

# FEDERAL RESERVE BANK OF ST. LOUIS

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# REVIEW



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# Interest Rates and Monetary Growth

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**J**UDGING from comments in newspapers and reports on numerous "outlook conferences" that have taken place recently, there is a clear consensus among economic analysts that 1973 will be a year of continued strong economic growth. The main areas of disagreement appear to be with regard to the outlook for interest rates and prices on one hand, and the appropriate monetary stance on the other.

This article reviews financial and monetary developments during 1972 with emphasis on a few of the more important factors that have contributed to the growth of monetary and reserve aggregates. The discussion concentrates on movements in interest rates and savings deposits at financial intermediaries. The magnitudes discussed are seen as being interrelated, and the implications for 1973 emphasize the apparent short-run trade-offs involved in both achieving a moderate monetary growth and dampening a tendency for interest rates to rise.

## INTEREST RATE-MONEY RELATION

An essential element for assessing the factors contributing to the growth of monetary aggregates in 1973 is an evaluation of the prospects for market interest rates — especially rates on short-term securities. The analysis presented here suggests that there is considerable reason to expect market forces to result

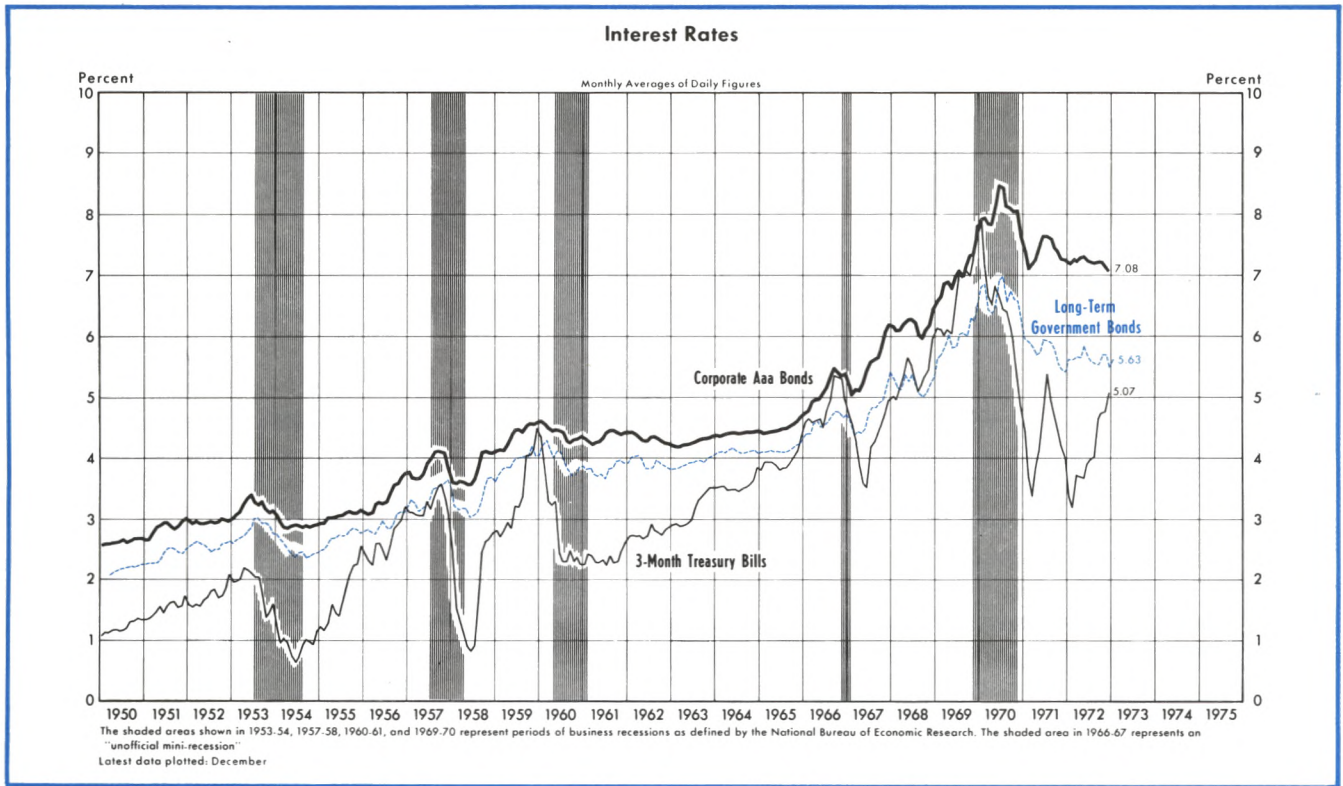
in upward pressure on short-term interest rates in the near future.

There are two ways in which past tendencies for interest rates to rise have influenced growth of the nation's money stock. First, a primary short-run objective of central bank policy for many years has been to moderate any tendencies for market interest rates to change sharply.<sup>1</sup> On previous occasions when there has been substantial upward pressure on market rates, policymakers have responded by increasing purchases of securities in the open market, thereby increasing bank reserves and loanable funds which temporarily dampens the rise in rates. Such actions increase the amount of Federal Reserve credit and monetary base extended to the economy.<sup>2</sup> Over a period of several months, the rate of growth of the money stock is similar to the growth of the base.

The second way in which movements in interest rates have influenced the growth of money has been by influencing savings flows to commercial banks. During past periods when market interest rates have risen

<sup>1</sup>For annual reviews of monetary actions of the Federal Open Market Committee for the years 1966-1971, see the following reprints from this Bank's *Review*: 22, 28, 39, 57, 68 and 76.

<sup>2</sup>Leonall C. Andersen and Jerry L. Jordan, "Monetary Base — Explanation and Analytical Use," this *Review* (August 1968), pp. 7-11.



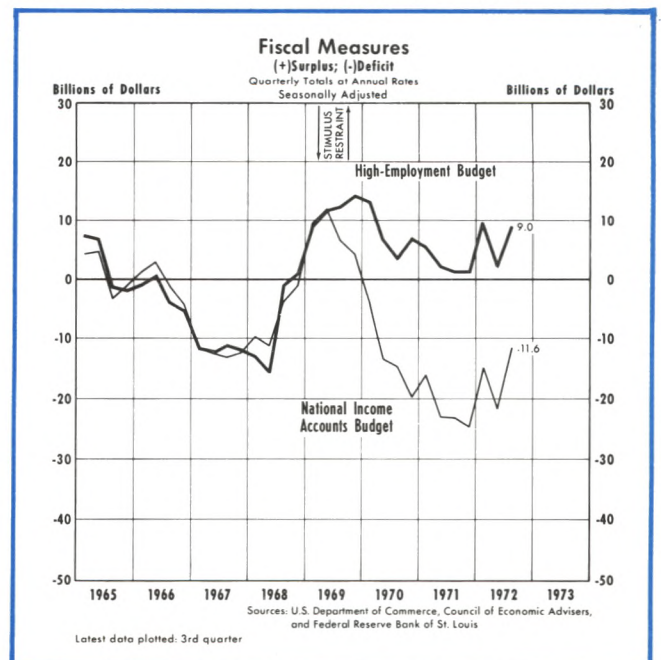
significantly compared to the rates banks have been permitted to pay on time and savings deposits – such as 1966 and 1969 – the growth of these deposits has slowed considerably. A slowing in the growth of these deposits results in an increase in the “money supply multiplier.”<sup>3</sup> This means that the growth rate of money would tend to accelerate compared to the growth of the base as the growth of time and savings deposits slows.

### INTEREST RATE MOVEMENTS

This section presents a discussion of interest rate movements during the current economic expansion and an assessment of some of the factors that will influence the pattern of market interest rates in 1973. In addition, it includes an analysis of the interrelation between the financing of Government deficits and changes in interest rates.

Two striking characteristics of the past few years are the sharp movements in the yields on marketable short-term Treasury securities and the persistence of huge deficits in the Federal Government’s

budget. On the surface, the decline in the interest rates on Treasury bills that occurred in late 1971 seems to conflict with what one would expect in a period of growing Government deficits and strong economic growth. Other things equal, increases in the supply of Government securities to the market tend to put upward pressure on market interest rates. However,



<sup>3</sup>For a discussion of the multiplier, see Jerry L. Jordan, “Elements of Money Stock Determination,” this *Review* (October 1969), pp. 10-19, and Albert E. Burger, *The Money Supply Process* (Belmont, California: Wadsworth Publishing Company, Inc., 1971).

analysis of factors influencing the demand for short-term U.S. Government securities provides an explanation of recent developments and may be useful in assessing the forces influencing market rates in the near future.

### *Short-Term Yields*

The yields on short-term marketable securities fell markedly following the onset of the economic contraction of 1969-70. As in previous recessionary episodes, the decline in short-term interest rates was much greater than the decline in long-term rates. Early in 1971 the movement of short-term rates reversed sharply, and the rise in these rates through July of that year was as steep as the preceding decline.

Then in August 1971 the market forces influencing supplies of and demands for all types of goods, services, and assets – including financial – were given a shock by the dramatic Governmental imposition of a “New Economic Program.” Over the subsequent few months the yields on short-term securities, such as Treasury bills, tumbled to or below their lows of a year earlier. This development was in the direction consistent with the effects of uncertainty associated with the surprise announcement of a “wage and price freeze” followed by a control program.<sup>4</sup> Also, part of the downward adjustment in market interest rates may have been in response to a reduction in the anticipated rate of future inflation. Moreover, the foreign aspects of the program contributed to the rapid decline in short-term interest rates.

As a part of the “New Economic Program,” the President announced that the United States was suspending until further notice its commitment to convert dollar holdings of foreign central banks into gold and other reserve assets. Although in practice there had been only limited exchanges of gold for dollars since early 1968, the announcement officially “floated” the dollar in international exchange markets. The result of this action was to broaden speculation that the exchange rates between the dollar and other major currencies would change. Consequently, there were opportunities for realizing capital gains and avoiding capital losses by moving out of dollar assets and into foreign assets.

<sup>4</sup>One effect of the announcement of the freeze and forthcoming control program was to create considerable uncertainty about output prices, costs of inputs to production, and competitive factors. In such a situation, businessmen and participants in securities markets usually choose to move to relatively more liquid positions in their portfolios of earning assets. The effect is to increase the relative demand for highly liquid short-term marketable securities such as Treasury bills.

In 1971 both foreign and U.S. private investors shifted from a broad spectrum of earning assets in this country (for example, common stocks and bonds) and into assets denominated in foreign currencies (such as stocks and bonds sold for domestic currencies on foreign stock exchanges).<sup>5</sup> This activity tended to increase the dollar prices of foreign currencies in exchange markets. Foreign central banks, in an effort to moderate the rise in their exchange rates, responded by acquiring dollars in exchange for their domestic currencies.

After foreign central banks acquire dollars in international exchange transactions, they normally purchase U.S. Treasury bills and other Federal debt instruments. In the past three years foreign official agencies acquired extremely large quantities of short-term Government securities. As the chart entitled “Ownership of Federal Government Debt” shows, almost all of the huge increase in net Federal debt<sup>6</sup> since mid-1970 has been acquired by foreigners.

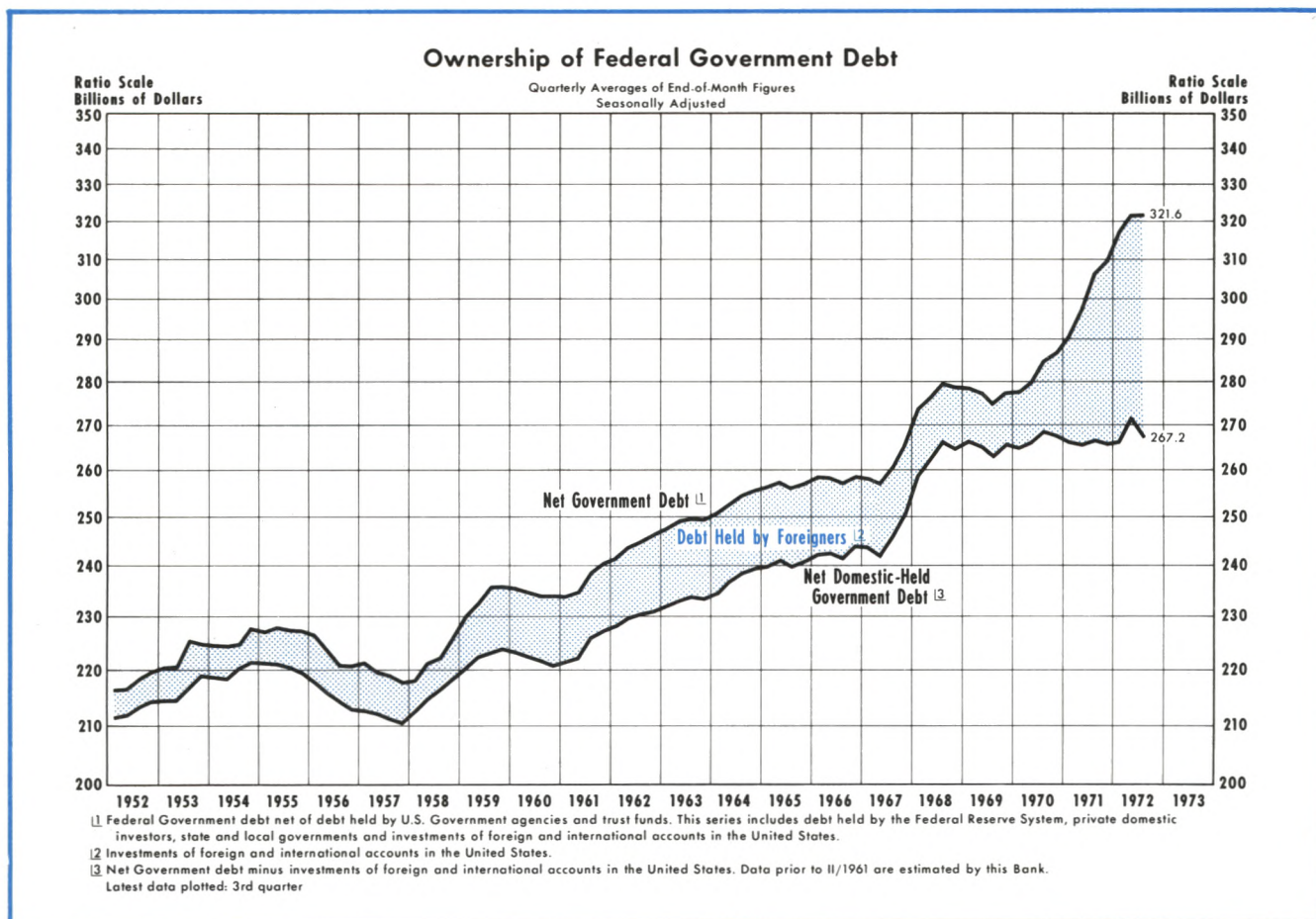
In summary of this point, during the past few years private foreign and U.S. investors increased their holdings of earning assets denominated in foreign currencies. These actions led foreign central banks to acquire increasing amounts of dollars as they attempted to maintain relatively fixed parities in exchange rates. The greatly increased demand for short-term U.S. Government securities by these foreign institutions resulted in lower market yields on these securities relative to other marketable securities than had previously been the case. This development occurred in spite of the large U.S. Government deficits that prevailed in the period.

### *Long-Term Yields*

The average of selected yields on highest grade long-term corporate bonds changed little in 1972. There was a slight tendency for these interest rates to fall during the year, but the variation was less than in any year since the mid-1960s. At an average of about 7.2 percent for the year, this measure of private bond yields was somewhat below the prior year and

<sup>5</sup>For an extended discussion of the relationship between short-term international capital flows and domestic market interest rates, see Anatol Balbach, “Will Capital Reflows Induce Domestic Interest Rate Changes?” this *Review* (July 1972), pp. 2-5.

<sup>6</sup>Net Government debt is Federal Government debt net of debt held by U.S. Government agencies and trust funds. This series includes debt held by the Federal Reserve System, private domestic investors, and state and local governments, as well as investments of foreign and international accounts in the United States.



well below the historic peak of about 8.5 percent reached in mid-1970.

The average yield on long-term U.S. Government securities remained unchanged on balance last year. Since the yields on Aaa corporate bonds edged downward, the differential between these series narrowed. As the chart on yield spreads between these long-term securities shows (see page 6), throughout the post-war period until 1966, the differential between these series had remained in a fairly narrow range of no more than one-half of one percentage point. This difference evidently reflected the market's evaluation of the difference in risk and liquidity associated with the bonds.

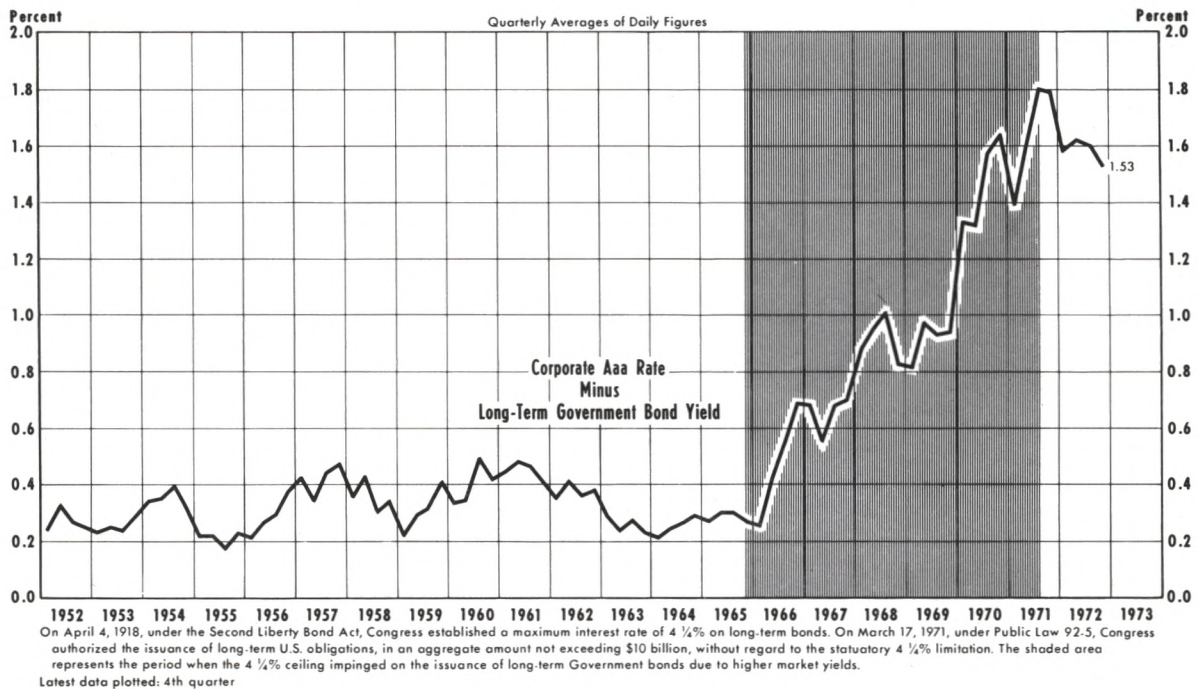
In the mid-1960s the average yield on long-term bonds began rising significantly. Increases in long-term market interest rates are often viewed to be a result of rising anticipations of greater inflation in the future. In view of the acceleration in the rate of increase in the consumer and general price indexes that was observed beginning in the mid-1960s, it is generally assumed that savers began to demand a

higher nominal yield in order to compensate for the erosion of purchasing power attributable to the inflation. At the same time, borrowers were willing to pay higher interest rates since they anticipated repaying indebtedness with depreciated dollars some years in the future.

From early 1966 until late 1971, the interest rate differential between highest grade corporate bonds and long-term Government bonds became increasingly wide. The sharp rise in this spread in the second half of the 1960s resulted from both the rising market interest rates and a long-standing statute prohibiting the Federal Government from paying yields greater than 4.25 percent on debt maturities of over seven years.<sup>7</sup> Once the market yields had risen to the level that a 4.25 percent coupon rate on long-term Government obligations was no longer competitive, the U.S. Treasury ceased to issue long-term securities.

<sup>7</sup>On April 4, 1918, under the Second Liberty Bond Act, Congress established a maximum interest rate of 4.25 percent on long-term bonds. On March 17, 1971, under Public Law 92-5, Congress authorized the issuance of long-term U.S. obligations, in an aggregate amount not exceeding \$10 billion, without regard to the statutory 4.25 percent limitation.

### Spread Between Long-Term Interest Rates

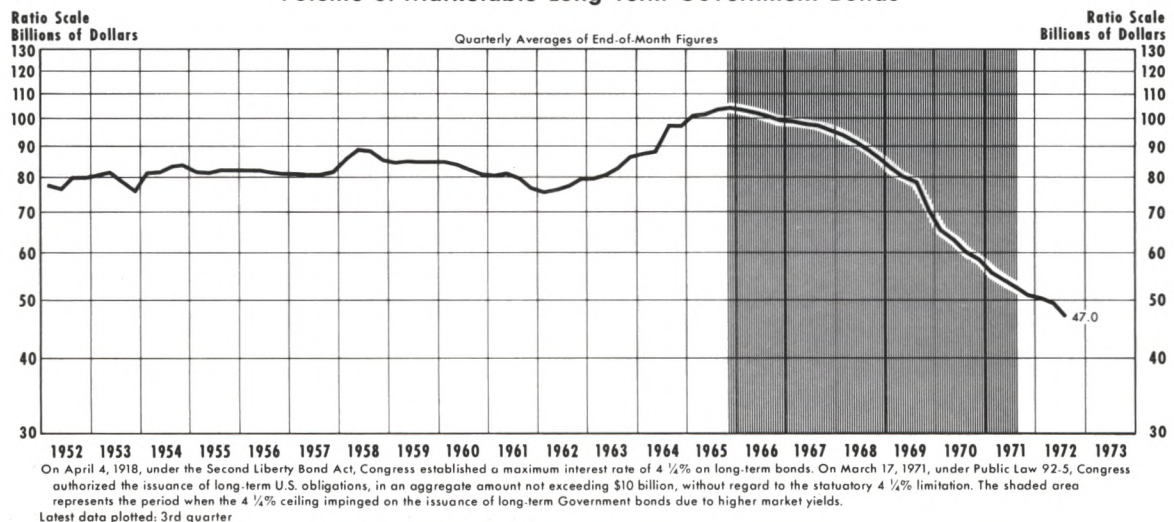


The outstanding volume of long-term Government bonds began to decline in early 1966. Of the outstanding debt, a portion was maturing at regular intervals, but the Treasury was unable to refinance with new long-term obligations. The total amount of Government debt rose substantially in subsequent years, but all new issues of Treasury securities carried maturities of less than seven years.

Thus, there has been a steady decline in the outstanding stock of long-term Government bonds since

early 1966. Presumably there was also some decline in the demand (shift of the demand schedule) for these bonds since the yields on close substitute earning assets became increasingly more attractive. However, various financial institutions, such as insurance companies and banks, for legal or traditional reasons choose to hold some portion of their portfolios of liquid assets in the form of Treasury bonds. Consequently, in view of the steady decline in the outstanding volume of these bonds, investors were willing

### Volume of Marketable Long-Term Government Bonds



to pay increasingly greater relative prices (accept lower relative yields) for Treasury bonds as compared to corporate bonds.

In 1971 Congress passed legislation suspending the ceiling on the interest rate the Treasury was allowed to offer on a limited volume of bonds with maturities of more than seven years.<sup>8</sup> Also, in 1971 the yield spread between seasoned corporate and Government bonds reached a peak and since has begun to narrow. The newly issued long-term Treasury securities in 1972 and early 1973 carried coupon yields that were significantly higher than the market yield on the outstanding bonds.

In 1972 the Treasury continued to finance most of its deficits and refinance maturing obligations by issuing short-term securities. The yields in the market on short-term instruments were significantly lower than yields on long-term bonds, and therefore the interest cost to the Treasury was lower. Also, as of early January 1973 the Treasury had issued about \$7.5 billion out of an authority of \$10 billion for bonds bearing coupon rates greater than 4.25 percent.

Analysis of supply and demand factors suggests that as the yields on short-term securities rise further, the Treasury would have increasing incentive to seek proportionally greater amounts of its financing requirements through the issuance of longer-term obligations. Such a development would tend to result in an upward trend in the average yield of Treasury bonds as long as the interest rate on the newly issued bonds is greater than the average of outstanding bonds. However, the Treasury is already close to the \$10 billion limitation and, unless additional authority is obtained, the outstanding volume of long-term debt will continue to decline.

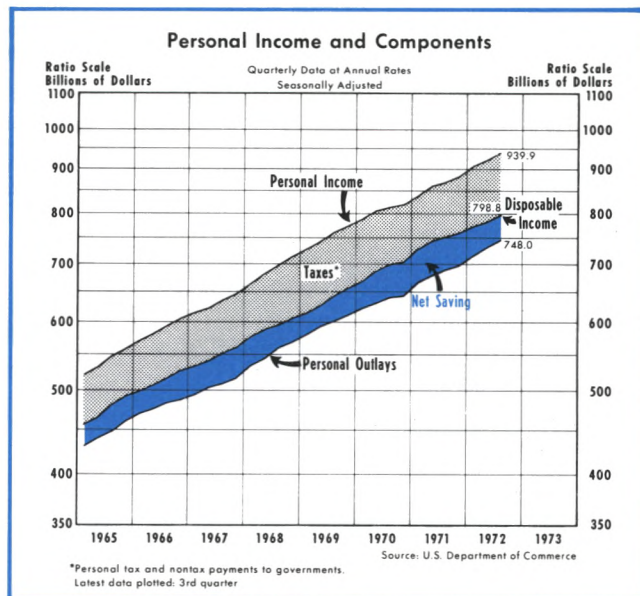
## GROWTH OF INCOME AND SAVINGS

### Income

The current expansion has been marked by a strong growth in pre-tax personal income.<sup>9</sup> From the third quarter of 1971 to the third quarter of 1972, personal income rose 8.3 percent, compared with a 6.7 percent rise in the previous four quarters. Adjusted for the effects of inflation, the growth in the most recent four quarters was 5.9 percent, more than twice the 2.7 percent rise from the third quarter of 1970 to the third quarter of 1971.

<sup>8</sup>See footnote 7.

<sup>9</sup>For a description of this and related series, see the screened section on page 8.



Growth of disposable (after-tax) personal income recently has been somewhat less rapid. Since the third quarter of 1971 disposable income in current prices has risen only 6.4 percent, down from both the 7.3 percent of the prior year and the 8.7 percent from the third quarter of 1969 to the corresponding quarter in 1970.<sup>10</sup> The slower growth of disposable income in 1972 may be partially attributable to overwithholding of personal income taxes. In real terms disposable income rose at a 4.2 percent rate in the most recent four quarters, up from 3.3 percent in the prior year and the same as the rate prevailing for the period from third quarter 1969 to third quarter 1970.

### Saving

The recent acceleration in the growth of income has been accompanied by a slowing in the growth of personal saving.<sup>11</sup> Even though there has been an increase in the proportion of personal income that has gone to taxes, the rates of growth of personal outlays in recent years have been similar to the growth of personal income before taxes. Consequently, the saving rate has fallen fairly sharply in the last year. The proportion of disposable income that was saved fell from mid-1968 to mid-1969, mainly as a result of the imposition of a surcharge on personal and corporate Federal income taxes. Saved income then returned

<sup>10</sup>Throughout most of this section, time period references avoid the fourth quarter of 1970 because of the distortions caused by the major labor strike in the auto industry that occurred at that time.

<sup>11</sup>For an economic discussion of saving and its relation to income and wealth, see Armen A. Alchian and William R. Allen, *University Economics*, 3rd ed. (Belmont, California: Wadsworth Publishing Company, Inc., 1972), especially pp. 189-190.

## Disposable Personal Income and Related Items\*

"Disposable personal income is the income remaining to persons after deduction of personal tax and nontax payments to general government. Personal income consists of income from all sources: Wage and salary disbursements, other labor income, proprietors' income, rental income, dividends, personal interest income, and transfer payments, minus personal contributions for social insurance. Personal tax and nontax payments consists of tax and nontax payments to general government (other than contributions for social insurance) which are not deductible as expenses of business operations, and other general government revenues from

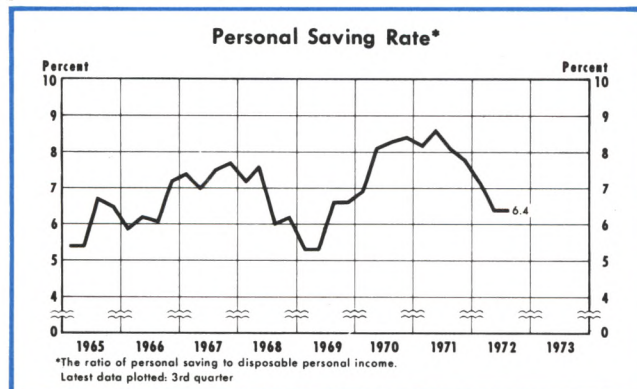
\*U. S. Department of Commerce, Office of Business Economics, *Business Cycle Developments* (July 1968), p. 79.

individuals in their personal capacity. The principal taxes are income, estate, inheritance, gift, motor vehicle, and personal property taxes paid to Federal, State, and local governments. Nontax payments include passport fees, fines, donations, penalties, and tuition fees, and hospital fees paid to State and local governments.

"Personal saving is obtained by deducting personal consumption expenditures, interest paid by consumers, and personal transfer payments to foreigners from disposable personal income.

"The ratio of personal saving to disposable personal income [personal saving rate] is obtained by dividing personal saving by disposable personal income."

to previous ratios as tax rates were gradually lowered. On balance during the decade prior to 1968, individuals allocated an increasing share of their income to saving. For historical comparison, personal savings increased at almost a 7 percent average annual rate from 1957 to 1967, about one percentage point faster than the growth of personal income during the same period.



### Savings Deposits

The growth of savings-type deposits at financial intermediaries remained strong in 1972, despite the decline in the personal saving rate. Net time deposits at commercial banks<sup>12</sup> rose 13 percent from December 1971 to December 1972, somewhat slower than the 17 percent increase in deposits at savings and loan associations and mutual savings banks. On balance, the growth of deposits in banks and nonbank thrift institutions has been very rapid since early 1970. In 1969 the growth of these savings-type deposits was greatly

curtailed as a result of the relatively high interest rates available on short-term marketable securities, as compared to the yields that banks, savings and loan associations, and mutual savings banks were allowed to offer.<sup>13</sup>

Other interest bearing liabilities of commercial banks consist mainly of marketable certificates of deposit in denominations of \$100,000 or more. During 1969 the outstanding volume of the large-size bank time deposits fell sharply since the maximum rates banks were allowed to pay on these deposits were significantly below the yields available on alternative marketable earning assets. Since early 1970 these deposits have grown rapidly.

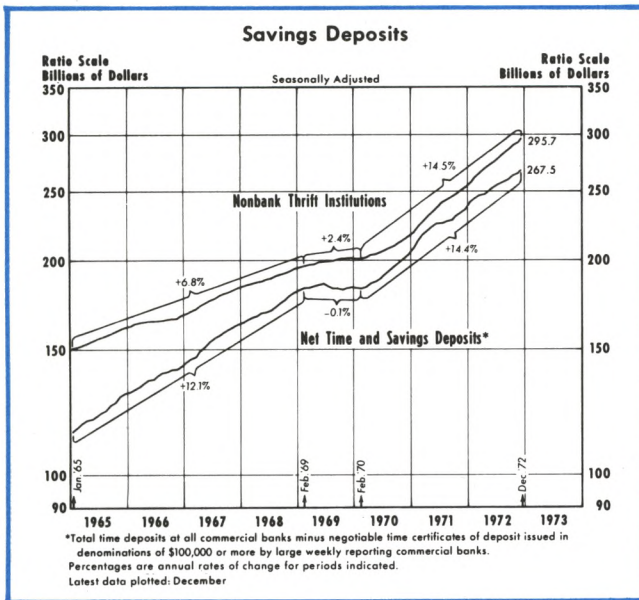
The interest rates paid by banks on these large denomination deposits rose substantially in 1972, but prevailing offering rates were still well below legal maximums at year-end.<sup>14</sup> The movement in the yields

<sup>12</sup>Total time deposits at all commercial banks minus negotiable time certificates of deposit issued in denominations of \$100,000 or more by large weekly reporting commercial banks.

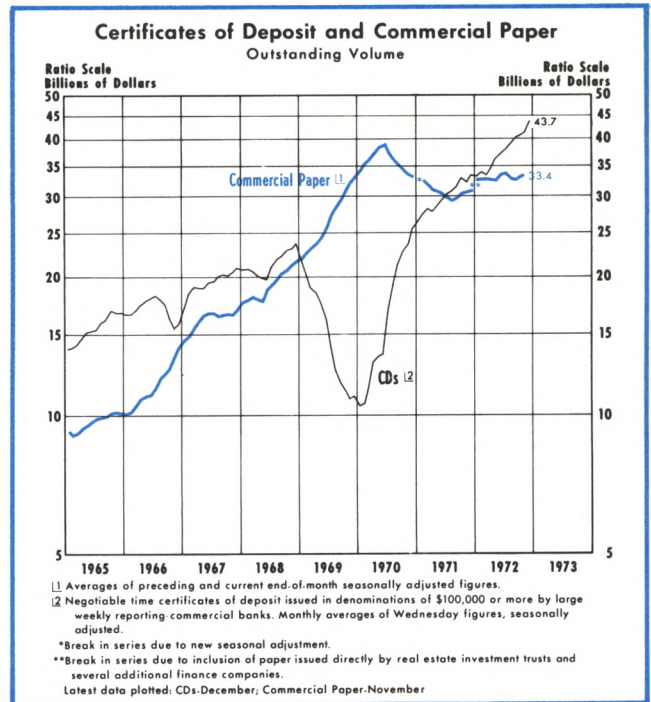
<sup>13</sup>The Board of Governors, under provisions of Regulation Q, establishes maximum rates which may be paid by member banks of the Federal Reserve System. However, a member bank may not pay a rate in excess of the maximum rate on similar deposits under the laws of the state in which the member bank is located. Beginning February 1936, maximum rates which may be paid by nonmember insured commercial banks, as established by the Federal Deposit Insurance Corporation, have been the same as those in effect for member banks. Beginning September 1966 rates paid by Federally insured mutual savings banks were brought under the control of the FDIC, and rates paid at savings and loan associations were brought under the control of the Federal Home Loan Bank Board. That legislation also required the three regulatory agencies to consult with each other when considering changes in the ceiling rates. For a discussion of interest rates and Regulation Q, see Clifton B. Luttrell, "Interest Rate Controls—Perspective, Purpose, and Problems," this *Review* (September 1968), pp. 6-14, and Charlotte E. Ruebling, "The Administration of Regulation Q," this *Review* (February 1970), pp. 29-40.

<sup>14</sup>See p. 13 of this *Review*.





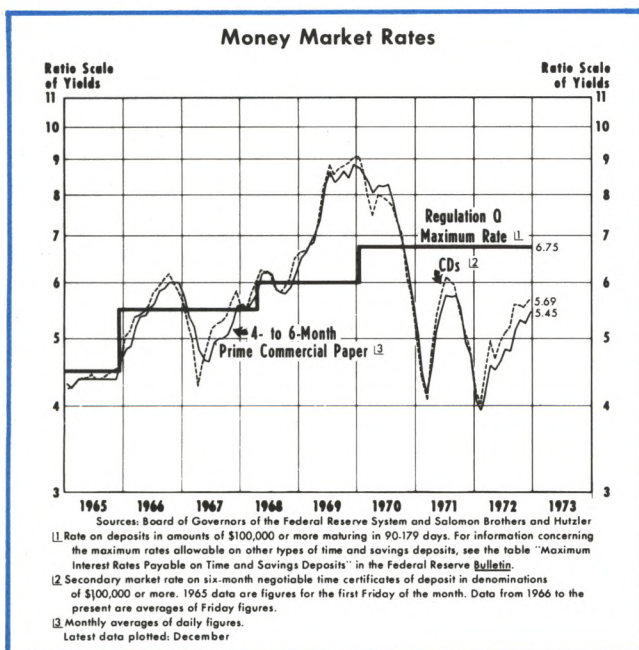
on bank-issued CDs since early last year has accompanied the rise in interest rates available on other short-term marketable securities.



The primary factor determining the trend growth of money is the monetary base.<sup>15</sup> From late 1966 to late 1971 the base rose at a 5.8 percent trend rate, compared with the 5.9 percent trend rate of growth of money in the same period. In 1972 the base increased 8.3 percent, not much different than the rise in money.

Several factors contributed to the rapid growth of the monetary base last year. The table on page 12 of this *Review* summarizes the net changes in the source components of the base since the end of 1971. Some of the major factors contributing to the change in the base were monetization of gold, an increase in member bank borrowings, growth of Federal Reserve holdings of Government securities, and lower average reserve requirements.

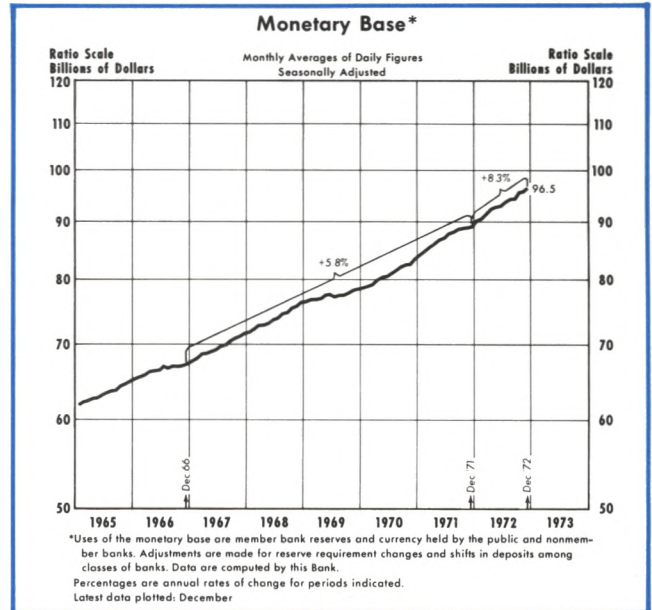
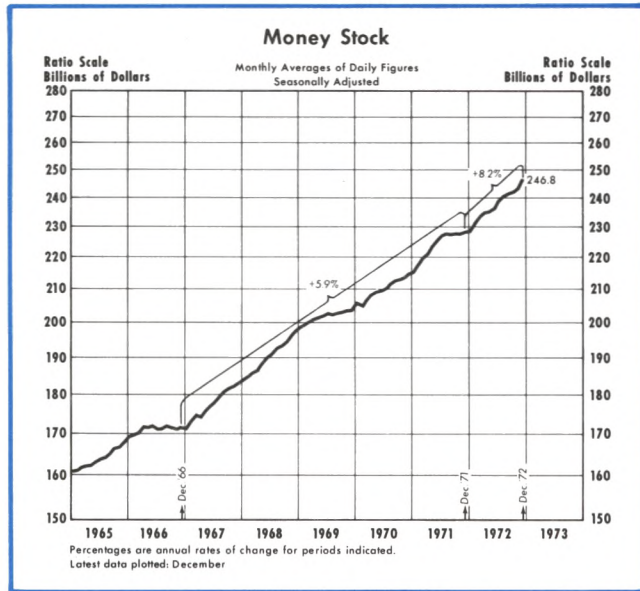
The increase in the monetary base that resulted from the monetization of gold was a one-time effect that occurred in May 1972 after Congress approved a



## MONETARY AGGREGATES

The growth of the nation's money stock has been successively greater in each of the past four years. In 1972 the money stock increased 8.2 percent, compared with 6.2 percent in 1971, 5.4 percent in 1970, and 3.2 percent in 1969. The pattern of money growth has been quite uneven within recent years. Generally money has grown more rapidly in the first half of the year than in the second (on a seasonally adjusted basis).

<sup>15</sup>The monetary base is defined as the net monetary liabilities of the U.S. Treasury and the Federal Reserve System held by commercial banks and the nonbank public. These monetary liabilities are member bank reserves and currency in the hands of the public. The monetary base is derived from a consolidated balance sheet of the Treasury and Federal Reserve "monetary" accounts. For a more detailed discussion of the monetary base, see Andersen and Jordan, "Monetary Base," pp. 7-11; Jordan, "Money Stock Determination," pp. 10-19; Jane Anderson and Thomas M. Humphrey, "Determinants of Change in the Money Stock: 1960-1970," *Monthly Review*, Federal Reserve Bank of Richmond (March 1972), pp. 2-8; John D. Rea, "Sources of Money Growth in 1970 and 1971," *Monthly Review*, Federal Reserve Bank of Kansas City (July/August 1972), pp. 3-13.

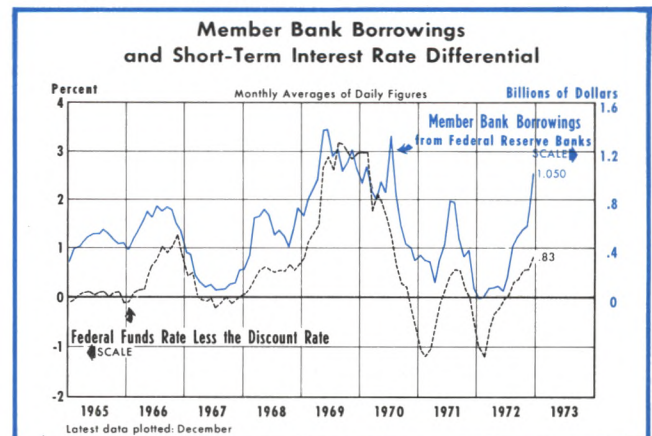


change in the price of gold from \$35 to \$38 per ounce. For the year, the net effect on the base of changes in gold was only \$278 million, even though the effect of the devaluation of the dollar in terms of gold was over \$800 million. The difference is due to the fact that in the first two months of last year, the U.S. gold stock declined as the Treasury fulfilled prior obligations.

Member bank borrowings from the Federal Reserve Banks were at very low levels at the beginning of 1972 since short-term market interest rates were well below the System's 4.5 percent discount rate. As the year progressed the yields in the market rose and borrowings by banks from the Federal Reserve moved to higher average levels. On balance for the year (December 1971 to December 1972) member bank borrowings rose almost \$950 million which, other things equal, accounted for about 23 percent of the total rise in the source base.<sup>16</sup>

Federal Reserve holdings of U.S. Government securities are determined by open market operations in accord with the instructions of the Federal Open Market Committee. A purchase (sale) of securities in the market results in an increase (decrease) in bank reserves. By buying Government securities, the Federal Reserve monetizes the debt and, in effect, reduces the outstanding stock of publicly held interest-bearing Treasury liabilities.

In November 1972 the Federal Reserve implemented changes in two of its regulations which have a bearing on usable reserves available to the banking system. Effective in two steps beginning November 9, the Federal Reserve revised its Regulation D so that reserve requirement percentages would pertain only to the amount of deposits at each bank. Formerly, the percentage reserve requirements depended mainly on the geographic location of banks. The net effect of the change was to lower average required reserves by about \$3.5 billion from what they otherwise would have been.



Also effective the statement week beginning November 9, the Federal Reserve modified its Regulation J governing the schedules according to which member bank reserve accounts are debited for checks drawn on them. The effect of the change was to reduce the average level of Federal Reserve float — a source of monetary base and bank reserves — by about \$2 billion.

<sup>16</sup>The "source base" refers to a consolidation of Treasury and Federal Reserve monetary accounts. The monetary base is equal to the source base plus an adjustment for the amount of reserves that are released or absorbed by changes in effective required reserve ratios. Further explanation is available from this Bank on request.

The net effect of the changes in Regulations D and J in November was to release about \$1.5 billion of reserves to the banking system. Prior to these changes the System announced that the November amendments were not intended to have any impact on the stance of monetary policy, and that appropriate offsetting actions would be taken. Such actions would consist mainly of reductions in Federal Reserve System holdings of U.S. Government securities through open market sales.

The net effect of all factors affecting the monetary base in 1972 — including an adjustment for the release of reserves attributable to the reduction in average reserve requirements — was to increase the amount outstanding by \$7.5 billion. This represents a rise of over 8 percent for the year.

## CONCLUSIONS

The strong economic growth in 1972 was accompanied by: (1) a rapid growth in deposits at banks and other financial intermediaries; (2) a general tendency for short-term market interest rates to rise; and (3) continued Federal deficits. The analysis here suggests that continued upward pressure on short-term market interest rates is likely.

The outlook for savings-type deposits in banks and thrift institutions is less clear. If market interest rates rise further, the yields mutual savings banks, savings and loan associations, and banks are permitted to pay on time and savings-type deposits would tend to become less competitive. Unless ceilings are then raised, the growth in these deposits is likely to decelerate. In previous episodes of high and rising market rates of interest, such as 1966 and 1969, the growth in time and savings deposits at financial intermediaries slowed for a period, and the outstanding volume of some types of interest bearing deposits actually fell.

The growth of demand deposits at commercial banks — the main component of the money stock — is largely dependent on the rate at which commercial banks acquire reserves to support these deposits. The growth of total bank reserves depends on the growth of the monetary base and the desire of the public to hold currency. The amount of reserves available to support private demand deposits is influenced by the growth of time deposits at commercial banks and short-run fluctuations in demand deposits of the Federal Government at commercial banks. If there is a tendency for the growth of time deposits to slow as market interest rates rise further, these deposits will absorb reserves at a slower rate (increasing the base-money multiplier). Thus, for a given growth of the base or total reserves, more reserves will be available to support growth of demand deposits.

The growth of the base over time is largely determined by Federal Reserve System open market operations and by changes in the amount of member bank borrowings from Federal Reserve Banks. In the past these factors have tended to be related to movements in market interest rates in the short run. The released Record of Policy Actions of the FOMC in recent years has shown a continuation of the desire by monetary authorities to moderate near-term tendencies for market interest rates to rise. As demand forces have tended to raise market rates on past occasions, the System Open Market Account Manager, in accordance with FOMC instructions, has responded by increasing purchases of securities in the market in order to dampen the immediate upward pressure on rates. Such actions have resulted in an increase in the rate of monetary expansion. This observation of past experience indicates there may be problems for policymakers in achieving their dual objectives of maintaining a moderate rate of growth of the money stock while also seeking to resist tendencies for short-term market interest rates to rise.



## MONETARY DEVELOPMENTS IN 1972

### Growth of Selected Monetary Aggregates<sup>1</sup> (Percent Change)

	1972	1971	1970	1969
Federal Reserve Holdings of U.S. Government Securities <sup>2</sup> .....	2.8	12.1	7.3	9.5
Federal Reserve Credit <sup>3</sup> .....	7.8	10.8	4.8	5.1
Monetary Base <sup>3</sup> .....	8.3	7.0	6.2	3.0
Money Stock .....	8.2	6.2	5.4	3.2
Demand Deposits .....	8.1	6.0	5.1	2.4
Currency .....	8.2	7.1	6.5	6.0
Money Stock plus Net Time Deposits .....	10.7	11.1	8.1	2.3

<sup>1</sup>Figures represent the change from December of the previous year to December of the given year.

<sup>2</sup>Includes Federal agency obligations and bankers' acceptances.

<sup>3</sup>Computed by this Bank.

### Factors Influencing the Monetary Base in 1972<sup>1</sup> Averages of Daily Figures

	Millions of Dollars			Change in Source Base Attributable To:
	December 1971	December 1972	Change	
<b>Federal Reserve Credit</b>				
U.S. Government Securities <sup>2</sup> .....	\$69,261	\$71,185	\$+1,924	+ 45.9%
Loans .....	107	1,050	+ 943	+ 22.5
Float .....	3,905	3,492	- 413	- 9.9
Other F.R. Assets .....	982	1,138	+ 156	+ 3.7
<b>Total</b> .....	74,255	76,865	+2,610	+ 62.3
<b>Other Factors</b>				
Gold Stock .....	10,132	10,410	+ 278	+ 6.6
Special Drawing Rights Certificate Acct. ..	400	400	0	0
Treasury Currency Outstanding .....	7,611	8,293	+ 682	+ 16.3
Treasury Cash Holdings <sup>3</sup> .....	453	350	+ 103	+ 2.5
Treasury Deposits with F.R. Banks <sup>3</sup> .....	1,926	1,449	+ 477	+ 11.4
Foreign Deposits with F.R. Banks <sup>3</sup> .....	290	272	+ 18	+ 0.4
Other Deposits with F.R. Banks <sup>3</sup> .....	728	632	+ 96	+ 2.3
Other F.R. Liabilities and Capital <sup>3</sup> .....	2,287	2,362	- 75	- 1.8
<b>Total</b> .....	12,459	14,038	+1,579	+ 37.7
<b>Total Source Base</b> .....	\$86,713	\$90,903	\$+4,190	100.0%
Reserve Adjustment <sup>4,5</sup> .....	3,930	7,245	+3,315	
Monetary Base <sup>5</sup> .....	\$90,643	\$98,148	\$+7,505	
Monetary Base, Seasonally Adjusted <sup>5</sup> .....	\$89,110	\$96,541		

<sup>1</sup>The monetary base is defined as the net monetary liabilities of the U.S. Treasury and Federal Reserve System held by commercial banks and the nonbank public. For a brief description of each of the factors influencing the monetary base see Glossary: Weekly Federal Reserve Statements, Federal Reserve Bank of New York. Copies of this publication are available on request from the Federal Reserve Bank of New York, Public Information Department, 33 Liberty Street, New York, New York 10045.

<sup>2</sup>Includes Federal agency obligations and bankers' acceptances.

<sup>3</sup>These items absorb funds and therefore a reduction in them releases reserves and increases the base (sign is reversed on dollar changes and percent distribution).

<sup>4</sup>Adjustment for reserve requirement changes and changes in average requirements due to shifts in deposits where different reserve requirements apply.

<sup>5</sup>Computed by this Bank.

Totals may not add due to rounding.

# FEDERAL RESERVE SYSTEM ACTIONS DURING 1972

## Discount Rate

In effect January 1, 1972 .....	4½%
In effect December 31, 1972 .....	4½%

## Margin Requirements on Listed Stocks

In effect January 1, 1972 .....	55%
November 24, 1972 .....	65%
In effect December 31, 1972 .....	65%

## Maximum Interest Rates Payable on Time & Savings Deposits<sup>1</sup>

Type of Deposit	In Effect Jan. 1, 1972	In Effect Dec. 31, 1972
Savings Deposits .....	4½%	4½%
Other Time Deposits:		
Multiple maturity:		
30-89 days .....	4½	4½
90 days to 1 year .....	5	5
1 year to 2 years .....	5½	5½
2 years and over .....	5¾	5¾
Single maturity:		
Less than \$100,000		
30 days to 1 year .....	5	5
1 year to 2 years .....	5½	5½
2 years and over .....	5¾	5¾
\$100,000 and over		
30-59 days .....	2/	2/
60-89 days .....	2/	2/
90-179 days .....	6¾	6¾
180 days to 1 year .....	7	7
1 year or more .....	7½	7½

<sup>1</sup>A member bank may not pay a rate in excess of the maximum rate payable by state banks or trust companies on like deposits under the laws of the state in which the member bank is located.

<sup>2</sup>Effective June 24, 1970, maximum interest rates on these maturities were suspended until further notice.

## Percent Reserve Requirements<sup>1</sup>

	Net Demand Deposits up to \$5 Million		Net Demand Deposits in Excess of \$5 Million		Time Deposits up to \$5 Million & Savings Depts.	Time Deposits in Excess of \$5 Million
	Reserve City Banks	Other Member Banks	Reserve City Banks	Other Member Banks		
In effect January 1, 1972 .....	17	12½	17½	13	3	5
	Net Demand Deposits				Time Deposits up to \$5 Million & Savings Depts.	Time Deposits in Excess of \$5 Million
	\$2 Million or Less	Over \$2 Million to \$10 Million	Over \$10 Million to \$100 Million	Over \$100 Million to \$400 Million		
In effect Nov. 9, 1972 .....	8	10	12	16½; 13 <sup>2/</sup>	3	5
Nov. 16, 1972 .....	8	10	12	13	3	5
In effect Dec. 31, 1972 .....	8	10	12	13	3	5

<sup>1</sup>Amendments to Federal Reserve Regulations D and J became effective on November 9, 1972. The amendment to Regulation D, "Reserves of Member Banks," introduced a restructuring of reserve requirements. Under the new structure reserve requirements are based on the size of the member bank's net demand deposits, not on its geographic location. Regulation J, "Collection of Checks and Other Items by Federal Reserve Banks," was amended to require all banks using the Federal Reserve check collection facilities to pay for checks drawn on them the same day the Federal Reserve presents the check for payment.

<sup>2</sup>16½ percent on the former designation of Reserve City Banks and 13 percent on Other Member Banks.

NOTE: A change in the procedure for computing reserve requirements on commercial paper was put into effect November 9, 1972. Commercial paper is used as a marginal figure to compute required reserves. The level of net demand deposits is used as a base for determining the reserve requirement on commercial paper. If net demand deposits are less than the upper limit of a net demand deposit size group, the portion of commercial paper it takes to reach the upper limit of that group has the same reserve requirement as net demand deposits of that group. The portion of commercial paper exceeding that size group, if any, has the percentage requirement of the next higher group.

# Fiscal and Monetary Policy: Opportunities and Problems

by WILLIAM E. GIBSON

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*This paper was presented at the Annual Conference of College and University Professors at the Federal Reserve Bank of St. Louis on November 3, 1972.*

**C**URRENT economic policy in the United States is set in a very prosperous context, but one with considerable challenges implicit for the future. In this presentation I shall first describe the progress of the economy to date<sup>1</sup> and then discuss some possible **problems in the effective use of fiscal and monetary policy in the future.**

## THE ECONOMY TO DATE

We are now well into what shapes up as a very strong expansion by historical standards. In the four quarters ending with the third quarter of 1972, our gross national product has grown by over 10 percent, compared with an average rate of 7.2 percent from 1962 to 1971. Real GNP rose at a 6.4 percent annual rate in the third quarter of 1972 and at a 9.4 percent rate in the second quarter. Over the past four quarters it has risen by 7.2 percent, whereas the average rate of increase from 1962 to 1971 was 3.8 percent.

On the price front, the GNP deflator rose at a 2.4 percent annual rate in the third quarter of 1972 and at a 1.8 percent annual rate in the second quarter. In the past year it has risen by 2.7 percent. This compares with a 3.1 percent average rate from 1962 to 1970 and with a 4.4 percent rate from 1966 to 1970.

The unemployment rate is presently 5.2 percent and on a downward trend from the 6 percent which prevailed at the end of last year. In addition to the de-

cline in unemployment, total employment and the labor force have risen at an unusually rapid pace recently. For instance, from the third quarter of 1971 to the third quarter of 1972, civilian nondefense employment increased by more than 2.6 million. This increase is quite large by historical standards. It is roughly twice as large as the average annual expansion of nondefense employment from 1964 to 1968, and almost three times as large as the corresponding expansion from 1960 to 1964.

In spite of the large increase in employment, the number of persons unemployed declined by only 222,000 over the same period. This is because the number of persons available for nondefense employment rose by 2.4 million — an unusually large amount. In addition to the normal growth of the labor force of 1.5 million, based on population trends, a rise in labor force participation rates added 0.4 million and a decrease in defense employment added slightly over 0.5 million to the labor force available for non-defense employment

This trend in labor force expansion continued in October, when the labor force rose by 227,000 seasonally adjusted. The full-time civilian labor force rose by over 600,000 persons in October.

At least in part because of such developments in the labor force, the combinations of inflation and unemployment rates attainable from given monetary and fiscal policy combinations do not now conform to those predicted from past experience. As a result, the Administration has continued to emphasize efforts

<sup>1</sup>This presentation has been revised to take into account data available as of December 27, 1972.

to lower unemployment by expanding manpower programs. The Federal Government is presently spending \$5 billion each year on programs to provide market information, improved training, assistance for relocation, and similar services to workers.

While much has been accomplished, a good deal remains. There is further progress to be made against unemployment, and price increases need to be kept moderate. We are starting with an economic expansion which is vigorous and appears broadly based. The aim of policy is to maintain the present expansion at a high level but within sustainable bounds. That is, demand and output should be kept rising as rapidly as is consistent with avoiding unacceptable inflationary pressures. At the same time the unemployment rate should be reduced further.

To accomplish this, an adroit combination of fiscal and monetary policy will be required so that the expansion neither lags, causing more unemployment, nor quickens excessively, bringing accompanying inflation. In this connection there is a mixed outlook for fiscal and monetary policy.

## FISCAL POLICY

Fiscal policy has been expansionary recently. The Federal deficit was \$23 billion in fiscal 1971 and \$23.2 billion in fiscal 1972, and is estimated to be \$25 billion in fiscal 1973 (based on outlays of \$250 billion and receipts of \$225 billion). More recently, the full employment budget has been in deficit and shows signs of continuing so, particularly if the Administration's proposed spending ceiling (which includes an \$18.5 billion increase over fiscal 1972) is not approximated.

There are two important, closely related problems in the fiscal policy sphere, one of short-run concern and the second of longer-range import.

### *Changing the Posture of Fiscal Policy*

While the expansionary posture of fiscal policy is presently appropriate, the need for a stimulative stance will inevitably recede as the expansion continues to gain momentum. However, it may not be easy to reverse this stance as a result of the institutional context in which fiscal tools are used.

Part of the fiscal armory can be redirected very quickly — these are the so-called automatic stabilizers. These programs expand and contract more or less automatically in response to changes in the pace at which the economy is expanding. Such programs include unemployment compensation, welfare programs, housing subsidies, and the progressive nature of the

Federal tax structure. In addition, since interest rates are generally lower at cyclical troughs than at peaks, the rate at which future benefits of government projects are discounted falls, increasing the present values of many projects and programs. These automatically increase outlays when the economy slows and reduce them as expansion progresses.

While automatic stabilizers make an important contribution to overall stabilization policy, often further fiscal changes are desired, either to add more stimulus or to moderate further a buoyant expansion. This is a much more difficult undertaking, because it is very difficult to change the posture of fiscal policy in either direction quickly.

First of all, new programs require Congressional approval, and this approval must be in a form which in fact provides for the actions sought by the Administration. Bills are sometimes changed in committee or on the floor of Congress in ways which significantly redirect their thrusts.

Similar considerations govern tax legislation. Congress has shown so much reluctance to raise taxes as to make the possibility of a peacetime hike really very questionable. Even lowering taxes takes a long time, and inevitably there are pressures to diverge further from an optimal tax system whenever any taxes are modified.

Transfer payments, although outlays rather than taxes, are (with the exception of automatic stabilizers) subject to the same sorts of forces which slow tax changes. Changes are likely to be a long time coming, and the temptation to embellish a proposed program is likely to be considerable. Further, once recipients become accustomed to the payments (and this may be one of the fastest adjustments in all economic behavior), they and their political representatives will not be anxious to see them withdrawn when the need for stimulus passes. Discretionary changes in transfer payments thus tend to be one-way stabilization tools at best, for use when stimulus is needed.<sup>2</sup>

There is also an offsetting political force which tends to limit the feasibility of transfer payments for stabilization purposes. It might often happen that the quickest and most efficient method of providing stimulus would be to simply mail everyone a check. The

<sup>2</sup>There may be exceptions to this tendency, however. Congress has in recent years extended unemployment benefits beyond the normal 26-week maximum duration on a temporary basis. This extension may in fact not be permanent. If so, the key would seem to lie in the fact that the unemployed are a constantly changing group without organized political representation.

distribution of the funds among persons could be determined by any number of criteria, and this might well be more efficient than increasing expenditures on marginal projects or accelerating work on existing projects beyond its most efficient pace. Rightly or wrongly, however, those responsible will likely wish to "get something more" for the money spent, in the interests of "efficiency," even though they might favor a tax cut of the same amount.

In the area of spending, most projects span several years and require long periods to start up and wind down. This inertia is going to make it very hard to change the posture of fiscal policy quickly in coming years.

Spending pressures come from several sources. First, there are some bills proposed long ago by the Administration which have finally been passed by the Congress and which are viewed as fundamental to the Administration's program. Revenue sharing is perhaps the best example of such a bill. This program was an essential part of the President's concept of a New Federalism, and its passage was sought by the Administration. It was designed to usher in a new area of Federal, state, and local cooperation and capitalize on the Federal Government's comparative advantage at tax collection. For a while it also appeared as though it would provide useful fiscal stimulus.

As it happened, the bill was passed in a form generally acceptable to the Administration, but the need for fiscal stimulus is much smaller than it was several quarters ago. This need is likely to diminish further as the program continues.

It also comes at a time when the Federal budget is seriously in deficit and state and local governments are running surpluses, a state of affairs not foreseen when the program was proposed.

Fiscal pressures are also coming from the Congress in the form of bills involving a level of spending far above what the Administration wants. Perhaps the best example here is the Clean Water Bill, which authorizes expenditures exceeding \$24 billion over as little as three years in order to achieve environmental goals far in excess of reasonable standards.

In addition, the Administration has decided to resist tax increases in 1973 and beyond. This position is based on philosophical considerations, on a firm belief that tax increases in the near future are very unlikely to be enacted, and on a belief that the American people do not want a tax increase.

Accordingly, the scene is set for some friction in the fiscal area. If spending bills continue to be passed and existing programs continue their tendencies toward expansion, something will have to give.

The give will come in the form of vetos, impounding of funds, budget restraint, and/or inflation. (Inflation in most cases could be avoided by an appropriate restrictive monetary policy, but if spending increases are truly substantial such a policy would be difficult to implement because it would imply very high levels of interest rates for a time.)

If spending increases are voted and vetos are overridden the first result will likely be attempts to impound the funds — simply not spend the appropriated funds. If this does not prove effective, the next result will almost certainly be inflation. Later on taxes might be boosted to finance the spending, but inflation will likely have accelerated.

### *The Future Scope of Government Activities in the Economy*

The second main issue on the fiscal side essentially involves the size of the government sector. Studies by the Brookings Institution, the American Enterprise Institute and others show that with the existing tax structure we will be lucky to be able to finance existing programs (with their legislated growth) over the next five years.<sup>3</sup> There is very little room for any new initiatives unless taxes are raised or other programs are reduced.

The government is getting very large. The proportion of GNP that runs through government budgets has been steadily rising. In 1956, Federal, state, and local nondefense spending was 15 percent of GNP. In 1971 it was 23.6 percent of what full employment GNP would have been. The proportion has increased in every year but one since 1956.

Since it is virtually unimaginable that a year could go by without the development of pressing new "needs" to be met by the Government, the fiscal area is likely to witness considerable tension for some years to come.

Some fundamental decisions are going to have to be made on the appropriate role of government and how extensive its participation in the economy should

<sup>3</sup>Charles L. Schultze et al., *Setting National Priorities; The 1973 Budget* (Washington, D.C.: The Brookings Institution, 1972) and David J. Ott et al., *Nixon, McGovern, and the Federal Budget* (Washington, D.C.: American Enterprise Institute, 1972).



be. These decisions will have to be made by whoever is President.

## MONETARY POLICY

Monetary policy will also have an important role to play in coming years if we are to attain a sustainable high-level of expansion. While it is almost trivial to state that monetary policy must be neither too rapid nor too slow when account is taken of fiscal policy, this turns out to be much easier said than done.

There is of course first a problem in knowing what rate of monetary growth is appropriate. This problem should not be minimized, but it should be the subject of a separate discussion all its own. In any case, there have been instances in the past where nearly all theoretical approaches were in agreement as to the appropriate monetary course. However, the problem came in the execution of such a policy.

### *Reconciling Short-Term and Intermediate-Term Policy*

Over the long run, attaining an appropriate monetary growth rate has not been a serious problem. Historically, growth rates have not averaged extreme levels over periods of three years and longer. And even if they did, the economy could probably adjust to these extreme rates more satisfactorily the less acute were the short-run variations around the trend. The problem for monetary policy has been to make week-to-week and month-to-month policy compatible with quarter-to-quarter and year-to-year policy.

The first challenge for policymakers is identifying true nonseasonal variation in monetary aggregates. Seasonal adjustment of economic time series is a complex process, and the finest available techniques are used on the money stock. Still, some traces of seasonal regularity occasionally appear in seasonally adjusted data. As an example, from 1967 to 1971 the average rate of growth of seasonally adjusted  $M_1$  (currency plus demand deposits adjusted, based on quarterly averages) in the fourth quarter was below those for both the second and third quarters. In 1966 it was higher than the third quarter (0.2 percent versus -0.7 percent) but both were far below rates for the first and second quarter. This pattern held for 1972 as well. While this example is not by itself sufficient evidence of inadequate seasonal adjustment, it does suggest that considerable care be exercised in adjusting for seasonal variation.

Even with perfect seasonal adjustment, it would still be very difficult to maintain a specified monetary

growth rate from week to week. Although there is considerable predictability in the money stock, data on money are available only with a one week lag, so that precise weekly control is not entirely feasible.

Furthermore, it is not clear that such precise short-run control is actually necessary. There is widespread professional belief that extreme rates of monetary growth over periods as long as two quarters will not seriously hurt the economy if followed by an equal period of offsetting growth. That is, this view holds that if money grows at a 10 percent rate for two quarters and then at a 2 percent rate for the subsequent two quarters, the effects will be roughly the same within a few quarters as if the rate had been 6 percent throughout. (I believe that the selection of a two-quarter period is based largely on intuition, but this is more than can be said for, say, a four-quarter period. Whatever the length of the period is, it is likely longer than a month, even though some observers see scope for fine tuning with monthly variations in monetary growth).

There is thus room for swings in the money stock over brief periods without really compromising six-month period goals. The problem, however, is in maintaining compatibility between week-to-week behavior and multi-quarter goals. The longer the weekly series diverges from a desired path, the longer and/or sharper will be the required offsetting policy.

This might not appear to be a severe problem, but it has the potential to be one for at least two reasons. First, it is difficult to establish trends from looking at weekly data due to the random fluctuations of any statistical series over a short period. If the series is running below target, it is easy to believe that without any policy actions it will soon hit the target path.

### *Short-Term Monetary Policy Target*

Second, since the money stock cannot be controlled over a week, a two-tiered intermediate target scheme has been established. The ultimate goals of monetary policy are formulated in terms of GNP, employment, output, prices, the balance of payments, and the like. But since these are somewhat remote from the instruments under Federal Reserve control, an intermediate target variable is used. Such a variable ideally stands somewhere in the transmission process and is more or less closely influenced by the Federal Reserve. Various variables have been used for this purpose in the past, including member bank borrowings from the Federal Reserve, free reserves, and, most of all, market interest rates.

From the 1950s until early 1970, various short-term interest rates were the intermediate target (sometimes sharing center stage with free reserves). In 1970 the monetary growth rate superseded interest rates as the intermediate target. But since the growth rate of money could not be controlled weekly, the System Open Market Account Manager was given a daily or weekly Federal funds rate target to establish in order to reach this desired monetary growth rate. Thus, short-term interest rates continued to be the day-to-day operating target. While the emphasis of policy in some sense had shifted to monetary aggregates, policy still depended on the Federal Reserve System's ability to predict the relationship between interest rates and the monetary growth rate as well as its ability to influence market interest rates.

When the problems of identifying a trend in money, identifying a trend in interest rates, predicting the effect of the latter on the former, and controlling interest rates are combined, there is considerable room for deviation from a target monetary growth rate.

This was seen perhaps most vividly in 1971. After the first two months of the year, recorded monetary policy was largely directed at lowering the monetary growth rate. Federal Reserve predictions implied that the rate should have fallen in the second quarter, based on prevailing Federal funds rates. Yet the money stock rose at a 10.2 percent annual rate from December to June — much faster than desired or predicted. Essentially the reverse occurred in the second half, and the money stock rose at a 0.8 percent rate after July.

In 1972 the Federal Reserve moved further to increase the compatibility of weekly movements and quarterly targets by adopting reserves available to support private nonbank deposits (RPDs) as its daily operating target. There is not a perfectly stable relationship between RPD growth and monetary growth, and we may be able to do better by using the monetary base or something else. But this connection is

much closer than that between the Federal funds rate and the monetary growth rate. The adoption of RPDs therefore marks an important step toward more manageable and accurate monetary policy.

### *The Problem of Lags*

This is especially important in light of the lags in the effect of monetary policy on the economy. While these lags have long been widely recognized, it was generally thought that to the extent they are predictable, policy could be operated to take account of these lags, and thus the monetary growth rate could be managed. Some recent work in this area suggests that this too may be easier said than done.<sup>4</sup> Even without uncertainty about the length and variability of the lags in the effect of monetary changes, a full offsetting of past swings in monetary growth can easily require huge oscillating swings in the monetary rate, with accompanying perturbation for capital markets. In some cases, the system can even become explosive, requiring alternately increasing opposite rates of growth from quarter to quarter. When uncertainty is added, the whole business is extremely hazardous.

### CONCLUSION

The moral here, I think, is that monetary policy is not really appropriate for month-to-month or quarter-to-quarter fine tuning the way some people thought a few years ago. Probably its optimal role is to provide a generally expansive, restrictive, or in some sense neutral environment over a period of at least several quarters. Similar considerations hold for fiscal policy. If we can coordinate the two to avoid sharp shifts, we can probably minimize all quarterly fluctuations in GNP over a period of several quarters and years. This would be a very sizable accomplishment.

<sup>4</sup>Philip Cagan and Anna J. Schwartz, "How Feasible is a Flexible Monetary Policy" (Paper presented at a conference in honor of Milton Friedman, Charlottesville, Virginia, October 20, 1972).



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*continued . . .*

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