged down $0.2 billion, after declining $0.5 billion in the previous quarter. While this decrease may reflect a change in the composition of demand toward smaller vehicles, it is probably also related to the difficulties experienced by domestic and foreign producers in supplying adequate numbers of vehicles. Sales of domestically produced cars dropped to a seasonally adjusted annual rate of 8.7 million units in October, down from the 10.1 million units averaged over the earlier months of 1973. Industry observers are unsure how much of this decline represents a weakening of demand. It is also worth noting that purchases of nonautomotive durable goods were essentially unchanged during the quarter. With sharply higher outlays for food and beverages, spending on nondurables picked up somewhat, but in real terms the annual rate of increase was little more than half the rise experienced during the four quarters ended this past

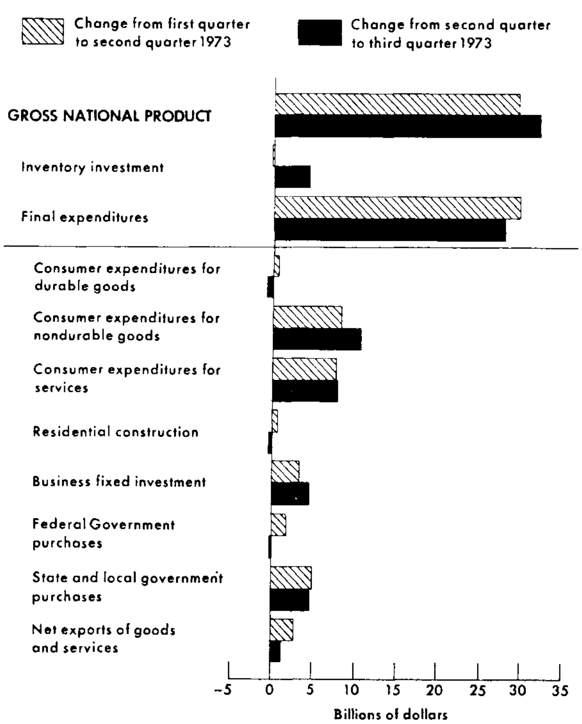
March. Expenditures for services, however, rose by a very rapid $7.9 billion, which in current dollar terms is the largest rise on record, and after adjustment for price increases represents the largest expansion since the first quarter of 1972.

The overall slowdown in the growth of consumer spending seems related to a number of developments. Shortages, particularly for automobiles, probably meant that some demands went unfilled during the third quarter. On the other hand, some weakening of consumer demand appears to have taken place during the past half year. In nominal terms, disposable personal income increased almost as briskly in the past two quarters as during the previous year, but inflation pared the second- and third-quarter real gain to an annual rate of 2 percent, which is less than a third as large as the rise over the year ended in March. As measured by the University of Michigan index, consumer optimism deteriorated sharply during the third quarter and reached a record low. This rather precipitous decline is related, in part, to apprehensions concerning inflation.

Chart II

RECENT CHANGES IN GROSS NATIONAL PRODUCT AND ITS COMPONENTS

Seasonally adjusted



Source: United States Department of Commerce, Bureau of Economic Analysis.

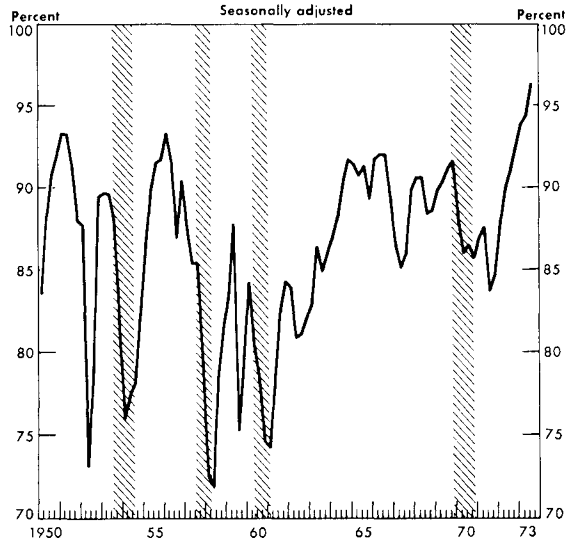
Business fixed investment climbed by $4.6 billion in the July-September period, a greater rise than that of the second quarter but less than the expansion of the two preceding quarters. Spending on structures increased by $2.8 billion, the largest advance on record. At the same time, durable equipment expenditures rose $1.9 billion. Equipment outlays would probably have been higher, but the output of automotive equipment—such as trucks—was hampered by parts shortages and other production problems during the quarter. Over the first three quarters of this year, business fixed investment rose at a 15.7 percent seasonally adjusted annual rate, compared with the 15.1 percent rise recorded in 1972.

The sizable backlog of unfilled orders and the high level of capacity utilization in the economy suggest a need for continued expansion in capacity. Basic materials industries, in particular, are operating very close to capacity levels. According to the Federal Reserve Board, the major materials producing industries—which include such key areas as primary metals, paper, petroleum refining, and textiles—were operating at a record 96.3 percent of their estimated capacity during the third quarter (see Chart III). In perspective, current operating rates in the materials industries substantially exceed those experienced during previous periods when capacity pressures were quite pronounced, e.g., during the Korean war, the mid-1950's, and the late 1960's. Recent survey data indicate substantial demand for fixed investment goods in the coming year. The latest Lionel D. Edie & Company Inc. survey of intended plant and equipment spending in 1974 points to a 12 percent increase above the 1973 level, while the Rinfret-Boston fall survey foresees a 15.3 percent advance.

Residential construction spending fell by $0.3 billion in the third quarter, the first decline since the second quarter of 1970. Other measures of housing activity confirm the slack in home building. Over the third quarter, housing starts dropped by 17.2 percent to 1.76 million units (annual rate) in September. This figure is 27 percent below the rate of starts posted a year earlier. Similarly, building permits skidded 21 percent in the third quarter to a seasonally adjusted annual rate of 1.6 million in September. Moreover, the ratio of unsold new homes to monthly sales of new one-family homes increased in August, the latest month for which data are available, to an all-time high of 10.1 months of sales at the August rate.

Government purchases of goods and services rose at a $4.6 billion rate, the slowest pace in the past four quar-

Chart III
CAPACITY UTILIZATION INDEX FOR MAJOR MATERIALS INDUSTRIES
Seasonally adjusted



Note: Shaded areas represent recession periods, according to the National Bureau of Economic Research chronology. The dates of the 1969-70 recession are tentative.

Source: Board of Governors of the Federal Reserve System.

ters. Spending at the state and local levels rose \$4.8 billion, down somewhat from the \$5.1 billion gain averaged in the preceding year. The fall in outlays at the Federal level was accounted for by a decrease in defense spending.

PRICE DEVELOPMENTS

There was little indication of a significant cooling of inflation in the third quarter. However, because of changes in the Economic Stabilization Program introduced during the period, it is difficult to separate the transitory from the more fundamental phenomena. The period began with a freeze in effect on prices of almost all items. This was lifted for most foods on July 18, for most nonfood items on August 12, and for beef on September 10. Subject to the profit margin and notification requirements, current Phase Four guidelines allow prices to go up only as fast as the dollar increases in costs. Throughout the quarter, wages were permitted to rise in accord with the ground rules developed earlier under Phases Two and Three.

According to preliminary data, the implicit GNP price deflator rose at a 6.7 percent annual rate in the third quarter, the same as its increase over the first half of the year. The severity of the acceleration in the rate of inflation can be seen from the fact that during both 1971 and 1972 the GNP deflator rose only about 3½ percent. Agricultural prices continued to have a marked impact on the overall inflation rate during the third quarter. The deflator for GNP originating in the farm sector rose at the astronomical annual rate of 107 percent, faster even than the 51 percent and 76 percent climbs recorded, respectively, during the first two quarters of the year. In the private nonfarm business sector, prices increased at a 4.3 percent rate. While this advance appears quite modest alongside the farm deflator, it is little changed from the 4.8 percent rise recorded over the first half of the year and, perhaps even more disturbing, is well above the 2½ percent averaged during each of the two preceding years.

Consumer prices rose at a 3.8 percent seasonally adjusted annual rate in September, down considerably from the very rapid August pace of about 23 percent. Food prices, which soared at almost a 74 percent annual rate in August, declined 1.6 percent in September and were largely responsible for this slowing. Given the timing distortions introduced by the price freeze and Phase Four, a look at a somewhat longer time span than a single month is useful. During the third quarter, total consumer prices moved up at an annual rate of 10 percent, compared with an advance of nearly 8 percent over the first half of the year. Food prices increased at a 26 percent pace during the quarter, somewhat more rapidly than over the first half of the year.

In the three months ended in September, seasonally adjusted prices of consumer nonfood commodities rose 2.6 percent at an annual rate, more slowly than the 4.6 percent rate of advance in the first half of the year. During September, such prices increased by a mere 1 percent after rising almost 6 percent in the previous month. However, since the Economic Stabilization Program may have affected normal seasonal patterns, it is worth noting that, unadjusted for seasonal variation, nonfood commodities prices rose at a 4.8 percent annual rate in September, up from 2.9 percent the month before and from the 1.9 percent decline recorded in July under the influence of the freeze. Increases in the price of services, which are not adjusted for seasonal variation, accelerated sharply to about a 7 percent annual rate in the third quarter from a 4 percent rise in the first half of the year and 3½ percent in 1972. While a major source of rising services prices in recent months has been higher home-mortgage interest costs, prices of other items have also increased rapidly.

Wholesale prices fell in October for the second consecutive month. The decline, at a 3.6 percent seasonally adjusted annual rate, stemmed from a sharp drop in agricultural prices which more than offset a substantial increase in prices of industrial commodities. Prices of farm products, processed foods, and feeds fell nearly 40 percent at an annual rate in October. Nonetheless, wholesale farm prices still stand 28 percent higher than six months ago and 35 percent above the level of a year earlier. During October, prices of industrial commodities jumped 13.7 percent (annual rate), the largest monthly gain since May. Some of this advance may be attributed to a bunching of price increases, since under Phase Four rules large firms could not raise prices until mid-September. In any event, a sizable proportion of the overall advance in industrial commodities prices was accounted for by rising fuel prices, and prices of textile products and apparel, steel and iron, and nonferrous metals also rose rapidly. Over the year ended in October, wholesale prices of industrial commodities climbed 9.1 percent, up substantially from the 3.3 percent increase of the previous year.

WAGES, PRODUCTIVITY, AND EMPLOYMENT

Recent data indicate that the pace of wage increases has undergone a noticeable acceleration. In the third quarter, compensation per hour of work in the private economy rose at a seasonally adjusted annual rate of 8.4 percent, bringing the rise over the past year to 8 percent. In comparison, compensation climbed 6.2 percent over the year ended in the third quarter of 1972. However, after adjusting for the very rapid climb in the consumer price index, real private compensation declined in both the second and third quarters. The evidence that wages have not kept up with inflation during much of 1973 points to increased pressures on wage levels as workers try to maintain living standards.

According to data gathered by the Labor Department on major collective bargaining settlements, contracts negotiated during the first nine months of the year called, on average, for first-year wage rate increases of 6 percent and life-of-contract gains of 5.5 percent. However, first-year increases for wages and benefits combined came to a substantially larger 7.6 percent. Because these Labor Department data do not include those payments made under "escalator clause" provisions contingent on movements in the consumer price index, they understate the growth of compensation that will eventually emerge under many of these contracts. At present, about 40 percent of the more than ten million workers under major collective bargaining agreements (those covering 1,000 or more workers) have cost-of-living escalator clauses in their contracts.

Productivity, as measured by output per hour of work in the private economy, rose at an annual rate of 1.4 percent in the most recent quarter, following a small decline of 0.3 percent in the April-June period. In comparison, productivity increased more than 5 percent over the year ended this past March and at an annual rate of close to 3 percent during the past two decades. In the short run, productivity growth typically surges during the early stages of a cyclical recovery, as it did starting in 1972 and continuing through early 1973, and then begins to taper off. During the first three quarters of 1973, manufacturing productivity rose at a fairly rapid 4.8 percent annual rate, but even this increase represents a marked deceleration from the 7.3 percent advance in 1972. The recent slowing has undoubtedly been influenced by the fact that important sectors of the economy are pressing against capacity, making further output increases difficult to obtain. As a consequence of the combined changes in hourly compensation and productivity, private sector unit labor costs climbed 6.6 percent (annual rate) in the third quarter, after soaring 7.7 percent in the previous period. Over the year ended in the first quarter, unit labor costs increased by 2.1 percent. Given the near-term outlook for relatively slow productivity growth, only a considerable reduction in the rate of compensation increase could bring about a substantial lessening in the pressures on prices arising from labor costs.

Overall, the data gathered in October indicate continued firm labor market conditions. According to the household survey, seasonally adjusted employment jumped by a very large 570,000 persons, following an even bigger September climb. On a month-to-month basis, the household survey tends to give somewhat volatile readings of employment and labor force changes. Monthly increases during the past half year, however, have averaged a very substantial 300,000. The growth of the labor force in October, while strong, was smaller than that of employment. Thus, the unemployment rate, which had been essentially unchanged at 4.8 percent since June, fell to 4.5 percent in October, its lowest level in three and one-half years.

In the separate October survey of nonfarm establishments, seasonally adjusted employment also registered a large gain. Contributing strongly to the overall advance of 300,000 was the 100,000 rise in manufacturing employment, which had shown very little change between June and September. Over the past half year, manufacturing employment has, on average, increased by 40,000 per month, less than half as fast as in the preceding six months. Although October employment was up, both the average workweek and overtime hours for manufacturing production workers retreated toward their August levels and were well below the peaks reached earlier this year.

Monetary and Financial Developments in the Third Quarter

A broad range of monetary policy measures was implemented during the July-September period to restrain the persistently excessive expansion in money and credit. Following five increases during the first half of 1973, the Federal Reserve discount rate was raised twice during the quarter to reach a record 7½ percent effective August 14. In another step, reserve requirements on most demand deposits were raised by ½ percentage point effective July 19. In the second quarter, an 8 percent reserve requirement was applied to the total of large negotiable certificates of deposit (CDs), bank-related commercial paper, and finance bills outstanding in excess of a specified base. Effective September 20, this reserve requirement was increased to 11 percent. Most short-term interest rates increased over the first two months of the quarter in the wake of these developments. However, rates fell sharply in the second half of September, as participants concluded that monetary policy was no longer becoming more restrictive, and might even turn easier. Long-term interest rates rose irregularly over the first half of the period, but fully retraced these movements and closed somewhat lower on balance.

The growth of the monetary aggregates moderated during the third quarter of 1973. The narrowly defined money stock (M_1) expanded at a seasonally adjusted annual rate of less than 1 percent, as demand deposits adjusted actually declined. In comparison, M_1 increased at a 6 percent annual rate over the first half of the year and by 8.3 percent in 1972. While growth of consumer time and savings deposits at commercial banks remained substantial in the third quarter, the expansion of the broad money supply (M_2) slowed, reflecting the weakness in M_1. The adjusted bank credit proxy also grew at a somewhat slower pace in the July-September period than it had over earlier months of the year.

Business demand for short-term financing continued strong during the third quarter. Business loans at commercial banks expanded sizably in July and August, and businesses also began to turn to the commercial paper market for financing in September. Total bank credit rose at an 11½ percent annual rate over the interval, as banks liquidated holdings of United States Government securities to meet the robust loan demand. Corporate and municipal borrowing in the capital market remained relatively modest in comparison with recent years. While continuing to make mortgage loans to meet previously established commitments, thrift institutions—which experienced very little growth in deposits over the period—curtailed further commitments.

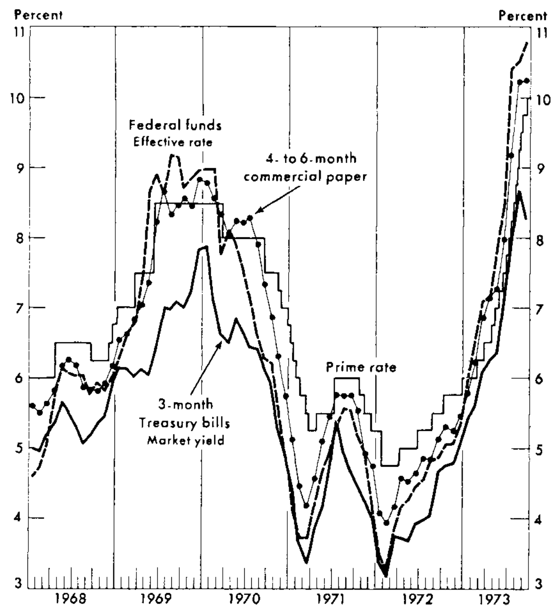
BANK RESERVES, INTEREST RATES, AND THE MONETARY AGGREGATES

Intense demand for reserves and a restrictive Federal Reserve posture fostered tight money market conditions throughout the July-September quarter. During the period, required reserves exceeded nonborrowed reserves by $1.4 billion on a daily average basis. As a result, commercial banks consistently borrowed heavily from the Federal Reserve and continued to bid aggressively for Federal funds. The effective rate on Federal funds climbed to a 10.78 percent average in September (see Chart I), 229 basis points above the June average.

Most other short-term interest rates increased over the first two months of the quarter before declining dramatically during the second half of September. Expectations that monetary restraint had reached or passed its peak prompted the sharp declines. While the rate on three-month Treasury bills rose by about 1½ percentage points over the first six weeks of the quarter to nearly 9 percent, at the close of the period the rate had fallen to about 7 percent. Similarly, the increase in commercial paper rates halted around mid-September and rates subsequently moved lower. Movements in long-term interest rates generally paralleled those on short-term instruments. After rising over the first half of the quarter, rates on long-term United States Government bonds declined, closing somewhat below the end-of-June levels. Corporate bond rates—as measured by the Federal Reserve Board's index of yields on recently offered utility bonds adjusted to an Aaa basis—ended the period about unchanged. Rates in the municipal bond market declined on balance, as The Bond Buyer

Chart I

SHORT-TERM INTEREST RATES



Note: Yields on Federal funds, three-month Treasury bills, and four- to six-month commercial paper are monthly averages of daily figures. The prime rate is the interest rate posted by major commercial banks on short-term loans to their most creditworthy large business borrowers.

Source: Board of Governors of the Federal Reserve System.

substantial quantity of such deposits, as consumer time and savings deposits grew at a 9.1 percent rate during the third quarter, about the same pace as that experienced over the first half of 1973. With this expansion countering to some extent the slow M_1 growth, M_2—consisting of M_1 plus time deposits other than CDs—rose at a moderate 5.1 percent seasonally adjusted annual rate during the third quarter. In comparison, M_2 grew at a 7.7 percent pace in the first half of 1973.

The adjusted bank credit proxy—total member bank deposits subject to reserve requirements plus certain nondeposit liabilities—increased at a 10.6 percent rate during the third quarter, a modest deceleration from its pace of the first half of the year. Time deposit flows, including substantial growth in CDs during July and August, and an increase in nondeposit liabilities more than offset small declines in private demand and Government deposits. In June, the Board of Governors of the Federal Reserve System raised the effective cost to banks of CDs, bank-related commercial paper, and finance bills by imposing an 8 percent reserve requirement on amounts issued above a specified base, defined as the amount of such liabilities outstanding in the week ended May 16. Nevertheless, banks continued to rely heavily on these liabilities; large weekly reporting banks issued a net \$5 billion of CDs during the first two months of the third quarter. On September 7, the Federal Reserve announced a 3 percentage point

index of twenty municipal bond yields was 5 percent at the end of September, compared with a final June reading of 5.25 percent and a high of 5.59 percent in early August.

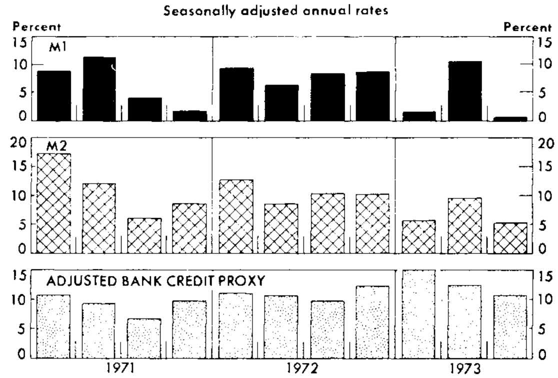
M_1—private demand deposits adjusted plus currency outside commercial banks—expanded very slowly in the third quarter of 1973 at a 0.3 percent seasonally adjusted annual rate (see Chart II). This was well below the pace of the second quarter and of the first half of the year as a whole. Over the first three quarters of 1973, M_1 grew at an annual rate of 4.1 percent. The high rates of return available on many short-term instruments may have encouraged holders of demand deposits to shift into interest-bearing alternatives, thus contributing to the third-quarter weakness in M_1. Demand deposits adjusted declined at a 1.2 percent rate over the July-September period, while currency outside commercial banks increased at a 4.7 percent annual pace.

Changes in July in interest rate ceilings on consumer-type time deposits, including the introduction of no-ceiling "wild-card" deposits of four or more years' maturity, provided commercial banks with additional flexibility to compete with market instruments. Banks attracted a

Chart II

GROWTH IN MONETARY AGGREGATES

Seasonally adjusted annual rates



M1 = Currency plus adjusted demand deposits held by the public.

M2 = M1 plus commercial bank savings and time deposits held by the public, less negotiable certificates of deposit issued in denominations of \$100,000 or more.

Adjusted bank credit proxy = Total member bank deposits subject to reserve requirements plus nondeposit sources of funds, such as Euro-dollar borrowings and the proceeds of commercial paper issued by bank holding companies or other affiliates.

Source: Board of Governors of the Federal Reserve System.

increase to 11 percent in the reserve requirement applicable to CDs, bank-related commercial paper, and finance bills above the May base.* This action appeared to contribute to the decline in CDs outstanding during September.

Total bank reserves rose at a 10.2 percent seasonally adjusted annual rate during the third quarter. Nonborrowed reserves expanded at a 12.3 percent rate, considerably below the pace of the second quarter. RPD—reserves available to support private nonbank deposits—increased at a 13.5 percent rate over the period. (These measures have been adjusted to remove the effects of changes in legal reserve requirements.)

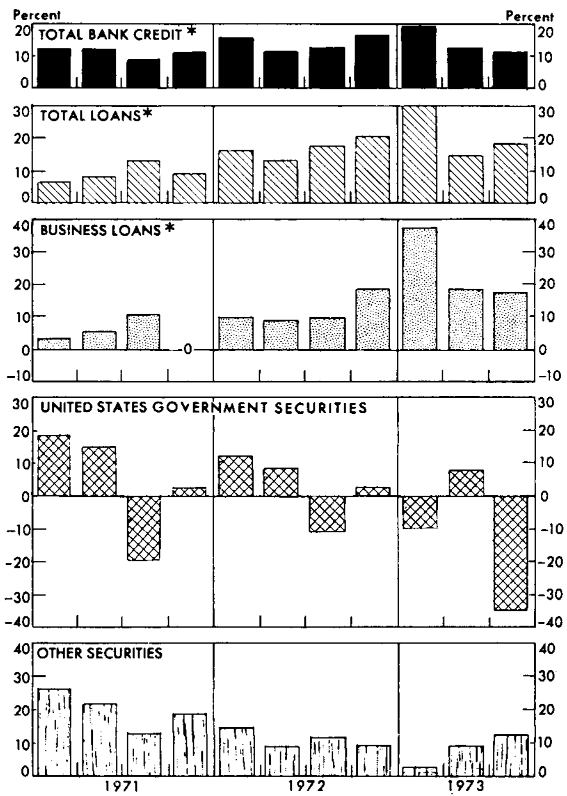
BANK CREDIT AND THE CAPITAL MARKETS

Business demand for bank credit continued to advance at a brisk pace during most of the third quarter. Business loans at all commercial banks, adjusted to include net loan sales to affiliates, expanded at a 17.3 percent seasonally adjusted annual rate over the period (see Chart III), bringing business loan growth during the first three quarters of 1973 to a very strong 25.9 percent rate. Other bank lending, especially real estate and consumer loans, kept pace with the growth in business loans in the three months ended in September, and total loans increased at a 17.8 percent rate over the interval. As has occurred throughout the year, banks relied primarily on liquidation of securities holdings and CD issuance to assemble the funds to meet loan demand. Net divestiture of Government securities was at a substantial 34.4 percent rate in the third quarter. However, with bank holdings of other securities increasing at a 12.3 percent annual rate, total investments declined at only a 3.5 percent pace. Over the third quarter total bank credit increased at an 11.4 percent pace, down from the 12.7 percent of the April-June period. (The data are based on the recent revision of the historical bank credit series.)

Commercial bank loans have comprised the major source of short-term financing for business during most of 1973. Indeed, dealer-placed nonbank-related commercial paper outstanding dropped appreciably early in the year and then remained fairly constant through August. However, in a succession of increases, most banks raised their prime lending rate for large business borrowers to 10 percent by mid-September. At the same time, commercial paper rates began to decline and, as a consequence, commercial paper financing became relatively more attractive. As a result, dealer-placed nonbank commercial paper outstanding rose by about $1 billion in September.

Corporate borrowing in the bond market was relatively modest over the first three quarters of 1973 following three years of a heavy volume of new long-term financing. Increased corporate earnings together with dividend payout limitations and funds acquired in previous years have probably served to reduce corporate needs. New corporate bond offerings were a modest $4.4 billion in the third quarter and $15 billion for the first three quarters of this year. Such borrowings in the comparable periods of 1972 were $6.1 billion and $20.4 billion, respectively. Revenue-sharing payments and increased tax collections have bolstered the financial position of many state and local governments. New state and local government bond issues have been moderate as well, totaling $5 billion in the three months

Chart III
CHANGES IN BANK CREDIT AND ITS COMPONENTS
Seasonally adjusted annual rates



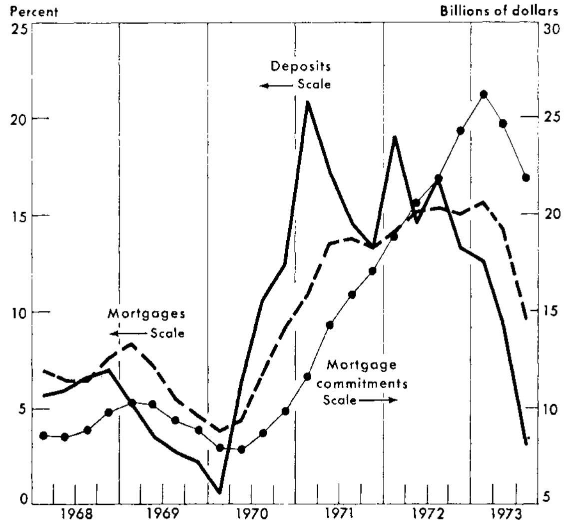
*Adjusted for loans sold to affiliates.
Source: Board of Governors of the Federal Reserve System.

*For details of these changes in reserve requirements, see this *Review* (June 1973), pages 136-37; (July 1973), pages 164-65; and (October 1973), pages 251-52.

ended in September compared with $5.4 billion in the same period in 1972. In contrast to these demands, new financing by Federal agencies has been very substantial over the first three quarters of 1973.

Chart IV

THRIFT INSTITUTION DEPOSIT FLOWS, MORTGAGE COMMITMENTS, AND HOME MORTGAGE LENDING



Note: Thrift deposits and mortgages are expressed as seasonally adjusted annual rates. Mutual savings bank mortgages for the third quarter of 1973 are based on July and August data.

Sources: Federal Home Loan Bank Board and National Association of Mutual Savings Banks.

THRIFT INSTITUTIONS

Deposit inflows to savings and loan associations and mutual savings banks slowed markedly in the third quarter (see Chart IV). As high rates of return on alternative investments attracted funds, net deposits at thrift institutions grew at only a 3.1 percent seasonally adjusted annual rate, with virtually all of this increase at savings and loan associations. In comparison, thrift deposits expanded at a 16.8 percent rate during all of 1972 and at 12.6 percent and 9.4 percent rates during the first and second quarters of 1973, respectively.

The substantial deposit growth of 1971 and 1972 encouraged thrift institutions to meet the demand for increased mortgage commitments. As borrowers have taken down these commitments, mortgages at thrift institutions have continued to grow fairly rapidly, recording an estimated 9.5 percent rate of expansion in the third quarter. This was, however, a slackening from the 15 percent growth of mortgage holdings over the first half of the year. Strong demand for mortgages and weak deposit growth have propelled mortgage interest rates upward. The effective rate on conventional mortgage loans rose from 7.79 percent to 8.13 percent over the period. Insufficient funds from deposit flows forced thrift institutions to reduce their liquid assets to meet mortgage demand as well as to trim mortgage commitments. Mortgage commitments outstanding were reduced on average by $1.5 billion in the second quarter and by $2.8 billion in the third quarter. In addition, member savings and loan associations increased borrowings from the Federal Home Loan Banks by $3 billion over the quarter.

The Money and Bond Markets in October

In October, most short-term interest rates continued the decline that had begun in mid-September. Longer term interest rates, on the other hand, leveled off after falling since mid-August. As in September, participants were highly sensitive to indications of changes in monetary policy. During October, rates on bankers' acceptances fell by 1 percentage point, while rates on large negotiable certificates of deposit (CDs) also declined significantly. The effective rate on Federal funds averaged 9.90 percent in the statement week ended October 31, 94 basis points below the average of the final week of September. In the second half of October, most major commercial banks lowered their prime lending rate for large business borrowers to 9¾ percent, and in the last week of the month a few banks set their prime rate at 9½ percent.

The optimism that had been building in the Government securities market since mid-August was undermined somewhat in October by uncertainty about the future course of monetary policy, by the hostilities in the Mideast, and by the resignation of Vice President Agnew. Rates on short-term Treasury bills stabilized, while those on longer dated bills continued to decline. On the other hand, prices of Treasury coupon securities fell slightly. Federal agency financing remained heavy, and yields in this sector edged higher. Similarly, prices of seasoned corporate and municipal bonds sagged as the supply of new issues expanded substantially.

The narrow money supply (M_1)—demand deposits adjusted plus currency outside banks—grew modestly in October after contracting in the two previous months. The broad money supply (M_2), which includes time and savings deposits other than CDs, expanded more rapidly during the month than in September. In October, the financial regulatory agencies imposed interest rate ceilings on consumer-type deposits with maturities of four years or more; such deposits had not been subject to interest rate ceilings since early July. The seasonally adjusted volume of CDs outstanding decreased in October for the second successive month. Partially as a result, the growth of the adjusted bank credit proxy slowed.

BANK RESERVES AND THE MONEY MARKET

Interest rates on most short-term instruments moved irregularly lower during October, extending the decline that had begun in mid-September (see Chart I). Rates on most maturities of commercial paper fell 1 percentage point or more. The effective rate on Federal funds averaged 10.01 percent in October, 77 basis points below the average of September. At the same time, member banks further reduced their reliance on the discount window. Borrowings from the Federal Reserve averaged $1.5 billion in October (see Table I), in comparison with $1.9 billion in September and a very substantial $2.1 billion in August.

The reliance by large banks on CDs as a source of funds also continued to diminish in October. In September, the Federal Reserve raised the reserve requirement applicable to CDs, in effect making these instruments more expensive to the issuing banks. Also, with spreading expectations that interest rates would decline further, banks became less aggressive sellers of CDs. Rates on CDs fell sharply in October, and the volume of CDs outstanding at weekly reporting banks decreased sizably over the month.

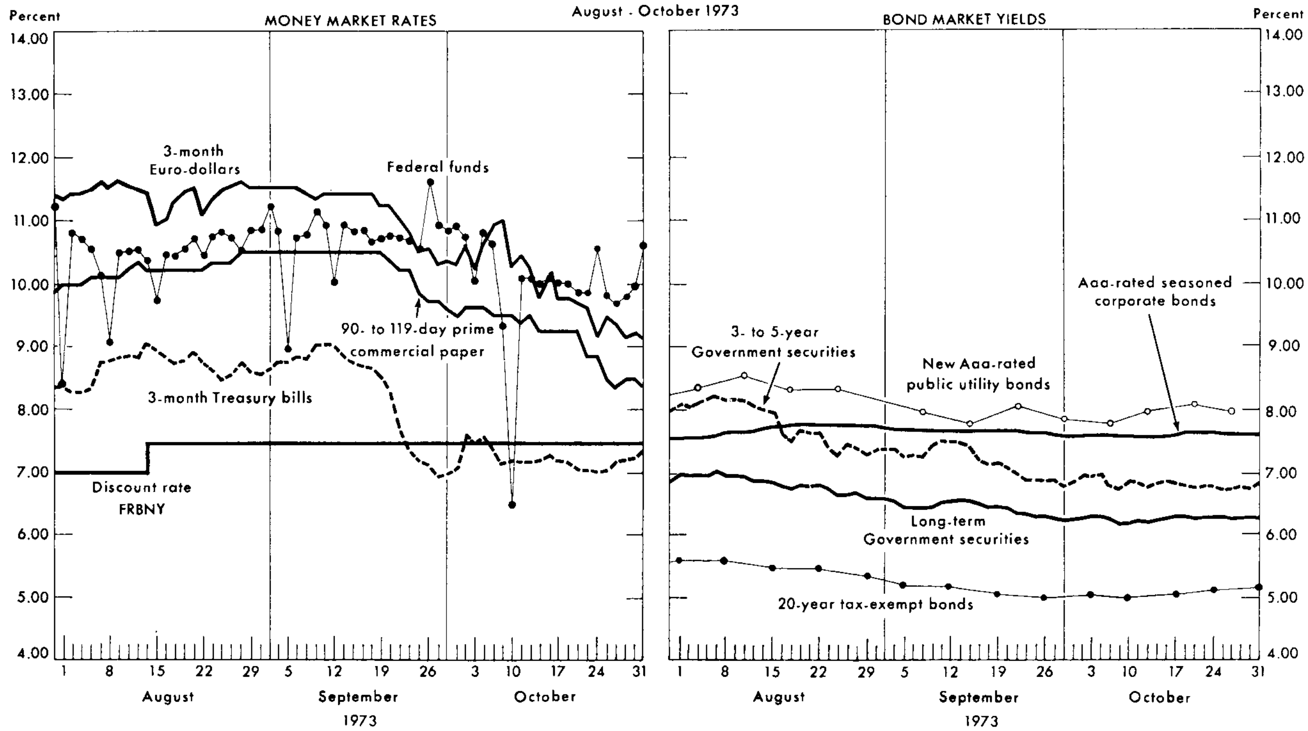
Most major commercial banks lowered their prime lending rate for large business borrowers from 10 percent to 9¾ percent late in October, and by early November several banks reported a further decrease to 9½ percent. Commercial paper rates declined by a considerably greater magnitude, however, restoring the positive spread between the prime rate and commercial paper rates. This realignment led to a substantial rise in the volume of dealer-placed nonbank-related commercial paper outstanding. The amount of such paper outstanding climbed to $11.5 billion at the end of October, up $2.6 billion from the end of September.

Both the narrow and the broad money supply advanced at a faster rate in October than in the two preceding months. Preliminary data indicate that M_1 expanded at a seasonally adjusted annual rate of about 4½

Chart I

SELECTED INTEREST RATES

August - October 1973



Note: Data are shown for business days only.

MONEY MARKET RATES QUOTED: Bid rates for three-month Euro-dollars in London; offering rates (quoted in terms of rate of discount) on 90- to 119-day prime commercial paper quoted by three of the five dealers that report their rates, or the midpoint of the range quoted if no consensus is available; the effective rate on Federal funds (the rate most representative of the transactions executed); closing bid rates (quoted in terms of rate of discount) on newest outstanding three-month Treasury bills.

BOND MARKET YIELDS QUOTED: Yields on new Aaa-rated public utility bonds are based on prices asked by underwriting syndicates, adjusted to make them equivalent to a standard Aaa-rated bond of at least twenty years' maturity; daily averages of yields on seasoned Aaa-rated corporate bonds; daily averages of yields on long-term Government securities (bonds due or callable in ten years or more) and on Government securities due in three to five years, computed on the basis of closing bid prices; Thursday averages of yields on twenty seasoned twenty-year tax-exempt bonds (carrying Moody's ratings of Aaa, Aa, A, and Baa).

Sources: Federal Reserve Bank of New York, Board of Governors of the Federal Reserve System, Moody's Investors Service, Inc., and The Bond Buyer.

percent in October, after contracting in September at a 2¼ percent rate. Over the twelve months ended in October, M_1 expanded 5 percent (see Chart II). The growth of commercial bank time and savings deposits other than CDs was more rapid in October than the 9½ percent pace of the previous month, and growth of M_2 accelerated considerably from September's 3¾ percent rate, bringing the expansion in M_2 over the three months ended in October to about 7 percent at an annual rate. In October, the Board of Governors of the Federal Reserve System, the Federal Home Loan Bank Board, and the Federal Deposit Insurance Corporation imposed interest rate ceilings on consumer-type deposits with four or more years' maturity. The new ceilings are 7.25 percent at commercial banks and 7.50 percent at savings and loan associations and mutual savings banks. While placing limits on the rates paid on these deposits, the regulatory authorities removed the restrictions on the amounts of these deposits that the financial institutions can issue. Previously, such deposits had been limited to 10 percent of total deposit liabilities at savings and loan associations and 5 percent of total time and savings deposits at insured commercial banks and mutual savings banks.

The adjusted bank credit proxy—which consists of daily average member bank deposits subject to reserve requirements and certain nondeposit liabilities—grew slowly in October, restrained by the decline in CDs outstanding. Despite the recent moderation in proxy growth, it still expanded 12 percent over the year ended in October. Reserves available to support private nonbank de-

Table I

FACTORS TENDING TO INCREASE OR DECREASE MEMBER BANK RESERVES, OCTOBER 1973

In millions of dollars; (+) denotes increase (—) decrease in excess reserves

Factors	Changes in daily averages— week ended Oct. 3	Oct. 10	Oct. 17	Oct. 24	Oct. 31	Net changes
"Market" factors						
Member bank required reserves	— 150	— 175	— 703	+ 352	— 97	— 773
Operating transactions (subtotal)	— 303	+ 800	— 332	—1,145	+ 498	— 482
Federal Reserve float	— 11	+ 545	+ 351	— 427	— 755	— 297
Treasury operations*	— 455	+ 431	— 66	—1,287	+ 298	—1,079
Gold and foreign account	+ 121	— 18	— 6	+1,179	— 25	+1,251
Currency outside banks	+ 107	— 427	— 458	— 321	+ 784	— 315
Other Federal Reserve liabilities and capital	— 64	+ 267	— 153	— 288	+ 195	— 43
Total "market" factors	— 453	+ 625	—1,035	— 793	+ 401	—1,255
Direct Federal Reserve credit transactions						
Open market operations (subtotal)	+1,491	— 559	+ 632	+ 351	— 95	+1,820
Outright holdings:						
Treasury securities	+ 216	— 162	+1,332	+ 419	— 192	+1,613
Bankers' acceptances	+ 2	+ 5	+ 1	+ 4	— 2	+ 10
Federal agency obligations	- -	+ 19	—	+ 156	— 3	+ 172
Repurchase agreements:						
Treasury securities	+1,018	— 435	— 449	— 176	+ 104	+ 62
Bankers' acceptances	+ 71	— 23	— 46	— 19	+ 1	— 16
Federal agency obligations	+ 184	+ 37	— 206	— 33	— 3	— 21
Member bank borrowings	— 680	— 168	— 183	+ 746	— 459	— 744
Seasonal borrowings†	— 6	— 13	— 11	+ 5	— 6	— 31
Other Federal Reserve assets‡	+ 48	+ 50	+ 68	+ 89	—	+ 255
Total§	+ 831	— 677	+ 517	+1,186	— 553	+1,304
Excess reserves‡	+ 378	— 52	— 518	+ 393	— 152	+ 49

	Daily average levels					Monthly averages
Member bank:						
Total reserves, including vault cash‡	34,672	34,795	34,980	34,989	34,966	34,880‖
Required reserves	34,220	34,395	35,098	34,746	34,843	34,660‖
Excess reserves§	452	400	— 118	275	123	226‖
Total borrowings	1,519	1,351	1,168	1,914	1,455	1,481‖
Seasonal borrowings†	144	131	126	125	119	128‖
Nonborrowed reserves	33,153	33,444	33,812	33,075	33,511	33,399‖
Net carry-over, excess or deficit (—)♯	47	222	247	100	153	154‖

Note: Because of rounding, figures do not necessarily add to totals.

* Includes changes in Treasury currency and cash.

† Included in total member bank borrowings.

‡ Includes assets denominated in foreign currencies.

§ Adjusted to include $84 million of certain reserve deficiencies on which penalties can be waived for a transition period in connection with bank adaptation to Regulation J as amended effective November 9, 1972. The adjustment amounted to $450 million from November 9 through December 27, 1972, $279 million from December 28, 1972 through March 28, 1973, $172 million from March 29 through June 27, 1973, and $112 million from June 28 through September 26, 1973.

‖ Average for five weeks ended October 31.

♯ Not reflected in data above.

posits, adjusted to eliminate the effects of changes in reserve requirement ratios, were little changed in October.

Late in the month, the United States Treasury monetized the increase in the value of the nation's gold stock resulting from the change in the official gold price. Consequently, the Federal Reserve's holdings of gold certificates increased by $1.2 billion to $11.5 billion, and the Treasury's account increased by the same amount.

THE GOVERNMENT SECURITIES MARKET

Rates on Treasury bills of more than three-month maturity generally declined during October, while rates on the shorter term issues increased somewhat. Throughout the month, participants remained highly sensitive to indications of a shift in monetary policy. At the outset of the period, bill rates were in the final stages of a precipitous slide that carried the three-month bill rate down nearly 200 basis points in about two weeks. Given the high cost of financing dealer inventories, a technical correction was inevitable and bill rates rose early in the month. The market was affected to some extent also by concern over the war in the Mideast and the resignation of the Vice President. However, the rate advance halted before midmonth when newly published data were interpreted as being consistent with a move toward less monetary restraint. Rates on longer term bills decreased over much of the remainder of October to finish about 24 to 53 basis points below their opening levels. Meantime, yields on shorter term bills, which had increased considerably early in the month, retraced part of their advance. The three-month bill rate closed the month about 30 basis points above its opening level.

The results of the weekly bill auctions for the most part reflected these fluctuations in market rates. After rising to 7.32 percent on October 5, the average issuing rate on the three-month bill fell to 6.96 percent in the auction of October 19 before increasing in the final auction of the month (see Table II). The issuing rate for the six-month bill declined continuously over the month until the auction of October 29. At the auction of 52-week bills on October 17, an average issuing rate of 7.13 percent was set, 93 basis points below the level established at the previous such auction. Early in the month, the Treasury sold $1.8 billion of 294-day bills at an average rate of 7.70 percent. The issue completed the transition from a monthly cycle of one-year bills maturing on the last day of each month to a four-week cycle of 52-week bills maturing on every fourth Tuesday. On October 25, $2.0 billion of tax anticipation bills maturing April 19, 1974 was auctioned at a yield of 6.77 percent.

Prices of Treasury coupon securities fluctuated narrowly in October, edging slightly lower on balance. In part, this reflected a technical consolidation of the sharp price gains of the previous six weeks. There was also the prospect of additional supply in the Treasury's November financing and some disappointment over the speed with which the monetary authorities seemed to be moving toward the lower interest rates expected by market participants. Weakness in the corporate bond market during the latter part of the month had a depressing influence on prices of longer term Government securities. For the month as a whole, yields on most three- to five-year issues rose by an average of 6 basis points, while yields on longer term issues increased 4 basis points.

On October 24, the Treasury disclosed its plans for refunding $3.6 billion of publicly held bonds due to mature November 15. The Treasury announced that it would auction up to $1.5 billion of 25½-month notes, $2 billion of six-year notes, and an additional $300 million of 7½ percent bonds scheduled to mature August 15, 1993. For the bonds, the Treasury utilized the technique of awarding all of the bonds at the price of the lowest accepted bid. The Treasury deferred setting coupon rates for the notes until October 29, when it placed 7 percent coupons on both issues.

Table II

AVERAGE ISSUING RATES* AT REGULAR TREASURY BILL AUCTIONS

In percent

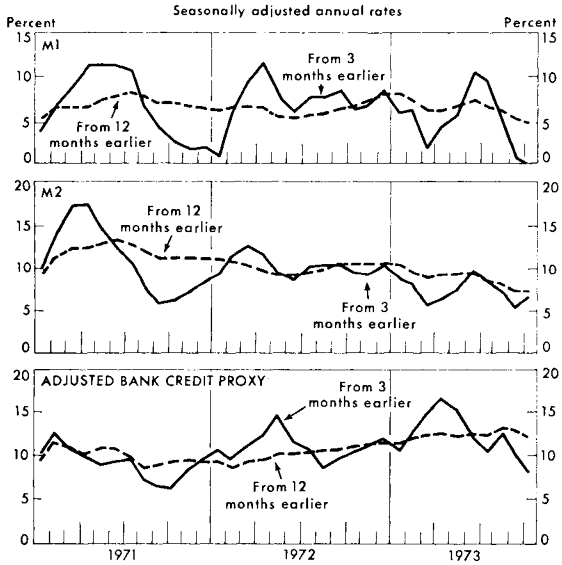
Maturities	Weekly auction dates—October 1973				
	Oct. 1	Oct. 5	Oct. 15	Oct. 19	Oct. 29
Three-month	7.149	7.323	7.188	6.959	7.196
Six-month	7.584	7.259	7.242	6.951	7.263
	Monthly auction dates—August-October 1973				
	Aug. 22	Sept. 19	Oct. 17		
Fifty-two weeks	8.388	8.057	7.132		

* Interest rates on bills are quoted in terms of a 360-day year, with the discounts from par as the return on the face amount of the bills payable at maturity. Bond yield equivalents, related to the amount actually invested, would be slightly higher.

Chart II

CHANGES IN MONETARY AND CREDIT AGGREGATES

Seasonally adjusted annual rates



Note: Data for October 1973 are preliminary.

M1 = Currency plus adjusted demand deposits held by the public.

M2 = M1 plus commercial bank savings and time deposits held by the public, less negotiable certificates of deposit issued in denominations of $100,000 or more.

Adjusted bank credit proxy = Total member bank deposits subject to reserve requirements plus nondeposit sources of funds, such as Euro-dollar borrowings and the proceeds of commercial paper issued by bank holding companies or other affiliates.

Sources: Board of Governors of the Federal Reserve System and the Federal Reserve Bank of New York.

There was fairly good professional interest in the six-year notes auctioned October 30 at a 6.82 percent average yield. The December 1975 notes and the bonds, auctioned on October 31, were well received; the average yield on the notes was 6.91 percent, and the bonds sold at a yield of 7.35 percent if held to maturity. On the final day of the month, professionals began to press offerings of the six-year notes and the market atmosphere weakened somewhat.

Prices of Federal agency securities also moved slightly lower in October, as new issue activity remained heavy. Early in the month, the Federal Land Banks offered $362 million of 7.40 percent two-year bonds, $550 million of 7.35 percent five-year bonds, and $300 million of 7.30 percent ten-year bonds. This issue sold out quickly. About a week later, the Federal Home Loan Banks raised $1.3 billion of new cash by selling bonds with maturities of twenty-two months, forty months, and twenty years. The three maturities were priced to yield 7.15 percent, 7.20 percent, and 7⅜ percent, respectively. Initial demand for the shorter maturities was good, but the twenty-year bonds sold slowly. Around midmonth, the Tennessee Valley Authority offered $100 million of 7.70 percent 25-year bonds. This financing was fairly well received. Shortly thereafter, offerings of short-term debentures by

Per Jacobsson Foundation Lectures

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The ninth lecture in this series was held at the International Monetary Fund in Washington, D.C., on September 24, 1972. Henry C. Wallich, professor of economics at Yale University, spoke on "The Monetary Crisis of 1971—The Lessons to be Learned". Discussion on the subject was given by C. Jeremy Morse, the Alternate Governor for the United Kingdom on the International Monetary Fund, and Dr. I. G. Patel, Deputy Administrator of the United Nations Development Program.

The tenth lecture meeting convened at the University of Basle on June 16, 1973. Dr. Otmar Emminger, Deputy Governor of the Deutsche Bundesbank, talked on "Inflation and the International Monetary System". Commentaries were made by Dr. Adolfo Diz, Financial Adviser of the Argentine Republic in Europe, and Dr. János Fekete, Vice Chairman of the National Bank of Hungary.

This Bank will mail copies of either or both lectures without charge to readers of this *Review* who have an interest in international monetary affairs.

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the Banks for Cooperatives and the Federal Intermediate Credit Banks met favorable receptions.

OTHER SECURITIES MARKETS

After fluctuating within a fairly narrow range over much of the period, prices of corporate and municipal securities finished October somewhat lower than they had begun the month. New issue activity, particularly in the corporate sector, was relatively heavy in comparison with that of preceding months, and many observers thought that this situation would continue in the months ahead. As a consequence, participants became cautious and prices were under light, but steady, pressure throughout the latter half of the month.

In the corporate market, at the outset of the period a major Aaa-rated Bell System offering was marketed at a yield of 7.67 percent, a rate slightly below that on a comparable issue in the secondary market. This financing was afforded only a fair reception. Around midmonth several sizable A-rated corporate issues, priced to return 8 percent or more, generally encountered good receptions. However, late in the month a second Aaa-rated Bell System issue, also forty-year debentures, met an unenthusiastic response from investors when it was priced to yield 7.95 percent.

The volume of new issues in the market for tax-exempt securities was also greater in October than in recent months. The volume of new municipal issues was over $2.2 billion, compared with $1.6 billion in September. Two A-rated issues offered before midmonth were afforded only fair receptions. In the first, $70 million of bonds scaled to yield from 4.60 percent in 1974 to 5.75 percent in 2016 sold well initially but demand subsequently tapered off. Sales of the second A-rated offering—$100 million of 25-year bonds yielding 5.50 percent—were slow. New tax-exempt securities marketed later in the month similarly encountered only limited interest. The Bond Buyer index of twenty tax-exempt bond yields climbed to 5.12 percent on October 25, 12 basis points above the level of September 27. Reflecting the increase in new financing activity, the Blue List of dealers' advertised inventories increased $219 million in October to $931 million.