FEDERAL RESERVE BANK OF ST. LOUIS

MAY 1969

REVIEW

CONTENTS

Restraining the Growth of Total Spending

THE PRIMARY OBJECTIVE of recent monetary and fiscal actions is to slow the rapid rate of growth of total spending and thereby ease excessive pressure on resource utilization and prices. Total spending continues to outpace the growth of the economy's productive potential. Real product growth has moderated somewhat, but prices have shown no signs of decelerating. Stabilization actions since mid-1968 have had little restraining effect so far on total spending and prices.

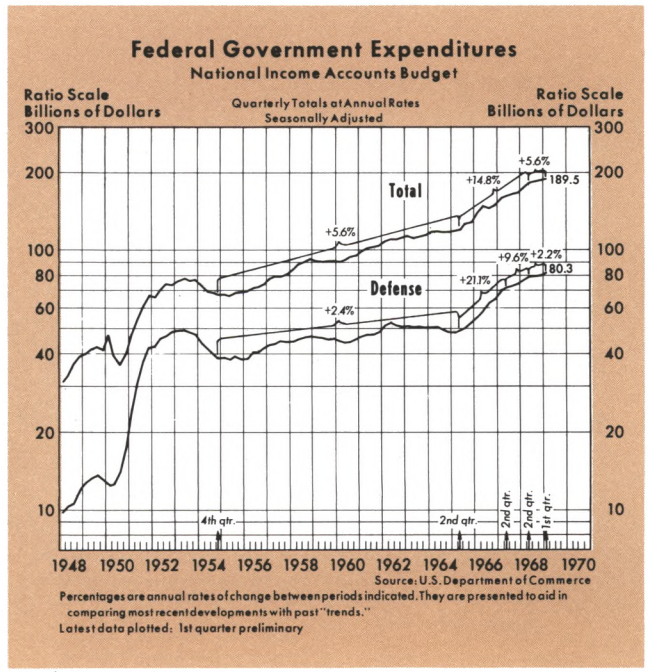
Federal Budget Actions

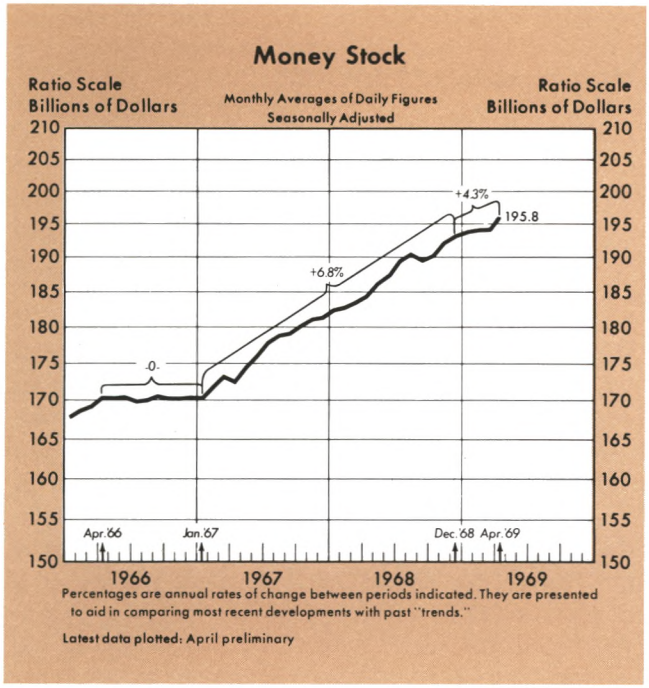
Fiscal policy, as represented by the high-employment budget, was very expansionary from mid-1965 to mid-1968. The high-employment budget averaged a $7.3 billion rate of deficit during this period. Following passage of the Revenue and Expenditure Control Act in late June of 1968, the deficit in the high-employment budget declined sharply, moving to a significant surplus of over $5 billion in the first quarter of 1969. This compares with a deficit of $16 billion in the second quarter of last year.

Any impact on spending and prices from the mid-1968 fiscal action has been scarcely perceptible to date. Because added fiscal restraint does not appear to be forthcoming, future economic slowing from fiscal actions will have to be in the form of a lagged response to actions already taken. Recently announced budget plans indicate that the surcharge will be retained at the current level through 1969, but reduced to 5 per cent in early 1970. The Administration has also proposed that the investment tax credit be repealed, but the economic impact of such an action would probably be small in 1969.

Recently revised plans suggest that Federal expenditures in the high-employment budget will increase at about a 4.4 per cent annual rate from first quarter to fourth quarter 1969. By comparison such expenditures rose at a 5.6 per cent annual rate from second quarter 1968 to first quarter 1969, and about a 15 per cent average rate from mid-1965 to mid-1968.

The effects of revenue and expenditure plans combine to yield an estimated $7 billion annual rate of high-employment surplus for the rest of 1969. This rate of surplus represents a substantial improvement compared with the first half of 1968 rate of deficit of $14.5 billion, but does not indicate added fiscal restraint in the last three quarters of 1969.





Monetary Actions

Most strategic monetary aggregates increased only moderately during the first quarter, but rose sharply in April. The monetary base increased at an annual rate of 3.3 per cent from December to April, about the same as the 1957-68 trend rate, but substantially slower than the 6.5 per cent increase in 1968. The money stock, consisting of private demand deposits and currency held by the public, grew at a 1.9 per cent annual rate during the first quarter, but increased sharply in April. The jump in money which occurred in early April appears to have been a temporary aberration in the data, with money rising at about a 2 per cent rate from December to early May.

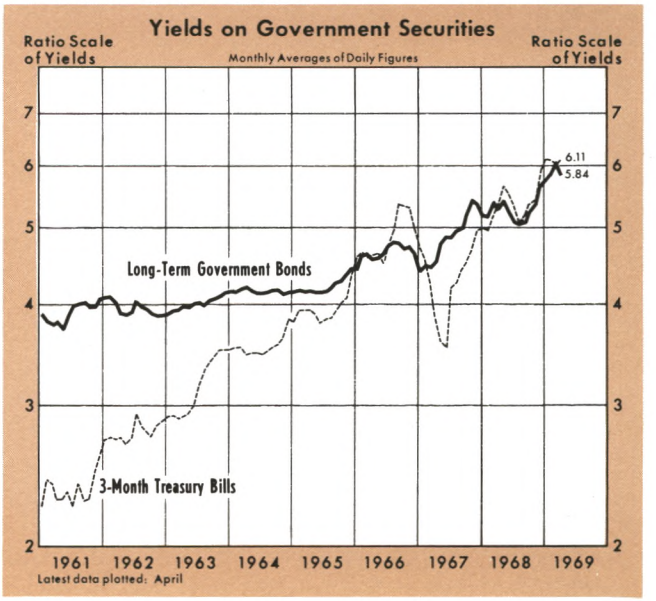
Certificates of deposit at large commercial banks have decreased sharply since the end of last year, compared with a 14 per cent increase during 1968. Regulation Q, which imposes ceilings on the interest rates banks are permitted to pay on time deposits, has, in the face of historically high market rates of interest, placed banks at a disadvantage in the competition for funds. A portion of the runoff of CD's has been offset by the acquisition of Euro-dollars and the sale of loan participations by a number of large banks. The growth of other time and savings deposits has also slowed, increasing at a 3.2 per cent rate from December to April compared with an 8 per cent rise in the previous year.

The combined effects of monetary restraint and Regulation Q in the first quarter were reflected in a leveling off of total bank credit, that is, total commercial bank loans plus investments. Bank credit expanded at an annual rate of more than 14 per cent during the second half of 1968, but slowed sharply to a 1.3 per cent rate of increase during the first quarter of this year. To the extent that funds have been channelled away from banks because of the rise of market interest rates relative to Regulation Q, the slowing of bank credit does not indicate monetary restraint.

Recent changes in the discount rate, the Federal Reserve lending rate to member banks, have brought this rate more in line with market interest rates. The discount rate was raised to 5½ per cent in December, after it had been lowered to 5¼ per cent last August. On April 4, the Federal Reserve raised the discount rate to 6 per cent and announced an increase in reserve requirements on demand deposits. Member bank borrowings from Federal Reserve banks have increased considerably since the first of the year, as market rates rose well above the discount rate. Borrowings averaged $920 million in March, up from a $752 million average in December. Since the April increase in the discount rate and in reserve requirements, borrowings have averaged $1.1 billion.

Interest Rates

Strong demand for loans pushed market interest rates sharply upward from October through December, and the rise in some rates continued through April of this year. Three-month Treasury bill rates continued to advance in April, while long-term rates declined slightly. Interest rates on four-to six-month



commercial paper averaged 7.13 per cent in late April, compared with 6.17 per cent in December and 5.80 per cent in October.

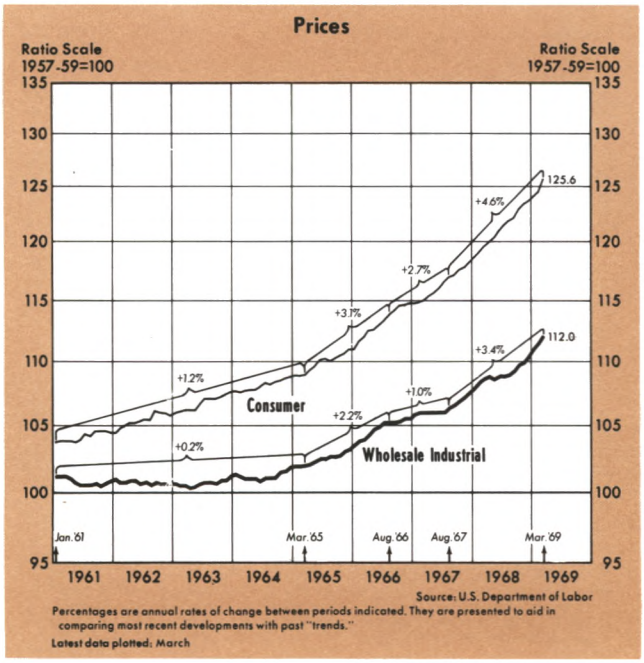
Interest rates on long-term Government securities resumed their upward movement from August of last year, rising from about 5 per cent to 6.05 per cent in March. Since then yields on these securities have declined, averaging 5.84 per cent in April. The average yield on highest grade corporate bonds was 6.89 per cent in April, up 40 basis points from the end of 1968, and 138 basis points higher than the average for 1967.

Total Spending

Total spending on goods and services rose at a 7.6 per cent annual rate from the third quarter of 1968 to the first quarter of 1969, about the same as the rate for the preceding two years. Final sales, that is, total spending other than changes in inventories, increased at a 7.9 per cent rate in the past two quarters, also about the same as in the preceding two years.

Investment Spending – According to a recent Government survey of anticipated capital expenditures, such spending is expected to rise 14 per cent this year. By comparison, business spending for new plant and equipment increased 10.7 per cent in the year ending first quarter, well above the 5.3 per cent trend rate for 1957-1967.

The rate of inventory accumulation has remained low relative to rates in late 1967. The ratio of inventory to sales was 1.54 in the first quarter, the same as in the previous quarter, but substantially below the average ratio of 1.58 for 1967.



Despite rising interest rates, home building increased rapidly in the second half of 1968, but has slowed in the early months of 1969. The value of new residential construction (nonfarm) increased at a 28.9 per cent annual rate from July to December but has increased at a 6.6 per cent rate since December.

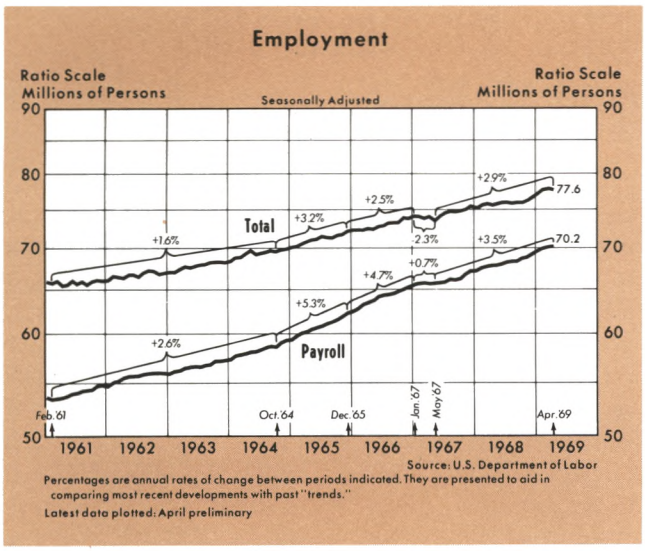
Consumer Spending– Consumer demand remained buoyant during the first quarter, increasing at an annual rate of 8.8 per cent, about the same as the 9 per cent rate of growth during the past year, but significantly greater than the 1961-67 trend rate of 6.6 per cent. The first quarter increase reflected increases in personal expenditures for durable goods at an 8.7 per cent annual rate, for nondurables at a 9.6 per cent rate, and for services at a 7.9 per cent rate. Retail sales rose at an 11.8 per cent rate in the first four months of this year compared to a 2.7 per cent rate of decline in the last five months of 1968, and a 1961-67 trend rate of increase of 6.2 per cent.

Prices, Employment and Production

Prices have continued to accelerate. Wholesale industrial prices rose at a 6.7 per cent rate in the first three months of 1969 compared to a 2.6 per cent increase in the previous year and a 1.7 per cent annual rate from 1964 to 1967. Consumer prices rose at a 6.3 per cent rate in the first quarter of 1969, after rising at a 3.3 per cent rate from 1965 to 1968 and a 1.4 per cent rate for the 1957-65 period.

Domestic price inflation continues to undermine the U.S. foreign trade surplus. Imports, strengthened by the rapid growth in total demand and the growing price gap between foreign and domestic goods, have increased at an 8 per cent annual rate since mid-1967 while exports have declined at a 1 per cent rate. (Both figures are distorted by the dock strike which started in December 1968 and caused both imports and exports to decline in the fourth quarter.)

Employment growth was rapid in the December to April period. Payroll employment increased at a 4 per cent annual rate from December to April compared with a 3.4 per cent rise in the previous year, and a 2.2 per cent rate for the 1957-67 period. Employment has been increasing faster than population of working force age, which is estimated to be increasing at a 1.6 per cent rate.

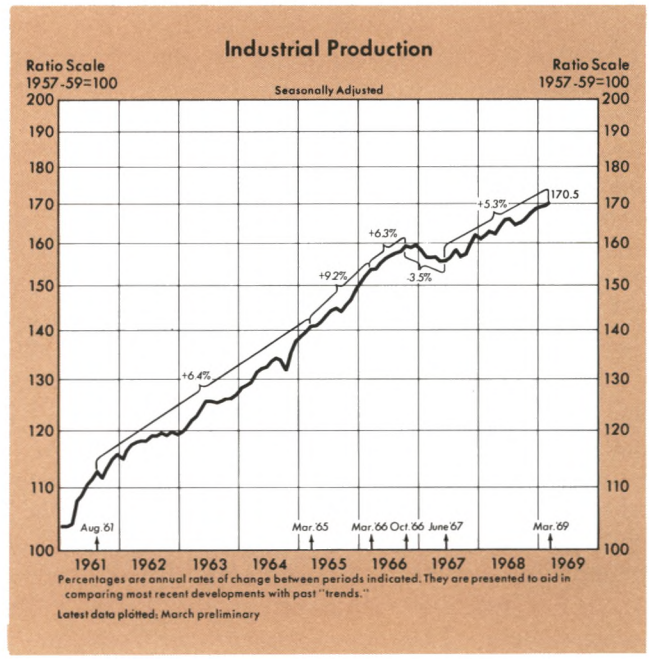


Industrial production increased at a 4.3 per cent rate during the first three months of 1969, compared to about a 4 per cent rise in the previous year. The production of consumer goods, iron and steel contributed substantially to the first quarter rise. The production of automobile assemblies in the first quarter was down slightly from the end of last year.

Summary

Federal budget actions have become much less expansionary since mid-1968, but there is little likelihood of additional fiscal restraint in the remainder of 1969. Reduced growth of several monetary aggregates indicated some monetary restraint in the first four and a half months of 1969. Even though the money stock rose sharply in early April, it subsequently declined so that by early May it was up at only about a 2 per cent rate from December.

The advance of spending continues to contribute to price inflation. With fiscal actions scheduled to provide little added restraint in 1969, limitation on monetary growth appears to be the key to the deceleration of total spending and, ultimately, prices.



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Federal Open Market Committee Decisions in 1968— A Year of Watchful Waiting

MONETARY policy decisions and actions in 1968 were clouded by uncertainty about the passage of pending fiscal legislation in the first half of the year and by overestimation of the restraining impact of such legislation in the second half. As a result, monetary authorities did not take action to slow the growth of the money stock in the first half of the year when the pace of economic activity was accelerating. Furthermore, they sought to accommodate any tendency toward easing money and short-term credit market conditions in the third quarter, attempting to avoid economic "overkill," the anticipated result of the 10 per cent surtax and $6 billion cut in planned Federal expenditures passed by Congress in late June. The substantial slowdown in total spending expected by many analysts within and outside the Federal Reserve did not materialize, and it was not until December that the Federal Reserve adopted a policy of restraint.

This article summarizes monetary policy decisions of the Federal Open Market Committee (FOMC) in 1968.[1] The source of information is the record of FOMC policy actions released about 90 days after each meeting and published in the Federal Reserve *Bulletin*.[2] This record includes the Committee's instruction or current economic policy "directive" to the New York Federal Reserve Bank. The Trading Desk at this bank conducts open market operations for the System. This article will sometimes refer to the directive being sent to the "Desk." The article also compares the policy decisions of the FOMC with the behavior of monetary variables such as market interest rates, and the growth rates of such monetary aggregates as the monetary base, the money stock and bank credit.

These monetary variables frequently appear to give conflicting signs with respect to the direction and degree of the influence of monetary actions on total spending. For example, if market anticipations of future inflation are revised upwards, interest rates may rise. The rise in interest rates, taken alone, might suggest monetary tightness to some observers. However, the growth of the money stock may be accelerating at the same time, thus indicating monetary ease to others. Similarly, if the money supply increases at a relatively slow rate for several quarters following a period of rapid monetary growth and inflation, interest rates may fall because demands for credit subside as anticipations of future inflation are revised downward. The declining interest rates may indicate "easy money" to some observers, while the lack of growth of the money supply indicates "tight money" to others.

At each meeting the FOMC assesses the current economic situation and reaches a majority opinion regarding the course of monetary actions over the period ahead. Some members of the Committee and staff cite movements in various indicators and the probable influence of fiscal and monetary actions on total spending, prices, interest rates and employment.

Some participants at the Committee meetings do not find any single indicator or group of indicators to be most informative, but rather prefer to "look at everything." The FOMC directives to the New York Federal Reserve Bank reflect this approach. The directives are phrased primarily in terms of "money and short-term credit market conditions," and consequently the Desk devotes most of its attention to interest rates and free reserves.

An alternative approach to economic stabilization policy is provided by consideration of monetary aggregates. One version of this approach emphasizes the money stock, defined as demand deposits plus currency, and will hereafter be referred to as the "monetary view."[3] The theory and evidence underlying this approach suggest that the growth rate of the money supply over approximately the current and previous three quarters provides the best indication of the total influence of stabilization actions, both monetary and fiscal, on current economic activity.

[1]For a review of economic developments last year, see Norman Bowsher, "1968 – A Year of Inflation," in the December 1968 issue of this *Review*.

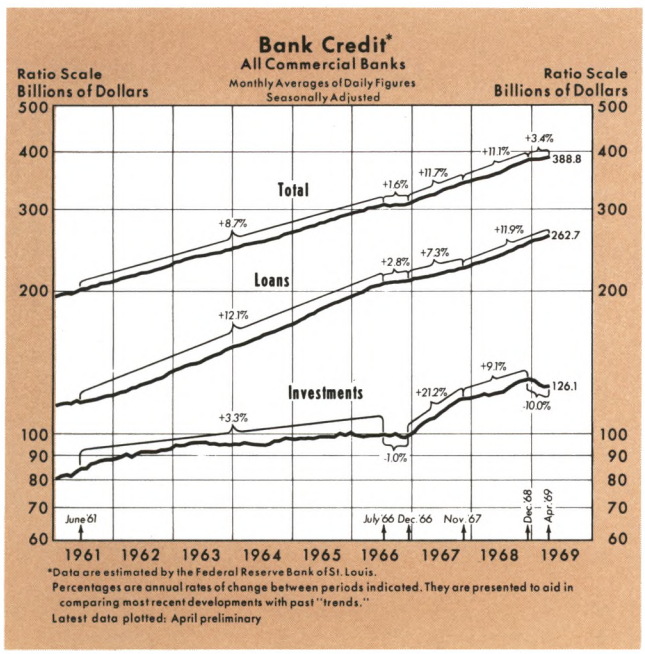
[2]The record of FOMC policy actions is also published in the *Annual Report of the Board of Governors of the Federal Reserve System*.

[3]See "An Approach to Monetary and Fiscal Management," a speech given by Darryl R. Francis, President, Federal Reserve Bank of St. Louis, before The Money Marketeers, New York City, October 30, 1968. This speech was reprinted in the November 1968 issue of this *Review*, along with "Monetary and Fiscal Actions: A Test of Their Relative Importance In Economic Stabilization" by Leonall C. Andersen and Jerry L. Jordan. A "Comment" on this article by Frank de Leeuw and John Kalchbrenner and a "Reply" by the authors appear in the April 1969 *Review*. Also see "The Role of Money and Monetary Policy" by Karl Brunner in the July 1968 issue of this *Review*.

From this analytical approach it is argued that policymakers could more accurately assess the present state and probable course of the economy by placing greater reliance on the growth of the money supply as an indicator of monetary influence rather than relying on money market conditions and related measures. In this article the directives of the FOMC in 1968 are contrasted with the analysis emanating from the monetary view.

FOMC Directives

The seven members of the Board of Governors of the Federal Reserve System and five of the twelve Reserve Bank presidents are voting members of the FOMC, while the other Reserve Bank presidents participate in the discussion. Staff members of the Committee contribute analyses and recommendations which provide a basis for the decisions of the Committee. The Chairman of the Board of Governors of the Federal Reserve System is Chairman of the FOMC. The President of the New York Reserve Bank is a permanent voting member and traditionally Vice-Chairman of the FOMC. During the first two months of 1968, the other four voting presidents were from the Reserve Banks of Chicago, Richmond, St. Louis, and San Francisco. For the remainder of the year they were from the banks of Atlanta, Boston, Cleveland, and Minneapolis. Last year the FOMC met every three or four weeks and also on special occasions when circumstances arose which warranted consideration of modification of the directive issued at the previous meeting.



As noted above, the directive issued to the New York Federal Reserve Bank at each meeting is phrased primarily in terms of "money and short-term credit market conditions." The interpretation of these terms by the Desk manager and the demand and supply conditions he faces in the money market are important in determining the effect that implementation of the instruction will have on interest rates and monetary aggregates. The directive contains (1) a summary of general economic conditions; (2) a policy consensus – a statement of the Committee's general policy stance; (3) an operating instruction which indicates the direction in which the Committee feels that money market conditions should move in order to achieve the policy goals, and generally (4) a proviso clause stating that open market operations should be modified if the Desk observes a particular prespecified event, such as a significant deviation of bank credit growth from projections. The exhibit on pages 8 and 9 presents a summary of each of the directives issued in 1968.

The proviso clause tells the manager the conditions under which operations should be modified from the course otherwise specified in the directive. The principal monetary variable employed in the proviso clause during 1968 was bank credit.[4] For each meeting of the FOMC the Board staff projects the growth of bank credit for the coming month. The proviso clause tells the Desk manager the direction in which he should modify operations if actual bank credit growth is deviating from projections. The manager is not required to alter his operations in such a way as to achieve the projected growth of bank credit. All that is required is that operations be modified somewhat from what they otherwise would have been.

Decisions and Actions in 1968

An examination of the policy directives of the FOMC suggests that 1968 can be divided into three periods. From December 1967 through May 1968 the Desk was instructed to achieve firmer conditions in the money market or to maintain already firm conditions. The second period, from June through November, was one of "accommodating tendencies for short-term interest rates to decline" or "maintaining prevailing conditions in the money market." Firming of money market conditions was allowed in the latter

[4]Bank credit is defined as total loans and investments at all commercial banks. The FOMC often refers to the "credit proxy" – daily average total deposits at all member banks – as a more readily available indicator of the growth of bank credit.

FEDERAL OPEN MARKET COMMITTEE ECONOMIC POLICY DIRECTIVES

Date of FOMC Meeting	Policy Consensus	Operating Instructions	Proviso Clause of Directive
1968			
January 9	. . . to foster financial conditions conducive to resistance of inflationary pressures and progress toward reasonable equilibrium in the country's balance of payments. Dissents: None	To implement this policy, System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining the somewhat firmer conditions that have developed in the money market in recent weeks . . .	provided, however, that operations shall be modified as needed to moderate any apparently significant deviations of bank credit from current expectations.
February 6	No change Dissents: None	. . . while taking account of Treasury financing activity, System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining firm conditions in the money market,	and operations shall be modified to the extent permitted by Treasury financing if bank credit appears to be expanding as rapidly as is currently projected.
March 5	No change Dissents: None	. . . System open market operations until the next meeting of the Committee shall be conducted with a view to attaining somewhat firmer conditions in the money market;	provided, however, that operations shall be further modified if bank credit appears to be expanding more rapidly than is currently projected.
March 14	. . . current policy directive should be modified to permit adaptation of open market operations to the changed circumstances brought about by recent events including the discount rate action. Dissents: None	In light of recent international developments, System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining firm but orderly conditions in the money market, taking into account the effects of increases in Federal Reserve discount rates.	
April 2	. . . to foster financial conditions conducive to resistance of inflationary pressures and attainment of reasonable equilibrium in the country's balance of payments. Dissents: None	. . . System open market operations until the next meeting of the Committee shall be conducted with a view to attaining slightly firmer conditions in the money market;	provided, however, that operations shall be modified if bank credit appears to be deviating significantly from current predictions or if unusual liquidity pressures should develop.
April 19	. . . achieving firmer money market conditions in keeping with the higher discount rate while facilitating orderly market adjustments to the increase in that rate. Dissents: None	System open market operations until the next meeting of the Committee shall be conducted with a view to achieving firmer but maintaining orderly conditions in the money market, while facilitating market adjustments to the increase in the Federal Reserve discount rates.	
April 30	. . . to foster financial conditions conducive to resistance of inflationary pressures and attainment of reasonable equilibrium in the country's balance of payments. Dissents: Mr. Hickman	. . . while taking account of Treasury financing activity, System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining the firmer conditions prevailing in the money market;	provided, however, that operations shall be modified to the extent permitted by Treasury financing, if bank credit appears to be deviating significantly from current projections.
May 28	. . . to foster financial conditions conducive to resistance of inflationary pressures and attainment of reasonable equilibrium in the country's balance of payments, while taking account of the potential for severe pressures in financial markets if fiscal restraint is not forthcoming. Dissents: None	. . . System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining firm conditions in the money market;	provided, however, that operations shall be modified if bank credit appears to be deviating significantly from current projection or if unusual pressures should develop in financial markets.

June 18	. . . to foster financial conditions conducive to resistance of inflationary pressures and attainment of reasonable equilibrium in the country's balance of payments, while taking account of the potential impact of developments with respect to fiscal legislation. Dissents: None	. . . System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining generally firm but orderly conditions in the money market;	provided, however, that if the proposed fiscal legislation is enacted, operations shall accommodate tendencies for short-term interest rates to decline in connection with such affirmative congressional action on the pending fiscal legislation so long as bank credit expansion does not exceed current projections.
July 16	. . . to foster financial conditions conducive to sustainable economic growth, continued resistance to inflationary pressures, and attainment of reasonable equilibrium in the country's balance of payments. Dissents: None	. . . while taking account of forthcoming Treasury financing activity, System open market operations until the next meeting of the Committee shall be conducted with a view to accommodating the tendency toward somewhat less firm conditions in the money market that has developed since the preceding meeting of the Committee;	provided, however, that operations shall be modified, to the extent permitted by Treasury financing, if bank credit appears to be deviating significantly from current projections.
August 13	No change Dissents: None	. . . System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining, on balance, about the prevailing conditions in money and short-term credit markets;	provided, however, that operations shall be modified if bank credit appears to be significantly exceeding current projections.
August 19	No change Dissents: None	System open market operations until the next meeting of the Committee shall be conducted with a view to facilitating orderly adjustments in money market conditions to reductions in Federal Reserve discount rates;	provided, however, that operations shall be modified if bank credit appears to be deviating significantly from current projections.
September 10	No change Dissents: None	System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining about the prevailing conditions in money and short-term credit markets;	provided, however, that operations shall be modified if bank credit appears to be deviating significantly from current projections.
October 8	No change Dissents: Messrs. Hayes Hickman Kimbrel	System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining about the prevailing conditions in money and short-term credit markets;	provided, however, that operations shall be modified to the extent permitted by the forthcoming Treasury refunding operation, if bank credit expansion appears to be significantly exceeding current projections.
October 29	No change Dissents: Mr. Hayes	. . . while taking account of the current Treasury financing, System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining about the prevailing conditions in money and short-term credit markets;	provided, however, that operations shall be modified, to the extent permitted by Treasury financing, if bank credit expansion appears to be exceeding current projections.
November 26	No change Dissents: Messrs. Hayes Hickman Kimbrel Morris	. . . System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining about the prevailing conditions in money and short-term credit markets;	provided, however, that operations shall be modified if bank credit expansion appears to be exceeding current projections.
December 17	. . . to foster financial conditions conducive to the reduction of inflationary pressures, with a view to encouraging a more substainable rate of economic growth and attaining reasonable equilibrium in the country's balance of payments. Dissents: None	. . . System open market purchases until the next meeting of the Committee shall be conducted with a view to attaining firmer conditions in money and short-term credit markets, taking account of the effects of other possible monetary policy action;	provided, however, that operations shall be modified if bank credit expansion appears to be deviating significantly from current projections.

SOURCE: *Federal Open Market Committee Policy Record Entries, Current Economic Policy Directive*

part of this period under authority of the proviso clause, as the growth of bank credit persistently outpaced expectations. The third period started at the final meeting of the year, with an instruction to attain firmer conditions in money and short-term credit markets.

January Through May — Desire For Tightness

Decisions by the FOMC in the first five months of 1968 were all in the direction of firm money market conditions. As 1968 began, inflation and a more serious balance-of-payments deficit were the chief concerns of the FOMC. In January the Committee assessed the thrust of monetary actions to be relatively restrictive because of the high and rising market rates of interest and, therefore, decided not to take further action. Uncertainty about the effects of actions undertaken in late 1967 and concern over disintermediation of commercial bank time deposits (as market interest rates rose relative to Regulation Q ceilings) discouraged further tightening in January.[5] At the same time, the President's January 1 announcement of a special program to improve the balance of payments, through some special restrictions on lending, investing, and traveling abroad, tended to reduce the urgency of the balance-of-payments considerations as a basis for restrictive monetary actions.

In early February the FOMC viewed the existing economic situation as essentially the same as a month before. Members expressed considerable concern over the inflationary pressures in the economy, noting that the projected growth rate of bank credit was more rapid than they felt desirable. However, the majority of the Committee felt that Treasury financing operations imposed a constraint on monetary policy limiting action to slow the inflation.[6] The Committee instructed the Desk to maintain firm conditions in the money markets, and changed the proviso clause in the direction of firmness by stipulating that open market operations should be modified, to the extent permitted by Treasury financing, if bank credit grew as rapidly as was then expected.

In early March the FOMC considered the continuing rapid rise in overall economic activity and prices, and the reduced U.S. trade surplus recorded in recent months. The Committee decided that "greater monetary restraint" was appropriate and directed the Desk to achieve somewhat firmer conditions in the money market. A proviso clause in the direction of firmness indicated that open market operations should "seek still firmer conditions" if bank credit expanded more rapidly than projected.

A crisis in the London gold market continued to mount in March, and in the middle of that month the London gold market was closed for two weeks. The Board of Governors approved an increase in the discount rate from 4½ per cent to 5 per cent, and the Committee modified its policy directive. The revised directive instructed the Desk to operate with a view to maintaining firm but orderly conditions in the money market, in light of the gold crisis and the rise in the discount rate.

In early April the Committee again decided that there should be a move toward "attaining slightly firmer conditions in the money market." At the same time, some members of the Committee urged that firming proceed with caution because (1) improved prospects for fiscal legislation led some members to believe that "further firming through open market operations" was not appropriate; (2) "a considerable degree of monetary restraint had already been achieved;" (3) further firming "might have large adverse effects on flows of funds to financial intermediaries," and (4) there was uncertainty about the economic effects of any de-escalation of the Vietnam war. The proviso clause was changed, instructing the Desk to modify operations if unusual liquidity pressures developed or if the growth of bank credit was deviating significantly from projections.

In mid-April the discount rate was raised again. Regulation Q ceilings on the interest rates banks are permitted to pay on large denomination certificates of deposits were also raised to help alleviate the loss of time deposits by commercial banks. Following the change in these administered interest rate ceilings, the Desk was directed to achieve firmer conditions, but also to maintain orderly conditions in the money market.

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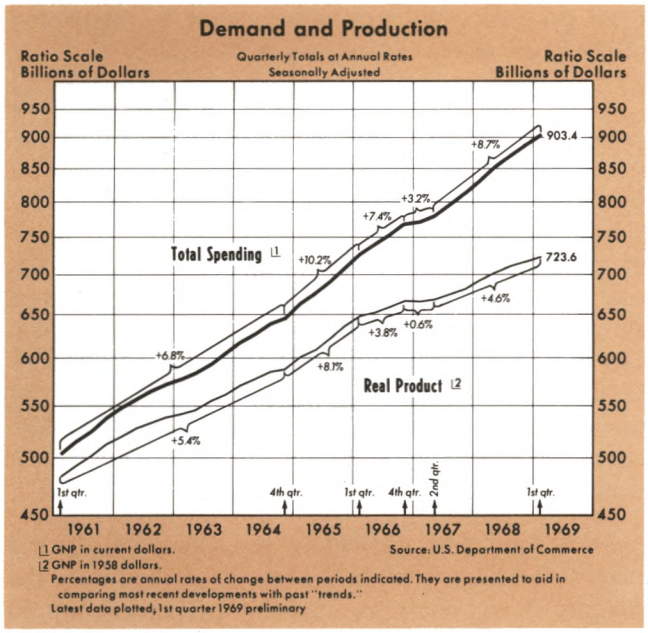
[5]See Leonall C. Andersen and Michael O. Rigg, "1967 – A Year of Constraints on Monetary Management" in the May 1968 issue of this *Review* for a summary of policy decisions in late 1967. Following the British devaluation in November 1967, the discount rate was raised from 4 to 4½ per cent in an attempt to prevent increased capital flows from contributing more to the balance-of-payments deficit. At the December 1967 meeting of the FOMC, it had been decided to move "slightly beyond the firmer conditions that have developed in money markets partly as a result of the increase in Federal Reserve discount rates." In the last week of December it was announced that a one-half percentage point increase in reserve requirements against demand deposits over $5 million would take effect in mid-January.

[6]This "even keel" constraint on monetary policy generally means that the Federal Reserve should not change monetary policy when the Treasury is in the market raising new funds or refunding an issue, or the Desk should not allow wide fluctuations in interest rates during Treasury financing.



When the FOMC met in late April, members again made note of the rapid expansion of overall economic activity and the balance-of-payments deficit. Nevertheless, the Committee issued an essentially "no change" operating instruction. Some members favored no change in policy because they felt "a considerable degree of monetary restraint had already been achieved" and because the prospects for fiscal action had improved. Moreover, the impending Treasury refunding seemed to preclude any change in policy at that time.[7]

At the late May meeting of the FOMC, preliminary estimates indicated that the increase in GNP in the second quarter would be about as large as the exceptionally large increase in the first quarter. Therefore, the Committee agreed that "a restrictive monetary policy was appropriate," and concluded that operations should "maintain the prevailing firm conditions." The Committee noted that Congress might soon enact the fiscal restraint program and that "a considerable degree of monetary restraint had already been achieved," as indicated by a slowing in the growth of bank credit and the sharp advances in market interest rates.

The monetary view, emphasizing changes in the money stock, indicates that actions during the first five months of 1968 remained highly stimulative and that monetary conditions remained conducive to continued inflation. According to this view, inflation accelerates with a lag following monetary stimulus, and as inflation accelerates (and anticipations of future inflation increase), nominal market interest rates rise to compensate lenders for the expected loss of purchasing power of the dollar. Throughout the spring of 1968 interest rates continued to rise as inflation accelerated and the demand for loan funds increased. Many members of the Committee held the view that the rising interest rates and declining growth of bank credit indicated monetary restraint. Yet economic theory (and substantial empirical evidence) suggests that extended periods of rising nominal interest rates are a result of inflation and a strong loan demand, rather than a restraining influence.

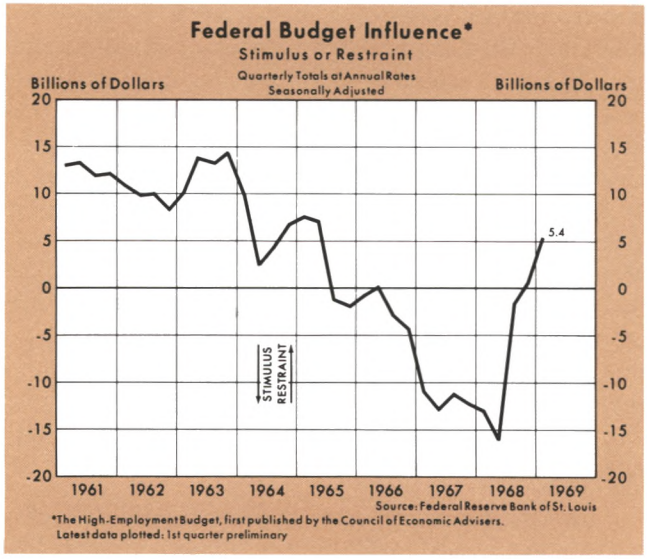
Bank credit was the monetary aggregate most frequently mentioned in the FOMC directives, and this measure did slow in the spring of 1968. However, anyone interpreting this observed slowing should consider that the slowing was a consequence of disintermediation of commercial bank time deposits. As market interest rates rose rapidly in response to the accelerating inflation in the spring of 1968, banks were prevented by Regulation Q ceiling rates from competing effectively for time deposits. As bank deposit growth slowed, the growth of bank credit also slowed, but under such circumstances the slowing of bank credit may not indicate any reduction of total credit or growth of purchasing power in the economy.[8] Nevertheless, some members of the FOMC interpreted the slowing in bank credit as a sign of monetary restraint. In contrast to the apparent tightening indicated by bank credit and interest rates, the Committee noted that the money stock had increased at a rapid 9 per cent annual rate in April and May and was expected to continue growing at this rapid rate in June, following a 4.7 per cent annual rate of growth from December to March.

June Through November — Tendency Towards Monetary Ease

Decisions by the FOMC during most of the second half of 1968 were strongly influenced by the belief that fiscal action would quickly reduce the rate of increase in total spending. At the meeting in mid-June the Committee expected the 10 per cent surtax and $6 billion cut in planned Government expenditures to be enacted within a few days. The Board staff estimated that the growth of real GNP would,

[7]Mr. Hickman, President of the Federal Reserve Bank of Cleveland, dissented from the decision, expressing the view that firmer conditions should be sought once the Treasury financing was completed.

[8]See Jerry L. Jordan, "Relations Among Monetary Aggregates," in the March 1969 issue of this *Review*.



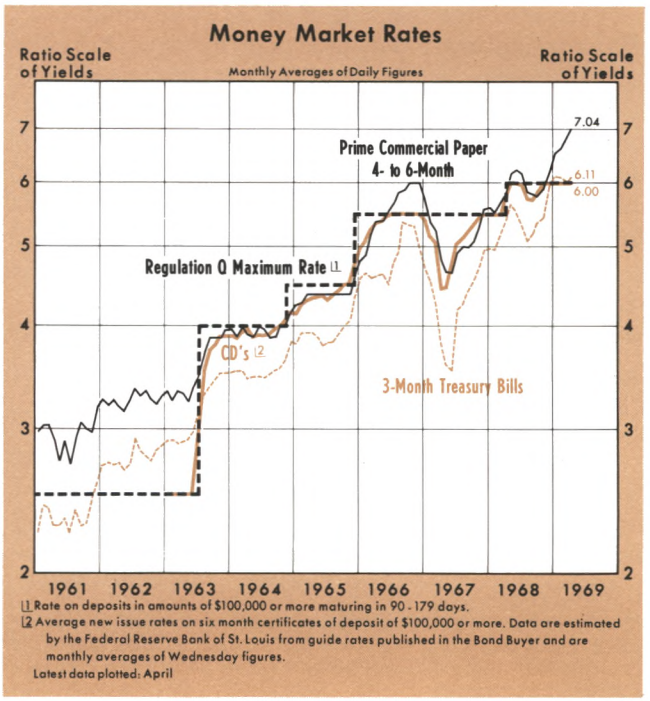
for this and other reasons, slow sharply in both the third and fourth quarters. Therefore, although a rapid pace of total spending continued in the second quarter, the Committee decided against taking restrictive action. They instructed the Desk to maintain firm but orderly conditions in the money market, and to accommodate any tendency for short-term rates to decline if the surtax passed.

The view that the fiscal package would have a substantial restraining impact on total spending soon after passage was widely held in the spring and summer of 1968.[9] It was argued that moderation in the growth of Government spending, reduced growth of after-tax incomes of individuals and corporations, and a smaller Federal deficit would all add up to substantially slower expansion of total spending after the proposed fiscal package became law. Thus, it was argued that a restrictive monetary policy in the summer of 1968 would be inappropriate and unnecessary, in view of the restraint expected from the fiscal action.

The Revenue and Expenditure Control Act of 1968 was enacted in late June and interest rates continued the decline which had begun in late May, at least partly because the market had anticipated the fiscal action. The Committee pondered the choice between either deferring easing until there was evidence that the fiscal measures were restraining total demand, or accommodating any easing tendencies in the money market. Few members questioned the view that the fiscal package would significantly slow the expansion of the economy in the second half of 1968.

At the July 16 meeting, Board of Governors staff projections indicated that the increase in total spending (GNP) in the third quarter would be considerably below the first-half pace. The staff also expected that consumer expenditures would continue to advance at only the moderate second quarter pace, and that the growth of various real magnitudes would soon slow. Given this analysis, the Committee decided that the Desk should accommodate easing tendencies in the money market. Throughout the remainder of the summer and the fall, the decisions of the FOMC continued to reflect the expectation that fiscal actions would significantly slow the pace of economic activity.

At its mid-August meeting the Committee noted that economic activity had been vigorous during the summer. However, some members thought it would be undesirable for the rising interest rates of the preceding few days to be allowed to continue and suggested that a cut in the discount rate might have the effect of moderating further upward pressures on short-term rates. The Board of Governors approved a reduction in the discount rate from 5½ per cent to 5¼ per cent at the Federal Reserve Bank of Minneapolis, and within two weeks the rates at the other District Banks were also lowered. Nevertheless, market rates continued to rise as it became increasingly evident to the business community and others that inflationary pressures were not subsiding.



[9]For discussion of the fiscal 1969 budget program, see Keith M. Carlson, "A Program of Budget Restraint" in the March 1969 issue of this *Review*, and "Economic Impact of Fiscal Actions," *Financial Analysts Journal*, Volume XXV, No. 2 (1969), pp. 69-71.

From August until the December meeting, the operating instructions to the Desk were to maintain about the prevailing conditions in money and short-term credit markets. In fact, however, market interest rates were moving upwards throughout this period. Concern over accelerated growth of bank credit led to a proviso clause in the next few directives, instructing the Desk to modify operations toward tightness if bank credit expansion appeared to be exceeding current projections.

Information presented at the September meeting indicated a slight decrease in the unemployment rate from 3.7 to 3.5 per cent in August, and rapid increases in retail sales and total consumer spending. It appeared likely that very heavy demands for credit would push up short-term interest rates, and the Committee felt that such increases would be consistent with "maintaining prevailing money market conditions." It was deemed appropriate not to accommodate completely the rise in demands for funds because of the observed strength of the economy. A number of members – while not advocating a firming of policy– expressed concern about the rapid rates of bank credit expansion in recent months. On balance, however, "greater restraint" was not considered desirable in view of the continued belief that substantial slowing in overall economic activity would be forthcoming.

At both of the October meetings, Treasury financing operations were a consideration precluding a change in policy. But some members of the Committee felt that the excessive growth of bank credit and persistent inflationary pressures warranted seeking firmer conditions to the extent permitted by Treasury refunding operations. Presidents Hayes (New York), Hickman (Cleveland) and Kimbrel (Atlanta) dissented from the "no change" decision reached at the early October meeting, and President Hayes dissented again in late October. At the late November meeting these three presidents again dissented and were joined by President Morris of the Federal Reserve Bank of Boston. The seven members of the Board of Governors and the remaining voting President, Mr. Galusha of the Minneapolis bank, voted to continue the "no change" policy in November on the grounds that "evidences of slowing in the rate of expansion were likely to become more pronounced in coming months."

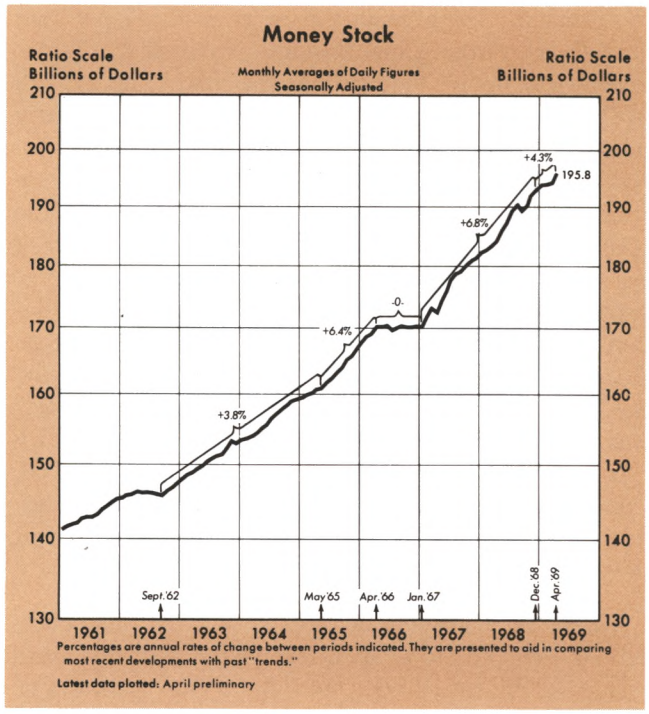
The monetary view of the developments from June to November last year suggests that there was about the same degree of inflationary stimulus from monetary growth in the second half of the year as in the first half. The monetary base grew at a 7 per cent annual rate from June through November, slightly faster than in the first half of the year. The growth of the money supply (demand deposits plus currency in the hands of the public) slowed from July to October after increasing at a 10 per cent annual rate from March to July. The growth of money in the spring, at rates substantially faster than the growth of the base, is attributable to the decline of Treasury deposits at commercial banks and the disintermediation of time deposits as market interest rates rose sharply relative to Regulation Q ceilings. Conversely, the slowing in the growth of money after midyear was a result of a buildup of Treasury deposits and a rapid increase in time deposits as interest rates fell. Consequently, it can be concluded that monetary influence on the economy remained very stimulative in the second half of the year.

There is considerable evidence that monetary actions influence total spending in the economy with a lag, usually distributed over about four quarters or more. This evidence would indicate that total spending in the third and fourth quarters of 1968 was still under the influence of the rapid growth of money in the first half of the year. Furthermore, the monetary view points out that there is little empirical evidence supporting the view that fiscal actions, in the presence of strong monetary stimulus, have a large and immediate restraining impact on the economy.

December — Effective Move Towards Restraint

The Committee, at the December 17th meeting, decided that restrictive actions should be taken, in view of upward revisions of fourth quarter GNP projections and other signs of strength in the economy. The unemployment rate had declined to 3.3 per cent in December and industrial production and retail sales had risen in November. At the same time, available information showed a third quarter deficit in the U.S. balance of payments. With most commercial banks paying the ceiling rates on large denomination CD's, the Committee expected a larger than usual runoff of CD's, but nevertheless directed that operations be conducted with a view to attaining firmer conditions (allowing interest rates to rise) in money and short-term credit markets. The discount rate was also raised from 5¼ to 5½ per cent on December 18.

The monetary view of the developments following the December 1968 meeting of the FOMC indicates



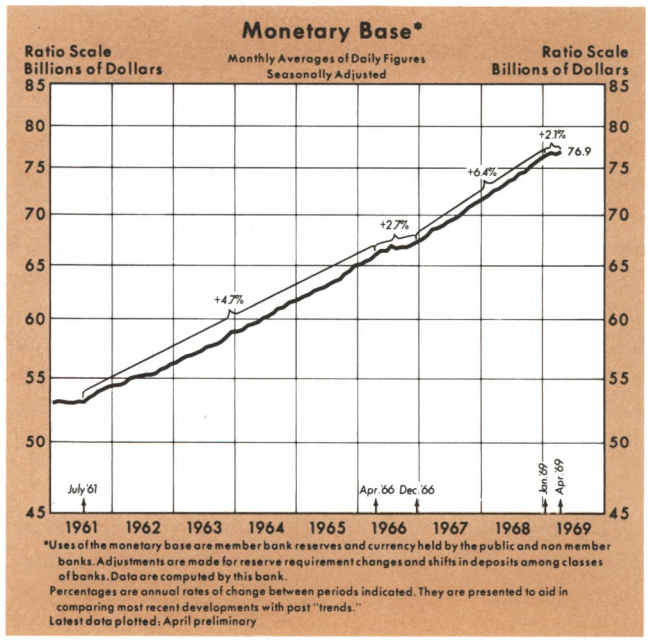
that a substantial degree of monetary restraint has been achieved, but the ultimate impact of this restraint on total spending will depend on its duration. From December to March 1969 money grew at a 1.9 per cent annual rate, and the monetary base increased at a 3.4 per cent rate. Weekly data show that the level of the money stock jumped sharply in early April, apparently a temporary aberration in the data, but by early May had fallen to the March level. In the period from December to early May, money rose at about a 2 per cent rate. The monetary view indicates that the growth of money in May and June will have a very important bearing on monetary influence on total spending during the second half of this year. If the level of money in May and June averages higher than in April, the growth of money this spring would be sufficiently rapid to offset any restraining influence otherwise emanating from the relatively slow monetary growth from December to March. On the other hand, if the money stock in May and June averages about the same as in March, a substantial slowing in the growth of total spending would likely be observed in the second half of this year.

The continued slower growth of the monetary base (at a 3 per cent rate from March to April and a 2.1 per cent rate from January to April) indicates that actions of the Federal Reserve so far this year have not been conducive to rapid monetary growth. Statements of policymakers indicate a desire to maintain effective monetary restraint. In this case smaller increases in total spending and lower interest rates can be expected toward the end of this year. Reduction in the rate of inflation will take a longer period of time.

Summary

In the first half of 1968 the operating instructions sent to the Federal Reserve Bank of New York, and implemented by the Desk Manager, indicated that operations should be conducted with a view to maintaining firm conditions or attaining firmer conditions. High and rising short-term market interest rates in early 1968 indicated monetary restraint to some observers, but were probably only the result of rapidly rising demands for loan funds. The growth rates of the money stock and the monetary base on balance were very rapid throughout the first half of last year, indicating stimulative monetary actions. The growth of total bank deposits and bank credit slowed substantially in the spring of 1968 as market interest rates rose sharply relative to the ceiling rates banks were permitted to pay on time deposits, and banks were unable to compete effectively for time deposits. The majority of the FOMC interpreted the slowing of bank credit growth, coupled with rising market interest rates, as a sign of significant monetary restraint. Therefore, direct actions to slow the growth of Federal Reserve credit, the monetary base and the money stock were not taken.

Beginning with the first meeting after the passage of the fiscal package at midyear, the FOMC in-



structed the Desk manager to accommodate less firm conditions or to maintain prevailing conditions in the money markets. Until the final meeting of the year in mid-December, the majority of the Committee remained convinced that substantial restraining influence was forthcoming from the fiscal package, and concluded that monetary restraint was inappropriate.

There was considerable support for the majority opinion of the FOMC throughout the economics profession. Business and financial periodicals in the summer and early fall cited the majority of economic analysts as concluding that the fiscal package would soon have a substantial restraining impact on the economy. The Wharton School forecasting model indicated that the immediate impact of the fiscal package would slow the growth of GNP to $8.7 billion in the third quarter of 1968, less than half the actual result for that quarter. Similarly, most other forecasting models indicated there would be immediate slowing of economic activity and that by the first quarter of 1969 there was a strong possibility of a recession or "fiscal overkill."

The easing of market rates of interest from June into August last year may be attributed to the widely held expectation that substantial slowing of the economy, smaller price increases, and lower interest rates were soon to be forthcoming. However, as the second half of 1968 progressed it became increasingly evident that the immediate restraining impact of the fiscal action had been considerably overestimated and that rapid price increases and high market rates of interest would continue into 1969.[10]

[10]The Council of Economic Advisers held firmly to the view that the economy would slow as a result of the fiscal action. In early November, Arthur Okun, the Chairman of the CEA, announced that the nation had "turned the corner toward price stability." He observed that "it should be emphasized that our over-all price performance is still far from satisfactory. But improvement is a fact – and no longer just a forecast."

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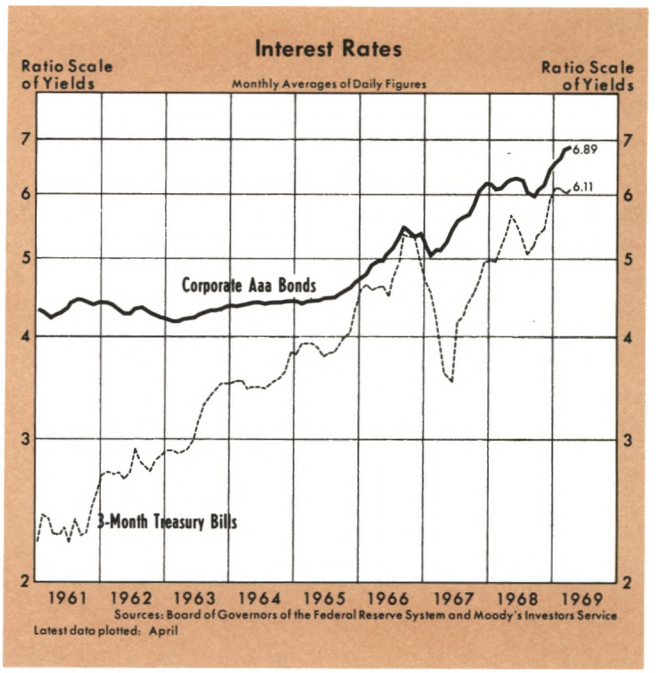

Analysis based on the growth of money, on balance, does not indicate monetary restraint in early 1968. Furthermore, monetary growth during the period from June to November was about as stimulative as during the first part of the year. According to the monetary view, these actions were so expansive as to offset any restraint which might have developed from the more restrictive Federal budget.

If a tighter monetary policy was warranted in December, as it surely was, then it would also have been appropriate during the summer when total spending and expectations of price rises were also increasing rapidly. The decision to slow monetary growth probably would have been made if the FOMC and other analysts had not overestimated the restraining effects of the fiscal action and ignored the probable expansionary impact of the rapid growth of the money supply.

JERRY L. JORDAN
CHARLOTTE E. RUEBLING

EDITOR'S NOTE:

The following is a paper presented by Allan H. Meltzer, Professor of Economics at Carnegie-Mellon University, at a seminar at this bank. Along with several other well-known economists, Professor Meltzer has been a leading proponent of the monetary view of economic stabilization.

This paper considers the question of the appropriate definition of money and discusses the ways that the Federal Reserve can control the money stock consistent with achieving its short-term money market objectives. Professor Meltzer advocates the use of the growth of the money stock as an indicator of the influence of monetary actions on economic activity, and then describes the manner in which the desired growth rate of money can be achieved through the Federal Reserve's control of the monetary base.

Professor Meltzer and others have been critical of monetary management because they have found little evidence that monetary authorities have recognized the importance of money in carrying out their responsibility for economic stabilization.

Controlling Money

by ALLAN H. MELTZER*

THREE QUESTIONS recur frequently in current discussions of monetary policy: (1) Can the Federal Reserve control the stock of money if it chooses to do so? (2) What are some main consequences of choosing the stock of money as opposed to some other variable as the focus of control? (3) Which stock of money can be controlled best; or stated in another way, how should we define and measure the stock of money that is to be controlled?

These questions are distinct from the larger question: Should the stock of money, somehow defined, receive the main attention of policymakers when they seek to translate some broad national or international objective, or combination of objectives – such as balance-of-payments equilibrium, reduced inflation, high level employment of resources – into an operating monetary policy? Although I do not bypass this question completely, in most of my discussion I assume that the larger question has been answered affirmatively and that there is general agreement on the following four propositions.

First, the stock of money is a main – indeed *the* main – objective of monetary policy operations. This statement means either that directives are written or monetary policy actions are judged in terms of some level, change or rate of change of one or another monetary aggregate.

Second, control of the stock of "money" is a means and not an end. Given our limited and uncertain knowledge of the timing and magnitude of the effects of policy changes, the growth rate of the stock of money is used to indicate the effects that are likely to be achieved, at some sequence of dates in the future, as a result of monetary policy operations that have been taken up to the present.

Third, monetary policy is not the only means of achieving the broad national or international objectives mentioned above, although it may be the most important means. Other policy operations (tax and spending decisions or changes in the size of the government deficit, and changes in tastes and opportunities for example) have short- or long-term effects

*I am as always indebted to Karl Brunner for the benefits derived from years of joint research, which provided the background for this paper and most of what I know about money.

on output, employment, prices and interest rates that are independent of the effects on these variables of changes in one or another measure of the stock of money.

Fourth, "money" is used to assess the relative and not the absolute effects of monetary policy. A maintained increase in the growth rate of money is interpreted as a more expansive action; a maintained decrease is interpreted as contractive. The terms "expansive" and "contractive," however, compare the size of monetary changes to the changes that have gone before and not to some absolute or ideal rate of monetary expansion.

The questions posed at the outset, though more narrow and technical, are no less important than the larger question. If the term "money" cannot be defined, money cannot be controlled. Even if there is an acceptable or accepted definition, the decision to control money is said to have unacceptable consequences. Two types of objections to controlling money are generally raised, one broad, the other more narrow and technical. Separating the two permits a far more meaningful discussion of the short-term consequences of monetary policy and gives more precision to the role that money can play and the various ways in which the stock of money can be used as an instrument of monetary policy. In the next section, I comment on several of the issues briefly. Then I discuss some of the more technical problems and in the process, define money and suggest an appropriate role.

Sorting Out The Issues

Many, if not most, of the criticisms of assigning money a more important role either rest on a misconception or attack a "straw man." The misconception is that any decision to assign a larger role to money means that discretionary monetary policy must be abandoned and replaced by a monetary rule. The attack on the monetary rule — a law of constant monetary growth — is an attack on a straw man because the critics of the rule generally fail to deal with any of the relevant issues. Choices need not be limited to decisions between extreme points. Abandoning the present policy of high variability does not require a move to the other extreme: a constant growth rate.

In this section, I distinguish three separable issues. One is the role assigned to money. A second is the ability to control the stock of money. A third is the ever-important, but often neglected, distinction between nominal and real changes in money and interest rates.

The Role of Money in Monetary Policy

Money may be used as an *indicator,* as a *target,* or as both *indicator* and *target.* Broadly speaking, when money is used as an indicator, changes in the growth rate of the stock of money become the principal means of deciding whether monetary policy is more or less expansive. When money is used as a target, policy decisions are directed toward providing a particular stock or growth rate of money, or perhaps maintaining the growth rate of money within certain limits. The limits within which such policies may be carried out are set by the extent to which money or its growth rate can be controlled. For short-term movements, the degree of control depends very much on the definition of money.

The same problem exists, of course, for any variable chosen as a target. Neither the level of free reserves nor the Treasury bill rate are now controlled completely. The relevant issues here are not whether money or some other variable can be completely controlled, but whether the degree of control exercised by the Federal Reserve is increased or decreased, and the effectiveness of monetary policy in carrying out its assigned tasks enhanced or weakened, by the substitution of some money stock target for some money market target. I return to this subject in a later section, where I suggest an appropriate target and discuss the degree of control.

The use of money as an *indicator* of monetary policy does not presuppose and does not require *any* reduction in the variability of the growth rate of money. In principal and in practice, money can be used as an indicator while the Manager of the System Open Market Account conducts his daily operations in precisely the same way he does now. He can continue to use free reserves, interest rates or money market conditions as his targets. He can offset, or fail to offset, any of the changes in float, currency, or Treasury deposits, that he wishes. Discussion of the appropriate amount of variability in the growth rate of money can and should be separated from the decision to accept money as a reliable indicator of changes in the size of policy operations and of the future effect of policy. Here, the relevant choice is not between a rule and complete discretion but between various indicators that provide more rather than less accurate information about the future effects of policy.

The reason that choosing money as an indicator has no necessary consequence for the variability of

the stock of money is recognized in the distinction between so-called defensive and dynamic operations. The Manager can continue to offset money market changes, conduct defensive operations while the Open Market Committee or its staff uses some monetary aggregate to judge the direction in which monetary policy has changed and the future effects of policy operations. If the Open Market Committee decides to make policy less inflationary, the growth rate of the stock of money is reduced. While carrying out the defensive operations, the Manager sells more on balance, and both the Committee and the Manager determine how much to sell by comparing the maintained and desired average growth rates of money.

The question arises as to whether this minimal step is feasible. Can money be used as an indicator even if daily operations are conducted with as much variability as in the recent past? The answer seems obvious. Those who used money as an indicator in recent years correctly predicted the inflation of 1966, the slowing of economic activity in 1967, the renewed inflation in 1967 and the increased rate of inflation in 1968. Despite the high variability of the monetary growth rate, it was possible to predict the longer-term consequences of monetary policy with reasonable accuracy. Since some of the predictions were made at meetings with the Board of Governors and rejected, it seems reasonable to conclude that the Open Market Committee and its staff relied on less accurate indicators. It is hard to avoid the conclusion that monetary policy would have achieved more of the policymakers' announced and frequently repeated aims, if changes in the maintained growth rate of money had been used as an indicator in recent years and in earlier periods as well.

The Ability to Control Money

Critics of the use of money as an indicator of monetary policy delight in pointing out that there is less than unanimous agreement on the most appropriate definition of money. The critics hardly ever mention that there are very few times when it would have made much difference whether one or another of the commonly accepted definitions had been used. The maintained growth rates of currency plus demand deposits and currency plus total deposits – the most common definitions – are almost always in the same direction, and changes in the growth rates generally occur at about the same time. There are very few periods in which the qualitative judgment reached about the future effect of monetary policy depended importantly on the definition chosen. Among the exceptions are several recent periods in which changes in market rates relative to Regulation Q ceiling rates caused large, temporary changes in time deposits and in the relative growth rates of time and demand deposits. In these periods, I believe the narrower definition – currency and demand deposits – generally provided the more accurate indicator.

If policy operations retain their short-term focus and some measure of money replaces market rates or free reserves as a target of the Manager's operations, it becomes important to choose between the various measures. One difficulty in using money (currency and demand deposits) or money plus time deposits as a target of monetary policy is that reliable information is not available daily or even weekly. Another difficulty is that when information becomes available, it is imprecise.

Both of these objections apply to the use of money as a target of monetary policy; neither applies with much force to the use of money as an indicator. Both objections are overcome by choosing the monetary base as a target. The monetary base can be measured, weekly, with greater reliability than some of the operating targets now in use, such as the level of free reserves. Weekly data on the base are now available from the Federal Reserve Bank of St. Louis. If the Manager of the Open Market Committee wishes to combine control of money with defensive operations, the directives written to the Manager should specify a desired change or level of the monetary base.[1]

Evidence from past periods suggests that the monetary base is the most important determinant of the money supply and that there is a high degree of association between the base and the money stock. The degree of association and the extent to which money can be controlled by controlling the base varies with the length of the period. Our analysis suggests that even if policy retains its short-term focus, month to month changes in money can still be kept within a very narrow range. In the past, 85 per cent of the variance of the monthly change in money – currency and demand deposits – resulted from changes in the monetary base and changes in Treasury deposits at commercial banks in the current and previous month.

[1]In a later section and in Table II, I compare the information required to control the monetary base to the information now collected daily at the Federal Reserve Bank of New York.

Table 1

CORRELATIONS BETWEEN MONTHLY CHANGES IN "MONEY" AND SOME EXPLANATORY VARIABLES

Time Period	Definition of Money	Explanatory Variables and Their Coefficients (Constant Term Omitted)	R^2
March 1947 to March 1965	ΔM_1	$2.38\ \Delta B_t - .85\ \Delta D_t$ (24.6) (−18.0)	.80
	ΔM_1	$2.23\ \Delta B_t - .74\ \Delta D_t + .78\ \Delta B_{t-1} - .02\ \Delta D_t$ (26.0) (−17.3) (8.84) (−.58)	.86
	ΔM_2	$2.15\ \Delta B_t - .82\ \Delta D_t$ (17.7) (−14.2)	.70
	ΔM_2	$1.98\ \Delta B_t - .70\ \Delta D_t + .91\ \Delta B_{t-1} - .05\ \Delta D_{t-1}$ (18.3) (−13.0) (8.15) (−.86)	.77
Feb. 1947 to Dec. 1964	ΔM_1	$1.39\ \Delta B_t$ (5.88) and 11 dummy variables to adjust for seasonal variation	.80

Note: "t" statistics are in parentheses.
None of the data were seasonally adjusted.
Explanation of Symbols
ΔM_1 = Monthly Change in Currency and Demand Deposits.
ΔM_2 = Monthly Change in Currency and Total Deposits.
ΔB_t = Monthly Change in Monetary Base.
ΔD_t = Monthly Change in Deposits of the Treasury at Commercial Banks.

Even in periods of substantial variability in the growth rate of money and sizable defensive operations, monthly changes in money were dominated by current and past changes in the base. The relation between monthly changes in the monetary base and money plus time deposits is not as good. Nevertheless, more than 75 per cent of the variance of the monthly changes in this monetary aggregate can be controlled by using the base as a target and estimating Treasury deposits as accurately as in the past. Table 1 shows some of the evidence on which these conclusions are based, giving the correlations between money and some explanatory variables.

A related but very different argument raised against the use of any monetary aggregate is that, even if these variables can be measured accurately and promptly, they cannot be controlled. Changes in the composition of deposits between demand and time account, changes in the composition of money between currency and deposits, gold flows and changes in the proportion of deposits held by foreigners are cited as sources of changes in the monetary base or the stock of money that are not controlled and are said to be outside the control of the Federal Reserve. Since the evidence cited above (and a substantial body of additional evidence) makes clear that if the Federal Reserve controls the size of changes in the monetary base, it controls by far the larger portion of the changes in the stock of money, I shall discuss this argument with reference to the monetary base and compare the degree of control over the base to the control of short-term market rates or free reserves.

To a very large extent, arguments suggesting that the base cannot be controlled are a play on the use of the word "control" that fail to separate short- and long-term changes and do not distinguish between the sources and the uses of the base. The problem of controlling short-term changes arises whether the Committee uses free reserves or the monetary base (or almost any variable worth mentioning) as the target of monetary policy. The reason is that monthly or weekly changes in both free reserves and the monetary base are the result of (1) actions taken by the Manager, for example, purchases and sales of securities (2) changes resulting from market forces that the Manager observes, but chooses not to offset, and (3) changes that are unforseen because of errors in reporting or errors of measurement. I see no point in describing the changes that the Manager makes as "controlled" and the changes he permits as "uncontrolled." The more relevant question is the extent to which the Manager has more accurate and reliable information, within a given time span following the change, about one target variable rather than another. As I indicated, the weekly change in the monetary base can be known more reliably than the weekly change in free reserves. This is one important reason for choosing the base as a target. I return to this point below.

Whether the target variable is the level of free reserves, the short-term market interest rate or the monetary base, changes in the target during any period are the result of both current and past policy and nonpolicy changes. Suppose a policy of reducing the rate of inflation is translated into a policy target of forcing or permitting higher market interest rates or a lower growth rate of the monetary base. If the policy is maintained and begins to take effect, weeks or months after the policy is initiated the inflow of gold or foreign exchange rises, and with fixed ceiling rates of interest paid on time deposits, time deposits decline relative to demand deposits. Gold is a source of base money, so the inflow of gold raises the base and lowers market interest rates; the redistribution

of deposits from time to demand accounts raises the weighted average reserve requirement ratio, lowers the base, and raises interest rates. There is no reason to expect these effects to occur at the same time, to be offsetting on any particular day or over any particular span, or to cancel the effects of changes in tastes, opportunities, and actual or expected rates of inflation. Nor is cancellation essential for the conduct of monetary policy.

The Committee and the Manager require: (1) an accurate estimate of the size of the current change in the target variable (the base or interest rates, or free reserves); (2) a clear idea of the desired value of the target variable; and (3) an ability to translate the longer-term goals of monetary policy into a desired current value of the target and to translate changes in the target into changes in the rate of inflation, level of employment, or balance of payments.

The crucial problem in the example, as in practice, is not one of measuring the so-called noncontrolled changes in the target but of deciding how large the change in the target should be to achieve longer-term objectives. The Federal Reserve can observe and record current changes in the base, free reserves, or short-term interest rates shortly after they occur. If they could translate these changes into future levels of employment and rates of inflation, they could decide how much to buy or sell to achieve the level of interest rates, free reserves or base that are consistent with the long-term aims of economic policy. The difficult problem is not the measurement of short-term changes but the interpretation of these changes — for example, knowing whether a given level or change in market interest rates is too low or too high, too large or too small, to prevent inflation or unemployment.

I see no way of resolving this problem, given the present or forseeable future state of knowledge, other than by choosing a reliable and readily available *indicator* of the future effect of policy. The reason is well known: the effect of current changes in policy on output, prices and the balance of payments are not observable for months and in some cases are not recognized for years. Equally important, errors generally cannot be offset or reversed without forcing large and sudden changes in policy that have destabilizing effects. There is, perhaps, little reason to dwell on this point. Too many of the current problems of monetary policy are now recognized as the result of errors in judging the expected effects of past policies or justifiable fears of the consequences of suddenly reversing previous policies.

The above discussion should not suggest that the choice of the target is a subsidiary and unimportant matter. The choice depends very much on the information reliably possessed and the ability to measure, control and interpret short-term changes. My remarks are misread if they appear to downgrade the problem or to suggest that one target is as useful as another. They should be read instead as an attempt to sort out some of the meanings of "controlling money."

In discussing the meaning of "control," I found it useful to make three distinctions. One is the degree to which monetary aggregates can be measured and manipulated during a particular time span. The monetary base can be controlled weekly and perhaps daily with as much accuracy as other variables now used as targets. In the past, we have found that most of the monthly changes in money can be controlled by controlling the monetary base. The base is, therefore, a more useful target than the stock of money (or other monetary aggregates) if policy retains its short-term focus. A second distinction is between controlled and noncontrolled changes in a target variable (such as the base) and the degree to which controlled changes can be used to offset the changes resulting from past policy and nonpolicy decisions. A third is the distinction between measuring the change in a target variable and interpreting the change. By controlling the growth rate of the base the Federal Reserve can contain the short-term growth rate of money within narrow limits. Since the stock of money is a useful and reliable indicator of changes in the thrust of monetary policy, I believe the Federal Reserve should use the stock of money — currency and demand deposits — as an indicator.

To this point, I have discussed the ability of the central bank to use monetary aggregates as useful targets and reliable indicators of monetary policy and to offset the effects of past policy changes and noncontrolled changes on current nominal values of the monetary base, money, market interest rates or free reserves. The Federal Reserve, and any other modern central bank, can offset and hence control the size of current changes in free reserves, short-term market interest rates or the monetary base, and to a very large extent can determine the size of changes in money if it chooses to do so. However, there is a very important sense in which a central bank cannot control either money or interest rates. To discuss this meaning of control, we need an additional distinction — the distinction between nominal and real changes in money and interest rates.

Nominal and Real Changes

Perhaps the oldest and best established proposition in monetary theory states that the government or central bank controls the nominal stock of money while the public decides on the price level at which it willingly holds the nominal stock. In our day, the nominal stock is the amount of currency and demand deposits issued by commercial banks and Federal Reserve banks. The real stock of money is the nominal amount deflated by some representative index of prices.

The distinction between nominal and real applies with equal force to every monetary aggregate and to interest rates as well. To compute the real rate of interest from the nominal or market rate, we have to subtract the *anticipated* rate of price change. One major problem in interpreting changes in market interest rates and using levels or changes in market rates as indicators of monetary policy is separating the effects of anticipations from other forces affecting market rates. Without reliable estimates of the anticipated rate of price change, it is impossible to interpret changes in market rates or to use market rates as indicators of monetary policy. Recent monetary history suggests the type of error that is likely to be made if high or rising market interest rates are interpreted as a sign of restrictive, anti-inflationary policy. The same or opposite error has been repeated throughout monetary history.

Just as the Federal Reserve cannot control the value of real money balances, it cannot control the long-run market rate of interest. A brief description of some links between money, interest rates, actual and anticipated price changes may explain the reasons.

Let the Federal Reserve increase the growth rate of the nominal stock of money. Initially market interest rates fall, but the initial reduction is temporary and is followed by a rise in market interest rates as consumers and business attempt to borrow more so as to accumulate inventories and increase expenditures. The Federal Reserve can, if it chooses, increase the amount of open market purchases and more than offset the rise in market rates resulting from the increased demand for loans and increased expenditures. However, with technology and real resources fixed or changing more slowly than the quantity of money, the continued expansion in the public's expenditures causes prices to rise.

If the higher growth rate of money is maintained, eventually consumers and businessmen are confronted with frequent announcements of price increases. They are led to examine the prices they charge for the goods or services they sell and to consider whether their prices should be adjusted upward. Gradually, they learn to anticipate price increases.

Individuals and businessmen attempt to protect themselves against the consequences of inflation or to profit from those consequences. They sell bonds and spend money to reduce their holdings of claims fixed in nominal value. They seek to borrow to increase liabilities with fixed nominal values. They switch, at the margin, from assets with fixed nominal value to assets that rise in price during inflation.

All these responses can be summarized by saying that if the Federal Reserve maintains the higher rate of increase in the nominal stock of money, market interest rates rise with the spreading anticipation of future inflation. To maintain the previously prevailing market rate, the Federal Reserve must supply an ever-increasing amount of base money and permit the money supply to increase at an increasing rate. Attempts to lower or maintain the market rate however, implant the anticipation of inflation more firmly and force still higher actual and anticipated rates of inflation.

The process I have described as an adjustment of nominal rates could be described just as well as an attempt by moneyholders to reduce the amount of money they hold. As before, the attempt causes prices to rise and, as prices rise, the real amount of money corresponding to any nominal stock falls. Attempts to maintain the higher growth rate of money eventually produce a higher actual and anticipated rate of inflation and a higher market rate of interest. If tastes and productive opportunities remain unchanged, equilibrium is restored when the public is willing to hold an unchanged real amount of money at the higher market rate of interest.

One frequently repeated form of the argument just made confuses the Federal Reserve's inability to control the long-run real value of the stock of money with an inability to control the nominal amount of money if exchange rates are fixed. This line of reasoning starts by showing that among the consequences of the inflationary increase in the nominal stock of money (or reduction in market interest rates) are increases in imports and declines in exports, an increased deficit in the balance of payments. The (increased) deficit on current account causes an outflow of gold that reduces the nominal stock of money and raises market interest rates. This portion of the

argument is correct. However, the Federal Reserve can offset or more than offset the effect of the gold outflow on money and interest rates, if it chooses to do so. In the past decade, we have elected to raise the growth rate of the stock of money in an attempt to hold market interest rates below the level they would have reached in the absence of inflationary monetary policies. Gold outflows have not prevented the Federal Reserve from maintaining one of the highest rates of monetary expansion in United States history.

If foreign countries inflate at a slower rate than the U. S., one ultimate consequence of our higher rate of inflation is a change in the dollar price of gold or in the fixed exchange rate system. Neither these consequences nor the outflow of gold should suggest that the Federal Reserve is unable to control the nominal stock of money. On the contrary, inflation and the balance of payments deficit are consequences of the system of fixed exchange rates and of an over-production of nominal money — production of more nominal money than the public is willing to absorb at the anticipated rate of price change. The public's ability to reduce its holdings of real money balances, not the inability of the Federal Reserve to control the nominal stock, should be seen as the means by which excessive expansion of nominal money is translated into inflation and a balance-of-payments deficit.

A related argument is used to suggest that the stock of money cannot be controlled because an increase in money or its growth rate reduces interest rates and causes a short-term capital outflow. I have dealt with one part of the argument above and suggested that the Account Manager can observe the outflow and offset the effect on interest rates or money, if the Committee desires to do so. Public policy may dictate that open market operations be used to offset the gold outflow or prevent it. The latter decision should not be confused, however, with an inability to control the nominal stock of money since the identical problem arises whether the Federal Reserve uses money, interest rates or some other variable as an indicator or target of monetary policy. The core of the problem is a conflict between a relatively high rate of inflation (or deflation) and a fixed exchange rate. At the present time, conflicts of this kind are of little practical importance, since policies designed to reduce the rate of inflation would help to maintain the prevailing exchange rate.

Technicalities and Techniques

Several of the arguments I discussed in the previous section reflect a lack of understanding of the means by which the monetary base can be manipulated to control the stock of money. In this section, I first discuss the sources and uses of the base, pointing out the information available to the Manager and comparing the available information on sources of the base to the information now collected on the sources of free reserves. Then I discuss, briefly, the validity of some of the criticisms of the use of money in monetary control.

Data on Sources and Uses

The data for computing the monetary base is obtained from the table "Member Bank Reserves, Re-

Table II

SOURCES AND USES OF FREE RESERVES AND THE MONETARY BASE

(Illustrative Calculation — Billions of dollars)

SOURCES

	Monetary Base	Free Reserves
Factors Supplying Sources		
Reserve Bank Credit net of Discounts and Advances	55.0	55.0
Reserve Adjustment (cumulated sum of Reserves liberated by Reserve Requirement Changes)	4.8	——
Discounts & Advances	0.8	——
Gold Stock	10.4	10.4
Treasury Currency Outstanding	6.8	6.8
Total Factors Supplying Sources	77.8	72.2
Factors Absorbing Sources		
Treasury Cash	0.8	0.8
Treasury Deposits at Federal Reserve	0.6	0.6
Foreign and other Deposits	0.6	0.6
Other Federal Reserve Accounts	—0.8	—0.9
Required Reserves	——	27.1
Currency in Circulation	——	49.2
Less Currency held as Reserve	——	—4.6
Total Factors Absorbing Sources	1.2	72.8
Total Sources (Factors Supplying Sources minus Factors Absorbing Sources)	**76.6**	**—0.6**

USES

	Monetary Base	Free Reserves
Reserve Adjustment (cumulated sum of Reserves liberated by Reserve Requirement Changes)	4.8	——
Total Reserves	22.6	——
Currency in Circulation	49.2	——
Excess Reserves	——	0.2
Less Discounts and Advances	——	—0.8
Total Uses	**76.6**	**—0.6**

serve Bank Credit, and Related Items" in the Federal Reserve *Bulletin*. The table also serves as the basis for computing free reserves and other reserve measures. There is, therefore, a similarity about the basic input data used for the computation of the base and other measures of reserves. Many of the computational differences result from the way items are grouped or classified. Table II compares the components of the base to the components of free reserves.

The *uses* of the base are bank reserves plus total currency held by the public and by nonmember banks plus the amount of reserves liberated or impounded by changes in reserve requirements or redistributions of deposits between classes of banks. Accurate weekly estimates of each of these uses are not available directly. A more reliable method is to compute the sum of the *sources* of base money; the sum of the sources is, of course, equal to the uses and can be computed daily or weekly from the information now collected at the Federal Reserve Bank of New York. As Table II shows, there are two main differences between the computations now prepared and the data required to compute the base. One is the way in which the items are combined. The other is that the estimates of a few items such as excess reserves and vault cash held by banks are not required for the computation of the base. Computation of these two important sources of error can be eliminated.

Instability of Interest Rates

One of the main arguments against controlling the stock of money is that the variability of interest rates would increase – that interest rates would be "unstable." This is not a necessary consequence of the use of money as an indicator or the use of the monetary base as a target. As I noted earlier, the use of money as an indicator of monetary policy and the use of the base as a target should not be confused with acceptance of a monetary rule.

There are several strands to the argument and I attempt to deal with the most common versions. One version concerns the usefulness of defensive operations. This is an issue that is best resolved by measuring, or attempting to assess, the cost and benefits of more rather than less variability in money. However, the decision about variability is independent of the decision to control money. Any of the defensive operations that the Manager now undertakes to smooth market interest rates can be carried out just as effectively if the base is the target and the stock of money is the indicator.[2]

A second version concerns the level around which interest rates fluctuate. Again, this has little to do with the decision to control money rather than interest rates. The level of market interest rates, or the average around which rates fluctuate during any three- or six-month period, is determined – in the one case as in the other – by a combination of market forces and policy decisions.

However, there is one important reason to expect a change in the average level of market interest rates if money replaces interest rates as an indicator of monetary policy. Since money is a more accurate indicator, the Federal Reserve obtains a more accurate assessment of the thrust of current policy. It avoids misinterpretations of policy that cause acceleration or deceleration of prices and eventually large changes in the anticipated rate of inflation or deflation. Recent policy provides an example. The highest rates in a century are in part a result of misinterpreting the thrust of monetary policy. If money had been used as an indicator, policy – guided by this indicator – would have been less inflationary; the high rates would have been avoided; the average market rate would have been lower, and monetary policy would have contributed more to economic stability and less to inflation.

A basic error lies behind the notion that the average level of interest rates would change if money replaced interest rates as the indicator. The source of the error is the belief that the Federal Reserve is able to control market interest rates, and the cause of the error is the neglect of the role of changes in the actual and anticipated rate of price change in the determination of market interest rates. There is no reason to doubt the Federal Reserve's ability to reduce or increase the level of market interest rates temporarily. However, there is also no reason to believe that the Federal Reserve can maintain rates above or below their equilibrium level, if it is unwilling to produce an ever-increasing rate of inflation or deflation. As before, it is important to recognize the roles of anticipations in the determination of market rates and to separate nominal and real changes.

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[2]This leaves aside the desirability of these operations or the desirability of institutional changes that would remove some of the sources of instability. Recent practice has been to make institutional arrangements more complex and thus adds to the variability.

A third issue requires a distinction between the size of interest rate changes and the time rate of change. Many of the fears of market participants and Treasury department officials reflect concern about the size of cyclical or monthly changes in interest rates. On closer examination, the focus of the concern is on the effects of large changes in interest rates during periods of Treasury (or private) financing.

As before, there is no incompatibility between the use of money as an indicator, the use of the monetary base as a target, and the maintenance of defensive operations. The critical question is whether defensive operations and so-called "even keel" policies designed to assist the Treasury to sell debt issues should be permitted to interfere with the attainment of longer-term aims of monetary policy. In the recent past, the base money supplied during periods of even keel has remained in the system and has been used to produce the increases in money that have maintained or increased the rate of inflation.

Conclusion

The main practical issues about controlling money concern the role or roles assigned to money, the speed with which information on monetary aggregates becomes available, the degree to which unforeseen or unanticipated changes in monetary aggregates can be offset and the extent to which monetary aggregates can be controlled during short and longer time spans. By discussing these issues and avoiding the more abstract discussion of rules, I was able to compare some operating consequences of controlling money to the results of present policies which are based on control of interest rates and money market variables.

As in previous work with Karl Brunner, I distinguished between the role of money as an indicator, or measure of the thrust of monetary policy, and as a target of monetary operations. As an indicator, money provides a relatively accurate measure of changes in the degree to which monetary policy has become more or less expansive. Used as a target, money becomes the variable that the Manager attempts to control when carrying out the policies agreed upon by the Open Market Committee. Unlike previous work and despite my own predilections, I assumed, throughout, that defensive operations would be retained, that the short-term focus of policy operations would continue, and that the principal difference between future and past policies would be the use of monetary aggregates in place of free reserves and interest rates.

My main recommendations can be summarized succinctly. The Federal Reserve should translate the longer-term goals of monetary policy into a desired growth rate of money, defined as currency and demand deposits. The growth rate of the stock of money is then used as the indicator of monetary policy. The desired growth rate of money is translated in turn into a desired growth rate of the monetary base and a desired weekly or daily change in the monetary base. The Manager is instructed to obtain the target change or rate of change of the base.

The Committee is able to audit the Manager's performance by observing the change or rate of change in the base. More importantly, the Committee is able to assess the extent to which monetary policy is too expansive or too contractive by observing the size of changes in the indicator, the growth rate of money, and can change the degree to which monetary policy is expansive by changing the rate of change of the base. Nothing in the proposal requires the Federal Reserve to adopt a rule as a condition of controlling money. The desirable size and frequency of changes in money can and should be separated from the use of money as an indicator.

Since the Manager can control changes in the base more accurately than he now controls money market variables such as free reserves, there is no difficulty in using the base as a target. Data from past periods suggest that by controlling changes in the base and obtaining estimates of the change in Treasury deposits at commercial banks, the Federal Reserve is able to control more than 85% of the monthly changes in money.

Past policy errors were very often the result of misinterpretations of the effect of policy and reliance on misleading indicators. Acceptance of a more reliable indicator and more appropriate target can go a long way toward improving the conduct of monetary policy and avoiding some of the more serious errors of the past.

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